

TRAFFIC IMPACT ANALYSIS FOR

Texas Facilities Commission Texas Capitol Complex Master Plan 2018 Update

AUSTIN, TEXAS

DeShazo Project No. 15206

Prepared for:

Page Southerland Page, LLP

400 W. Cesar Chavez Street

Suite 500

Austin, Texas 78701

Prepared by:

DeShazo Group, Inc.

Texas Registered Engineering Firm F-3199

400 South Houston Street, Suite 330

Dallas, Texas 75202

214.748.6740



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Traffic Impact Analysis for
Texas Facilities Commission – Texas Capitol Complex Master Plan 2018 Update
 ~ DeShazo Project No. 15206

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ITE Trip Generation Manual, 9th Edition
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EXECUTIVE SUMMARY

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Page Southerland Page, LLP** (Page) on behalf of the Texas Facilities Commission to conduct a Traffic Impact Analysis (TIA) for the proposed *Texas Capitol Complex Master Plan* development (“the Project”) located in Austin, Texas, encompassing the area bounded by Trinity Street on the east, 15th Street on the south, Guadalupe Street on the west and Martin Luther King Boulevard on the north. The Project will consist of converting the one-way street of 16th, 17th and 18th to two-way operation, closing Congress Street to vehicle traffic between the blocks from 18th Street to 15th street, limiting vehicle traffic on Congress Street from Martin Luther King Boulevard to 18th Street and eliminating traffic travelling through on 17th Street. The study will also look at the buildout condition of construction of underground parking under Congress Street and future capital offices buildings. Buildout of the Project is estimated to occur in three phases. Even though, the Texas Legislature has only appropriated funding for Phase 1, this report analyzes the effect of this additional building construction and potential associated additional vehicle impacts for all three phases.

The purpose of this report is to summarize the vehicular traffic operational characteristics of the background conditions within a specific study area and to measure the projected incremental impact related to the Project as determined by standardized engineering analyses. The study parameters used in this TIA are based upon the requirements of the City of Austin and are consistent with the standard industry practices used in similar studies.

The following findings and recommendations are based upon buildout of the subject property in accordance with the development scenario outlined in the *Project Description* section of this report.

FINDING: The existing roadway system generally provides enough capacity to accommodate the projected traffic generated by the proposed changes included in the Texas Capitol Master Plan 2018 update with some minor modification to traffic signals and other traffic controls.

FINDING: Based on the analysis discussed above in this report, the 16th Street, 17th Street and 18th Street has enough capacity to accommodate additional traffic due to one way to two way conversion and additional traffic due to proposed office spaces.

- ❖ **RECOMMENDATION:** The existing stop sign on east west approaches on 16th Street and 18th Street is recommended to be kept at the intersection with Congress Street as it will allow pedestrian to safely cross these streets after the development of Pedestrian Boulevard along Congress Street.
- ❖ **RECOMMENDATION:** Driveway 4 and Driveway 5 is recommended to be constructed in the middle of 15th Street and 16th Street to form a four way intersection to maximize available spacing in order to meet the City of Austin driveway spacing requirements.
- ❖ **RECOMMENDATION:** It is also recommended that the driveway 6 and driveway 7 to be constructed in the middle of Lavaca Street and Colorado Street to form four way intersection and maximize available spacing.
- ❖ **RECOMMENDATION:** It is also recommended that the traffic signal should be considered at the intersections of Lavaca Street and 18th Street as well as MLK Blvd and Colorado Street. If reviewing agency selected a new traffic signal at these intersections, a detailed traffic signal warrant analysis should be performed prior to the signal installation.

Refer to **Table 10** following summary of findings and recommendations for detail on proposed changes and mitigation at each intersection.

END

PROJECT SITE



Exhibit 1. Site Location and Study Area Map with Phase Developments

Technical Memorandum

To: Ryan Losch, AIA — Page Southerland Page, LLP
From: DeShazo Group, Inc.
Date: December 5, 2016
Re: Traffic Impact Analysis for Texas Capitol Master Plan 2018 Update in Austin, Texas
DeShazo Project Number 15206

INTRODUCTION

The services of **DeShazo Group, Inc.** (DeShazo) were retained by **Page Southerland Page, LLP (Page)** on behalf of the **Texas Facilities Commission** to conduct a Traffic Impact Analysis (TIA) for the *Texas Capitol Complex Master Plan (the Master Plan)* 2018 Update (“the Project”) located in Austin, Texas. A site location map is provided for reference in ***Exhibit 1***.

As mandated by Texas Government Code, Section 2166.105, the Texas Facilities Commission has produced the 2016 Texas Capital Complex Master Plan which addresses the strategic vision and long-term goals for the Capitol Complex and the extent to which Texas is able to satisfy its space needs through use of state owned property within the complex. The Texas Capital Complex Master Plan provides detailed, site-specific proposals for use of the property to meet the space needs of state agencies and public sector purposes. The Master Plan establishes for the construction of six (6) new state office buildings within the northern half of the Capitol complex.

The Texas Facilities Commission is seeking the cooperation of the City of Austin to facilitate development of the Project. Submittal of a TIA, prepared by a registered professional engineer experienced and skilled in the field of traffic/transportation engineering, is one of the standard practices for any development process. This TIA was prepared in accordance with industry and local standards by registered professional engineers employed by DeShazo. DeShazo is a licensed engineering firm based in Dallas, Texas, that provides professional services in traffic engineering, transportation planning, and related fields.

Purpose

The purpose of a TIA is to determine if any additional improvements, other than those proposed in the Master Plan, to the adjacent transportation system are needed to maintain a satisfactory level of service, an acceptable level of safety, and appropriate access for a proposed development. A TIA is a site specific investigation of traffic conditions in a localized area and is not a substitute for area-wide or regional transportation planning, which are responsibilities of the local and regional government agencies.

To achieve this objective, this report summarizes the traffic operational characteristics of the background conditions within a designated study area and the projected incremental impact of the Project as determined through standardized engineering analyses. Based upon the results of this analysis, DeShazo may recommend measures to mitigate traffic impacts that excessively or unduly effect safety or operational efficiency. Some mitigation may be attributable, in part or in whole, to the proposed development. It is intended that the findings and recommendations presented in this study provide information to the public and the governing agency regarding potential transportation improvements that may be warranted. But, also, this study is intended to provide a credible basis upon which the governing agency may determine whether some actions may be required as a condition of the Project's approval.

Project Description

The Project will consist of adding six additional office buildings, constructing underground parking facilities, closing Congress Avenue to vehicle traffic from 15th Street to 18th Street and converting three streets (16th, 17th & 18th) from one-way traffic operation to two-way traffic operation. The 17th Street will be discontinued on either side of Congress Avenue to enter underground parking entrance. The Project will be built in three (3) phases. Buildout of the Project is estimated to occur by 2024. Existing uses on the site include government office buildings and a museum, which will remain in place. A summary of the proposed development program, by phase, is provided in **Table 1**. A preliminary site plan for the Project as prepared by **Page** is attached following the *Executive Summary*.

Table 1. Development Program Summary

USE	FUTURE SQUARE FOOTAGE	ADDITIONAL EMPLOYEES	PROPOSED PARKING SPACES
710 - General Office – Phase 1	1,025,000 SF (2 buildings)	4,100	4,451
710 - General Office – Phase 2	525,000 SF (2 buildings)	2,100	2,281
710 - General Office – Phase 3	530,000 SF (2 buildings)	2,120	876

NOTE: The development program provided above is based upon the most current and complete information available at the time of this study publication.

Study Parameters

The study parameters used in this TIA are based upon the requirements of the City of Austin and are consistent with the standard industry practices used in similar studies. Specific study parameters were reviewed with the Austin Transportation Department staff at the outset of the study.

This TIA analyzed the day-to-day traffic operations at time periods that were considered representative of the overall most critical conditions on the public roadway system with some effect from the proposed Project. Based upon the prevailing background traffic conditions and the trip generation characteristics of the proposed development, the following periods were analyzed:

- traditional weekday AM and PM peak hours of adjacent street traffic
 - at existing area roadway conditions (“Existing” scenario)
 - at year 2020 without site-generated traffic (“Background” scenario)
 - at Phase 1 buildout year 2020 with site-generated traffic (“Phase 1” scenario)
 - at Phase 2 buildout year 2022 with site-generated traffic (“Phase 2” scenario)
 - at Phase 3 buildout year 2024 with site-generated traffic (“Phase 3” scenario)

The following technical assumptions were also made in this analysis.

- Background traffic includes projected traffic volumes included in the TIA prepared by the Alliance Transportation Group for a nearby Dell Medical School development located between Trinity & Red River Road.
- Background traffic is expected to increase at a rate of one (1) percent per year based upon the direction received from City of Austin.

Study Area

The study area for a TIA is typically defined to allow an assessment of the most relevant traffic impacts to the local area. The extent of the study area is discretionary but is generally commensurate with the scale of the proposed development. Special localized factors may also be considered. The specific locations included in the study area of this TIA are listed below with the changes proposed in the 2016 Texas Capitol Complex Master Plan. The intersections and roadways are depicted in **Exhibit 1**.

Table 2. Study Area Intersection and Proposed Changes

Intersection	Proposed Changes
15th Street at Trinity Street	Traffic signal operation remains the same, 3-northbound lanes and bike lane on east side of street, west outside lane is reduced to 12 feet wide.
15th Street at San Jacinto Boulevard	no change
15th Street at Brazos Street	no change
15th Street at Congress Avenue	Congress Avenue closed to vehicle traffic north of 15th St. Remove 15 th Street left turn lane onto Congress Avenue
15th Street at Colorado Street	no change
15th Street at Lavaca Street	no change
15th Street at Guadalupe Street	no change
16th Street at San Jacinto Boulevard	16th St will be converted from one-way westbound to two-way; parking remains on north side of street; travel lanes will be 11 ft. wide
16th Street at Brazos Street	16th St will be converted from one-way westbound to two-way; parking remains on north side of street; travel lanes will be 11 ft. wide

Intersection	Proposed Changes
16th Street at Congress Avenue	16th St will be converted from one-way westbound to two-way; parking remains on north side of street; travel lanes will be 11 ft. wide;
16th Street at Colorado Street	16th St will be converted from one-way westbound to two-way; parking remains on north side of street; travel lanes will be 11 ft. wide
16th Street at Lavaca Street	16th St will be converted from one-way westbound to two-way; parking remains on north side of street; travel lanes will be 11 ft. wide
16th Street at Guadalupe Street	16th St will be converted from one-way westbound to two-way; parking remains on north side of street; travel lanes will be 11 ft. wide
17th Street at Trinity Street	17th St will be converted from one-way eastbound to two-way; parking remains on the north side of roadway only; travel lanes will be 11 ft. wide
17th Street at San Jacinto Boulevard	17th St will be converted from one-way eastbound to two-way; parking remains on the north side of roadway only; travel lanes will be 11 ft. wide
17th Street at Brazos Street	17th St will be converted from one-way eastbound to two-way; parking remains on the north side of roadway only; travel lanes will be 11 ft. wide
17th Street at Congress Avenue	17th St will be converted from one-way eastbound to two-way; parking remains on north side of street; travel lanes will be 11 ft. wide; 17 th Street will be terminated and no longer intersect with Congress Avenue.
17th Street at Colorado Street	17th St will be converted from one-way eastbound to two-way; parking remains on the north side of roadway only; travel lanes will be 11 ft. wide
17th Street at Lavaca Street	17th St will be converted from one-way eastbound to two-way; parking remains on the north side of roadway only; travel lanes will be 11 ft. wide
17th Street at Guadalupe Street	no changes at this time
18th Street at Trinity Street	Traffic signal operation remains the same, 3-northbound lanes and bike lane on east side of street, west outside lane is reduced to 12 feet wide. 18th St gets converted from one-way westbound to two-way;
18th Street at San Jacinto Boulevard	18th St will be converted from one-way westbound to two-way; parking remains on the north side of roadway only; travel lanes will be 12 ft. wide

Intersection	Proposed Changes
18th Street at Brazos Street	18th St will be converted from one-way westbound to two-way; parking remains on the north side of roadway only; travel lanes will be 12 ft. wide
18th Street at Congress Avenue	Congress Ave will be closed to vehicle traffic south of 18th St; 18th St will be converted from one-way westbound to two-way; parking remains on north side of 18th St; travel lanes will be 12 ft. wide; all-way stop control to remain
18th Street at Colorado Street	18th St will be converted from one-way westbound to two-way; parking remains on the north side of roadway only; travel lanes will be 12 ft. wide
18th Street at Lavaca Street	18th St will be converted from one-way westbound to two-way; parking remains on the north side of roadway only; travel lanes will be 12 ft. wide
18th Street at Guadalupe Street	18th St will be converted from one-way westbound to two-way; parking remains on the north side of roadway only; travel lanes will be 12 ft. wide
MLK Jr Boulevard at Trinity Street	no changes at this time
MLK Jr Boulevard at San Jacinto Boulevard	no changes at this time
MLK Jr Boulevard at Brazos Street	no changes at this time
MLK Jr Boulevard at Congress Avenue	Congress will be closed for through traffic and pedestrian Mall will be provided along congress. Only southbound bus traffic will be permitted along Congress Avenue. All other traffic will be restricted on Congress.
MLK Jr Boulevard at Colorado Street	no changes at this time
MLK Jr Boulevard at Lavaca Street	no changes at this time
MLK Jr Boulevard at Guadalupe Street	no changes at this time

Roadway Links:

- (A) Congress Avenue from Martin Luther King Boulevard to 18th Street
 - ☐ Convert to one-travel lane in south direction
 - ☐ Only southbound bus traffic will be permitted
 - ☐ Pedestrian boulevard median section added
 - ☐ Bus drop-off lane provided in southbound direction
- (B) Congress Avenue from 15th Street to 18th Street
 - ☐ Restrict north-south traffic movement along Congress Street.
 - ☐ Provide pedestrian boulevard along Congress Avenue

- (C) 18^h Street from Trinity Street to Guadalupe Street
 - ❑ Convert from 2-lanes, one-way westbound direction to one-lane in both directions, east and west bound
 - ❑ Provide a bus staging lane on the north side westbound
- (D) 17^h Street from Trinity Street to Guadalupe Street
 - ❑ Convert from 2-lanes, one-way eastbound direction to one-lane in both directions east and west bound
 - ❑ Provide parallel parking along the north curb line in the westbound direction
 - ❑ Terminate 17th Street on the either side of Congress Avenue to enter onto parking garage from both sides
- (E) 16^h Street from Trinity Street to Guadalupe Street
 - ❑ Convert from 2-lanes, one-way westbound direction to one-lane in both directions, east and west bound
 - ❑ Provide parallel parking along the north curb line in the westbound direction

TRAFFIC IMPACT ANALYSIS

Traffic Impact Analysis for this study is prepared as part of the Texas Capitol Complex Master Plan 2018 Update for the proposed buildings included in phase 1 to phase 3. The study is provided to the Staff for technical review. DeShazo's engineering recommendations are provided to the City of Austin Transportation Department for consideration. All recommendations made in this study are subject to approval by the State and the City of Austin.

Approach

The TIA presented in this report analyzed the operational conditions for the peak hours and study area as defined above using standardized analytical methodologies where applicable. Current (or recent) traffic volume data were collected on a typical day throughout the study area to represent existing traffic conditions. Where applicable, growth factors were applied to the existing volumes to project future background traffic at the Master Plan Phase buildout year conditions. Then, traffic generated by the proposed development was projected using the standard three-step approach: Trip Generation, Trip Distribution, and Traffic Assignment. By adding the site-generated traffic to the background traffic, the resulting site-plus-background traffic impact to operational conditions of the changed roadway network may be assessed from which approach mitigation measures may be recommended, if needed.

Background Traffic Volume Data

Existing Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on March 22, 2016. Due to equipment issues, three of the 34 intersections had to be recounted the following week on March 30, 2016. Traffic volumes are graphically summarized in **Appendix A**; detailed data sheets are provided in **Appendix B**.

Projected Background Traffic Volumes

Background traffic growth is defined as the normal growth of traffic that is not directly related to the subject development of this study. The study area is mostly developed and saturated with a minimal expected growth in traffic. However, for this study DeShazo conservatively used an annual growth rate of one (1) percent based on the discussion with the City of Austin Staff.

By applying this growth rate, future background traffic volumes each phases and project buildout year were calculated for the study area intersections. These volumes are graphically summarized in **Appendix A**.

Site-Related Traffic

Trip Generation

Trip generation is calculated in terms of “trip ends” – a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends). Trip generation for this Project was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation* manual (9th Edition). ITE *Trip Generation* is a compilation of actual, vehicular traffic volume generation data and statistics by land use as collected over several decades by creditable sources across the country. Using the ITE equations and rates is an accepted methodology to calculate the projected site-generated traffic volumes for many land uses (though engineering judgment is strongly advised).

The base trip generation data from ITE generally reflect average conditions for a standalone use on a typical day. However, in some cases, the Engineer may judge that other factors may be of sufficient significance to warrant adjusting the base ITE calculations in order to more accurately reflect Project-specific conditions. Since the area surrounding the Texas Capitol Complex has urban, rather than suburban characteristics, with its grid street network of blocks and documented use of bicycles, for this analysis “mode split” was considered to be of sufficient significance to justify adjustment of the base ITE data.

“Mode split” is the consideration of trips being conducted by all modes of transportation, including public transit, bicycle, walking, etc. The default trip generation data from ITE incorporate “typical” mode split characteristics; however adjustments to mode split are required based on the characteristics of the study area.

Capitol Metro provides north and south high frequency bus service along the western study area roadways of Guadalupe and Lavaca via their Express Bus Service where dedicated bus lanes are provided. Capitol Metro also provides commuter high frequency bus service at the peak travel periods along the eastern study area roadways on San Jacinto and Trinity. East and west local bus service is also provided on MLK Boulevard along the northern edge of the study area and on 15th Street along the southern edge of the study area.

Currently local transit service is also provided through the study area along Congress Avenue. This service is anticipated to remain, but the north – south leg of the service relocated to Colorado Street when Congress Avenue is closed to vehicle traffic as proposed in the Master Plan. Due to availability of transit service and stops located within ¼ mile of the site complex, a daily, PM and AM trip reduction of was used for the additional trips generated by proposed office spaces.

The 2014 Austin Bike Plan Update sets a goal to reduce daily car trips to the downtown by 7% or 300,000 daily passenger trips within the area of the City classified as the “ring of congestion.” The Capitol Plan falls within the area. However, this is a Transportation Demand Management (TDM) strategy and need to be evaluated further after implementation. For the purpose of this study, existing trips were not reduced to evaluate the worst scenario. Also, it is expected that most of the employees working the State Capitol Complex will live outside the central region. Therefore, the anticipated employees cycling to work is expected to be rather low. The transit and bike credit

was only included for the new trips generated by the proposed office spaces for phases 1 through 3.

Turning movement counts conducted at the 34 intersections in the study area shows some peak bike volumes in the range of 0.5% to 7% with an average of 2% for the total 6 hours counted. Hence, a 2% bicycling mode reductions is used for this analysis. Similarly, the traffic counts during same period shows the percentage of buses at these intersections ranges from 0.1% to 3.9%. A 2% transit trip reduction is assumed for this analysis. In addition to bicycle and transit, a 1% trip reduction is also used for walking trips as the project area has better pedestrian facilities. In summary a 5% additional reduction on additional trip generated by new office buildings was used for this analysis.

Although the Trip Generation Manual provides a land use category for government offices (730), due to the lack of case studies provided for this land use category, it was determined that general office land use (710) would provide a more accurate trip generation rate for the proposed Master Plan phase build-out land use. **Table 3** provides a summary of the calculated net increase in trip ends generated by the project. Supplemental information used in the trip generation calculations is provided in **Appendix C**.

Table 3. Projected Trip Generation Summary

Phase	Land Use	Quantity (SF)	Average Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
1	710	1,025,000	7,698	1,083	148	1,231	208	1,018	1,226
			7,313*	1,029*	141*	1,169*	198*	967*	1,165*
2	710	525,000	4,629	634	87	721	113	553	666
			4,398*	602*	83*	685*	107*	525*	633*
3	710	530,000	4,663	640	87	727	114	558	672
			4,430*	608*	83*	691*	108*	530*	638*
Totals		2,080,000	16,990	2,357	322	2,679	435	2,129	2,564
			16,141*	2,239*	307*	2,546*	413	2,022	2,435

Note: All trips shown above with (*) are adjusted for 5% combined transit, walking and bicycle reduction.

Trip Distribution and Assignment

The distribution and assignment of site-generated trip ends to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic; trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.

Traffic for the proposed redevelopment was distributed and assigned to the study area roadway network based upon consideration of the factors listed above. Detailed trip distribution and traffic assignment calculations and results are summarized in **Appendix C**.

Traffic currently using Congress Avenue going north and south were redistributed to Colorado Street, Brazos Street, San Jacinto Street and Trinity Street. The Congress Avenue between MLK

Blvd and 18th Street is converted to one way in southbound direction. The eastbound right and westbound left turns at MLK Blvd at Congress Avenue are restricted to limit buses only.

Where the roadways segments of 16th Street, 17th Street and 18th Street are proposed to be converted from one-way to two-way traffic, the existing volumes were proportionally distributed in the opposite directions based on assumption that the unrestricted two way movement will generate similar traffic pattern on 16th Street, 17th Street and 18th Street except for the through movements on 17th Street at Congress Avenue which were further distributed into 16th Street or 18th Street.

Site-Generated Traffic Volumes

Site-generated traffic is calculated by multiplying the trip generation value (from **Table 3**) by the corresponding traffic assignments (from **Appendix C**). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in **Appendix A**.

Traffic Operational Analysis —Roadway Intersections

Description

The level of performance of civil infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic an operational analysis of roadway intersection capacity is the most detailed type of analysis. An industry-standardized methodology for this type of analysis was developed by the Transportation Research Board and is presented in the *Highway Capacity Manual (HCM)*. HCM uses the term “Level of Service” (or, LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS A is described as free, unobstructed flow while LOS F represents facilities operating over design capacity.

Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C, or better, is desirable, although LOS D is considered to be acceptable. Nevertheless, periods of LOS E or F conditions are not uncommon for brief periods of time at major transportation facilities. In some cases measures to add more capacity, either through operational changes and/or physical improvements, can be identified to increase efficiency and sometimes raise Level of Service.

For traffic-signal-controlled (“signalized”) intersections and STOP-controlled (“unsignalized”) intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections the average delay per vehicle can be effectively calculated for the entire intersection; however, for unsignalized intersections the average delay per vehicle is calculated only by approach or by individual traffic maneuvers that must stop or yield right-of-way. For unsignalized intersections of a minor street or driveway and a major roadway, the analysis methodology often breaks down and yields low Levels of Service (often, LOS F) than cannot be mitigated unless a traffic signal is installed. However, for a traffic signal to be installed, the responsible agency that governs the right-of-way must issue their approval subject to very specific warrant criteria being met *and* several other operational considerations being satisfied. Neither Level-of-Service nor delay is considered a criterion for traffic signal installation.

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

Table 4. HCM Level of Service Criteria

	Signalized Intersection (Avg. Delay/Veh, sec.)	Unsignalized Intersection (Avg. Delay/Veh, sec.)
LOS A	≤ 10	≤ 10
LOS B	$>10 - \leq 20$	$>10 - \leq 15$
LOS C	$>20 - \leq 35$	$>15 - \leq 25$
LOS D	$>35 - \leq 55$	$>25 - \leq 35$
LOS E	$>55 - \leq 80$	$>35 - \leq 50$
LOS F	>80	>50

Analysis Traffic Volumes

Determination of the traffic impact associated with the Project is measured by comparing the incremental change in operational conditions during peak periods with and without site-related traffic. **Appendix A** provides exhibits summarizing the following:

- Existing traffic volumes during study peak hours
- Projected Background traffic volumes at the Site Buildout Year during study peak hours
- Projected Site-Generated traffic volumes during study peak hours
- Projected Background-plus-Site-Generated traffic volumes at the Site Buildout Year during study peak hours.

A summary of the existing intersection/roadway geometry and traffic control devices is shown in **Exhibit 2**.

Summary of Results

Intersection capacity analyses presented in this study were performed using the *Synchro 9* software package. **Table 5** (signalized intersections) and **Table 6** (unsignalized intersections) provide a summary of the peak period intersection operational conditions under the analysis conditions presented previously. Detailed software output is provided in **Appendix D**.

NOTE: Traffic signal operational parameters used in this analysis were based upon actual, existing traffic signal operational characteristics observed in the field at the time of traffic data collection.

See specific recommendations in the *Summary of Findings and Recommendations* section of this report.

**Table 5. Peak Hour Intersection Capacity Analysis Results
(Signalized Intersections)**

Signalized Intersections	Conditions													
	Existing Conditions		PHASE 1				PHASE 2				PHASE 3			
	2016 Existing		2020 Background		2020 Background + Site		2022 Background		2022 Background + Site		2024 Background		2024 Background + Site	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
<u>Martin Luther King Jr at</u> Guadalupe Street	C (24.9)	C (23.9)	C (22.2)	C (24.6)	C (22.7)	C (29.4)	C (23.0)	C (31.3)	C (23.9)	D (42.4)	C (24.2)	D (42.6)	C (25.5)	D (44.1)
<u>Martin Luther King Jr at</u> Lavaca Street	B (15.6)	C (26.7)	B (14.4)	C (26.3)	B (19.1)	C (27.8)	B (19.1)	C (28.3)	B (19.7)	D (36.8)	B (19.7)	D (38.9)	B (19.7)	D (48.4)
<u>Martin Luther King Jr at</u> N. Congress Avenue	B (11.9)	A (7.8)	A (0.3)	A (0.5)	A (0.4)	A (0.5)	A (0.4)	A (0.5)	A (0.4)	A (0.5)	A (0.4)	A (0.5)	A (0.4)	A (0.5)
<u>Martin Luther King Jr at</u> Brazos Street	B (13.2)	A (8.9)	B (11.2)	A (9.9)	B (16.5)	B (13.3)	B (17.1)	B (13.6)	B (18.0)	B (13.9)	B (18.9)	B (14.3)	C (20.7)	B (15.7)
<u>Martin Luther King Jr at</u> San Jacinto Boulevard With Optimized Signal Timings	B (18.3)	B (14.1)	B (12.7)	B (15.2)	C (23.6)	B (19.4)	C (24.2)	C (20.4)	D (47.9)	C (23.9)	D (46.2) D (44.9)	C (25.4)	E (61.1) D (49.2)	C (31.7)
<u>Martin Luther King Jr at</u> Trinity Street With Optimized Signal Timings	B (17.5)	C (27.1)	B (10.7)	C (29.9) C (24.8)	B (16.5)	E (63.7) C (28.0)	C (21.9) B (14.0)	E (66.8) C (28.8)	D (47.0) D (38.7)	F (>100) C (32.9)	D (47.7) D (35.1)	F (>100) C (33.7)	E (66.6) D (47.2)	F (>100) D (35.6)
<u>E 17th Street at</u> Guadalupe Street	C (20.7)	A (7.5)	A (7.6)	B (12.9)	A (8.1)	B (16.1)	A (8.3)	B (16.3)	A (8.9)	B (16.5)	A (9.0)	B (16.9)	A (9.7)	B (17.2)
<u>E 17th Street at</u> Lavaca Street	A (4.6)	B (10.1)	A (8.2)	B (12.3)	B (12.9)	B (12.8)	B (12.2)	B (12.8)	B (12.3)	B (13.8)	B (12.1)	B (13.6)	B (12.8)	B (15.3)
<u>E 16th Street at</u> Lavaca Street	A (8.2)	A (9.2)	A (3.7)	A (8.6)	A (3.7)	A (8.3)	A (3.3)	A (8.4)	A (6.8)	B (15.7)	A (6.7)	B (16.2)	A (7.9)	C (21.3)
<u>W 15th Street at</u> Guadalupe Street	C (26.7)	C (23.2)	C (29.5)	C (24.1)	C (31.9)	C (27.8)	C (33.5)	C (28.3)	D (40.1)	C (30.2)	D (43.6)	C (31.1)	D (53.4)	C (34.1)
<u>W 15th Street at</u> Lavaca Street	B (14.4)	C (23.2)	B (13.6)	C (23.2)	B (17.6)	C (24.3)	B (17.9)	C (25.0)	B (19.8)	C (26.3)	C (20.5)	C (27.7)	C (22.5)	C (32.2)
<u>W 15th Street at</u> Colorado Street	A (7.4)	B (12.7)	A (7.7)	A (9.2)	A (8.7)	A (9.2)	A (8.6)	A (9.4)	B (14.7)	B (15.7)	B (15.6)	B (16.1)	C (34.8)	D (40.6)
<u>W 15th Street at</u> N. Congress Avenue	A (4.3)	A (8.8)	A (5.0)	A (7.3)	A (5.2)	A (7.3)	A (5.2)	A (6.2)	A (5.6)	A (6.9)	A (5.6)	A (7.0)	A (6.0)	A (7.9)
<u>W 15th Street at</u> Brazos Street	A (6.8)	B (11.4)	A (3.1)	B (13.6)	A (3.0)	B (13.8)	A (3.0)	B (12.0)	A (3.0)	B (11.5)	A (3.0)	B (11.6)	A (3.1)	B (11.6)
<u>W 15th Street at</u> San Jacinto Boulevard	A (5.7)	B (19.8)	A (7.3)	C (21.4)	A (8.0)	C (28.1)	A (8.1)	C (28.7)	A (7.9)	C (28.4)	A (7.9)	C (29.5)	A (7.9)	C (29.5)
<u>W 15th Street at</u> Trinity Street	A (9.3)	B (15.5)	B (12.2)	B (16.3)	B (13.2)	B (16.7)	B (13.4)	B (19.0)	B (14.3)	B (18.4)	B (14.6)	B (18.6)	B (15.6)	B (18.1)

Table 6. Peak Hour Intersection Capacity Analysis Results
(Unsignalized Intersections)

Unsignalized Intersections	Traffic Movement	Conditions													
		Existing Conditions		PHASE 1				PHASE 2				PHASE 3			
		2016 Existing		2020 Background		2020 Background + Site		2022 Background		2022 Background + Site		2024 Background		2024 Background + Site	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
<u>Martin Luther King Jr. at</u>															
Colorado Street	WBL	B (13.5)	A (9.2)	B (14.1)	A (9.3)	C (15.6)	A (9.5)	C (16.0)	A (9.4)	C (19.8)	A (9.5)	C (20.6)	A (9.6)	E (42.5)	A (9.7)
	NBLR	B (13.6)	B (12.7)	B (13.9)	B (13.0)	B (14.8)	B (13.2)	B (15.0)	B (13.4)	D (32.5)	C (19.5)	E (35.3)	C (20.1)	F (>100)	F (>100)
<u>W 18th Street at</u>															
Guadalupe Street	EBT	--	--	C (24.3)	C (24.7)	D (31.6)	D (26.0)	D (32.8)	D (26.8)	E (38.8)	D (27.4)	E (40.1)	D (28.5)	E (48.6)	D (29.2)
	EBR	B (13.0)	B (13.5)	B (14.0)	B (13.7)	B (14.8)	B (13.9)	C (15.1)	B (14.0)	C (16.2)	B (14.2)	C (16.6)	B (14.4)	C (17.9)	B (14.5)
	WBLT	C (18.2)	F (55.7)	C (19.6)	F (52.4)	D (27.6)	F (>100)	D (29.4)	F (>100)	E (35.5)	F (>100)	E (36.8)	F (>100)	E (46.3)	F (>100)
<u>W 18th Street at</u>															
Lavaca Street	EBLT	--	--	C (17.7)	D (31.1)	D (26.9)	--	D (27.7)	--	D (28.7)	--	D (29.7)	--	D (30.6)	--
	WBTR	B (11.6)	C (15.8)	C (15.7)	D (29.8)	C (18.6)	F (>100)	C (18.9)	F (>100)	C (19.3)	F (>100)	C (19.7)	F (>100)	C (20.0)	F (>100)
	NBL	A (8.3)	A (8.6)	A (8.5)	A (8.4)	A (8.5)	A (8.4)	A (8.5)	A (8.4)	A (8.5)	A (8.4)	A (8.5)	A (8.4)	A (8.5)	A (8.4)
<u>W 18th Street at</u>															
Colorado Street	EBLTR	--	--	A (7.7)	A (9.3)	B (10.5)	B (11.0)	B (10.6)	B (11.2)	B (11.6)	B (13.4)	B (11.8)	B (13.7)	B (14.8)	C (16.1)
	WBLTR	A (7.8)	A (8.7)	A (8.1)	A (9.7)	A (8.8)	C (15.3)	A (8.8)	C (15.7)	A (9.4)	C (21.3)	A (9.4)	C (21.9)	B (12.1)	D (28.5)
	SBTR	A (8.5)	A (8.0)	A (9.1)	A (9.3)	B (10.4)	B (11.1)	B (10.5)	B (11.2)	B (13.2)	B (13.6)	B (13.4)	B (13.9)	D (29.9)	C (17.1)
	NBLT	A (7.5)	A (8.5)	A (7.7)	B (10.5)	A (8.5)	B (13.4)	A (8.5)	B (13.8)	A (9.2)	E (37.1)	A (9.2)	F (69.7)	B (11.3)	F (>100)
<u>W 18th Street at</u>															
N. Congress Avenue	EBLT	--	--	A (7.4)	A (9.1)	A (8.9)	B (10.1)	A (8.9)	B (10.1)	A (9.1)	B (12.4)	A (9.1)	B (12.6)	A (9.3)	B (13.5)
	WBLTR	A (7.7)	B (10.2)	--	--	--	--	--	--	--	--	--	--	--	--
	WBTR	--	--	A (7.2)	A (8.4)	A (7.5)	B (10.7)	A (7.6)	B (11.0)	A (7.6)	B (11.4)	A (7.6)	B (11.5)	A (8.0)	B (11.9)
	SBTR	A (7.6)	A (9.0)	--	--	--	--	--	--	--	--	--	--	--	--
	NBLT	A (7.9)	B (10.1)	--	--	--	--	--	--	--	--	--	--	--	--
	SBR	--	--	A (6.6)	A (7.4)	A (7.1)	A (7.9)	A (7.1)	A (8.0)	A (7.2)	A (8.2)	A (7.2)	A (8.3)	A (7.3)	A (8.4)
<u>W 18th Street at</u>															
Brazos Street	EBLTR	--	--	A (9.3)	B (12.1)	B (12.1)	C (23.1)	B (12.2)	C (24.3)	B (12.8)	F (62.1)	B (13.0)	F (68.6)	B (13.7)	F (87.8)
	WBLTR	A (7.9)	A (8.4)	A (8.3)	A (9.6)	B (12.0)	B (12.4)	B (12.1)	B (12.6)	B (12.2)	B (14.2)	B (12.3)	B (14.5)	C (15.2)	B (15.0)
	SBTR	A (9.0)	A (7.9)	B (10.2)	A (9.6)	B (13.7)	C (17.0)	B (13.9)	C (17.5)	B (14.2)	C (22.2)	B (14.5)	C (23.3)	C (15.6)	C (23.6)
	NBLT	A (7.6)	B (10.2)	A (8.2)	C (15.2)	A (9.6)	C (24.0)	A (9.6)	D (25.7)	A (9.7)	E (36.0)	A (9.8)	E (39.9)	B (10.2)	E (39.7)
<u>W 18th Street at</u>															
San Jacinto Boulevard	EBTR	--	--	A (8.9)	B (10.6)	B (10.4)	C (18.8)	B (10.5)	C (19.3)	B (11.4)	E (37.7)	B (10.9)	E (39.6)	B (10.9)	E (39.9)
	WBTL	B (12.3)	B (11.5)	B (10.4)	A (10.0)	C (15.3)	B (11.2)	C (15.4)	B (11.2)	C (16.6)	B (11.8)	C (16.6)	B (11.9)	C (16.7)	B (11.9)
	SBT	--	--	B (11.1)	B (11.4)	C (15.1)	B (14.0)	C (15.4)	B (14.3)	C (19.6)	C (16.3)	C (19.4)	C (16.7)	C (19.5)	C (16.7)
	SBLT	--	--	B (11.1)	B (11.4)	C (15.1)	B (14.0)	C (15.4)	B (14.3)	C (19.6)	C (16.3)	C (19.4)	C (16.7)	C (19.5)	C (16.7)
	SBTR	--	--	A (5.4)	A (5.6)	A (6.3)	A (6.4)	A (6.3)	A (6.4)	A (6.4)	A (6.9)	A (6.3)	A (6.9)	A (6.6)	A (6.9)
<u>W 18th Street at</u>															
Trinity Street	EBL	Free	Free	B (13.4)	C (18.4)	C (21.3)	D (28.7)	C (21.5)	D (30.2)	C (23.1)	F (74.6)	C (23.5)	F (81.1)	C (23.6)	F (95.2)
	NBL			A (7.6)	A (7.5)	A (7.9)	A (7.6)	A (7.9)	A (7.6)	A (7.9)	A (7.6)	A (8.0)	A (7.6)	A (8.0)	A (7.6)
<u>E 17th Street at</u>															
Colorado Street	EBLTR	A (8.7)	B (11.0)	A (7.9)	A (8.7)	B (10.5)	A (9.8)	B (10.6)	A (9.9)	B (11.5)	B (11.3)	B (11.6)	B (11.4)	C (17.7)	B (14.4)
	WBLTR	--	--	A (7.7)	A (7.9)	A (8.4)	B (10.3)	A (8.4)	B (10.4)	A (8.9)	B (12.1)	A (8.9)	B (12.1)	B (10.4)	C (15.4)
	SBLT	A (9.4)	A (9.1)	A (8.8)	A (8.3)	B (10.2)	A (9.5)	B (10.3)	A (9.7)	B (12.6)	B (11.1)	B (12.8)	B (11.2)	E (42.8)	B (15.0)
	NBTR	A (7.7)	A (9.6)	A (7.8)	A (8.7)	A (8.6)	A (10.0)	A (8.7)	B (10.1)	A (9.2)	C (15.7)	A (9.2)	C (15.9)	B (11.3)	F (98.0)
<u>E 17th Street at</u>															
N. Congress Avenue	EBLTR	A (8.6)	B (14.0)	--	--	--	--	--	--	--	--	--	--	--	--
	EBT	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	WBT	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SBLT	A (8.3)	B (11.0)	--	--	--	--	--	--	--	--	--	--	--	--
	NBTR	A (8.7)	A (9.9)	--	--	--	--	--	--	--	--	--	--	--	--
<u>E 17th Street at</u>															
Brazos Street	EBLT	A (7.5)	A (9.2)	A (0.0)	A (7.3)	A (7.4)	A (9.1)	A (7.5)	A (9.1)	A (7.5)	A (9.1)	A (7.5)	A (9.1)	A (7.5)	A (9.1)
	WBTR			A (6.5)	A (6.8)	A (8.6)	A (7.8)	A (8.6)	A (7.8)	A (8.6)	A (7.8)	A (8.6)	A (7.8)	A (8.6)	A (7.8)
	SBL	B (12.9)	B (12.7)	--	--	--	--	--	--	--	--	--	--	--	--
	SBLR			A (7.4)	A (7.9)	A (8.0)	A (8.8)	A (8.0)	A (8.9)	A (8.0)	A (8.9)	A (8.0)	A (8.9)	A (8.0)	A (8.9)
<u>E 17th Street at</u>															
San Jacinto Boulevard	EBT	--	--	C (15.2)	F (67.1)	C (16.1)	F (>100)	C (16.3)	F (>100)	C (18.8)	F (>100)	C (19.2)	F (>100)	C (19.2)	F (>100)
	EBR	B (11.2)	C (15.1)	B (10.6)	F (134.0)	B (10.8)	C (16.3)	B (10.9)	C (19.4)	B (11.6)	C (16.9)	B (11.7)	C (20.5)	B (11.7)	C (20.5)
	WBLT	--	--	C (15.5)	F (93.0)	D (26.3)	--	D (27.4)	--	E (38.1)	--	E (40.7)	--	E (40.7)	--
	SBL	A (7.3)	A (7.6)	A (7.3)	A (7.6)	A (7.3)	A (7.6)	A (7.3)	A (7.6)	A (7.3)	A (7.6)	A (7.3)	A (7.6)	A (7.3)	A (7.6)
<u>E 17th Street at</u>															
Trinity Street	EBL	A (9.9)	B (13.2)	A (9.8)	B (11.3)	B (12.0)	B (13.8)	B (12.0)	B (13.9)	B (12.0)	B (13.9)	B (12.0)	B (14.1)	B (12.0)	B (14.1)
<u>E 16th Street at</u>															
Guadalupe Street	EBTR	--	--	C (18.7)	D (28.0)	C (19.2)	E (38.0)	C (20.0)	E (39.0)	C (23.7)	E (41.4)	C (24.4)	E (44.6)	D (26.4)	E (45.9)
	WBLT	C (15.1)	E (38.6)	C (22.0)	F (>100)	C (22.8)	F (>100)	C (23.4)	F (>100)	E (40.3)	F (>100)	E (43.7)	F (>100)	F (60.8)	F (>100)
<u>E 16th Street at</u>															
Colorado Street	EBLTR	--	--	B (11.2)	C (23.5)	B (11.2)	C (23.5)	B (11.2)	C (24.3)	B (13.3)	F (>100)	B (13.4)	F (>100)	D (31.4)	F (>100)
	WBLTR	B (11.2)	B (12.5)	B (12.9)	C (20.8)	B (12.9)	C (20.8)	B (13.1)	C (21.5)	F (50.1)	F (93.2)	F (53.6)	F (>100)	F (>100)	F (>100)
	SBLR	A (0.0)	A (0.0)	--	--	--	--	--	--	--	--	--	--	--	--
	SBLTR	--	--	A (8.1)	A (7.5)	A (8.1)	A (7.5)	A (8.1)	A (7.5)	A (8.2)	A (8.0)	A (8.2)	A (8.0)	A (8.9)	A (8.1)
	NBLT	A (7.5)	A (8.9)	--	--	--	--	--	--	--	--	--	--	--	--
	NBLTR	--	--	A (7.4)	A (8.8)	A (7.4)	A (8.8)	A (7.4)	A (8.8)	A (7.7)	A (9.1)	A (7.7)	A (9.1)	A (8.2)	B (10.2)
<u>E 16th Street at</u>															
N. Congress Avenue	EBT	--	--	A (9.2)	A (9.8)	A (9.2)	A (9.8)	A (9.2)	A (9.9)	A (9.2)	A (9.9)	A (9.2)	A (9.9)	A (9.2)	A (9.9)
	WBLTR	B (10.2)	B (12.0)	--	--	--	--	--	--	--	--	--	--	--	--
	WBT	--	--	A (9.1)	A (9.8)	A (9.1)	A (9.8)	A (9.1)	A (9.9)	B (10.1)	B (10.1)	B (10.1)	B (10.1)	B (10.1)	B (10.1)
	SBLR	A (0.0)	A (0.0)	--	--	--	--	--	--	--	--	--	--	--	--
	NBLT	A (7.4)	A (8.1)	--	--	--	--	--	--	--	--	--	--	--	--
<u>E 16th Street at</u>															
Brazos Street	WBLT	A (7.3)	A (7.3)	A (7.3)	A (7.5)	A (7.3)	A (7.5)	A (7.4)	A (7.5)	A (7.4)	A (7.5)	A (7.4)	A (7.5)	A (7.4)	A (7.5)
	NBLR	A (8.9)	B (10.1)	A (9.1)	B (10.6)	A (9.1)	B (10.6)	A (9.1)	B (10.6)	B (10.3)	B (11.0)	B (10.3)	B (11.1)	B (10.3)	B (11.1)
<u>E 16th Street at</u>															
San Jacinto Boulevard	EBR	Free	Free	B (12.6)	C (16.4)	B (12.9)	C (19.7)	B (13.0)	C (20.1)	B (13.0)	C (20.1)	B (13.1)	C (20.5)	B (13.1)	C (20.5)
<u>Brazos Street at</u>															
Parking Driveway 1	EBLR	--	--	--	--	C (17.2)	C (16.7)	C (18.8)	C (16.9)	C (17.3)	C (16.9)	C (17.5)	C (17.0)	C (17.7)	C (18.8)
	NBLT	--	--	--	--	A (9.3)	A (7.5)	A (9.3)	A (7.5)	A (9.3)	A (7.5)	A (9.3)	A (7.5)	A (9.3)	A (7.5)
<u>W 18th Street at</u>															
Parking Driveway 2	EBLT	--	--	--	--	A (7.8)	A (8.2)	A (7.8)	A (8.2)	A (7.8)	A (8.2)	A (7.8)	A (8.1)	A (8.0)	A (8.2)
	SBLR	--	--	--	--	B (10.9)	C (18.7)	B (11.3)	C (19.0)	B (11.1)	C (21.8)	B (11.1)	C (22.5)	B (11.7)	C (24.0)
	NBR	--	--	--	--										
<u>Colorado Street at</u>															
Parking Driveway 3	WBLR	--	--	--	--	--	--	--	--	C (20.2)	B (14.8)	C (20.6)	B (15.0)	D (30.8)	C (21.0)
	SBLT	--	--	--	--	--	--	--	--	A (9.2)	A (7.5)	A (9.3)	A (7.5)	B (10.5)	A (7.6)
<u>Colorado Street at</u>															
Parking Driveway 4	EBLR	--	--	--	--	--	--	--	--	C (19.0)	C (17.3)	C (19.2)	C (17.5)	D (26.0)	D (27.4)
	NBLT	--	--	--	--	--	--	--	--	A (9.0)	A (8.5)	A (9.1)	A (8.5)	A (9.2)	A (9.2)
<u>E 16th Street at</u>															
Parking Driveway 5	WBLT	--	--	--	--	--	--	--	--	A (8.0)	A (7.5)	A (8.0)	A (7.5)	A (8.0)	A (7.7)
	NBLR	--	--	--	--	--	--	--	--	B (11.1)	B (11.5)	B (11.2)	B (11.6)	B (12.2)	B (13.2)
<u>E 16th Street at</u>															
Parking Driveway 6	EBLT	--	--	--	--	--	--	--	--	--	--	--	--	A (7.8)	A (7.9)
	SBLR	--	--	--	--	--	--	--	--	--	--	--	--	B (11.6)	B (13.1)
<u>Colorado Street at</u>															
Parking Driveway 7/Parking Dr. 8	EBLR	--	--	--	--	--	--	--	--	--	--	--	--	D (35.0)	C (18.8)
	WBLR	--	--	--	--	--	--	--	--	--	--	--	--	D (29.2)	C (17.4)
	SBL													A (8.7)	A (8.0)
	NBL													A (9.0)	A (7.6)

Traffic Operational Analysis —Roadway Links

Description

A roadway link is a segment of roadway between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. The capacity of the roadway link is predominantly a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Generally, roadway link capacity is less critical than intersection capacity; however, it can provide a gage of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions - in the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location. The following table was developed by North Central Texas Council of Government (NCTCOG) represents a typical capacity of hourly traffic volumes based on the characteristics and functional classification of the roadways.

Table 7. Daily Service Volumes by Roadway Function

Area Type	Principal Arterial		Minor Arterial & Frontage Road		Collector & Local Street	
	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way
CBD	7,250	6,500	7,250	6,500	4,750	4,250
Urban/Commercial	8,500	7,750	8,250	7,500	5,250	4,750
Suburban Residential	9,250	8,750	9,000	8,250	5,750	5,250
Rural	10,250	9,250	9,750	8,750	6,000	5,500

NOTE: Daily capacity is equal to 10x peak hour capacity.

- Volume: Capacity Ratio $\leq 45\%$ is LOS A/B,
- Volume: Capacity Ratio $> 45\%$ and $\leq 65\%$ is LOS C,
- Volume: Capacity Ratio $> 65\%$ and $\leq 80\%$ is LOS D,
- Volume: Capacity Ratio $< 80\%$ and $\leq 100\%$ is LOS E,
- Volume: Capacity Ratio $\geq 100\%$ is LOS F

Summary of Results

For roadways adjacent to or in the vicinity of the subject site, the volume/capacity ratio was calculated for existing and site buildout conditions. The following table provides a summary of volume to capacity ratio for all roadways within the study area. The results of the analysis shows that all roadways links within the project area are expected to operate at LOS E or better.

Table 8. Roadway Link Capacity Analysis Results Summary

Roadway	Condition	Daily Traffic Volume	Functional Classification	Theoretical Capacity	V/C	LOS
16 th Street	Existing	3,210	Collector(One way)	5,250	0.61	C
	Background	2,450	Collector(Two way)	10,500	0.23	A/B
	Phase 1 Buildout	2,450	Collector(Two way)	10,501	0.23	A/B
	Phase 2 Buildout	3,650	Collector(Two way)	10,502	0.35	A/B
	Phase 3 Buildout	4,920	Collector(Two way)	10,503	0.47	C
17 th Street	Existing	3,150	Collector(One way)	5,250	0.60	C
	Background	2,110	Collector(Two way)	10,500	0.20	A/B
	Phase 1 Buildout	3,900	Collector(Two way)	10,501	0.37	A/B
	Phase 2 Buildout	4,580	Collector(Two way)	10,502	0.44	A/B
	Phase 3 Buildout	6,490	Collector(Two way)	10,503	0.62	C
18 th Street	Existing	2,350	Collector(One way)	5,250	0.45	A/B
	Background	3,570	Collector(Two way)	10,500	0.34	A/B
	Phase 1 Buildout	5,630	Collector(Two way)	10,501	0.54	C
	Phase 2 Buildout	6,760	Collector(Two way)	10,502	0.64	C
	Phase 3 Buildout	7,210	Collector(Two way)	10,503	0.69	C
15 th Street	Existing	25,990	Minor Arterial - Divided(4 lanes)	33,000	0.79	D
	Background	27,050	Minor Arterial - Divided(4 lanes)	33,000	0.82	E
	Phase 1 Buildout	27,050	Minor Arterial - Divided(4 lanes)	33,000	0.82	E
	Phase 2 Buildout	29,110	Minor Arterial - Divided(4 lanes)	33,000	0.88	E
	Phase 3 Buildout	30,630	Minor Arterial - Divided(4 lanes)	33,000	0.93	E
MLK Jr Blvd	Existing	19,190	Minor Arterial - Undivided(4 lanes)	30,000	0.64	C
	Background	19,980	Minor Arterial - Undivided(4 lanes)	30,000	0.67	D
	Phase 1 Buildout	21,720	Minor Arterial - Undivided(4 lanes)	30,000	0.72	D
	Phase 2 Buildout	22,760	Minor Arterial - Undivided(4 lanes)	30,000	0.76	D
	Phase 3 Buildout	24,000	Minor Arterial - Undivided(4 lanes)	30,000	0.80	D
Guadalupe Street	Existing	11,290	Minor Arterial(One way)	24,750	0.46	C
	Background	11,490	Minor Arterial(One way)	24,750	0.46	C
	Phase 1 Buildout	13,420	Minor Arterial(One way)	24,750	0.54	C
	Phase 2 Buildout	14,040	Minor Arterial(One way)	24,750	0.57	C
	Phase 3 Buildout	14,640	Minor Arterial(One way)	24,750	0.59	C
Lavaca Street	Existing	11,270	Minor Arterial(One way)	33,000	0.34	A/B
	Background	10,990	Minor Arterial(One way)	33,000	0.33	A/B
	Phase 1 Buildout	11,390	Minor Arterial(One way)	33,000	0.35	A/B
	Phase 2 Buildout	12,820	Minor Arterial(One way)	33,000	0.39	A/B
	Phase 3 Buildout	13,470	Minor Arterial(One way)	33,000	0.41	A/B
Colorado Street	Existing	3,130	Collector(Two way)	9,500	0.33	A/B
	Background	2,500	Collector(Two way)	9,500	0.26	A/B
	Phase 1 Buildout	2,500	Collector(Two way)	9,500	0.26	A/B
	Phase 2 Buildout	4,370	Collector(Two way)	9,500	0.46	C
	Phase 3 Buildout	6,670	Collector(Two way)	9,500	0.70	D
San Jacinto Blvd	Existing	10,620	Minor Arterial(One way)	24,750	0.43	A/B
	Background	10,450	Minor Arterial(One way)	24,750	0.42	A/B
	Phase 1 Buildout	12,860	Minor Arterial(One way)	24,750	0.52	C
	Phase 2 Buildout	13,290	Minor Arterial(One way)	24,750	0.54	C
	Phase 3 Buildout	14,040	Minor Arterial(One way)	24,750	0.57	C
Trinity Street	Existing	7,280	Minor Arterial(One way)	24,750	0.29	A/B
	Background	6,280	Minor Arterial(One way)	24,750	0.25	A/B
	Phase 1 Buildout	7,550	Minor Arterial(One way)	24,750	0.31	A/B
	Phase 2 Buildout	7,680	Minor Arterial(One way)	24,750	0.31	A/B
	Phase 3 Buildout	8,600	Minor Arterial(One way)	24,750	0.35	A/B

Based on the above table, the relocated trips calculated for 16th Street, 17th Street and 18th Street conversion from one-way to two way operation, these streets are expected to have enough capacity to handle the additional traffic generated by the conversion as well as proposed office spaces. The existing on-street parking will be eliminated after the conversion takes place. The **Table 8** above summarizes the results of link analysis performed for project roadways on existing condition, background condition and at the end of each phases.

SITE ACCESS REVIEW

The only roadway in the study area that has a raised divided median is 15th Street. The 2025 Austin Metropolitan Area Transportation designates 15th Street to be a MAD-6. The proposed Master Plan does not proposed an additional median access opening and therefore is not applicable to this analysis. All the other roadways within the study area are undivided or have a flush median or two-way left turn lane (MLK Boulevard).

Driveway Spacing

Section 5 of the City of Austin's Transportation Criteria Manual establishes the spacing requirements for driveways with the City of Austin. **Table 9** below summarizes the minimum driveway spacing for the classification of the roadway being accessed.

Table 9. Capitol District Plan – Driveway Spacing Criteria

Classification	Street Name	Minimum Spacing to the Nearest Conflict point
MAU-4	MLK BOULEVARD	150 FT.
C	18th STREET	100 FT.
C	17th STREET	100 FT.
C	16th STREET	100 FT.
MAD-4	15th STREET	150 FT.
MA	GUADALUPE STREET	150 FT.
MA	LAVACA STREET	150 FT.
C	COLORADO STREET	100 FT.
C	CONGRESS AVENUE	100 FT.
MA	SAN JACINTO BOULEVARD	150 FT.
MA	TRINITY STREET	150 FT.

LEGEND: MA - MINOR ARTERIAL
C - COLLECTOR
MA - D MINOR ARTERIAL DIVIDED

Based on the review of the development plan, the parking driveways proposed for Phase 1 at Brazos Street and 18th Street meets the City of Austin's driveway spacing requirements. Similarly, the driveways proposed at 17th Street for Phase 2 and Phase 3 also meets the requirements. Parking driveways proposed at Colorado Street and 16th Street should be located at the middle of respective blocks to form a four way intersection at these driveways on order to meet the driveway spacing requirements as shown above. This will allow an opportunity to maximize the spacing between respective cross streets and the both parking entrances will be at the middle of the block.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following findings and recommendations are based upon buildout of the subject property in accordance with the phased development scenario outlined in the *Project Description* section of this report. It should be noted that the merit of any recommended mitigation measures may warrant re-evaluation should the site develop to a lower or higher intensity.

FINDING: The existing roadway system generally provides enough capacity to accommodate the projected traffic generated by the proposed changes included in the Texas Capitol Master Plan 2018 update with some minor modification to traffic signals and other traffic controls.

FINDING: Based on the analysis discussed above in this report, the 16th Street, 17th Street and 18th Street has enough capacity to accommodate additional traffic due to one way to two way conversion and additional traffic due to proposed office spaces.

- ❖ RECOMMENDATION: The existing stop sign on east west approaches on 16th Street and 18th Street is recommended to be kept at the intersection with Congress Street as it will allow pedestrian to safely cross these streets after the development of Pedestrian Boulevard along Congress Street.
- ❖ RECOMMENDATION: Driveway 4 and Driveway 5 is recommended to be constructed in the middle of 15th Street and 16th Street to form a four way intersection to maximize available spacing in order to meet the City of Austin driveway spacing requirements.
- ❖ RECOMMENDATION: It is also recommended that the driveway 6 and driveway 7 to be constructed in the middle of Lavaca Street and Colorado Street to form four way intersection and maximize available spacing.
- ❖ RECOMMENDATION: It is also recommended that the traffic signal should be considered at the intersections of Lavaca Street and 18th Street as well as MLK Blvd and Colorado Street. If reviewing agency selected a new traffic signal at these intersections, a detailed traffic signal warrant analysis should be performed prior to the signal installation.

Furthermore, the following **Table 10** below provides the summary of proposed changes and mitigation for each intersection.

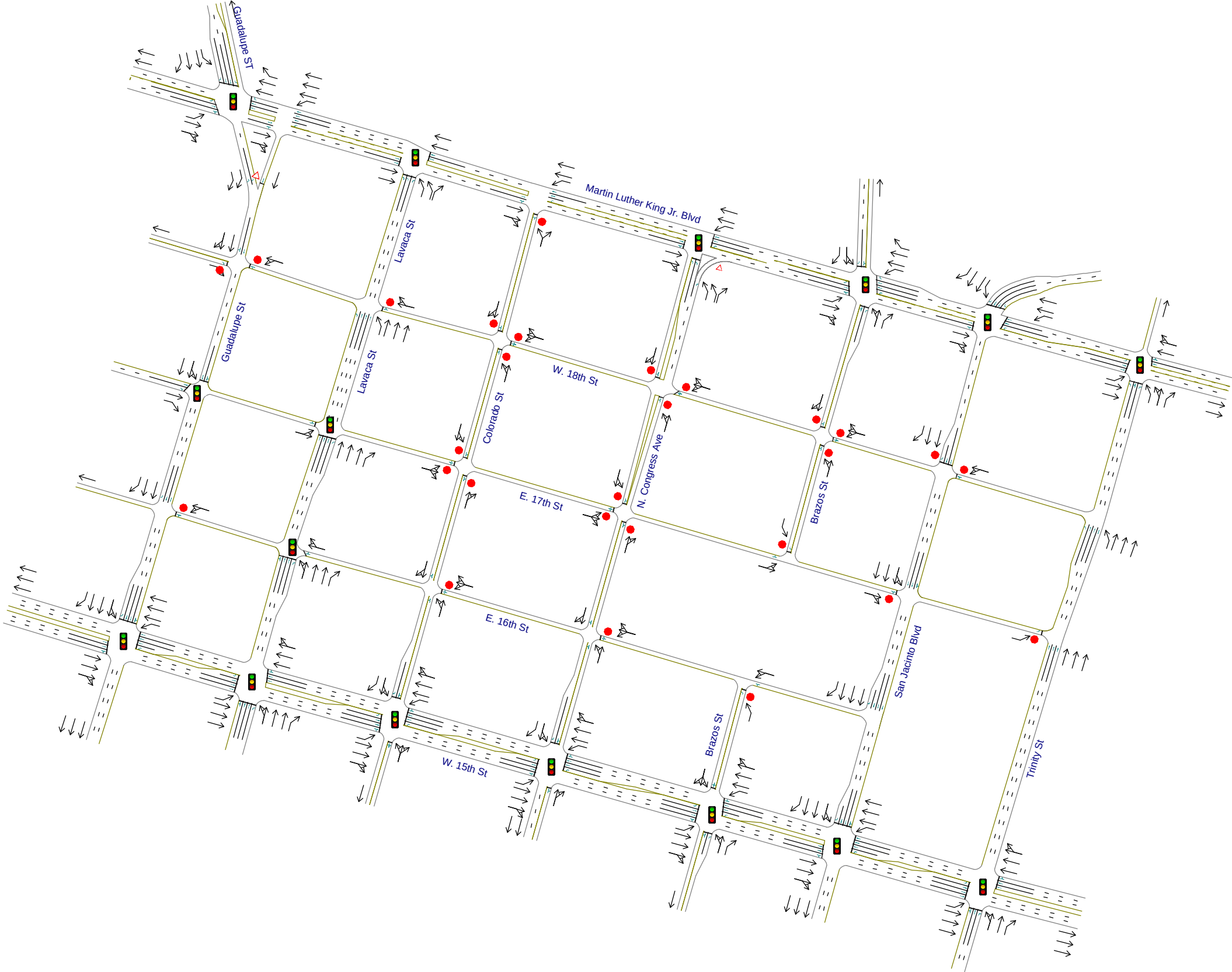
Table 10. Detailed Recommendation by Intersection

Intersection	Proposed Changes	Proposed Mitigation
15th Street at Trinity Street	Traffic signal operation remains the same, 3-northbound lanes and bike lane on east side of street, west outside lane is reduced to 12 feet wide.	No mitigation measures required.
15th Street at San Jacinto Boulevard	No change.	Optimize the current PM peak hour traffic signal timings to improve the level of service.
15th Street at Brazos Street	No change.	No mitigation measures required.
15th Street at Congress Avenue	The southbound leg of Congress Avenue will be closed to vehicular traffic.	No mitigation measures required.
15th Street at Colorado Street	No change.	No mitigation measures required.
15th Street at Lavaca Street	No change.	No mitigation measures required.
15th Street at Guadalupe Street	No change.	No mitigation measures required.
16th Street at San Jacinto Boulevard	16th St will be converted from one-way westbound to a two-way street; the on-street parking will be removed; travel lanes will be 11 ft wide.	A stop sign is required for the eastbound approach.
16th Street at Brazos Street	16th St will be converted from one-way westbound to two-way; on-street parking will be removed; travel lanes will be 11 ft wide	No mitigation measures required.
16th Street at Congress Avenue	16th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide. Vehicular traffic on Congress Avenue will be prohibited.	A stop sign is required for the eastbound approach.
16th Street at Colorado Street	16th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	A stop sign is required for the eastbound approach.
16th Street at Lavaca Street	16th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	A traffic signal head will be required for the eastbound approach.
16th Street at Guadalupe Street	16th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	A stop sign is required for the eastbound approach.
17th Street at Trinity Street	17th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	No mitigation measures required.
17th Street at San Jacinto Boulevard	17th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	A stop sign is required for the eastbound approach.
17th Street at Brazos Street	17th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	Provide all way stop signs at this intersection
17th Street at Congress Avenue	17th St will be converted from one-way eastbound to two-way; parking remains on north side of street; travel lanes will be 11 ft. wide; 17th Street will be terminated and no longer intersect with Congress Avenue.	Remove stop signs on Congress Avenue. Retain stop sign on 16th Street.
17th Street at Colorado Street	17th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	A stop sign is required for the westbound approach.
17th Street at Lavaca Street	17th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	A traffic signal head will be required for the westbound approach.
17th Street at Guadalupe Street	17th St will be converted from one-way westbound to a two-way street; on-street parking will be removed; travel lanes will be 11 ft wide.	A traffic signal head will be required for the westbound approach.

Intersection	Proposed Changes	Proposed Mitigation
18th Street at Trinity Street	The west outside lane on Trinity Street will be reduced from 23 ft to 12 feet wide. 18th St gets converted from a one-way westbound to a two-way street.	No mitigation measures required.
18th Street at San Jacinto Boulevard	18th St will be converted from a one-way westbound to a two-way street; parking will be removed; travel lanes will be 12 ft wide.	All-way-stop operation is recommended.
18th Street at Brazos Street	18th St will be converted from a one-way westbound to a two-way street; parking will be removed; travel lanes will be 12 ft wide.	A stop sign is required for the eastbound approach.
18th Street at Congress Avenue	18th St will be converted from a one-way westbound to a two-way street; parking will be removed; travel lanes will be 12 ft wide. Northbound vehicular traffic on Congress Avenue will be prohibited.	A stop sign is required for the eastbound approach. Remove stop sign for northbound approach on Congress Avenue.
18th Street at Colorado Street	18th St will be converted from a one-way westbound to a two-way street; parking will be removed; travel lanes will be 12 ft wide.	A stop sign is required for the eastbound approach.
18th Street at Lavaca Street	18th St will be converted from a one-way westbound to a two-way street; parking will be removed; travel lanes will be 12 ft wide.	A stop sign is required for the eastbound approach. Perform traffic signal warrant analysis. Consider installing traffic signal at this intersection.
18th Street at Guadalupe Street	18th St will be converted from a one-way westbound to a two-way street; parking will be removed; travel lanes will be 12 ft wide.	A stop sign is required for the eastbound approach.
MLK Jr Boulevard at Trinity Street	No change	Optimize the PM peak hour traffic signal timings in phase 1. Optimize the peak hour traffic signal timings in phases 1 and 2.
MLK Jr Boulevard at San Jacinto Boulevard	No change	Optimize the AM peak hour traffic signal timings in phase 3.
MLK Jr Boulevard at Brazos Street	No change	No mitigation measures required.
MLK Jr Boulevard at Congress Avenue	Congress will be closed for through traffic and pedestrian Mall will be provided along congress. Only southbound bus traffic will be permitted along Congress Avenue. All other traffic will be restricted on Congress.	Restrict MLK Blvd westbound left and eastbound right turns to only allow buses only. Provide signage to restrict these movement to other vehicle. Also provide exclusive pedestrian phase at this intersection.
MLK Jr Boulevard at Colorado Street	no changes at this time	Perform traffic signal warrant analysis. Consider installing traffic signal at this intersection.
MLK Jr Boulevard at Lavaca Street	no changes at this time	No mitigation measures required.
MLK Jr Boulevard at Guadalupe Street	no changes at this time	No mitigation measures required.
Brazos Street at Parking Driveway 1	no changes at this time	No mitigation measures required.
18th Street at Parking Driveway 2	no changes at this time	No mitigation measures required.
17th Street at Parking Driveway 3	no changes at this time	No mitigation measures required.
Colorado Street at Parking Driveway 4	Consider aligning Parking Driveway 4 with Parking Driveway 5 at midblock on Colorado Street.	No mitigation measures required.
Colorado Street at Parking Driveway 5	Consider aligning Parking Driveway 5 with Parking Driveway 4 at midblock on Colorado Street.	No mitigation measures required.
16th Street at Parking Driveway 6	Consider aligning Parking Driveway 6 with Parking Driveway 7 at midblock on 16th Street.	No mitigation measures required.
16th Street at Parking Driveway 7	Consider aligning Parking Driveway 7 with Parking Driveway 6 at midblock on 16th Street.	No mitigation measures required.
Colorado Street at Parking Driveway 8	no changes at this time	No mitigation measures required.
17th Street at Parking Driveway 9	no changes at this time	No mitigation measures required.

END OF MEMO

Exhibit 2. Existing Roaway Geometry and Traffic Control



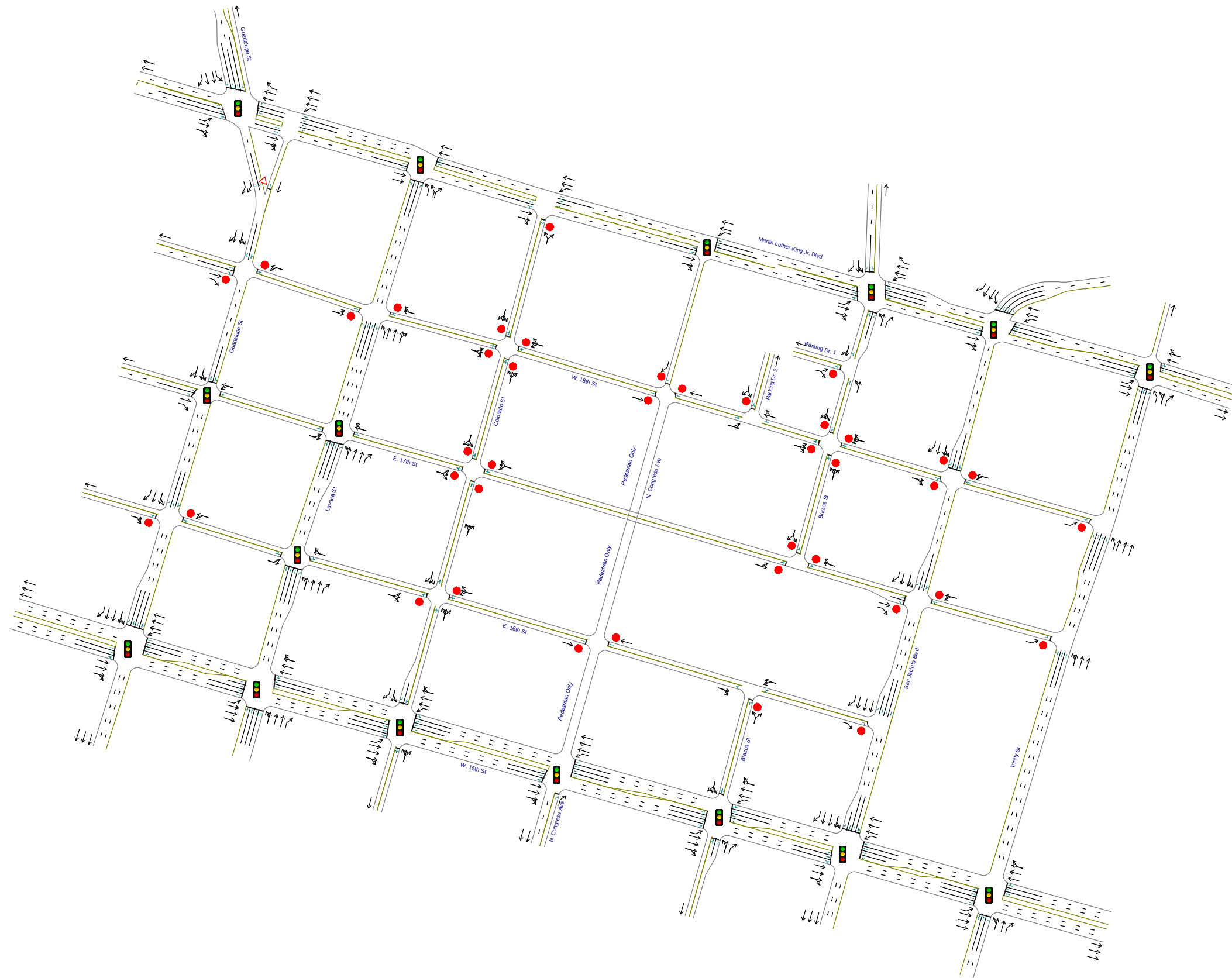


Exhibit 4. Phase II Roadway Geometry and Traffic Control

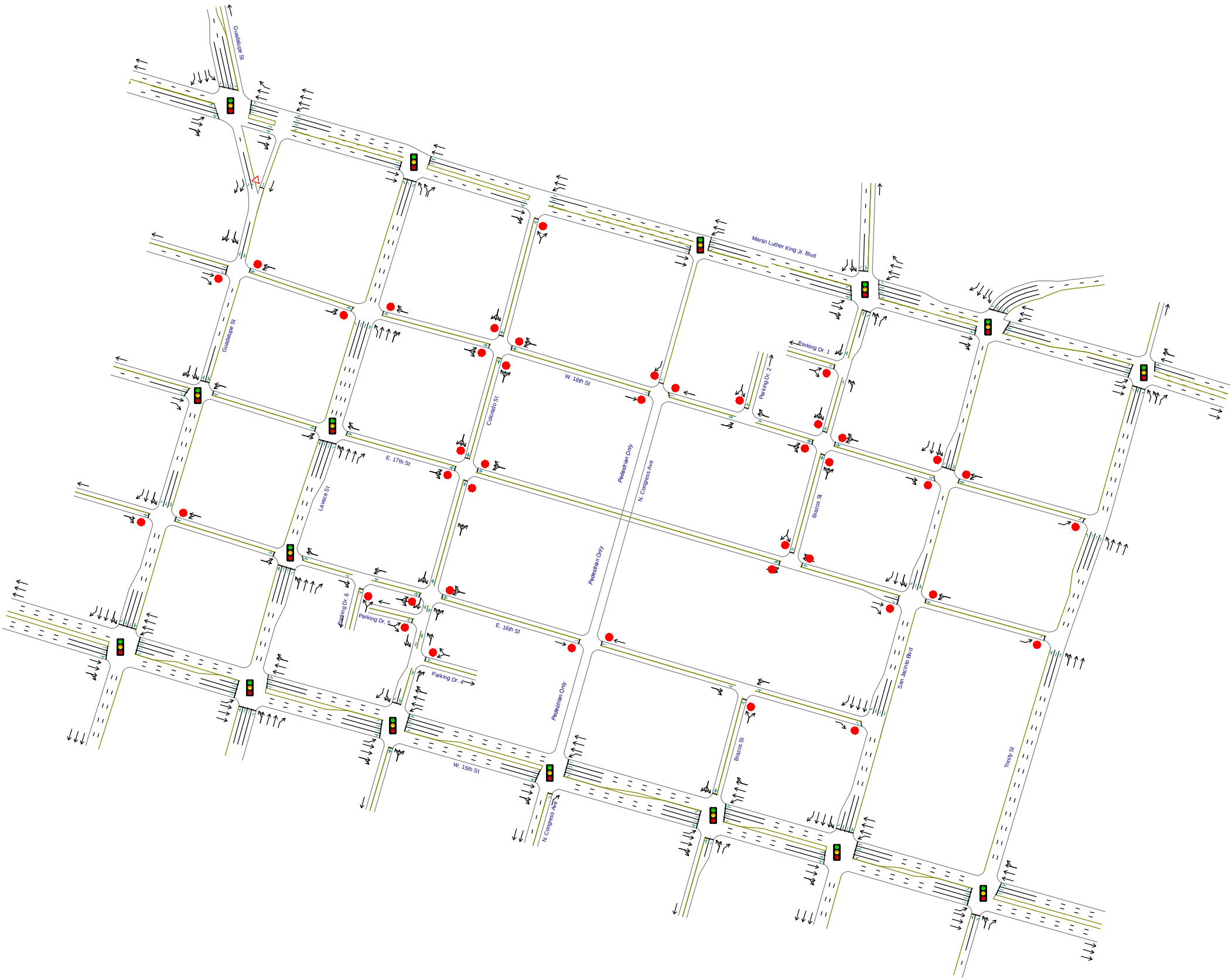
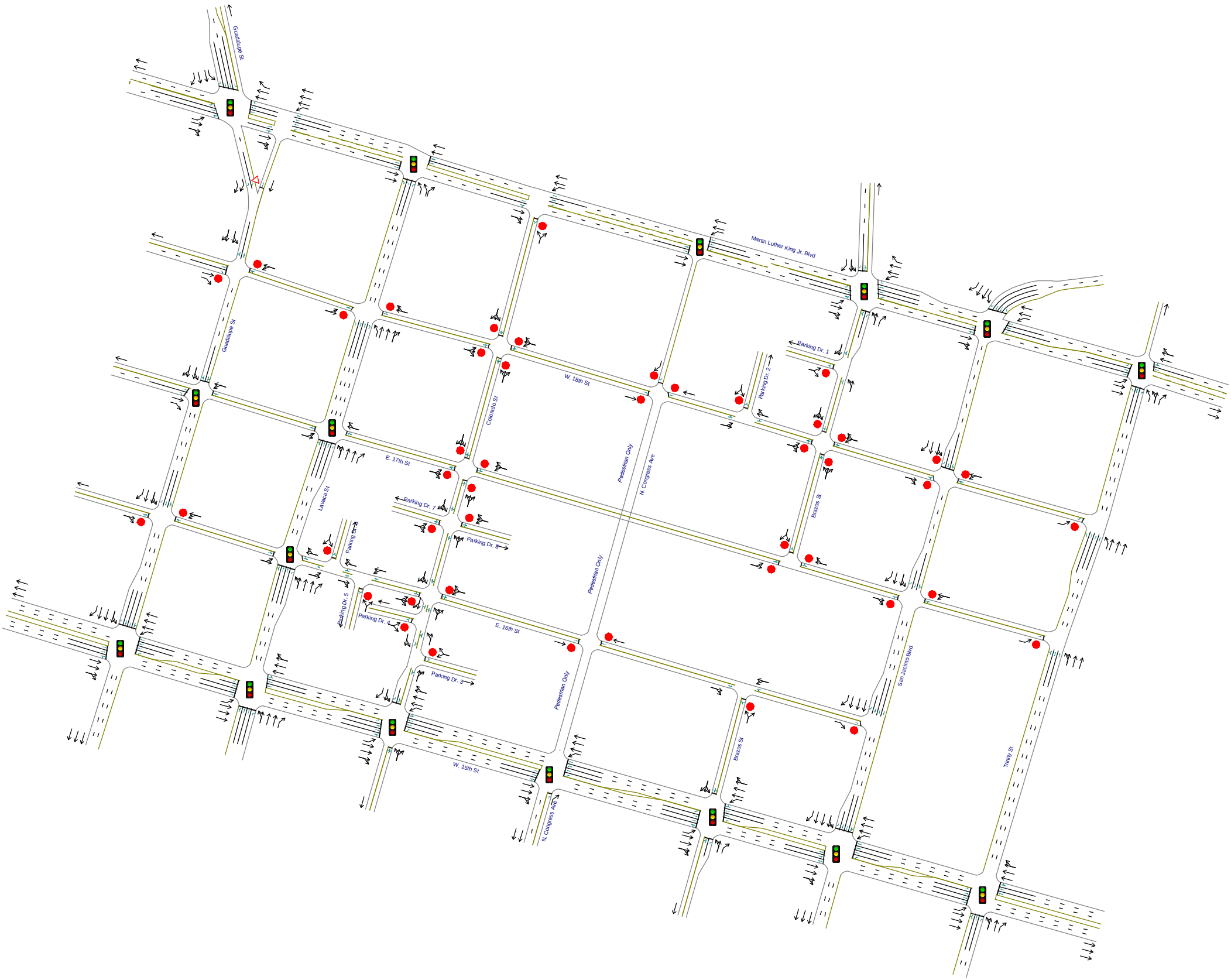
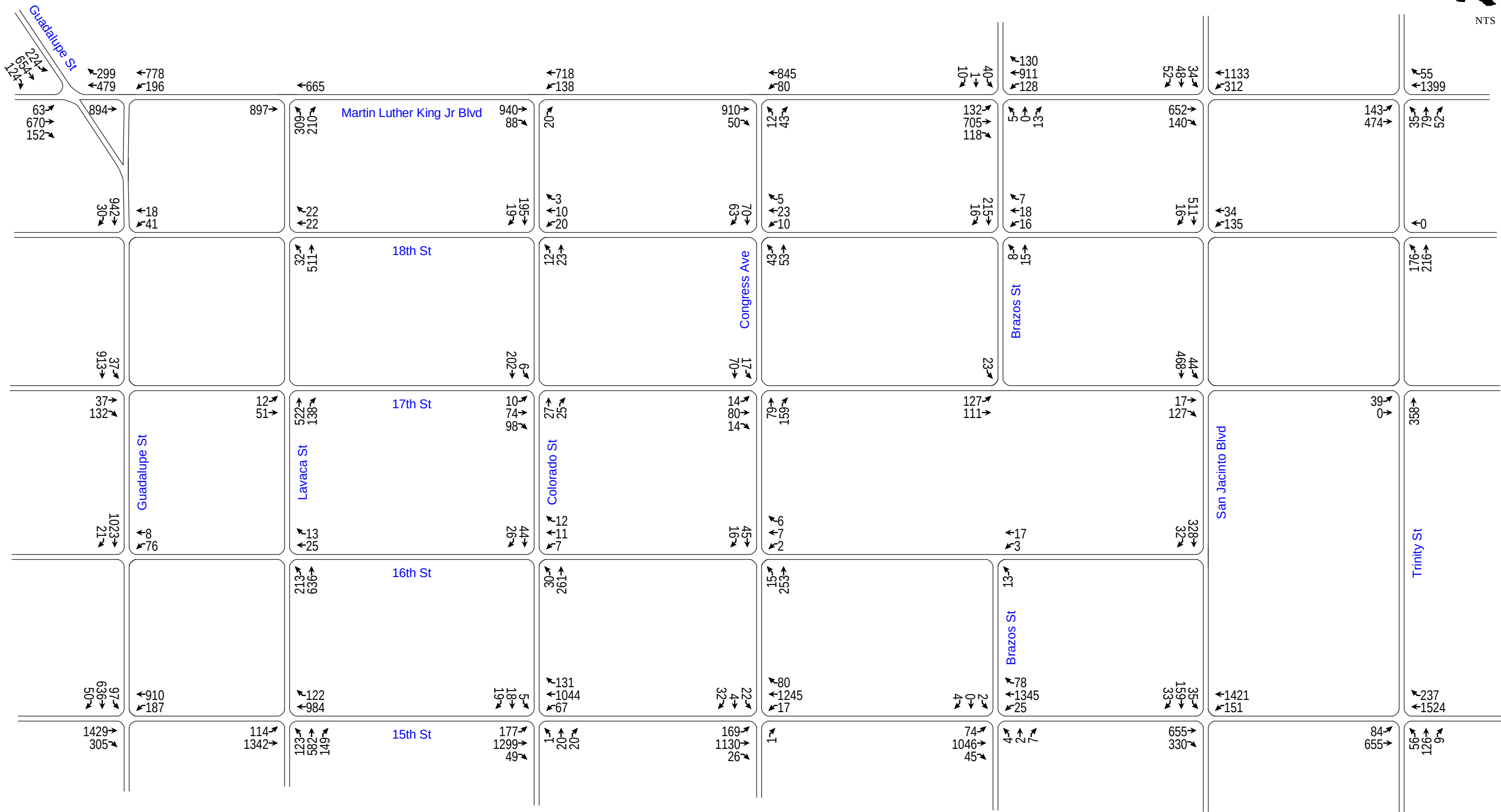


Exhibit 5. Phase III Roadway Geometry and Traffic Control



Appendix A. Traffic Volume Exhibits

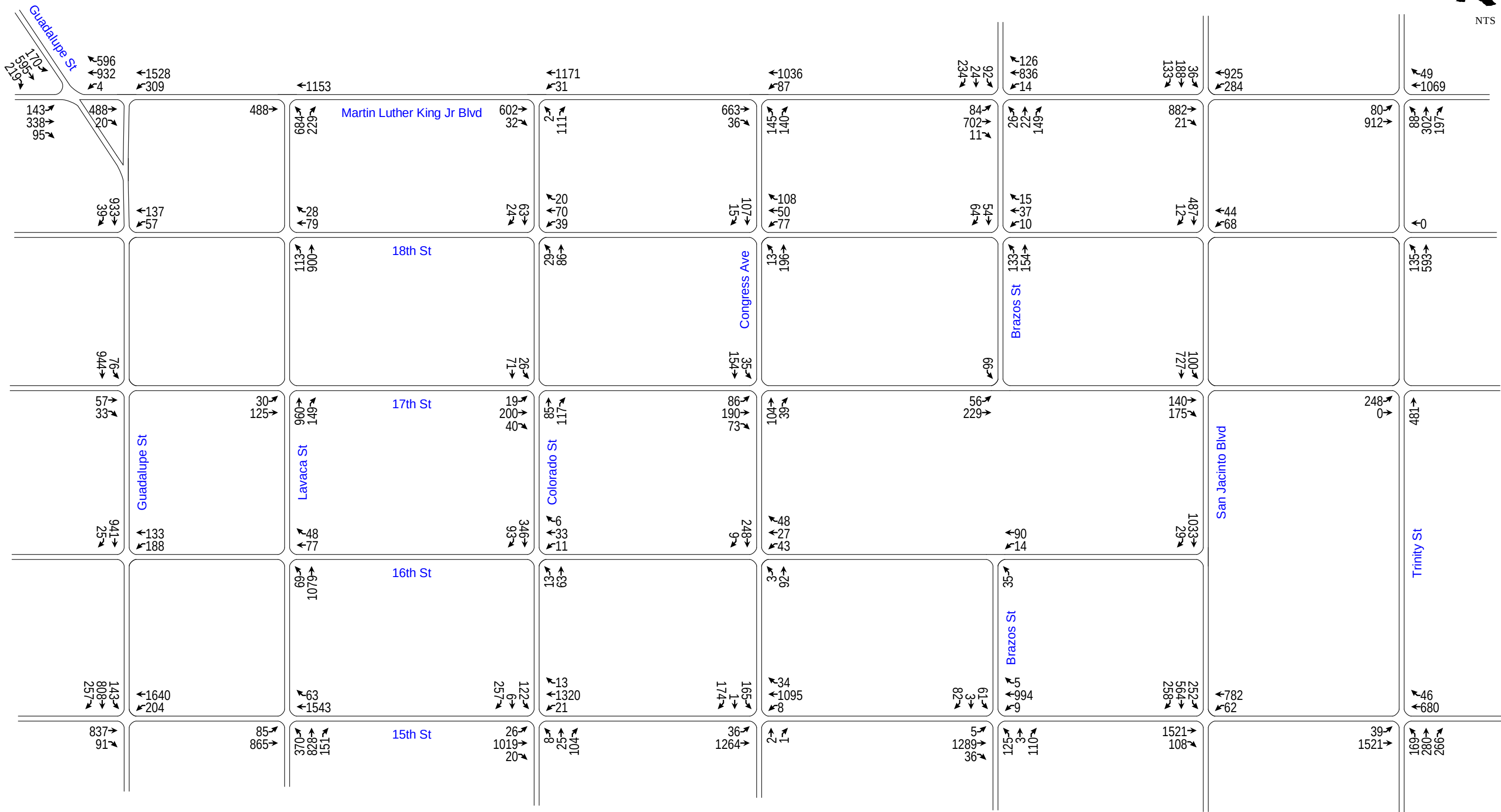
Appendix A1. Existing Conditions AM Peak Hour Traffic Volumes



Appendix A2. Existing Conditions PM Peak Hour Traffic Volumes



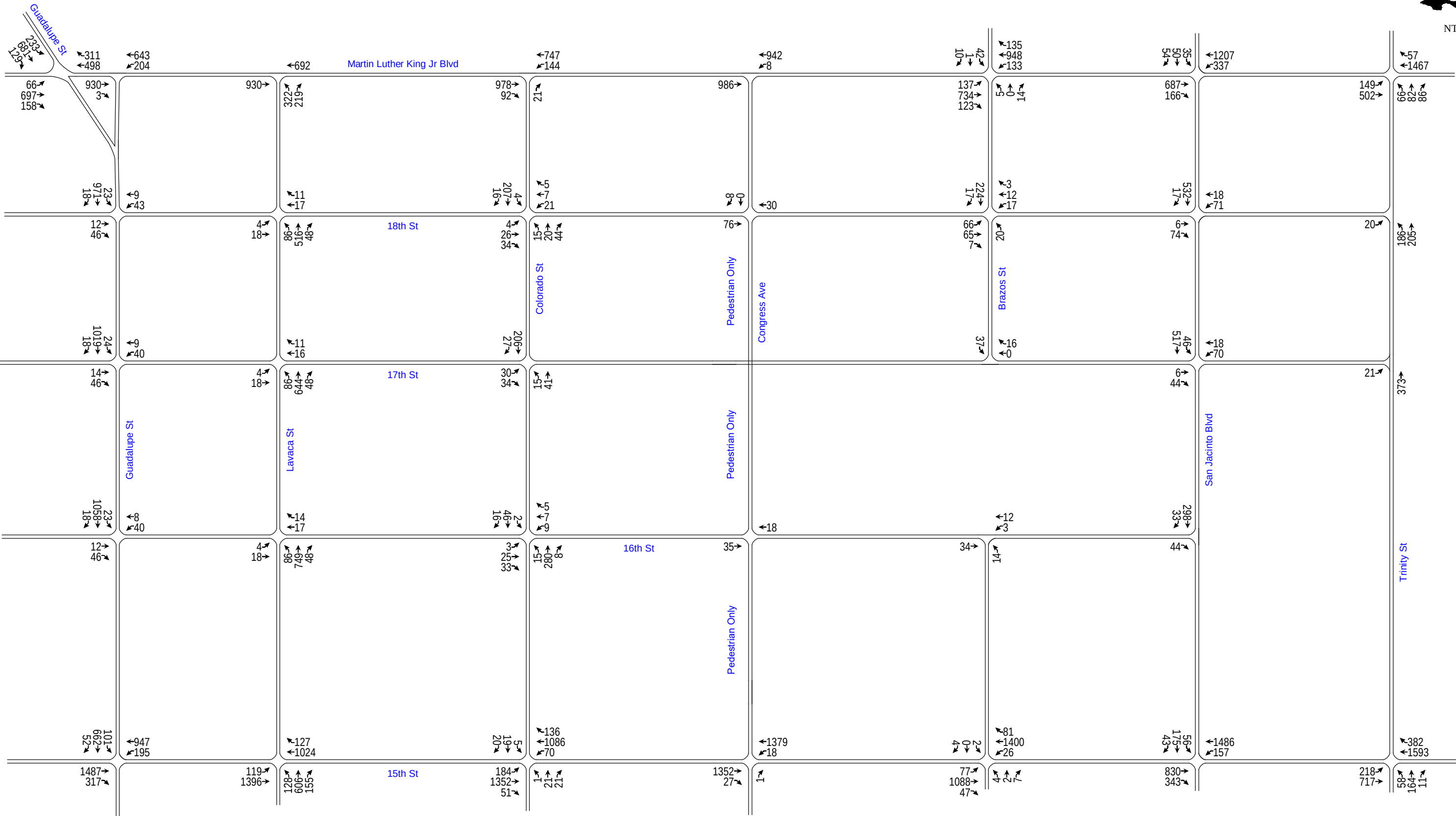
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Appendix A3. 2020 Background AM Peak Hour Traffic Volumes (Phase I)



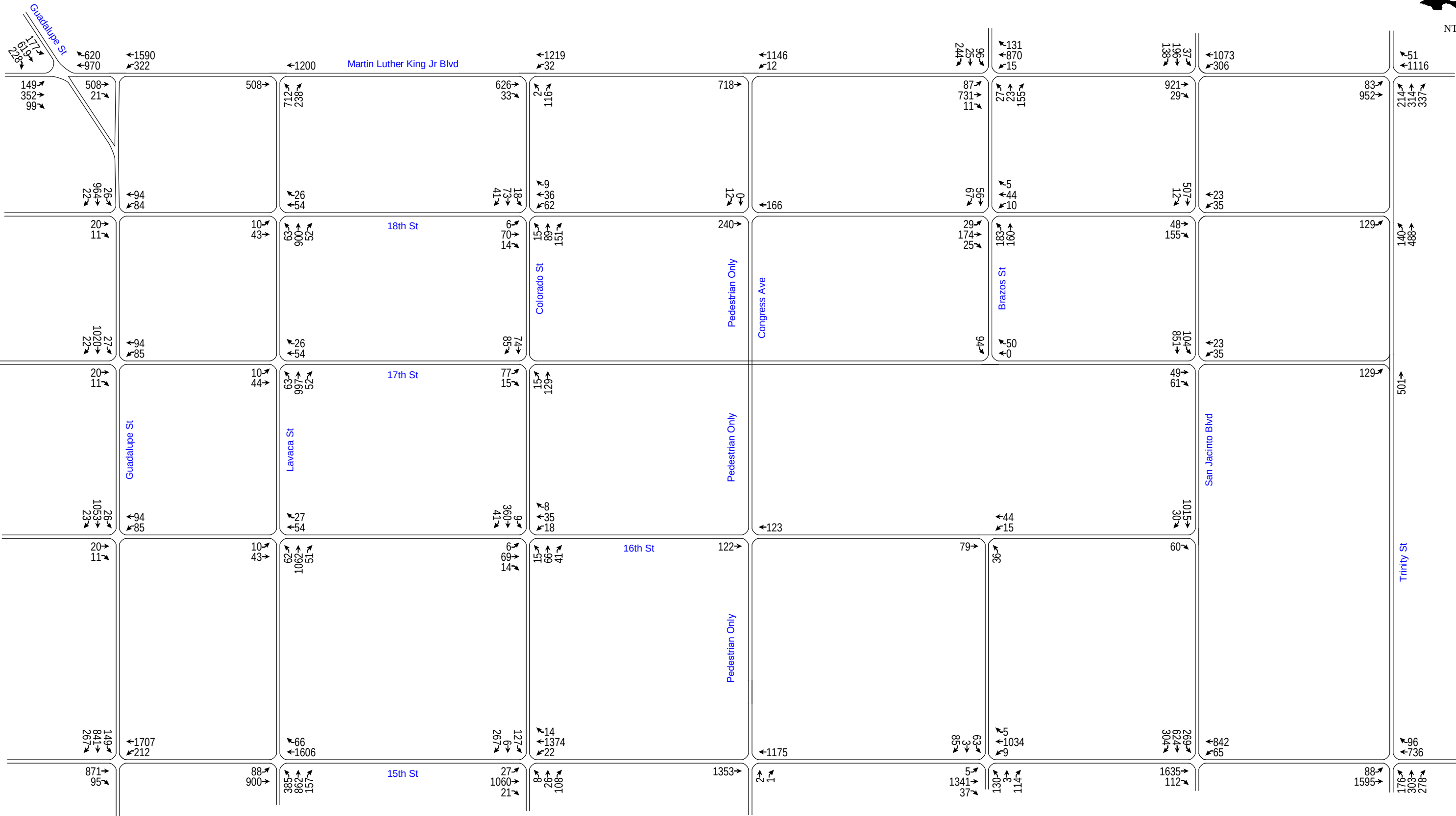
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Appendix A4. 2020 Background PM Peak Hour Traffic Volumes (Phase I)



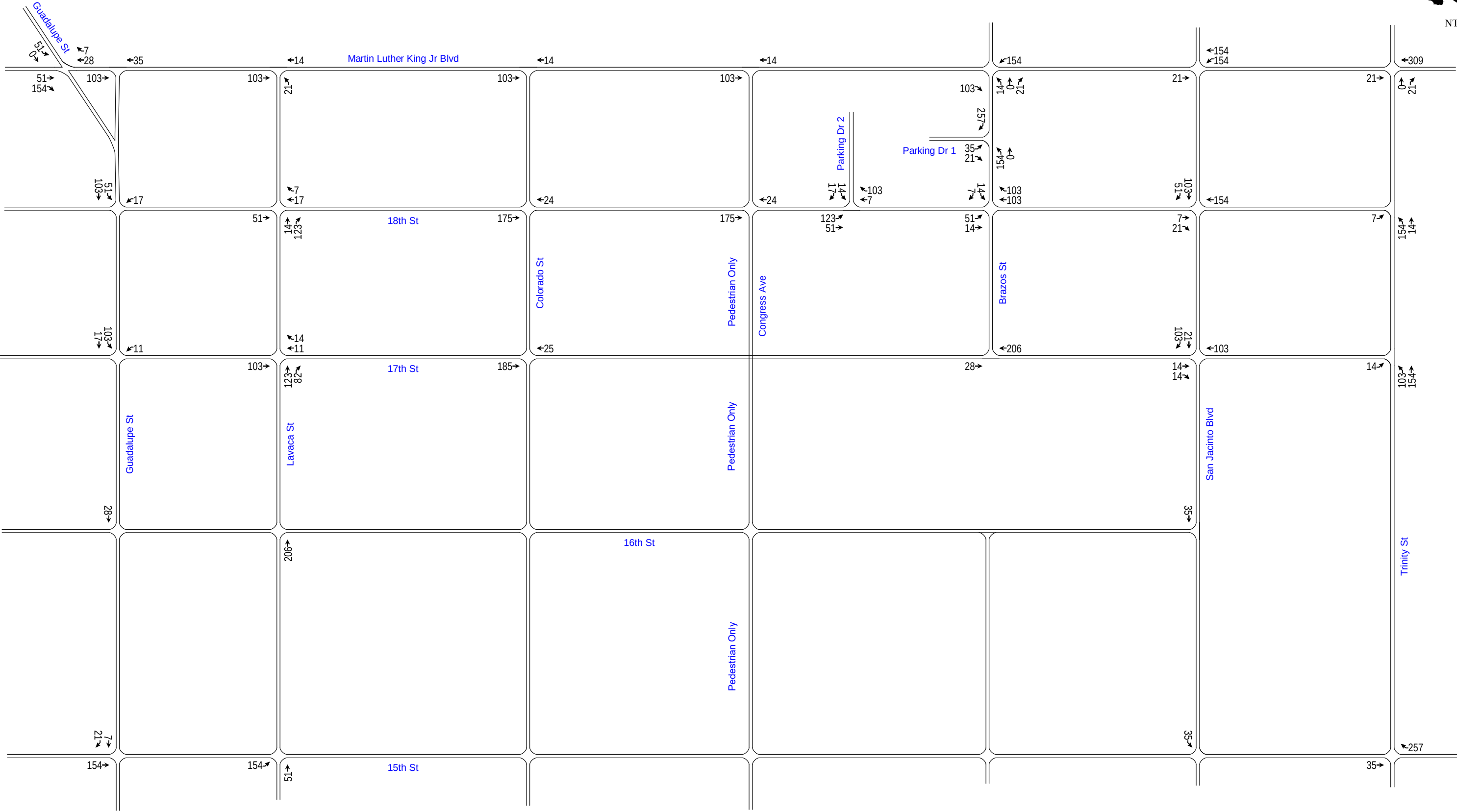
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Appendix A5. Site-Generated AM Peak Hour Traffic Volumes (Phase I)



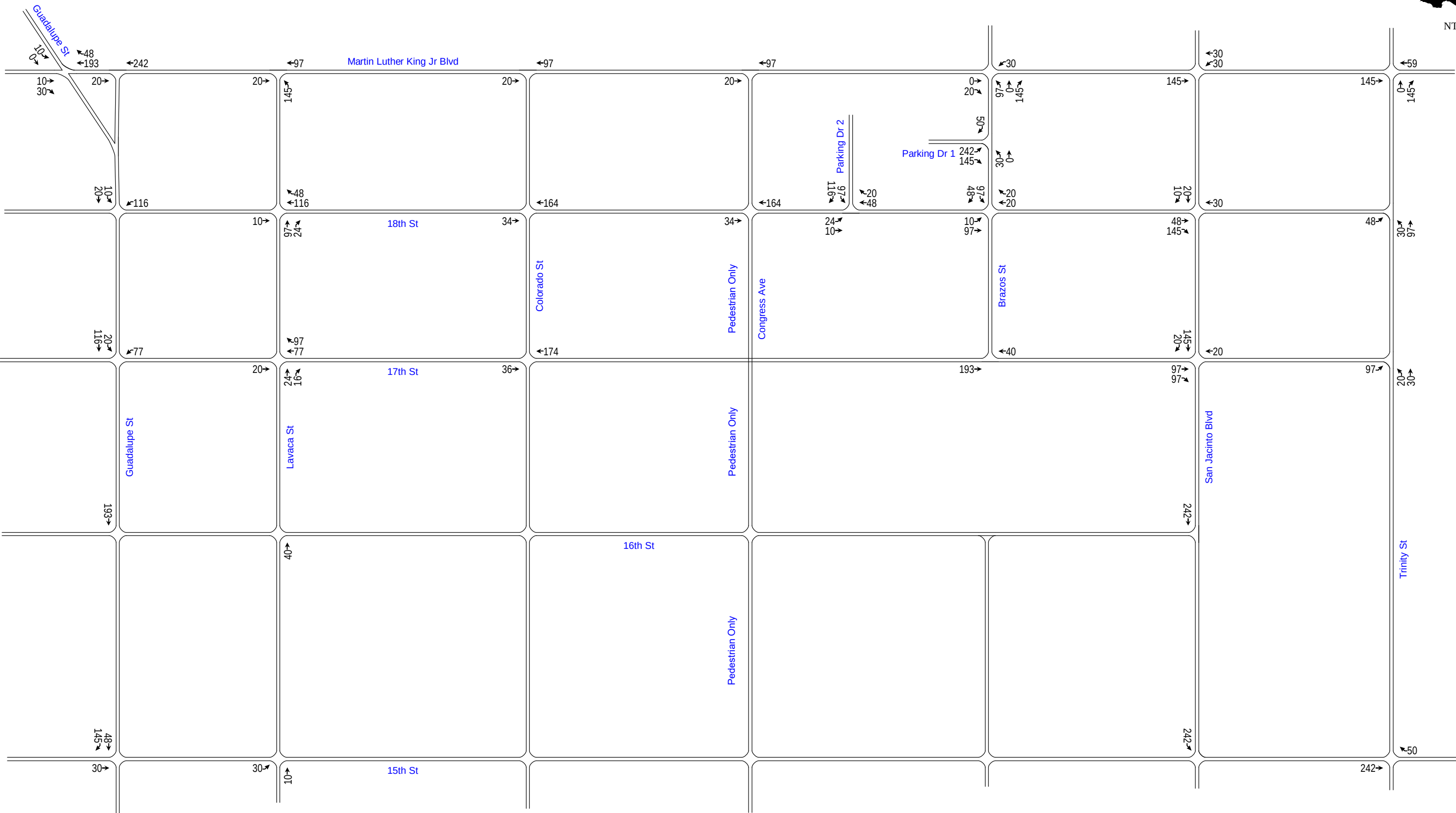
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Appendix A6. Site-Generated PM Peak Hour Traffic Volumes (Phase I)



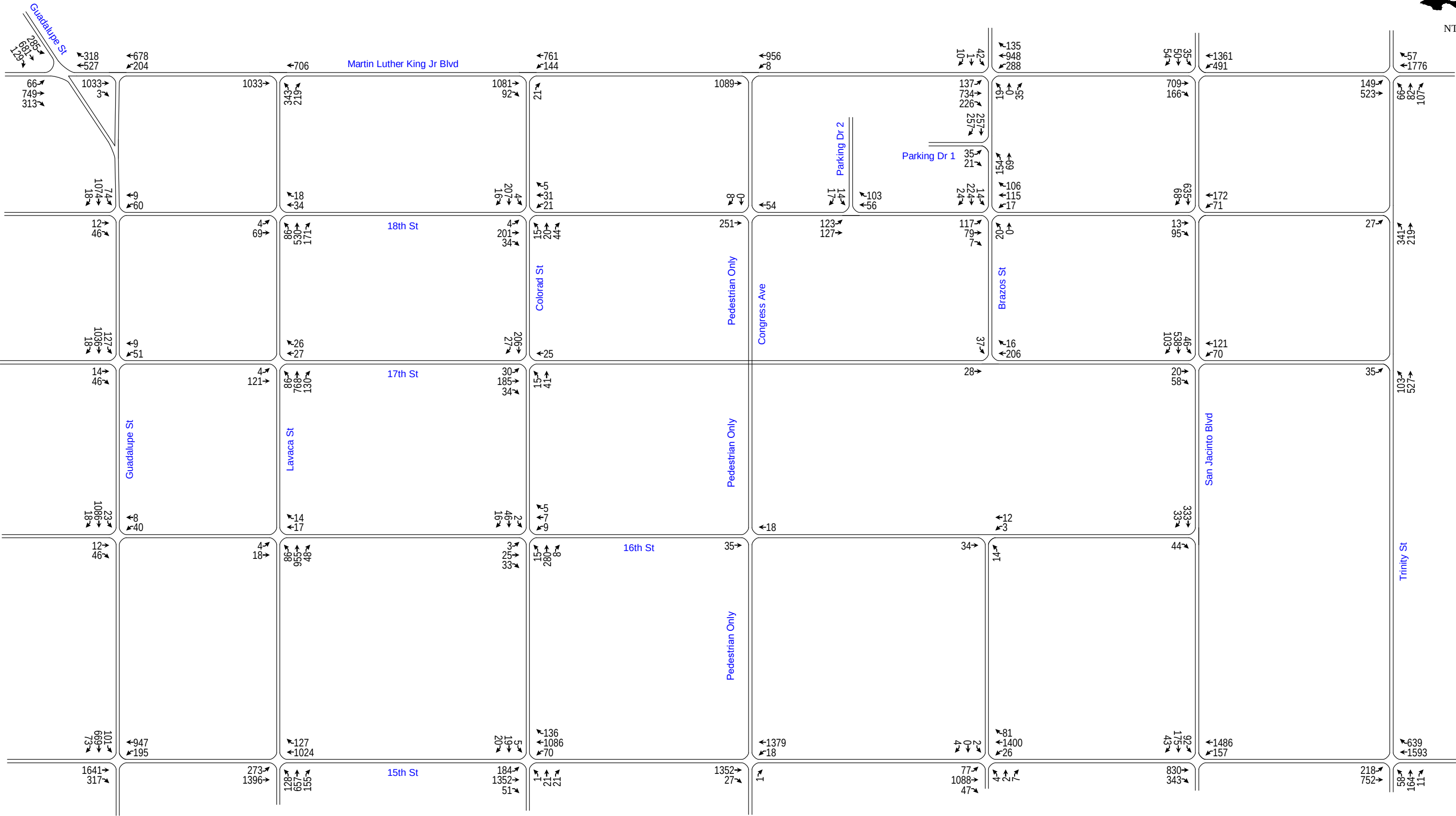
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Appendix A7. 2020 Background Plus Site-Generated AM Peak Hour Traffic Volumes (Phase I)



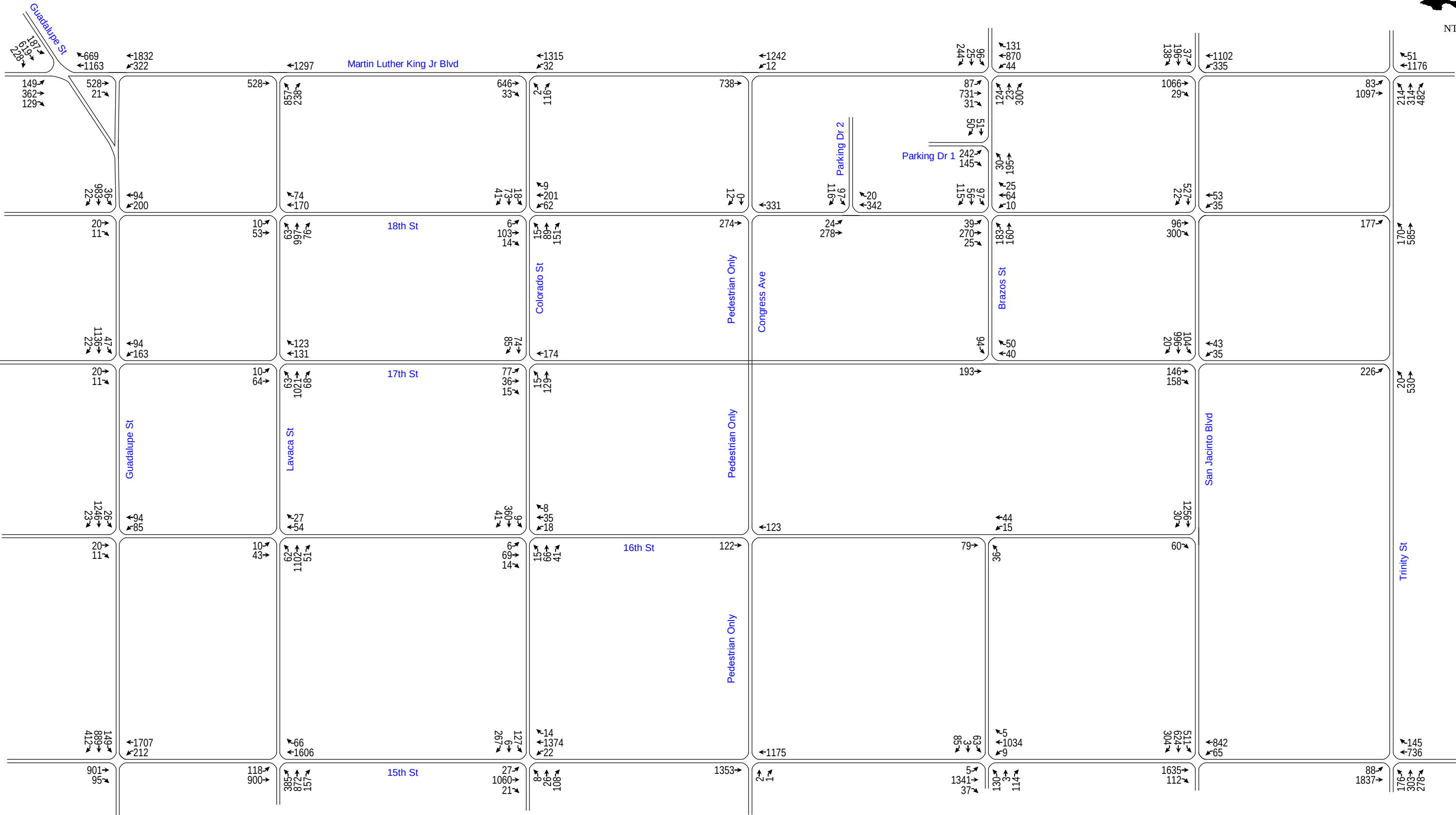
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Appendix A8. 2020 Background Plus Site-Generated PM Peak Hour Traffic Volumes (Phase I)



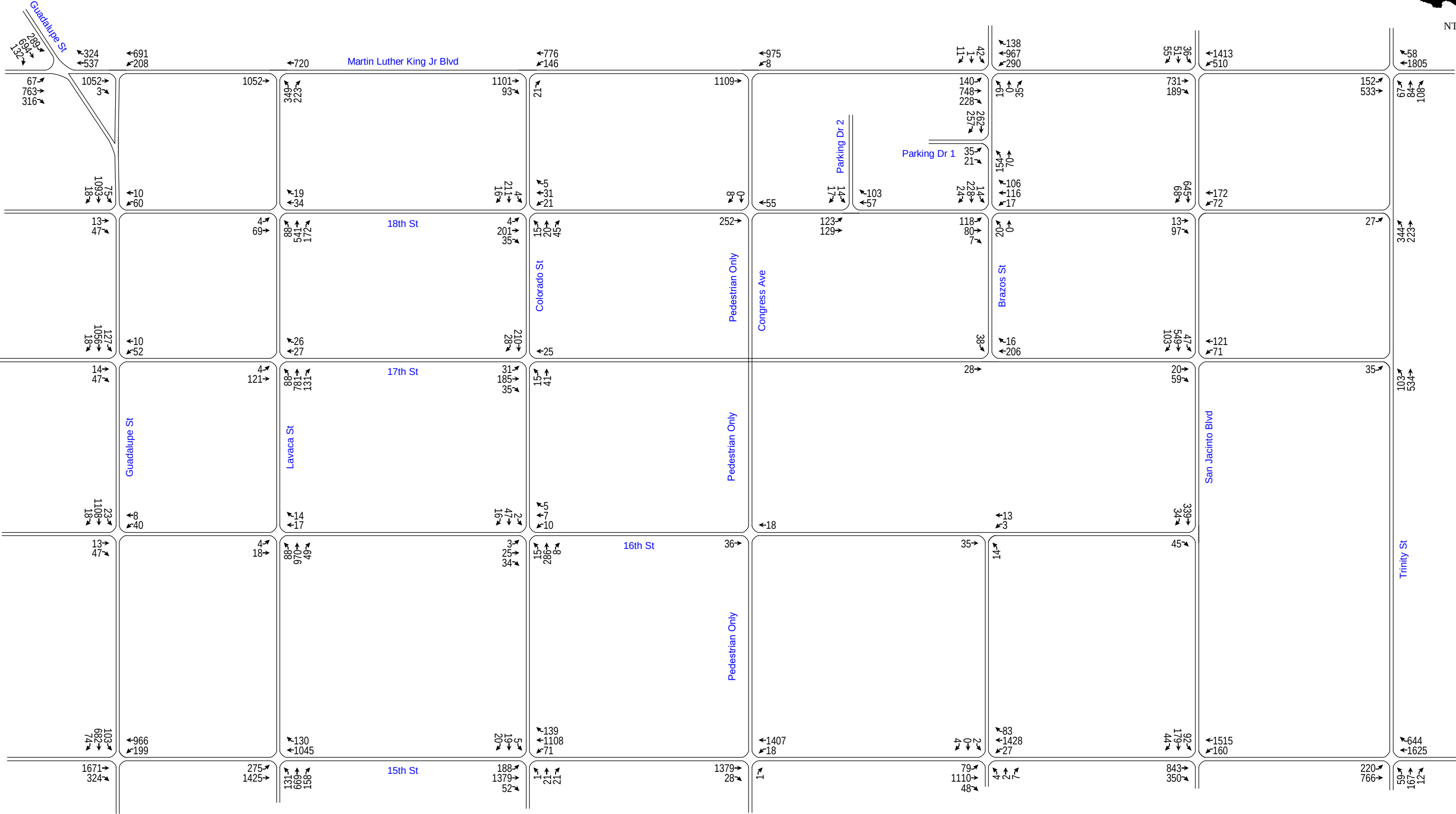
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Appendix A9. 2022 Background AM Peak Hour Traffic Volumes (Phase II)



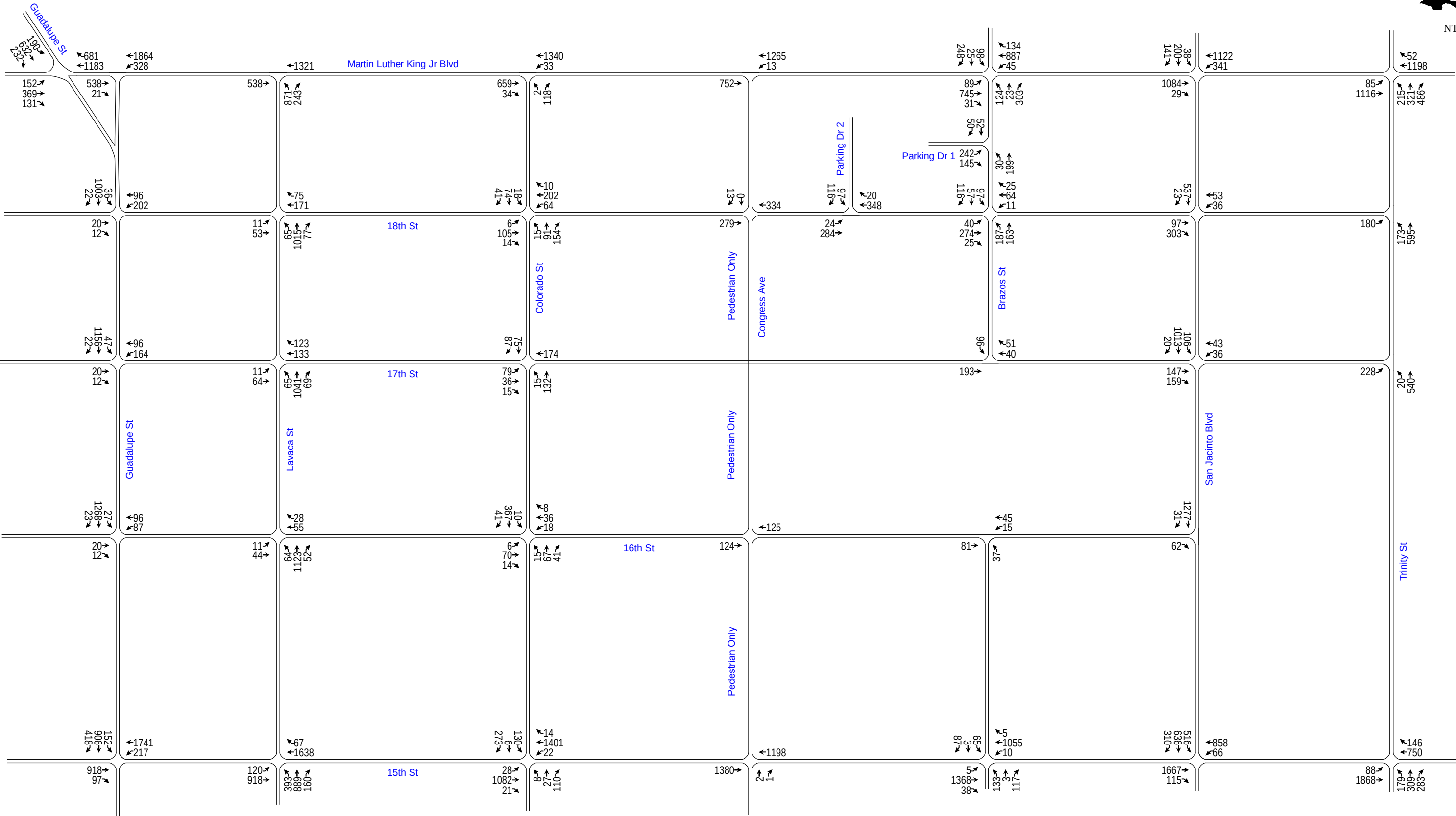
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Appendix A10. 2022 Background PM Peak Hour Traffic Volumes (Phase II)



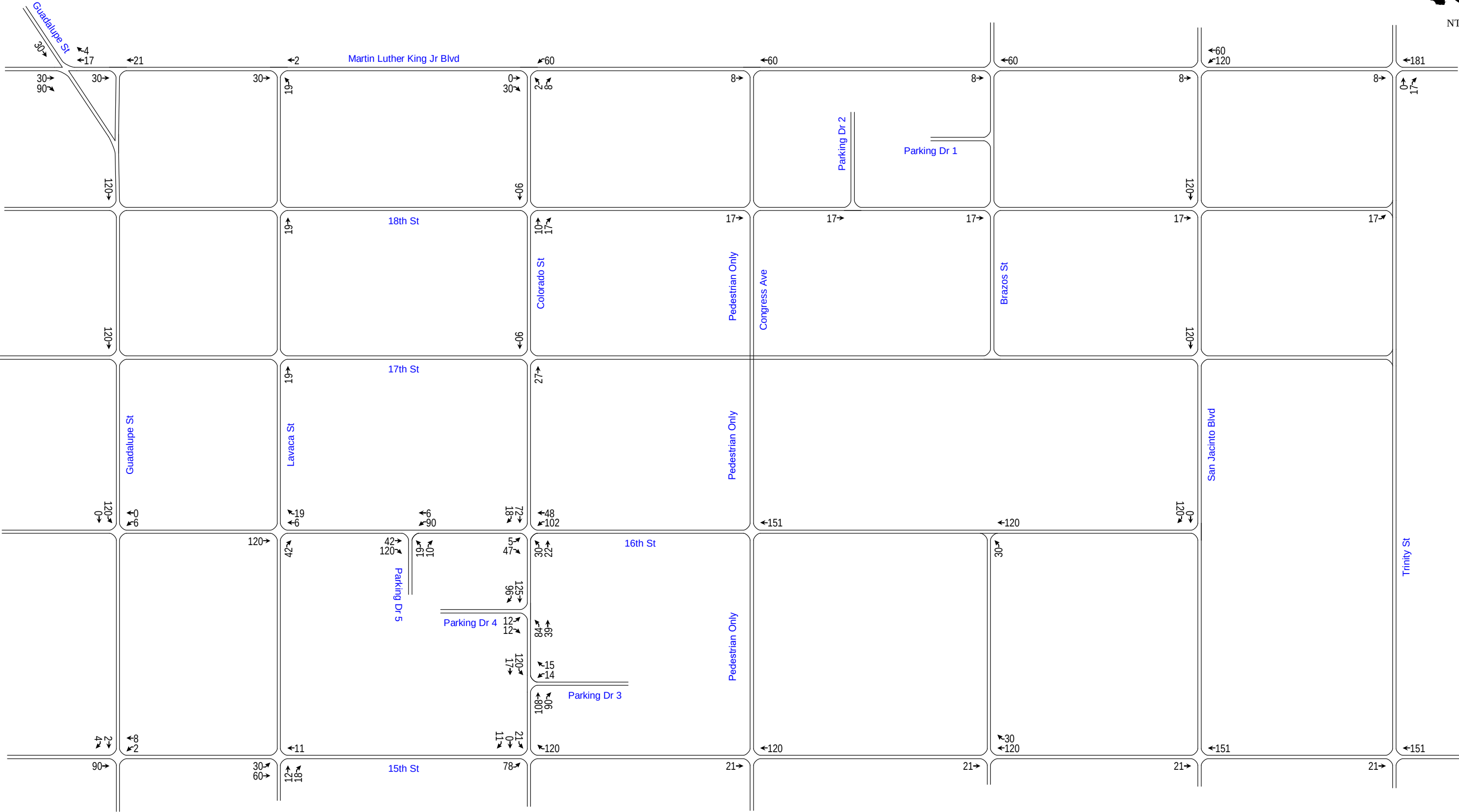
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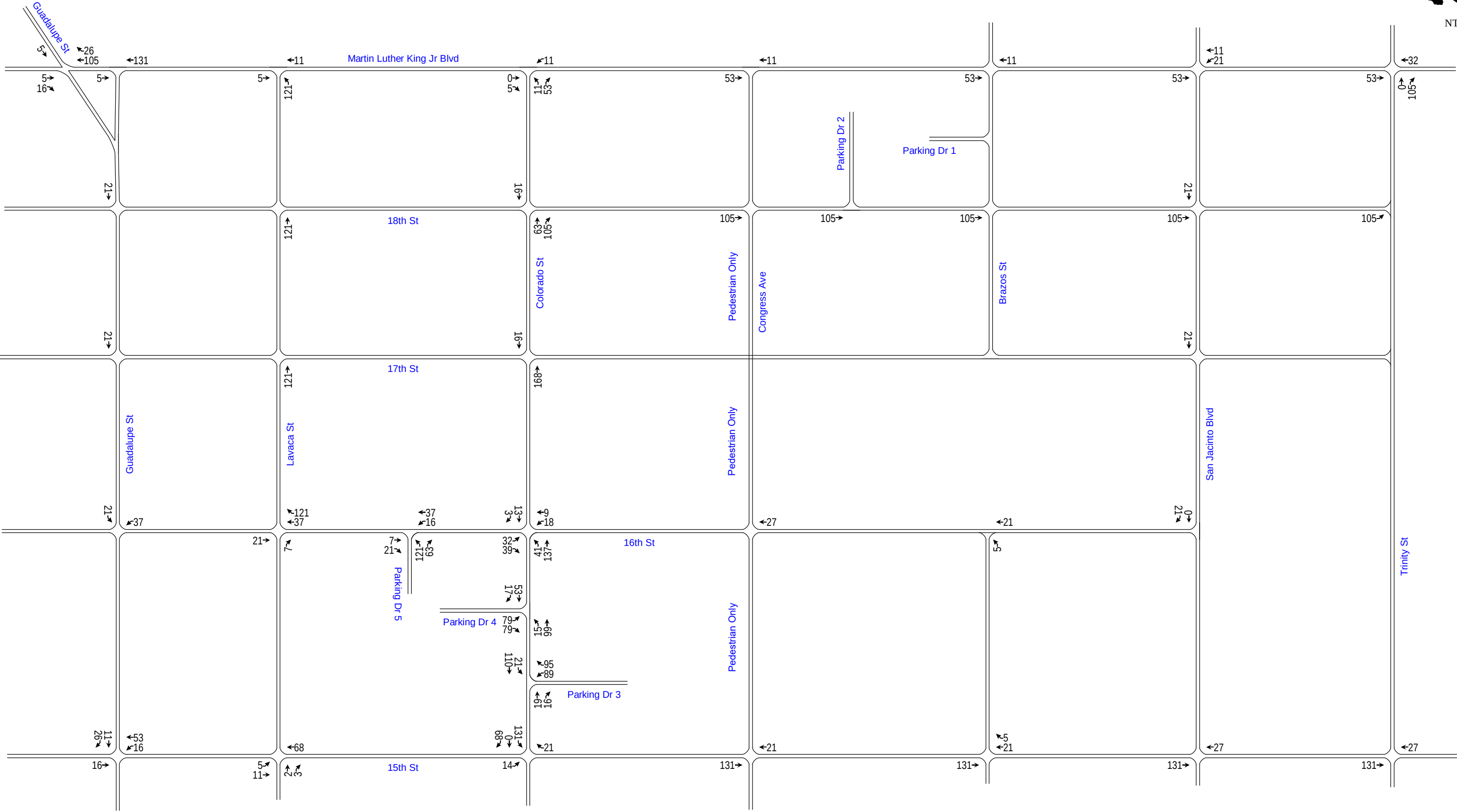
Appendix A11. Site-Generated AM Peak Hour Traffic Volumes (Phase II)



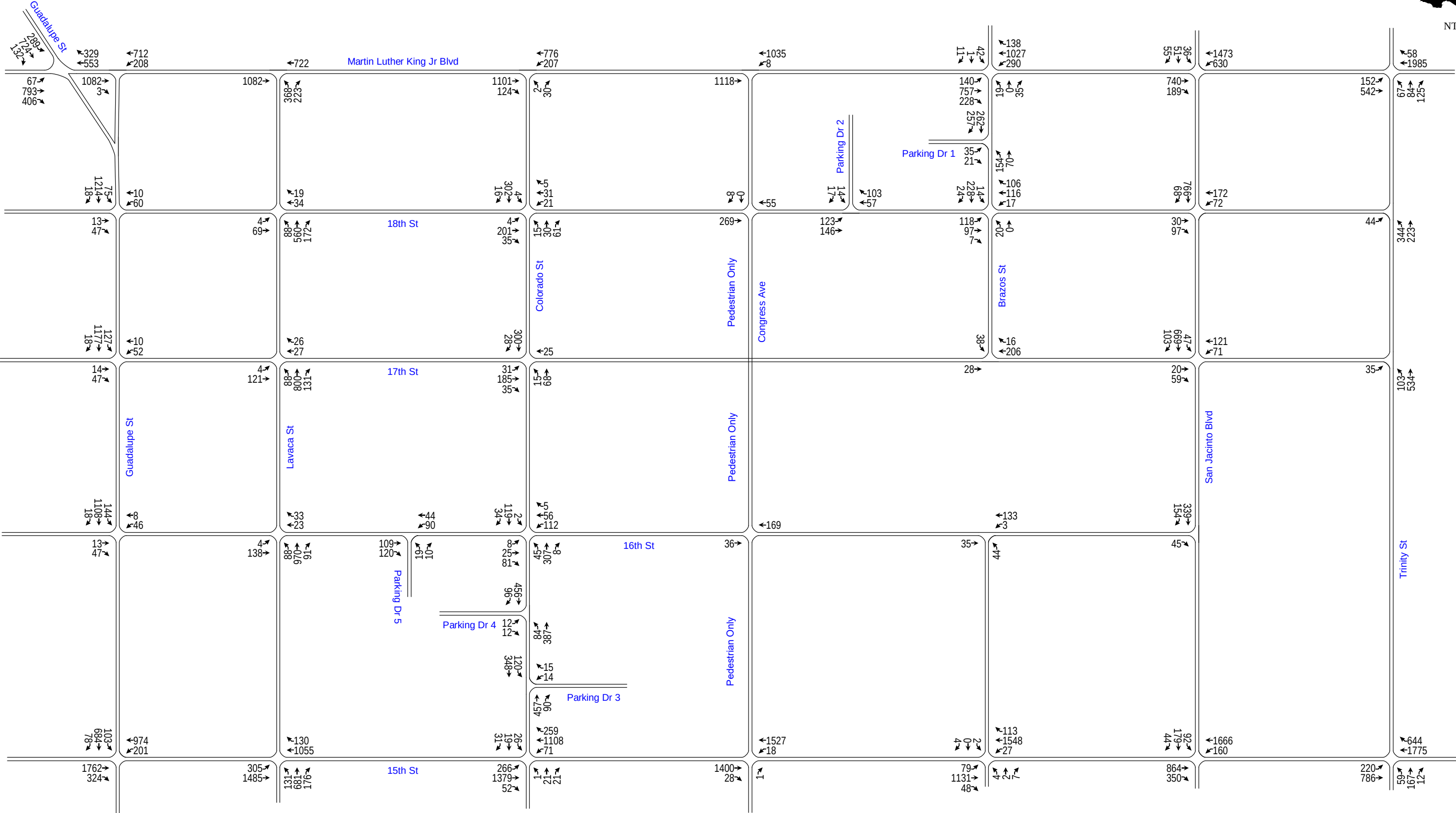
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Appendix A12. Site-Generated PM Peak Hour Traffic Volumes (Phase II)



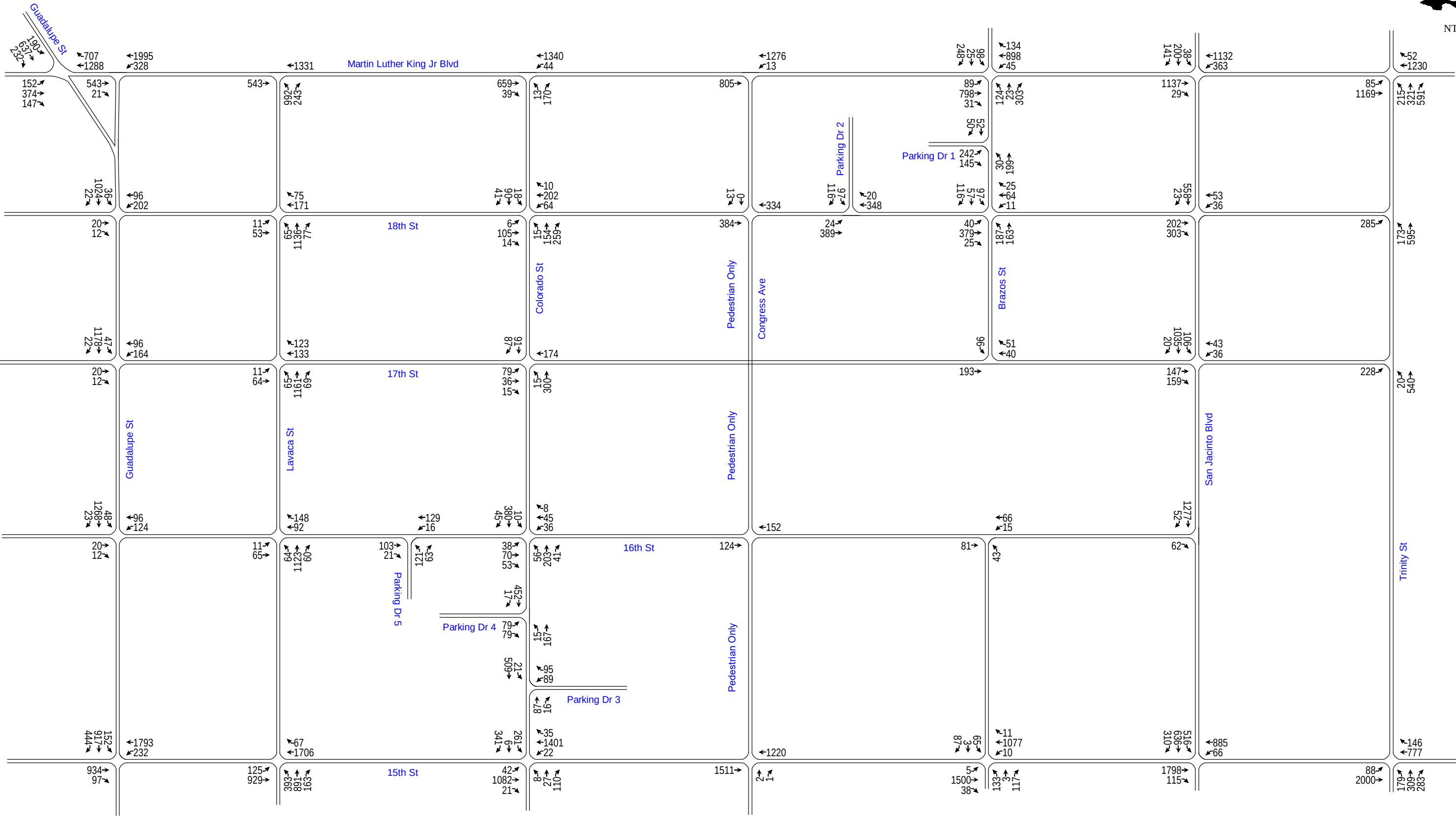
Appendix A13. 2022 Background Plus Site-Generated AM Peak Hour Traffic Volumes (Phase II)



Appendix A14. 2022 Background Plus Site-Generated PM Peak Hour Traffic Volumes (Phase II)



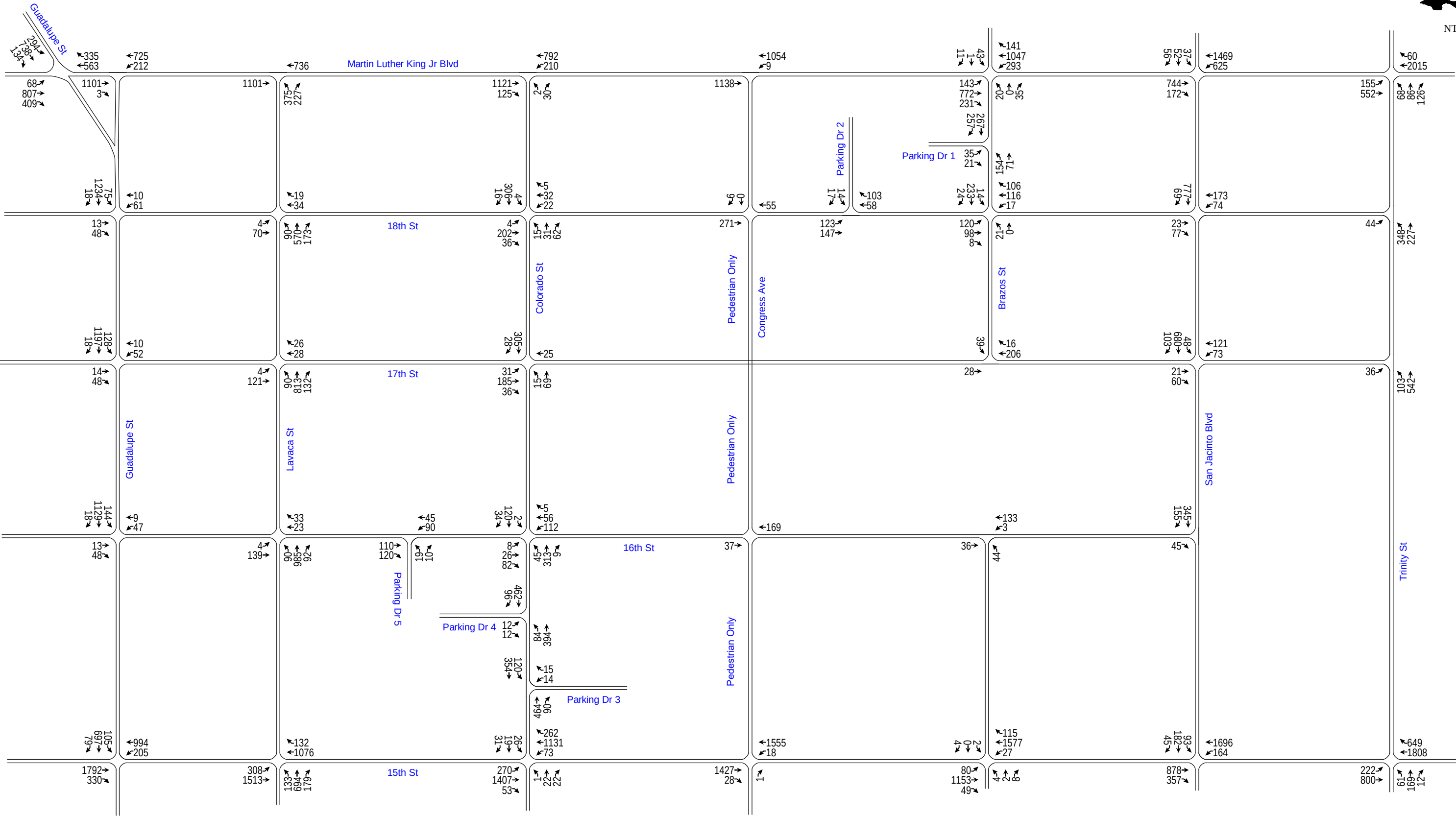
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Appendix A15. 2024 Background AM Peak Hour Traffic Volumes (Phase III)



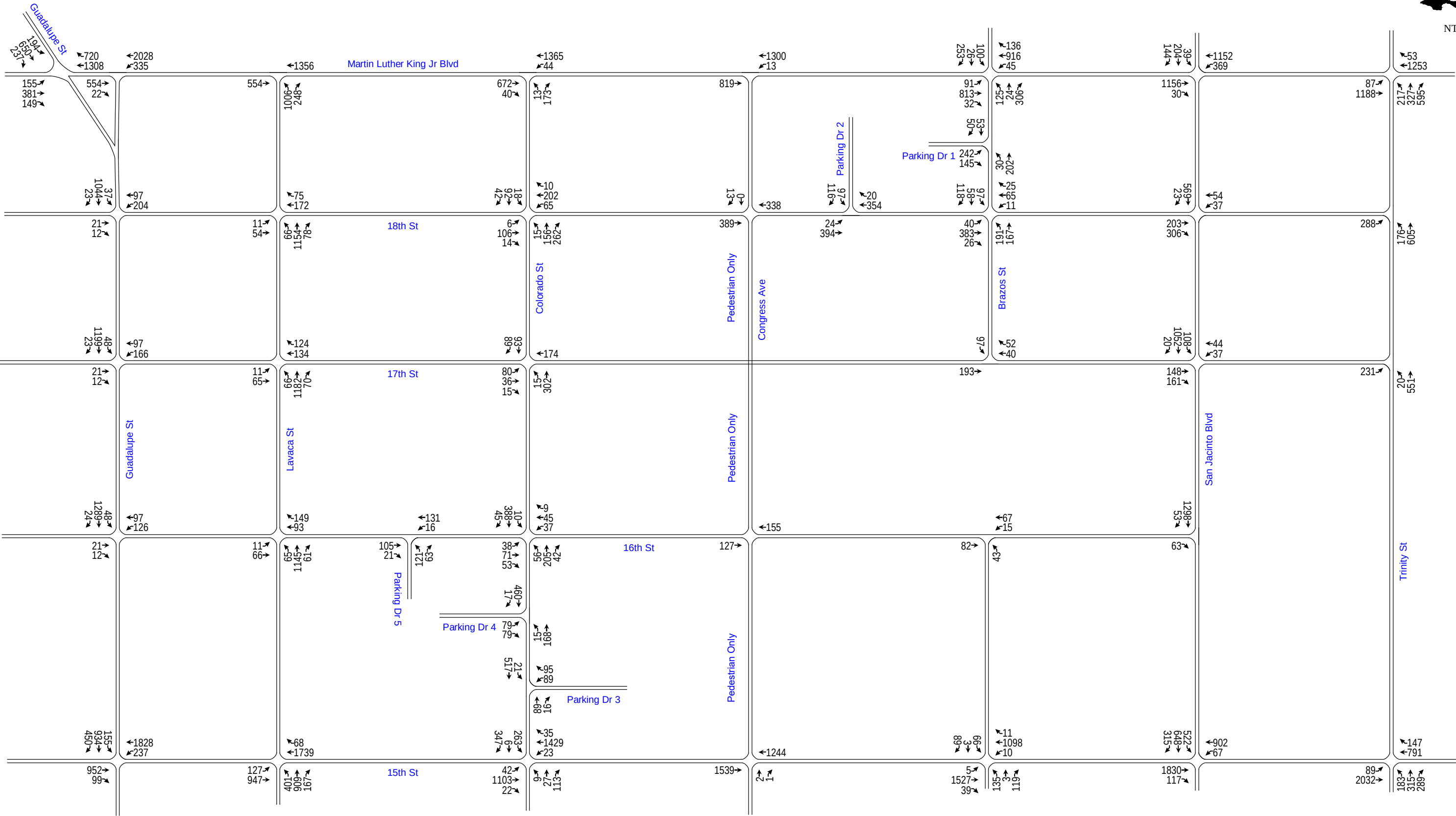
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Appendix A16. 2024 Background PM Peak Hour Traffic Volumes (Phase III)



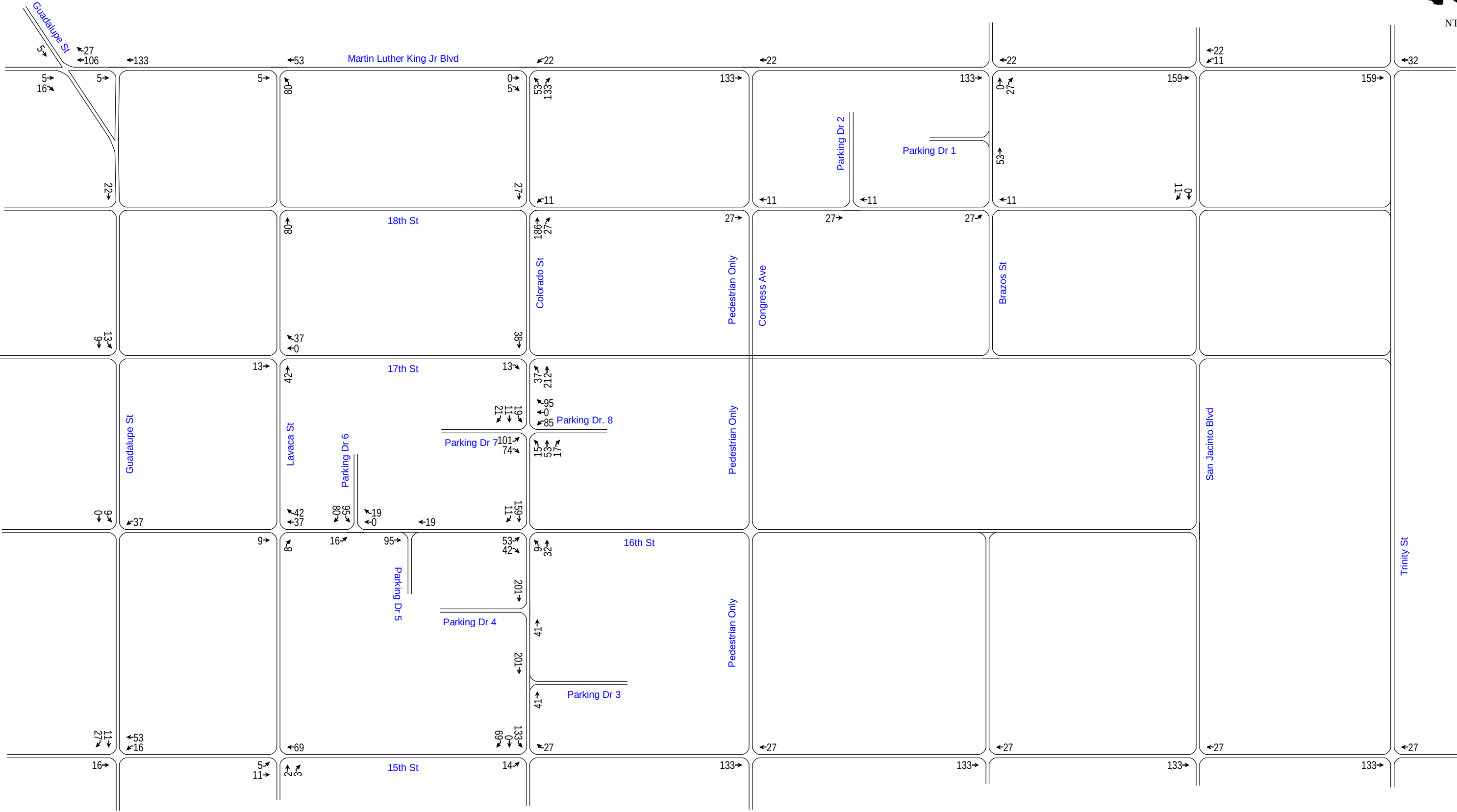
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The map illustrates a city street grid with the following details:

- Main Streets:**
 - Horizontal:** Martin Luther King Jr Blvd (top), 15th St, 16th St, 17th St, 18th St.
 - Vertical:** Guadalupe St, Lavaca St, Colorado St, Congress Ave, Brazos St, San Jacinto Blvd, Trinity St.
- Traffic Flow and Lane Counts:**
 - Martin Luther King Jr Blvd:** Multiple lanes in both directions, with lane counts ranging from 4 to 21.
 - Trinity St:** Multiple lanes in both directions, with lane counts ranging from 2 to 18.
 - Other Streets:** Lane counts and flow directions are indicated for all other streets, including Guadalupe St, Lavaca St, Colorado St, Congress Ave, Brazos St, and San Jacinto Blvd.
- Special Features:**
 - Pedestrian Only:** Designated areas on Congress Ave, San Jacinto Blvd, and between 16th and 17th St.
 - Bike Lane:** Located on the east side of Congress Ave.
 - Parking Dr 1-8:** Specific areas designated for parking, located near various intersections.

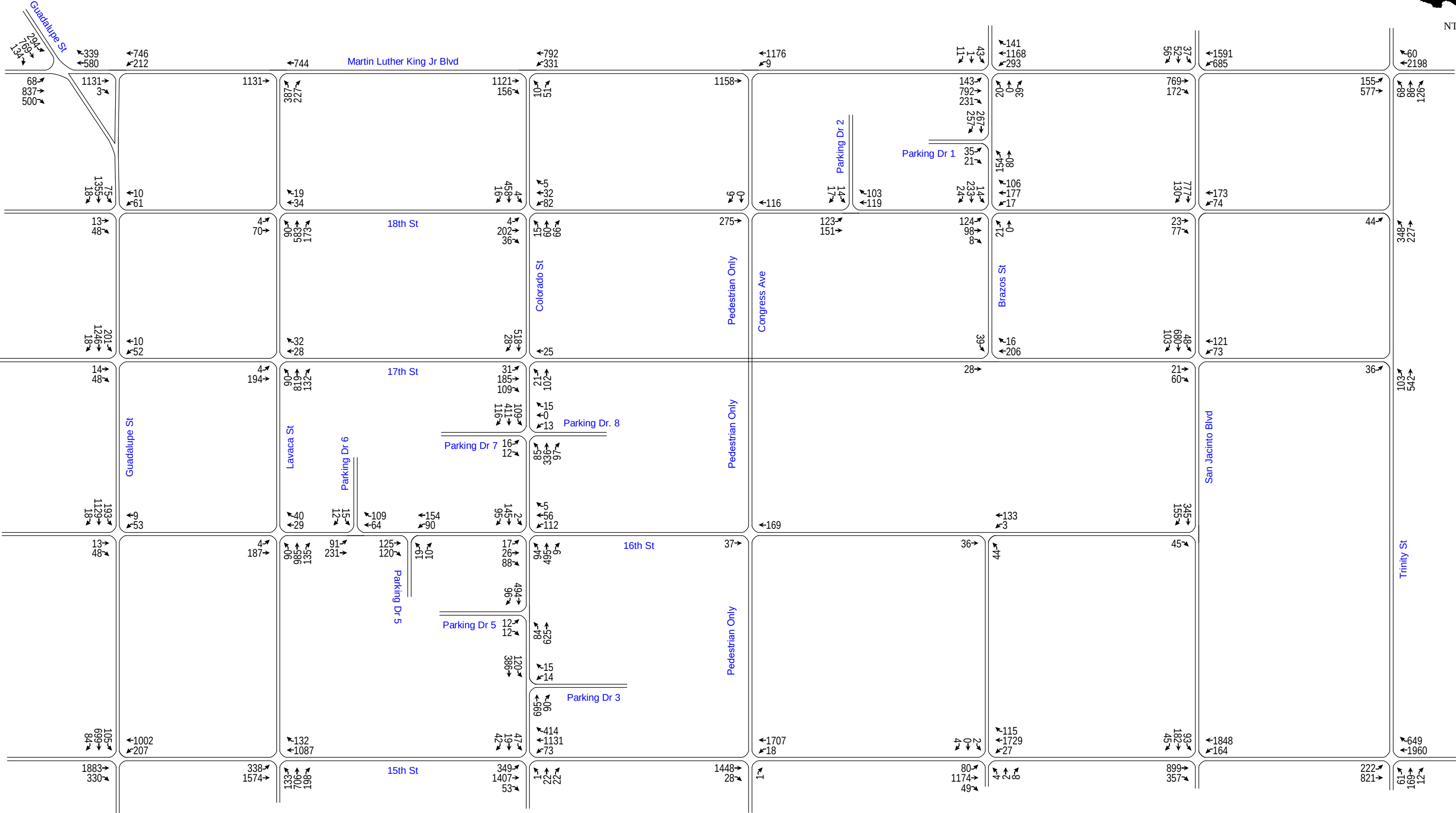
Appendix A18. Site-Generated PM Peak Hour Traffic Volumes (Phase III)



Appendix A19. 2024 Background Plus Site-Generated AM Peak Hour Traffic Volumes (Phase III)



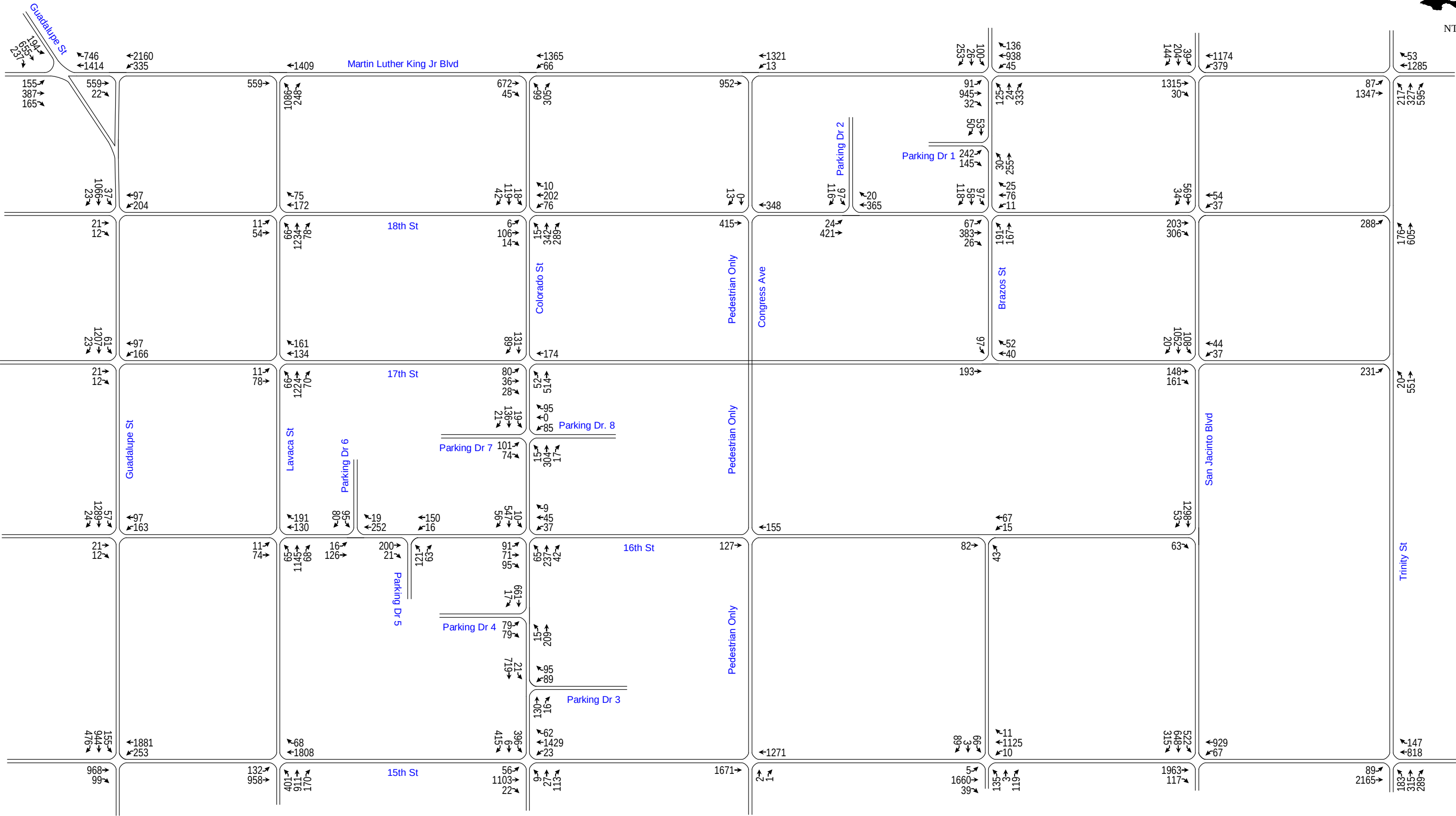
NTS



Appendix A20. 2024 Background Plus Site-Generated PM Peak Hour Traffic Volumes (Phase III)



NTS



Appendix B. Detailed Traffic Volume Data

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Guadalupe Street at 15th Street**

City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**

Project-ID #: **15206-01**

Data Source: **CJ Hensch**

Data Collector(s): **Camera**

Weather Conditions: **Mild/Normal Conditions**

Traffic Control: **Signalized**

Time of Count		Northbound on <i>Guadalupe Street</i>				Southbound on <i>Guadalupe Street</i>				Eastbound on <i>15th Street</i>				Westbound on <i>15th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	2	-	-	-	7	13	57	5	4	-	381	49	0	34	123	-
7:15 AM	7:30 AM	5	-	-	-	8	12	92	6	4	-	336	41	0	35	185	-
7:30 AM	7:45 AM	5	-	-	-	3	16	102	11	4	-	333	38	0	41	232	-
7:45 AM	8:00 AM	8	-	-	-	25	30	121	12	3	-	403	68	0	45	224	-
8:00 AM	8:15 AM	10	-	-	-	14	24	154	10	2	-	360	81	0	42	210	-
8:15 AM	8:30 AM	10	-	-	-	13	20	181	13	2	-	340	80	0	44	233	-
8:30 AM	8:45 AM	9	-	-	-	9	23	180	15	7	-	326	76	0	56	243	-
8:45 AM	9:00 AM	9	-	-	-	16	24	191	15	12	-	348	101	0	47	235	-
Intersection PHV:		0 0 0				91 706 53				0 1,374 338				189 921 0			
PHF:		0.00 0.00 0.00				0.95 0.92 0.88				0.00 0.95 0.84				0.84 0.95 0.00			

Intersection Peak Hour: 8:00 AM - 9:00 AM

Intersection PHF: 0.96

Study Area PHV:	0	0	0	97	636	50	0	1,429	305	187	910	0
PHF:	0.00	0.00	0.00	0.81	0.88	0.83	0.00	0.89	0.94	0.83	0.94	0.00

Study Peak Hour: 7:45 AM - 8:45 AM**Study Area PHF: 0.98**

4:30 PM	4:45 PM	3	-	-	-	7	47	227	69	1	-	284	32	7	61	440	-
4:45 PM	5:00 PM	7	-	-	-	5	44	205	57	5	-	221	27	3	51	394	-
5:00 PM	5:15 PM	2	-	-	-	9	35	191	81	9	-	165	19	7	55	422	-
5:15 PM	5:30 PM	4	-	-	-	8	17	185	50	12	-	167	13	3	37	384	-
5:30 PM	5:45 PM	2	-	-	-	6	38	141	47	9	-	256	16	10	33	321	-
5:45 PM	6:00 PM	3	-	-	-	8	44	207	42	6	-	228	28	5	37	288	-
6:00 PM	6:15 PM	5	-	-	-	7	39	196	39	6	-	277	20	5	43	291	-
6:15 PM	6:30 PM	8	-	-	-	6	39	174	42	6	-	272	34	12	31	293	-
Intersection PHV:		0	0	0		143	808	257		0	837	91		204	1,640	0	
PHF:		0.00	0.00	0.00		0.76	0.89	0.79		0.00	0.74	0.71		0.84	0.93	0.00	

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.86

Study Area PHV:	0	0	0	143	808	257	0	837	91	204	1,640	0
PHF:	0.00	0.00	0.00	0.76	0.89	0.79	0.00	0.74	0.71	0.84	0.93	0.00

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.86

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements**DeShazo Group, Inc.**Location: **Lavaca Street at 15th Street**City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-02**Data Source: **CJ Hensch**Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**Traffic Control: **Signalized**

Time of Count		Northbound on Lavaca Street				Southbound on Lavaca Street				Eastbound on 15th Street				Westbound on 15th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	11	23	127	37	2	-	-	-	4	38	293	-	7	-	133	31
7:15 AM	7:30 AM	4	15	128	37	5	-	-	-	5	27	293	-	7	-	211	37
7:30 AM	7:45 AM	0	28	170	36	1	-	-	-	3	19	306	-	6	-	247	27
7:45 AM	8:00 AM	5	30	154	34	7	-	-	-	3	31	373	-	8	-	241	41
8:00 AM	8:15 AM	4	28	164	44	7	-	-	-	8	36	332	-	8	-	219	30
8:15 AM	8:30 AM	2	29	127	30	12	-	-	-	3	22	330	-	11	-	254	32
8:30 AM	8:45 AM	2	36	137	41	10	-	-	-	9	25	307	-	16	-	270	19
8:45 AM	9:00 AM	3	24	104	27	10	-	-	-	4	29	337	-	15	-	288	16
Intersection PHV:		123 582 149				0 0 0				114 1,342 0				0 984 122			
PHF:		0.85 0.89 0.85				0.00 0.00 0.00				0.79 0.90 0.00				0.00 0.91 0.74			

Intersection Peak Hour: 7:45 AM - 8:45 AM

Intersection PHF: 0.94

Study Area PHV:	123	582	149	0	0	0	114	1,342	0	0	984	122
PHF:	0.85	0.89	0.85	0.00	0.00	0.00	0.79	0.90	0.00	0.00	0.91	0.74

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.94

4:30 PM	4:45 PM	7	87	177	45	6	-	-	-	4	21	305	-	10	-	433	16
4:45 PM	5:00 PM	5	83	214	39	6	-	-	-	8	18	238	-	9	-	375	13
5:00 PM	5:15 PM	10	102	234	43	6	-	-	-	11	21	162	-	15	-	405	20
5:15 PM	5:30 PM	4	98	203	24	2	-	-	-	6	25	160	-	10	-	330	14
5:30 PM	5:45 PM	7	101	188	48	10	-	-	-	6	25	273	-	10	-	284	6
5:45 PM	6:00 PM	5	110	202	48	3	-	-	-	12	15	276	-	5	-	210	13
6:00 PM	6:15 PM	5	107	177	44	4	-	-	-	7	17	284	-	15	-	244	12
6:15 PM	6:30 PM	2	97	159	36	4	-	-	-	12	11	300	-	1	-	229	9
Intersection PHV:		370 828 151				0 0 0				85 865 0				0 1,543 63			
PHF:		0.91 0.88 0.84				0.00 0.00 0.00				0.85 0.71 0.00				0.00 0.89 0.79			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.90

Study Area PHV:	370	828	151	0	0	0	85	865	0	0	1,543	63
PHF:	0.91	0.88	0.84	0.00	0.00	0.00	0.85	0.71	0.00	0.00	0.89	0.79

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.90

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Colorado Street at 15th Street**City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-03**Data Source: **CJ Hensch**Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**Traffic Control: **Signalized**

Time of Count		Northbound on Colorado Street				Southbound on Colorado Street				Eastbound on 15th Street				Westbound on 15th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	6	0	6	2	0	1	1	4	9	48	304	1	6	13	156	25
7:15 AM	7:30 AM	5	1	3	6	4	2	3	6	7	34	305	7	8	10	245	27
7:30 AM	7:45 AM	2	0	7	1	4	5	1	8	19	47	285	7	7	10	249	27
7:45 AM	8:00 AM	7	1	13	8	2	1	4	4	20	45	364	8	14	11	252	48
8:00 AM	8:15 AM	3	0	2	4	1	1	4	6	13	54	319	12	6	25	244	26
8:15 AM	8:30 AM	4	0	3	4	3	2	6	4	19	37	319	15	2	12	267	33
8:30 AM	8:45 AM	0	0	2	4	1	1	4	5	22	41	297	14	2	19	281	24
8:45 AM	9:00 AM	5	1	3	4	5	4	5	7	15	26	331	21	6	22	280	26
Intersection PHV:		1 20 20				5 18 19				177 1,299 49				67 1,044 131			
PHF:		0.25 0.38 0.63				0.63 0.75 0.79				0.82 0.89 0.82				0.67 0.93 0.68			

Intersection Peak Hour: 7:45 AM - 8:45 AM

Intersection PHF: 0.94

Study Area PHV:	1	20	20	5	18	19	177	1,299	49	67	1,044	131
PHF:	0.25	0.38	0.63	0.63	0.75	0.79	0.82	0.89	0.82	0.67	0.93	0.68

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.94

4:30 PM	4:45 PM	6	0	4	17	2	39	1	79	23	7	333	5	10	3	358	1
4:45 PM	5:00 PM	8	2	2	19	0	26	2	59	17	11	289	4	9	8	336	4
5:00 PM	5:15 PM	11	3	10	45	2	36	0	70	31	1	213	5	6	7	368	7
5:15 PM	5:30 PM	8	3	9	23	4	21	3	49	24	7	184	6	10	3	258	1
5:30 PM	5:45 PM	6	2	8	19	1	17	1	43	4	16	318	4	3	3	234	4
5:45 PM	6:00 PM	8	2	1	12	1	29	0	29	14	9	333	4	4	5	204	3
6:00 PM	6:15 PM	4	0	1	8	4	22	2	46	9	2	331	1	4	4	191	3
6:15 PM	6:30 PM	0	1	0	7	6	15	0	25	15	3	337	2	4	7	203	0
Intersection PHV:		8 25 104				122 6 257				26 1,019 20				21 1,320 13			
PHF:		0.67 0.63 0.58				0.78 0.50 0.81				0.59 0.77 0.83				0.66 0.90 0.46			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.87

Study Area PHV:	8	25	104	122	6	257	26	1,019	20	21	1,320	13
PHF:	0.67	0.63	0.58	0.78	0.50	0.81	0.59	0.77	0.83	0.66	0.90	0.46

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.87

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements**DeShazo Group, Inc.**Location: **Congress Avenue at 15th Street**City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-04**Data Source: **CJ Hensch**Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**Traffic Control: **Signalized**

Time of Count		Northbound on Congress Avenue				Southbound on Congress Avenue				Eastbound on 15th Street				Westbound on 15th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	1	-	0	0	0	5	0	4	4	59	291	2	1	1	169	13
7:15 AM	7:30 AM	0	-	1	0	3	6	1	6	7	72	296	0	0	0	245	9
7:30 AM	7:45 AM	5	-	0	0	1	5	1	4	9	60	289	2	0	1	292	18
7:45 AM	8:00 AM	9	-	0	0	2	5	1	7	7	57	298	3	0	2	301	20
8:00 AM	8:15 AM	5	-	0	1	1	2	2	9	7	38	292	6	1	4	299	17
8:15 AM	8:30 AM	7	-	0	0	0	4	0	7	10	33	282	5	0	7	333	25
8:30 AM	8:45 AM	4	-	0	0	3	11	1	9	5	41	258	12	1	4	312	18
8:45 AM	9:00 AM	2	-	0	3	2	7	0	5	7	50	293	8	0	7	364	11
Intersection PHV:		0 0 4				24 3 30				162 1,125 31				22 1,308 71			
PHF:		0.00 0.00 0.33				0.55 0.38 0.83				0.81 0.96 0.65				0.79 0.90 0.71			

Intersection Peak Hour: 8:00 AM - 9:00 AM

Intersection PHF: 0.93

Study Area PHV:	0	0	1	22	4	32	169	1,130	26	17	1,245	80
PHF:	0.00	0.00	0.25	0.50	0.50	0.89	0.74	0.95	0.54	0.61	0.93	0.80

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.98

4:30 PM	4:45 PM	11	-	1	0	2	38	0	49	18	13	373	0	5	2	322	11
4:45 PM	5:00 PM	5	-	0	0	3	33	0	34	8	12	384	0	0	2	225	9
5:00 PM	5:15 PM	9	-	0	0	6	62	0	53	19	5	270	0	7	0	289	8
5:15 PM	5:30 PM	5	-	1	1	2	32	1	38	14	6	237	0	2	4	259	6
5:30 PM	5:45 PM	0	-	1	0	1	28	0	29	6	7	341	0	1	2	228	7
5:45 PM	6:00 PM	8	-	0	0	0	12	0	35	12	11	304	2	1	0	179	5
6:00 PM	6:15 PM	18	-	1	1	6	13	0	25	12	6	340	1	22	2	200	4
6:15 PM	6:30 PM	11	-	0	0	3	11	0	25	6	8	321	0	0	0	185	3
Intersection PHV:		0 2 1				165 1 174				36 1,264 0				8 1,095 34			
PHF:		0.00 0.50 0.25				0.67 0.25 0.82				0.69 0.82 0.00				0.50 0.85 0.77			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.86

Study Area PHV:	0	2	1	165	1	174	36	1,264	0	8	1,095	34
PHF:	0.00	0.50	0.25	0.67	0.25	0.82	0.69	0.82	0.00	0.50	0.85	0.77

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.86

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements**DeShazo Group, Inc.**Location: **Brazos Street at 15th Street**City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-05**Data Source: **CJ Hensch**Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**Traffic Control: **Signalized**

Time of Count		Northbound on Brazos Street				Southbound on Brazos Street				Eastbound on 15th Street				Westbound on 15th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	0	2	1	2	6	0	0	1	1	12	224	11	0	8	203	15
7:15 AM	7:30 AM	1	1	0	2	5	1	0	1	0	20	226	16	0	3	287	22
7:30 AM	7:45 AM	6	3	0	1	8	0	1	0	1	19	233	9	1	8	315	26
7:45 AM	8:00 AM	5	0	1	1	7	0	0	1	0	25	268	16	1	6	347	14
8:00 AM	8:15 AM	3	2	0	2	1	0	0	2	1	19	266	10	0	8	323	18
8:15 AM	8:30 AM	2	0	1	2	1	1	0	0	1	12	248	8	0	7	333	20
8:30 AM	8:45 AM	0	2	0	2	1	1	0	1	1	18	264	11	0	4	342	26
8:45 AM	9:00 AM	3	3	0	1	1	0	0	1	0	12	272	5	3	1	360	16
Intersection PHV:		4 2 7				2 0 4				74 1,046 45				25 1,345 78			
PHF:		0.50 0.50 0.88				0.50 0.00 0.50				0.74 0.98 0.70				0.78 0.97 0.75			

Intersection Peak Hour: 7:45 AM - 8:45 AM

Intersection PHF: 0.97

Study Area PHV:	4	2	7	2	0	4	74	1,046	45	25	1,345	78
PHF:	0.50	0.50	0.88	0.50	0.00	0.50	0.74	0.98	0.70	0.78	0.97	0.75

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.97

4:30 PM	4:45 PM	7	28	2	22	1	20	0	19	2	1	354	9	1	3	260	2
4:45 PM	5:00 PM	2	25	0	23	2	10	0	20	2	1	364	6	1	2	277	1
5:00 PM	5:15 PM	13	48	0	42	2	22	2	31	1	1	294	7	1	1	258	2
5:15 PM	5:30 PM	2	24	1	23	3	9	1	12	0	2	277	14	1	3	199	0
5:30 PM	5:45 PM	1	17	0	17	2	12	0	16	0	1	351	6	0	2	186	2
5:45 PM	6:00 PM	6	14	0	9	3	7	0	8	1	0	400	6	1	1	169	0
6:00 PM	6:15 PM	4	12	0	9	0	7	0	5	0	0	379	2	0	3	171	0
6:15 PM	6:30 PM	1	11	0	4	0	7	0	6	0	0	357	1	0	0	174	1
Intersection PHV:		125 3 110				61 3 82				5 1,289 36				9 994 5			
PHF:		0.65 0.38 0.65				0.69 0.38 0.66				0.63 0.89 0.64				0.75 0.90 0.63			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.93

Study Area PHV:	125	3	110	61	3	82	5	1,289	36	9	994	5
PHF:	0.65	0.38	0.65	0.69	0.38	0.66	0.63	0.89	0.64	0.75	0.90	0.63

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.93

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **San Jacinto Boulevard at 15th Street**

City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-06**

Data Source: **CJ Hensch**

Data Collector(s): **Camera**

Weather Conditions: **Mild/Normal Conditions**

Traffic Control: **Signalized**

Time of Count		Northbound on <i>San Jacinto Blvd.</i>				Southbound on <i>San Jacinto Blvd.</i>				Eastbound on <i>15th Street</i>				Westbound on <i>15th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	1	-	-	-	0	8	25	4	1	-	152	66	1	32	223	-
7:15 AM	7:30 AM	6	-	-	-	0	4	28	6	3	-	141	59	1	48	315	-
7:30 AM	7:45 AM	8	-	-	-	2	10	38	6	2	-	155	57	1	46	352	-
7:45 AM	8:00 AM	15	-	-	-	1	9	38	6	5	-	169	90	2	39	354	-
8:00 AM	8:15 AM	2	-	-	-	0	15	37	7	0	-	173	86	3	44	343	-
8:15 AM	8:30 AM	1	-	-	-	3	7	44	6	1	-	173	68	5	35	362	-
8:30 AM	8:45 AM	2	-	-	-	1	4	40	14	3	-	140	86	1	33	362	-
8:45 AM	9:00 AM	2	-	-	-	0	12	48	11	9	-	187	85	2	38	395	-
Intersection PHV:		0 0 0				38 169 38				0 673 325				150 1,462 0			
PHF:		0.00 0.00 0.00				0.63 0.88 0.68				0.00 0.90 0.94				0.85 0.93 0.00			
Intersection Peak Hour: 8:00 AM - 9:00 AM										Intersection PHF: 0.92							
Study Area PHV:		0 0 0				35 159 33				0 655 330				151 1,421 0			
PHF:		0.00 0.00 0.00				0.58 0.90 0.59				0.00 0.95 0.92				0.86 0.98 0.00			
Study Peak Hour: 7:45 AM - 8:45 AM										Study Area PHF: 0.99							
4:30 PM	4:45 PM	13	-	-	-	1	68	139	80	1	-	414	24	5	17	208	-
4:45 PM	5:00 PM	1	-	-	-	3	62	125	53	9	-	403	41	2	17	215	-
5:00 PM	5:15 PM	12	-	-	-	0	57	163	73	5	-	370	21	3	17	214	-
5:15 PM	5:30 PM	0	-	-	-	2	65	137	52	2	-	334	22	5	11	145	-
5:30 PM	5:45 PM	1	-	-	-	3	50	120	37	4	-	434	21	5	17	152	-
5:45 PM	6:00 PM	1	-	-	-	4	44	105	21	3	-	390	33	1	9	154	-
6:00 PM	6:15 PM	1	-	-	-	0	45	102	35	2	-	383	35	4	15	144	-
6:15 PM	6:30 PM	4	-	-	-	0	20	81	36	2	-	322	37	4	24	130	-
Intersection PHV:		0 0 0				252 564 258				0 1,521 108				62 782 0			
PHF:		0.00 0.00 0.00				0.93 0.87 0.81				0.00 0.92 0.66				0.91 0.91 0.00			
Intersection Peak Hour: 4:30 PM - 5:30 PM										Intersection PHF: 0.93							
Study Area PHV:		0 0 0				252 564 258				0 1,521 108				62 782 0			
PHF:		0.00 0.00 0.00				0.93 0.87 0.81				0.00 0.92 0.66				0.91 0.91 0.00			
Study Peak Hour: 4:30 PM - 5:30 PM										Study Area PHF: 0.93							
Observations:																	



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements**DeShazo Group, Inc.**Location: **Trinity Street at 15th Street**City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-07**Data Source: **CJ Hensch**Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**Traffic Control: **Signalized**

Time of Count		Northbound on Trinity Street				Southbound on Trinity Street				Eastbound on 15th Street				Westbound on 15th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	0	11	30	0	0	-	-	-	0	16	152	-	7	-	238	47
7:15 AM	7:30 AM	5	11	35	0	1	-	-	-	2	18	141	-	1	-	362	55
7:30 AM	7:45 AM	5	7	44	0	2	-	-	-	2	28	155	-	1	-	383	48
7:45 AM	8:00 AM	5	11	39	0	0	-	-	-	2	14	169	-	2	-	393	65
8:00 AM	8:15 AM	3	11	37	1	0	-	-	-	2	27	173	-	0	-	365	72
8:15 AM	8:30 AM	3	18	23	1	0	-	-	-	1	17	173	-	0	-	390	53
8:30 AM	8:45 AM	0	16	27	7	0	-	-	-	0	26	140	-	0	-	376	47
8:45 AM	9:00 AM	2	7	38	5	1	-	-	-	1	20	187	-	2	-	424	41
Intersection PHV:		52 125 14				0 0 0				90 673 0				0 1,555 213			
PHF:		0.72 0.82 0.50				0.00 0.00 0.00				0.83 0.90 0.00				0.00 0.92 0.74			

Intersection Peak Hour: 8:00 AM - 9:00 AM

Intersection PHF: 0.94

Study Area PHV:	56	126	9	0	0	0	84	655	0	0	1,524	237
PHF:	0.78	0.81	0.32	0.00	0.00	0.00	0.78	0.95	0.00	0.00	0.97	0.82

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.97

4:30 PM	4:45 PM	7	43	55	51	0	-	-	-	5	14	414	-	1	-	184	12
4:45 PM	5:00 PM	0	29	51	58	0	-	-	-	2	18	403	-	1	-	209	13
5:00 PM	5:15 PM	2	57	78	84	1	-	-	-	6	3	370	-	1	-	168	13
5:15 PM	5:30 PM	1	40	96	73	0	-	-	-	2	4	334	-	0	-	119	8
5:30 PM	5:45 PM	0	26	58	63	2	-	-	-	0	6	434	-	0	-	143	7
5:45 PM	6:00 PM	0	27	67	50	0	-	-	-	0	14	390	-	0	-	135	12
6:00 PM	6:15 PM	0	30	43	40	0	-	-	-	0	9	383	-	1	-	127	2
6:15 PM	6:30 PM	0	13	20	24	0	-	-	-	0	12	322	-	0	-	140	8
Intersection PHV:		169 280 266				0 0 0				39 1,521 0				0 680 46			
PHF:		0.74 0.73 0.79				0.00 0.00 0.00				0.54 0.92 0.00				0.00 0.81 0.88			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.96

Study Area PHV:	169	280	266	0	0	0	39	1,521	0	0	680	46
PHF:	0.74	0.73	0.79	0.00	0.00	0.00	0.54	0.92	0.00	0.00	0.81	0.88

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.96

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements*DeShazo Group, Inc.*Location: **Guadalupe Street at 16th Street**City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-08**Data Source: **CJ Hensch**Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**Traffic Control: **Unsignalized**Description: **Minor-Street STOP Controlled**

Time of Count		Northbound on Guadalupe Street				Southbound on Guadalupe Street				Eastbound on 16th Street				Westbound on 16th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	2	-	-	-	0	-	107	2	12	-	-	-	5	13	3	-
7:15 AM	7:30 AM	0	-	-	-	2	-	159	3	7	-	-	-	6	13	2	-
7:30 AM	7:45 AM	1	-	-	-	1	-	160	2	5	-	-	-	0	10	8	-
7:45 AM	8:00 AM	1	-	-	-	2	-	245	3	3	-	-	-	5	16	0	-
8:00 AM	8:15 AM	2	-	-	-	6	-	243	7	5	-	-	-	4	18	2	-
8:15 AM	8:30 AM	0	-	-	-	11	-	279	2	7	-	-	-	4	21	4	-
8:30 AM	8:45 AM	1	-	-	-	5	-	256	9	9	-	-	-	14	21	2	-
8:45 AM	9:00 AM	0	-	-	-	7	-	287	6	16	-	-	-	5	18	6	-
Intersection PHV:		0 0 0				0 1,065 24				0 0 0				78 14 0			
PHF:		0.00 0.00 0.00				0.00 0.93 0.67				0.00 0.00 0.00				0.93 0.58 0.00			

Intersection Peak Hour: 8:00 AM - 9:00 AM

Intersection PHF: 0.93

Study Area PHV:	0	0	0	0	1,023	21	0	0	0	76	8	0
PHF:	0.00	0.00	0.00	0.00	0.92	0.58	0.00	0.00	0.00	0.90	0.50	0.00

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.92

4:30 PM	4:45 PM	0	-	-	-	4	-	265	3	12	-	-	-	3	65	38	-
4:45 PM	5:00 PM	1	-	-	-	7	-	242	7	10	-	-	-	0	44	25	-
5:00 PM	5:15 PM	0	-	-	-	2	-	234	4	22	-	-	-	8	48	45	-
5:15 PM	5:30 PM	1	-	-	-	1	-	200	11	12	-	-	-	3	31	25	-
5:30 PM	5:45 PM	2	-	-	-	2	-	203	5	16	-	-	-	6	29	26	-
5:45 PM	6:00 PM	1	-	-	-	3	-	257	9	13	-	-	-	6	24	23	-
6:00 PM	6:15 PM	1	-	-	-	3	-	241	3	9	-	-	-	1	24	10	-
6:15 PM	6:30 PM	0	-	-	-	7	-	225	5	14	-	-	-	5	19	24	-
Intersection PHV:		0 0 0				0 941 25				0 0 0				188 133 0			
PHF:		0.00 0.00 0.00				0.00 0.89 0.57				0.00 0.00 0.00				0.72 0.74 0.00			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.87

Study Area PHV:	0	0	0	0	941	25	0	0	0	188	133	0
PHF:	0.00	0.00	0.00	0.00	0.89	0.57	0.00	0.00	0.00	0.72	0.74	0.00

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.87

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements*DeShazo Group, Inc.*Location: **Lavaca Street at 16th Street**City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-09**Data Source: **CJ Hensch**Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**Traffic Control: **Signalized**

Time of Count		Northbound on Lavaca Street				Southbound on Lavaca Street				Eastbound on 16th Street				Westbound on 16th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	4	62	133	-	8	-	-	-	10	-	-	-	10	-	2	0
7:15 AM	7:30 AM	9	57	161	-	6	-	-	-	7	-	-	-	17	-	4	2
7:30 AM	7:45 AM	7	58	158	-	10	-	-	-	18	-	-	-	18	-	6	4
7:45 AM	8:00 AM	15	61	191	-	13	-	-	-	17	-	-	-	15	-	7	4
8:00 AM	8:15 AM	17	65	150	-	10	-	-	-	16	-	-	-	18	-	8	1
8:15 AM	8:30 AM	7	50	153	-	18	-	-	-	26	-	-	-	11	-	3	5
8:30 AM	8:45 AM	27	37	142	-	12	-	-	-	20	-	-	-	34	-	7	3
8:45 AM	9:00 AM	17	28	126	-	22	-	-	-	26	-	-	-	25	-	4	2
Intersection PHV:		241	660	0		0	0	0		0	0	0		0	25	11	
PHF:		0.93	0.86	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.78	0.69	

Intersection Peak Hour: 7:15 AM - 8:15 AM

Intersection PHF: 0.89

Study Area PHV:	213	636	0	0	0	0	0	0	0	0	25	13
PHF:	0.82	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.65

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.84

4:30 PM	4:45 PM	18	19	246	-	24	-	-	-	17	-	-	-	28	-	23	11
4:45 PM	5:00 PM	14	16	274	-	25	-	-	-	26	-	-	-	24	-	18	11
5:00 PM	5:15 PM	8	16	279	-	21	-	-	-	22	-	-	-	17	-	24	16
5:15 PM	5:30 PM	7	18	280	-	15	-	-	-	13	-	-	-	23	-	12	10
5:30 PM	5:45 PM	3	18	228	-	23	-	-	-	28	-	-	-	8	-	7	3
5:45 PM	6:00 PM	8	21	217	-	9	-	-	-	13	-	-	-	17	-	9	6
6:00 PM	6:15 PM	15	12	200	-	13	-	-	-	14	-	-	-	27	-	5	4
6:15 PM	6:30 PM	7	20	182	-	7	-	-	-	15	-	-	-	13	-	10	2
Intersection PHV:		69	1,079	0		0	0	0		0	0	0		0	77	48	
PHF:		0.91	0.96	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.80	0.75	

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.95

Study Area PHV:	69	1,079	0	0	0	0	0	0	0	0	77	48
PHF:	0.91	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.75

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.95

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements														DeShazo Group, Inc.					
Location: Colorado Street at 16th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-10 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled																			
Time of Count		Northbound on Colorado Street				Southbound on Colorado Street				Eastbound on 16th Street				Westbound on 16th Street					
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R		
7:00 AM	7:15 AM	0	3	72	-	3	-	5	4	10	-	-	-	3	3	2	5		
7:15 AM	7:30 AM	3	4	57	-	1	-	7	6	6	-	-	-	3	1	2	3		
7:30 AM	7:45 AM	3	4	64	-	1	-	10	6	17	-	-	-	3	1	1	6		
7:45 AM	8:00 AM	3	10	90	-	3	-	14	6	13	-	-	-	4	0	2	2		
8:00 AM	8:15 AM	1	5	64	-	6	-	8	7	18	-	-	-	4	1	2	6		
8:15 AM	8:30 AM	1	6	59	-	1	-	14	5	17	-	-	-	1	4	4	0		
8:30 AM	8:45 AM	1	9	48	-	5	-	8	8	14	-	-	-	3	2	3	4		
8:45 AM	9:00 AM	1	7	60	-	1	-	9	4	14	-	-	-	2	1	4	0		
Intersection PHV:		25 277 0				0 46 24				0 0 0				6 9 14					
PHF:		0.63 0.77 0.00				0.00 0.82 0.86				0.00 0.00 0.00				0.38 0.56 0.58					
Intersection Peak Hour: 7:30 AM - 8:30 AM																		Intersection PHF: 0.81	
Study Area PHV:		30 261 0				0 44 26				0 0 0				7 11 12					
PHF:		0.75 0.73 0.00				0.00 0.79 0.81				0.00 0.00 0.00				0.44 0.69 0.50					
Study Peak Hour: 7:45 AM - 8:45 AM																		Study Area PHF: 0.79	
4:30 PM	4:45 PM	1	2	15	-	8	-	113	27	15	-	-	-	3	4	5	2		
4:45 PM	5:00 PM	0	5	10	-	4	-	82	14	13	-	-	-	7	3	11	0		
5:00 PM	5:15 PM	3	4	19	-	4	-	105	34	36	-	-	-	4	3	12	3		
5:15 PM	5:30 PM	2	2	19	-	2	-	46	18	6	-	-	-	2	1	5	1		
5:30 PM	5:45 PM	1	6	13	-	6	-	61	16	14	-	-	-	2	0	7	0		
5:45 PM	6:00 PM	1	3	8	-	3	-	56	11	8	-	-	-	0	0	2	3		
6:00 PM	6:15 PM	1	1	9	-	3	-	54	6	19	-	-	-	0	2	3	1		
6:15 PM	6:30 PM	0	1	3	-	1	-	58	6	7	-	-	-	2	2	4	0		
Intersection PHV:		13 63 0				0 346 93				0 0 0				11 33 6					
PHF:		0.65 0.83 0.00				0.00 0.77 0.68				0.00 0.00 0.00				0.69 0.69 0.50					
Intersection Peak Hour: 4:30 PM - 5:30 PM																		Intersection PHF: 0.78	
Study Area PHV:		13 63 0				0 346 93				0 0 0				11 33 6					
PHF:		0.65 0.83 0.00				0.00 0.77 0.68				0.00 0.00 0.00				0.69 0.69 0.50					
Study Peak Hour: 4:30 PM - 5:30 PM																		Study Area PHF: 0.78	
Observations: 																			
File: C2X3HRS - 4L&12Mv_Peds.XLS																			

Intersection Traffic Movements														DeShazo Group, Inc.					
Location: Congress Avenue at 16th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-11 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled																			
Time of Count		Northbound on <i>Congress Avenue</i>				Southbound on <i>Congress Avenue</i>				Eastbound on <i>16th Street</i>				Westbound on <i>16th Street</i>					
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R		
7:00 AM	7:15 AM	0	4	79	-	0	-	4	4	5	-	-	-	1	0	1	1		
7:15 AM	7:30 AM	2	2	70	-	2	-	6	7	5	-	-	-	8	2	3	0		
7:30 AM	7:45 AM	1	4	67	-	1	-	11	1	5	-	-	-	7	1	1	3		
7:45 AM	8:00 AM	1	6	66	-	1	-	11	7	5	-	-	-	7	1	1	1		
8:00 AM	8:15 AM	0	4	63	-	1	-	7	4	9	-	-	-	2	0	3	1		
8:15 AM	8:30 AM	2	3	62	-	2	-	14	2	5	-	-	-	3	1	2	2		
8:30 AM	8:45 AM	0	2	62	-	0	-	13	3	2	-	-	-	5	0	1	2		
8:45 AM	9:00 AM	1	0	51	-	0	-	10	2	5	-	-	-	3	0	0	3		
Intersection PHV:		16 282 0				0 32 19				0 0 0				4 6 5					
PHF:		0.67 0.89 0.00				0.00 0.73 0.68				0.00 0.00 0.00				0.50 0.50 0.42					
Intersection Peak Hour: 7:00 AM - 8:00 AM																		Intersection PHF: 0.98	
Study Area PHV:		15 253 0				0 45 16				0 0 0				2 7 6					
PHF:		0.63 0.96 0.00				0.00 0.80 0.57				0.00 0.00 0.00				0.50 0.58 0.75					
Study Peak Hour: 7:45 AM - 8:45 AM																		Study Area PHF: 0.92	
4:30 PM	4:45 PM	8	0	21	-	0	-	65	2	24	-	-	-	15	10	6	18		
4:45 PM	5:00 PM	1	0	29	-	0	-	49	3	7	-	-	-	11	11	8	12		
5:00 PM	5:15 PM	2	2	21	-	1	-	88	2	19	-	-	-	7	13	10	9		
5:15 PM	5:30 PM	1	1	21	-	1	-	46	2	20	-	-	-	2	9	3	9		
5:30 PM	5:45 PM	2	0	28	-	0	-	39	2	12	-	-	-	8	5	3	14		
5:45 PM	6:00 PM	0	1	31	-	2	-	33	1	5	-	-	-	7	7	2	8		
6:00 PM	6:15 PM	1	1	18	-	0	-	32	0	17	-	-	-	1	4	2	7		
6:15 PM	6:30 PM	0	0	15	-	0	-	22	1	8	-	-	-	7	8	2	4		
Intersection PHV:		3 92 0				0 248 9				0 0 0				43 27 48					
PHF:		0.38 0.79 0.00				0.00 0.70 0.75				0.00 0.00 0.00				0.83 0.68 0.67					
Intersection Peak Hour: 4:30 PM - 5:30 PM																		Intersection PHF: 0.81	
Study Area PHV:		3 92 0				0 248 9				0 0 0				43 27 48					
PHF:		0.38 0.79 0.00				0.00 0.70 0.75				0.00 0.00 0.00				0.83 0.68 0.67					
Study Peak Hour: 4:30 PM - 5:30 PM																		Study Area PHF: 0.81	
Observations: 																			
File: C2X3HRS - 4L&12Mv_Peds.XLS																			

Intersection Traffic Movements														<i>DeShazo Group, Inc.</i>			
Location: Brazos Street at 16th Street City/State: Austin, Texas Day/Date: Wednesday, March 30, 2016 Project-ID #: 15206-12 Data Source: CJ Hensch														Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled			
Time of Count		Northbound on <i>Brazos Street</i>				Southbound on <i>Brazos Street</i>				Eastbound on <i>16th Street</i>				Westbound on <i>16th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	1	1	-	-	-	-	-	-	0	-	-	-	1	0	6	-
7:15 AM	7:30 AM	3	1	-	-	-	-	-	-	0	-	-	-	7	1	6	-
7:30 AM	7:45 AM	3	4	-	-	-	-	-	-	3	-	-	-	3	1	7	-
7:45 AM	8:00 AM	4	3	-	-	-	-	-	-	2	-	-	-	3	0	3	-
8:00 AM	8:15 AM	3	5	-	-	-	-	-	-	3	-	-	-	1	0	4	-
8:15 AM	8:30 AM	4	2	-	-	-	-	-	-	3	-	-	-	4	2	6	-
8:30 AM	8:45 AM	1	3	-	-	-	-	-	-	6	-	-	-	1	1	4	-
8:45 AM	9:00 AM	2	2	-	-	-	-	-	-	3	-	-	-	3	0	5	-
Intersection PHV:		14 0 0				0 0 0				0 0 0				3 20 0			
PHF:		0.70 0.00 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.38 0.71 0.00			
Intersection Peak Hour: 7:30 AM - 8:30 AM														Intersection PHF: 0.77			
Study Area PHV:		13 0 0				0 0 0				0 0 0				3 17 0			
PHF:		0.65 0.00 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.38 0.71 0.00			
Study Peak Hour: 7:45 AM - 8:45 AM														Study Area PHF: 0.83			
4:30 PM	4:45 PM	0	8	-	-	-	-	-	-	6	-	-	-	6	4	26	-
4:45 PM	5:00 PM	0	11	-	-	-	-	-	-	6	-	-	-	5	1	12	-
5:00 PM	5:15 PM	0	11	-	-	-	-	-	-	6	-	-	-	4	7	42	-
5:15 PM	5:30 PM	0	5	-	-	-	-	-	-	3	-	-	-	5	2	10	-
5:30 PM	5:45 PM	0	9	-	-	-	-	-	-	1	-	-	-	0	1	12	-
5:45 PM	6:00 PM	1	4	-	-	-	-	-	-	1	-	-	-	1	1	7	-
6:00 PM	6:15 PM	1	2	-	-	-	-	-	-	1	-	-	-	1	1	7	-
6:15 PM	6:30 PM	3	3	-	-	-	-	-	-	1	-	-	-	3	0	4	-
Intersection PHV:		35 0 0				0 0 0				0 0 0				14 90 0			
PHF:		0.80 0.00 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.50 0.54 0.00			
Intersection Peak Hour: 4:30 PM - 5:30 PM														Intersection PHF: 0.58			
Study Area PHV:		35 0 0				0 0 0				0 0 0				14 90 0			
PHF:		0.80 0.00 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.50 0.54 0.00			
Study Peak Hour: 4:30 PM - 5:30 PM														Study Area PHF: 0.58			
Observations:																	



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements														<i>DeShazo Group, Inc.</i>			
Location: San Jacinto Boulevard at 16th Street City/State: Austin, Texas Day/Date: Thursday, March 24, 2016 Project-ID #: 15206-13 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Free																	
Time of Count		Northbound on <i>San Jacinto Blvd.</i>				Southbound on <i>San Jacinto Blvd.</i>				Eastbound on <i>16th Street</i>				Westbound on <i>16th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	0	-	-	-	19	-	56	11	2	-	-	-	-	-	-	-
7:15 AM	7:30 AM	2	-	-	-	21	-	69	13	1	-	-	-	-	-	-	-
7:30 AM	7:45 AM	4	-	-	-	23	-	78	5	4	-	-	-	-	-	-	-
7:45 AM	8:00 AM	5	-	-	-	32	-	101	7	7	-	-	-	-	-	-	-
8:00 AM	8:15 AM	3	-	-	-	26	-	86	7	1	-	-	-	-	-	-	-
8:15 AM	8:30 AM	6	-	-	-	18	-	74	11	6	-	-	-	-	-	-	-
8:30 AM	8:45 AM	6	-	-	-	24	-	67	7	7	-	-	-	-	-	-	-
8:45 AM	9:00 AM	5	-	-	-	26	-	114	7	1	-	-	-	-	-	-	-
Intersection PHV:		0	0	0		0	341	32		0	0	0		0	0	0	
PHF:		0.00	0.00	0.00		0.00	0.75	0.73		0.00	0.00	0.00		0.00	0.00	0.00	
Intersection Peak Hour: 8:00 AM - 9:00 AM														Intersection PHF: 0.77			
Study Area PHV:		0	0	0		0	328	32		0	0	0		0	0	0	
PHF:		0.00	0.00	0.00		0.00	0.81	0.73		0.00	0.00	0.00		0.00	0.00	0.00	
Study Peak Hour: 7:45 AM - 8:45 AM														Study Area PHF: 0.83			
4:30 PM	4:45 PM	2	-	-	-	17	-	291	8	8	-	-	-	-	-	-	-
4:45 PM	5:00 PM	3	-	-	-	25	-	240	4	2	-	-	-	-	-	-	-
5:00 PM	5:15 PM	3	-	-	-	37	-	284	8	4	-	-	-	-	-	-	-
5:15 PM	5:30 PM	5	-	-	-	8	-	218	9	6	-	-	-	-	-	-	-
5:30 PM	5:45 PM	1	-	-	-	6	-	233	5	9	-	-	-	-	-	-	-
5:45 PM	6:00 PM	2	-	-	-	15	-	173	1	1	-	-	-	-	-	-	-
6:00 PM	6:15 PM	1	-	-	-	24	-	171	12	3	-	-	-	-	-	-	-
6:15 PM	6:30 PM	0	-	-	-	7	-	126	2	5	-	-	-	-	-	-	-
Intersection PHV:		0	0	0		0	1,033	29		0	0	0		0	0	0	
PHF:		0.00	0.00	0.00		0.00	0.89	0.81		0.00	0.00	0.00		0.00	0.00	0.00	
Intersection Peak Hour: 4:30 PM - 5:30 PM														Intersection PHF: 0.89			
Study Area PHV:		0	0	0		0	1,033	29		0	0	0		0	0	0	
PHF:		0.00	0.00	0.00		0.00	0.89	0.81		0.00	0.00	0.00		0.00	0.00	0.00	
Study Peak Hour: 4:30 PM - 5:30 PM														Study Area PHF: 0.89			
Observations: 																	
File: C2X3HRS - 4L&12Mv_Peds.XLS																	

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Guadalupe Street at 17th Street**

City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-14**

Data Source: **CJ Hensch**

Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**

Traffic Control: **Signalized**

Time of Count		Northbound on <i>Guadalupe Street</i>				Southbound on <i>Guadalupe Street</i>				Eastbound on <i>17th Street</i>				Westbound on <i>17th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	5	-	-	-	3	4	85	-	3	-	1	22	4	-	-	-
7:15 AM	7:30 AM	10	-	-	-	4	10	137	-	7	-	5	21	5	-	-	-
7:30 AM	7:45 AM	8	-	-	-	2	8	149	-	3	-	6	27	4	-	-	-
7:45 AM	8:00 AM	12	-	-	-	6	7	190	-	3	-	13	35	4	-	-	-
8:00 AM	8:15 AM	9	-	-	-	8	15	224	-	5	-	8	36	4	-	-	-
8:15 AM	8:30 AM	9	-	-	-	7	7	247	-	3	-	7	27	5	-	-	-
8:30 AM	8:45 AM	10	-	-	-	9	8	252	-	14	-	9	34	14	-	-	-
8:45 AM	9:00 AM	9	-	-	-	4	17	249	-	10	-	8	26	10	-	-	-
Intersection PHV:		0 0 0				47 972 0				0 32 123				0 0 0			
PHF:		0.00 0.00 0.00				0.69 0.96 0.00				0.00 0.89 0.85				0.00 0.00 0.00			
Intersection Peak Hour: 8:00 AM - 9:00 AM										Intersection PHF: 0.97							
Study Area PHV:		0 0 0				37 913 0				0 37 132				0 0 0			
PHF:		0.00 0.00 0.00				0.62 0.91 0.00				0.00 0.71 0.92				0.00 0.00 0.00			
Study Peak Hour: 7:45 AM - 8:45 AM										Study Area PHF: 0.92							
4:30 PM	4:45 PM	13	-	-	-	9	7	265	-	29	-	4	12	9	-	-	-
4:45 PM	5:00 PM	15	-	-	-	5	16	224	-	13	-	10	7	6	-	-	-
5:00 PM	5:15 PM	22	-	-	-	9	24	235	-	15	-	13	7	11	-	-	-
5:15 PM	5:30 PM	14	-	-	-	7	29	220	-	9	-	30	7	9	-	-	-
5:30 PM	5:45 PM	6	-	-	-	7	24	195	-	22	-	31	8	7	-	-	-
5:45 PM	6:00 PM	12	-	-	-	9	19	274	-	27	-	21	6	7	-	-	-
6:00 PM	6:15 PM	10	-	-	-	7	14	250	-	21	-	2	9	5	-	-	-
6:15 PM	6:30 PM	4	-	-	-	6	12	219	-	15	-	7	10	6	-	-	-
Intersection PHV:		0 0 0				96 924 0				0 95 28				0 0 0			
PHF:		0.00 0.00 0.00				0.83 0.84 0.00				0.00 0.77 0.88				0.00 0.00 0.00			
Intersection Peak Hour: 5:00 PM - 6:00 PM										Intersection PHF: 0.89							
Study Area PHV:		0 0 0				76 944 0				0 57 33				0 0 0			
PHF:		0.00 0.00 0.00				0.66 0.89 0.00				0.00 0.48 0.69				0.00 0.00 0.00			
Study Peak Hour: 4:30 PM - 5:30 PM										Study Area PHF: 0.96							
Observations:																	
																	

File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Lavaca Street at 17th Street**

City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-15**

Data Source: **CJ Hensch**

Data Collector(s): **Camera**

Weather Conditions: **Mild/Normal Conditions**

Traffic Control: **Signalized**

Time of Count		Northbound on <i>Lavaca Street</i>				Southbound on <i>Lavaca Street</i>				Eastbound on <i>17th Street</i>				Westbound on <i>17th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	6	-	101	32	5	-	-	-	2	0	5	-	0	-	-	-
7:15 AM	7:30 AM	5	-	113	41	7	-	-	-	1	3	11	-	4	-	-	-
7:30 AM	7:45 AM	9	-	121	43	10	-	-	-	6	3	11	-	7	-	-	-
7:45 AM	8:00 AM	11	-	148	51	2	-	-	-	4	4	16	-	4	-	-	-
8:00 AM	8:15 AM	7	-	128	32	9	-	-	-	1	3	15	-	4	-	-	-
8:15 AM	8:30 AM	9	-	124	28	8	-	-	-	10	2	9	-	9	-	-	-
8:30 AM	8:45 AM	7	-	122	27	16	-	-	-	8	3	11	-	4	-	-	-
8:45 AM	9:00 AM	12	-	110	27	5	-	-	-	4	8	15	-	9	-	-	-
Intersection PHV:		0 510 167				0 0 0				13 53 0				0 0 0			
PHF:		0.00 0.86 0.82				0.00 0.00 0.00				0.81 0.83 0.00				0.00 0.00 0.00			
Intersection Peak Hour: 7:15 AM - 8:15 AM										Intersection PHF: 0.85							
Study Area PHV:		0 522 138				0 0 0				12 51 0				0 0 0			
PHF:		0.00 0.88 0.68				0.00 0.00 0.00				0.75 0.80 0.00				0.00 0.00 0.00			
Study Peak Hour: 7:45 AM - 8:45 AM										Study Area PHF: 0.83							
4:30 PM	4:45 PM	9	-	230	26	9	-	-	-	8	10	13	-	13	-	-	-
4:45 PM	5:00 PM	7	-	250	38	4	-	-	-	9	7	18	-	5	-	-	-
5:00 PM	5:15 PM	17	-	257	49	10	-	-	-	3	6	33	-	17	-	-	-
5:15 PM	5:30 PM	13	-	223	36	5	-	-	-	5	7	61	-	12	-	-	-
5:30 PM	5:45 PM	4	-	194	38	11	-	-	-	10	3	55	-	8	-	-	-
5:45 PM	6:00 PM	7	-	213	27	8	-	-	-	12	8	32	-	8	-	-	-
6:00 PM	6:15 PM	8	-	187	19	7	-	-	-	10	10	9	-	15	-	-	-
6:15 PM	6:30 PM	4	-	187	10	2	-	-	-	8	16	7	-	5	-	-	-
Intersection PHV:		0 924 161				0 0 0				23 167 0				0 0 0			
PHF:		0.00 0.90 0.82				0.00 0.00 0.00				0.82 0.68 0.00				0.00 0.00 0.00			
Intersection Peak Hour: 4:45 PM - 5:45 PM										Intersection PHF: 0.92							
Study Area PHV:		0 960 149				0 0 0				30 125 0				0 0 0			
PHF:		0.00 0.93 0.76				0.00 0.00 0.00				0.75 0.51 0.00				0.00 0.00 0.00			
Study Peak Hour: 4:30 PM - 5:30 PM										Study Area PHF: 0.92							
Observations: 																	

File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements														<i>DeShazo Group, Inc.</i>					
Location: Colorado Street at 17th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-16 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: All-Way STOP Controlled																			
Time of Count		Northbound on Colorado Street				Southbound on Colorado Street				Eastbound on 17th Street				Westbound on 17th Street					
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R		
7:00 AM	7:15 AM	47	-	4	7	30	4	38	-	27	2	20	18	50	-	-	-		
7:15 AM	7:30 AM	45	-	4	5	28	2	47	-	20	0	23	28	40	-	-	-		
7:30 AM	7:45 AM	54	-	10	6	30	6	43	-	32	0	27	26	50	-	-	-		
7:45 AM	8:00 AM	54	-	9	11	31	1	46	-	26	3	27	29	45	-	-	-		
8:00 AM	8:15 AM	67	-	6	4	44	2	61	-	40	1	16	29	62	-	-	-		
8:15 AM	8:30 AM	42	-	3	6	34	2	45	-	24	1	20	22	42	-	-	-		
8:30 AM	8:45 AM	36	-	9	4	31	1	50	-	21	5	11	18	35	-	-	-		
8:45 AM	9:00 AM	39	-	1	3	15	3	40	-	15	6	20	20	33	-	-	-		
Intersection PHV:		0 29 26				11 197 0				4 93 112				0 0 0					
PHF:		0.00 0.73 0.59				0.46 0.81 0.00				0.33 0.86 0.97				0.00 0.00 0.00					
Intersection Peak Hour: 7:15 AM - 8:15 AM																		Intersection PHF: 0.94	
Study Area PHV:		0 27 25				6 202 0				10 74 98				0 0 0					
PHF:		0.00 0.75 0.57				0.75 0.83 0.00				0.50 0.69 0.84				0.00 0.00 0.00					
Study Peak Hour: 7:45 AM - 8:45 AM																		Study Area PHF: 0.88	
4:30 PM	4:45 PM	21	-	28	16	65	3	34	-	65	4	27	9	23	-	-	-		
4:45 PM	5:00 PM	19	-	15	27	66	7	15	-	66	5	35	9	19	-	-	-		
5:00 PM	5:15 PM	35	-	28	45	81	8	12	-	81	4	62	11	23	-	-	-		
5:15 PM	5:30 PM	14	-	14	29	31	8	10	-	35	6	76	11	8	-	-	-		
5:30 PM	5:45 PM	9	-	25	42	32	6	19	-	32	14	72	6	15	-	-	-		
5:45 PM	6:00 PM	13	-	10	20	16	7	16	-	16	4	46	11	9	-	-	-		
6:00 PM	6:15 PM	13	-	18	13	26	2	17	-	25	2	20	6	14	-	-	-		
6:15 PM	6:30 PM	5	-	9	9	16	1	10	-	17	2	10	6	3	-	-	-		
Intersection PHV:		0 77 136				29 57 0				28 256 39				0 0 0					
PHF:		0.00 0.69 0.76				0.91 0.75 0.00				0.50 0.84 0.89				0.00 0.00 0.00					
Intersection Peak Hour: 5:00 PM - 6:00 PM																		Intersection PHF: 0.85	
Study Area PHV:		0 85 117				26 71 0				19 200 40				0 0 0					
PHF:		0.00 0.76 0.65				0.81 0.52 0.00				0.79 0.66 0.91				0.00 0.00 0.00					
Study Peak Hour: 4:30 PM - 5:30 PM																		Study Area PHF: 0.82	
Observations:																			



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements														DeShazo Group, Inc.					
Location: Congress Avenue at 17th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-17 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: All-Way STOP Controlled																			
Time of Count		Northbound on <i>Congress Avenue</i>				Southbound on <i>Congress Avenue</i>				Eastbound on <i>17th Street</i>				Westbound on <i>17th Street</i>					
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R		
7:00 AM	7:15 AM	0	-	15	56	13	6	7	-	4	2	26	2	6	-	-	-		
7:15 AM	7:30 AM	3	-	22	54	17	7	16	-	9	6	21	2	8	-	-	-		
7:30 AM	7:45 AM	8	-	25	39	5	5	14	-	6	11	20	3	6	-	-	-		
7:45 AM	8:00 AM	2	-	22	49	11	3	19	-	6	4	26	4	10	-	-	-		
8:00 AM	8:15 AM	3	-	15	43	10	3	15	-	11	2	21	3	4	-	-	-		
8:15 AM	8:30 AM	1	-	20	42	13	6	17	-	7	5	21	5	1	-	-	-		
8:30 AM	8:45 AM	6	-	22	25	10	5	19	-	4	3	12	2	6	-	-	-		
8:45 AM	9:00 AM	9	-	17	34	16	2	19	-	6	7	15	3	18	-	-	-		
Intersection PHV:		0 84 198				21 56 0				23 93 11				0 0 0					
PHF:		0.00 0.84 0.88				0.75 0.74 0.00				0.52 0.89 0.69				0.00 0.00 0.00					
Intersection Peak Hour: 7:00 AM - 8:00 AM																		Intersection PHF: 0.95	
Study Area PHV:		0 79 159				17 70 0				14 80 14				0 0 0					
PHF:		0.00 0.90 0.81				0.71 0.92 0.00				0.70 0.77 0.70				0.00 0.00 0.00					
Study Peak Hour: 7:45 AM - 8:45 AM																		Study Area PHF: 0.85	
4:30 PM	4:45 PM	2	-	32	8	12	8	44	-	41	13	24	17	10	-	-	-		
4:45 PM	5:00 PM	2	-	27	13	13	10	37	-	25	21	38	11	8	-	-	-		
5:00 PM	5:15 PM	7	-	23	7	12	8	46	-	37	28	61	29	6	-	-	-		
5:15 PM	5:30 PM	1	-	22	11	5	9	27	-	16	24	67	16	2	-	-	-		
5:30 PM	5:45 PM	2	-	29	9	1	3	33	-	11	25	93	10	9	-	-	-		
5:45 PM	6:00 PM	0	-	21	17	5	3	25	-	12	14	40	8	1	-	-	-		
6:00 PM	6:15 PM	3	-	12	8	6	6	30	-	19	10	16	5	5	-	-	-		
6:15 PM	6:30 PM	2	-	16	4	1	0	23	-	12	8	10	2	1	-	-	-		
Intersection PHV:		0 101 40				30 143 0				98 259 66				0 0 0					
PHF:		0.00 0.87 0.77				0.75 0.78 0.00				0.88 0.70 0.57				0.00 0.00 0.00					
Intersection Peak Hour: 4:45 PM - 5:45 PM																		Intersection PHF: 0.91	
Study Area PHV:		0 104 39				35 154 0				86 190 73				0 0 0					
PHF:		0.00 0.81 0.75				0.88 0.84 0.00				0.77 0.71 0.63				0.00 0.00 0.00					
Study Peak Hour: 4:30 PM - 5:30 PM																		Study Area PHF: 0.84	
Observations:																			
																			
File: C2X3HRS - 4L&12Mv_Peds.XLS																			

Intersection Traffic Movements														<i>DeShazo Group, Inc.</i>					
Location: Brazos Street at 17th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-18 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled																			
Time of Count		Northbound on Brazos Street				Southbound on Brazos Street				Eastbound on 17th Street				Westbound on 17th Street					
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R		
7:00 AM	7:15 AM	-	-	-	-	67	4	-	-	0	50	41	-	8	-	-	-		
7:15 AM	7:30 AM	-	-	-	-	79	3	-	-	0	40	29	-	12	-	-	-		
7:30 AM	7:45 AM	-	-	-	-	98	2	-	-	0	43	25	-	7	-	-	-		
7:45 AM	8:00 AM	-	-	-	-	113	4	-	-	0	39	29	-	10	-	-	-		
8:00 AM	8:15 AM	-	-	-	-	117	5	-	-	0	29	32	-	13	-	-	-		
8:15 AM	8:30 AM	-	-	-	-	96	8	-	-	0	39	27	-	12	-	-	-		
8:30 AM	8:45 AM	-	-	-	-	79	6	-	-	0	20	23	-	6	-	-	-		
8:45 AM	9:00 AM	-	-	-	-	77	2	-	-	0	25	23	-	3	-	-	-		
Intersection PHV:		0 0 0				13 0 0				172 124 0				0 0 0					
PHF:		0.00 0.00 0.00				0.81 0.00 0.00				0.86 0.76 0.00				0.00 0.00 0.00					
Intersection Peak Hour: 7:00 AM - 8:00 AM																		Intersection PHF: 0.81	
Study Area PHV:		0 0 0				23 0 0				127 111 0				0 0 0					
PHF:		0.00 0.00 0.00				0.72 0.00 0.00				0.81 0.87 0.00				0.00 0.00 0.00					
Study Peak Hour: 7:45 AM - 8:45 AM																		Study Area PHF: 0.88	
4:30 PM	4:45 PM	-	-	-	-	112	18	-	-	0	5	33	-	19	-	-	-		
4:45 PM	5:00 PM	-	-	-	-	74	18	-	-	0	10	51	-	5	-	-	-		
5:00 PM	5:15 PM	-	-	-	-	126	20	-	-	0	13	76	-	6	-	-	-		
5:15 PM	5:30 PM	-	-	-	-	58	10	-	-	0	28	69	-	12	-	-	-		
5:30 PM	5:45 PM	-	-	-	-	57	5	-	-	0	37	66	-	7	-	-	-		
5:45 PM	6:00 PM	-	-	-	-	39	7	-	-	0	22	51	-	5	-	-	-		
6:00 PM	6:15 PM	-	-	-	-	25	5	-	-	0	9	31	-	9	-	-	-		
6:15 PM	6:30 PM	-	-	-	-	18	2	-	-	0	10	14	-	3	-	-	-		
Intersection PHV:		0 0 0				42 0 0				100 262 0				0 0 0					
PHF:		0.00 0.00 0.00				0.53 0.00 0.00				0.68 0.86 0.00				0.00 0.00 0.00					
Intersection Peak Hour: 5:00 PM - 6:00 PM																		Intersection PHF: 0.93	
Study Area PHV:		0 0 0				66 0 0				56 229 0				0 0 0					
PHF:		0.00 0.00 0.00				0.83 0.00 0.00				0.50 0.75 0.00				0.00 0.00 0.00					
Study Peak Hour: 4:30 PM - 5:30 PM																		Study Area PHF: 0.81	
Observations: 																			
File: C2X3HRS - 4L&12Mv_Peds.XLS																			

Intersection Traffic Movements														DeShazo Group, Inc.					
Location: San Jacinto Boulevard at 17th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-19 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled																			
Time of Count		Northbound on San Jacinto Blvd.				Southbound on San Jacinto Blvd.				Eastbound on 17th Street				Westbound on 17th Street					
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R		
7:00 AM	7:15 AM	3	-	-	-	0	13	76	-	13	-	4	41	3	-	-	-		
7:15 AM	7:30 AM	6	-	-	-	2	12	111	-	5	-	8	25	7	-	-	-		
7:30 AM	7:45 AM	6	-	-	-	6	8	99	-	6	-	5	20	11	-	-	-		
7:45 AM	8:00 AM	7	-	-	-	6	12	111	-	4	-	8	28	3	-	-	-		
8:00 AM	8:15 AM	3	-	-	-	7	12	124	-	0	-	3	40	2	-	-	-		
8:15 AM	8:30 AM	1	-	-	-	4	9	122	-	5	-	1	30	4	-	-	-		
8:30 AM	8:45 AM	5	-	-	-	3	11	111	-	0	-	5	29	4	-	-	-		
8:45 AM	9:00 AM	3	-	-	-	2	8	124	-	14	-	7	18	5	-	-	-		
Intersection PHV:		0 0 0				44 468 0				0 17 127				0 0 0					
PHF:		0.00 0.00 0.00				0.92 0.94 0.00				0.00 0.53 0.79				0.00 0.00 0.00					
Intersection Peak Hour: 7:45 AM - 8:45 AM																		Intersection PHF: 0.92	
Study Area PHV:		0 0 0				44 468 0				0 17 127				0 0 0					
PHF:		0.00 0.00 0.00				0.92 0.94 0.00				0.00 0.53 0.79				0.00 0.00 0.00					
Study Peak Hour: 7:45 AM - 8:45 AM																		Study Area PHF: 0.92	
4:30 PM	4:45 PM	12	-	-	-	4	30	194	-	3	-	23	37	13	-	-	-		
4:45 PM	5:00 PM	11	-	-	-	8	22	165	-	15	-	31	44	13	-	-	-		
5:00 PM	5:15 PM	19	-	-	-	13	30	204	-	0	-	48	52	20	-	-	-		
5:15 PM	5:30 PM	9	-	-	-	3	18	164	-	2	-	38	42	7	-	-	-		
5:30 PM	5:45 PM	5	-	-	-	9	15	163	-	1	-	51	26	20	-	-	-		
5:45 PM	6:00 PM	14	-	-	-	4	11	135	-	6	-	34	25	15	-	-	-		
6:00 PM	6:15 PM	10	-	-	-	5	13	122	-	2	-	12	24	9	-	-	-		
6:15 PM	6:30 PM	4	-	-	-	2	4	122	-	2	-	11	7	8	-	-	-		
Intersection PHV:		0 0 0				100 727 0				0 140 175				0 0 0					
PHF:		0.00 0.00 0.00				0.83 0.89 0.00				0.00 0.73 0.84				0.00 0.00 0.00					
Intersection Peak Hour: 4:30 PM - 5:30 PM																		Intersection PHF: 0.85	
Study Area PHV:		0 0 0				100 727 0				0 140 175				0 0 0					
PHF:		0.00 0.00 0.00				0.83 0.89 0.00				0.00 0.73 0.84				0.00 0.00 0.00					
Study Peak Hour: 4:30 PM - 5:30 PM																		Study Area PHF: 0.85	
Observations: 																			
File: C2X3HRS - 4L&12Mv_Peds.XLS																			

Intersection Traffic Movements														<i>DeShazo Group, Inc.</i>			
Location: Trinity Street at 17th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-20 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled																	
Time of Count		Northbound on Trinity Street				Southbound on Trinity Street				Eastbound on 18th Street				Westbound on 18th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	0	-	69	-	0	-	-	-	1	10	-	-	-	-	-	-
7:15 AM	7:30 AM	0	-	96	-	0	-	-	-	1	15	-	-	-	-	-	-
7:30 AM	7:45 AM	0	-	98	-	0	-	-	-	1	8	-	-	-	-	-	-
7:45 AM	8:00 AM	0	-	102	-	0	-	-	-	2	12	-	-	-	-	-	-
8:00 AM	8:15 AM	0	-	104	-	0	-	-	-	2	8	-	-	-	-	-	-
8:15 AM	8:30 AM	0	-	80	-	2	-	-	-	1	6	-	-	-	-	-	-
8:30 AM	8:45 AM	0	-	72	-	2	-	-	-	0	13	-	-	-	-	-	-
8:45 AM	9:00 AM	0	-	95	-	8	-	-	-	2	13	-	-	-	-	-	-
Intersection PHV:		0 400 0				0 0 0				43 0 0				0 0 0			
PHF:		0.00 0.96 0.00				0.00 0.00 0.00				0.72 0.00 0.00				0.00 0.00 0.00			
Intersection Peak Hour: 7:15 AM - 8:15 AM Intersection PHF: 0.97																	
Study Area PHV:		0 358 0				0 0 0				39 0 0				0 0 0			
PHF:		0.00 0.86 0.00				0.00 0.00 0.00				0.75 0.00 0.00				0.00 0.00 0.00			
Study Peak Hour: 7:45 AM - 8:45 AM Study Area PHF: 0.87																	
4:30 PM	4:45 PM	1	-	101	-	0	-	-	-	5	57	-	-	-	-	-	-
4:45 PM	5:00 PM	0	-	104	-	0	-	-	-	2	50	-	-	-	-	-	-
5:00 PM	5:15 PM	0	-	141	-	0	-	-	-	7	78	-	-	-	-	-	-
5:15 PM	5:30 PM	0	-	135	-	0	-	-	-	2	63	-	-	-	-	-	-
5:30 PM	5:45 PM	0	-	108	-	0	-	-	-	0	66	-	-	-	-	-	-
5:45 PM	6:00 PM	0	-	106	-	0	-	-	-	1	45	-	-	-	-	-	-
6:00 PM	6:15 PM	0	-	70	-	0	-	-	-	2	29	-	-	-	-	-	-
6:15 PM	6:30 PM	0	-	47	-	0	-	-	-	1	16	-	-	-	-	-	-
Intersection PHV:		0 488 0				0 0 0				257 0 0				0 0 0			
PHF:		0.00 0.87 0.00				0.00 0.00 0.00				0.82 0.00 0.00				0.00 0.00 0.00			
Intersection Peak Hour: 4:45 PM - 5:45 PM Intersection PHF: 0.85																	
Study Area PHV:		0 481 0				0 0 0				248 0 0				0 0 0			
PHF:		0.00 0.85 0.00				0.00 0.00 0.00				0.79 0.00 0.00				0.00 0.00 0.00			
Study Peak Hour: 4:30 PM - 5:30 PM Study Area PHF: 0.83																	
Observations:  File: C2X3HRS - 4L&12Mv_Peds.XLS																	

DeShazo Group, Inc.

Description: **All-Way STOP Controlled**

Intersection Peak Hour: 8:00 AM - 9:00 AM										Intersection PHF: 0.99		
Study Area PHV:	0	0	0	0	942	30	0	0	0	41	18	0
PHF:	0.00	0.00	0.00	0.00	0.94	0.75	0.00	0.00	0.00	0.85	0.90	0.00

Intersection PHF: 0.99

41	18	0

0.85	0.90	0.00

Study Area PHF: 0.95

Intersection Peak Hour: 5:00 PM - 6:00 PM												Intersection PHF: 0.91		
Study Area PHV:	0	0	0	0	933	39	0	0	0	57	137	0		
PHF:	0.00	0.00	0.00	0.00	0.91	0.70	0.00	0.00	0.00	0.89	0.74	0.00		

Intersection PHF: 0.91

57	137	0

0.89	0.74	0.00

Study Area PHF: 0.97

Observations:

Intersection Traffic Movements														DeShazo Group, Inc.			
Location: Lavaca Street at 18th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-22 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled																	
Time of Count		Northbound on Lavaca Street				Southbound on Lavaca Street				Eastbound on 18th Street				Westbound on 18th Street			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	2	1	100	-	0	-	-	-	0	-	-	-	3	-	5	3
7:15 AM	7:30 AM	3	5	116	-	0	-	-	-	2	-	-	-	6	-	5	5
7:30 AM	7:45 AM	4	4	120	-	5	-	-	-	2	-	-	-	9	-	4	2
7:45 AM	8:00 AM	4	8	140	-	2	-	-	-	8	-	-	-	3	-	4	4
8:00 AM	8:15 AM	1	8	128	-	3	-	-	-	3	-	-	-	4	-	8	5
8:15 AM	8:30 AM	4	12	117	-	4	-	-	-	4	-	-	-	10	-	3	5
8:30 AM	8:45 AM	0	4	126	-	9	-	-	-	10	-	-	-	4	-	7	8
8:45 AM	9:00 AM	2	7	106	-	3	-	-	-	4	-	-	-	13	-	8	8
Intersection PHV:		32 511 0				0 0 0				0 0 0				0 22 22			
PHF:		0.67 0.91 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.00 0.69 0.69			
Intersection Peak Hour: 7:45 AM - 8:45 AM																	
Intersection PHF: 0.94																	
Study Area PHV:		32 511 0				0 0 0				0 0 0				0 22 22			
PHF:		0.67 0.91 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.00 0.69 0.69			
Study Peak Hour: 7:45 AM - 8:45 AM																	
Study Area PHF: 0.94																	
4:30 PM	4:45 PM	7	16	247	-	0	-	-	-	9	-	-	-	12	-	18	8
4:45 PM	5:00 PM	7	20	247	-	3	-	-	-	11	-	-	-	6	-	19	8
5:00 PM	5:15 PM	3	33	203	-	1	-	-	-	10	-	-	-	8	-	24	11
5:15 PM	5:30 PM	4	44	203	-	2	-	-	-	6	-	-	-	9	-	18	1
5:30 PM	5:45 PM	0	37	164	-	4	-	-	-	7	-	-	-	9	-	20	3
5:45 PM	6:00 PM	1	23	215	-	2	-	-	-	11	-	-	-	15	-	17	8
6:00 PM	6:15 PM	10	15	212	-	6	-	-	-	13	-	-	-	17	-	11	8
6:15 PM	6:30 PM	3	18	190	-	0	-	-	-	4	-	-	-	11	-	12	8
Intersection PHV:		113 900 0				0 0 0				0 0 0				0 79 28			
PHF:		0.64 0.91 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.00 0.82 0.64			
Intersection Peak Hour: 4:30 PM - 5:30 PM																	
Intersection PHF: 0.95																	
Study Area PHV:		113 900 0				0 0 0				0 0 0				0 79 28			
PHF:		0.64 0.91 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.00 0.82 0.64			
Study Peak Hour: 4:30 PM - 5:30 PM																	
Study Area PHF: 0.95																	
Observations:																	



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements														<i>DeShazo Group, Inc.</i>					
Location: Colorado Street at 18th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-23 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: All-Way STOP Controlled																			
Time of Count		Northbound on Colorado Street				Southbound on Colorado Street				Eastbound on 18th Street				Westbound on 18th Street					
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R		
7:00 AM	7:15 AM	5	3	3	-	6	-	42	2	5	-	-	-	8	2	3	1		
7:15 AM	7:30 AM	7	2	3	-	3	-	43	3	5	-	-	-	6	6	1	3		
7:30 AM	7:45 AM	8	2	5	-	11	-	47	3	12	-	-	-	6	5	2	5		
7:45 AM	8:00 AM	5	2	8	-	13	-	46	5	4	-	-	-	14	3	3	0		
8:00 AM	8:15 AM	2	3	6	-	2	-	58	3	0	-	-	-	1	6	3	1		
8:15 AM	8:30 AM	4	0	2	-	7	-	45	7	3	-	-	-	3	6	0	0		
8:30 AM	8:45 AM	1	7	7	-	10	-	46	4	2	-	-	-	2	5	4	2		
8:45 AM	9:00 AM	4	2	4	-	5	-	40	7	1	-	-	-	2	1	4	0		
Intersection PHV:		12 23 0				0 195 19				0 0 0				20 10 3					
PHF:		0.43 0.72 0.00				0.00 0.84 0.68				0.00 0.00 0.00				0.83 0.63 0.38					
Intersection Peak Hour: 7:45 AM - 8:45 AM																		Intersection PHF: 0.88	
Study Area PHV:		12 23 0				0 195 19				0 0 0				20 10 3					
PHF:		0.43 0.72 0.00				0.00 0.84 0.68				0.00 0.00 0.00				0.83 0.63 0.38					
Study Peak Hour: 7:45 AM - 8:45 AM																		Study Area PHF: 0.88	
4:30 PM	4:45 PM	7	7	30	-	10	-	23	10	5	-	-	-	10	14	16	6		
4:45 PM	5:00 PM	1	4	16	-	10	-	11	4	3	-	-	-	9	10	20	6		
5:00 PM	5:15 PM	7	11	21	-	7	-	14	5	1	-	-	-	8	8	22	4		
5:15 PM	5:30 PM	1	7	19	-	4	-	15	5	3	-	-	-	2	7	12	4		
5:30 PM	5:45 PM	2	11	27	-	3	-	20	7	1	-	-	-	2	8	12	5		
5:45 PM	6:00 PM	0	6	11	-	3	-	11	8	3	-	-	-	1	10	7	1		
6:00 PM	6:15 PM	4	5	14	-	9	-	12	5	2	-	-	-	9	5	8	8		
6:15 PM	6:30 PM	1	3	9	-	3	-	8	9	2	-	-	-	3	3	7	14		
Intersection PHV:		29 86 0				0 63 24				0 0 0				39 70 20					
PHF:		0.66 0.72 0.00				0.00 0.68 0.60				0.00 0.00 0.00				0.70 0.80 0.83					
Intersection Peak Hour: 4:30 PM - 5:30 PM																		Intersection PHF: 0.78	
Study Area PHV:		29 86 0				0 63 24				0 0 0				39 70 20					
PHF:		0.66 0.72 0.00				0.00 0.68 0.60				0.00 0.00 0.00				0.70 0.80 0.83					
Study Peak Hour: 4:30 PM - 5:30 PM																		Study Area PHF: 0.78	
Observations:																			



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements														DeShazo Group, Inc.					
Location: Congress Avenue at 18th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-24 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: All-Way STOP Controlled																			
Time of Count		Northbound on Congress Avenue				Southbound on Congress Avenue				Eastbound on 18th Street				Westbound on 18th Street					
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R		
7:00 AM	7:15 AM	1	4	13	-	0	-	14	7	4	-	-	-	2	0	5	3		
7:15 AM	7:30 AM	12	8	17	-	1	-	13	13	7	-	-	-	9	4	4	0		
7:30 AM	7:45 AM	2	17	18	-	3	-	19	17	9	-	-	-	4	2	5	0		
7:45 AM	8:00 AM	8	9	16	-	1	-	19	23	10	-	-	-	1	1	6	1		
8:00 AM	8:15 AM	0	3	16	-	0	-	13	12	9	-	-	-	1	0	3	1		
8:15 AM	8:30 AM	4	15	10	-	2	-	19	12	8	-	-	-	0	5	4	2		
8:30 AM	8:45 AM	1	16	11	-	3	-	19	16	4	-	-	-	1	4	10	1		
8:45 AM	9:00 AM	12	9	10	-	1	-	9	9	9	-	-	-	2	3	4	1		
Intersection PHV:		44 60 0				0 70 64				0 0 0				8 18 4					
PHF:		0.65 0.83 0.00				0.00 0.92 0.70				0.00 0.00 0.00				0.40 0.75 0.50					
Intersection Peak Hour: 7:30 AM - 8:30 AM																		Intersection PHF: 0.86	
Study Area PHV:		43 53 0				0 70 63				0 0 0				10 23 5					
PHF:		0.67 0.83 0.00				0.00 0.92 0.68				0.00 0.00 0.00				0.50 0.58 0.63					
Study Peak Hour: 7:45 AM - 8:45 AM																		Study Area PHF: 0.87	
4:30 PM	4:45 PM	12	5	43	-	4	-	21	7	16	-	-	-	13	32	13	30		
4:45 PM	5:00 PM	6	3	52	-	2	-	28	4	17	-	-	-	5	13	13	16		
5:00 PM	5:15 PM	12	3	54	-	1	-	31	2	21	-	-	-	10	25	14	36		
5:15 PM	5:30 PM	1	2	47	-	3	-	27	2	11	-	-	-	2	7	10	26		
5:30 PM	5:45 PM	3	1	60	-	3	-	24	5	18	-	-	-	8	8	11	17		
5:45 PM	6:00 PM	1	5	29	-	2	-	15	6	8	-	-	-	5	9	4	2		
6:00 PM	6:15 PM	1	1	32	-	5	-	19	3	17	-	-	-	3	6	4	6		
6:15 PM	6:30 PM	1	0	24	-	1	-	15	1	10	-	-	-	1	8	2	7		
Intersection PHV:		13 196 0				0 107 15				0 0 0				77 50 108					
PHF:		0.65 0.91 0.00				0.00 0.86 0.54				0.00 0.00 0.00				0.60 0.89 0.75					
Intersection Peak Hour: 4:30 PM - 5:30 PM																		Intersection PHF: 0.86	
Study Area PHV:		13 196 0				0 107 15				0 0 0				77 50 108					
PHF:		0.65 0.91 0.00				0.00 0.86 0.54				0.00 0.00 0.00				0.60 0.89 0.75					
Study Peak Hour: 4:30 PM - 5:30 PM																		Study Area PHF: 0.86	
Observations:																			



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Brazos Street at 18th Street**

City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-25**

Data Source: **CJ Hensch**

Data Collector(s): **Camera**Weather Conditions: **Mild/Normal Conditions**

Traffic Control: **Unsignalized**

Description: **All-Way STOP Controlled**

Time of Count		Northbound on <i>Brazos Street</i>				Southbound on <i>Brazos Street</i>				Eastbound on <i>18th Street</i>				Westbound on <i>18th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	7	0	9	-	1	-	31	6	7	-	-	-	5	3	4	8
7:15 AM	7:30 AM	12	1	9	-	5	-	36	3	20	-	-	-	7	3	5	5
7:30 AM	7:45 AM	4	1	9	-	2	-	25	3	16	-	-	-	4	4	6	5
7:45 AM	8:00 AM	7	1	2	-	1	-	76	4	7	-	-	-	3	3	4	3
8:00 AM	8:15 AM	7	1	6	-	2	-	51	3	1	-	-	-	2	6	4	2
8:15 AM	8:30 AM	14	4	3	-	3	-	49	6	1	-	-	-	10	3	2	1
8:30 AM	8:45 AM	10	2	4	-	0	-	39	3	4	-	-	-	7	4	8	1
8:45 AM	9:00 AM	8	4	8	-	0	-	30	2	5	-	-	-	5	0	3	1
Intersection PHV:		8 15 0				0 215 16				0 0 0				16 18 7			
PHF:		0.50 0.63 0.00				0.00 0.71 0.67				0.00 0.00 0.00				0.67 0.56 0.58			

Intersection Peak Hour: 7:45 AM - 8:45 AM

Intersection PHF: 0.79

Study Area PHV:	8	15	0	0	215	16	0	0	0	16	18	7
PHF:	0.50	0.63	0.00	0.00	0.71	0.67	0.00	0.00	0.00	0.67	0.56	0.58

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.79

4:30 PM	4:45 PM	8	41	38	-	1	-	16	27	6	-	-	-	5	1	10	3
4:45 PM	5:00 PM	4	19	30	-	2	-	15	11	9	-	-	-	2	4	10	4
5:00 PM	5:15 PM	8	50	40	-	3	-	14	19	8	-	-	-	7	3	7	0
5:15 PM	5:30 PM	3	23	46	-	2	-	9	7	1	-	-	-	0	2	10	8
5:30 PM	5:45 PM	4	21	49	-	1	-	3	8	2	-	-	-	1	0	7	2
5:45 PM	6:00 PM	1	12	32	-	0	-	6	3	1	-	-	-	0	1	3	3
6:00 PM	6:15 PM	1	11	22	-	1	-	2	4	2	-	-	-	0	3	0	0
6:15 PM	6:30 PM	0	6	19	-	0	-	0	4	0	-	-	-	0	0	2	1
<i>Intersection PHV:</i>		133 154 0				0 54 64				0 0 0				10 37 15			
<i>PHF:</i>		0.67 0.84 0.00				0.00 0.84 0.59				0.00 0.00 0.00				0.63 0.93 0.47			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.86

Study Area PHV:	133	154	0	0	54	64	0	0	0	10	37	15
PHF:	0.67	0.84	0.00	0.00	0.84	0.59	0.00	0.00	0.00	0.63	0.93	0.47

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.86

Observations:



File: C2X3HRS - 4L&12Mv Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **San Jacinto Boulevard at 18th Street**

City/State: **Austin, Texas**Day/Date: **Tuesday, March 22, 2016**Project-ID #: **15206-26**

Data Source: **CJ Hensch**

Data Collector(s): **Camera**

Weather Conditions: **Mild/Normal Conditions**

Traffic Control: **Unsignalized**

Description: **All-Way STOP Controlled**

Time of Count		Northbound on <i>San Jacinto Blvd.</i>				Southbound on <i>San Jacinto Blvd.</i>				Eastbound on <i>18th Street</i>				Westbound on <i>18th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	3	-	-	-	1	-	104	6	12	-	-	-	1	24	9	-
7:15 AM	7:30 AM	19	-	-	-	7	-	114	2	9	-	-	-	6	41	12	-
7:30 AM	7:45 AM	4	-	-	-	1	-	122	5	4	-	-	-	3	28	12	-
7:45 AM	8:00 AM	12	-	-	-	3	-	126	2	9	-	-	-	0	41	7	-
8:00 AM	8:15 AM	8	-	-	-	12	-	137	5	4	-	-	-	2	36	8	-
8:15 AM	8:30 AM	21	-	-	-	7	-	134	4	3	-	-	-	4	37	6	-
8:30 AM	8:45 AM	16	-	-	-	3	-	114	5	8	-	-	-	0	21	13	-
8:45 AM	9:00 AM	10	-	-	-	1	-	123	1	14	-	-	-	1	27	5	-
Intersection PHV:		0 0 0				0 519 16				0 0 0				142 33 0			
PHF:		0.00 0.00 0.00				0.00 0.95 0.80				0.00 0.00 0.00				0.87 0.69 0.00			

Intersection Peak Hour: 7:30 AM - 8:30 AM

Intersection PHF: 0.95

Study Area PHV:	0	0	0	0	511	16	0	0	0	135	34	0
PHF:	0.00	0.00	0.00	0.00	0.93	0.80	0.00	0.00	0.00	0.82	0.65	0.00

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.94

4:30 PM	4:45 PM	11	-	-	-	2	-	119	6	4	-	-	-	6	16	9	-
4:45 PM	5:00 PM	5	-	-	-	6	-	127	3	14	-	-	-	2	8	14	-
5:00 PM	5:15 PM	10	-	-	-	9	-	115	0	9	-	-	-	10	27	7	-
5:15 PM	5:30 PM	1	-	-	-	0	-	126	3	5	-	-	-	2	17	14	-
5:30 PM	5:45 PM	3	-	-	-	2	-	120	1	9	-	-	-	7	15	8	-
5:45 PM	6:00 PM	3	-	-	-	4	-	113	3	9	-	-	-	2	10	6	-
6:00 PM	6:15 PM	1	-	-	-	0	-	94	0	4	-	-	-	7	9	1	-
6:15 PM	6:30 PM	2	-	-	-	1	-	106	3	6	-	-	-	3	11	2	-
<i>Intersection PHV:</i>		0 0 0				0 487 12				0 0 0				68 44 0			
<i>PHF:</i>		0.00 0.00 0.00				0.00 0.96 0.50				0.00 0.00 0.00				0.63 0.79 0.00			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.95

Study Area PHV:	0	0	0	0	487	12	0	0	0	68	44	0
PHF:	0.00	0.00	0.00	0.00	0.96	0.50	0.00	0.00	0.00	0.63	0.79	0.00

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.95

Observations:



File: C2X3HRS - 4L&12Mv Peds.XLS

Intersection Traffic Movements														<i>DeShazo Group, Inc.</i>			
Location: Trinity Street at 18th Street City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-27 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Unsignalized Description: Minor-Street STOP Controlled																	
Time of Count		Northbound on <i>Trinity Street</i>				Southbound on <i>Trinity Street</i>				Eastbound on <i>18th Street</i>				Westbound on <i>18th Street</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	0	31	43	-	0	-	-	-	2	-	-	-	-	-	-	-
7:15 AM	7:30 AM	1	55	50	-	0	-	-	-	0	-	-	-	-	-	-	-
7:30 AM	7:45 AM	0	43	62	-	4	-	-	-	1	-	-	-	-	-	-	-
7:45 AM	8:00 AM	0	54	58	-	0	-	-	-	2	-	-	-	-	-	-	-
8:00 AM	8:15 AM	0	44	64	-	0	-	-	-	3	-	-	-	-	-	-	-
8:15 AM	8:30 AM	0	44	45	-	2	-	-	-	0	-	-	-	-	-	-	-
8:30 AM	8:45 AM	0	34	49	-	5	-	-	-	4	-	-	-	-	-	-	-
8:45 AM	9:00 AM	1	29	73	-	9	-	-	-	7	-	-	-	-	-	-	-
Intersection PHV:		196 234 0				0 0 0				0 0 0				0 0 0			
PHF:		0.89 0.91 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.00 0.00 0.00			
Intersection Peak Hour: 7:15 AM - 8:15 AM														Intersection PHF: 0.96			
Study Area PHV:		176 216 0				0 0 0				0 0 0				0 0 0			
PHF:		0.81 0.84 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.00 0.00 0.00			
Study Peak Hour: 7:45 AM - 8:45 AM														Study Area PHF: 0.88			
4:30 PM	4:45 PM	1	25	132	-	6	-	-	-	8	-	-	-	-	-	-	-
4:45 PM	5:00 PM	0	25	138	-	2	-	-	-	5	-	-	-	-	-	-	-
5:00 PM	5:15 PM	0	39	156	-	0	-	-	-	10	-	-	-	-	-	-	-
5:15 PM	5:30 PM	1	46	167	-	2	-	-	-	4	-	-	-	-	-	-	-
5:30 PM	5:45 PM	0	25	155	-	2	-	-	-	3	-	-	-	-	-	-	-
5:45 PM	6:00 PM	1	21	126	-	2	-	-	-	2	-	-	-	-	-	-	-
6:00 PM	6:15 PM	0	11	98	-	0	-	-	-	3	-	-	-	-	-	-	-
6:15 PM	6:30 PM	0	9	55	-	3	-	-	-	4	-	-	-	-	-	-	-
Intersection PHV:		135 616 0				0 0 0				0 0 0				0 0 0			
PHF:		0.73 0.92 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.00 0.00 0.00			
Intersection Peak Hour: 4:45 PM - 5:45 PM														Intersection PHF: 0.88			
Study Area PHV:		135 593 0				0 0 0				0 0 0				0 0 0			
PHF:		0.73 0.89 0.00				0.00 0.00 0.00				0.00 0.00 0.00				0.00 0.00 0.00			
Study Peak Hour: 4:30 PM - 5:30 PM														Study Area PHF: 0.85			
Observations: 																	
File: C2X3HRS - 4L&12Mv_Peds.XLS																	

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Guadalupe Street at Martin Luther King Jr Boulevard**

City/State: **Austin, Texas**Data Collector(s): **Camera**Day/Date: **Tuesday, March 22, 2016**Weather Conditions: **Mild/Normal Conditions**Project-ID #: **15206-28**

Traffic Control: **Signalized**

Data Source: **CJ Hensch**

Time of Count		Northbound on <i>Guadalupe Street</i>				Southbound on <i>Guadalupe Street</i>				Eastbound on <i>MLK Jr Blvd.</i>				Westbound on <i>MLK Jr Blvd.</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	0	-	-	-	1	43	48	7	0	10	154	17	1	0	94	44
7:15 AM	7:30 AM	4	-	-	-	6	44	81	13	4	10	178	36	10	0	112	55
7:30 AM	7:45 AM	4	-	-	-	2	57	104	18	7	14	160	22	9	0	130	54
7:45 AM	8:00 AM	4	-	-	-	2	56	123	29	5	13	239	40	8	0	134	73
8:00 AM	8:15 AM	6	-	-	-	0	60	161	31	11	17	148	37	8	0	106	76
8:15 AM	8:30 AM	4	-	-	-	0	52	176	31	5	21	146	37	5	1	107	63
8:30 AM	8:45 AM	7	-	-	-	0	56	194	33	12	12	137	38	14	0	132	87
8:45 AM	9:00 AM	7	-	-	-	0	51	171	30	7	15	138	43	9	1	162	77
Intersection PHV:		00				224654124				63670152				1479299			
PHF:		0.000.000.00				0.930.840.94				0.750.700.95				0.250.890.86			

Intersection Peak Hour: 7:45 AM - 8:45 AM

Intersection PHF: 0.94

Study Area PHV:	0	0	0	224	654	124	63	670	152	1	479	299
PHF:	0.00	0.00	0.00	0.93	0.84	0.94	0.75	0.70	0.95	0.25	0.89	0.86

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.94

4:30 PM	4:45 PM	5	-	-	-	12	48	147	62	26	34	75	24	8	0	206	168
4:45 PM	5:00 PM	3	-	-	-	13	41	150	54	21	37	115	15	12	0	231	173
5:00 PM	5:15 PM	3	-	-	-	5	51	162	60	31	39	90	26	10	3	257	137
5:15 PM	5:30 PM	11	-	-	-	10	30	136	43	18	33	58	30	14	1	238	118
5:30 PM	5:45 PM	10	-	-	-	9	39	116	37	24	31	119	26	9	2	244	135
5:45 PM	6:00 PM	11	-	-	-	10	78	162	46	40	46	101	36	16	0	197	148
6:00 PM	6:15 PM	7	-	-	-	3	83	151	47	33	34	111	36	12	1	176	122
6:15 PM	6:30 PM	14	-	-	-	9	65	123	34	27	21	117	34	10	0	180	116
Intersection PHV:		0				170				143				4			
PHF:		0.00				0.83				0.92				0.33			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.94

Study Area PHV:	0	0	0	170	595	219	143	338	95	4	932	596
PHF:	0.00	0.00	0.00	0.83	0.92	0.88	0.92	0.73	0.79	0.33	0.91	0.86

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.94

Observations:



Intersection Traffic Movements														<i>DeShazo Group, Inc.</i>			
Location: Lavaca Street at Marting Luther King Jr Boulevard City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-29 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Signalized																	
Time of Count		Northbound on <i>Lavaca Street</i>				Southbound on <i>Lavaca Street</i>				Eastbound on <i>MLK Jr Blvd.</i>				Westbound on <i>MLK Jr Blvd.</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	2	58	-	47	-	-	-	-	-	-	191	-	5	-	108	-
7:15 AM	7:30 AM	1	63	-	52	-	-	-	-	-	-	217	-	9	-	135	-
7:30 AM	7:45 AM	1	75	-	52	-	-	-	-	-	-	224	-	13	-	156	-
7:45 AM	8:00 AM	6	73	-	65	-	-	-	-	-	-	289	-	14	-	175	-
8:00 AM	8:15 AM	1	80	-	66	-	-	-	-	-	-	217	-	12	-	166	-
8:15 AM	8:30 AM	1	61	-	41	-	-	-	-	-	-	198	-	12	-	154	-
8:30 AM	8:45 AM	3	95	-	38	-	-	-	-	-	-	193	-	9	-	170	-
8:45 AM	9:00 AM	5	72	-	38	-	-	-	-	-	-	191	-	19	-	193	-
Intersection PHV:		291 0 235				0 0 0				0 947 0				0 632 0			
PHF:		0.91 0.00 0.89				0.00 0.00 0.00				0.00 0.82 0.00				0.00 0.90 0.00			
Intersection Peak Hour: 7:15 AM - 8:15 AM														Intersection PHF: 0.87			
Study Area PHV:		309 0 210				0 0 0				0 897 0				0 665 0			
PHF:		0.81 0.00 0.80				0.00 0.00 0.00				0.00 0.78 0.00				0.00 0.95 0.00			
Study Peak Hour: 7:45 AM - 8:45 AM														Study Area PHF: 0.86			
4:30 PM	4:45 PM	7	179	-	50	-	-	-	-	-	-	121	-	24	-	285	-
4:45 PM	5:00 PM	8	181	-	87	-	-	-	-	-	-	148	-	23	-	287	-
5:00 PM	5:15 PM	14	161	-	49	-	-	-	-	-	-	131	-	32	-	309	-
5:15 PM	5:30 PM	9	163	-	43	-	-	-	-	-	-	88	-	17	-	272	-
5:30 PM	5:45 PM	13	131	-	42	-	-	-	-	-	-	151	-	16	-	268	-
5:45 PM	6:00 PM	20	193	-	74	-	-	-	-	-	-	192	-	32	-	237	-
6:00 PM	6:15 PM	16	142	-	66	-	-	-	-	-	-	210	-	24	-	205	-
6:15 PM	6:30 PM	12	135	-	65	-	-	-	-	-	-	187	-	19	-	227	-
Intersection PHV:		684 0 229				0 0 0				0 488 0				0 1,153 0			
PHF:		0.94 0.00 0.66				0.00 0.00 0.00				0.00 0.82 0.00				0.00 0.93 0.00			
Intersection Peak Hour: 4:30 PM - 5:30 PM														Intersection PHF: 0.91			
Study Area PHV:		684 0 229				0 0 0				0 488 0				0 1,153 0			
PHF:		0.94 0.00 0.66				0.00 0.00 0.00				0.00 0.82 0.00				0.00 0.93 0.00			
Study Peak Hour: 4:30 PM - 5:30 PM														Study Area PHF: 0.91			
Observations:																	



File: C2X3HRS - 4L&12Mv_Peds.XLS

DeShazo Group, Inc.

Description: **Minor-Street STOP Controlled**

Study Peak Hour: 4:30 PM - 5:30 PM	Study Area PHF: 0.94

Observations:

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Congress Avenue at Martin Luther King Jr Boulevard**

City/State: **Austin, Texas**Data Collector(s): **Camera**Day/Date: **Tuesday, March 22, 2016**Weather Conditions: **Mild/Normal Conditions**Project-ID #: **15206-26**

Traffic Control: **Signalized**

Data Source: **CJ Hensch**

Time of Count		Northbound on <i>Congress Avenue</i>				Southbound on <i>Congress Avenue</i>				Eastbound on <i>MLK Jr Blvd.</i>				Westbound on <i>MLK Jr Blvd.</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	2	3	-	13	-	-	-	-	0	-	212	6	8	15	156	-
7:15 AM	7:30 AM	1	0	-	17	-	-	-	-	1	-	220	7	7	21	178	-
7:30 AM	7:45 AM	2	2	-	16	-	-	-	-	3	-	236	13	14	24	230	-
7:45 AM	8:00 AM	7	2	-	14	-	-	-	-	5	-	273	17	12	21	221	-
8:00 AM	8:15 AM	1	3	-	11	-	-	-	-	2	-	255	6	6	21	225	-
8:15 AM	8:30 AM	3	5	-	8	-	-	-	-	0	-	194	12	5	18	180	-
8:30 AM	8:45 AM	3	2	-	10	-	-	-	-	5	-	188	15	5	20	219	-
8:45 AM	9:00 AM	2	1	-	9	-	-	-	-	8	-	193	9	7	11	229	-
Intersection PHV:		7 0 58				0 0 0				0 984 43				87 854 0			
PHF:		0.58 0.00 0.85				0.00 0.00 0.00				0.00 0.90 0.63				0.91 0.93 0.00			

Intersection Peak Hour: 7:15 AM - 8:15 AM

Intersection PHF: 0.93

Study Area PHV:	12	0	43	0	0	0	0	910	50	80	845	0
PHF:	0.60	0.00	0.77	0.00	0.00	0.00	0.00	0.83	0.74	0.95	0.94	0.00

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.89

4:30 PM	4:45 PM	5	33	-	34	-	-	-	-	14	-	188	8	24	23	272	-
4:45 PM	5:00 PM	3	34	-	34	-	-	-	-	22	-	182	10	19	23	245	-
5:00 PM	5:15 PM	9	45	-	39	-	-	-	-	15	-	164	12	21	19	254	-
5:15 PM	5:30 PM	6	33	-	33	-	-	-	-	19	-	129	6	6	22	265	-
5:30 PM	5:45 PM	6	35	-	43	-	-	-	-	20	-	168	4	25	25	222	-
5:45 PM	6:00 PM	7	12	-	27	-	-	-	-	7	-	290	6	16	15	219	-
6:00 PM	6:15 PM	12	13	-	26	-	-	-	-	6	-	262	15	30	9	192	-
6:15 PM	6:30 PM	5	13	-	17	-	-	-	-	3	-	248	3	18	11	202	-
<i>Intersection PHV:</i>		145 0 140				0 0 0				0 663 36				87 1,036 0			
<i>PHF:</i>		0.81 0.00 0.90				0.00 0.00 0.00				0.00 0.88 0.75				0.95 0.95 0.00			

Intersection Peak Hour: 4:30 PM - 5:30 PM

Intersection PHF: 0.94

Study Area PHV:	145	0	140	0	0	0	0	663	36	87	1,036	0
PHF:	0.81	0.00	0.90	0.00	0.00	0.00	0.00	0.88	0.75	0.95	0.95	0.00

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.94

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: **Brazos Street at Martin Luther King Jr Boulevard**

City/State: **Austin, Texas**Data Collector(s): **Camera**Day/Date: **Tuesday, March 22, 2016**Weather Conditions: **Mild/Normal Conditions**Project-ID #: **15206-27**

Traffic Control: **Signalized**

Data Source: **CJ Hensch**

Time of Count		Northbound on <i>Brazos Street</i>				Southbound on <i>Brazos Street</i>				Eastbound on <i>MLK Jr Blvd.</i>				Westbound on <i>MLK Jr Blvd.</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	6	2	0	1	6	9	0	7	0	32	149	44	4	32	150	28
7:15 AM	7:30 AM	1	1	0	3	8	6	0	8	0	19	179	48	4	35	208	31
7:30 AM	7:45 AM	6	3	0	6	8	0	0	9	0	46	154	42	7	30	227	25
7:45 AM	8:00 AM	7	1	0	4	7	10	0	2	0	43	215	51	1	41	251	33
8:00 AM	8:15 AM	2	1	0	5	12	12	1	2	1	35	190	23	3	34	230	37
8:15 AM	8:30 AM	4	1	0	2	5	8	0	3	0	25	155	25	2	28	214	31
8:30 AM	8:45 AM	2	2	0	2	3	10	0	3	0	29	145	19	6	25	216	29
8:45 AM	9:00 AM	6	5	1	3	5	5	1	9	1	34	154	14	6	17	242	47
Intersection PHV:		6 0 18				28 1 21				143 738 164				140 916 126			
PHF:		0.50 0.00 0.75				0.58 0.25 0.58				0.78 0.86 0.80				0.85 0.91 0.85			

Intersection Peak Hour: 7:15 AM - 8:15 AM

Intersection PHF: 0.88

Study Area PHV:	5	0	13	40	1	10	132	705	118	128	911	130
PHF:	0.63	0.00	0.65	0.83	0.25	0.83	0.77	0.82	0.58	0.78	0.91	0.88

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.84

4:30 PM	4:45 PM	7	7	0	34	9	27	5	54	1	12	215	6	3	4	224	12
4:45 PM	5:00 PM	2	5	1	40	8	19	9	58	1	24	183	4	1	1	215	15
5:00 PM	5:15 PM	4	10	6	38	19	26	8	58	0	30	153	1	6	4	198	54
5:15 PM	5:30 PM	5	4	15	37	22	20	2	64	0	18	151	0	4	5	199	45
5:30 PM	5:45 PM	7	3	19	29	13	39	1	41	0	18	191	2	0	1	211	38
5:45 PM	6:00 PM	5	4	11	30	4	24	4	43	2	35	253	10	3	7	181	27
6:00 PM	6:15 PM	6	3	1	22	15	33	1	30	0	19	279	10	2	7	168	10
6:15 PM	6:30 PM	2	4	1	17	8	14	1	27	2	7	238	18	2	8	183	13
Intersection PHV:		21 51 134				109 15 206				101 748 13				17 789 164			
PHF:		0.53 0.67 0.88				0.70 0.47 0.80				0.72 0.74 0.33				0.61 0.93 0.76			

Intersection Peak Hour: 5:00 PM - 6:00 PM

Intersection PHF: 0.94

Study Area PHV:	26	22	149	92	24	234	84	702	11	14	836	126
PHF:	0.65	0.37	0.93	0.85	0.67	0.91	0.70	0.82	0.46	0.70	0.93	0.58

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.97

Observations:



File: C2X3HRS - 4L&12Mv_Peds.XLS

Intersection Traffic Movements

DeShazo Group, Inc.

Location: ***San Jacinto Boulevard at Marting Luther King Jr Boulevard***

City/State: **Austin, Texas**Data Collector(s): **Camera**Day/Date: **Thursday, March 24, 2016**Weather Conditions: **Mild/Normal Conditions**Project-ID #: **15206-28**

Traffic Control: **Signalized**

Data Source: **CJ Hensch**

Time of Count		Northbound on <i>San Jacinto Blvd.</i>				Southbound on <i>San Jacinto Blvd.</i>				Eastbound on <i>MLK Jr Blvd.</i>				Westbound on <i>MLK Jr Blvd.</i>			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	9	-	-	-	5	17	10	16	0	-	161	21	12	73	198	-
7:15 AM	7:30 AM	9	-	-	-	10	2	9	19	4	-	120	32	2	73	241	-
7:30 AM	7:45 AM	6	-	-	-	17	2	20	9	2	-	170	33	2	83	281	-
7:45 AM	8:00 AM	11	-	-	-	13	13	18	16	2	-	176	38	4	87	287	-
8:00 AM	8:15 AM	5	-	-	-	10	6	10	16	2	-	151	33	1	87	302	-
8:15 AM	8:30 AM	17	-	-	-	11	4	9	9	3	-	143	43	3	68	260	-
8:30 AM	8:45 AM	15	-	-	-	19	11	11	11	8	-	182	26	8	70	284	-
8:45 AM	9:00 AM	13	-	-	-	14	13	16	19	2	-	169	33	2	78	310	-
Intersection PHV:		0 0 0				25 57 50				0 640 147				325 1,130 0			
PHF:		0.00 0.00 0.00				0.48 0.71 0.78				0.00 0.91 0.85				0.93 0.94 0.00			

Intersection Peak Hour: 7:30 AM - 8:30 AM

Intersection PHF: 0.93

Study Area PHV:	0	0	0	34	48	52	0	652	140	312	1,133	0
PHF:	0.00	0.00	0.00	0.65	0.67	0.81	0.00	0.90	0.81	0.90	0.94	0.00

Study Peak Hour: 7:45 AM - 8:45 AM

Study Area PHF: 0.93

4:30 PM	4:45 PM	20	-	-	-	15	10	49	20	11	-	260	6	5	73	243	-
4:45 PM	5:00 PM	15	-	-	-	8	8	49	34	5	-	237	5	6	74	214	-
5:00 PM	5:15 PM	20	-	-	-	14	12	43	44	7	-	194	3	3	73	256	-
5:15 PM	5:30 PM	11	-	-	-	15	6	47	35	10	-	191	7	9	64	212	-
5:30 PM	5:45 PM	15	-	-	-	18	8	52	30	11	-	255	5	15	87	208	-
5:45 PM	6:00 PM	8	-	-	-	14	4	36	24	9	-	290	11	10	61	208	-
6:00 PM	6:15 PM	4	-	-	-	10	4	43	22	3	-	350	21	2	59	231	-
6:15 PM	6:30 PM	3	-	-	-	14	10	38	24	9	-	285	16	14	56	237	-
Intersection PHV:		0 0 0				26 169 100				0 1,180 53				263 884 0			
PHF:		0.00 0.00 0.00				0.65 0.81 0.83				0.00 0.84 0.63				0.76 0.93 0.00			

Intersection Peak Hour: 5:30 PM - 6:30 PM

Intersection PHF: 0.92

Study Area PHV:	0	0	0	36	188	133	0	882	21	284	925	0
PHF:	0.00	0.00	0.00	0.75	0.96	0.76	0.00	0.85	0.75	0.96	0.90	0.00

Study Peak Hour: 4:30 PM - 5:30 PM

Study Area PHF: 0.93

Observations:



Intersection Traffic Movements														DeShazo Group, Inc.			
Location: Trinity Street at Martin Luther King Jr Boulevard City/State: Austin, Texas Day/Date: Tuesday, March 22, 2016 Project-ID #: 15206-29 Data Source: CJ Hensch Data Collector(s): Camera Weather Conditions: Mild/Normal Conditions Traffic Control: Signalized																	
Time of Count		Northbound on Trinity Street				Southbound on Trinity Street				Eastbound on MLK Jr Blvd.				Westbound on MLK Jr Blvd.			
Begin	End	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R	Peds	L	T	R
7:00 AM	7:15 AM	8	8	15	20	7	-	-	-	2	35	117	-	9	-	277	17
7:15 AM	7:30 AM	8	7	20	17	3	-	-	-	0	32	122	-	9	-	348	12
7:30 AM	7:45 AM	16	11	20	17	3	-	-	-	0	34	108	-	12	-	323	10
7:45 AM	8:00 AM	13	8	18	18	8	-	-	-	1	36	136	-	14	-	398	13
8:00 AM	8:15 AM	10	15	27	14	11	-	-	-	1	45	135	-	18	-	333	14
8:15 AM	8:30 AM	12	4	16	13	6	-	-	-	0	24	103	-	12	-	356	17
8:30 AM	8:45 AM	7	8	18	7	14	-	-	-	1	38	100	-	22	-	312	11
8:45 AM	9:00 AM	21	19	27	18	10	-	-	-	0	28	114	-	14	-	378	17
Intersection PHV:		41 85 66				0 0 0				147 501 0				0 1,402 49			
PHF:		0.68 0.79 0.92				0.00 0.00 0.00				0.82 0.92 0.00				0.00 0.88 0.88			
Intersection Peak Hour: 7:15 AM - 8:15 AM														Intersection PHF: 0.91			
Study Area PHV:		35 79 52				0 0 0				143 474 0				0 1,399 55			
PHF:		0.58 0.73 0.72				0.00 0.00 0.00				0.79 0.87 0.00				0.00 0.88 0.81			
Study Peak Hour: 7:45 AM - 8:45 AM														Study Area PHF: 0.89			
4:30 PM	4:45 PM	22	19	64	47	15	-	-	-	7	18	246	-	30	-	262	18
4:45 PM	5:00 PM	15	15	66	43	13	-	-	-	5	20	211	-	27	-	271	12
5:00 PM	5:15 PM	20	28	81	45	21	-	-	-	8	20	252	-	37	-	260	4
5:15 PM	5:30 PM	17	26	91	62	8	-	-	-	9	22	203	-	23	-	276	15
5:30 PM	5:45 PM	10	18	67	50	12	-	-	-	2	33	247	-	19	-	293	12
5:45 PM	6:00 PM	13	15	71	64	11	-	-	-	8	35	285	-	12	-	247	10
6:00 PM	6:15 PM	14	14	34	54	8	-	-	-	4	43	304	-	17	-	200	5
6:15 PM	6:30 PM	10	5	17	36	9	-	-	-	2	23	250	-	12	-	248	12
Intersection PHV:		87 310 221				0 0 0				110 987 0				0 1,076 41			
PHF:		0.78 0.85 0.86				0.00 0.00 0.00				0.79 0.87 0.00				0.00 0.92 0.68			
Intersection Peak Hour: 5:00 PM - 6:00 PM														Intersection PHF: 0.97			
Study Area PHV:		88 302 197				0 0 0				80 912 0				0 1,069 49			
PHF:		0.79 0.83 0.79				0.00 0.00 0.00				0.91 0.90 0.00				0.00 0.97 0.68			
Study Peak Hour: 4:30 PM - 5:30 PM														Study Area PHF: 0.97			
Observations:																	
 File: C2X3HRS - 4L&12Mv_Peds.XLS																	

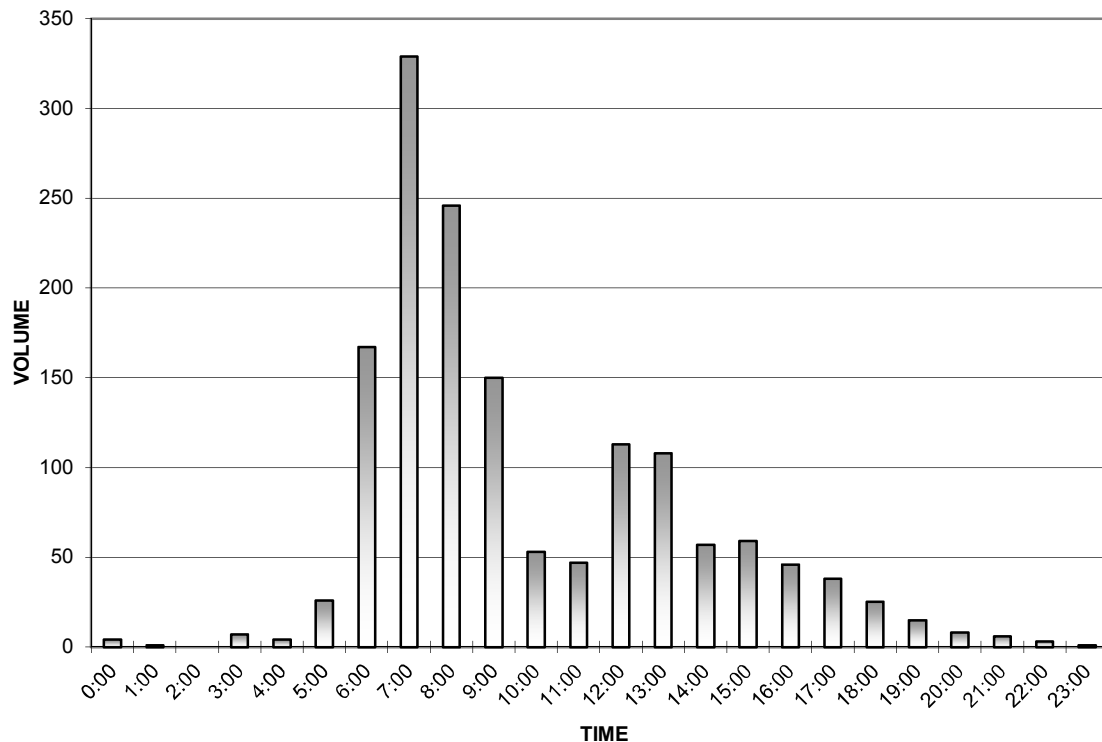
NB Colorado Street between 15th Street and 16th Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	3	0	1	0	4
1:00	0	1	0	0	1
2:00	0	0	0	0	0
3:00	0	2	4	1	7
4:00	1	0	1	2	4
5:00	2	7	4	13	26
6:00	16	20	53	78	167
7:00	83	82	84	80	329
8:00	77	51	58	60	246
9:00	57	51	24	18	150
10:00	15	14	13	11	53
11:00	9	12	11	15	47
12:00	22	26	24	41	113
13:00	38	26	26	18	108
14:00	17	13	16	11	57
15:00	21	8	14	16	59
16:00	15	8	10	13	46
17:00	17	12	4	5	38
18:00	8	7	8	2	25
19:00	5	5	3	2	15
20:00	1	1	2	4	8
21:00	1	3	1	1	6
22:00	1	1	1	0	3
23:00	1	0	0	0	1

TOTAL: 1513

The A.M. peak hour from 7:00 to 8:00 is 329
The P.M. peak hour from 14:15 to 15:15 is 61

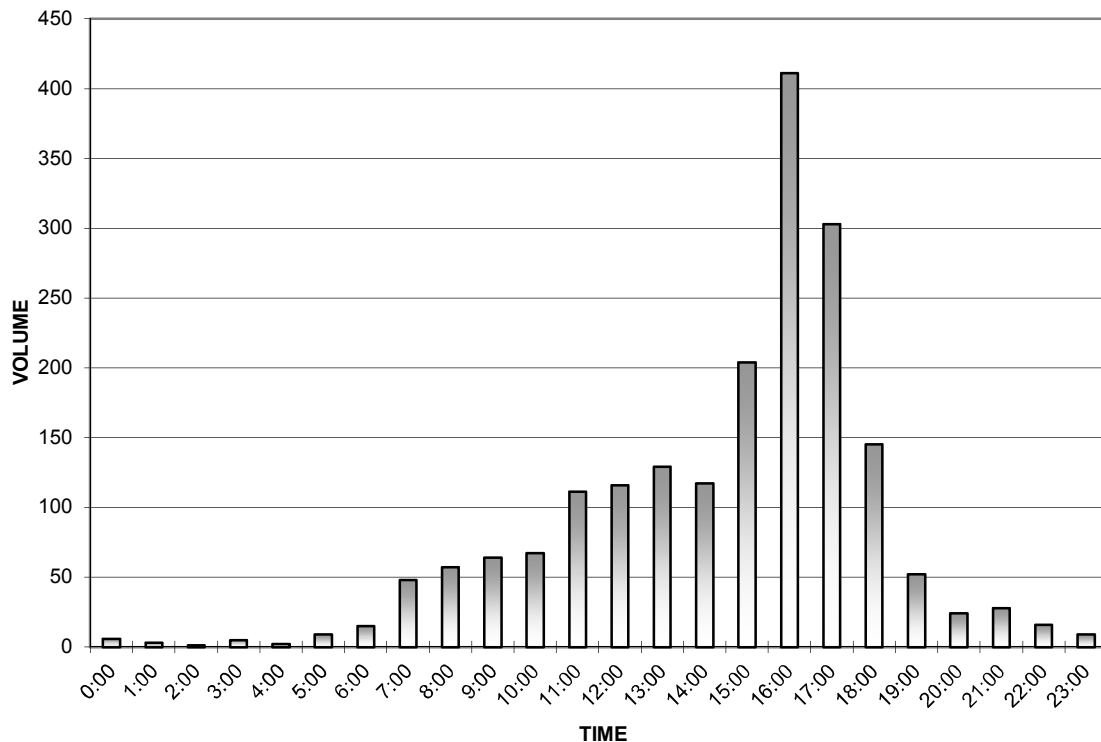


SB Colorado Street between 15th Street and 16th Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	1	4	1	0	6
1:00	1	1	1	0	3
2:00	1	0	0	0	1
3:00	0	1	3	1	5
4:00	0	1	0	1	2
5:00	0	5	1	3	9
6:00	2	2	4	7	15
7:00	10	13	11	14	48
8:00	10	11	16	20	57
9:00	20	15	12	17	64
10:00	23	14	13	17	67
11:00	25	26	31	29	111
12:00	37	32	25	22	116
13:00	41	21	29	38	129
14:00	21	26	32	38	117
15:00	47	35	41	81	204
16:00	114	83	123	91	411
17:00	104	73	61	65	303
18:00	40	49	38	18	145
19:00	18	12	13	9	52
20:00	12	8	1	3	24
21:00	5	7	8	8	28
22:00	3	6	2	5	16
23:00	5	2	2	0	9
TOTAL:					1942

The A.M. peak hour from 8:30 to 9:30 is 71
The P.M. peak hour from 16:00 to 17:00 is 411

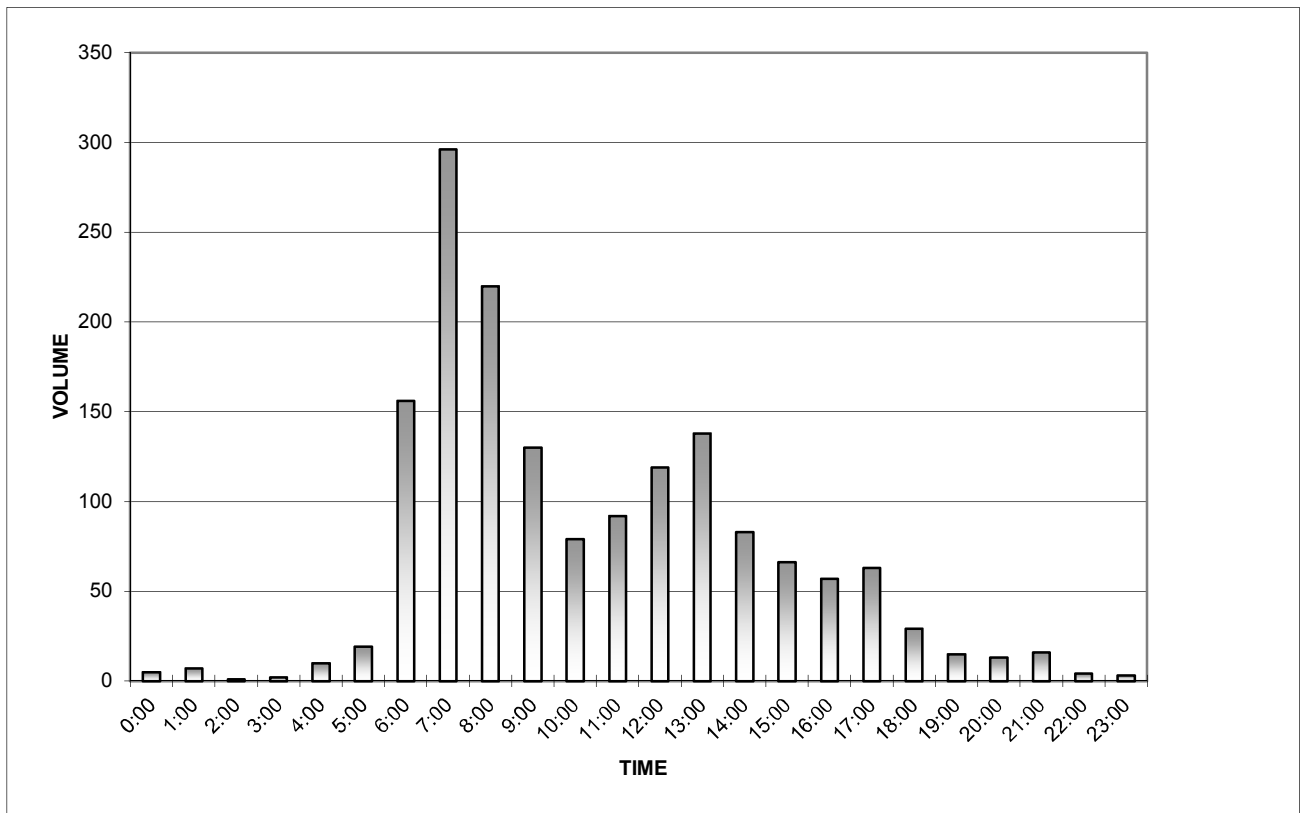


NB Congress Avenue between 15th Street and 16th Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	2	3	0	0	5
1:00	1	3	2	1	7
2:00	0	1	0	0	1
3:00	0	0	2	0	2
4:00	0	1	4	5	10
5:00	2	3	5	9	19
6:00	12	39	41	64	156
7:00	80	72	73	71	296
8:00	57	59	65	39	220
9:00	50	30	25	25	130
10:00	22	20	14	23	79
11:00	20	26	33	13	92
12:00	28	22	38	31	119
13:00	37	32	38	31	138
14:00	27	17	20	19	83
15:00	17	17	15	17	66
16:00	12	16	13	16	57
17:00	18	16	21	8	63
18:00	16	4	5	4	29
19:00	5	5	3	2	15
20:00	2	4	3	4	13
21:00	3	4	5	4	16
22:00	0	2	0	2	4
23:00	3	0	0	0	3
TOTAL:					1623

The A.M. peak hour from 7:00 to 8:00 is 296
The P.M. peak hour from 14:30 to 15:30 is 73



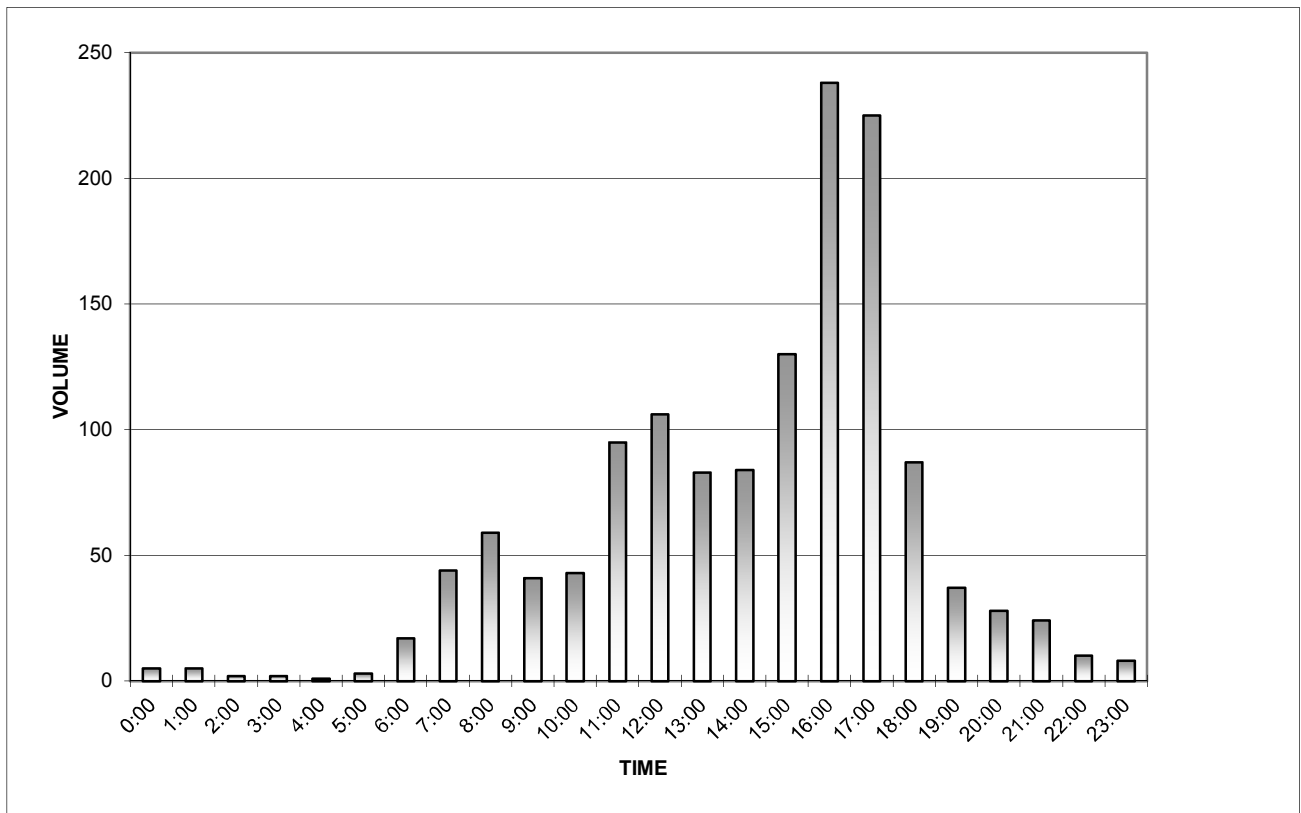
SB Congress Avenue between 15th Street and 16th Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	0	4	0	1	5
1:00	0	3	2	0	5
2:00	0	1	1	0	2
3:00	0	0	1	1	2
4:00	0	0	1	0	1
5:00	1	0	1	1	3
6:00	3	2	4	8	17
7:00	5	10	13	16	44
8:00	14	11	16	18	59
9:00	14	11	9	7	41
10:00	15	13	6	9	43
11:00	15	15	28	37	95
12:00	20	30	23	33	106
13:00	24	21	18	20	83
14:00	24	19	9	32	84
15:00	30	21	36	43	130
16:00	69	44	70	55	238
17:00	99	54	35	37	225
18:00	27	29	16	15	87
19:00	10	13	9	5	37
20:00	8	7	7	6	28
21:00	8	5	7	4	24
22:00	3	2	4	1	10
23:00	2	3	2	1	8

TOTAL: 1377

The A.M. peak hour from 8:30 to 9:30 is 59
The P.M. peak hour from 16:30 to 17:30 is 278

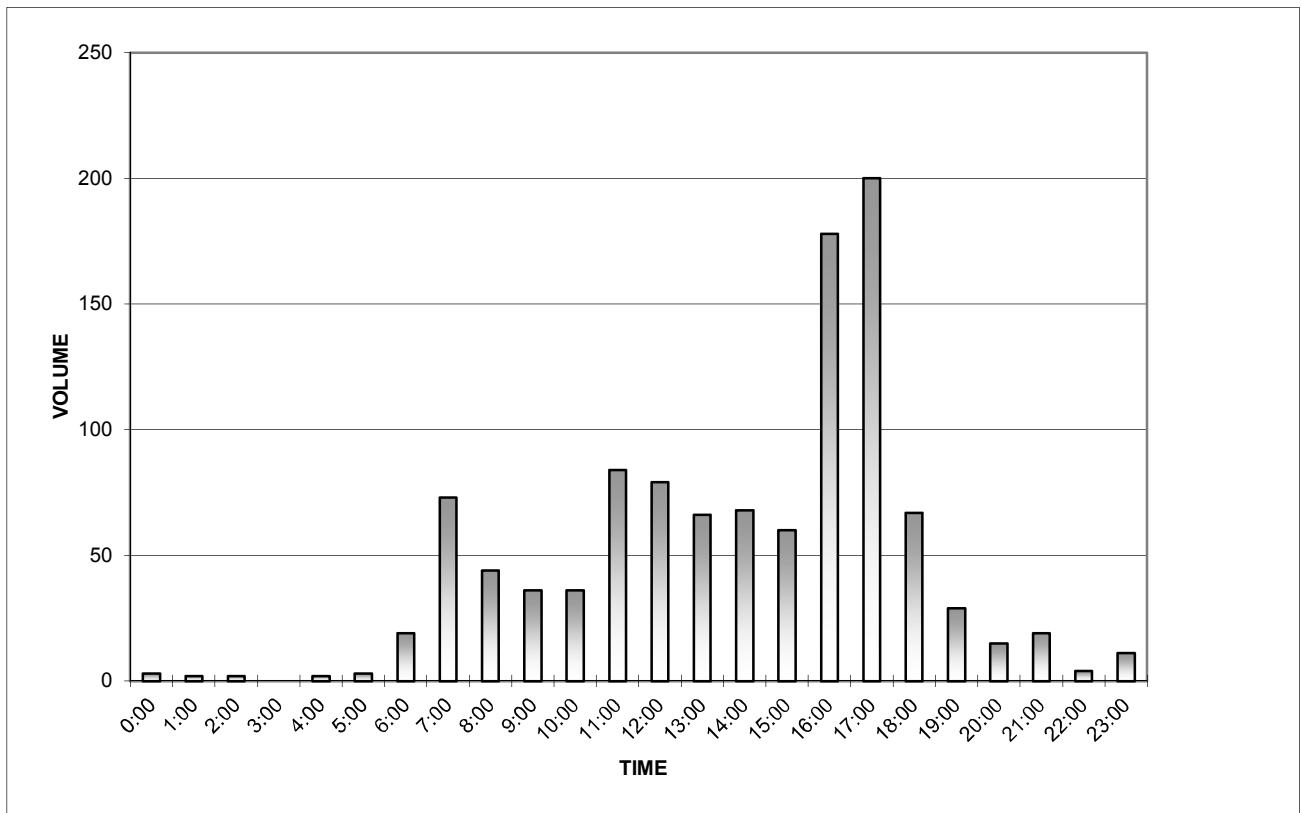


NB Congress Avenue between 18th Street and Martin Luther King Jr. Boulevard

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	0	1	1	1	3
1:00	0	0	0	2	2
2:00	0	2	0	0	2
3:00	0	0	0	0	0
4:00	0	0	2	0	2
5:00	2	0	1	0	3
6:00	1	3	5	10	19
7:00	15	18	23	17	73
8:00	7	13	13	11	44
9:00	6	10	10	10	36
10:00	14	5	8	9	36
11:00	16	29	19	20	84
12:00	22	13	22	22	79
13:00	23	22	12	9	66
14:00	15	14	17	22	68
15:00	19	11	18	12	60
16:00	32	35	61	50	178
17:00	65	50	56	29	200
18:00	31	15	10	11	67
19:00	8	9	7	5	29
20:00	5	3	3	4	15
21:00	7	7	1	4	19
22:00	1	0	1	2	4
23:00	2	2	1	6	11
TOTAL:					1100

The A.M. peak hour from 7:00 to 8:00 is 73
The P.M. peak hour from 16:30 to 17:30 is 226



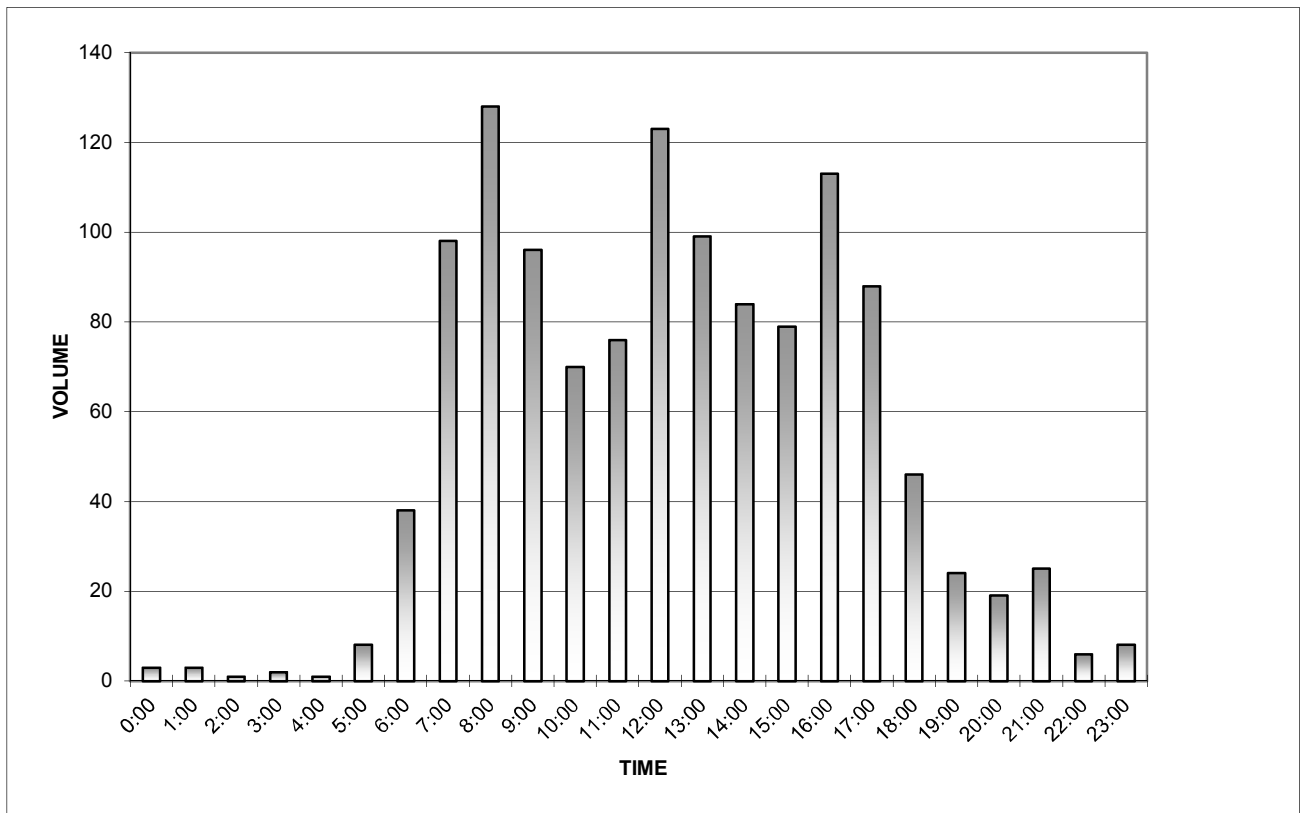
SB Congress Avenue between 18th Street and Martin Luther King Jr. Boulevard

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	1	1	0	1	3
1:00	1	0	2	0	3
2:00	0	1	0	0	1
3:00	0	0	0	2	2
4:00	0	0	1	0	1
5:00	1	0	4	3	8
6:00	2	8	7	21	38
7:00	17	13	26	42	98
8:00	40	26	29	33	128
9:00	23	25	25	23	96
10:00	23	18	18	11	70
11:00	21	16	14	25	76
12:00	18	30	45	30	123
13:00	29	27	20	23	99
14:00	23	16	13	32	84
15:00	19	25	15	20	79
16:00	22	20	34	37	113
17:00	21	32	18	17	88
18:00	15	10	11	10	46
19:00	7	5	7	5	24
20:00	4	5	4	6	19
21:00	7	7	8	3	25
22:00	1	1	4	0	6
23:00	2	3	3	0	8

TOTAL: 1238

The A.M. peak hour from 7:45 to 8:45 is 137
The P.M. peak hour from 16:30 to 17:30 is 124



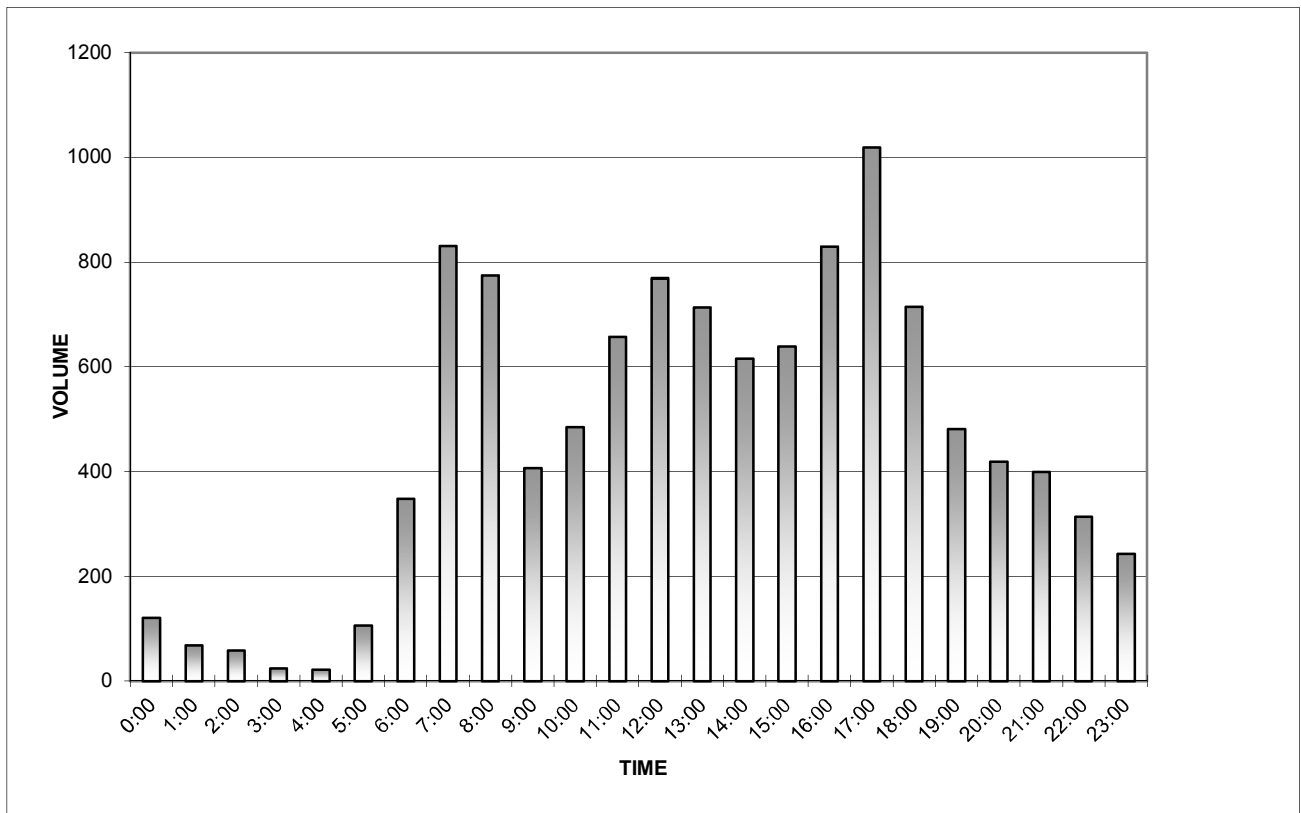
NB Lavaca Street between 15th Street and 16th Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	44	33	25	18	120
1:00	19	18	22	9	68
2:00	14	20	15	9	58
3:00	11	5	6	2	24
4:00	2	4	9	6	21
5:00	12	18	35	41	106
6:00	43	71	90	144	348
7:00	193	199	213	226	831
8:00	224	189	174	188	775
9:00	118	21	138	130	407
10:00	122	111	118	134	485
11:00	140	167	166	184	657
12:00	188	200	163	218	769
13:00	216	172	158	167	713
14:00	161	159	144	152	616
15:00	152	154	157	176	639
16:00	182	182	236	230	830
17:00	240	284	271	224	1019
18:00	238	188	134	154	714
19:00	144	106	112	119	481
20:00	82	121	96	120	419
21:00	92	93	112	102	399
22:00	88	86	78	62	314
23:00	70	58	40	75	243

TOTAL: 11056

The A.M. peak hour from 7:15 to 8:15 is 862
The P.M. peak hour from 16:45 to 17:45 is 1025



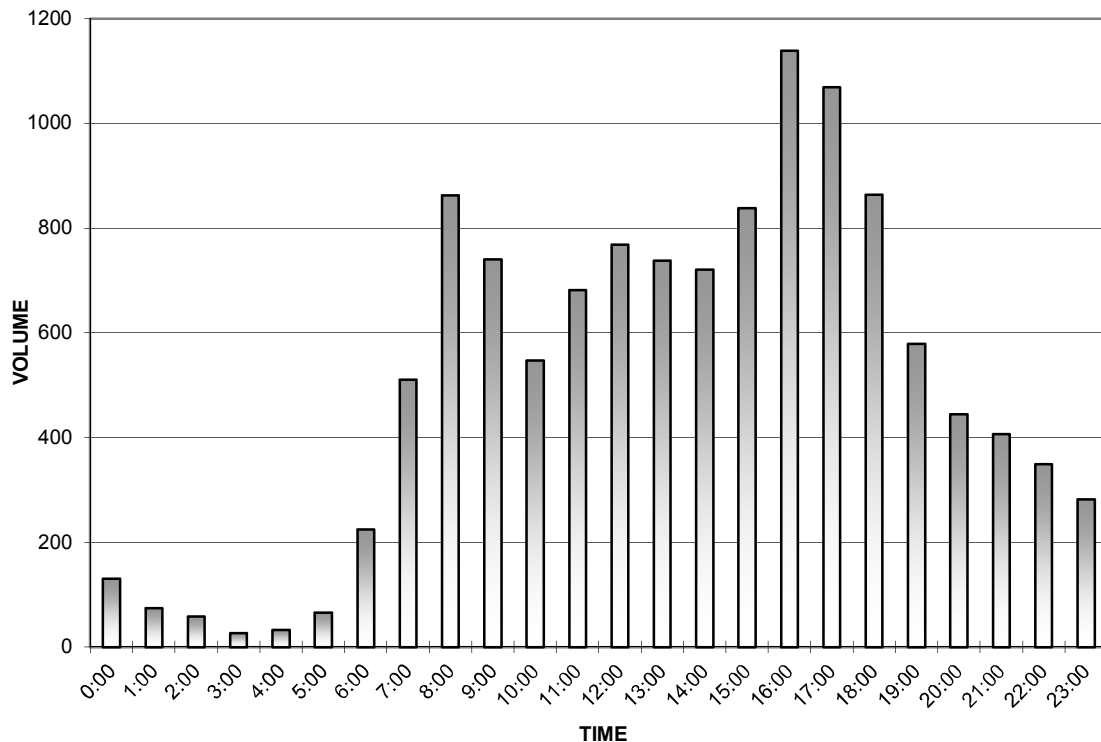
SB Guadalupe Street between 15th Street and 16th Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	42	38	26	24	130
1:00	24	17	15	18	74
2:00	15	17	13	13	58
3:00	6	4	10	6	26
4:00	10	7	7	8	32
5:00	13	11	14	28	66
6:00	26	52	62	84	224
7:00	90	93	160	168	511
8:00	198	186	240	239	863
9:00	242	182	175	141	740
10:00	148	145	126	128	547
11:00	154	156	194	178	682
12:00	188	180	200	200	768
13:00	213	182	181	162	738
14:00	174	165	183	199	721
15:00	210	184	208	236	838
16:00	255	307	297	280	1139
17:00	286	294	267	222	1069
18:00	236	208	232	188	864
19:00	183	138	128	130	579
20:00	138	106	108	92	444
21:00	96	103	106	102	407
22:00	78	112	82	77	349
23:00	82	70	64	66	282

TOTAL: 12151

The A.M. peak hour from 8:15 to 9:15 is 907
The P.M. peak hour from 16:15 to 17:15 is 1170



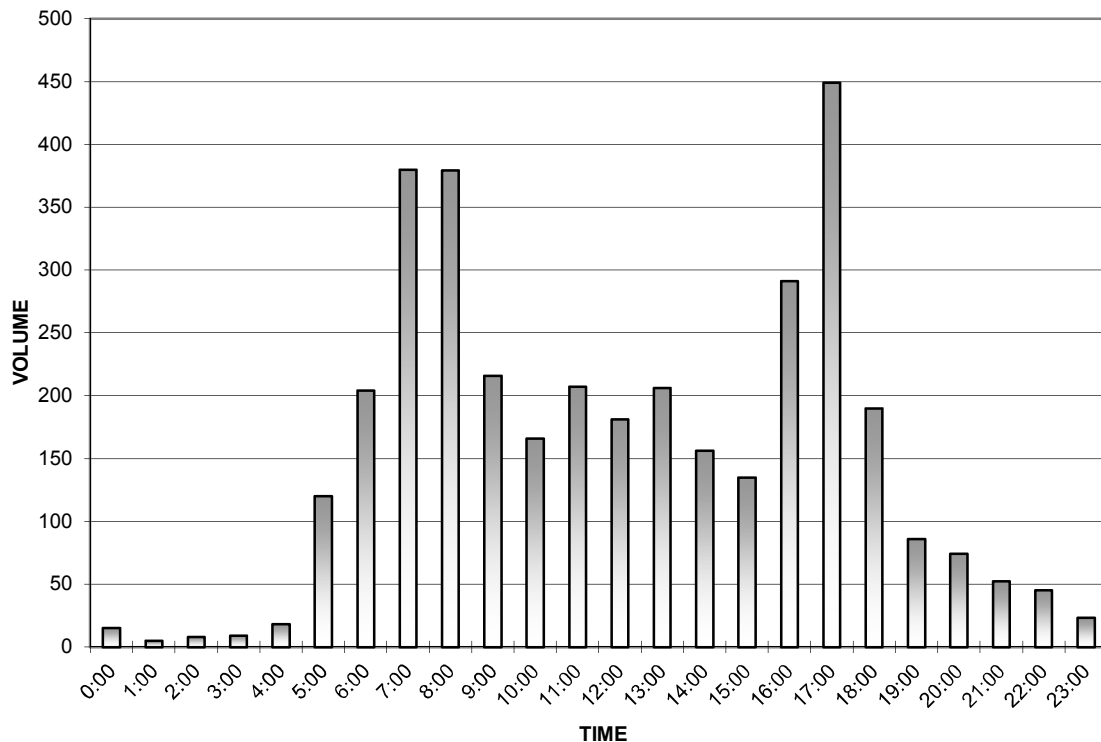
NB Trinity Street between 15th Street and 17th Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	7	4	2	2	15
1:00	0	0	4	1	5
2:00	3	2	2	1	8
3:00	2	2	2	3	9
4:00	2	2	4	10	18
5:00	10	16	41	53	120
6:00	32	50	52	70	204
7:00	80	88	98	114	380
8:00	100	105	84	90	379
9:00	64	51	60	41	216
10:00	52	41	39	34	166
11:00	52	48	62	45	207
12:00	48	39	56	38	181
13:00	54	53	49	50	206
14:00	44	37	38	37	156
15:00	35	36	32	32	135
16:00	72	49	77	93	291
17:00	106	132	110	101	449
18:00	78	48	38	26	190
19:00	20	18	21	27	86
20:00	24	26	10	14	74
21:00	14	16	12	10	52
22:00	14	8	10	13	45
23:00	7	4	7	5	23

TOTAL: 3615

The A.M. peak hour from 7:30 to 8:30 is 417
The P.M. peak hour from 17:00 to 18:00 is 449

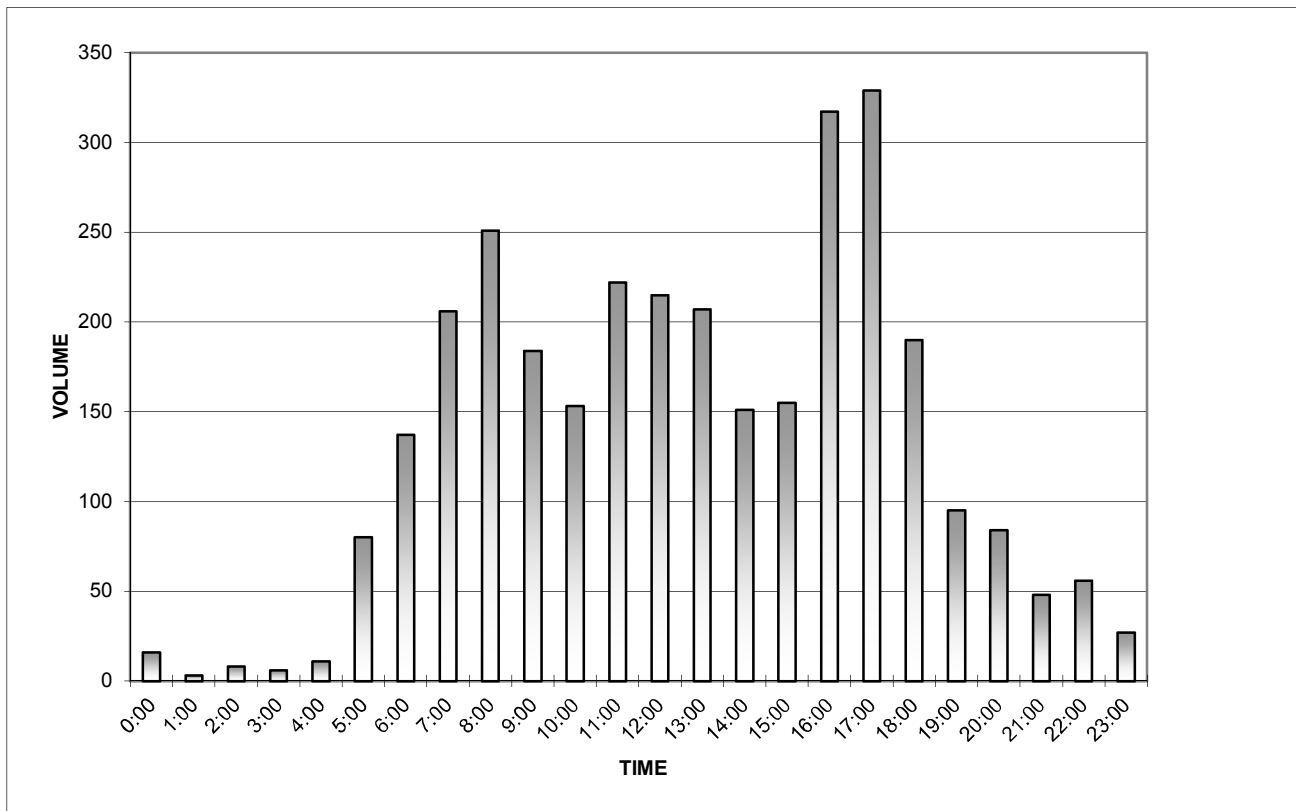


NB Trinity Street between 18th Street and Martin Luther King Jr. Boulevard

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	6	4	2	4	16
1:00	0	0	2	1	3
2:00	3	2	2	1	8
3:00	2	2	2	0	6
4:00	4	0	4	3	11
5:00	8	9	32	31	80
6:00	22	31	32	52	137
7:00	46	49	54	57	206
8:00	69	62	54	66	251
9:00	47	42	58	37	184
10:00	50	38	32	33	153
11:00	54	48	66	54	222
12:00	54	59	62	40	215
13:00	60	52	51	44	207
14:00	42	38	39	32	151
15:00	35	38	46	36	155
16:00	88	60	88	81	317
17:00	102	73	64	90	329
18:00	82	44	37	27	190
19:00	23	20	24	28	95
20:00	29	30	13	12	84
21:00	11	18	9	10	48
22:00	20	10	11	15	56
23:00	9	3	7	8	27
TOTAL:					3151

The A.M. peak hour from 8:00 to 9:00 is 251
The P.M. peak hour from 16:30 to 17:30 is 344

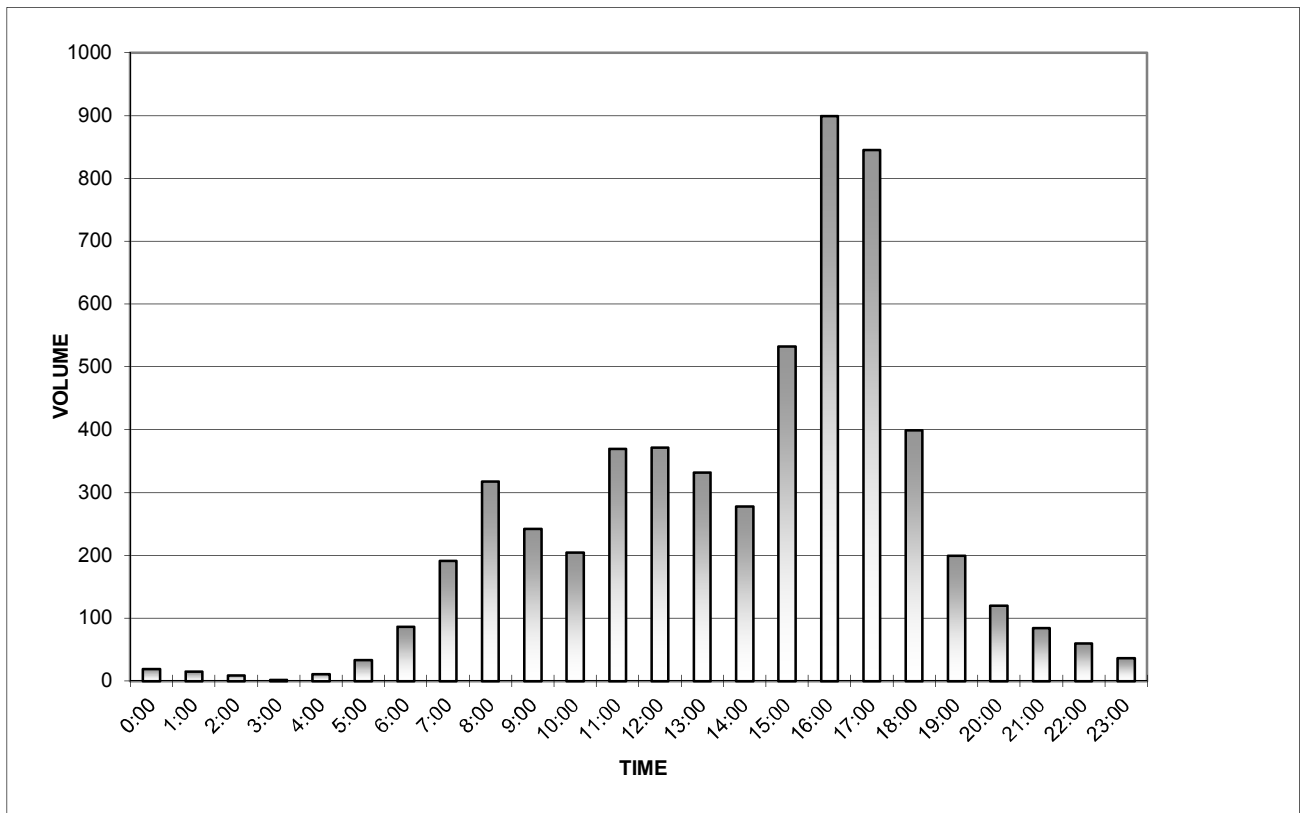


SB San Jacinto Boulevard between 15th Street and 16th Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	7	5	4	3	19
1:00	4	4	4	3	15
2:00	2	0	2	5	9
3:00	1	0	1	0	2
4:00	1	1	6	3	11
5:00	7	4	6	16	33
6:00	10	14	28	34	86
7:00	46	34	49	62	191
8:00	60	65	84	108	317
9:00	88	65	46	43	242
10:00	52	34	51	67	204
11:00	70	89	114	96	369
12:00	118	78	83	92	371
13:00	94	92	90	56	332
14:00	67	64	79	68	278
15:00	106	110	179	137	532
16:00	219	187	287	206	899
17:00	270	205	189	181	845
18:00	160	107	74	58	399
19:00	58	52	39	50	199
20:00	32	40	24	24	120
21:00	26	24	19	15	84
22:00	18	19	10	13	60
23:00	15	11	6	4	36
TOTAL:					5653

The A.M. peak hour from 8:30 to 9:30 is 345
The P.M. peak hour from 16:30 to 17:30 is 968



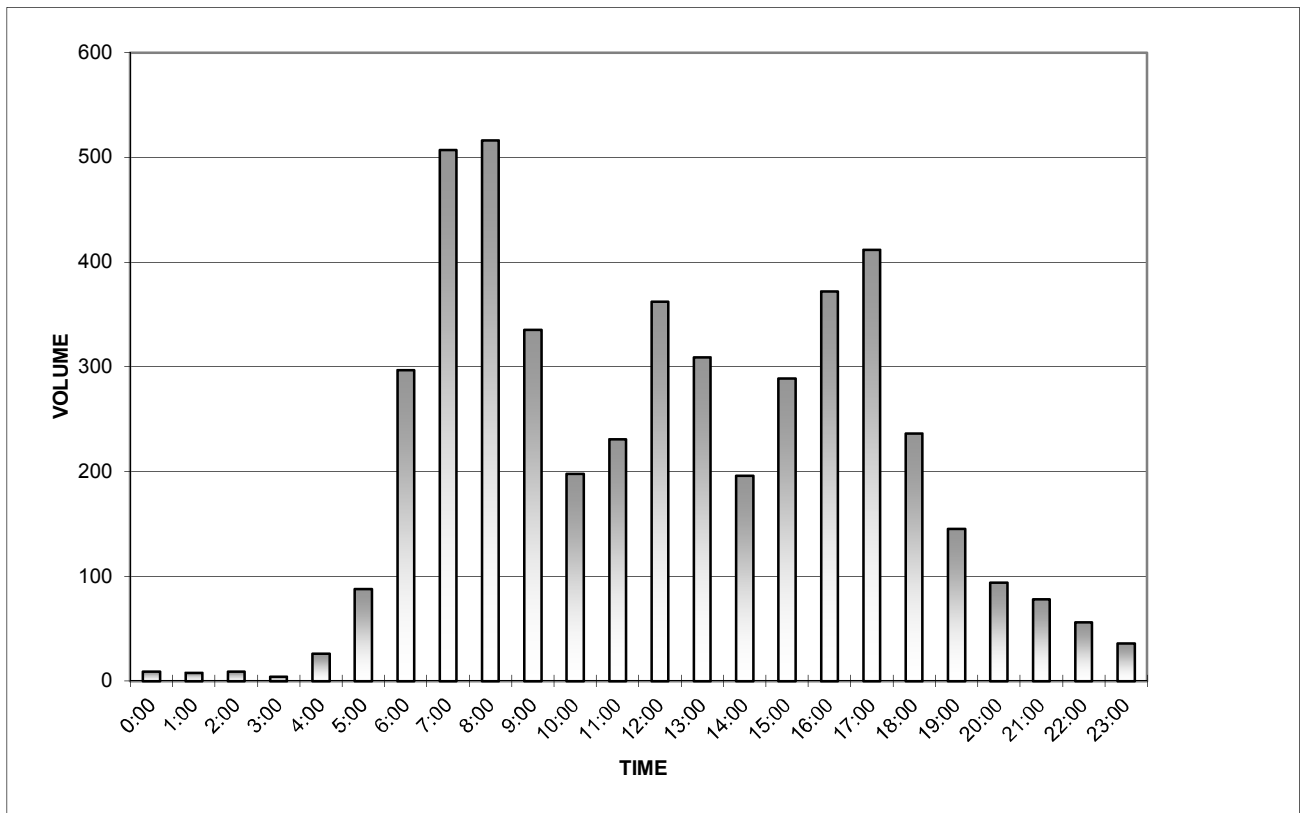
SB San Jacinto Boulevard between 18th Street and Martin Luther King Jr Boulevard

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	1	3	2	3	9
1:00	2	2	1	3	8
2:00	4	1	2	2	9
3:00	1	0	0	3	4
4:00	3	1	12	10	26
5:00	12	14	26	36	88
6:00	32	53	92	120	297
7:00	101	116	144	146	507
8:00	130	122	110	154	516
9:00	121	104	55	55	335
10:00	54	36	48	60	198
11:00	46	56	59	70	231
12:00	86	72	94	110	362
13:00	89	100	66	54	309
14:00	51	51	54	40	196
15:00	70	72	71	76	289
16:00	76	86	93	117	372
17:00	86	110	104	112	412
18:00	90	70	36	40	236
19:00	40	41	24	40	145
20:00	26	26	22	20	94
21:00	22	20	25	11	78
22:00	16	14	14	12	56
23:00	18	7	6	5	36

TOTAL: 4813

The A.M. peak hour from 7:30 to 8:30 is 542
The P.M. peak hour from 16:45 to 17:45 is 417



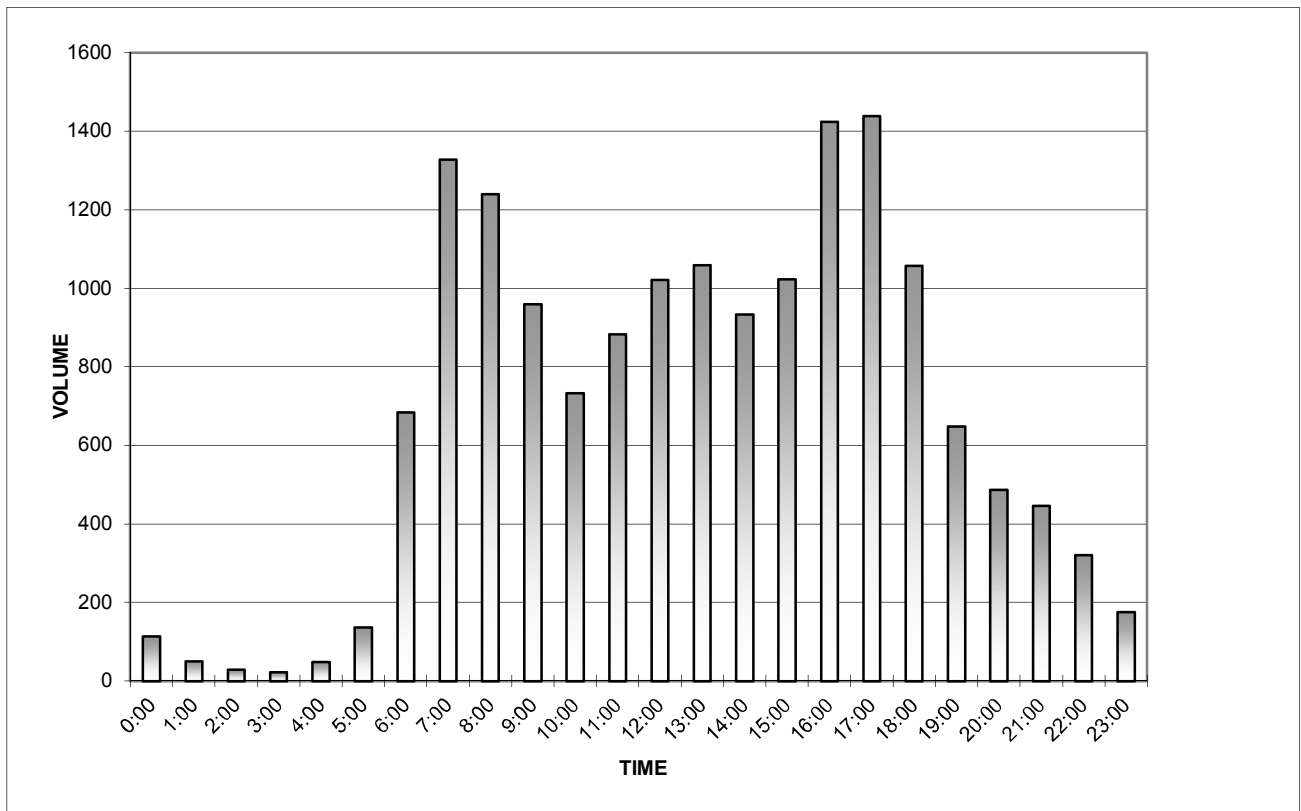
EB 15th Street between Colorado Street and Congress Avenue

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	38	34	21	20	113
1:00	15	13	9	13	50
2:00	6	10	5	7	28
3:00	6	4	8	4	22
4:00	6	10	10	22	48
5:00	17	30	32	58	137
6:00	81	128	188	287	684
7:00	264	355	320	388	1327
8:00	296	332	314	298	1240
9:00	271	264	230	194	959
10:00	174	182	176	200	732
11:00	188	224	244	226	882
12:00	260	244	235	282	1021
13:00	256	271	246	286	1059
14:00	211	242	238	242	933
15:00	272	224	251	276	1023
16:00	374	326	366	358	1424
17:00	378	298	407	356	1439
18:00	334	292	229	202	1057
19:00	181	174	133	160	648
20:00	126	124	108	128	486
21:00	95	104	129	118	446
22:00	93	102	56	70	321
23:00	55	36	40	44	175

TOTAL: 16254

The A.M. peak hour from 7:15 to 8:15 is 1359
The P.M. peak hour from 16:45 to 17:45 is 1441



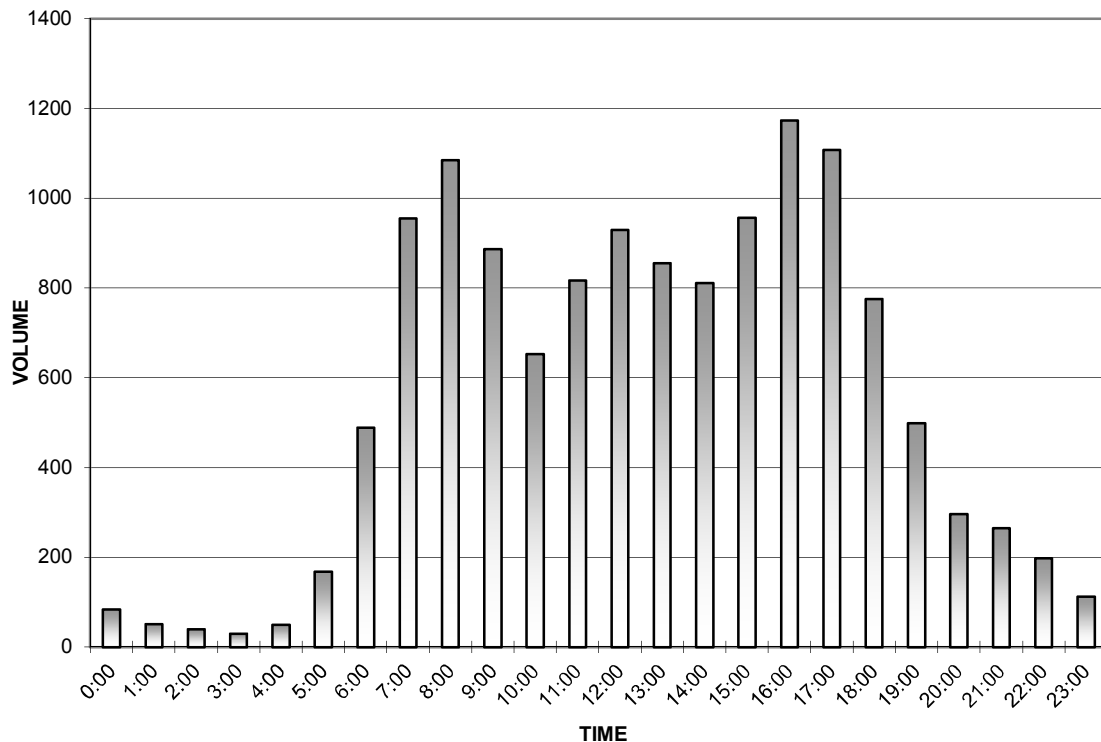
WB 15th Street between Colorado Street and Congress Avenue

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	19	30	20	14	83
1:00	24	9	11	7	51
2:00	8	13	12	7	40
3:00	10	8	6	6	30
4:00	5	12	12	20	49
5:00	22	37	46	62	167
6:00	68	94	120	206	488
7:00	186	223	251	295	955
8:00	276	246	276	286	1084
9:00	268	202	197	220	887
10:00	162	164	169	158	653
11:00	148	178	238	252	816
12:00	242	218	209	260	929
13:00	234	226	205	190	855
14:00	183	206	186	236	811
15:00	218	230	270	238	956
16:00	332	252	300	289	1173
17:00	331	260	260	256	1107
18:00	210	224	183	158	775
19:00	140	120	138	100	498
20:00	90	80	60	66	296
21:00	59	75	69	62	265
22:00	55	49	51	43	198
23:00	40	26	22	24	112

TOTAL: 13278

The A.M. peak hour from 7:45 to 8:45 is 1093
The P.M. peak hour from 16:30 to 17:30 is 1180



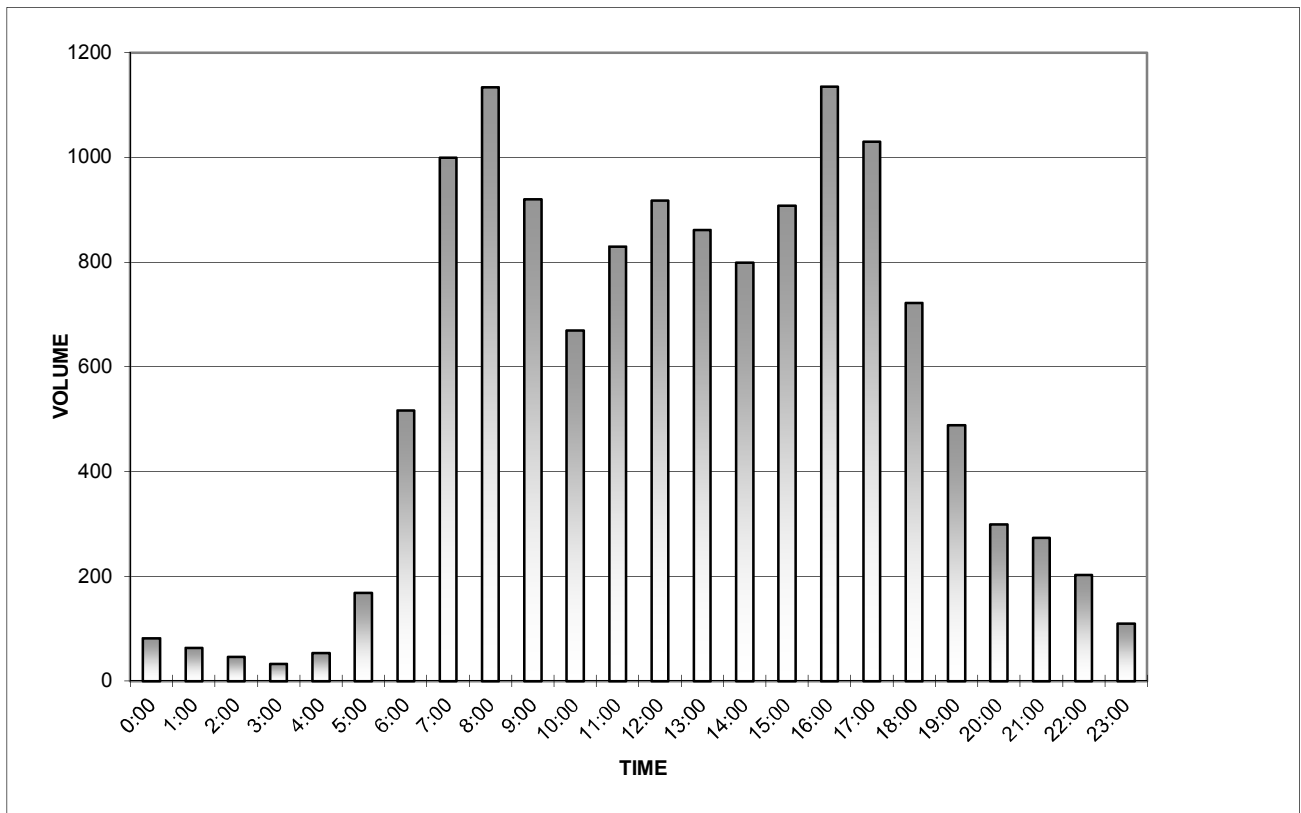
WB 15th Street between Congress Avenue and Brazos Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	19	28	20	15	82
1:00	24	12	10	17	63
2:00	16	12	11	7	46
3:00	12	7	6	7	32
4:00	4	12	13	24	53
5:00	21	35	48	64	168
6:00	71	104	129	212	516
7:00	201	226	268	304	999
8:00	300	254	290	290	1134
9:00	282	215	203	220	920
10:00	175	161	178	155	669
11:00	163	184	242	241	830
12:00	245	213	220	240	918
13:00	242	223	214	182	861
14:00	188	198	181	232	799
15:00	212	220	261	215	908
16:00	315	250	296	274	1135
17:00	342	220	245	223	1030
18:00	191	204	178	149	722
19:00	131	126	133	98	488
20:00	87	80	62	70	299
21:00	58	86	63	66	273
22:00	58	48	52	44	202
23:00	40	26	20	24	110

TOTAL: 13257

The A.M. peak hour from 7:45 to 8:45 is 1148
The P.M. peak hour from 16:15 to 17:15 is 1162

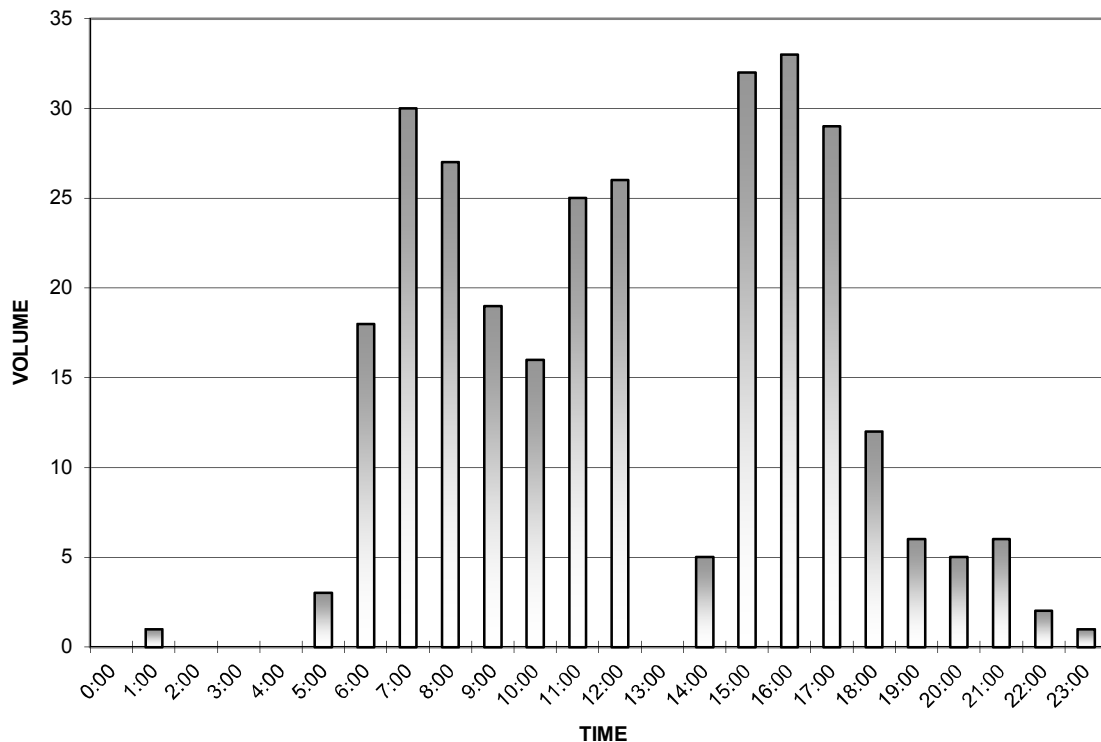


WB 16th Street between Colorado Street and Congress Avenue

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	0	0	0	0	0
1:00	0	0	1	0	1
2:00	0	0	0	0	0
3:00	0	0	0	0	0
4:00	0	0	0	0	0
5:00	1	0	1	1	3
6:00	1	3	5	9	18
7:00	8	4	9	9	30
8:00	9	3	10	5	27
9:00	7	4	4	4	19
10:00	1	6	2	7	16
11:00	4	6	7	8	25
12:00	6	16	4	0	26
13:00	0	0	0	0	0
14:00	0	0	0	5	5
15:00	11	3	6	12	32
16:00	9	6	9	9	33
17:00	11	12	4	2	29
18:00	9	1	0	2	12
19:00	1	4	0	1	6
20:00	1	2	0	2	5
21:00	2	1	2	1	6
22:00	0	1	1	0	2
23:00	1	0	0	0	1
TOTAL:					296

The A.M. peak hour from 7:45 to 8:45 is 31
The P.M. peak hour from 16:30 to 17:30 is 41

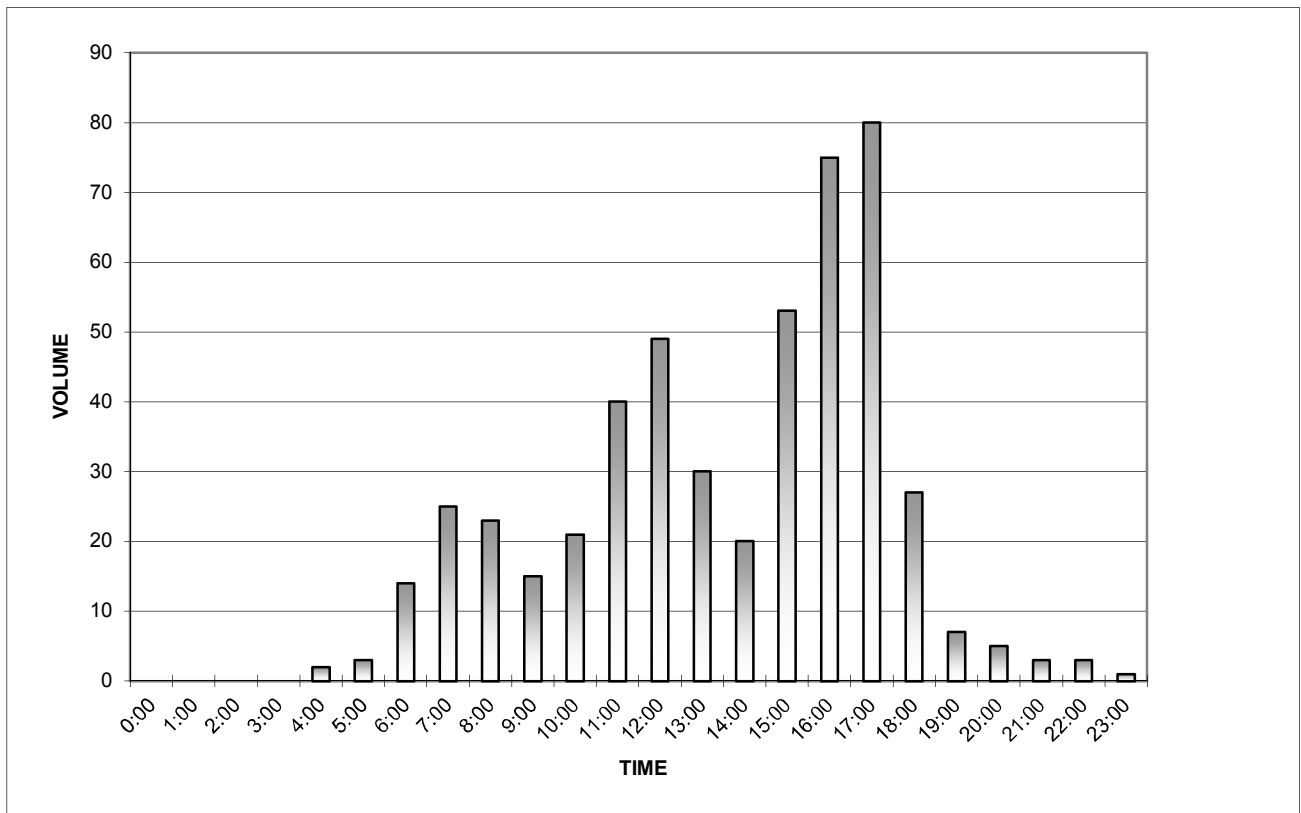


WB 16th Street between Congress Avenue and San Jacinto Boulevard

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	0	0	0	0	0
1:00	0	0	0	0	0
2:00	0	0	0	0	0
3:00	0	0	0	0	0
4:00	0	0	2	0	2
5:00	0	0	0	3	3
6:00	3	2	5	4	14
7:00	5	6	5	9	25
8:00	4	10	6	3	23
9:00	7	2	3	3	15
10:00	3	7	4	7	21
11:00	9	8	11	12	40
12:00	7	14	17	11	49
13:00	12	3	13	2	30
14:00	4	5	6	5	20
15:00	11	6	19	17	53
16:00	21	15	26	13	75
17:00	35	23	11	11	80
18:00	11	9	5	2	27
19:00	1	4	0	2	7
20:00	0	2	1	2	5
21:00	0	0	3	0	3
22:00	2	1	0	0	3
23:00	1	0	0	0	1
TOTAL:					496

The A.M. peak hour from 7:45 to 8:45 is 29
The P.M. peak hour from 16:30 to 17:30 is 97



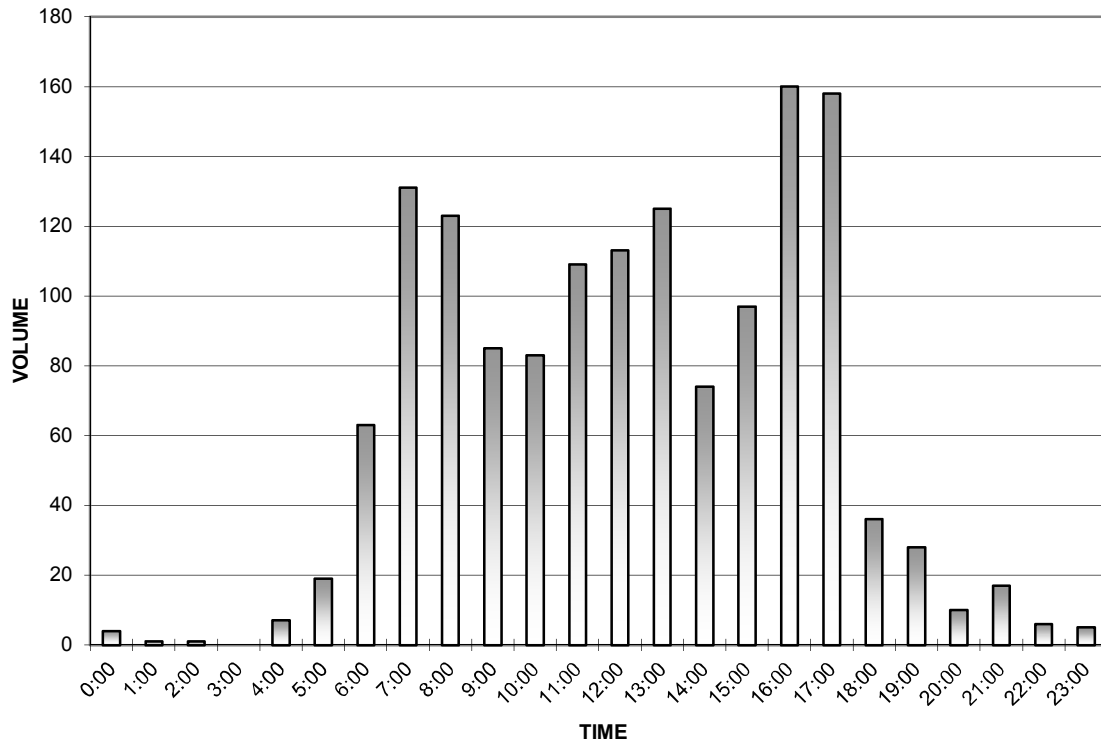
EB 17th Street between Brazos Street and San Jacinto Boulevard

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	2	0	0	2	4
1:00	0	0	1	0	1
2:00	0	0	0	1	1
3:00	0	0	0	0	0
4:00	1	2	2	2	7
5:00	1	6	3	9	19
6:00	4	15	16	28	63
7:00	32	35	29	35	131
8:00	37	32	36	18	123
9:00	26	18	26	15	85
10:00	25	22	13	23	83
11:00	25	25	28	31	109
12:00	33	24	28	28	113
13:00	36	35	32	22	125
14:00	15	16	19	24	74
15:00	19	30	32	16	97
16:00	39	29	53	39	160
17:00	57	48	27	26	158
18:00	19	3	7	7	36
19:00	10	9	7	2	28
20:00	2	5	1	2	10
21:00	6	4	3	4	17
22:00	2	2	1	1	6
23:00	5	0	0	0	5

TOTAL: 1455

The A.M. peak hour from 7:45 to 8:45 is 140
The P.M. peak hour from 16:30 to 17:30 is 197



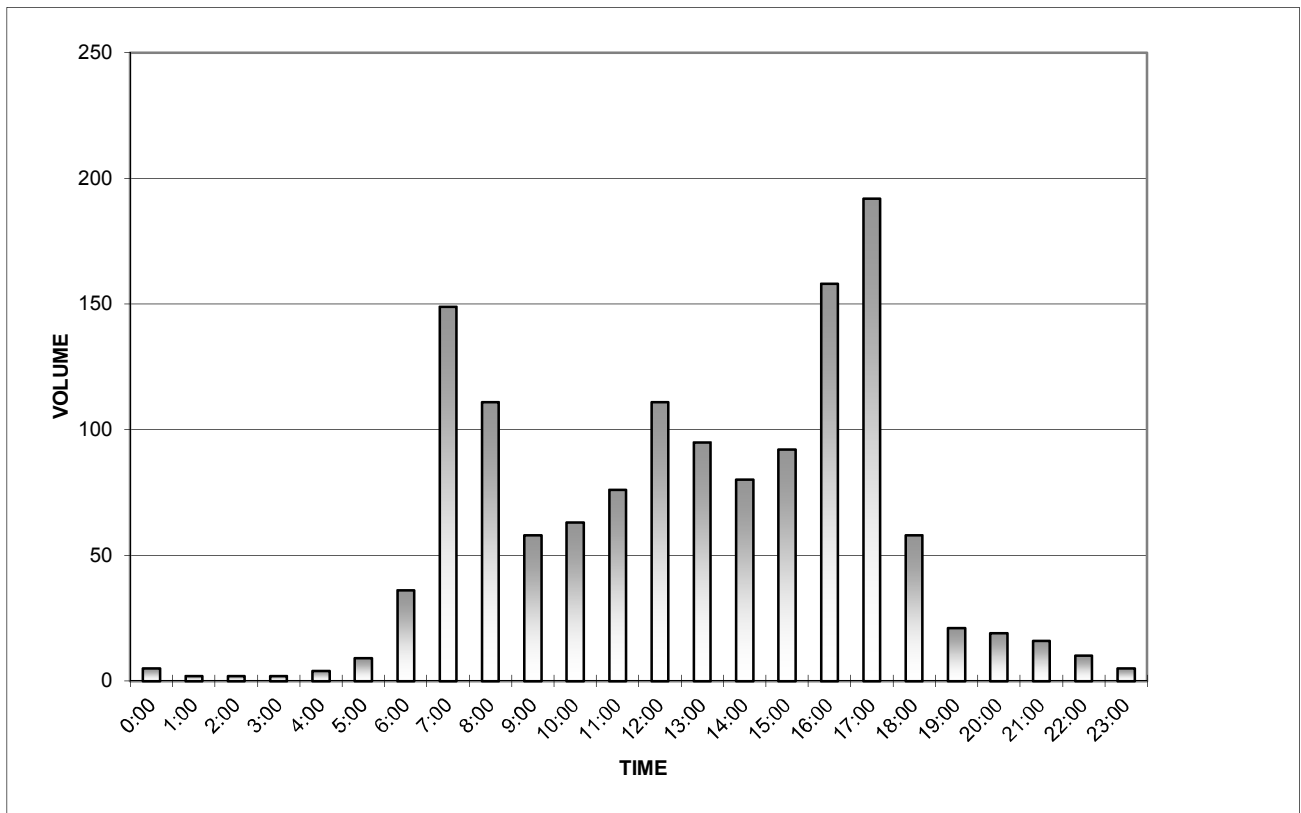
EB 17th Street between Colorado Street and Congress Avenue

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	2	0	3	0	5
1:00	0	0	1	1	2
2:00	0	0	1	1	2
3:00	0	2	0	0	2
4:00	2	1	1	0	4
5:00	1	3	1	4	9
6:00	2	6	11	17	36
7:00	23	44	43	39	149
8:00	29	24	30	28	111
9:00	14	22	11	11	58
10:00	20	12	18	13	63
11:00	9	18	25	24	76
12:00	32	21	22	36	111
13:00	26	24	24	21	95
14:00	23	11	14	32	80
15:00	27	9	27	29	92
16:00	28	36	57	37	158
17:00	83	47	36	26	192
18:00	24	12	12	10	58
19:00	7	9	5	0	21
20:00	5	5	4	5	19
21:00	4	8	1	3	16
22:00	3	2	3	2	10
23:00	3	2	0	0	5

TOTAL: 1374

The A.M. peak hour from 7:15 to 8:15 is 155
The P.M. peak hour from 16:30 to 17:30 is 224

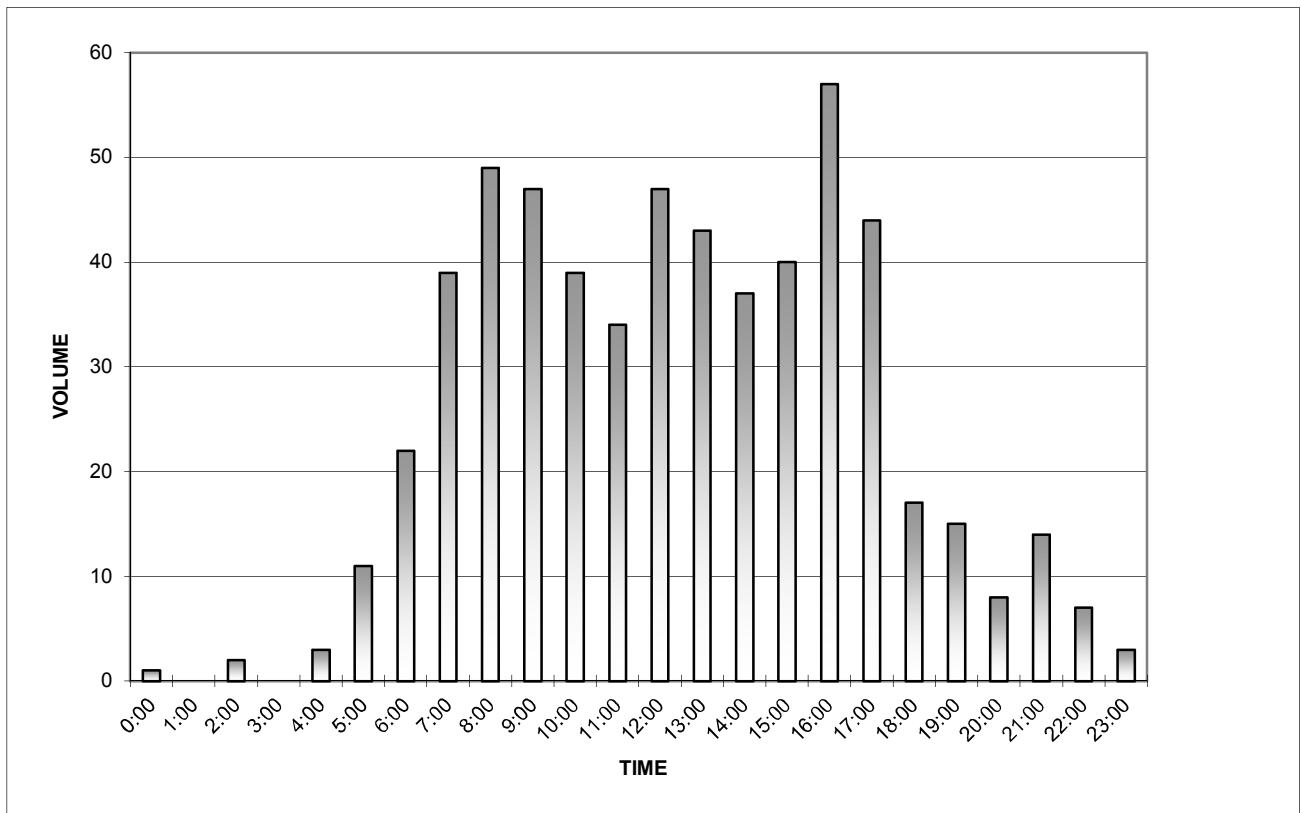


WB 18th Street between Brazos Street and San Jacinto Boulevard

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	0	0	0	1	1
1:00	0	0	0	0	0
2:00	1	1	0	0	2
3:00	0	0	0	0	0
4:00	1	1	0	1	3
5:00	1	4	2	4	11
6:00	7	1	7	7	22
7:00	11	9	6	13	39
8:00	13	13	12	11	49
9:00	16	7	14	10	47
10:00	11	8	6	14	39
11:00	4	11	13	6	34
12:00	10	8	20	9	47
13:00	9	16	8	10	43
14:00	15	6	9	7	37
15:00	4	8	13	15	40
16:00	21	7	13	16	57
17:00	9	11	17	7	44
18:00	8	4	1	4	17
19:00	4	2	4	5	15
20:00	4	2	2	0	8
21:00	5	3	3	3	14
22:00	1	1	5	0	7
23:00	1	2	0	0	3
TOTAL:					579

The A.M. peak hour from 8:15 to 9:15 is 52
The P.M. peak hour from 16:00 to 17:00 is 57

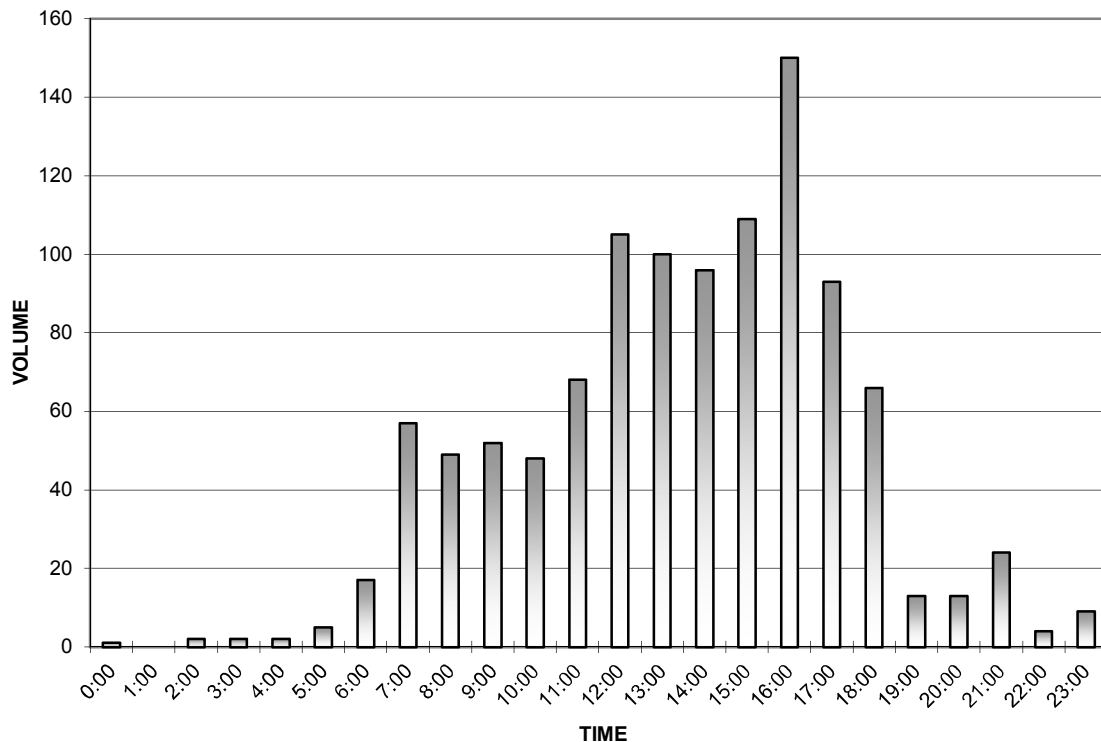


WB 18th Street between Colorado Street and Congress Avenue

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	0	1	0	0	1
1:00	0	0	0	0	0
2:00	1	1	0	0	2
3:00	0	2	0	0	2
4:00	0	2	0	0	2
5:00	0	3	1	1	5
6:00	1	2	4	10	17
7:00	13	14	11	19	57
8:00	11	13	12	13	49
9:00	14	7	11	20	52
10:00	13	10	15	10	48
11:00	11	16	17	24	68
12:00	24	24	31	26	105
13:00	27	23	22	28	100
14:00	31	21	24	20	96
15:00	26	17	27	39	109
16:00	48	34	37	31	150
17:00	39	28	18	8	93
18:00	20	18	18	10	66
19:00	3	4	1	5	13
20:00	3	4	3	3	13
21:00	11	5	4	4	24
22:00	1	0	2	1	4
23:00	1	0	2	6	9
TOTAL:					1085

The A.M. peak hour from 7:00 to 8:00 is 57
The P.M. peak hour from 15:45 to 16:45 is 158



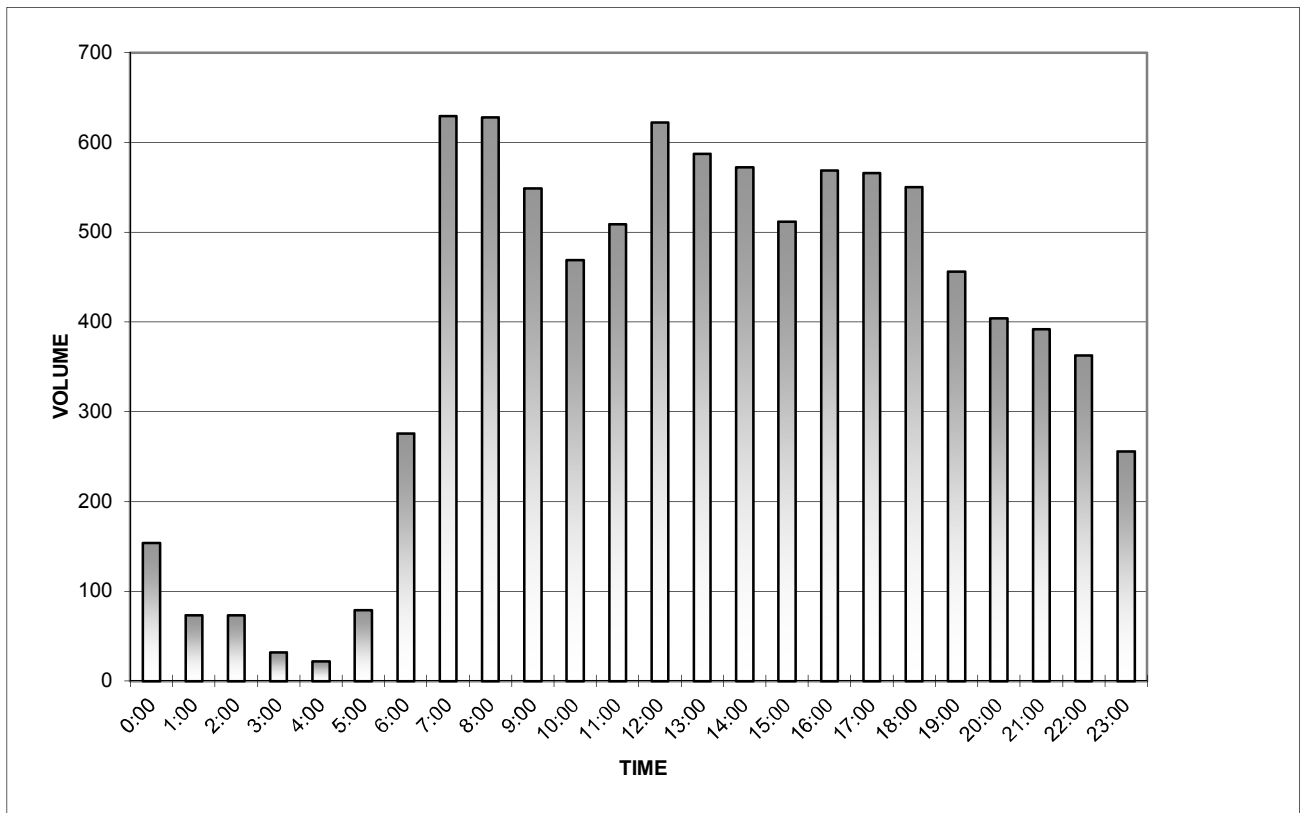
EB Martin Luther King Jr. Boulevard between Colorado Street and Congress Avenue

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	45	48	40	21	154
1:00	28	16	14	15	73
2:00	23	25	13	12	73
3:00	11	7	7	7	32
4:00	11	2	5	4	22
5:00	9	8	28	34	79
6:00	49	47	89	91	276
7:00	133	157	159	180	629
8:00	172	139	165	152	628
9:00	137	156	134	122	549
10:00	124	115	114	116	469
11:00	133	111	121	144	509
12:00	166	139	181	136	622
13:00	146	156	154	131	587
14:00	143	147	146	136	572
15:00	150	123	123	116	512
16:00	152	132	159	126	569
17:00	138	118	151	159	566
18:00	141	140	143	126	550
19:00	138	123	101	94	456
20:00	95	116	92	101	404
21:00	108	99	83	102	392
22:00	96	88	106	73	363
23:00	77	74	48	57	256

TOTAL: 9342

The A.M. peak hour from 7:15 to 8:15 is 668
The P.M. peak hour from 17:30 to 18:30 is 591



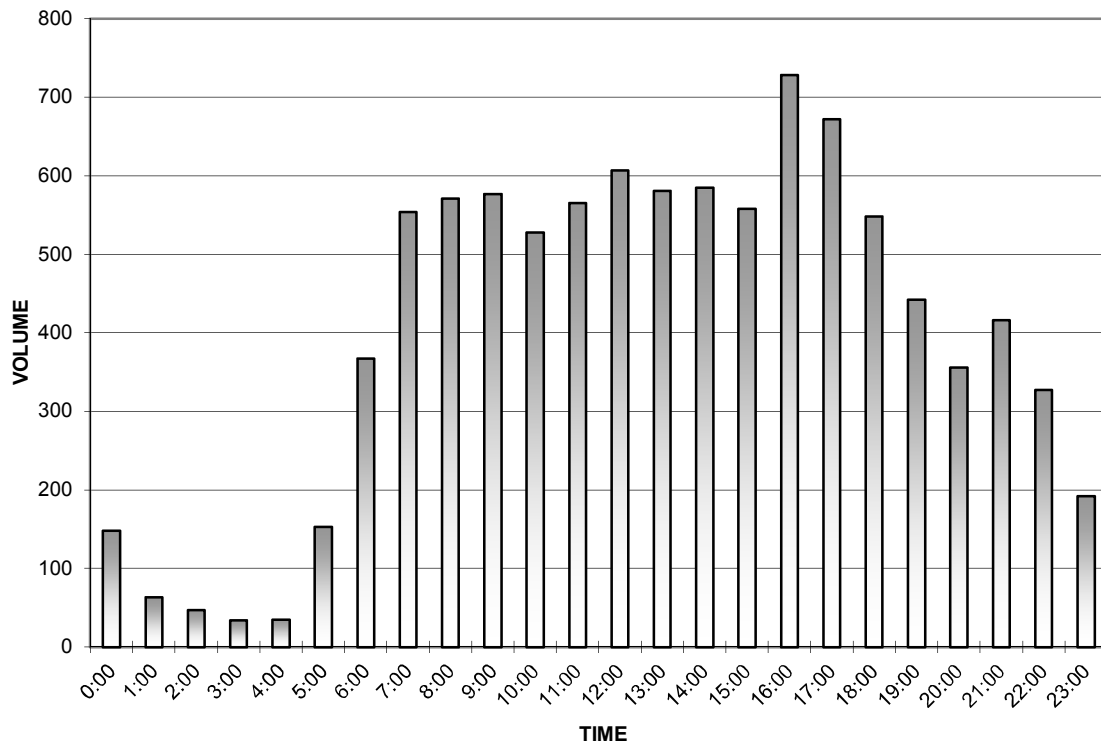
WB Martin Luther King Jr. Boulevard between Colorado Street and Congress Avenue

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	49	43	31	25	148
1:00	22	12	14	15	63
2:00	11	17	8	11	47
3:00	11	7	14	2	34
4:00	8	9	6	12	35
5:00	15	28	31	79	153
6:00	64	92	81	130	367
7:00	130	124	155	145	554
8:00	146	129	138	158	571
9:00	138	128	149	162	577
10:00	143	119	132	134	528
11:00	132	144	151	138	565
12:00	154	152	149	152	607
13:00	140	154	158	129	581
14:00	159	137	133	156	585
15:00	123	136	145	154	558
16:00	183	183	174	188	728
17:00	149	151	179	193	672
18:00	144	142	142	120	548
19:00	113	130	90	109	442
20:00	93	101	94	68	356
21:00	105	103	106	102	416
22:00	95	92	70	70	327
23:00	48	44	32	68	192

TOTAL: 9654

The A.M. peak hour from 9:15 to 10:15 is 582
The P.M. peak hour from 16:00 to 17:00 is 728

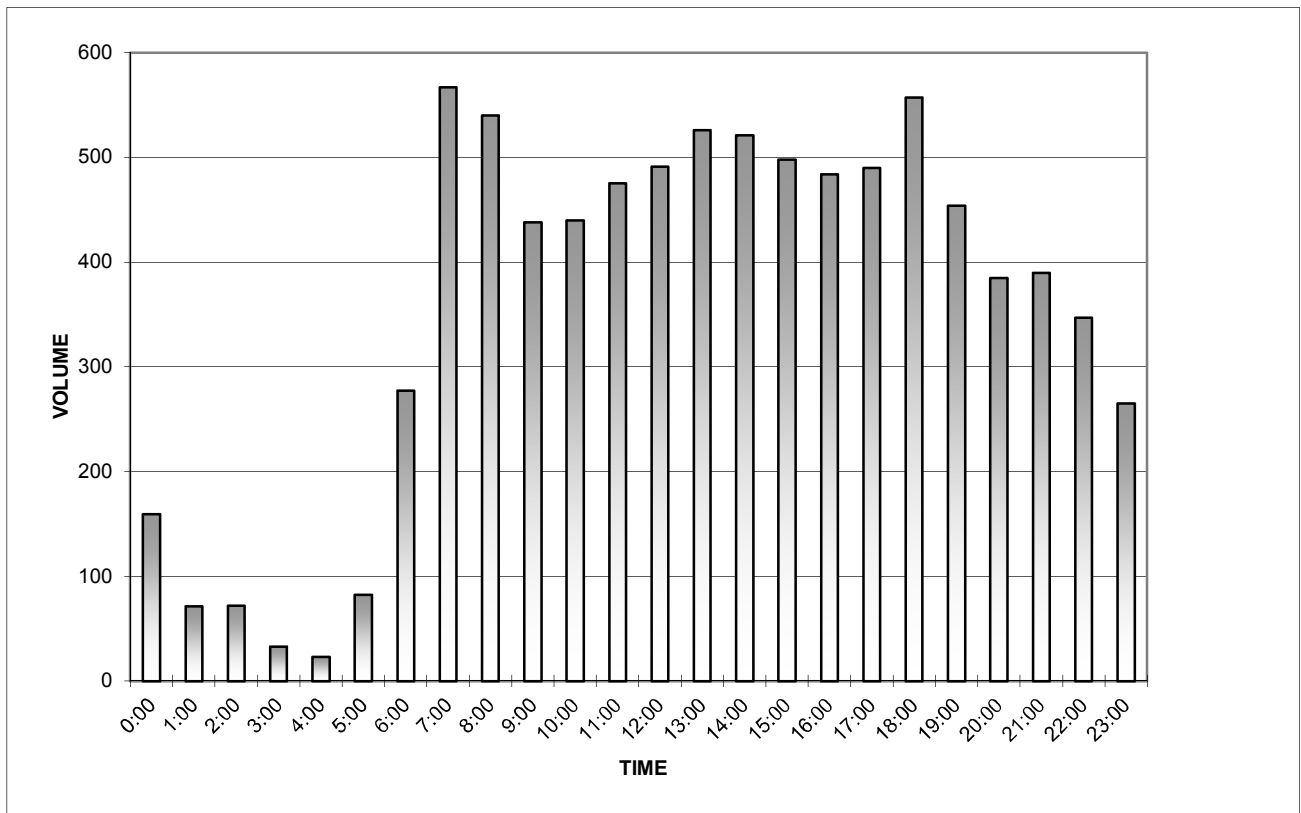


EB Martin Luther King Jr. Boulevard between Congress Avenue and Brazos Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	41	50	47	21	159
1:00	28	14	13	16	71
2:00	23	25	12	12	72
3:00	12	7	8	6	33
4:00	11	2	6	4	23
5:00	9	9	24	40	82
6:00	50	54	78	95	277
7:00	136	139	145	147	567
8:00	139	123	144	134	540
9:00	111	123	110	94	438
10:00	112	102	97	129	440
11:00	120	112	113	130	475
12:00	133	103	133	122	491
13:00	141	116	136	133	526
14:00	133	134	138	116	521
15:00	132	110	139	117	498
16:00	137	127	119	101	484
17:00	107	86	154	143	490
18:00	162	138	132	125	557
19:00	128	125	98	103	454
20:00	100	107	83	95	385
21:00	111	94	82	103	390
22:00	99	86	85	77	347
23:00	81	73	49	62	265
TOTAL:					8585

The A.M. peak hour from 7:15 to 8:15 is 570
The P.M. peak hour from 17:30 to 18:30 is 597



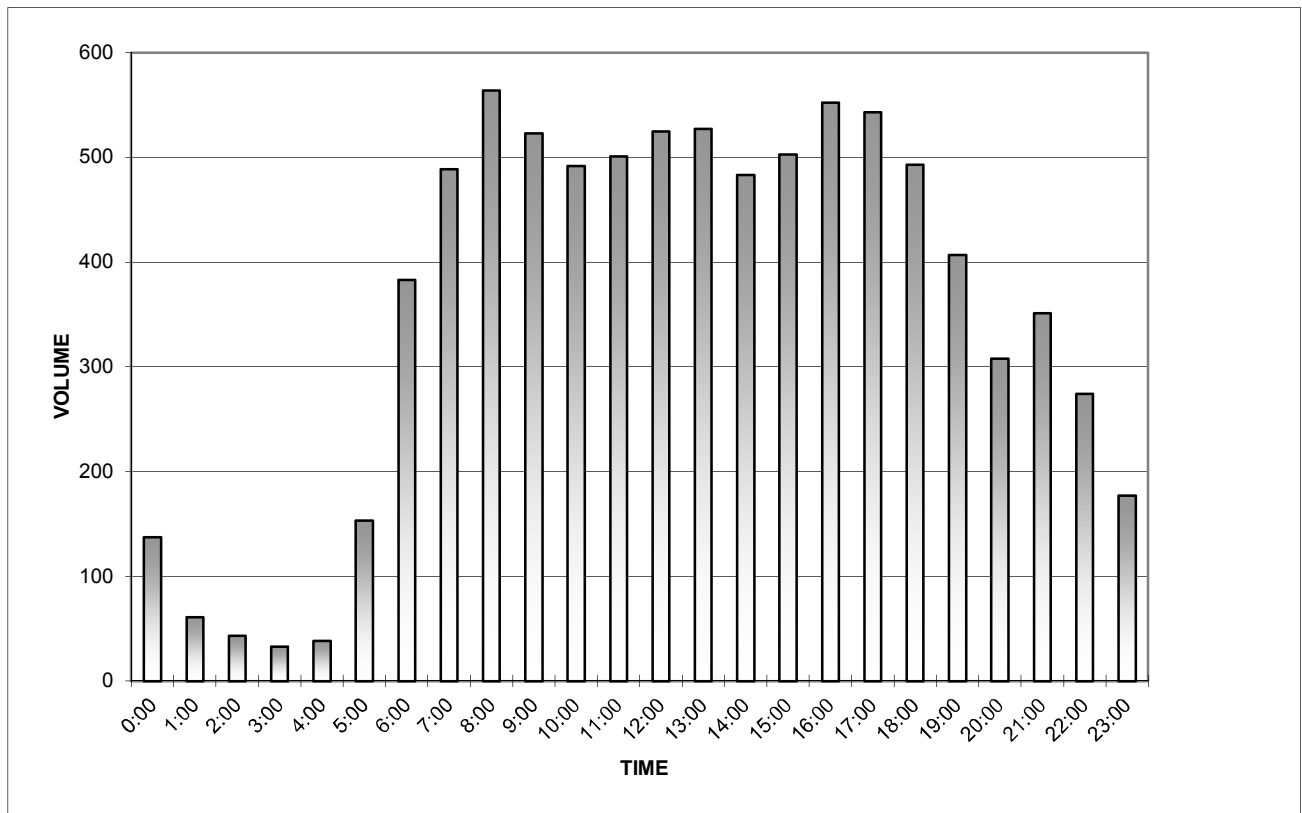
WB Martin Luther King Jr. Boulevard between Congress Avenue and Brazos Street

Date Began:
7/21/2015

TIME	0:00	0:15	0:30	0:45	TOTAL
0:00	44	40	29	24	137
1:00	23	13	15	10	61
2:00	11	13	10	9	43
3:00	10	7	13	3	33
4:00	8	9	9	12	38
5:00	14	27	36	76	153
6:00	62	95	95	131	383
7:00	139	92	132	126	489
8:00	156	117	145	146	564
9:00	145	117	128	133	523
10:00	119	115	133	125	492
11:00	116	138	120	127	501
12:00	122	128	142	133	525
13:00	112	134	144	137	527
14:00	139	107	119	118	483
15:00	120	113	132	138	503
16:00	165	160	99	128	552
17:00	130	118	133	162	543
18:00	145	124	121	103	493
19:00	106	108	84	109	407
20:00	87	85	75	61	308
21:00	85	89	99	78	351
22:00	82	75	58	59	274
23:00	49	36	36	56	177

TOTAL: 8560

The A.M. peak hour from 8:00 to 9:00 is 564
The P.M. peak hour from 15:30 to 16:30 is 595



Appendix C.

Trip Generation Summary - 2020_Phase 1
Average Weekday Driveway Volumes

Project: 15206
Alternative: Texas Capital Complex Master Plan 2018

Open Date: 9/29/2016
Analysis 9/29/2016

ITE	Land Use	Average Daily Trips			AM Peak Hour Adjacent Street Traffic			PM Peak Hour Adjacent Street Traffic		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
710	General Office Building	3849	3849	7698	1083	148	1231	208	1018	1226
1025	Gross Floor Area 1000 SF									
Unadjusted Driveway Volume		3849	3849	7698	1083	148	1231	208	1018	1226
Unadjusted Pass-By Trips		0	0	0	0	0	0	0	0	0
Internal Capture Trips		0	0	0	0	0	0	0	0	0
Adjusted Driveway Volume		3849	3849	7698	1083	148	1231	208	1018	1226
Adjusted Pass-By Trips		0	0	0	0	0	0	0	0	0
Adjusted Volume Added to Adjacent Streets		3849	3849	7698	1083	148	1231	208	1018	1226
Total AM Peak Hour Internal Capture = 0 Percent										
Total PM Peak Hour Internal Capture = 0 Percent										

Trip Generation Summary - 2022_Phase 2
Average Weekday Driveway Volumes

Project: 15206
Alternative: Texas Capital Complex Master Plan 2018

Open Date: 9/29/2016
Analysis 9/29/2016

ITE	Land Use	Average Daily Trips			AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
710	General Office Building	2315	2314	4629	634	87	721	113	553	666
525	Gross Floor Area 1000 SF									
	Unadjusted Driveway Volume	2315	2314	4629	634	87	721	113	553	666
	Unadjusted Pass-By Trips	0	0	0	0	0	0	0	0	0
	Internal Capture Trips	0	0	0	0	0	0	0	0	0
	Adjusted Driveway Volume	2315	2314	4629	634	87	721	113	553	666
	Adjusted Pass-By Trips	0	0	0	0	0	0	0	0	0
	Adjusted Volume Added to Adjacent Streets	2315	2314	4629	634	87	721	113	553	666
Total AM Peak Hour Internal Capture = 0 Percent										
Total PM Peak Hour Internal Capture = 0 Percent										

Trip Generation Summary - 2024_Phase 3
Average Weekday Driveway Volumes

Project: 15206
Alternative: Texas Capital Complex Master Plan 2018

Open Date: 9/29/2016
Analysis 9/29/2016

ITE	Land Use	Average Daily Trips			AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
710	General Office Building	2332	2331	4663	640	87	727	114	558	672
	530 Gross Floor Area 1000 SF									
Unadjusted Driveway Volume		2332	2331	4663	640	87	727	114	558	672
Unadjusted Pass-By Trips		0	0	0	0	0	0	0	0	0
Internal Capture Trips		0	0	0	0	0	0	0	0	0
Adjusted Driveway Volume		2332	2331	4663	640	87	727	114	558	672
Adjusted Pass-By Trips		0	0	0	0	0	0	0	0	0
Adjusted Volume Added to Adjacent Streets		2332	2331	4663	640	87	727	114	558	672
Total AM Peak Hour Internal Capture = 0 Percent										
Total PM Peak Hour Internal Capture = 0 Percent										

Land Use: 710

General Office Building

Description

A general office building houses multiple tenants; it is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants including professional services, insurance companies, investment brokers and tenant services, such as a bank or savings and loan institution, a restaurant or cafeteria and service retail facilities. Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), office park (Land Use 750), research and development center (Land Use 760) and business park (Land Use 770) are related uses.

If information is known about individual buildings, it is suggested that the general office building category be used rather than office parks when estimating trip generation for one or more office buildings in a single development. The office park category is more general and should be used when a breakdown of individual or different uses is not known. If the general office building category is used and if additional buildings, such as banks, restaurants, or retail stores, are included in the development, the development should be treated as a multiuse project. On the other hand, if the office park category is used, internal trips are already reflected in the data and do not need to be considered.

When the buildings are interrelated (defined by shared parking facilities or the ability to easily walk between buildings) or house one tenant, it is suggested that the total area or employment of all the buildings be used for calculating the trip generation. When the individual buildings are isolated and not related to one another, it is suggested that trip generation be calculated for each building separately and then summed.

Additional Data

Average weekday transit trip ends—

Transit service was either nonexistent or negligible at the majority of the sites surveyed in this land use. Users may wish to modify trip generation rates presented in this land use to reflect the presence of public transit, carpools and other transportation demand management (TDM) strategies. Information has not been analyzed to document the impacts of TDM measures on the total trip generation of a site. See the *ITE Trip Generation Handbook*, Second Edition for additional information on this topic.

The average building occupancy varied considerably within the studies for which occupancy data were provided. For buildings with occupancy rates reported, the average occupied gross leasable area was 88 percent.

Some of the regression curves plotted for this land use may produce illogical trip-end estimates for small office buildings. When the proposed site size is significantly smaller than the average-sized facility published in this report, caution should be used when applying these statistics. For more information, please refer to Chapter 3, "Guidelines for Estimating Trip Generation," of the *ITE Trip Generation Handbook*, Second Edition.

In some regions, peaking may occur earlier or later and may last somewhat longer than the traditional 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. peak period time frames.

The sites were surveyed between the 1960s and the 2000s throughout the United States.

Trip Characteristics

The trip generation for the A.M. and P.M. peak hours of the generator typically coincided with the peak hours of the adjacent street traffic; therefore, only one A.M. peak hour and one P.M. peak hour, which represent both the peak hour of the generator and the peak hour of the adjacent street traffic, are shown for general office buildings.

Source Numbers

2, 5, 20, 21, 51, 53, 54, 72, 88, 89, 92, 95, 98, 100, 159, 161, 172, 175, 178, 183, 184, 185, 189, 193, 207, 212, 217, 247, 253, 257, 260, 262, 279, 295, 297, 298, 300, 301, 302, 303, 304, 321, 322, 323, 324, 327, 404, 407, 408, 418, 419, 423, 562, 734

General Office Building (710)

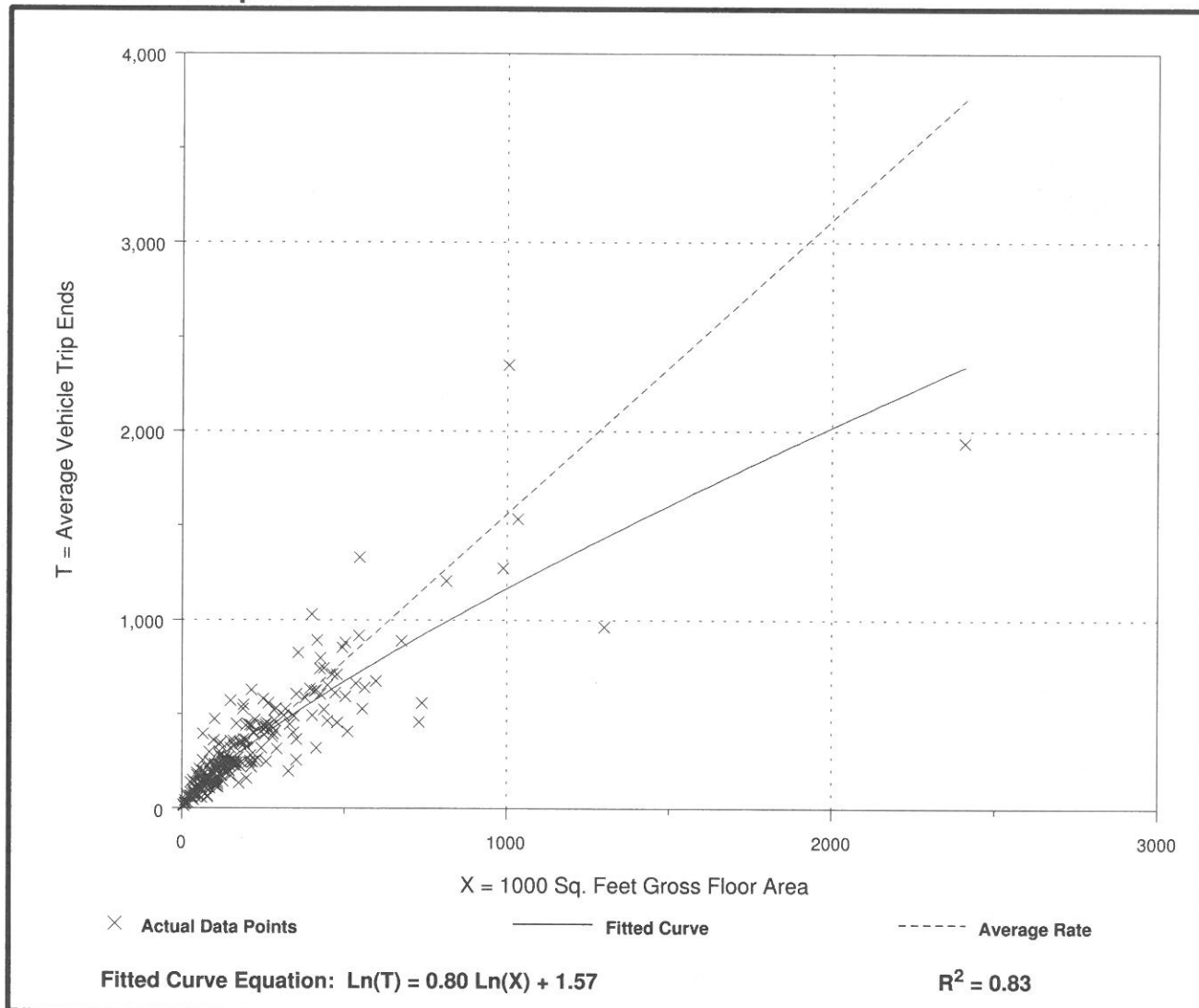
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
A.M. Peak Hour

Number of Studies: 218
 Average 1000 Sq. Feet GFA: 222
 Directional Distribution: 88% entering, 12% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
1.56	0.60 - 5.98	1.40

Data Plot and Equation



General Office Building (710)

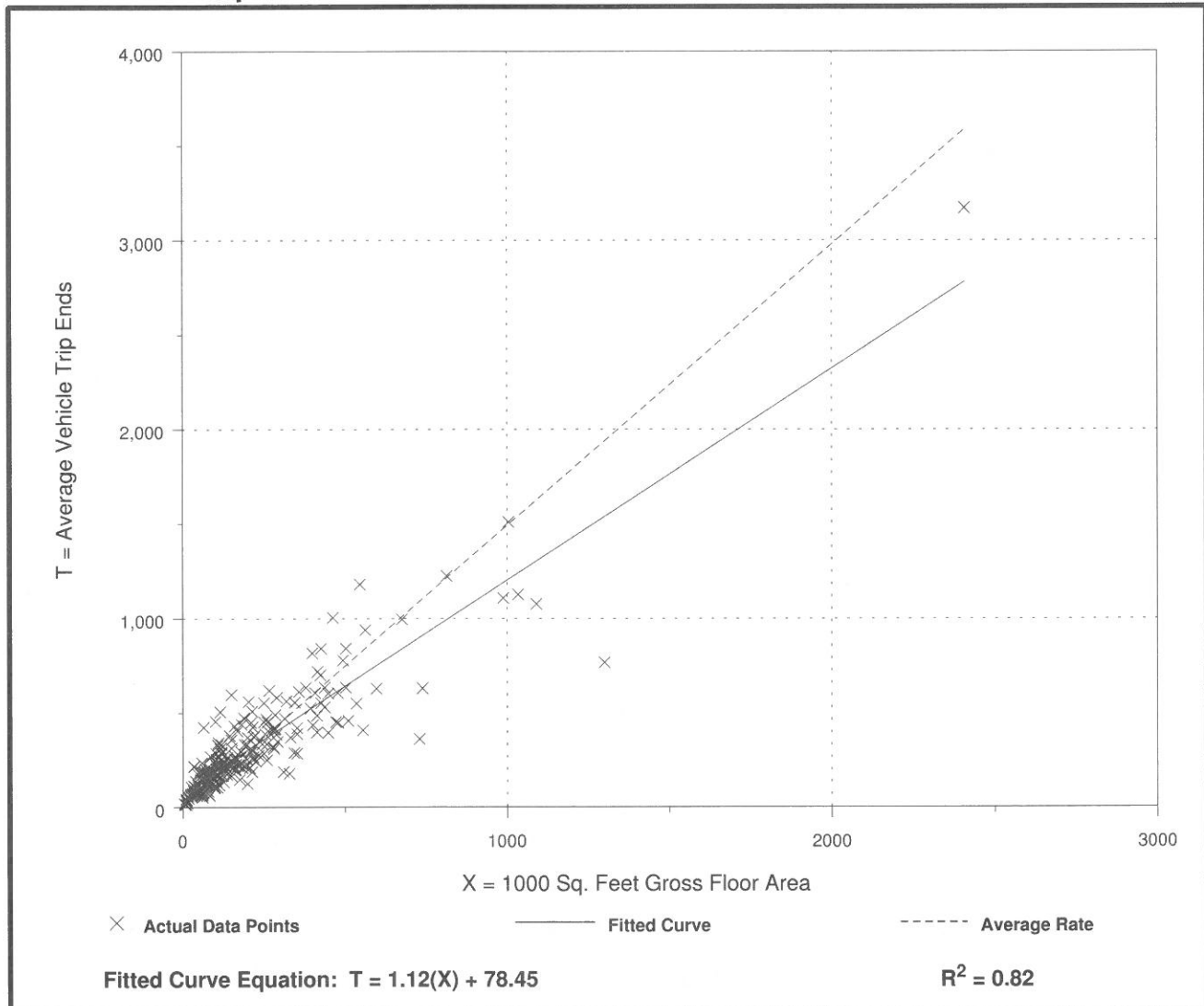
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
P.M. Peak Hour

Number of Studies: 236
 Average 1000 Sq. Feet GFA: 215
 Directional Distribution: 17% entering, 83% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
1.49	0.49 - 6.39	1.37

Data Plot and Equation



General Office Building (710)

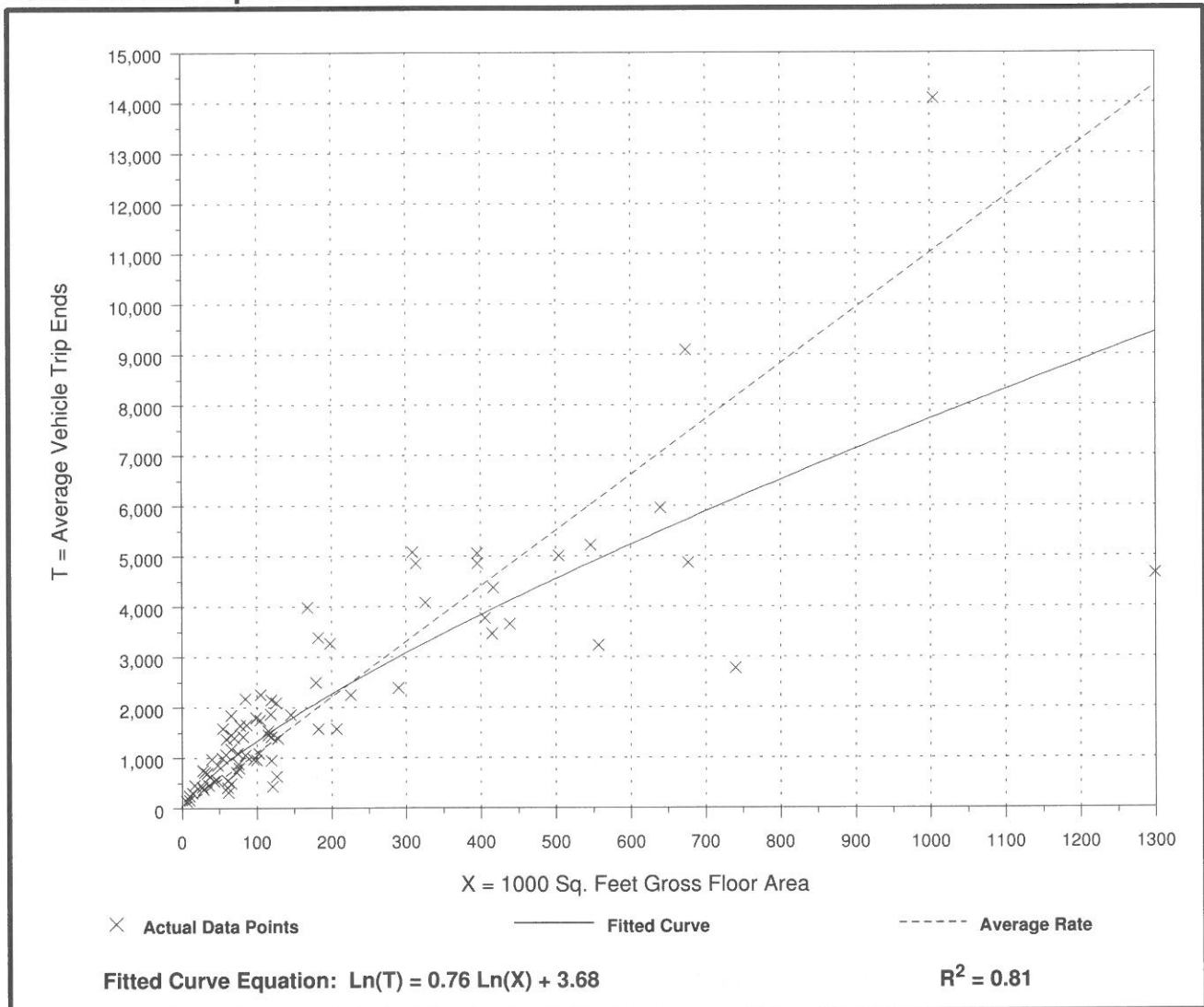
**Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday**

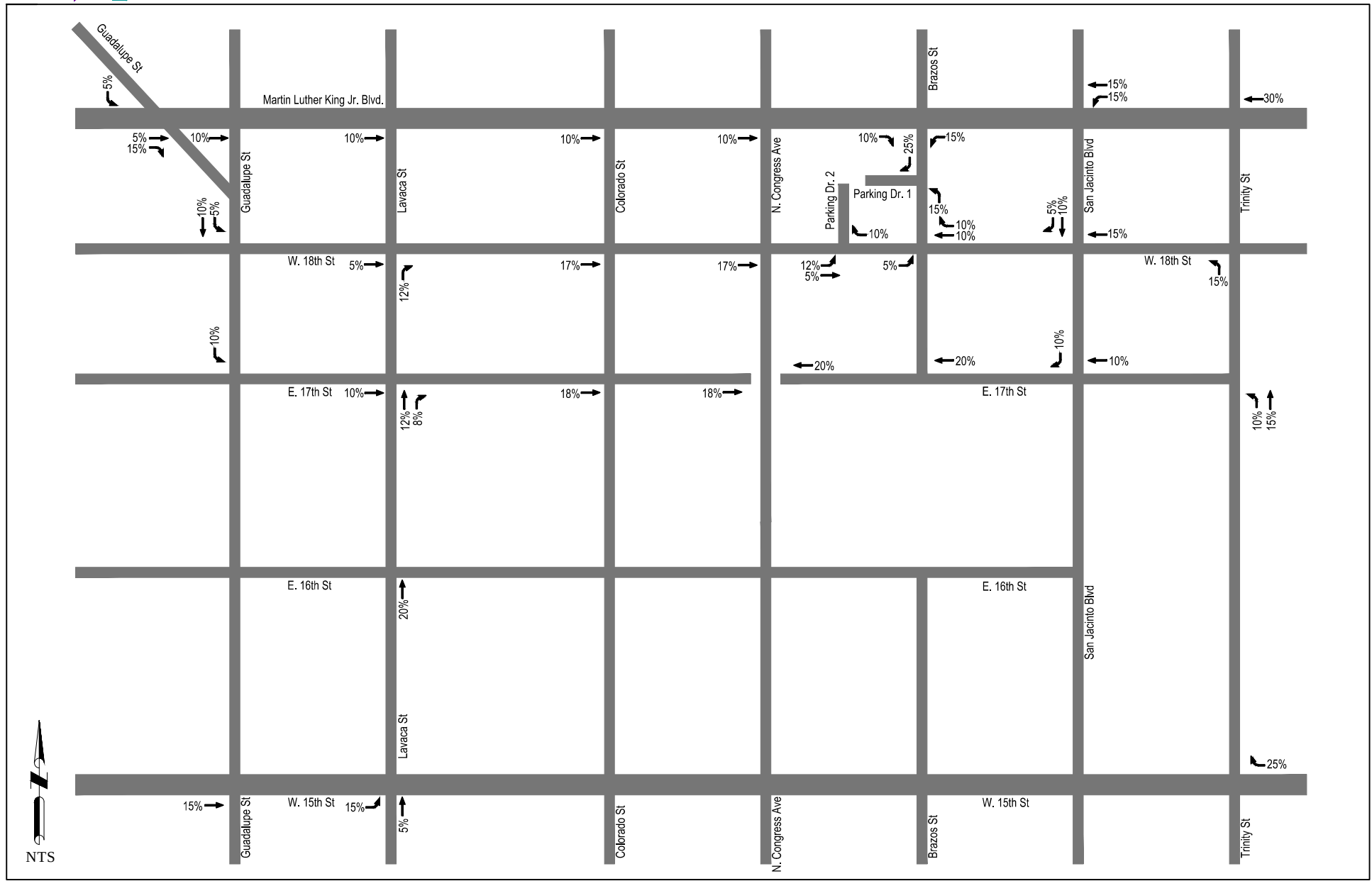
Number of Studies: 79
Average 1000 Sq. Feet GFA: 197
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
11.03	3.58 - 28.80	6.15

Data Plot and Equation





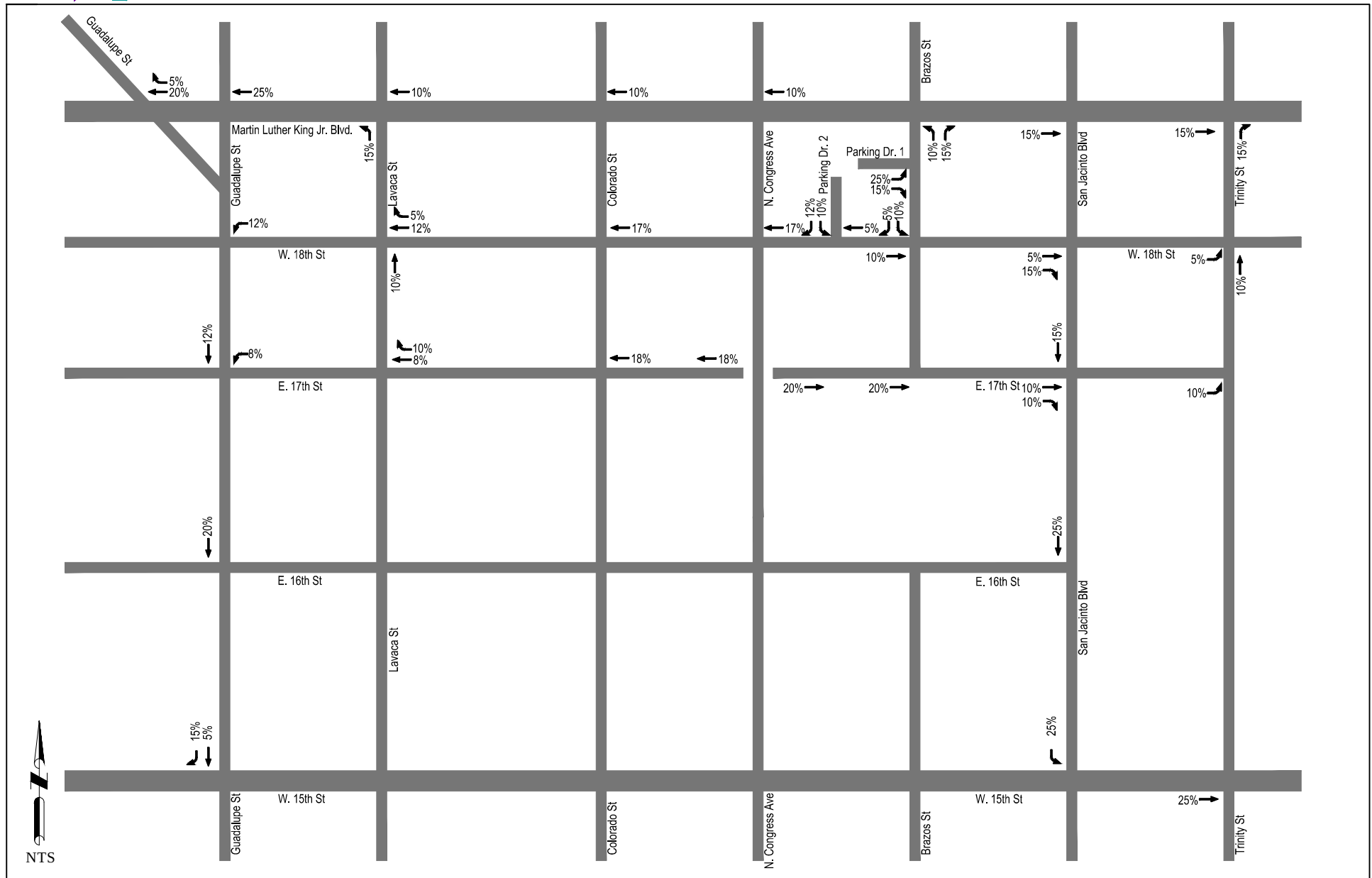
Phase 1 - Traffic Assignment - Inbound

TIA for TFC Capital Complex in Austin, Texas

PROJECT #15206

EXHIBIT

1



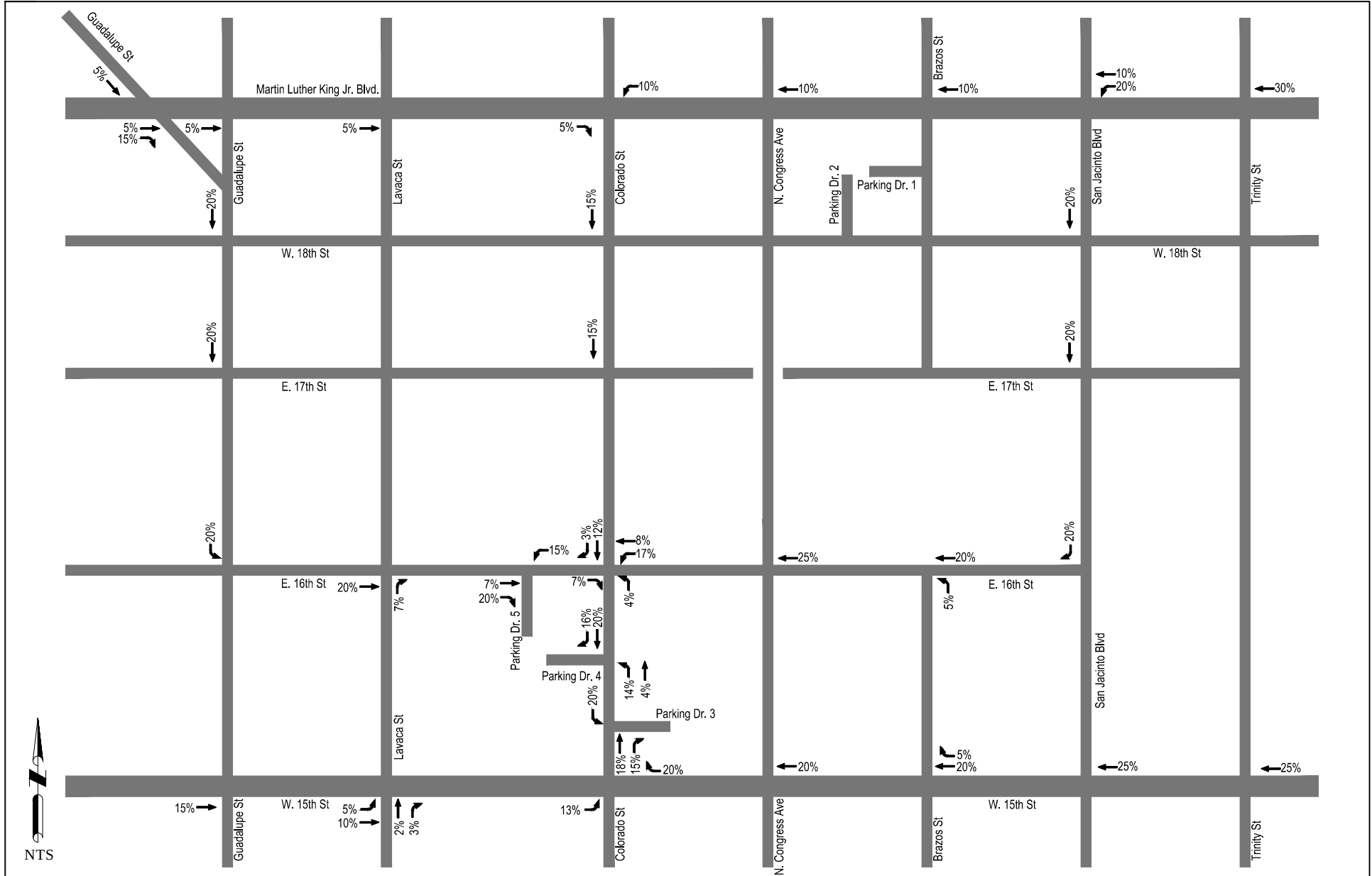
Phase 1 - Traffic Assignment - Outbound

TIA for TFC Capital Complex in Austin, Texas

PROJECT #15206

EXHIBIT

2



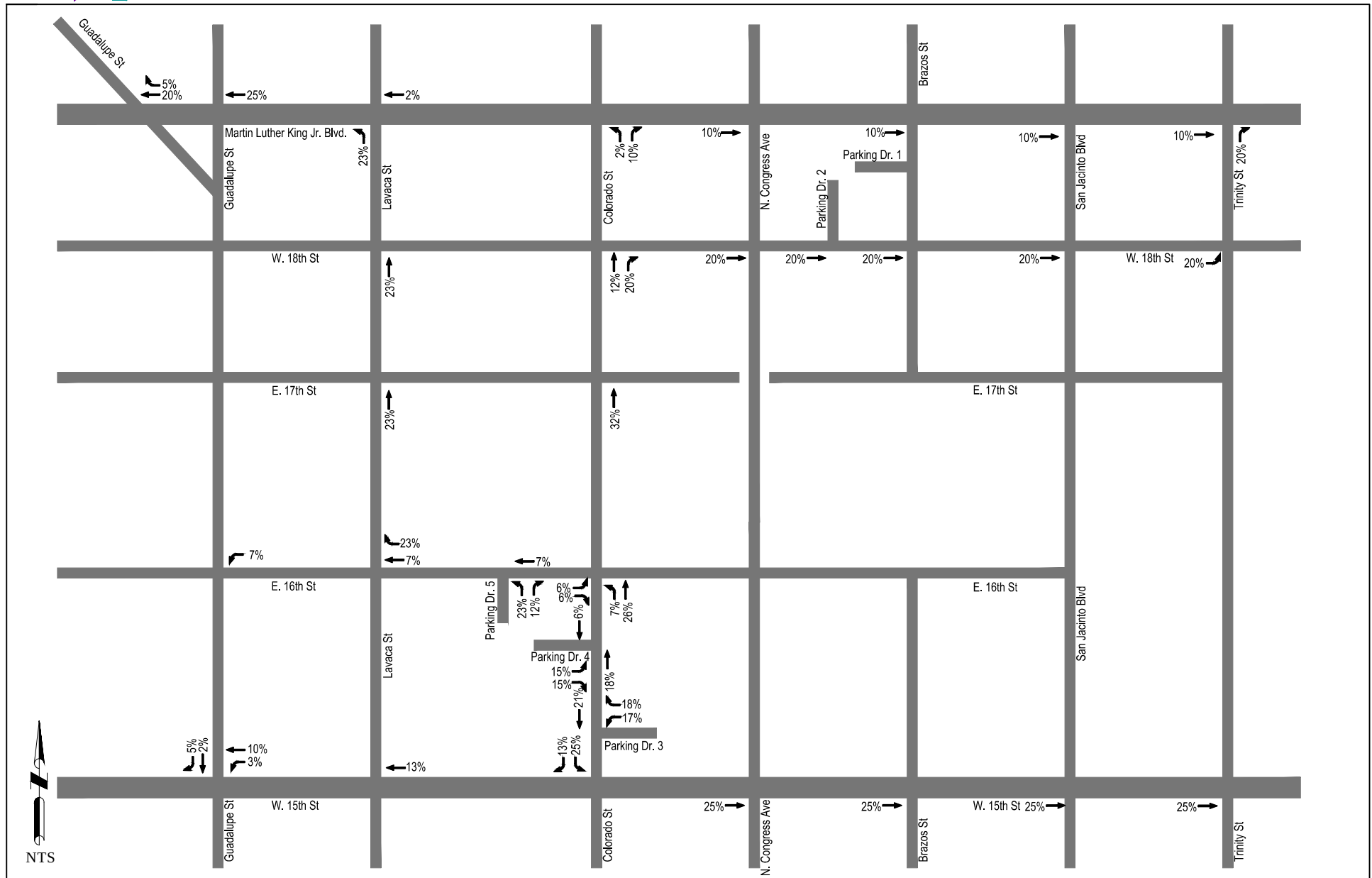
Phase 2 - Traffic Assignment - Inbound

TIA for TFC Capital Complex in Austin, Texas

PROJECT #15206

EXHIBIT

3



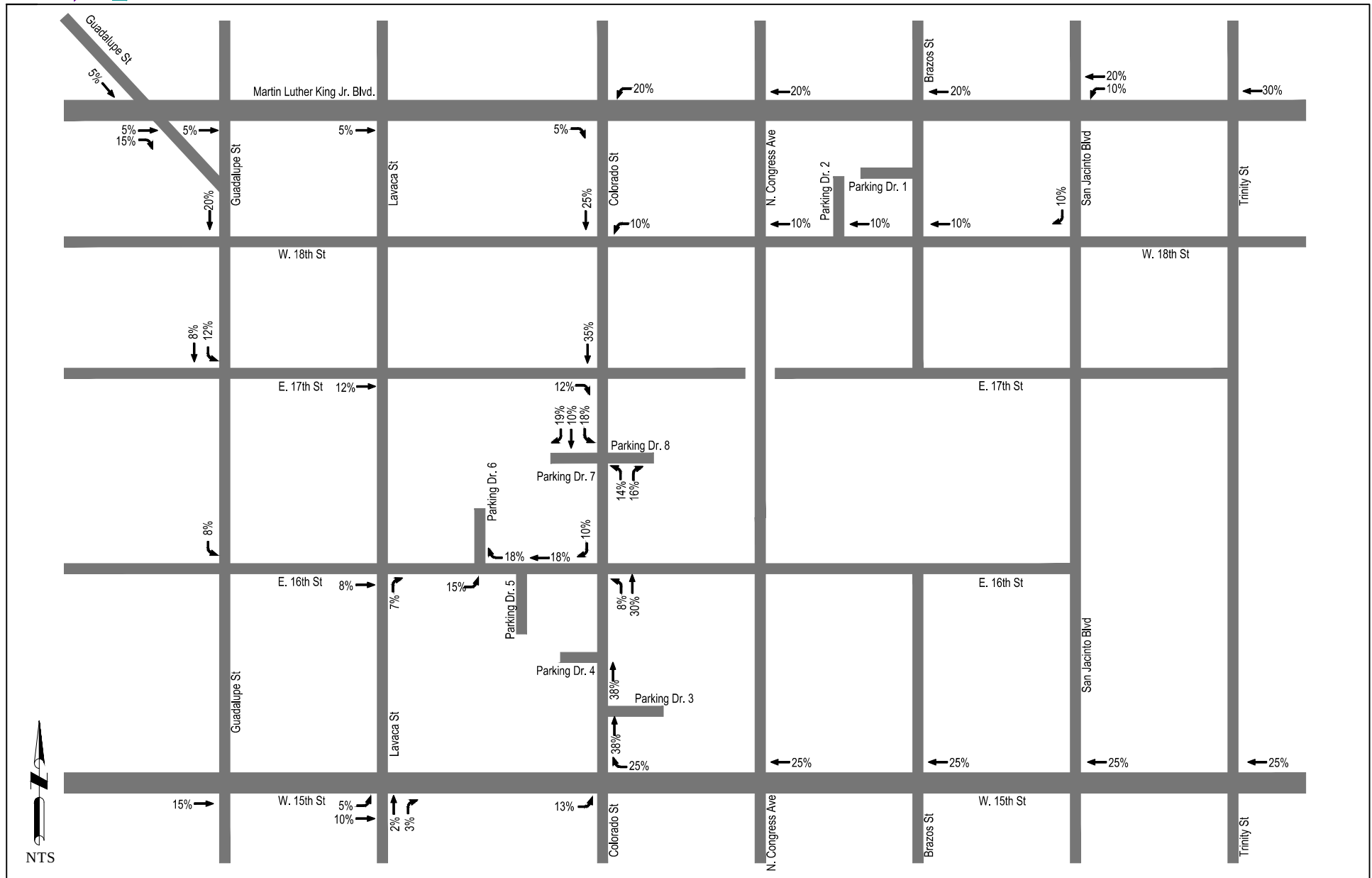
Phase 2 - Traffic Assignment - Outbound

TIA for TFC Capital Complex in Austin, Texas

PROJECT #15206

EXHIBIT

4



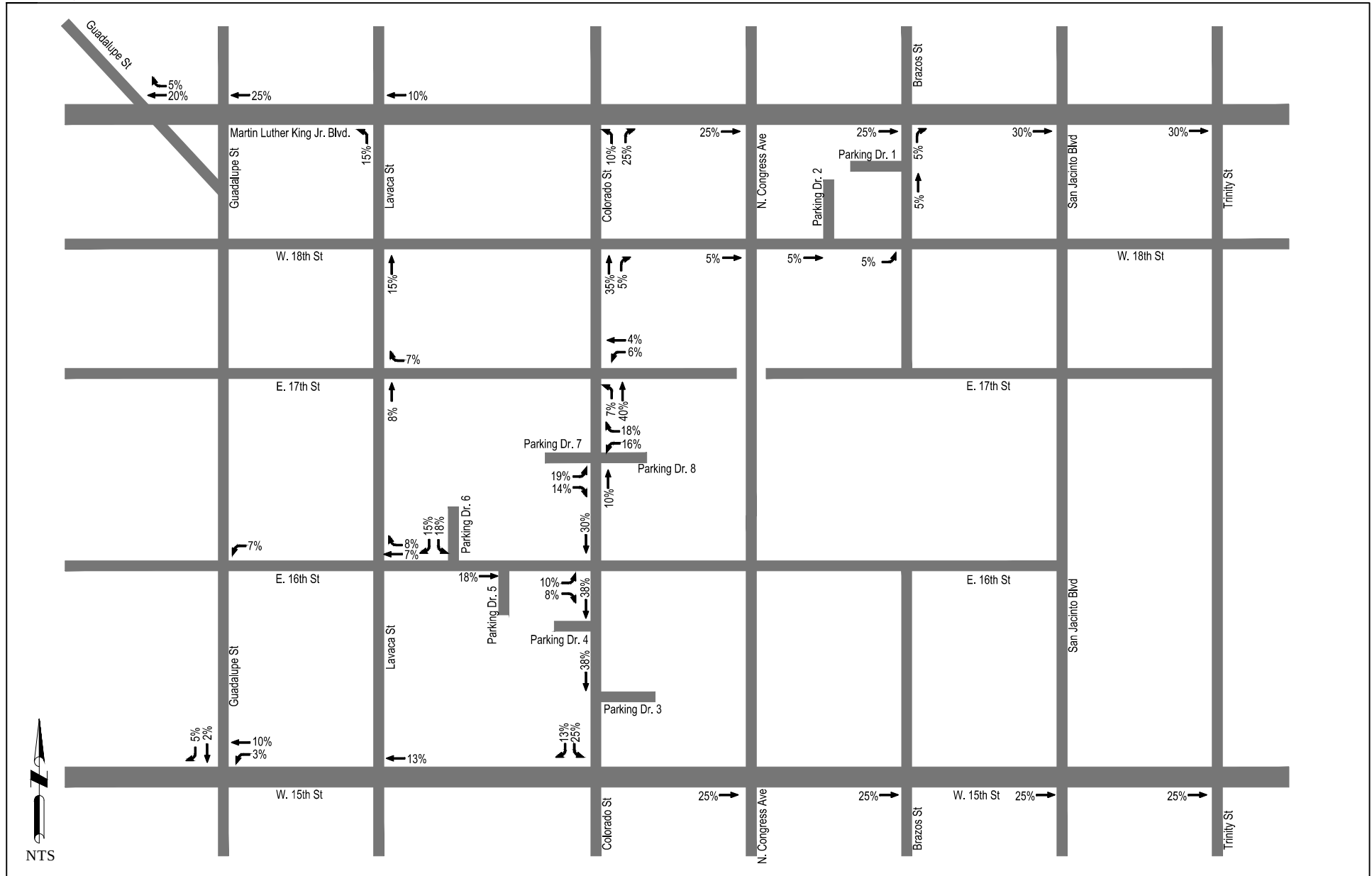
Phase 3 - Traffic Assignment - Inbound

TIA for TFC Capital Complex in Austin, Texas

PROJECT #15206

EXHIBIT

5



Phase 3 - Traffic Assignment - Outbound

TIA for TFC Capital Complex in Austin, Texas

PROJECT #15206

EXHIBIT

6

Appendix D.

1: Martin Luther King Jr. Blvd & Guadalupe ST
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱			↱↰	↱				↰	↰↱	↱
Traffic Volume (vph)	63	670	152	0	479	299	0	0	0	224	654	124
Future Volume (vph)	63	670	152	0	479	299	0	0	0	224	654	124
Confl. Peds. (#/hr)	26		18	18		26				27		18
Confl. Bikes (#/hr)			1			1						12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	67	713	162	0	510	318	0	0	0	238	696	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	875	0	0	510	318	0	0	0	238	696	132
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6				4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	10.0	5.0			15.0	5.0				5.0	15.0	15.0
Minimum Split (s)	15.0	32.0			34.0	10.0				10.0	34.0	34.0
Total Split (s)	18.0	75.0			57.0	45.0				45.0	45.0	45.0
Total Split (%)	15.0%	62.5%			47.5%	37.5%				37.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effect Green (s)	12.4	70.0			55.6	95.6				40.0	40.0	40.0
Actuated g/C Ratio	0.10	0.58			0.46	0.80				0.33	0.33	0.33
v/c Ratio	0.37	0.44			0.31	0.25				0.40	0.59	0.23
Control Delay	56.0	14.1			37.1	4.3				33.4	35.7	11.0
Queue Delay	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Delay	56.0	14.1			37.1	4.4				33.4	35.7	11.0
LOS	E	B			D	A				C	D	B
Approach Delay		17.1			24.6						32.1	
Approach LOS		B			C						C	
Queue Length 50th (ft)	49	180			195	72				141	234	20
Queue Length 95th (ft)	96	226			270	116				216	298	66
Internal Link Dist (ft)		228			45		159				210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	191	2009			1639	1271				590	1179	568
Starvation Cap Reductn	0	0			0	137				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.35	0.44			0.31	0.28				0.40	0.59	0.23

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 85

1: Martin Luther King Jr. Blvd & Guadalupe ST
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 24.9

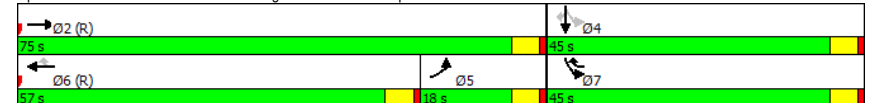
Intersection LOS: C

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe ST



3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖
Traffic Volume (vph)	897	0	0	665	309	210
Future Volume (vph)	897	0	0	665	309	210
Confl. Peds. (#/hr)						10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1043	0	0	773	359	244
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1043	0	0	773	359	244
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			5.0	10.0	10.0
Minimum Split (s)	30.0			10.0	30.0	30.0
Total Split (s)	87.0			87.0	33.0	33.0
Total Split (%)	72.5%			72.5%	27.5%	27.5%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			None	Max	Max
Act Effct Green (s)	82.0			82.0	28.0	28.0
Actuated g/C Ratio	0.68			0.68	0.23	0.23
v/c Ratio	0.43			0.32	0.45	0.52
Control Delay	7.9			6.9	43.5	25.7
Queue Delay	0.1			0.0	0.0	0.0
Total Delay	8.0			6.9	43.5	25.7
LOS	A			A	D	C
Approach Delay	8.0			6.9	36.3	
Approach LOS	A			A	D	
Queue Length 50th (ft)	121			65	92	43
Queue Length 95th (ft)	133			64	149	126
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2418			2418	801	471
Starvation Cap Reductn	464			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.53			0.32	0.45	0.52
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						

09/29/2016
MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 14.7

Intersection LOS: B

Intersection Capacity Utilization 54.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd

→ Ø2 (R)	↖ Ø3
87 s	33 s
← Ø6	↖ Ø8
87 s	33 s

09/29/2016
MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↕	↕↕	↕↕	↕
Traffic Volume (vph)	910	50	80	845	12	43
Future Volume (vph)	910	50	80	845	12	43
Confl. Peds. (#/hr)		6	6		1	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1022	56	90	949	13	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1078	0	90	949	13	48
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	15.0		1.0	5.0	15.0	15.0
Minimum Split (s)	34.0		6.0	29.0	34.0	34.0
Total Split (s)	69.0		15.0	84.0	36.0	36.0
Total Split (%)	57.5%		12.5%	70.0%	30.0%	30.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	Max	Max
Act Effect Green (s)	64.0		79.0	79.0	31.0	31.0
Actuated g/C Ratio	0.53		0.66	0.66	0.26	0.26
v/c Ratio	0.58		0.26	0.41	0.01	0.11
Control Delay	13.2		12.5	9.7	33.2	10.2
Queue Delay	0.0		0.0	0.4	0.0	0.0
Total Delay	13.2		12.5	10.1	33.2	10.2
LOS	B		B	B	C	B
Approach Delay	13.2			10.3	15.1	
Approach LOS	B			B	B	
Queue Length 50th (ft)	271		26	264	4	0
Queue Length 95th (ft)	358		50	329	11	30
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115		120	
Base Capacity (vph)	1872		345	2329	886	444
Starvation Cap Reductn	0		0	807	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.58		0.26	0.62	0.01	0.11

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 21 (18%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 11.9

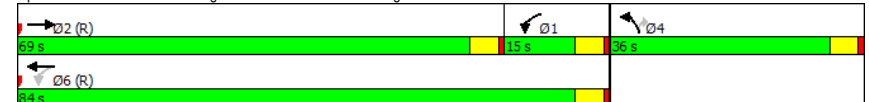
Intersection LOS: B

Intersection Capacity Utilization 56.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱	↰		↰	↰	↰	↰	↰
Traffic Volume (vph)	132	705	118	128	911	130	5	0	13	40	1	10
Future Volume (vph)	132	705	118	128	911	130	5	0	13	40	1	10
Confl. Peds. (#/hr)	17		8	8		17	22		7	7		22
Confl. Bikes (#/hr)			3			3						1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	157	839	140	152	1085	155	6	0	15	48	1	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	979	0	152	1085	155	0	6	15	0	49	12
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	1.0	10.0		1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	6.0	22.0		6.0	28.0	28.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (s)	20.0	70.0		20.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	16.7%	58.3%		16.7%	58.3%	58.3%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	80.1	71.2		79.9	71.1	71.1		25.0	25.0		25.0	25.0
Actuated g/C Ratio	0.67	0.59		0.67	0.59	0.59		0.21	0.21		0.21	0.21
v/c Ratio	0.45	0.48		0.39	0.52	0.17		0.02	0.04		0.17	0.03
Control Delay	18.2	8.8		11.0	16.5	5.6		38.2	0.2		40.9	0.2
Queue Delay	0.0	0.1		0.0	0.2	0.0		0.0	0.0		0.0	0.0
Total Delay	18.2	8.9		11.0	16.7	5.6		38.2	0.2		40.9	0.2
LOS	B	A		B	B	A		D	A		D	A
Approach Delay		10.2			14.8			11.1			32.9	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	39	86		33	295	16		4	0		31	0
Queue Length 95th (ft)	93	124		42	344	23		15	0		62	0
Internal Link Dist (ft)		377			273			337			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	433	2051		473	2096	912		272	371		290	365
Starvation Cap Reductn	0	293		0	329	0		0	0		0	0
Spillback Cap Reductn	0	79		0	0	0		0	1		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.36	0.56		0.32	0.61	0.17		0.02	0.04		0.17	0.03

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 65

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 13.2

Intersection LOS: B

Intersection Capacity Utilization 71.0%

ICU Level of Service C

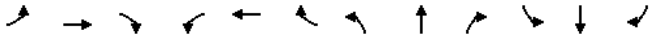
Analysis Period (min) 15

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↓	↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	652	140	312	1133	0	0	0	0	34	48	52
Future Volume (vph)	0	652	140	312	1133	0	0	0	0	34	48	52
Confl. Peds. (#/hr)			50	50						7		45
Confl. Bikes (#/hr)			2									27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	701	151	335	1218	0	0	0	0	37	52	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	852	0	335	1218	0	0	0	0	37	52	56
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1.9	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1.9	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0
Total Split (s)		62.0			92.0					28.0	28.0	28.0
Total Split (%)		51.7%			76.7%					23.3%	23.3%	23.3%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		57.0			87.0					23.0	23.0	23.0
Actuated g/C Ratio		0.48			0.72					0.19	0.19	0.19
v/c Ratio		0.52			0.63					0.11	0.08	0.16
Control Delay		21.7			16.5					41.2	40.3	0.9
Queue Delay		0.2			14.4					0.0	0.0	0.0
Total Delay		21.9			30.9					41.2	40.3	0.9
LOS		C			C					D	D	A
Approach Delay		21.9			15.7						25.3	
Approach LOS		C			B						C	
Queue Length 50th (ft)		201			96					24	17	0
Queue Length 95th (ft)		273			168					55	35	1
Internal Link Dist (ft)		273			321				343		244	
Turn Bay Length (ft)					120					100		100
Base Capacity (vph)		1627			528					335	678	358
Starvation Cap Reductn		207			174					0	0	0
Spillback Cap Reductn		0			0					0	0	8
Storage Cap Reductn		0			0					0	0	0
Reduced v/c Ratio		0.60			0.95					0.11	0.08	0.16

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	6.0	10.0
Total Split (s)	15.0	15.0
Total Split (%)	13%	13%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 18.3

Intersection LOS: B

Intersection Capacity Utilization 78.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩			↩↩		↩	↩	↩		↩	↩
Traffic Volume (vph)	143	474	0	0	1399	55	35	79	52	0	0	0
Future Volume (vph)	143	474	0	0	1399	55	35	79	52	0	0	0
Confl. Peds. (#/hr)			33			55	32		26			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	161	533	0	0	1572	62	39	89	58	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	161	533	0	0	1634	0	35	93	58	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	6.0	26.0			6.0		26.0	26.0	26.0			
Total Split (s)	15.0	94.0			79.0		26.0	26.0	26.0			
Total Split (%)	12.5%	78.3%			65.8%		21.7%	21.7%	21.7%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	89.0	89.0			75.0		21.0	21.0	21.0			
Actuated g/C Ratio	0.74	0.74			0.62		0.18	0.18	0.18			
v/c Ratio	0.72	0.20			0.74		0.13	0.30	0.19			
Control Delay	35.5	0.8			17.3		39.3	41.8	10.9			
Queue Delay	0.0	0.3			2.3		0.0	0.0	0.0			
Total Delay	35.5	1.0			19.5		39.3	41.8	10.9			
LOS	D	A			B		D	D	B			
Approach Delay		9.0			19.5			31.7				
Approach LOS		A			B			C				
Queue Length 50th (ft)	29	2			654		25	75	5			
Queue Length 95th (ft)	#92	2			726		m48	m125	m23			
Internal Link Dist (ft)		321			685			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	237	2624			2194		278	308	313			
Starvation Cap Reductn	0	1363			406		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.68	0.42			0.91		0.13	0.30	0.19			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 27 (23%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 80

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 17.5

Intersection LOS: B

Intersection Capacity Utilization 78.5%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



18: Guadalupe St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑								↑↑	
Traffic Volume (vph)	0	37	132	0	0	0	0	0	0	37	913	0
Future Volume (vph)	0	37	132	0	0	0	0	0	0	37	913	0
Confl. Peds. (#/hr)			17							42		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)		0										
Adj. Flow (vph)	0	40	143	0	0	0	0	0	0	40	992	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	143	0	0	0	0	0	0	0	1032	0
Turn Type		NA	Perm							Perm	NA	
Protected Phases	4	12									2	10
Permitted Phases			4	12						2	10	
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		54.0	54.0								42.0	
Actuated g/C Ratio		0.45	0.45								0.35	
v/c Ratio		0.05	0.19								0.80	
Control Delay		9.5	5.1								23.3	
Queue Delay		0.0	0.0								0.0	
Total Delay		9.5	5.1								23.3	
LOS		A	A								C	
Approach Delay		6.0									23.3	
Approach LOS		A									C	
Queue Length 50th (ft)		8	12								208	
Queue Length 95th (ft)		18	31								260	
Internal Link Dist (ft)		177			244			271			262	
Turn Bay Length (ft)												
Base Capacity (vph)		754	741								1286	
Starvation Cap Reductn		0	0								0	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.05	0.19								0.80	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Natural Cycle: 85

Control Type: Pretimed

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 20.7

Intersection LOS: C

Intersection Capacity Utilization 48.8%

ICU Level of Service A

18: Guadalupe St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Minimum Split (s)	21.0	21.0	21.0	21.0
Total Split (s)	26.0	43.0	28.0	23.0
Total Split (%)	22%	36%	23%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

18: Guadalupe St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	51	0	0	0	0	0	522	138	0	0	0
Future Volume (vph)	12	51	0	0	0	0	0	522	138	0	0	0
Confl. Peds. (#/hr)	29								31			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Parking (#/hr)		0										
Adj. Flow (vph)	14	61	0	0	0	0	0	629	166	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	0	0	0	0	0	795	0	0	0	0
Turn Type	Perm	NA						NA				
Protected Phases		4 12						2 10				
Permitted Phases	4 12											
Detector Phase	4 12	4 12						2 10				
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		20.4						84.3				
Actuated g/C Ratio		0.17						0.70				
v/c Ratio		0.22						0.19				
Control Delay		12.7						3.8				
Queue Delay		0.0						0.0				
Total Delay		12.7						3.8				
LOS		B						A				
Approach Delay		12.7						3.8				
Approach LOS		B						A				
Queue Length 50th (ft)		4						29				
Queue Length 95th (ft)		m19						52				
Internal Link Dist (ft)		244			319			272			254	
Turn Bay Length (ft)												
Base Capacity (vph)		616						4718				
Starvation Cap Reductn		0						0				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.12						0.17				
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green												
Natural Cycle: 100												

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19: Lavaca St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	23.0	23.0
Total Split (s)	38.0	29.0	27.0	26.0
Total Split (%)	32%	24%	23%	22%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

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19: Lavaca St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.22

Intersection Signal Delay: 4.6 Intersection LOS: A
Intersection Capacity Utilization 39.2% ICU Level of Service A
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔				
Traffic Volume (vph)	0	0	0	0	25	13	213	636	0	0	0	0
Future Volume (vph)	0	0	0	0	25	13	213	636	0	0	0	0
Confl. Peds. (#/hr)						10	55					
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Parking (#/hr)					0							
Adj. Flow (vph)	0	0	0	0	30	15	254	757	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	45	0	0	1011	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					4 12			2 10				
Permitted Phases								2 10				
Detector Phase					4 12			2 10				
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)					13.3			91.3				
Actuated g/C Ratio					0.11			0.76				
v/c Ratio					0.24			0.22				
Control Delay					21.1			6.6				
Queue Delay					0.0			0.1				
Total Delay					21.1			6.7				
LOS					C			A				
Approach Delay					21.1			6.7				
Approach LOS					C			A				
Queue Length 50th (ft)					12			129				
Queue Length 95th (ft)					m31			114				
Internal Link Dist (ft)								281				272
Turn Bay Length (ft)												
Base Capacity (vph)					597			4724				
Starvation Cap Reductn					0			1878				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.08			0.36				
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green												

28: Lavaca St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	1.0	5.0	5.0
Minimum Split (s)	28.0	6.0	21.0	23.0
Total Split (s)	42.0	32.0	21.0	25.0
Total Split (%)	35%	27%	18%	21%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	1.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

28: Lavaca St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.24
Intersection Signal Delay: 7.3 Intersection LOS: A
Intersection Capacity Utilization 25.0% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	←	→	↖	↗	↙	↘	↕	↖	↗	↙	↘	↕
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑					↑↑↑	↑	
Traffic Volume (vph)	0	1429	305	187	910	0	0	0	0	97	636	50
Future Volume (vph)	0	1429	305	187	910	0	0	0	0	97	636	50
Confl. Peds. (#/hr)			30	30						28		35
Confl. Bikes (#/hr)						1						19
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1458	311	191	929	0	0	0	0	99	649	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1769	0	191	929	0	0	0	0	0	748	51
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		56.0			84.0					36.0	36.0	36.0
Total Split (%)		46.7%			70.0%					30.0%	30.0%	30.0%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		51.2		79.0	79.0					31.0	31.0	31.0
Actuated g/C Ratio		0.43		0.66	0.66					0.26	0.26	0.26
v/c Ratio		0.84		0.59	0.28					0.58	0.11	0.11
Control Delay		34.2		29.8	3.6					35.6	3.5	3.5
Queue Delay		0.0		8.7	0.1					0.0	0.0	0.0
Total Delay		34.2		38.5	3.7					35.6	3.5	3.5
LOS		C		D	A					D	A	A
Approach Delay		34.2			9.6					33.6		
Approach LOS		C			A					C		
Queue Length 50th (ft)		431		82	32					136	1	1
Queue Length 95th (ft)		497		165	37					184	m6	m6
Internal Link Dist (ft)		262			240			197		285		
Turn Bay Length (ft)				50								100
Base Capacity (vph)		2116		327	3347					1298	460	460
Starvation Cap Reductn		0		100	970					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.84		0.84	0.39					0.58	0.11	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90

34: Guadalupe St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	5.0
Minimum Split (s)	13.0	10.0
Total Split (s)	14.0	14.0
Total Split (%)	12%	12%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

34: Guadalupe St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 26.6

Intersection LOS: C

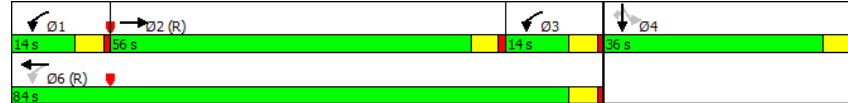
Intersection Capacity Utilization 80.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰			↰↰↰			↰↰↰				
Traffic Volume (vph)	114	1342	0	0	984	122	123	582	149	0	0	0
Future Volume (vph)	114	1342	0	0	984	122	123	582	149	0	0	0
Confl. Peds. (#/hr)	35					35	16		44			
Confl. Bikes (#/hr)									10			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	121	1428	0	0	1047	130	131	619	159	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	1428	0	0	1177	0	0	909	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	5	2			6			4				
Permitted Phases	2						4					
Detector Phase	5	2			6		4	4				
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0				
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0				
Total Split (s)	19.0	79.0			60.0		41.0	41.0				
Total Split (%)	15.8%	65.8%			50.0%		34.2%	34.2%				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0				
Lost Time Adjust (s)	0.0	0.0			0.0			0.0				
Total Lost Time (s)	5.0	5.0			5.0			6.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max				
Act Effct Green (s)	74.0	74.0			60.1			35.0				
Actuated g/C Ratio	0.62	0.62			0.50			0.29				
v/c Ratio	0.41	0.46			0.47			0.50				
Control Delay	13.7	2.2			13.6			34.5				
Queue Delay	0.0	0.2			0.1			0.0				
Total Delay	13.7	2.4			13.7			34.5				
LOS	B	A			B			C				
Approach Delay		3.3			13.7			34.5				
Approach LOS		A			B			C				
Queue Length 50th (ft)	7	32			64			161				
Queue Length 95th (ft)	m20	38			152			195				
Internal Link Dist (ft)		240			335			116			281	
Turn Bay Length (ft)	50											
Base Capacity (vph)	356	3135			2499			1809				
Starvation Cap Reductn	0	811			243			0				
Spillback Cap Reductn	0	0			0			0				
Storage Cap Reductn	0	0			0			0				
Reduced v/c Ratio	0.34	0.61			0.52			0.50				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 70

35: Lavaca St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 14.5

Intersection LOS: B

Intersection Capacity Utilization 80.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



36: Colorado St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩ ↪	↩ ↪	↩	↩ ↪	↩ ↪	↩	↩	↩ ↪	↩	↩	↩ ↪	↩
Traffic Volume (vph)	177	1299	49	67	1044	131	1	20	20	5	18	19
Future Volume (vph)	177	1299	49	67	1044	131	1	20	20	5	18	19
Confl. Peds. (#/hr)	6		77	77		6	4		32	32		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	188	1382	52	71	1111	139	1	21	21	5	19	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	1434	0	71	1250	0	0	43	0	0	24	20
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		1	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	22.0		10.0	30.0		32.0	32.0		32.0	32.0	32.0
Total Split (s)	15.0	72.0		15.0	72.0		33.0	33.0		33.0	33.0	33.0
Total Split (%)	12.5%	60.0%		12.5%	60.0%		27.5%	27.5%		27.5%	27.5%	27.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	Max
Act Effct Green (s)	79.9	72.1		74.8	67.7			28.0			28.0	28.0
Actuated g/C Ratio	0.67	0.60		0.62	0.56			0.23			0.23	0.23
v/c Ratio	0.60	0.48		0.28	0.44			0.10			0.06	0.05
Control Delay	24.9	5.1		11.7	7.0			22.9			36.3	0.2
Queue Delay	0.0	0.1		0.0	0.0			0.0			0.0	0.0
Total Delay	24.9	5.2		11.7	7.0			22.9			36.3	0.2
LOS	C	A		B	A			C			D	A
Approach Delay		7.5			7.3			22.9			19.9	
Approach LOS		A			A			C			B	
Queue Length 50th (ft)	32	79		9	56			13			15	0
Queue Length 95th (ft)	102	90		38	63			44			38	0
Internal Link Dist (ft)		335			362			155			280	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	324	3010		295	2823			410			415	412
Starvation Cap Reductn	0	434		0	154			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.58	0.56		0.24	0.47			0.10			0.06	0.05

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

36: Colorado St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: AM

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 7.8

Intersection LOS: A

Intersection Capacity Utilization 80.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 36: Colorado St & W. 15th St



37: N. Congress Ave & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	↑↑↑	→	←	↑↑↑	→	←	↑	→	←	↑	→
Traffic Volume (vph)	169	1130	26	17	1245	80	0	0	1	22	4	32
Future Volume (vph)	169	1130	26	17	1245	80	0	0	1	22	4	32
Confl. Peds. (#/hr)	1		28	28		1	12		19	19		12
Confl. Bikes (#/hr)									12			8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	172	1153	27	17	1270	82	0	0	1	22	4	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	172	1180	0	17	1352	0	0	1	0	0	26	33
Turn Type	pm+pt	NA		pm+pt	NA			NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6						8		8
Detector Phase	5	2		1	6			4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	25.0		10.0	25.0			33.0		33.0	33.0	33.0
Total Split (s)	20.0	75.0		10.0	65.0			35.0		35.0	35.0	35.0
Total Split (%)	16.7%	62.5%		8.3%	54.2%			29.2%		29.2%	29.2%	29.2%
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	Max			Max		Max	Max	Max
Act Effct Green (s)	76.0	76.0		64.4	64.4			30.0			30.0	30.0
Actuated g/C Ratio	0.63	0.63		0.54	0.54			0.25			0.25	0.25
v/c Ratio	0.61	0.37		0.06	0.50			0.00			0.07	0.07
Control Delay	30.4	1.3		1.9	3.0			0.0			35.1	0.3
Queue Delay	0.0	0.1		0.0	0.1			0.0			0.0	0.0
Total Delay	30.4	1.3		1.9	3.1			0.0			35.1	0.3
LOS	C	A		A	A			A			D	A
Approach Delay		5.0			3.1						15.6	
Approach LOS		A			A						B	
Queue Length 50th (ft)	38	4		1	53			0			15	0
Queue Length 95th (ft)	100	17		m5	123			0			40	0
Internal Link Dist (ft)		362			356			125			278	
Turn Bay Length (ft)	60			100								130
Base Capacity (vph)	340	3208		280	2705			490			381	464
Starvation Cap Reductn	0	505		0	253			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.51	0.44		0.06	0.55			0.00			0.07	0.07

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 70

37: N. Congress Ave & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 4.3

Intersection LOS: A

Intersection Capacity Utilization 71.0%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



38: Brazos St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩↩		↩	↩↩↩		↩	↩			↩↩	↩
Traffic Volume (vph)	74	1046	45	25	1345	78	4	2	7	2	0	4
Future Volume (vph)	74	1046	45	25	1345	78	4	2	7	2	0	4
Confl. Peds. (#/hr)	1		9	9		1	9		4	4		9
Confl. Bikes (#/hr)						1						16
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	76	1078	46	26	1387	80	4	2	7	2	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	1124	0	26	1467	0	4	9	0	0	6	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0		32.0	32.0	
Total Split (s)	15.0	78.0		10.0	73.0		32.0	32.0		32.0	32.0	
Total Split (%)	12.5%	65.0%		8.3%	60.8%		26.7%	26.7%		26.7%	26.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Act Effct Green (s)	77.0	77.0		72.6	72.6		27.0	27.0			27.0	
Actuated g/C Ratio	0.64	0.64		0.60	0.60		0.22	0.22			0.22	
v/c Ratio	0.32	0.35		0.08	0.48		0.01	0.02			0.01	
Control Delay	15.8	10.0		4.5	4.2		36.5	23.1			0.0	
Queue Delay	0.0	0.1		0.0	0.1		0.0	0.0			0.0	
Total Delay	15.8	10.1		4.5	4.2		36.5	23.1			0.0	
LOS	B	B		A	A		D	C			A	
Approach Delay		10.5			4.2			27.2				
Approach LOS		B			A			C				
Queue Length 50th (ft)	20	104		4	80		2	1			0	
Queue Length 95th (ft)	50	135		m9	86		12	15			m0	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40			40					
Base Capacity (vph)	270	3240		325	3054		312	370			441	
Starvation Cap Reductn	0	581		0	359		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.28	0.42		0.08	0.54		0.01	0.02			0.01	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

38: Brazos St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48

Intersection Signal Delay: 7.1 Intersection LOS: A
Intersection Capacity Utilization 66.9% ICU Level of Service C
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



39: San Jacinto Blvd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	
Traffic Volume (vph)	0	655	330	151	1421	0	0	0	0	35	159	33
Future Volume (vph)	0	655	330	151	1421	0	0	0	0	35	159	33
Confl. Peds. (#/hr)			21	21						9		7
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	662	333	153	1435	0	0	0	0	35	161	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	995	0	153	1435	0	0	0	0	0	229	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases				6								
Detector Phase		2		1	6						4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	
Total Split (s)		68.0		20.0	88.0					32.0	32.0	
Total Split (%)		56.7%		16.7%	73.3%					26.7%	26.7%	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	
Total Lost Time (s)		5.0		5.0	5.0						5.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	
Act Effct Green (s)		69.0		83.0	83.0						27.0	
Actuated g/C Ratio		0.58		0.69	0.69						0.22	
v/c Ratio		0.35		0.39	0.41						0.20	
Control Delay		1.5		6.4	3.7						36.6	
Queue Delay		0.1		0.0	0.1						0.0	
Total Delay		1.6		6.4	3.8						36.6	
LOS		A		A	A						D	
Approach Delay		1.6			4.0						36.6	
Approach LOS		A			A						D	
Queue Length 50th (ft)		0		16	56						45	
Queue Length 95th (ft)		0		27	56						72	
Internal Link Dist (ft)		297			282			125			272	
Turn Bay Length (ft)				70								
Base Capacity (vph)		2803		460	3517						1124	
Starvation Cap Reductn		596		0	630						0	
Spillback Cap Reductn		0		0	0						0	
Storage Cap Reductn		0		0	0						0	
Reduced v/c Ratio		0.45		0.33	0.50						0.20	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 5.8

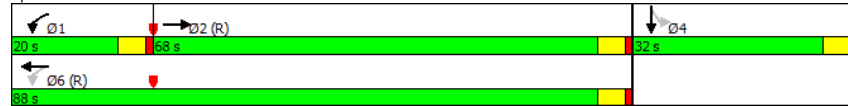
Intersection LOS: A

Intersection Capacity Utilization 74.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



40: Trinity St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰			↰↰↰		↰	↰	↰			
Traffic Volume (vph)	84	655	0	0	1524	237	56	126	9	0	0	0
Future Volume (vph)	84	655	0	0	1524	237	56	126	9	0	0	0
Confl. Peds. (#/hr)	1					1	3		6			
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	87	675	0	0	1571	244	58	130	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	675	0	0	1815	0	58	130	9	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		32.0	32.0	32.0			
Total Split (s)	20.0	86.0			66.0		34.0	34.0	34.0			
Total Split (%)	16.7%	71.7%			55.0%		28.3%	28.3%	28.3%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	81.0	81.0			68.2		29.0	29.0	29.0			
Actuated g/C Ratio	0.68	0.68			0.57		0.24	0.24	0.24			
v/c Ratio	0.45	0.20			0.64		0.14	0.29	0.02			
Control Delay	29.9	4.4			7.3		36.8	39.2	0.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			
Total Delay	29.9	4.4			7.3		36.8	39.2	0.1			
LOS	C	A			A		D	D	A			
Approach Delay		7.3			7.3			36.7				
Approach LOS		A			A			D				
Queue Length 50th (ft)	25	30			71		35	83	0			
Queue Length 95th (ft)	75	37			150		72	140	0			
Internal Link Dist (ft)		282			654			149			621	
Turn Bay Length (ft)	100											
Base Capacity (vph)	291	3432			2841		426	450	422			
Starvation Cap Reductn	0	0			0		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.30	0.20			0.64		0.14	0.29	0.02			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 70

40: Trinity St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 9.4
Intersection Capacity Utilization 74.4%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service D

Splits and Phases: 40: Trinity St & W. 15th St



80: Red River St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩		↩	↩↩	↩	↩	↩	↩	↩	↩↩	↩
Traffic Volume (vph)	131	422	42	63	1404	117	28	136	28	51	262	203
Future Volume (vph)	131	422	42	63	1404	117	28	136	28	51	262	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	459	46	68	1526	127	30	148	30	55	285	221
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	505	0	68	1526	127	30	178	0	55	285	221
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8			4		4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0		10.0	23.0	23.0	10.0	23.0		10.0	23.0	23.0
Total Split (s)	15.0	63.0		15.0	63.0	63.0	12.0	30.0		12.0	30.0	30.0
Total Split (%)	12.5%	52.5%		12.5%	52.5%	52.5%	10.0%	25.0%		10.0%	25.0%	25.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Act Effct Green (s)	82.3	73.8		76.0	68.9	68.9	22.1	16.6		23.2	19.0	19.0
Actuated g/C Ratio	0.69	0.62		0.63	0.57	0.57	0.18	0.14		0.19	0.16	0.16
v/c Ratio	0.64	0.23		0.11	0.75	0.13	0.14	0.69		0.28	0.51	0.51
Control Delay	43.2	13.6		7.6	24.6	6.3	42.5	64.3		38.0	49.2	9.9
Queue Delay	0.0	0.0		0.0	1.3	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	43.2	13.6		7.6	25.9	6.3	42.6	64.3		38.0	49.2	9.9
LOS	D	B		A	C	A	D	E		D	D	A
Approach Delay		20.1			23.7			61.1			32.6	
Approach LOS		C			C			E			C	
Queue Length 50th (ft)	78	98		13	463	18	20	134		34	110	0
Queue Length 95th (ft)	144	105		m37	590	m48	m36	m207		65	147	67
Internal Link Dist (ft)		685			494			855			561	
Turn Bay Length (ft)	100			120			140			150		
Base Capacity (vph)	239	2149		645	2031	954	218	384		200	743	507
Starvation Cap Reductn	0	0		0	287	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	54	0	9	0		0	0	7
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.59	0.23		0.11	0.88	0.13	0.14	0.46		0.28	0.38	0.44

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75

80: Red River St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection Signal Delay: 27.0

Intersection LOS: C

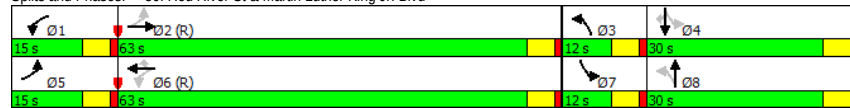
Intersection Capacity Utilization 75.8%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 80: Red River St & Martin Luther King Jr. Blvd



81: I-35 SB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕↕	↗	↖	↕↕						↖↖	↗↗	
Traffic Volume (vph)	0	285	170	448	773	0	0	0	0	55	570	758	
Future Volume (vph)	0	285	170	448	773	0	0	0	0	55	570	758	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	310	185	487	840	0	0	0	0	60	620	824	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	310	185	487	840	0	0	0	0	0	680	824	
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm	
Protected Phases		2		1	2	1					4	12	
Permitted Phases				2	2	1				4	12	4	12
Detector Phase		2	2	1	2	1				4	12	4	12
Switch Phase													
Minimum Initial (s)		5.0	5.0	5.0									
Minimum Split (s)		24.0	24.0	24.0									
Total Split (s)		25.0	25.0	47.0									
Total Split (%)		20.8%	20.8%	39.2%									
Yellow Time (s)		4.0	4.0	4.0									
All-Red Time (s)		2.0	2.0	2.0									
Lost Time Adjust (s)		0.0	0.0	0.0									
Total Lost Time (s)		6.0	6.0	6.0									
Lead/Lag		Lead	Lead	Lag									
Lead-Lag Optimize?		Yes	Yes	Yes									
Recall Mode		C-Max	C-Max	Min									
Act Effct Green (s)		19.0	19.0	60.1	66.1						41.9	41.9	
Actuated g/C Ratio		0.16	0.16	0.50	0.55						0.35	0.35	
v/c Ratio		0.55	0.45	0.66	0.43						0.55	0.72	
Control Delay		53.6	22.1	6.0	1.5						33.6	27.0	
Queue Delay		0.0	0.0	1.5	0.5						0.0	0.1	
Total Delay		53.6	22.1	7.6	2.0						33.6	27.1	
LOS		D	C	A	A						C	C	
Approach Delay		41.8			4.0						30.0		
Approach LOS		D			A						C		
Queue Length 50th (ft)		104	48	2	0						222	220	
Queue Length 95th (ft)		138	94	1	0						283	304	
Internal Link Dist (ft)		494			371			1344			366		
Turn Bay Length (ft)													
Base Capacity (vph)		560	411	737	1950						1230	1139	
Starvation Cap Reductn		0	0	112	630						0	0	
Spillback Cap Reductn		0	0	0	176						0	19	
Storage Cap Reductn		0	0	0	0						0	0	
Reduced v/c Ratio		0.55	0.45	0.78	0.64						0.55	0.74	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

81: I-35 SB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Peak Hour Factor						
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	11.0	24.0	24.0	11.0	11.0
Total Split (s)	36.0	49.0	35.0	24.0	12.0	12.0
Total Split (%)	30%	41%	29%	20%	10%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

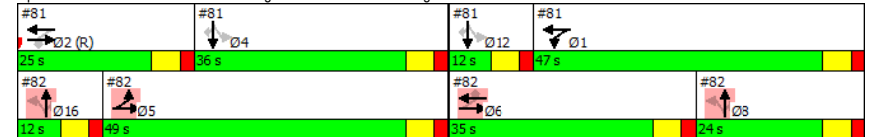
81: I-35 SB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection Signal Delay: 21.4
Intersection Capacity Utilization 67.7%
Analysis Period (min) 15

Intersection LOS: C
ICU Level of Service C

Splits and Phases: 81: I-35 SB Frontage Rd & Martin Luther King Jr. Blvd



82: I-35 NB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	173	0	0	875	98	367	145	169	0	0	0
Future Volume (vph)	168	173	0	0	875	98	367	145	169	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	183	188	0	0	951	107	399	158	184	0	0	0
Shared Lane Traffic (%)	48%						50%					
Lane Group Flow (vph)	95	276	0	0	951	107	199	358	184	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	5 6			6		8 16		8 16			
Permitted Phases	5 6					6	8 16		8 16			
Detector Phase	5	5 6			6	6	8 16	8 16	8 16			
Switch Phase												
Minimum Initial (s)	5.0				5.0	5.0						
Minimum Split (s)	11.0				24.0	24.0						
Total Split (s)	49.0				35.0	35.0						
Total Split (%)	40.8%				29.2%	29.2%						
Yellow Time (s)	4.0				4.0	4.0						
All-Red Time (s)	2.0				2.0	2.0						
Lost Time Adjust (s)	0.0				0.0	0.0						
Total Lost Time (s)	6.0				6.0	6.0						
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	Min				None	None						
Act Effct Green (s)	70.2	70.2			28.4	28.4	31.8	31.8	31.8			
Actuated g/C Ratio	0.58	0.58			0.24	0.24	0.26	0.26	0.26			
v/c Ratio	0.15	0.17			0.79	0.21	0.47	0.41	0.33			
Control Delay	0.8	0.8			48.5	0.9	39.1	36.1	10.4			
Queue Delay	0.0	0.0			0.1	0.0	0.0	0.0	0.0			
Total Delay	0.8	0.8			48.6	0.9	39.1	36.1	10.4			
LOS	A	A			D	A	D	D	B			
Approach Delay		0.8			43.8		30.5					
Approach LOS		A			D		C					
Queue Length 50th (ft)	1	1			253	0	96	87	17			
Queue Length 95th (ft)	0	0			305	0	169	137	78			
Internal Link Dist (ft)		371			326		707		346			
Turn Bay Length (ft)						180						
Base Capacity (vph)	633	1675			1228	527	427	875	560			
Starvation Cap Reductn	0	0			0	0	0	0	0			
Spillback Cap Reductn	0	0			16	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.15	0.16			0.78	0.20	0.47	0.41	0.33			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79

82: I-35 NB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Peak Hour Factor						
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	11.0	11.0
Total Split (s)	47.0	25.0	36.0	24.0	12.0	12.0
Total Split (%)	39%	21%	30%	20%	10%	10%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	C-Max	None	Max	None	None
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

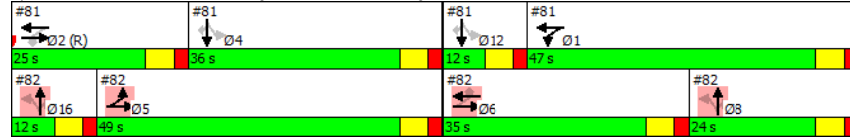
82: I-35 NB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection Signal Delay: 31.9
Intersection Capacity Utilization 67.7%
Analysis Period (min) 15

Intersection LOS: C
ICU Level of Service C

Splits and Phases: 82: I-35 NB Frontage Rd & Martin Luther King Jr. Blvd



83: Red River St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩↩		↩	↩↩↩			↩	↩	↩	↩	↩
Traffic Volume (vph)	142	541	82	250	2022	37	11	58	122	30	41	227
Future Volume (vph)	142	541	82	250	2022	37	11	58	122	30	41	227
Peak Hour Factor	0.92	0.92	0.92	0.92	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.96
Adj. Flow (vph)	154	588	89	272	2106	40	12	63	133	33	45	236
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	677	0	272	2146	0	0	208	0	33	281	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Minimum Split (s)	10.0	23.0		10.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	20.0	70.0		20.0	70.0		30.0	30.0		30.0	30.0	
Total Split (%)	16.7%	58.3%		16.7%	58.3%		25.0%	25.0%		25.0%	25.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Act Effct Green (s)	80.0	65.0		80.0	65.0			25.0		25.0	25.0	
Actuated g/C Ratio	0.67	0.54		0.67	0.54			0.21		0.21	0.21	
v/c Ratio	0.54	0.25		0.46	0.78			0.56		0.20	0.57	
Control Delay	41.8	6.4		7.4	25.8			35.1		71.0	46.3	
Queue Delay	0.0	0.0		0.0	1.1			0.0		0.0	0.0	
Total Delay	41.8	6.4		7.4	26.9			35.1		71.0	46.3	
LOS	D	A		A	C			D		E	D	
Approach Delay		12.9			24.7			35.1			48.9	
Approach LOS		B			C			D			D	
Queue Length 50th (ft)	69	52		45	589			98		25	160	
Queue Length 95th (ft)	139	65		m54	641			180		61	232	
Internal Link Dist (ft)		654			629			269			433	
Turn Bay Length (ft)	70			55								
Base Capacity (vph)	283	2716		585	2748			369		163	496	
Starvation Cap Reductn	0	0		0	339			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.54	0.25		0.46	0.89			0.56		0.20	0.57	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Pretimed
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 24.7
Intersection Capacity Utilization 80.7%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

83: Red River St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Splits and Phases: 83: Red River St & W. 15th St



84: I-35 SB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑						↑↑↑	↑
Traffic Volume (vph)	0	351	261	4	908	0	0	0	0	0	1260	1152
Future Volume (vph)	0	351	261	4	908	0	0	0	0	0	1260	1152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.98	0.98	0.98	0.96	0.96	0.96
Adj. Flow (vph)	0	382	284	4	987	0	0	0	0	0	1313	1200
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	382	284	0	991	0	0	0	0	0	1313	1200
Turn Type	NA	Perm	pm+pt	NA							NA	Free
Protected Phases		2		1	2 1						4 12	
Permitted Phases			2	2 1						4 12		Free
Detector Phase		2	2	1	2 1					4 12	4 12	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0								
Minimum Split (s)		23.0	23.0	10.0								
Total Split (s)		32.0	32.0	23.0								
Total Split (%)		26.7%	26.7%	19.2%								
Yellow Time (s)		4.0	4.0	4.0								
All-Red Time (s)		1.0	1.0	1.0								
Lost Time Adjust (s)		0.0	0.0									
Total Lost Time (s)		5.0	5.0									
Lead/Lag	Lead	Lead	Lead	Lag								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None								
Act Effct Green (s)	28.7	28.7		50.3							54.7	120.0
Actuated g/C Ratio	0.24	0.24		0.42							0.46	1.00
v/c Ratio	0.45	0.48		0.69							0.57	0.76
Control Delay	50.8	16.3		17.9							22.7	4.9
Queue Delay	0.0	0.0		5.4							0.0	0.2
Total Delay	50.8	16.3		23.3							22.7	5.1
LOS	D	B		C							C	A
Approach Delay	36.1			23.3							14.3	
Approach LOS	D			C							B	
Queue Length 50th (ft)	127	40		380							231	94
Queue Length 95th (ft)	168	100		494							250	209
Internal Link Dist (ft)	629			163				271			1344	
Turn Bay Length (ft)												
Base Capacity (vph)	846	594		1446							2346	1583
Starvation Cap Reductn	0	0		388							0	0
Spillback Cap Reductn	2	0		0							0	41
Storage Cap Reductn	0	0		0							0	0
Reduced v/c Ratio	0.45	0.48		0.94							0.56	0.78
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green												
Natural Cycle: 70												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.76												

84: I-35 SB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	Ø4	Ø5	Ø8	Ø12	Ø16
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Peak Hour Factor					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	4	5	8	12	16
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	10.0	10.0
Total Split (s)	55.0	77.0	33.0	10.0	10.0
Total Split (%)	46%	64%	28%	8%	8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lag	Lag		Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes
Recall Mode	None	Min	None	None	None
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

84: I-35 SB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection Signal Delay: 19.9
Intersection Capacity Utilization 78.2%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service D

Splits and Phases: 84: I-35 SB Frontage Rd & W. 15th St



85: I-35 NB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations	↖↗		↖↗	↖↗↖↗	↖	↗						
Traffic Volume (vph)	339	0	833	498	0	0						
Future Volume (vph)	339	0	833	498	0	0						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Adj. Flow (vph)	368	0	905	541	0	0						
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	368	0	452	994	0	0						
Turn Type	Prot		Perm	NA								
Protected Phases	5		8 16				1	2	4	8	12	16
Permitted Phases			8 16									
Detector Phase	5		8 16	8 16								
Switch Phase												
Minimum Initial (s)	5.0						5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0						10.0	23.0	23.0	23.0	10.0	10.0
Total Split (s)	77.0						23.0	32.0	55.0	33.0	10.0	10.0
Total Split (%)	64.2%						19%	27%	46%	28%	8%	8%
Yellow Time (s)	4.0						4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0						1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0											
Total Lost Time (s)	5.0											
Lead/Lag	Lag						Lag	Lead	Lag		Lead	Lead
Lead-Lag Optimize?	Yes						Yes	Yes	Yes		Yes	Yes
Recall Mode	Min						None	C-Max	None	None	None	None
Act Effct Green (s)	58.6		51.4	51.4								
Actuated g/C Ratio	0.49		0.43	0.43								
v/c Ratio	0.22		0.69	0.49								
Control Delay	5.3		36.0	26.6								
Queue Delay	0.3		42.8	0.1								
Total Delay	5.7		78.7	26.7								
LOS	A		E	C								
Approach Delay	5.7			43.0								
Approach LOS	A			D								
Queue Length 50th (ft)	0		324	212								
Queue Length 95th (ft)	0		#554	283								
Internal Link Dist (ft)	163			243	696							
Turn Bay Length (ft)												
Base Capacity (vph)	2059		651	2012								
Starvation Cap Reductn	1128		0	0								
Spillback Cap Reductn	0		228	234								
Storage Cap Reductn	0		0	0								
Reduced v/c Ratio	0.40		1.07	0.56								

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76

85: I-35 NB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection Signal Delay: 35.4
Intersection LOS: D
Intersection Capacity Utilization 41.1%
ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 85: I-35 NB Frontage Rd & W. 15th St



11: Colorado St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.3											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↔				↔	
Traffic Vol, veh/h	0	0	0	0	0	20	10	3	0	12	23	0
Future Vol, veh/h	0	0	0	0	0	20	10	3	0	12	23	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	23	11	3	0	14	26	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB				NB			
Opposing Approach					SB			
Opposing Lanes	0				1			
Conflicting Approach Left	NB							
Conflicting Lanes Left	1				0			
Conflicting Approach Right	SB				WB			
Conflicting Lanes Right	1				1			
HCM Control Delay	7.8				7.5			
HCM LOS	A				A			

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	34%	61%	0%
Vol Thru, %	66%	30%	91%
Vol Right, %	0%	9%	9%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	35	33	214
LT Vol	12	20	0
Through Vol	23	10	195
RT Vol	0	3	19
Lane Flow Rate	40	38	243
Geometry Grp	1	1	1
Degree of Util (X)	0.047	0.048	0.269
Departure Headway (Hd)	4.251	4.61	3.975
Convergence, Y/N	Yes	Yes	Yes
Cap	832	782	900
Service Time	2.327	2.61	2.015
HCM Lane V/C Ratio	0.048	0.049	0.27
HCM Control Delay	7.5	7.8	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.2	1.1

11: Colorado St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↔	
Traffic Vol, veh/h	0	0	195	19
Future Vol, veh/h	0	0	195	19
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	222	22
Number of Lanes	0	0	1	0

Approach	SB			
Opposing Approach	NB			
Opposing Lanes	1			
Conflicting Approach Left	WB			
Conflicting Lanes Left	1			
Conflicting Approach Right				
Conflicting Lanes Right	0			
HCM Control Delay	8.5			
HCM LOS	A			

12: N. Congress Ave & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	7.7											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↔				↔	
Traffic Vol, veh/h	0	0	0	0	0	10	23	5	0	43	53	0
Future Vol, veh/h	0	0	0	0	0	10	23	5	0	43	53	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	11	26	6	0	49	61	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach						WB			NB		
Opposing Approach									SB		
Opposing Lanes						0			1		
Conflicting Approach Left						NB					
Conflicting Lanes Left						1			0		
Conflicting Approach Right						SB			WB		
Conflicting Lanes Right						1			1		
HCM Control Delay						7.7			7.9		
HCM LOS						A			A		

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	45%	26%	0%
Vol Thru, %	55%	61%	53%
Vol Right, %	0%	13%	47%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	96	38	133
LT Vol	43	10	0
Through Vol	53	23	70
RT Vol	0	5	63
Lane Flow Rate	110	44	153
Geometry Grp	1	1	1
Degree of Util (X)	0.129	0.054	0.162
Departure Headway (Hd)	4.216	4.462	3.81
Convergence, Y/N	Yes	Yes	Yes
Cap	845	808	934
Service Time	2.269	2.462	1.866
HCM Lane V/C Ratio	0.13	0.054	0.164
HCM Control Delay	7.9	7.7	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.2	0.6

12: N. Congress Ave & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↔	
Traffic Vol, veh/h	0	0	70	63
Future Vol, veh/h	0	0	70	63
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	80	72
Number of Lanes	0	0	1	0

Approach		SB	
Opposing Approach		NB	
Opposing Lanes		1	
Conflicting Approach Left		WB	
Conflicting Lanes Left		1	
Conflicting Approach Right			
Conflicting Lanes Right		0	
HCM Control Delay		7.6	
HCM LOS		A	

14: Brazos St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.7											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↔				↔	
Traffic Vol, veh/h	0	0	0	0	0	16	18	7	0	8	15	0
Future Vol, veh/h	0	0	0	0	0	16	18	7	0	8	15	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	20	23	9	0	10	19	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB				NB			
Opposing Approach					SB			
Opposing Lanes	0				1			
Conflicting Approach Left	NB							
Conflicting Lanes Left	1				0			
Conflicting Approach Right	SB				WB			
Conflicting Lanes Right	1				1			
HCM Control Delay	7.9				7.6			
HCM LOS	A				A			

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	35%	39%	0%
Vol Thru, %	65%	44%	93%
Vol Right, %	0%	17%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	23	41	231
LT Vol	8	16	0
Through Vol	15	18	215
RT Vol	0	7	16
Lane Flow Rate	29	52	292
Geometry Grp	1	1	1
Degree of Util (X)	0.035	0.066	0.325
Departure Headway (Hd)	4.316	4.605	4.005
Convergence, Y/N	Yes	Yes	Yes
Cap	816	783	892
Service Time	2.414	2.605	2.053
HCM Lane V/C Ratio	0.036	0.066	0.327
HCM Control Delay	7.6	7.9	9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.2	1.4

14: Brazos St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↔	
Traffic Vol, veh/h	0	0	215	16
Future Vol, veh/h	0	0	215	16
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	272	20
Number of Lanes	0	0	1	0

Approach	SB			
Opposing Approach	NB			
Opposing Lanes	1			
Conflicting Approach Left	WB			
Conflicting Lanes Left	1			
Conflicting Approach Right				
Conflicting Lanes Right	0			
HCM Control Delay	9			
HCM LOS	A			

20: Colorado St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.9											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕								↕	
Traffic Vol, veh/h	0	10	74	98	0	0	0	0	0	0	27	25
Future Vol, veh/h	0	10	74	98	0	0	0	0	0	0	27	25
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	11	84	111	0	0	0	0	0	0	31	28
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	EB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	SB	EB
Conflicting Lanes Left	1	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	8.7	7.7
HCM LOS	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	5%	3%
Vol Thru, %	52%	41%	97%
Vol Right, %	48%	54%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	52	182	208
LT Vol	0	10	6
Through Vol	27	74	202
RT Vol	25	98	0
Lane Flow Rate	59	207	236
Geometry Grp	1	1	1
Degree of Util (X)	0.072	0.247	0.294
Departure Headway (Hd)	4.378	4.3	4.472
Convergence, Y/N	Yes	Yes	Yes
Cap	818	836	804
Service Time	2.406	2.321	2.495
HCM Lane V/C Ratio	0.072	0.248	0.294
HCM Control Delay	7.7	8.7	9.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	1	1.2

20: Colorado St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	6	202	0
Future Vol, veh/h	0	6	202	0
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	7	230	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.4
HCM LOS	A

22: N. Congress Ave & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕								↕	
Traffic Vol, veh/h	0	14	80	14	0	0	0	0	0	0	79	159
Future Vol, veh/h	0	14	80	14	0	0	0	0	0	0	79	159
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	94	16	0	0	0	0	0	0	93	187
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	EB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	SB	EB
Conflicting Lanes Left	1	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	8.6	8.7
HCM LOS	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	13%	20%
Vol Thru, %	33%	74%	80%
Vol Right, %	67%	13%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	238	108	87
LT Vol	0	14	17
Through Vol	79	80	70
RT Vol	159	14	0
Lane Flow Rate	280	127	102
Geometry Grp	1	1	1
Degree of Util (X)	0.308	0.165	0.13
Departure Headway (Hd)	3.961	4.684	4.557
Convergence, Y/N	Yes	Yes	Yes
Cap	910	766	788
Service Time	1.974	2.71	2.577
HCM Lane V/C Ratio	0.308	0.166	0.129
HCM Control Delay	8.7	8.6	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.3	0.6	0.4

22: N. Congress Ave & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	17	70	0
Future Vol, veh/h	0	17	70	0
Peak Hour Factor	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	20	82	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.3
HCM LOS	A

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	940	88	138	718	0	20
Future Vol, veh/h	940	88	138	718	0	20
Conflicting Peds, #/hr	0	1	1	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1080	101	159	825	0	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1183	0	1862	597
Stage 1	-	-	-	-	1132	-
Stage 2	-	-	-	-	730	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	586	-	65	446
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	438	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	583	-	47	443
Mov Cap-2 Maneuver	-	-	-	-	47	-
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	319	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		2.2		13.6	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	443	-	-	583	-
HCM Lane V/C Ratio	0.052	-	-	0.272	-
HCM Control Delay (s)	13.6	-	-	13.5	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↑		↑					↑↑		
Traffic Vol, veh/h	0	0	7	41	18	0	0	0	0	0	942	30
Future Vol, veh/h	0	0	7	41	18	0	0	0	0	0	942	30
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	0	0	0	35
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	7	43	19	0	0	0	0	0	992	32

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	-	559	508 1058	-	- - 0
Stage 1	-	-	-	0 0	-	- - -
Stage 2	-	-	-	508 1058	-	- - -
Critical Hdwy	-	-	6.94	7.54 6.54	-	- - -
Critical Hdwy Stg 1	-	-	-	- -	-	- - -
Critical Hdwy Stg 2	-	-	-	6.54 5.54	-	- - -
Follow-up Hdwy	-	-	3.32	3.52 4.02	-	- - -
Pot Cap-1 Maneuver	0	0	472	448 223	0	0 - -
Stage 1	0	0	-	- - 0	-	0 - -
Stage 2	0	0	-	516 300	0	0 - -
Platoon blocked, %	-	-	-	-	-	- - -
Mov Cap-1 Maneuver	-	-	456	441 216	-	- - -
Mov Cap-2 Maneuver	-	-	-	441 216	-	- - -
Stage 1	-	-	-	- -	-	- - -
Stage 2	-	-	-	508 290	-	- - -

Approach	EB		WB		SB	
HCM Control Delay, s	13		18.2		0	
HCM LOS	B		C			

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	456	335	-	-
HCM Lane V/C Ratio	0.016	0.185	-	-
HCM Control Delay (s)	13	18.2	-	-
HCM Lane LOS	B	C	-	-
HCM 95th %tile Q(veh)	0	0.7	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	22	22	32	511	0	0	0	0
Future Vol, veh/h	0	0	0	0	22	22	32	511	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	27	16	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	23	23	34	544	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	628	299	16	0	-
Stage 1	-	612	-	-	-	-
Stage 2	-	16	-	-	-	-
Critical Hdwy	-	6.54	7.14	5.34	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.02	3.92	3.12	-	-
Pot Cap-1 Maneuver	0	398	595	1135	-	0
Stage 1	0	482	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	595	1135	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	11.6	0.5
HCM LOS	B	

Minor Lane/Major Mvmt	NBL	NBTWBLn1
Capacity (veh/h)	1135	- 595
HCM Lane V/C Ratio	0.03	- 0.079
HCM Control Delay (s)	8.3	- 11.6
HCM Lane LOS	A	- B
HCM 95th %tile Q(veh)	0.1	- 0.3

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	127	111	0	0	23	0
Future Vol, veh/h	127	111	0	0	23	0
Conflicting Peds, #/hr	19	0	0	0	38	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	144	126	0	0	26	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	19	0	472	-
Stage 1	-	-	19	-
Stage 2	-	-	453	-
Critical Hdwy	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	2.218	-	3.518	-
Pot Cap-1 Maneuver	1597	-	551	0
Stage 1	-	-	-	0
Stage 2	-	-	640	0
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1597	-	480	-
Mov Cap-2 Maneuver	-	-	480	-
Stage 1	-	-	-	-
Stage 2	-	-	567	-

Approach	EB	SB
HCM Control Delay, s	4	12.9
HCM LOS		B

Minor Lane/Major Mvmt	EBL	EBT SBLn1
Capacity (veh/h)	1597	- 480
HCM Lane V/C Ratio	0.09	- 0.054
HCM Control Delay (s)	7.5	0 12.9
HCM Lane LOS	A	A B
HCM 95th %tile Q(veh)	0.3	- 0.2

25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑							↑↑	↑	
Traffic Vol, veh/h	0	17	127	0	0	0	0	0	0	44	468	0
Future Vol, veh/h	0	17	127	0	0	0	0	0	0	44	468	0
Conflicting Peds, #/hr	0	0	21	0	0	0	0	0	0	4	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	138	0	0	0	0	0	0	48	509	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	608	275	4 0 0
Stage 1	-	604	-	- - -
Stage 2	-	4	-	- - -
Critical Hdwy	-	6.54	6.94	4.14 - -
Critical Hdwy Stg 1	-	5.54	-	- - -
Critical Hdwy Stg 2	-	-	-	- - -
Follow-up Hdwy	-	4.02	3.32	2.22 - -
Pot Cap-1 Maneuver	0	409	722	1616 - 0
Stage 1	0	486	-	- - 0
Stage 2	0	-	-	- - 0
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	0	722	1616 - -
Mov Cap-2 Maneuver	-	0	-	- - -
Stage 1	-	0	-	- - -
Stage 2	-	0	-	- - -

Approach	EB	SB
HCM Control Delay, s		0.7
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	722	1616	-
HCM Lane V/C Ratio	-	0.191	0.03	-
HCM Control Delay (s)	-	11.2	7.3	0.1
HCM Lane LOS	-	B	A	A
HCM 95th %tile Q(veh)	-	0.7	0.1	-

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑		
Traffic Vol, veh/h	39	0	0	358	0	0
Future Vol, veh/h	39	0	0	358	0	0
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	0	0	411	0	0

Major/Minor	Minor2	Major1	
Conflicting Flow All	168	-	0
Stage 1	0	-	-
Stage 2	168	-	-
Critical Hdwy	5.74	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6.04	-	-
Follow-up Hdwy	3.82	-	-
Pot Cap-1 Maneuver	787	0	0
Stage 1	-	0	0
Stage 2	776	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	787	-	-
Mov Cap-2 Maneuver	787	-	-
Stage 1	-	-	-
Stage 2	776	-	-

Approach	EB	NB
HCM Control Delay, s	9.9	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT EBLn1
Capacity (veh/h)	- 787
HCM Lane V/C Ratio	- 0.057
HCM Control Delay (s)	- 9.9
HCM Lane LOS	- A
HCM 95th %tile Q(veh)	- 0.2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	76	8	0	0	0	0	0	1023	21
Future Vol, veh/h	0	0	0	76	8	0	0	0	0	0	1023	21
Conflicting Peds, #/hr	0	0	0	19	0	0	0	0	0	0	0	23
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	-	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	83	9	0	0	0	0	0	1112	23

Major/Minor	Minor1			Major2		
Conflicting Flow All	575	1135	-	-	-	0
Stage 1	0	0	-	-	-	-
Stage 2	575	1135	-	-	-	-
Critical Hdwy	6.84	6.54	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	-	-	-	-
Pot Cap-1 Maneuver	448	201	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	526	275	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	448	0	-	-	-	-
Mov Cap-2 Maneuver	448	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	526	0	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	15.1	0
HCM LOS	C	

Minor Lane/Major Mvmt	WBLn1	SBT	SBR
Capacity (veh/h)	448	-	-
HCM Lane V/C Ratio	0.204	-	-
HCM Control Delay (s)	15.1	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.8	-	-

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	7	11	12	30	261	0	0	44	26
Future Vol, veh/h	0	0	0	7	11	12	30	261	0	0	44	26
Conflicting Peds, #/hr	0	0	0	0	0	14	3	0	0	0	0	3
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	14	15	38	330	0	0	56	33

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	478	498	344	92	0	-	-	-	0
Stage 1	406	406	-	-	-	-	-	-	-
Stage 2	72	92	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	546	474	699	1503	-	0	0	-	-
Stage 1	673	598	-	-	-	0	0	-	-
Stage 2	951	819	-	-	-	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	529	0	690	1503	-	-	-	-	-
Mov Cap-2 Maneuver	529	0	-	-	-	-	-	-	-
Stage 1	652	0	-	-	-	-	-	-	-
Stage 2	951	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1503	-	620	-
HCM Lane V/C Ratio	0.025	-	0.061	-
HCM Control Delay (s)	7.5	0	11.2	-
HCM Lane LOS	A	A	B	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-

30: N. Congress Ave & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	2	7	6	15	253	0	0	45	16
Future Vol, veh/h	0	0	0	2	7	6	15	253	0	0	45	16
Conflicting Peds, #/hr	0	0	0	10	0	10	11	0	0	0	0	11
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	2	8	7	16	275	0	0	49	17

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	376	385	285	77	0	-	-	-	0
Stage 1	308	308	-	-	-	-	-	-	-
Stage 2	68	77	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	625	549	754	1522	-	0	0	-	-
Stage 1	745	660	-	-	-	0	0	-	-
Stage 2	955	831	-	-	-	0	0	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	611	0	747	1508	-	-	-	-	-
Mov Cap-2 Maneuver	611	0	-	-	-	-	-	-	-
Stage 1	735	0	-	-	-	-	-	-	-
Stage 2	946	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1508	-	708	-
HCM Lane V/C Ratio	0.011	-	0.023	-
HCM Control Delay (s)	7.4	0	10.2	-
HCM Lane LOS	A	A	B	-
HCM 95th %tile Q(veh)	0	-	0.1	-

31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: AM

Intersection						
Int Delay, s/veh	4.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	3	17	13	0
Future Vol, veh/h	0	0	3	17	13	0
Conflicting Peds, #/hr	0	0	24	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	4	20	16	0

Major/Minor	Major2		Minor1	
Conflicting Flow All	24	0	52	-
Stage 1	-	-	24	-
Stage 2	-	-	28	-
Critical Hdwy	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	2.218	-	3.518	-
Pot Cap-1 Maneuver	1591	-	957	0
Stage 1	-	-	-	0
Stage 2	-	-	995	0
Platoon blocked, %				
Mov Cap-1 Maneuver	1591	-	932	-
Mov Cap-2 Maneuver	-	-	932	-
Stage 1	-	-	-	-
Stage 2	-	-	992	-

Approach	WB	NB
HCM Control Delay, s	1.1	8.9
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	932	1591	-
HCM Lane V/C Ratio	0.017	0.002	-
HCM Control Delay (s)	8.9	7.3	0
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0.1	0	-

1: Martin Luther King Jr. Blvd & Guadalupe ST
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱			↱↰	↱				↰	↰↱	↱
Traffic Volume (vph)	143	338	95	4	932	596	0	0	0	170	595	219
Future Volume (vph)	143	338	95	4	932	596	0	0	0	170	595	219
Confl. Peds. (#/hr)	28		65	65		28				39		65
Confl. Bikes (#/hr)			1			6						3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	152	360	101	4	991	634	0	0	0	181	633	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	461	0	0	995	634	0	0	0	181	633	233
Turn Type	Prot	NA		Perm	NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases				6		6				4		4
Detector Phase	5	2		6	6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0		15.0	15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0		34.0	34.0	15.0				15.0	32.0	32.0
Total Split (s)	25.0	92.0		67.0	67.0	43.0				43.0	43.0	43.0
Total Split (%)	18.5%	68.1%		49.6%	49.6%	31.9%				31.9%	31.9%	31.9%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag			Lead	Lead							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Max		C-Max	C-Max	None				None	Max	Max
Act Effect Green (s)	20.0	87.0			62.0	100.0				38.0	38.0	38.0
Actuated g/C Ratio	0.15	0.64			0.46	0.74				0.28	0.28	0.28
v/c Ratio	0.58	0.21			0.64	0.54				0.36	0.64	0.46
Control Delay	63.4	9.5			22.3	1.7				41.4	45.9	17.4
Queue Delay	0.0	0.0			1.6	0.1				0.0	0.0	0.0
Total Delay	63.4	9.5			23.9	1.8				41.4	45.9	17.4
LOS	E	A			C	A				D	D	B
Approach Delay		22.9			15.3						38.8	
Approach LOS		C			B						D	
Queue Length 50th (ft)	126	76			280	10				127	256	55
Queue Length 95th (ft)	201	102			332	16				198	323	137
Internal Link Dist (ft)		228			45		159				210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	262	2152			1550	1184				498	996	505
Starvation Cap Reductn	0	0			360	71				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.58	0.21			0.84	0.57				0.36	0.64	0.46

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

1: Martin Luther King Jr. Blvd & Guadalupe ST
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 24.2

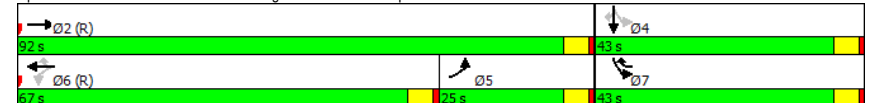
Intersection LOS: C

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe ST



3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖
Traffic Volume (vph)	488	0	0	1153	684	229
Future Volume (vph)	488	0	0	1153	684	229
Confl. Peds. (#/hr)						76
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	536	0	0	1267	752	252
Shared Lane Traffic (%)						
Lane Group Flow (vph)	536	0	0	1267	752	252
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	10.0
Total Split (s)	86.0			86.0	49.0	49.0
Total Split (%)	63.7%			63.7%	36.3%	36.3%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			None	Max	Max
Act Effct Green (s)	81.0			81.0	44.0	44.0
Actuated g/C Ratio	0.60			0.60	0.33	0.33
v/c Ratio	0.25			0.60	0.67	0.39
Control Delay	13.8			11.9	62.6	24.8
Queue Delay	0.0			0.1	0.0	0.0
Total Delay	13.8			12.0	62.6	24.8
LOS	B			B	E	C
Approach Delay	13.8			12.0	53.1	
Approach LOS	B			B	D	
Queue Length 50th (ft)	112			203	355	123
Queue Length 95th (ft)	138			214	412	133
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2123			2123	1118	644
Starvation Cap Reductn	0			112	0	0
Spillback Cap Reductn	0			27	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.25			0.63	0.67	0.39
Intersection Summary						
Cycle Length: 135						
Actuated Cycle Length: 135						
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green						
Natural Cycle: 50						
Control Type: Actuated-Coordinated						

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 27.0

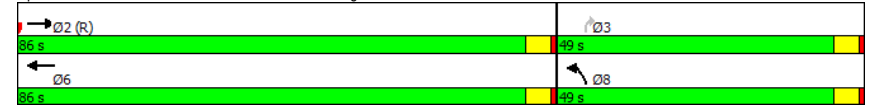
Intersection LOS: C

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd



5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔↔		↖	↔↔	↖↖	↖
Traffic Volume (vph)	663	36	87	1036	145	140
Future Volume (vph)	663	36	87	1036	145	140
Confl. Peds. (#/hr)		31	31		33	
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	705	38	93	1102	154	149
Shared Lane Traffic (%)						
Lane Group Flow (vph)	743	0	93	1102	154	149
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0	15.0	15.0
Minimum Split (s)	34.0		8.0	20.0	29.0	29.0
Total Split (s)	91.0		15.0	106.0	29.0	29.0
Total Split (%)	67.4%		11.1%	78.5%	21.5%	21.5%
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max	Max	Max
Act Effect Green (s)	86.0		101.0	101.0	24.0	24.0
Actuated g/C Ratio	0.64		0.75	0.75	0.18	0.18
v/c Ratio	0.33		0.17	0.42	0.25	0.37
Control Delay	6.9		2.9	2.5	49.1	9.9
Queue Delay	0.0		0.0	0.1	0.0	0.0
Total Delay	6.9		2.9	2.7	49.1	9.9
LOS	A		A	A	D	A
Approach Delay	6.9			2.7	29.8	
Approach LOS	A			A	C	
Queue Length 50th (ft)	78		6	40	60	0
Queue Length 95th (ft)	118		17	73	93	61
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115		120	
Base Capacity (vph)	2228		542	2647	610	403
Starvation Cap Reductn	0		0	519	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.33		0.17	0.52	0.25	0.37

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 75

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 7.8

Intersection LOS: A

Intersection Capacity Utilization 54.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	84	702	11	14	836	126	26	22	149	92	24	234
Future Volume (vph)	84	702	11	14	836	126	26	22	149	92	24	234
Confl. Peds. (#/hr)	41		7	7		41	21		22	22		21
Confl. Bikes (#/hr)			4			3						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	87	724	11	14	862	130	27	23	154	95	25	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	735	0	14	862	130	0	50	154	0	120	241
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	22.0		8.0	28.0	28.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (s)	15.0	89.0		15.0	89.0	89.0	31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	11.1%	65.9%		11.1%	65.9%	65.9%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	97.9	94.6		92.4	86.6	86.6		26.0	26.0		26.0	26.0
Actuated g/C Ratio	0.73	0.70		0.68	0.64	0.64		0.19	0.19		0.19	0.19
v/c Ratio	0.20	0.30		0.03	0.38	0.14		0.17	0.37		0.47	0.50
Control Delay	3.6	3.8		1.6	4.8	1.8		47.5	9.5		55.2	9.3
Queue Delay	0.0	0.1		0.0	0.3	0.0		0.0	0.0		0.0	0.0
Total Delay	3.6	4.0		1.6	5.1	1.8		47.5	9.5		55.2	9.3
LOS	A	A		A	A	A		D	A		E	A
Approach Delay		3.9			4.6			18.8			24.6	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)	8	38		1	87	2		37	0		94	0
Queue Length 95th (ft)	12	65		m2	128	15		76	60		160	75
Internal Link Dist (ft)		377			273			337			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	452	2473		562	2271	910		289	414		257	485
Starvation Cap Reductn	0	736		0	722	0		0	0		0	0
Spillback Cap Reductn	0	12		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.19	0.42		0.02	0.56	0.14		0.17	0.37		0.47	0.50

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 8.6

Intersection LOS: A

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	882	21	284	925	0	0	0	0	36	188	133
Future Volume (vph)	0	882	21	284	925	0	0	0	0	36	188	133
Confl. Peds. (#/hr)			35	35						68		16
Confl. Bikes (#/hr)			7									13
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	948	23	305	995	0	0	0	0	39	202	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	971	0	305	995	0	0	0	0	39	202	143
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effct Green (s)		79.1		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.59		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.47		0.71	0.39					0.12	0.29	0.35
Control Delay		11.4		29.1	4.8					45.7	47.1	9.3
Queue Delay		0.5		0.3	0.2					0.0	0.0	0.0
Total Delay		11.8		29.4	4.9					45.7	47.1	9.3
LOS		B		C	A					D	D	A
Approach Delay		11.8			10.7						32.9	
Approach LOS		B			B						C	
Queue Length 50th (ft)		166		103	85					28	80	0
Queue Length 95th (ft)		222		194	110					62	118	58
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		2064		493	2569					315	707	414
Starvation Cap Reductn		583		20	627					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.66		0.64	0.51					0.12	0.29	0.35

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

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7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 14.3

Intersection LOS: B

Intersection Capacity Utilization 74.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



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8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩			↩↩		↩	↩	↩		↓	↩
Traffic Volume (vph)	80	912	0	0	1069	49	88	302	197	0	0	0
Future Volume (vph)	80	912	0	0	1069	49	88	302	197	0	0	0
Confl. Peds. (#/hr)			32			84	16		142			
Confl. Bikes (#/hr)						4			12			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	82	940	0	0	1102	51	91	311	203	0	0	0
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	82	940	0	0	1153	0	82	320	203	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	104.0			89.0		31.0	31.0	31.0			
Total Split (%)	11.1%	77.0%			65.9%		23.0%	23.0%	23.0%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	99.0	99.0			86.8		26.0	26.0	26.0			
Actuated g/C Ratio	0.73	0.73			0.64		0.19	0.19	0.19			
v/c Ratio	0.25	0.36			0.52		0.26	0.94	0.56			
Control Delay	3.5	1.5			6.7		63.0	102.6	28.7			
Queue Delay	0.0	0.0			0.3		0.0	0.0	0.0			
Total Delay	3.5	1.6			7.0		63.0	102.6	28.7			
LOS	A	A			A		E	F	C			
Approach Delay		1.7			7.0			72.4				
Approach LOS		A			A			E				
Queue Length 50th (ft)	4	22			100		70	303	50			
Queue Length 95th (ft)	11	25			120		m118	#495	m0			
Internal Link Dist (ft)		321			665			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	351	2595			2232		313	340	363			
Starvation Cap Reductn	0	308			424		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.23	0.41			0.64		0.26	0.94	0.56			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 60

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94

Intersection Signal Delay: 19.3
Intersection Capacity Utilization 74.2%
Intersection LOS: B
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



18: Guadalupe St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑								↑↑	
Traffic Volume (vph)	0	57	33	0	0	0	0	0	0	76	944	0
Future Volume (vph)	0	57	33	0	0	0	0	0	0	76	944	0
Confl. Peds. (#/hr)			64							41		
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Parking (#/hr)		0										
Adj. Flow (vph)	0	59	34	0	0	0	0	0	0	79	983	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	34	0	0	0	0	0	0	0	1062	0
Turn Type	NA	Perm								Perm	NA	
Protected Phases	4 12										2 10	
Permitted Phases			4 12							2 10		
Detector Phase	4 12	4 12								2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		31.2	31.2								91.8	
Actuated g/C Ratio		0.23	0.23								0.68	
v/c Ratio		0.15	0.09								0.44	
Control Delay		24.9	0.4								6.7	
Queue Delay		0.0	0.0								0.0	
Total Delay		24.9	0.4								6.7	
LOS		C	A								A	
Approach Delay		16.0									6.7	
Approach LOS		B									A	
Queue Length 50th (ft)		28	0								106	
Queue Length 95th (ft)		51	1								130	
Internal Link Dist (ft)		177			244			271			262	
Turn Bay Length (ft)												
Base Capacity (vph)		528	514								2397	
Starvation Cap Reductn		0	0								0	
Spillback Cap Reductn		0	0								0	
Storage Cap Reductn		0	0								0	
Reduced v/c Ratio		0.11	0.07								0.44	
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												

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18: Guadalupe St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	15.0	15.0
Minimum Split (s)	21.0	21.0	21.0	21.0
Total Split (s)	56.0	29.0	24.0	26.0
Total Split (%)	41%	21%	18%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

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18: Guadalupe St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 7.5

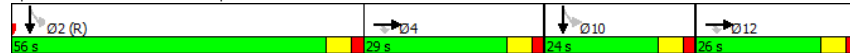
Intersection LOS: A

Intersection Capacity Utilization 50.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↑↑↑				
Traffic Volume (vph)	30	125	0	0	0	0	0	960	149	0	0	0
Future Volume (vph)	30	125	0	0	0	0	0	960	149	0	0	0
Confl. Peds. (#/hr)	32								44			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)		0										
Adj. Flow (vph)	33	136	0	0	0	0	0	1043	162	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	169	0	0	0	0	0	1205	0	0	0	0
Turn Type	Perm	NA						NA				
Protected Phases		4 12						2 10				
Permitted Phases	4 12											
Detector Phase	4 12	4 12						2 10				
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		25.1						85.9				
Actuated g/C Ratio		0.19						0.64				
v/c Ratio		0.47						0.31				
Control Delay		20.9						9.5				
Queue Delay		0.0						0.0				
Total Delay		20.9						9.5				
LOS		C						A				
Approach Delay		20.9						9.5				
Approach LOS		C						A				
Queue Length 50th (ft)		46						121				
Queue Length 95th (ft)		65						89				
Internal Link Dist (ft)		244			319			272			254	
Turn Bay Length (ft)												
Base Capacity (vph)		578						4048				
Starvation Cap Reductn		2						818				
Spillback Cap Reductn		0						0				
Storage Cap Reductn		0						0				
Reduced v/c Ratio		0.29						0.37				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 100

19: Lavaca St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	23.0	23.0
Total Split (s)	54.0	28.0	25.0	28.0
Total Split (%)	40%	21%	19%	21%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

19: Lavaca St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 10.9

Intersection LOS: B

Intersection Capacity Utilization 39.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔				
Traffic Volume (vph)	0	0	0	0	77	48	69	1079	0	0	0	0
Future Volume (vph)	0	0	0	0	77	48	69	1079	0	0	0	0
Confl. Peds. (#/hr)						157		82				
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Parking (#/hr)					0							
Adj. Flow (vph)	0	0	0	0	81	51	73	1136	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	132	0	0	1209	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					4 12			2 10				
Permitted Phases								2 10				
Detector Phase					4 12			2 10				
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)					22.5			88.5				
Actuated g/C Ratio					0.17			0.66				
v/c Ratio					0.51			0.29				
Control Delay					31.2			5.7				
Queue Delay					0.0			0.2				
Total Delay					31.2			5.9				
LOS					C			A				
Approach Delay					31.2			5.9				
Approach LOS					C			A				
Queue Length 50th (ft)					63			98				
Queue Length 95th (ft)					98			86				
Internal Link Dist (ft)		233			336			281			272	
Turn Bay Length (ft)												
Base Capacity (vph)					484			4217				
Starvation Cap Reductn					0			1854				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.27			0.51				
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green												

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28: Lavaca St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	23.0
Total Split (s)	55.0	32.0	24.0	24.0
Total Split (%)	41%	24%	18%	18%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

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28: Lavaca St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Natural Cycle: 105

Control Type: Actuated-Coordinated

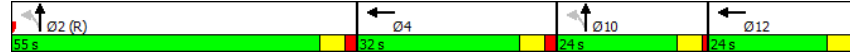
Maximum v/c Ratio: 0.51

Intersection Signal Delay: 8.4 Intersection LOS: A

Intersection Capacity Utilization 48.3% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	837	91	204	1640	0	0	0	0	143	808	257
Future Volume (vph)	0	837	91	204	1640	0	0	0	0	143	808	257
Confl. Peds. (#/hr)			17	17						19		26
Confl. Bikes (#/hr)												26
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	973	106	237	1907	0	0	0	0	166	940	299
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1079	0	237	1907	0	0	0	0	0	1106	299
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		58.0			88.0					47.0	47.0	47.0
Total Split (%)		43.0%			65.2%					34.8%	34.8%	34.8%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		53.1		83.0	83.0						42.0	42.0
Actuated g/C Ratio		0.39		0.61	0.61						0.31	0.31
v/c Ratio		0.55		0.59	0.61						0.71	0.57
Control Delay		32.5		20.0	7.5						40.3	27.3
Queue Delay		0.0		3.5	0.2						0.0	0.0
Total Delay		32.5		23.4	7.7						40.3	27.3
LOS		C		C	A						D	C
Approach Delay		32.5			9.4						37.5	
Approach LOS		C			A						D	
Queue Length 50th (ft)		262		46	127						265	127
Queue Length 95th (ft)		290		m111	131						287	185
Internal Link Dist (ft)		262			240			197			285	
Turn Bay Length (ft)				50								100
Base Capacity (vph)		1969		401	3126						1564	526
Starvation Cap Reductn		0		91	386						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.55		0.76	0.70						0.71	0.57

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

34: Guadalupe St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	8.0
Minimum Split (s)	10.0	13.0
Total Split (s)	15.0	15.0
Total Split (%)	11%	11%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

34: Guadalupe St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 23.3

Intersection LOS: C

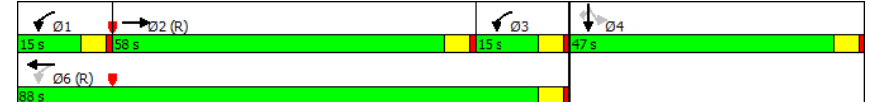
Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: PM

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  					
Traffic Volume (vph)	85	865	0	0	1543	63	370	828	151	0	0	0	
Future Volume (vph)	85	865	0	0	1543	63	370	828	151	0	0	0	
Confl. Peds. (#/hr)	45					45	29		17				
Confl. Bikes (#/hr)			2						26				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	94	961	0	0	1714	70	411	920	168	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	94	961	0	0	1784	0	0	1499	0	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA					
Protected Phases	5	2			6			4					
Permitted Phases	2						4						
Detector Phase	5	2			6		4	4					
Switch Phase													
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0					
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0					
Total Split (s)	20.0	86.0			66.0		49.0	49.0					
Total Split (%)	14.8%	63.7%			48.9%		36.3%	36.3%					
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0					
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0					
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0					
Total Lost Time (s)	5.0	5.0			5.0		6.0	6.0					
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max					
Act Effect Green (s)	81.0	81.0			67.0		43.0	43.0					
Actuated g/C Ratio	0.60	0.60			0.50		0.32	0.32					
v/c Ratio	0.54	0.31			0.71		0.77	0.77					
Control Delay	57.9	3.5			12.8		43.8	43.8					
Queue Delay	0.0	0.1			0.0		0.0	0.0					
Total Delay	57.9	3.7			12.8		43.8	43.8					
LOS	E	A			B		D	D					
Approach Delay		8.5			12.8		43.8	43.8					
Approach LOS		A			B		D	D					
Queue Length 50th (ft)	47	46			144		338	338					
Queue Length 95th (ft)	m104	53			156		384	384					
Internal Link Dist (ft)		240			335		116	116			281		
Turn Bay Length (ft)	50												
Base Capacity (vph)	247	3051			2504		1959	1959					
Starvation Cap Reductn	0	836			11		0	0					
Spillback Cap Reductn	0	0			0		0	0					
Storage Cap Reductn	0	0			0		0	0					
Reduced v/c Ratio	0.38	0.43			0.72		0.77	0.77					

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 70

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Synchro 9 Report

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35: Lavaca St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: PM

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 22.5	Intersection LOS: C
Intersection Capacity Utilization 71.9%	ICU Level of Service C
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 35: Lavaca St & W. 15th St



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Synchro 9 Report

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36: Colorado St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	←	→	↖	↗	←	↖	↗	→	↖	↗	→	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	↖ ↗	
Traffic Volume (vph)	26	1019	20	21	1320	13	8	25	104	122	6	257	
Future Volume (vph)	26	1019	20	21	1320	13	8	25	104	122	6	257	
Confl. Peds. (#/hr)	31		33	33		31	92		6	6		92	
Confl. Bikes (#/hr)			1			2			2			1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	
Adj. Flow (vph)	30	1171	23	24	1517	15	9	29	120	140	7	295	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	30	1194	0	24	1532	0	0	158	0	0	147	295	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm	
Protected Phases	5	2		1	6			4			8		
Permitted Phases	2			6			4			8		8	
Detector Phase	5	2		1	6		4	4		8	8	8	
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	5.0	
Minimum Split (s)	10.0	20.0		10.0	22.0		36.0	36.0		10.0	10.0	10.0	
Total Split (s)	10.0	79.0		10.0	79.0		46.0	46.0		46.0	46.0	46.0	
Total Split (%)	7.4%	58.5%		7.4%	58.5%		34.1%	34.1%		34.1%	34.1%	34.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	Max	
Act Effect Green (s)	81.0	78.0		81.0	78.0			41.0			41.0	41.0	
Actuated g/C Ratio	0.60	0.58		0.60	0.58			0.30			0.30	0.30	
v/c Ratio	0.16	0.41		0.09	0.52			0.28			0.47	0.60	
Control Delay	7.3	8.9		6.9	9.3			11.7			44.1	33.1	
Queue Delay	0.0	0.2		0.0	0.1			0.0			0.0	0.0	
Total Delay	7.3	9.1		6.9	9.4			11.7			44.1	33.1	
LOS	A	A		A	A			B			D	C	
Approach Delay		9.0			9.4			11.7			36.8		
Approach LOS		A			A			B			D		
Queue Length 50th (ft)	0	118		5	122			24			105	154	
Queue Length 95th (ft)	m0	128		m11	126			74			169	242	
Internal Link Dist (ft)		335			362			155			280		
Turn Bay Length (ft)	90			90								100	
Base Capacity (vph)	183	2927		254	2931			571			314	493	
Starvation Cap Reductn	0	749		0	284			0			0	0	
Spillback Cap Reductn	0	0		0	0			0			0	0	
Storage Cap Reductn	0	0		0	0			0			0	0	
Reduced v/c Ratio	0.16	0.55		0.09	0.58			0.28			0.47	0.60	

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

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Synchro 9 Report
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36: Colorado St & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 12.9

Intersection LOS: B

Intersection Capacity Utilization 85.8%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 36: Colorado St & W. 15th St



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37: N. Congress Ave & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰			↰	↰
Traffic Volume (vph)	36	1264	0	8	1095	34	0	2	1	165	1	174
Future Volume (vph)	36	1264	0	8	1095	34	0	2	1	165	1	174
Confl. Peds. (#/hr)	16		46	46		16	38		13	13		38
Confl. Bikes (#/hr)									4			9
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	42	1470	0	9	1273	40	0	2	1	192	1	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	1470	0	9	1313	0	0	3	0	0	193	202
Turn Type	pm+pt	NA		pm+pt	NA			NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6						8		8
Detector Phase	5	2		1	6			4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	25.0		10.0	25.0			33.0		33.0	33.0	33.0
Total Split (s)	32.0	92.0		10.0	70.0			33.0		33.0	33.0	33.0
Total Split (%)	23.7%	68.1%		7.4%	51.9%			24.4%		24.4%	24.4%	24.4%
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	Max			Max		Max	Max	Max
Act Effect Green (s)	95.0	95.0		87.6	87.6			28.0		28.0	28.0	28.0
Actuated g/C Ratio	0.70	0.70		0.65	0.65			0.21		0.21	0.21	0.21
v/c Ratio	0.15	0.41		0.04	0.40			0.01		0.70	0.44	0.44
Control Delay	4.6	3.5		5.8	8.4			37.7		64.5	8.9	8.9
Queue Delay	0.0	0.1		0.0	0.2			0.0		0.0	0.0	0.0
Total Delay	4.6	3.6		5.8	8.6			37.7		64.5	8.9	8.9
LOS	A	A		A	A			D		E	A	A
Approach Delay		3.6			8.6			37.7			36.1	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	3	41		3	221			1		158	0	0
Queue Length 95th (ft)	13	88		m2	276			10		235	56	56
Internal Link Dist (ft)		362			356			125		278		
Turn Bay Length (ft)	60			100							130	
Base Capacity (vph)	501	3578		246	3277			365		275	463	
Starvation Cap Reductn	0	660		0	913			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	0.08	0.50		0.04	0.56			0.01		0.70	0.44	0.44

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Natural Cycle: 70

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Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 9.7

Intersection LOS: A

Intersection Capacity Utilization 61.6%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



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38: Brazos St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: PM

	←	→	↙	↘	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	
Traffic Volume (vph)	5	1289	36	9	994	5	125	3	110	61	3	82
Future Volume (vph)	5	1289	36	9	994	5	125	3	110	61	3	82
Confl. Peds. (#/hr)	8		9	9		8	5		18	18		5
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1386	39	10	1069	5	134	3	118	66	3	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1425	0	10	1074	0	134	121	0	0	157	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0		32.0	32.0	
Total Split (s)	12.0	77.0		12.0	77.0		46.0	46.0		46.0	46.0	
Total Split (%)	8.9%	57.0%		8.9%	57.0%		34.1%	34.1%		34.1%	34.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lead	Lead		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Act Effect Green (s)	81.6	81.6		81.8	81.8		41.0	41.0			41.0	
Actuated g/C Ratio	0.60	0.60		0.61	0.61		0.30	0.30			0.30	
v/c Ratio	0.02	0.47		0.04	0.35		0.38	0.22			0.34	
Control Delay	6.2	6.6		10.9	11.3		41.0	7.3			27.2	
Queue Delay	0.0	0.1		0.0	0.2		0.0	0.0			0.0	
Total Delay	6.2	6.7		10.9	11.5		41.0	7.3			27.2	
LOS	A	A		B	B		D	A			C	
Approach Delay		6.7			11.5			25.0			27.2	
Approach LOS		A			B			C			C	
Queue Length 50th (ft)	1	105		2	108		93	2			72	
Queue Length 95th (ft)	m2	94		m9	m220		156	48			136	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40			40					
Base Capacity (vph)	298	3058		242	3076		350	547			457	
Starvation Cap Reductn	0	532		0	1119		0	0			0	
Spillback Cap Reductn	0	33		0	106		0	0			1	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.02	0.56		0.04	0.55		0.38	0.22			0.34	

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

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38: Brazos St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 11.2

Intersection LOS: B

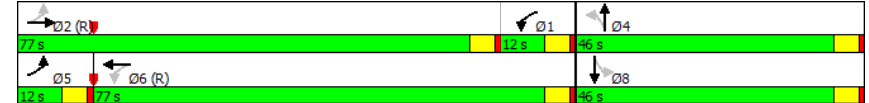
Intersection Capacity Utilization 56.6%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	
Traffic Volume (vph)	0	1521	108	62	782	0	0	0	0	252	564	258
Future Volume (vph)	0	1521	108	62	782	0	0	0	0	252	564	258
Confl. Peds. (#/hr)			11	11						30		5
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1635	116	67	841	0	0	0	0	271	606	277
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1751	0	67	841	0	0	0	0	0	1154	0
Turn Type		NA		pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases				6						4		
Detector Phase		2		1	6					4	4	
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	
Total Split (s)		80.0		15.0	95.0					40.0	40.0	
Total Split (%)		59.3%		11.1%	70.4%					29.6%	29.6%	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	
Total Lost Time (s)		5.0		5.0	5.0						5.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	
Act Effct Green (s)		79.9		90.0	90.0						35.0	
Actuated g/C Ratio		0.59		0.67	0.67						0.26	
v/c Ratio		0.59		0.37	0.25						0.90	
Control Delay		6.7		18.7	8.1						55.5	
Queue Delay		0.1		0.0	0.2						0.0	
Total Delay		6.7		18.7	8.3						55.5	
LOS		A		B	A						E	
Approach Delay		6.7			9.1						55.5	
Approach LOS		A			A						E	
Queue Length 50th (ft)		200		19	90						321	
Queue Length 95th (ft)		214		48	102						#400	
Internal Link Dist (ft)		297			282			125			272	
Turn Bay Length (ft)				70								
Base Capacity (vph)		2979		217	3390						1278	
Starvation Cap Reductn		178		0	1474						0	
Spillback Cap Reductn		0		0	0						0	
Storage Cap Reductn		0		0	0						0	
Reduced v/c Ratio		0.63		0.31	0.44						0.90	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 22.0

Intersection LOS: C

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



40: Trinity St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: PM

	←	→	↖	↗	←	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↖↖			↖↖↖		↖	↖	↖				
Traffic Volume (vph)	39	1521	0	0	680	46	169	280	266	0	0	0	
Future Volume (vph)	39	1521	0	0	680	46	169	280	266	0	0	0	
Confl. Peds. (#/hr)	2					2	7		8				
Confl. Bikes (#/hr)									8				
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	41	1584	0	0	708	48	176	292	277	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	41	1584	0	0	756	0	176	292	277	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA	Perm				
Protected Phases	5	2			6			4					
Permitted Phases	2						4		4				
Detector Phase	5	2			6		4	4	4				
Switch Phase													
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0				
Minimum Split (s)	8.0	28.0			28.0		40.0	40.0	40.0				
Total Split (s)	10.0	100.0			90.0		35.0	35.0	35.0				
Total Split (%)	7.4%	74.1%			66.7%		25.9%	25.9%	25.9%				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0				
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max	Max				
Act Effect Green (s)	95.0	95.0			87.0		30.0	30.0	30.0				
Actuated g/C Ratio	0.70	0.70			0.64		0.22	0.22	0.22				
v/c Ratio	0.09	0.44			0.23		0.45	0.71	0.72				
Control Delay	3.3	3.8			3.0		49.8	58.8	50.0				
Queue Delay	0.0	0.1			0.0		0.0	0.0	0.0				
Total Delay	3.3	3.9			3.0		49.8	58.8	50.0				
LOS	A	A			A		D	E	D				
Approach Delay		3.9			3.0			53.4					
Approach LOS		A			A			D					
Queue Length 50th (ft)	5	75			19		135	238	182				
Queue Length 95th (ft)	m8	82			m31		210	342	287				
Internal Link Dist (ft)		282			648			149			621		
Turn Bay Length (ft)	100												
Base Capacity (vph)	461	3578			3246		390	414	385				
Starvation Cap Reductn	0	701			0		0	0	0				
Spillback Cap Reductn	0	0			0		0	0	0				
Storage Cap Reductn	0	0			0		0	0	0				
Reduced v/c Ratio	0.09	0.55			0.23		0.45	0.71	0.72				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 80

09/29/2016

MS

Synchro 9 Report

Page 35

40: Trinity St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Trinity St & W. 15th St



09/29/2016

MS

Synchro 9 Report

Page 36

80: Red River St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩	↩
Traffic Volume (vph)	221	1141	35	123	526	46	46	691	67	166	485	194
Future Volume (vph)	221	1141	35	123	526	46	46	691	67	166	485	194
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	230	1189	36	134	572	50	50	751	73	180	527	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	230	1225	0	134	572	50	50	824	0	180	527	211
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8			4		4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	23.0		10.0	23.0	23.0	10.0	23.0		10.0	23.0	23.0
Total Split (s)	20.0	51.0		11.0	42.0	42.0	10.0	59.0		14.0	63.0	63.0
Total Split (%)	14.8%	37.8%		8.1%	31.1%	31.1%	7.4%	43.7%		10.4%	46.7%	46.7%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Act Effct Green (s)	57.0	46.0		43.7	37.7	37.7	59.0	54.0		67.2	60.0	60.0
Actuated g/C Ratio	0.42	0.34		0.32	0.28	0.28	0.44	0.40		0.50	0.44	0.44
v/c Ratio	0.71	1.02		0.99	0.58	0.09	0.13	1.12		1.05	0.34	0.26
Control Delay	48.7	75.1		112.0	50.9	5.8	34.8	124.6		115.2	25.7	3.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	48.7	75.1		112.0	50.9	5.8	34.8	124.6		115.2	25.7	3.7
LOS	D	E		F	D	A	C	F		F	C	A
Approach Delay		70.9			58.7			119.5			38.2	
Approach LOS		E			E			F			D	
Queue Length 50th (ft)	122	~593		~98	257	4	36	~846		~121	160	0
Queue Length 95th (ft)	216	#717		#208	326	18	m49	m#1061		#278	206	47
Internal Link Dist (ft)		665			503			366			486	
Turn Bay Length (ft)	100			120			140			150		
Base Capacity (vph)	329	1202		135	988	541	383	738		171	1572	820
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.70	1.02		0.99	0.58	0.09	0.13	1.12		1.05	0.34	0.26

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 9 (7%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12

80: Red River St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection Signal Delay: 71.7

Intersection LOS: E

Intersection Capacity Utilization 105.8%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

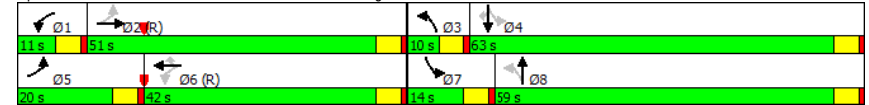
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 80: Red River St & Martin Luther King Jr. Blvd



81: I-35 SB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑						↑↑	↑↑
Traffic Volume (vph)	0	585	270	470	429	0	0	0	0	88	794	275
Future Volume (vph)	0	585	270	470	429	0	0	0	0	88	794	275
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	636	293	511	466	0	0	0	0	96	863	299
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	636	293	511	466	0	0	0	0	0	959	299
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	2 1						4 12	
Permitted Phases			2	1 2						4 12		4 12
Detector Phase		2	2	1	2 1					4 12	4 12	4 12
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0								
Minimum Split (s)		23.0	23.0	10.0								
Total Split (s)		36.0	36.0	56.0								
Total Split (%)		26.7%	26.7%	41.5%								
Yellow Time (s)		4.0	4.0	4.0								
All-Red Time (s)		1.0	1.0	1.0								
Lost Time Adjust (s)		0.0	0.0	0.0								
Total Lost Time (s)		5.0	5.0	5.0								
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		C-Max	C-Max	Min								
Act Effct Green (s)		31.0	31.0	82.0	87.0						38.0	38.0
Actuated g/C Ratio		0.23	0.23	0.61	0.64						0.28	0.28
v/c Ratio		0.78	0.62	0.69	0.20						0.97	0.31
Control Delay		59.9	36.8	13.6	3.5						69.6	9.2
Queue Delay		1.2	0.0	7.1	0.0						0.0	0.0
Total Delay		61.1	36.8	20.7	3.5						69.6	9.2
LOS		E	D	C	A						E	A
Approach Delay		53.4			12.5						55.3	
Approach LOS		D			B						E	
Queue Length 50th (ft)		214	123	316	20						438	21
Queue Length 95th (ft)		m208	m119	449	25						#578	60
Internal Link Dist (ft)		503			364			1366			411	
Turn Bay Length (ft)												
Base Capacity (vph)		812	469	738	2280						991	958
Starvation Cap Reductn		0	0	181	0						0	0
Spillback Cap Reductn		54	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.84	0.62	0.92	0.20						0.97	0.31

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97

81: I-35 SB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Peak Hour Factor						
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	23.0	12.0	12.0
Total Split (s)	31.0	55.0	24.0	44.0	12.0	12.0
Total Split (%)	23%	41%	18%	33%	9%	9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Min	Max	Max	Max	Max
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

81: I-35 SB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection Signal Delay: 41.5

Intersection LOS: D

Intersection Capacity Utilization 76.0%

ICU Level of Service D

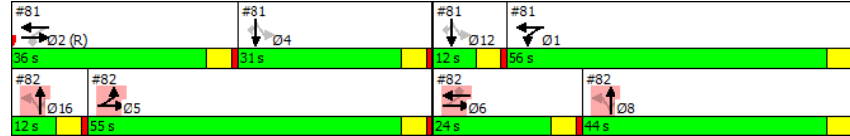
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 81: I-35 SB Frontage Rd & Martin Luther King Jr. Blvd



82: I-35 NB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰			↱	↱	↰	↰	↰			
Traffic Volume (vph)	743	525	0	0	470	89	184	555	417	0	0	0
Future Volume (vph)	743	525	0	0	470	89	184	555	417	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	808	571	0	0	511	97	200	603	453	0	0	0
Shared Lane Traffic (%)	50%						10%					
Lane Group Flow (vph)	404	975	0	0	511	97	180	623	453	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	5 6			6			8 16				
Permitted Phases	5 6					6	8 16		8 16			
Detector Phase	5	5 6			6	6	8 16	8 16	8 16			
Switch Phase												
Minimum Initial (s)	5.0				5.0	5.0						
Minimum Split (s)	23.0				23.0	23.0						
Total Split (s)	55.0				24.0	24.0						
Total Split (%)	40.7%				17.8%	17.8%						
Yellow Time (s)	4.0				4.0	4.0						
All-Red Time (s)	1.0				1.0	1.0						
Lost Time Adjust (s)	0.0				0.0	0.0						
Total Lost Time (s)	5.0				5.0	5.0						
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	Min				Max	Max						
Act Effct Green (s)	69.0	69.0			19.0	19.0	51.0	51.0	51.0			
Actuated g/C Ratio	0.51	0.51			0.14	0.14	0.38	0.38	0.38			
v/c Ratio	0.62	0.65			0.71	0.29	0.30	0.49	0.60			
Control Delay	15.2	14.0			61.7	4.7	46.0	50.0	33.0			
Queue Delay	1.6	2.4			0.2	0.0	0.0	0.0	0.0			
Total Delay	16.7	16.4			61.9	4.7	46.1	50.1	33.0			
LOS	B	B			E	A	D	D	C			
Approach Delay		16.5			52.8			43.3				
Approach LOS		B			D			D				
Queue Length 50th (ft)	202	340			158	0	171	298	248			
Queue Length 95th (ft)	m341	m439			202	20	257	365	355			
Internal Link Dist (ft)		364			388		808		388			
Turn Bay Length (ft)						180						
Base Capacity (vph)	656	1506			715	340	608	1278	759			
Starvation Cap Reductn	115	383			0	0	0	0	0			
Spillback Cap Reductn	0	0			17	0	13	28	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.75	0.87			0.73	0.29	0.30	0.50	0.60			

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

82: I-35 NB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Peak Hour Factor						
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Detector Phase						
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	12.0	12.0
Total Split (s)	56.0	36.0	31.0	44.0	12.0	12.0
Total Split (%)	41%	27%	23%	33%	9%	9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	C-Max	Max	Max	Max	Max
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

82: I-35 NB Frontage Rd & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection Signal Delay: 33.7

Intersection LOS: C

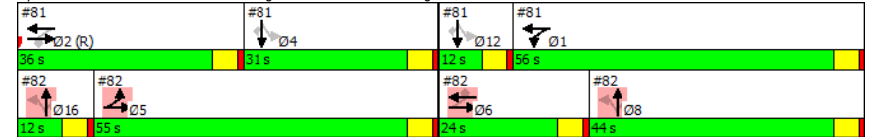
Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 82: I-35 NB Frontage Rd & Martin Luther King Jr. Blvd



83: Red River St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: PM

	←	→	↖	↗	↙	↘	↖	↗	↙	↘	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘	↖ ↗ ↘		↖ ↗ ↘	↖ ↗ ↘			↖ ↗ ↘		↖ ↗ ↘	↖ ↗ ↘	
Traffic Volume (vph)	539	1631	31	45	512	22	13	105	133	49	133	549
Future Volume (vph)	539	1631	31	45	512	22	13	105	133	49	133	549
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	561	1699	32	49	557	24	14	114	145	53	145	597
Shared Lane Traffic (%)												
Lane Group Flow (vph)	561	1731	0	49	581	0	0	273	0	53	742	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Minimum Split (s)	10.0	23.0		10.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	49.0	63.0		10.0	24.0		62.0	62.0		62.0	62.0	
Total Split (%)	36.3%	46.7%		7.4%	17.8%		45.9%	45.9%		45.9%	45.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Act Effect Green (s)	68.0	58.0		24.0	19.0		57.0			57.0	57.0	
Actuated g/C Ratio	0.50	0.43		0.18	0.14		0.42			0.42	0.42	
v/c Ratio	0.89	0.79		0.41	0.81		0.59			0.13	0.93	
Control Delay	62.1	49.4		35.5	51.5		30.2			39.2	65.4	
Queue Delay	0.0	0.1		0.0	0.0		0.1			0.0	0.0	
Total Delay	62.1	49.6		35.5	51.5		30.2			39.2	65.4	
LOS	E	D		D	D		C			D	E	
Approach Delay		52.6			50.2		30.2				63.7	
Approach LOS		D			D		C				E	
Queue Length 50th (ft)	458	508		22	181		148			38	561	
Queue Length 95th (ft)	#629	560		44	228		248			m#73	m#740	
Internal Link Dist (ft)		648			607		283				924	
Turn Bay Length (ft)	70			55								
Base Capacity (vph)	632	2179		120	714		461			404	800	
Starvation Cap Reductn	0	44		0	0		0			0	0	
Spillback Cap Reductn	0	0		0	0		7			6	0	
Storage Cap Reductn	0	0		0	0		0			0	0	
Reduced v/c Ratio	0.89	0.81		0.41	0.81		0.60			0.13	0.93	

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 52.9

Intersection LOS: D

Intersection Capacity Utilization 93.6%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

09/29/2016

MS

Synchro 9 Report

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83: Red River St & W. 15th St

TIA for Texas Capital Complex Master Plan 2018 Update

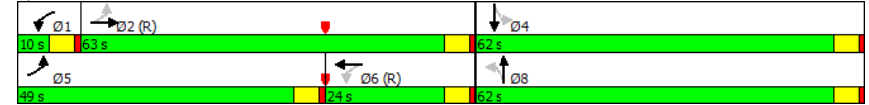
Existing Conditions

Timing Plan: PM

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 83: Red River St & W. 15th St



09/29/2016

MS

Synchro 9 Report

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84: I-35 SB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations		↑↑	↑		↑↑						↑↑↑	↑			
Traffic Volume (vph)	0	1028	514	1	138	0	0	0	0	0	1197	362			
Future Volume (vph)	0	1028	514	1	138	0	0	0	0	0	1197	362			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Adj. Flow (vph)	0	1117	559	1	150	0	0	0	0	0	1301	393			
Shared Lane Traffic (%)															
Lane Group Flow (vph)	0	1117	559	0	151	0	0	0	0	0	1301	393			
Turn Type		NA	Perm	pm+pt	NA						NA	Free			
Protected Phases		2		1	2 1						4 12				
Permitted Phases			2	1 2						4 12		Free			
Detector Phase		2	2	1	2 1					4 12	4 12				
Switch Phase															
Minimum Initial (s)		5.0	5.0	5.0											
Minimum Split (s)		23.0	23.0	10.0											
Total Split (s)		71.0	71.0	23.0											
Total Split (%)		52.6%	52.6%	17.0%											
Yellow Time (s)		4.0	4.0	4.0											
All-Red Time (s)		1.0	1.0	1.0											
Lost Time Adjust (s)		0.0	0.0												
Total Lost Time (s)		5.0	5.0												
Lead/Lag		Lead	Lead	Lag											
Lead-Lag Optimize?		Yes	Yes	Yes											
Recall Mode		C-Max	C-Max	Min											
Act Effct Green (s)		66.0	66.0		84.0						36.0	135.0			
Actuated g/C Ratio		0.49	0.49		0.62						0.27	1.00			
v/c Ratio		0.65	0.57		0.07						0.96	0.25			
Control Delay		22.3	15.7		3.9						47.4	0.2			
Queue Delay		1.5	1.0		0.0						0.0	0.0			
Total Delay		23.7	16.7		3.9						47.4	0.2			
LOS		C	B		A						D	A			
Approach Delay		21.4			3.9						36.5				
Approach LOS		C			A						D				
Queue Length 50th (ft)		508	396		5						367	0			
Queue Length 95th (ft)		582	514		8						m#467	m0			
Internal Link Dist (ft)		607			190			264			1366				
Turn Bay Length (ft)															
Base Capacity (vph)		1730	978		2124						1356	1583			
Starvation Cap Reductn		395	196		0	0					0	0			
Spillback Cap Reductn		138	0		0	0					0	0			
Storage Cap Reductn		0	0		0	0					0	0			
Reduced v/c Ratio		0.84	0.71		0.07						0.96	0.25			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96

84: I-35 SB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Lane Group	Ø4	Ø5	Ø8	Ø12	Ø16
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Peak Hour Factor					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	4	5	8	12	16
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0	10.0	10.0
Total Split (s)	31.0	92.0	33.0	10.0	10.0
Total Split (%)	23%	68%	24%	7%	7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lag	Lag		Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					

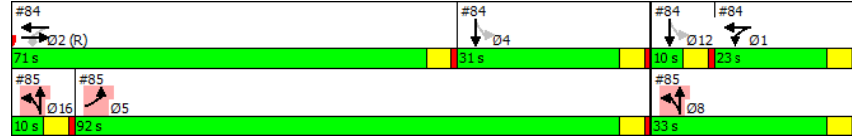
Intersection Summary

84: I-35 SB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection Signal Delay: 27.9 Intersection LOS: C
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 84: I-35 SB Frontage Rd & W. 15th St



85: I-35 NB Frontage Rd & W. 15th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations	↔↔	↔	↔	↔↔	↔	↔						
Traffic Volume (vph)	1033	0	102	706	0	0						
Future Volume (vph)	1033	0	102	706	0	0						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92						
Adj. Flow (vph)	1123	0	111	767	0	0						
Shared Lane Traffic (%)			10%									
Lane Group Flow (vph)	1123	0	100	778	0	0						
Turn Type	Prot		custom	NA								
Protected Phases	5		8 16	8 16			1	2	4	8	12	16
Permitted Phases			8 16									
Detector Phase	5		8 16	8 16								
Switch Phase												
Minimum Initial (s)	5.0						5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0						10.0	23.0	23.0	23.0	10.0	10.0
Total Split (s)	92.0						23.0	71.0	31.0	33.0	10.0	10.0
Total Split (%)	68.1%						17%	53%	23%	24%	7%	7%
Yellow Time (s)	4.0						4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0						1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0											
Total Lost Time (s)	5.0											
Lead/Lag	Lag						Lag	Lead	Lag		Lead	Lead
Lead-Lag Optimize?	Yes						Yes	Yes	Yes		Yes	Yes
Recall Mode	Max						Min	C-Max	Max	Max	Max	Max
Act Effct Green (s)	87.0		38.0	38.0								
Actuated g/C Ratio	0.64		0.28	0.28								
v/c Ratio	0.51		0.23	0.58								
Control Delay	5.9		39.1	43.6								
Queue Delay	0.6		0.0	0.0								
Total Delay	6.5		39.1	43.6								
LOS	A		D	D								
Approach Delay	6.5			43.1								
Approach LOS	A			D								
Queue Length 50th (ft)	509		79	227								
Queue Length 95th (ft)	1		138	276								
Internal Link Dist (ft)	190			238	628							
Turn Bay Length (ft)												
Base Capacity (vph)	2212		428	1351								
Starvation Cap Reductn	652		0	0								
Spillback Cap Reductn	0		0	0								
Storage Cap Reductn	0		0	0								
Reduced v/c Ratio	0.72		0.23	0.58								
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green												
Natural Cycle: 75												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.96												

85: I-35 NB Frontage Rd & W. 15th St

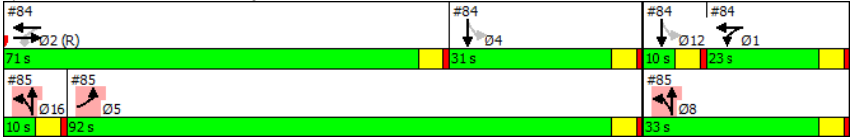
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions

Timing Plan: PM

Intersection Signal Delay: 22.6	Intersection LOS: C
Intersection Capacity Utilization 51.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 85: I-35 NB Frontage Rd & W. 15th St



11: Colorado St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	8.4											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↔				↔	
Traffic Vol, veh/h	0	0	0	0	0	39	70	20	0	29	86	0
Future Vol, veh/h	0	0	0	0	0	39	70	20	0	29	86	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	50	90	26	0	37	110	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach						WB			NB		
Opposing Approach									SB		
Opposing Lanes						0			1		
Conflicting Approach Left						NB					
Conflicting Lanes Left						1			0		
Conflicting Approach Right						SB			WB		
Conflicting Lanes Right						1			1		
HCM Control Delay						8.7			8.5		
HCM LOS						A			A		

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	25%	30%	0%
Vol Thru, %	75%	54%	72%
Vol Right, %	0%	16%	28%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	115	129	87
LT Vol	29	39	0
Through Vol	86	70	63
RT Vol	0	20	24
Lane Flow Rate	147	165	112
Geometry Grp	1	1	1
Degree of Util (X)	0.184	0.206	0.134
Departure Headway (Hd)	4.496	4.487	4.324
Convergence, Y/N	Yes	Yes	Yes
Cap	799	802	831
Service Time	2.514	2.506	2.343
HCM Lane V/C Ratio	0.184	0.206	0.135
HCM Control Delay	8.5	8.7	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.8	0.5

11: Colorado St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↔	
Traffic Vol, veh/h	0	0	63	24
Future Vol, veh/h	0	0	63	24
Peak Hour Factor	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	81	31
Number of Lanes	0	0	1	0

Approach		SB	
Opposing Approach		NB	
Opposing Lanes		1	
Conflicting Approach Left		WB	
Conflicting Lanes Left		1	
Conflicting Approach Right			
Conflicting Lanes Right		0	
HCM Control Delay		8	
HCM LOS		A	

12: N. Congress Ave & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	9.9											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↔				↔	
Traffic Vol, veh/h	0	0	0	0	0	77	50	108	0	13	196	0
Future Vol, veh/h	0	0	0	0	0	77	50	108	0	13	196	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	90	58	126	0	15	228	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	10.2	10.1
HCM LOS	B	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	6%	33%	0%
Vol Thru, %	94%	21%	88%
Vol Right, %	0%	46%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	209	235	122
LT Vol	13	77	0
Through Vol	196	50	107
RT Vol	0	108	15
Lane Flow Rate	243	273	142
Geometry Grp	1	1	1
Degree of Util (X)	0.322	0.352	0.19
Departure Headway (Hd)	4.776	4.634	4.814
Convergence, Y/N	Yes	Yes	Yes
Cap	749	773	742
Service Time	2.828	2.681	2.87
HCM Lane V/C Ratio	0.324	0.353	0.191
HCM Control Delay	10.1	10.2	9
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.4	1.6	0.7

12: N. Congress Ave & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↔	
Traffic Vol, veh/h	0	0	107	15
Future Vol, veh/h	0	0	107	15
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	124	17
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	9
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	9.4											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations							↔				↔	
Traffic Vol, veh/h	0	0	0	0	0	10	37	15	0	133	154	0
Future Vol, veh/h	0	0	0	0	0	10	37	15	0	133	154	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	12	43	17	0	155	179	0
Number of Lanes	0	0	0	0	0	0	1	0	0	0	1	0

Approach	WB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	NB	
Conflicting Lanes Left	1	0
Conflicting Approach Right	SB	WB
Conflicting Lanes Right	1	1
HCM Control Delay	8.4	10.2
HCM LOS	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	46%	16%	0%
Vol Thru, %	54%	60%	46%
Vol Right, %	0%	24%	54%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	287	62	118
LT Vol	133	10	0
Through Vol	154	37	54
RT Vol	0	15	64
Lane Flow Rate	334	72	137
Geometry Grp	1	1	1
Degree of Util (X)	0.395	0.097	0.158
Departure Headway (Hd)	4.258	4.848	4.133
Convergence, Y/N	Yes	Yes	Yes
Cap	831	742	871
Service Time	2.356	2.858	2.143
HCM Lane V/C Ratio	0.402	0.097	0.157
HCM Control Delay	10.2	8.4	7.9
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.9	0.3	0.6

14: Brazos St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↔	
Traffic Vol, veh/h	0	0	54	64
Future Vol, veh/h	0	0	54	64
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	63	74
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	
Conflicting Lanes Right	0
HCM Control Delay	7.9
HCM LOS	A

20: Colorado St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	10.2											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↔								↔	
Traffic Vol, veh/h	0	19	200	40	0	0	0	0	0	0	85	117
Future Vol, veh/h	0	19	200	40	0	0	0	0	0	0	85	117
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	244	49	0	0	0	0	0	0	104	143
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	EB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	SB	EB
Conflicting Lanes Left	1	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	11	9.6
HCM LOS	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	7%	27%
Vol Thru, %	42%	77%	73%
Vol Right, %	58%	15%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	202	259	97
LT Vol	0	19	26
Through Vol	85	200	71
RT Vol	117	40	0
Lane Flow Rate	246	316	118
Geometry Grp	1	1	1
Degree of Util (X)	0.309	0.412	0.166
Departure Headway (Hd)	4.513	4.696	5.052
Convergence, Y/N	Yes	Yes	Yes
Cap	793	764	706
Service Time	2.563	2.748	3.113
HCM Lane V/C Ratio	0.31	0.414	0.167
HCM Control Delay	9.6	11	9.1
HCM Lane LOS	A	B	A
HCM 95th-tile Q	1.3	2	0.6

20: Colorado St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↔	
Traffic Vol, veh/h	0	26	71	0
Future Vol, veh/h	0	26	71	0
Peak Hour Factor	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	32	87	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.1
HCM LOS	A

22: N. Congress Ave & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	12.3											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↔								↔	
Traffic Vol, veh/h	0	86	190	73	0	0	0	0	0	0	104	39
Future Vol, veh/h	0	86	190	73	0	0	0	0	0	0	104	39
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	102	226	87	0	0	0	0	0	0	124	46
Number of Lanes	0	0	1	0	0	0	0	0	0	0	1	0

Approach	EB	NB
Opposing Approach		SB
Opposing Lanes	0	1
Conflicting Approach Left	SB	EB
Conflicting Lanes Left	1	1
Conflicting Approach Right	NB	
Conflicting Lanes Right	1	0
HCM Control Delay	14	9.9
HCM LOS	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	25%	19%
Vol Thru, %	73%	54%	81%
Vol Right, %	27%	21%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	143	349	189
LT Vol	0	86	35
Through Vol	104	190	154
RT Vol	39	73	0
Lane Flow Rate	170	415	225
Geometry Grp	1	1	1
Degree of Util (X)	0.247	0.558	0.334
Departure Headway (Hd)	5.219	4.837	5.337
Convergence, Y/N	Yes	Yes	Yes
Cap	691	735	677
Service Time	3.227	2.936	3.337
HCM Lane V/C Ratio	0.246	0.565	0.332
HCM Control Delay	9.9	14	11
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1	3.5	1.5

22: N. Congress Ave & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↔	
Traffic Vol, veh/h	0	35	154	0
Future Vol, veh/h	0	35	154	0
Peak Hour Factor	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	42	183	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11
HCM LOS	B

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	602	32	31	1171	2	111
Future Vol, veh/h	602	32	31	1171	2	111
Conflicting Peds, #/hr	0	8	8	0	0	11
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	640	34	33	1246	2	118

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	682	0	1354	356
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	689	-
Critical Hdwy	-	-	4.14	-	7.54	6.94
Critical Hdwy Stg 1	-	-	-	-	6.54	-
Critical Hdwy Stg 2	-	-	-	-	6.54	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	907	-	108	640
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	402	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	897	-	104	628
Mov Cap-2 Maneuver	-	-	-	-	104	-
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	387	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	577	-	-	897	-
HCM Lane V/C Ratio	0.208	-	-	0.037	-
HCM Control Delay (s)	12.9	-	-	9.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

9: Guadalupe St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑					↑↑		
Traffic Vol, veh/h	0	0	0	57	137	0	0	0	0	0	933	39
Future Vol, veh/h	0	0	0	57	137	0	0	0	0	0	933	39
Conflicting Peds, #/hr	0	0	0	52	0	0	0	0	0	0	0	39
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	59	141	0	0	0	0	0	962	40

Major/Minor	Minor1			Major2		
Conflicting Flow All	533	1041	-	-	-	0
Stage 1	0	0	-	-	-	-
Stage 2	533	1041	-	-	-	-
Critical Hdwy	6.84	6.54	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	-	-	-	-
Pot Cap-1 Maneuver	477	229	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	553	305	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	477	0	-	-	-	-
Mov Cap-2 Maneuver	477	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	553	0	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	17.9	0
HCM LOS	C	

Minor Lane/Major Mvmt	WBLn1	SBT	SBR
Capacity (veh/h)	477	-	-
HCM Lane V/C Ratio	0.419	-	-
HCM Control Delay (s)	17.9	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	2	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	79	28	113	900	0	0	0	0
Future Vol, veh/h	0	0	0	0	79	28	113	900	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	20	24	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	83	29	119	947	0	0	0	0

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	1209	494	24	0	-
Stage 1	-	1185	-	-	-	-
Stage 2	-	24	-	-	-	-
Critical Hdwy	-	6.54	7.14	5.34	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.02	3.92	3.12	-	-
Pot Cap-1 Maneuver	0	182	446	1125	-	0
Stage 1	0	261	-	-	-	0
Stage 2	0	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	446	1125	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	15.8	1
HCM LOS	C	

Minor Lane/Major Mvmt	NBL	NBTWBLn1
Capacity (veh/h)	1125	- 446
HCM Lane V/C Ratio	0.106	- 0.253
HCM Control Delay (s)	8.6	- 15.8
HCM Lane LOS	A	- C
HCM 95th %tile Q(veh)	0.4	- 1

24: E. 17th St & Brazos St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection						
Int Delay, s/veh	16.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	229	0	0	66	0
Future Vol, veh/h	56	229	0	0	66	0
Conflicting Peds, #/hr	403	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	283	0	0	81	0

Major/Minor	Major1	Minor2
Conflicting Flow All	403 0	827 -
Stage 1	- -	403 -
Stage 2	- -	424 -
Critical Hdwy	4.12 -	6.42 -
Critical Hdwy Stg 1	- -	- -
Critical Hdwy Stg 2	- -	5.42 -
Follow-up Hdwy	2.218 -	3.518 -
Pot Cap-1 Maneuver	1156 -	341 0
Stage 1	- -	- 0
Stage 2	- -	660 0
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	1156 -	120 -
Mov Cap-2 Maneuver	- -	120 -
Stage 1	- -	- -
Stage 2	- -	378 -

Approach	EB	SB
HCM Control Delay, s	1.6	82.7
HCM LOS		F

Minor Lane/Major Mvmt	EBL	EBT SBLn1
Capacity (veh/h)	1156	- 120
HCM Lane V/C Ratio	0.06	- 0.679
HCM Control Delay (s)	8.3	0 82.7
HCM Lane LOS	A	A F
HCM 95th %tile Q(veh)	0.2	- 3.6

25: San Jacinto Blvd & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Int Delay, s/veh	10.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱								↱↱↱		
Traffic Vol, veh/h	0	140	175	0	0	0	0	0	0	100	727	0
Future Vol, veh/h	0	140	175	0	0	0	0	0	0	100	727	0
Conflicting Peds, #/hr	0	0	18	0	0	0	0	0	0	90	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	165	206	0	0	0	0	0	0	118	855	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	1181	446	90
Stage 1	-	1091	-	-
Stage 2	-	90	-	-
Critical Hdwy	-	6.54	7.14	5.34
Critical Hdwy Stg 1	-	5.54	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	4.02	3.92	3.12
Pot Cap-1 Maneuver	0	189	479	1050
Stage 1	0	289	-	-
Stage 2	0	-	-	0
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	0	479	1050
Mov Cap-2 Maneuver	-	0	-	-
Stage 1	-	0	-	-
Stage 2	-	0	-	-

Approach	EB	SB
HCM Control Delay, s	33.8	1.4
HCM LOS	D	

Minor Lane/Major Mvmt	EBLn1	SBL	SBT
Capacity (veh/h)	479	1050	-
HCM Lane V/C Ratio	0.774	0.112	-
HCM Control Delay (s)	33.8	8.9	0.4
HCM Lane LOS	D	A	A
HCM 95th %tile Q(veh)	6.8	0.4	-

26: Trinity St & E. 17th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↱		↱↱↱			
Traffic Vol, veh/h	248	0	0	481	0	0
Future Vol, veh/h	248	0	0	481	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	299	0	0	580	0	0

Major/Minor	Minor2	Major1	
Conflicting Flow All	232	-	0
Stage 1	0	-	-
Stage 2	232	-	-
Critical Hdwy	5.74	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6.04	-	-
Follow-up Hdwy	3.82	-	-
Pot Cap-1 Maneuver	734	0	0
Stage 1	-	0	0
Stage 2	720	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	734	-	-
Mov Cap-2 Maneuver	734	-	-
Stage 1	-	-	-
Stage 2	720	-	-

Approach	EB	NB
HCM Control Delay, s	13.2	0
HCM LOS	B	

Minor Lane/Major Mvmt	NBT EBLn1
Capacity (veh/h)	- 734
HCM Lane V/C Ratio	- 0.407
HCM Control Delay (s)	- 13.2
HCM Lane LOS	- B
HCM 95th %tile Q(veh)	- 2

27: Guadalupe St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Int Delay, s/veh	9.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	188	133	0	0	0	0	0	941	25
Future Vol, veh/h	0	0	0	188	133	0	0	0	0	0	941	25
Conflicting Peds, #/hr	0	0	0	23	0	0	0	0	0	0	0	40
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	-	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	216	153	0	0	0	0	0	1082	29

Major/Minor	Minor1			Major2		
Conflicting Flow All	564	1122	-	-	-	0
Stage 1	0	0	-	-	-	-
Stage 2	564	1122	-	-	-	-
Critical Hdwy	6.84	6.54	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	5.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	-	-	-	-
Pot Cap-1 Maneuver	456	205	0	0	-	-
Stage 1	-	-	0	0	-	-
Stage 2	533	279	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	456	0	-	-	-	-
Mov Cap-2 Maneuver	456	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	533	0	-	-	-	-

Approach	WB	SB
HCM Control Delay, s	38.6	0
HCM LOS	E	

Minor Lane/Major Mvmt	WBLn1	SBT	SBR
Capacity (veh/h)	456	-	-
HCM Lane V/C Ratio	0.809	-	-
HCM Control Delay (s)	38.6	-	-
HCM Lane LOS	E	-	-
HCM 95th %tile Q(veh)	7.5	-	-

29: Colorado St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	11	33	6	13	63	0	0	346	93
Future Vol, veh/h	0	0	0	11	33	6	13	63	0	0	346	93
Conflicting Peds, #/hr	0	0	0	0	0	14	82	0	0	0	0	82
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	42	8	17	81	0	0	444	119

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	617	759	95	645	0	-	-	-	0
Stage 1	114	114	-	-	-	-	-	-	-
Stage 2	503	645	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	453	336	962	940	-	0	0	-	-
Stage 1	911	801	-	-	-	0	0	-	-
Stage 2	607	467	-	-	-	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	444	0	949	940	-	-	-	-	-
Mov Cap-2 Maneuver	444	0	-	-	-	-	-	-	-
Stage 1	894	0	-	-	-	-	-	-	-
Stage 2	607	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	940	-	547	-
HCM Lane V/C Ratio	0.018	-	0.117	-
HCM Control Delay (s)	8.9	0	12.5	-
HCM Lane LOS	A	A	B	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-

30: N. Congress Ave & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	43	27	48	3	92	0	0	248	9
Future Vol, veh/h	0	0	0	43	27	48	3	92	0	0	248	9
Conflicting Peds, #/hr	0	0	0	55	0	24	20	0	0	0	0	20
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	53	33	59	4	114	0	0	306	11

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	488	458	138	337	0	-	-	-	0
Stage 1	121	121	-	-	-	-	-	-	-
Stage 2	367	337	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	539	499	910	1222	-	0	0	-	-
Stage 1	904	796	-	-	-	0	0	-	-
Stage 2	701	641	-	-	-	0	0	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	509	0	889	1158	-	-	-	-	-
Mov Cap-2 Maneuver	509	0	-	-	-	-	-	-	-
Stage 1	900	0	-	-	-	-	-	-	-
Stage 2	664	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1158	-	657	-
HCM Lane V/C Ratio	0.003	-	0.222	-
HCM Control Delay (s)	8.1	0	12	-
HCM Lane LOS	A	A	B	-
HCM 95th %tile Q(veh)	0	-	0.8	-

31: Brazos St & E. 16th St
TIA for Texas Capital Complex Master Plan 2018 Update

Existing Conditions
Timing Plan: PM

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	14	90	35	0
Future Vol, veh/h	0	0	14	90	35	0
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	24	155	60	0

Major/Minor	Major2		Minor1	
Conflicting Flow All	1	0	204	-
Stage 1	-	-	1	-
Stage 2	-	-	203	-
Critical Hdwy	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	2.218	-	3.518	-
Pot Cap-1 Maneuver	1622	-	784	0
Stage 1	-	-	-	0
Stage 2	-	-	831	0
Platoon blocked, %				
Mov Cap-1 Maneuver	1622	-	771	-
Mov Cap-2 Maneuver	-	-	771	-
Stage 1	-	-	-	-
Stage 2	-	-	818	-

Approach	WB	NB
HCM Control Delay, s	1	10.1
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	771	1622	-
HCM Lane V/C Ratio	0.078	0.015	-
HCM Control Delay (s)	10.1	7.3	0
HCM Lane LOS	B	A	A
HCM 95th %tile Q(veh)	0.3	0	-

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱			↱↰	↰				↰	↰↱	↰
Traffic Volume (vph)	66	697	158	0	498	311	0	0	0	233	681	129
Future Volume (vph)	66	697	158	0	498	311	0	0	0	233	681	129
Confl. Peds. (#/hr)	27		19	19		27				28		19
Confl. Bikes (#/hr)			1			1						12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	70	741	168	0	530	331	0	0	0	248	724	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	909	0	0	530	331	0	0	0	248	724	137
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases					6					4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	18.0	75.0			57.0	45.0				45.0	45.0	45.0
Total Split (%)	15.0%	62.5%			47.5%	37.5%				37.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effect Green (s)	11.6	70.0			55.6	95.6				40.0	40.0	40.0
Actuated g/C Ratio	0.10	0.58			0.46	0.80				0.33	0.33	0.33
v/c Ratio	0.41	0.45			0.32	0.26				0.42	0.61	0.24
Control Delay	57.7	14.3			21.9	1.3				33.7	36.3	11.6
Queue Delay	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Delay	57.7	14.3			21.9	1.4				33.7	36.3	11.6
LOS	E	B			C	A				C	D	B
Approach Delay		17.4			14.0						32.6	
Approach LOS		B			B						C	
Queue Length 50th (ft)	51	189			134	0				148	246	23
Queue Length 95th (ft)	99	237			196	40				225	311	70
Internal Link Dist (ft)		228			45		159				210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	191	2007			1639	1273				590	1179	567
Starvation Cap Reductn	0	0			0	144				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.37	0.45			0.32	0.29				0.42	0.61	0.24

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
Page 1

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 22.2

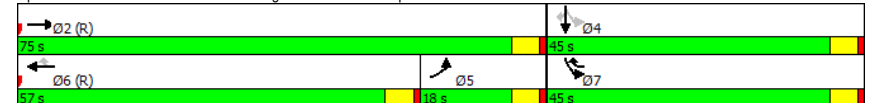
Intersection LOS: C

Intersection Capacity Utilization 62.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



MS

Synchro 9 Report
Page 2

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖
Traffic Volume (vph)	930	0	0	692	322	219
Future Volume (vph)	930	0	0	692	322	219
Confl. Peds. (#/hr)						10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1081	0	0	805	374	255
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1081	0	0	805	374	255
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	29.0
Total Split (s)	87.0			87.0	33.0	33.0
Total Split (%)	72.5%			72.5%	27.5%	27.5%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	82.0			82.0	28.0	28.0
Actuated g/C Ratio	0.68			0.68	0.23	0.23
v/c Ratio	0.45			0.33	0.47	0.55
Control Delay	7.9			5.1	43.5	28.2
Queue Delay	0.1			0.0	0.0	0.0
Total Delay	8.0			5.1	43.5	28.2
LOS	A			A	D	C
Approach Delay	8.0			5.1	37.3	
Approach LOS	A			A	D	
Queue Length 50th (ft)	126			52	89	14
Queue Length 95th (ft)	138			63	171	162
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2418			2418	801	463
Starvation Cap Reductn	426			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.54			0.33	0.47	0.55
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 14.4	Intersection LOS: B
Intersection Capacity Utilization 54.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd

→ Ø2 (R)	↖ Ø3
87 s	33 s
← Ø6 (R)	↗ Ø8
87 s	33 s

MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔↔		↖	↔↔		
Traffic Volume (vph)	986	0	8	942	0	0
Future Volume (vph)	986	0	8	942	0	0
Confl. Peds. (#/hr)		6	6		1	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1108	0	9	1058	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1108	0	9	1058	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		1.0	5.0		
Minimum Split (s)	34.0		5.5	29.0		
Total Split (s)	106.0		14.0	120.0		
Total Split (%)	88.3%		11.7%	100.0%		
Yellow Time (s)	4.0		3.5	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		4.5	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effct Green (s)	116.2		119.1	120.0		
Actuated g/C Ratio	0.97		0.99	1.00		
v/c Ratio	0.32		0.02	0.30		
Control Delay	0.5		0.0	0.2		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.5		0.0	0.2		
LOS	A		A	A		
Approach Delay	0.5			0.2		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	0		
Queue Length 95th (ft)	47		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3427		560	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.32		0.02	0.30		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 40

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 0.3

Intersection LOS: A

Intersection Capacity Utilization 31.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱	↱	↰	↰↱	↱	↰	↰	↰	↰	↱	↱
Traffic Volume (vph)	137	734	123	133	948	135	5	0	14	42	1	10
Future Volume (vph)	137	734	123	133	948	135	5	0	14	42	1	10
Confl. Peds. (#/hr)	18		8	8		18	23		7	7		23
Confl. Bikes (#/hr)			3			3						1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	163	874	146	158	1129	161	6	0	17	50	1	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	1020	0	158	1129	161	0	6	17	0	51	12
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	1.0	10.0		1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	5.5	22.0		5.5	28.0	28.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (s)	20.0	70.0		20.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	16.7%	58.3%		16.7%	58.3%	58.3%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	4.0		3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	5.0		4.5	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	81.1	71.6		80.9	71.5	71.5		25.0	25.0		25.0	25.0
Actuated g/C Ratio	0.68	0.60		0.67	0.60	0.60		0.21	0.21		0.21	0.21
v/c Ratio	0.48	0.49		0.42	0.54	0.18		0.02	0.05		0.18	0.03
Control Delay	13.4	9.6		9.1	11.9	4.4		38.2	0.2		41.1	0.2
Queue Delay	0.0	0.3		0.0	0.2	0.0		0.0	0.0		0.0	0.0
Total Delay	13.4	9.9		9.1	12.1	4.4		38.2	0.2		41.1	0.2
LOS	B	A		A	B	A		D	A		D	A
Approach Delay		10.4			10.9			10.1			33.3	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	26	134		30	207	15		4	0		33	0
Queue Length 95th (ft)	60	127		40	223	22		15	0		65	0
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	428	2062		467	2109	915		271	367		288	360
Starvation Cap Reductn	0	441		0	281	0		0	0		0	0
Spillback Cap Reductn	0	13		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.38	0.63		0.34	0.62	0.18		0.02	0.05		0.18	0.03

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 65

MS

Synchro 9 Report
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6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 11.2

Intersection LOS: B

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↓	↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	687	166	337	1207	0	0	0	0	35	50	54
Future Volume (vph)	0	687	166	337	1207	0	0	0	0	35	50	54
Confl. Peds. (#/hr)			52	52						7		47
Confl. Bikes (#/hr)			2									28
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	739	178	362	1298	0	0	0	0	38	54	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	917	0	362	1298	0	0	0	0	38	54	58
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1.9	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1.9	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0
Total Split (s)		62.0			92.0					28.0	28.0	28.0
Total Split (%)		51.7%			76.7%					23.3%	23.3%	23.3%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		57.0		87.5	87.0					23.0	23.0	23.0
Actuated g/C Ratio		0.48		0.73	0.72					0.19	0.19	0.19
v/c Ratio		0.57		0.70	0.51					0.11	0.08	0.16
Control Delay		15.6		19.2	6.0					41.3	40.3	1.8
Queue Delay		0.2		3.8	0.2					0.0	0.0	0.0
Total Delay		15.7		23.0	6.2					41.3	40.3	1.8
LOS		B		C	A					D	D	A
Approach Delay		15.7			9.9						25.7	
Approach LOS		B			A						C	
Queue Length 50th (ft)		111		85	101					25	18	0
Queue Length 95th (ft)		137		m150	130					56	36	6
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1623		519	2565					335	678	354
Starvation Cap Reductn		155		89	506					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.62		0.84	0.63					0.11	0.08	0.16

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80

MS

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	5.5	9.5
Total Split (s)	15.0	15.0
Total Split (%)	13%	13%
Yellow Time (s)	3.5	3.5
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

MS

Synchro 9 Report
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7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 12.7

Intersection LOS: B

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (vph)	149	502	0	0	1467	57	66	82	86	0	0	0
Future Volume (vph)	149	502	0	0	1467	57	66	82	86	0	0	0
Confl. Peds. (#/hr)			34			57	33		27			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	167	564	0	0	1648	64	74	92	97	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	167	564	0	0	1712	0	67	99	97	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	15.0	94.0			79.0		26.0	26.0	26.0			
Total Split (%)	12.5%	78.3%			65.8%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	89.5	89.0			75.3		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.63		0.18	0.18	0.18			
v/c Ratio	0.77	0.21			0.78		0.24	0.32	0.29			
Control Delay	66.7	1.0			4.8		45.7	46.6	12.7			
Queue Delay	0.0	0.1			0.0		0.0	0.0	0.0			
Total Delay	66.7	1.1			4.9		45.7	46.6	12.7			
LOS	E	A			A		D	D	B			
Approach Delay		16.1			4.9			33.9				
Approach LOS		B			A			C				
Queue Length 50th (ft)	86	13			56		46	69	4			
Queue Length 95th (ft)	#166	15			86		m75	m109	m34			
Internal Link Dist (ft)		321			675			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	229	2624			2205		277	307	339			
Starvation Cap Reductn	0	954			12		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.73	0.34			0.78		0.24	0.32	0.29			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 10.7

Intersection LOS: B

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑	↑		↑	↑	↑	↑	↑
Traffic Volume (vph)	0	14	46	40	9	0	0	0	0	24	1019	18
Future Volume (vph)	0	14	46	40	9	0	0	0	0	24	1019	18
Confl. Peds. (#/hr)			18							44		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)		0										
Adj. Flow (vph)	0	15	50	43	10	0	0	0	0	26	1108	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	50	0	53	0	0	0	0	0	1154	0
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases	4 12				4 12						2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12	4 12	4 12	4 12						2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	20.5	20.5		20.5							84.1	
Actuated g/C Ratio	0.17	0.17		0.17							0.70	
v/c Ratio	0.05	0.16		0.22							0.47	
Control Delay	21.4	3.9		35.2							6.3	
Queue Delay	0.0	0.0		0.0							0.0	
Total Delay	21.4	3.9		35.2							6.3	
LOS	C	A		D							A	
Approach Delay	7.9			35.2							6.3	
Approach LOS	A			D							A	
Queue Length 50th (ft)	6	0		32							131	
Queue Length 95th (ft)	15	12		64							161	
Internal Link Dist (ft)	177			244				271			262	
Turn Bay Length (ft)												
Base Capacity (vph)	723	687		608							2440	
Starvation Cap Reductn	0	0		0							0	
Spillback Cap Reductn	0	0		0							0	
Storage Cap Reductn	0	0		0							0	
Reduced v/c Ratio	0.02	0.07		0.09							0.47	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												
Natural Cycle: 95												

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	23.0	23.0	22.5	22.5
Total Split (s)	26.0	43.0	28.0	23.0
Total Split (%)	22%	36%	23%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 7.6

Intersection LOS: A

Intersection Capacity Utilization 70.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	18	0	0	16	11	86	644	48	0	0	0
Future Volume (vph)	4	18	0	0	16	11	86	644	48	0	0	0
Confl. Peds. (#/hr)	30							32				
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Parking (#/hr)		0										
Adj. Flow (vph)	5	22	0	0	19	13	104	776	58	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	32	0	0	880	58	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	20.3			20.3			84.3	84.3				
Actuated g/C Ratio	0.17			0.17			0.70	0.70				
v/c Ratio	0.10			0.10			0.25	0.06				
Control Delay	26.6			18.2			7.7	4.0				
Queue Delay	0.0			0.0			0.0	0.0				
Total Delay	26.6			18.2			7.7	4.0				
LOS	C			B			A	A				
Approach Delay	26.6			18.2			7.5					
Approach LOS	C			B			A					
Queue Length 50th (ft)	11			9			165	10				
Queue Length 95th (ft)	m31			26			183	35				
Internal Link Dist (ft)	244			319			272			254		
Turn Bay Length (ft)								100				
Base Capacity (vph)	551			618			3830	1079				
Starvation Cap Reductn	0			0			807	0				
Spillback Cap Reductn	0			0			0	0				
Storage Cap Reductn	0			0			0	0				
Reduced v/c Ratio	0.05			0.05			0.29	0.05				
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green												
Natural Cycle: 100												

MS

Synchro 9 Report
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19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	38.0	29.0	27.0	26.0
Total Split (%)	32%	24%	23%	22%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

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Synchro 9 Report
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19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

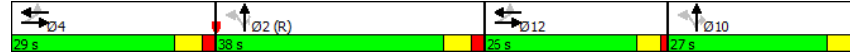
2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.25

Intersection Signal Delay: 8.3 Intersection LOS: A
Intersection Capacity Utilization 39.2% ICU Level of Service A
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔↔↔	↔			
Traffic Volume (vph)	4	18	0	0	17	14	86	749	48	0	0	0
Future Volume (vph)	4	18	0	0	17	14	86	749	48	0	0	0
Confl. Peds. (#/hr)						10	57					
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Parking (#/hr)					0							
Adj. Flow (vph)	5	21	0	0	20	17	102	892	57	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	37	0	0	994	57	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		19.3			19.3			85.1	85.1			
Actuated g/C Ratio		0.16			0.16			0.71	0.71			
v/c Ratio		0.09			0.14			0.28	0.05			
Control Delay		29.0			16.0			2.7	0.1			
Queue Delay		0.0			0.0			0.1	0.0			
Total Delay		29.0			16.0			2.8	0.1			
LOS		C			B			A	A			
Approach Delay		29.0			16.0			2.7				
Approach LOS		C			B			A				
Queue Length 50th (ft)		12			9			30	0			
Queue Length 95th (ft)		m24			m27			27	1			
Internal Link Dist (ft)		233			60			281			272	
Turn Bay Length (ft)									100			
Base Capacity (vph)		631			562			3539	1145			
Starvation Cap Reductn		0			0			1186	0			
Spillback Cap Reductn		0			0			0	0			
Storage Cap Reductn		0			0			0	0			
Reduced v/c Ratio		0.04			0.07			0.42	0.05			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:NBT, Start of Green

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	42.0	32.0	21.0	25.0
Total Split (%)	35%	27%	18%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.28

Intersection Signal Delay: 3.7

Intersection LOS: A

Intersection Capacity Utilization 41.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	1487	317	195	947	0	0	0	0	101	662	52
Future Volume (vph)	0	1487	317	195	947	0	0	0	0	101	662	52
Confl. Peds. (#/hr)			31	31						29		
Confl. Bikes (#/hr)						1						20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1517	323	199	966	0	0	0	0	103	676	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1840	0	199	966	0	0	0	0	0	779	53
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		56.0			84.0					36.0	36.0	36.0
Total Split (%)		46.7%			70.0%					30.0%	30.0%	30.0%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		51.2			79.0						31.0	31.0
Actuated g/C Ratio		0.43			0.66						0.26	0.26
v/c Ratio		0.87			0.61						0.60	0.12
Control Delay		36.1			37.6						42.6	3.1
Queue Delay		0.0			10.7						0.0	0.0
Total Delay		36.1			48.3						42.6	3.1
LOS		D			D						D	A
Approach Delay		36.1				11.4					40.1	
Approach LOS		D				B					D	
Queue Length 50th (ft)		458			96	34					216	1
Queue Length 95th (ft)		529			171	39					257	7
Internal Link Dist (ft)		262				240			197		285	
Turn Bay Length (ft)					50							100
Base Capacity (vph)		2115			327	3347					1297	459
Starvation Cap Reductn		0			99	919					0	0
Spillback Cap Reductn		0			0	0					0	0
Storage Cap Reductn		0			0	0					0	0
Reduced v/c Ratio		0.87			0.87	0.40					0.60	0.12

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90

MS

Synchro 9 Report
Page 23

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	5.0
Minimum Split (s)	13.0	10.0
Total Split (s)	14.0	14.0
Total Split (%)	12%	12%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

MS

Synchro 9 Report
Page 24

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 29.5

Intersection LOS: C

Intersection Capacity Utilization 82.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩↩			↩↩↩			↩↩↩	↩			
Traffic Volume (vph)	119	1396	0	0	1024	127	128	606	155	0	0	0
Future Volume (vph)	119	1396	0	0	1024	127	128	606	155	0	0	0
Confl. Peds. (#/hr)	36					36	17		46			
Confl. Bikes (#/hr)									10			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	127	1485	0	0	1089	135	136	645	165	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	1485	0	0	1224	0	0	781	165	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0			
Total Split (s)	19.0	79.0			60.0		41.0	41.0	41.0			
Total Split (%)	15.8%	65.8%			50.0%		34.2%	34.2%	34.2%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	74.0	74.0			59.9			35.0	35.0			
Actuated g/C Ratio	0.62	0.62			0.50			0.29	0.29			
v/c Ratio	0.45	0.47			0.49			0.53	0.35			
Control Delay	17.4	2.6			9.8			37.3	22.5			
Queue Delay	0.0	0.3			0.1			0.0	0.0			
Total Delay	17.4	2.8			9.9			37.3	22.5			
LOS	B	A			A			D	C			
Approach Delay		4.0			9.9			34.7				
Approach LOS		A			A			C				
Queue Length 50th (ft)	11	39			68			185	60			
Queue Length 95th (ft)	m29	55			78			229	122			
Internal Link Dist (ft)		240			335			116			281	
Turn Bay Length (ft)	50								100			
Base Capacity (vph)	345	3135			2490			1464	470			
Starvation Cap Reductn	0	812			185			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.37	0.64			0.53			0.53	0.35			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 70

35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 13.6

Intersection LOS: B

Intersection Capacity Utilization 82.1%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	←	→	↖	↗	←	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	
Traffic Volume (vph)	184	1352	51	70	1086	136	1	21	21	5	19	20	
Future Volume (vph)	184	1352	51	70	1086	136	1	21	21	5	19	20	
Confl. Peds. (#/hr)	6		80	80		6	4		33	33		4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	196	1438	54	74	1155	145	1	22	22	5	20	21	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	196	1492	0	74	1300	0	0	45	0	0	25	21	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom	
Protected Phases	5	2		1	6			4			8		
Permitted Phases	2			6			4			8		6	
Detector Phase	5	2		1	6		4	4		8	8	6	
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0	
Minimum Split (s)	10.0	22.0		10.0	30.0		32.0	32.0		32.0	32.0	30.0	
Total Split (s)	15.0	72.0		15.0	72.0		33.0	33.0		33.0	33.0	72.0	
Total Split (%)	12.5%	60.0%		12.5%	60.0%		27.5%	27.5%		27.5%	27.5%	60.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max	
Act Effct Green (s)	79.8	72.0		74.8	67.6			28.0			28.0	67.6	
Actuated g/C Ratio	0.66	0.60		0.62	0.56			0.23			0.23	0.56	
v/c Ratio	0.64	0.50		0.30	0.46			0.11			0.06	0.02	
Control Delay	29.8	4.3		9.4	7.0			22.8			36.4	0.1	
Queue Delay	0.0	0.1		0.0	0.1			0.0			0.0	0.0	
Total Delay	29.8	4.4		9.4	7.1			22.8			36.4	0.1	
LOS	C	A		A	A			C			D	A	
Approach Delay		7.3			7.2			22.8			19.8		
Approach LOS		A			A			C			B		
Queue Length 50th (ft)	43	73		4	115			14			15	0	
Queue Length 95th (ft)	112	96		23	174			46			39	0	
Internal Link Dist (ft)		335			362			155			114		
Turn Bay Length (ft)	90			90								100	
Base Capacity (vph)	312	3006		285	2819			410			416	904	
Starvation Cap Reductn	0	371		0	365			0			0	0	
Spillback Cap Reductn	0	0		0	0			0			0	0	
Storage Cap Reductn	0	0		0	0			0			0	0	
Reduced v/c Ratio	0.63	0.57		0.26	0.53			0.11			0.06	0.02	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 7.7

Intersection LOS: A

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 36: Colorado St & W. 15th St



37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↖	↖	↑↑↑	↖	↖
Traffic Volume (vph)	1352	27	18	1379	0	1
Future Volume (vph)	1352	27	18	1379	0	1
Confl. Peds. (#/hr)		29	29		12	20
Confl. Bikes (#/hr)						12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1380	28	18	1407	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1408	0	18	1407	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	72.0		15.0	87.0		33.0
Total Split (%)	60.0%		12.5%	72.5%		27.5%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effct Green (s)	77.5		82.0	82.0		28.0
Actuated g/C Ratio	0.65		0.68	0.68		0.23
v/c Ratio	0.43		0.07	0.41		0.00
Control Delay	2.7		5.6	7.0		0.0
Queue Delay	0.0		0.0	0.1		0.0
Total Delay	2.8		5.6	7.1		0.0
LOS	A		A	A		A
Approach Delay	2.8			7.1		
Approach LOS	A			A		
Queue Length 50th (ft)	19		3	161		0
Queue Length 95th (ft)	43		m5	63		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)			100			
Base Capacity (vph)	3270		301	3474		489
Starvation Cap Reductn	166		0	709		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.45		0.06	0.51		0.00

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 5.0

Intersection LOS: A

Intersection Capacity Utilization 58.4%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	77	1088	47	26	1400	81	4	2	7	2	0	4
Future Volume (vph)	77	1088	47	26	1400	81	4	2	7	2	0	4
Confl. Peds. (#/hr)	1		9	9		1	9		4	4		9
Confl. Bikes (#/hr)						1						17
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	79	1122	48	27	1443	84	4	2	7	2	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	1170	0	27	1527	0	0	6	7	0	6	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4				8
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	15.0	78.0		10.0	73.0		32.0	32.0	32.0	32.0	32.0	
Total Split (%)	12.5%	65.0%		8.3%	60.8%		26.7%	26.7%	26.7%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	103.0	105.0		99.6	100.6			10.0	10.0		10.0	
Actuated g/C Ratio	0.86	0.88		0.83	0.84			0.08	0.08		0.08	
v/c Ratio	0.26	0.27		0.07	0.36			0.05	0.03		0.03	
Control Delay	7.1	4.2		2.2	1.9			51.7	0.3		0.2	
Queue Delay	0.0	0.0		0.0	0.1			0.0	0.0		0.0	
Total Delay	7.1	4.3		2.2	1.9			51.7	0.3		0.2	
LOS	A	A		A	A			D	A		A	
Approach Delay		4.4			1.9			24.0			0.2	
Approach LOS		A			A			C			A	
Queue Length 50th (ft)	12	98		1	17			4	0		0	
Queue Length 95th (ft)	37	114		4	123			18	0		0	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40					50			
Base Capacity (vph)	348	4414		409	4225			346	434		413	
Starvation Cap Reductn	0	1121		0	872			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.23	0.36		0.07	0.46			0.02	0.02		0.01	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.36
Intersection Signal Delay: 3.1
Intersection Capacity Utilization 57.6%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service B

Splits and Phases: 38: Brazos St & W. 15th St



39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	830	343	157	1486	0	0	0	0	56	175	43
Future Volume (vph)	0	830	343	157	1486	0	0	0	0	56	175	43
Confl. Peds. (#/hr)				22	22					9		7
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	838	346	159	1501	0	0	0	0	57	177	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1184	0	159	1501	0	0	0	0	0	234	43
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		68.0		20.0	88.0					32.0	32.0	32.0
Total Split (%)		56.7%		16.7%	73.3%					26.7%	26.7%	26.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		86.4		99.0	99.0						11.0	11.0
Actuated g/C Ratio		0.72		0.82	0.82						0.09	0.09
v/c Ratio		0.34		0.40	0.36						0.51	0.22
Control Delay		2.2		6.8	3.4						55.7	8.0
Queue Delay		0.1		0.0	0.2						0.0	0.0
Total Delay		2.3		6.8	3.6						55.7	8.0
LOS		A		A	A						E	A
Approach Delay		2.3			3.9						48.3	
Approach LOS		A			A						D	
Queue Length 50th (ft)		0		26	101						64	0
Queue Length 95th (ft)		0		m37	98						91	20
Internal Link Dist (ft)		297			282			125			272	
Turn Bay Length (ft)				70								50
Base Capacity (vph)		3491		480	4196						1127	398
Starvation Cap Reductn		1030		0	1515						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.48		0.33	0.56						0.21	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰			↰↰↰			↰↰↰	↰			
Traffic Volume (vph)	218	717	0	0	1593	382	58	164	11	0	0	0
Future Volume (vph)	218	717	0	0	1593	382	58	164	11	0	0	0
Confl. Peds. (#/hr)	1					1	3		6			
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	225	739	0	0	1642	394	60	169	11	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	225	739	0	0	2036	0	0	229	11	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	28.0			5.5		28.0	28.0	28.0			
Total Split (s)	20.0	92.0			72.0		28.0	28.0	28.0			
Total Split (%)	16.7%	76.7%			60.0%		23.3%	23.3%	23.3%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	87.5	87.0			69.1			23.0	23.0			
Actuated g/C Ratio	0.73	0.72			0.58			0.19	0.19			
v/c Ratio	0.84	0.20			0.71			0.34	0.03			
Control Delay	63.7	3.0			6.2			43.7	0.2			
Queue Delay	0.0	0.1			0.1			0.0	0.0			
Total Delay	63.7	3.1			6.3			43.7	0.2			
LOS	E	A			A			D	A			
Approach Delay		17.2			6.3			41.7				
Approach LOS		B			A			D				
Queue Length 50th (ft)	119	27			50			81	0			
Queue Length 95th (ft)	#237	31			143			121	0			
Internal Link Dist (ft)		282			657			149			621	
Turn Bay Length (ft)	100											
Base Capacity (vph)	289	3686			2869			668	344			
Starvation Cap Reductn	0	1699			74			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.78	0.37			0.73			0.34	0.03			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 12.2

Intersection LOS: B

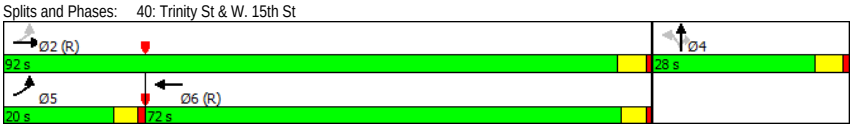
Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	4	26	34	0	21	7	5	0	15	20	44
Future Vol, veh/h	0	4	26	34	0	21	7	5	0	15	20	44
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	30	39	0	24	8	6	0	17	23	50
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.9	8.1	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	6%	64%	2%
Vol Thru, %	25%	41%	21%	91%
Vol Right, %	56%	53%	15%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	64	33	227
LT Vol	15	4	21	4
Through Vol	20	26	7	207
RT Vol	44	34	5	16
Lane Flow Rate	90	73	38	258
Geometry Grp	1	1	1	1
Degree of Util (X)	0.104	0.09	0.05	0.305
Departure Headway (Hd)	4.163	4.435	4.819	4.26
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	862	809	744	849
Service Time	2.182	2.457	2.844	2.26
HCM Lane V/C Ratio	0.104	0.09	0.051	0.304
HCM Control Delay	7.7	7.9	8.1	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.2	1.3

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	4	207	16
Future Vol, veh/h	0	4	207	16
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	5	235	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.1
HCM LOS	A

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	7.3											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	76	0	0	0	30	0	0	0	0	0
Future Vol, veh/h	0	0	76	0	0	0	30	0	0	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	87	0	0	0	34	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.4	7.2	0
HCM LOS	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	76	30	8
LT Vol	0	0	0	0
Through Vol	0	76	30	0
RT Vol	0	0	0	8
Lane Flow Rate	0	87	34	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.096	0.038	0.009
Departure Headway (Hd)	4.153	3.976	4.015	3.544
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	905	893	1002
Service Time	2.202	1.984	2.032	1.592
HCM Lane V/C Ratio	0	0.096	0.038	0.009
HCM Control Delay	7.2	7.4	7.2	6.6
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	0.3	0.1	0

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	8
Future Vol, veh/h	0	0	0	8
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	9
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	6.6
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	9.7											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	66	65	7	0	17	12	3	0	20	0	0
Future Vol, veh/h	0	66	65	7	0	17	12	3	0	20	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	84	82	9	0	22	15	4	0	25	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.3	8.3	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	48%	53%	0%
Vol Thru, %	0%	47%	38%	93%
Vol Right, %	0%	5%	9%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	138	32	241
LT Vol	20	66	17	0
Through Vol	0	65	12	224
RT Vol	0	7	3	17
Lane Flow Rate	25	175	41	305
Geometry Grp	1	1	1	1
Degree of Util (X)	0.035	0.234	0.056	0.378
Departure Headway (Hd)	5.019	4.822	4.979	4.456
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	744	717	808
Service Time	3.063	2.858	3.025	2.485
HCM Lane V/C Ratio	0.035	0.235	0.057	0.377
HCM Control Delay	8.2	9.3	8.3	10.2
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.1	0.9	0.2	1.8

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	224	17
Future Vol, veh/h	0	0	224	17
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	284	22
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.2
HCM LOS	B

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	10.6											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	6	74	0	71	18	0	0	0	0	0
Future Vol, veh/h	0	0	6	74	0	71	18	0	0	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	6	79	0	76	19	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		8.9	10.4
HCM LOS		A	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	80%	0%	0%	0%
Vol Thru, %	7%	20%	100%	100%	0%
Vol Right, %	93%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	89	266	266	17
LT Vol	0	71	0	0	0
Through Vol	6	18	266	266	0
RT Vol	74	0	0	0	17
Lane Flow Rate	85	95	283	283	18
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.126	0.167	0.397	0.397	0.013
Departure Headway (Hd)	5.329	6.344	5.052	5.052	2.608
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	669	563	710	710	1359
Service Time	3.09	4.104	2.795	2.795	0.35
HCM Lane V/C Ratio	0.127	0.169	0.399	0.399	0.013
HCM Control Delay	8.9	10.4	11.1	11.1	5.4
HCM Lane LOS	A	B	B	B	A
HCM 95th-tile Q	0.4	0.6	1.9	1.9	0

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	532	17
Future Vol, veh/h	0	0	532	17
Peak Hour Factor	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	566	18
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		10.9
HCM LOS		B

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.5											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	30	0	34	0	0	0	0	0	15	41	0
Future Vol, veh/h	0	30	0	34	0	0	0	0	0	15	41	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	0	39	0	0	0	0	0	17	47	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.9	0	7.8
HCM LOS	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	47%	0%	0%
Vol Thru, %	73%	0%	100%	88%
Vol Right, %	0%	53%	0%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	64	0	233
LT Vol	15	30	0	0
Through Vol	41	0	0	206
RT Vol	0	34	0	27
Lane Flow Rate	64	73	0	265
Geometry Grp	1	1	1	1
Degree of Util (X)	0.078	0.089	0	0.297
Departure Headway (Hd)	4.422	4.421	4.737	4.042
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	815	815	0	879
Service Time	2.422	2.424	2.744	2.108
HCM Lane V/C Ratio	0.079	0.09	0	0.301
HCM Control Delay	7.8	7.9	7.7	8.8
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.3	0.3	0	1.2

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	206	27
Future Vol, veh/h	0	0	206	27
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	234	31
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.8
HCM LOS	A

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	0	0	0	16	0	37	0
Future Vol, veh/h	0	0	0	0	0	16	0	37	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	18	0	42	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	0	6.5	7.4
HCM LOS	-	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	0%	0%
Vol Right, %	0%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	16	37
LT Vol	0	0	37
Through Vol	0	0	0
RT Vol	0	16	0
Lane Flow Rate	0	18	42
Geometry Grp	1	1	1
Degree of Util (X)	0	0.017	0.049
Departure Headway (Hd)	4.021	3.406	4.166
Convergence, Y/N	Yes	Yes	Yes
Cap	0	1050	864
Service Time	2.045	1.43	2.167
HCM Lane V/C Ratio	0	0.017	0.049
HCM Control Delay	7	6.5	7.4
HCM Lane LOS	N	A	A
HCM 95th-tile Q	0	0.1	0.2

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑↑		↑↑	
Traffic Vol, veh/h	978	92	144	747	0	21
Future Vol, veh/h	978	92	144	747	0	21
Conflicting Peds, #/hr	0	1	1	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1124	106	166	859	0	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1231	0	1938	621
Stage 1	-	-	-	-	1178	-
Stage 2	-	-	-	-	760	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	562	-	57	430
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	422	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	559	-	40	428
Mov Cap-2 Maneuver	-	-	-	-	40	-
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	297	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		2.3		13.9	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	428	-	-	559	-
HCM Lane V/C Ratio	0.056	-	-	0.296	-
HCM Control Delay (s)	13.9	-	-	14.1	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	12	46	43	9	0	0	0	0	23	971	18
Future Vol, veh/h	0	12	46	43	9	0	0	0	0	23	971	18
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	0	0	0	36
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	48	45	9	0	0	0	0	24	1022	19

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1116	569	578	1125	-
Stage 1	-	1116	-	0	0	-
Stage 2	-	0	-	578	1125	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	206	465	399	204	0
Stage 1	0	281	-	-	-	0
Stage 2	0	-	-	468	278	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	199	449	339	197	-
Mov Cap-2 Maneuver	-	199	-	339	197	-
Stage 1	-	271	-	-	-	-
Stage 2	-	-	-	398	268	-

Approach	EB		WB		SB	
HCM Control Delay, s	16.1		19.6			
HCM LOS	C		C			

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	199	449	301	-	-	-
HCM Lane V/C Ratio	0.063	0.108	0.182	-	-	-
HCM Control Delay (s)	24.3	14	19.6	-	-	-
HCM Lane LOS	C	B	C	-	-	-
HCM 95th %tile Q(veh)	0.2	0.4	0.7	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙ ↕ ↘					
Traffic Vol, veh/h	4	18	0	0	17	11	86	516	48	0	0	0
Future Vol, veh/h	4	18	0	0	17	11	86	516	48	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	28	17	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	19	0	0	18	12	91	549	51	0	0	0

Major/Minor	Minor2		Minor1		Major1			
Conflicting Flow All	457	800	-	-	774	328	17	0
Stage 1	17	17	-	-	757	-	-	-
Stage 2	440	783	-	-	17	-	-	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-
Pot Cap-1 Maneuver	525	317	0	0	328	570	1133	-
Stage 1	-	-	0	0	414	-	-	-
Stage 2	518	403	0	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	453	287	-	-	297	570	1133	-
Mov Cap-2 Maneuver	453	287	-	-	297	-	-	-
Stage 1	-	-	-	-	381	-	-	-
Stage 2	444	371	-	-	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	17.7		15.7		1.1	
HCM LOS	C		C			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1133	-	-	307	366
HCM Lane V/C Ratio	0.081	-	-	0.076	0.081
HCM Control Delay (s)	8.5	-	-	17.7	15.7
HCM Lane LOS	A	-	-	C	C
HCM 95th %tile Q(veh)	0.3	-	-	0.2	0.3

MS

Synchro 9 Report
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17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙ ↕ ↘					
Traffic Vol, veh/h	20	0	0	0	0	0	186	205	0	0	0	0
Future Vol, veh/h	20	0	0	0	0	0	186	205	0	0	0	0
Conflicting Peds, #/hr	0	0	5	0	0	0	6	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	0	0	0	0	0	211	233	0	0	0	0

Major/Minor	Minor2		Major2		Major1			
Conflicting Flow All	523	663	-	-	0	7	0	-
Stage 1	7	7	-	-	-	-	-	-
Stage 2	516	656	-	-	-	-	-	-
Critical Hdwy	6.08	6.53	-	-	-	4.13	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-
Critical Hdwy Stg 2	6.03	5.53	-	-	-	-	-	-
Follow-up Hdwy	3.669	4.019	-	-	-	2.219	-	-
Pot Cap-1 Maneuver	523	381	0	0	-	1613	-	0
Stage 1	974	890	0	0	-	-	-	0
Stage 2	532	461	0	0	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	449	0	-	-	-	1613	-	-
Mov Cap-2 Maneuver	449	0	-	-	-	-	-	-
Stage 1	968	0	-	-	-	-	-	-
Stage 2	460	0	-	-	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	13.4		0		3.6	
HCM LOS	B					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1613	-	449	-	-
HCM Lane V/C Ratio	0.131	-	0.051	-	-
HCM Control Delay (s)	7.6	-	13.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.2	-	-

MS

Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	6	44	70	18	0	0	0	0	46	517	0
Future Vol, veh/h	0	6	44	70	18	0	0	0	0	46	517	0
Conflicting Peds, #/hr	0	0	22	0	0	0	0	0	0	4	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	48	76	20	0	0	0	0	50	562	0

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	666	303	410	666	-
Stage 1	-	662	-	4	4	-
Stage 2	-	4	-	406	662	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	379	693	526	379	0
Stage 1	0	457	-	-	-	0
Stage 2	0	-	-	593	457	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	361	693	465	361	-
Mov Cap-2 Maneuver	-	361	-	465	361	-
Stage 1	-	436	-	-	-	-
Stage 2	-	-	-	519	436	-

Approach	EB	WB	SB
HCM Control Delay, s	11.2	15.5	0.7
HCM LOS	B	C	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	361	693	439	1616	-	-
HCM Lane V/C Ratio	0.018	0.069	0.218	0.031	-	-
HCM Control Delay (s)	15.2	10.6	15.5	7.3	0.1	-
HCM Lane LOS	C	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	0.2	0.8	0.1	-	-

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑↑↑		
Traffic Vol, veh/h	21	0	0	373	0	0
Future Vol, veh/h	21	0	0	373	0	0
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	0	0	429	0	0

Major/Minor	Minor2	Major1	
Conflicting Flow All	174	-	0
Stage 1	0	-	-
Stage 2	174	-	-
Critical Hdwy	5.74	-	5.34
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6.04	-	-
Follow-up Hdwy	3.82	-	3.12
Pot Cap-1 Maneuver	782	0	-
Stage 1	-	0	-
Stage 2	771	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	782	-	-
Mov Cap-2 Maneuver	782	-	-
Stage 1	-	-	-
Stage 2	771	-	-

Approach	EB	NB
HCM Control Delay, s	9.8	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	782
HCM Lane V/C Ratio	-	-	0.031
HCM Control Delay (s)	0	-	9.8
HCM Lane LOS	A	-	A
HCM 95th %tile Q(veh)	-	-	0.1

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	12	46	40	8	0	0	0	0	23	1058	18
Future Vol, veh/h	0	12	46	40	8	0	0	0	0	23	1058	18
Conflicting Peds, #/hr	0	0	0	20	0	0	0	0	0	0	0	24
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	50	43	9	0	0	0	0	25	1150	20

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1224	619	652	1224	-	0	0	0
Stage 1	-	1224	-	0	0	-	-	-	-
Stage 2	-	0	-	652	1224	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	178	432	353	178	0	-	-	-
Stage 1	0	250	-	-	-	0	-	-	-
Stage 2	0	-	-	423	250	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	174	422	293	174	-	-	-	-
Mov Cap-2 Maneuver	-	174	-	293	174	-	-	-	-
Stage 1	-	244	-	-	-	-	-	-	-
Stage 2	-	-	-	353	244	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	18.7	22	
HCM LOS	C	C	

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	326 263	-	-	-
HCM Lane V/C Ratio	0.193 0.198	-	-	-
HCM Control Delay (s)	18.7 22	-	-	-
HCM Lane LOS	C C	-	-	-
HCM 95th %tile Q(veh)	0.7 0.7	-	-	-

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	25	33	9	7	5	15	280	8	2	46	16
Future Vol, veh/h	3	25	33	9	7	5	15	280	8	2	46	16
Conflicting Peds, #/hr	0	0	0	0	0	15	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	32	42	11	9	6	19	354	10	3	58	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	496	479	71	507	484	374	81	0	0	365	0	0
Stage 1	76	76	-	397	397	-	-	-	-	-	-	-
Stage 2	420	403	-	110	87	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	484	486	991	476	483	672	1517	-	-	1194	-	-
Stage 1	933	832	-	629	603	-	-	-	-	-	-	-
Stage 2	611	600	-	895	823	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	458	475	988	426	472	662	1517	-	-	1177	-	-
Mov Cap-2 Maneuver	458	475	-	426	472	-	-	-	-	-	-	-
Stage 1	915	827	-	619	593	-	-	-	-	-	-	-
Stage 2	578	590	-	822	818	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	12.9	0.4	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1517	-	-	659 483 1177	-	-	-
HCM Lane V/C Ratio	0.013	-	-	0.117 0.055 0.002	-	-	-
HCM Control Delay (s)	7.4	0	-	11.2 12.9 8.1	0	-	-
HCM Lane LOS	A	A	-	B B A A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4 0.2 0	-	-	-

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	35	0	0	18	0	0	0	0	0	0	0
Future Vol, veh/h	0	35	0	0	18	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	10	0	10	11	0	0	0	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	38	0	0	20	0	0	0	0	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	1	-	-	1	-	-	0
Stage 1	-	1	-	-	0	-	-	-
Stage 2	-	0	-	-	1	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-
Stage 1	0	895	0	0	-	0	0	-
Stage 2	0	-	0	0	895	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-
Stage 1	-	895	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.2		9.1		0		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.043	0.022	-
HCM Control Delay (s)	-	9.2	9.1	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.1	0.1	-

31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	34	0	3	12	14	0
Future Vol, veh/h	34	0	3	12	14	0
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	0	4	14	17	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	66	0	88	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	22	-
Critical Hdwy	-	-	4.12	-	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	6.12	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1536	-	897	998
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	996	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1536	-	874	974
Mov Cap-2 Maneuver	-	-	-	-	874	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	993	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.5		9.2	
HCM LOS					A	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	874	-	-	1536	-
HCM Lane V/C Ratio	0.019	-	-	0.002	-
HCM Control Delay (s)	9.2	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑			↑↑↑	↑
Traffic Vol, veh/h	0	44	0	0	298	33
Future Vol, veh/h	0	44	0	0	298	33
Conflicting Peds, #/hr	0	0	0	0	0	120
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	53	0	0	359	40
Major/Minor						
	Minor2				Major2	
Conflicting Flow All	-	300			-	0
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	7.14			-	-
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	3.92			-	-
Pot Cap-1 Maneuver	0	594			-	-
Stage 1	0	-			-	-
Stage 2	0	-			-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	526			-	-
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Approach						
	EB				SB	
HCM Control Delay, s	12.6				0	
HCM LOS	B					
Minor Lane/Major Mvmt						
	EBLn1	SBT	SBR			
Capacity (veh/h)	526	-	-			
HCM Lane V/C Ratio	0.101	-	-			
HCM Control Delay (s)	12.6	-	-			
HCM Lane LOS	B	-	-			
HCM 95th %tile Q(veh)	0.3	-	-			

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	149	352	99	0	970	620	0	0	0	177	619	228
Future Volume (vph)	149	352	99	0	970	620	0	0	0	177	619	228
Confl. Peds. (#/hr)	29		68	68		29				41		68
Confl. Bikes (#/hr)			1			6						3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	159	374	105	0	1032	660	0	0	0	188	659	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	479	0	0	1032	660	0	0	0	188	659	243
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6				4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	25.0	92.0			67.0	43.0				43.0	43.0	43.0
Total Split (%)	18.5%	68.1%			49.6%	31.9%				31.9%	31.9%	31.9%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effect Green (s)	20.0	87.0			62.0	100.0				38.0	38.0	38.0
Actuated g/C Ratio	0.15	0.64			0.46	0.74				0.28	0.28	0.28
v/c Ratio	0.61	0.22			0.64	0.56				0.38	0.66	0.48
Control Delay	64.6	9.7			21.7	2.4				41.7	46.6	18.6
Queue Delay	0.0	0.0			1.9	0.1				0.0	0.0	0.0
Total Delay	64.6	9.7			23.6	2.6				41.7	46.6	18.6
LOS	E	A			C	A				D	D	B
Approach Delay		23.4			15.4						39.5	
Approach LOS		C			B						D	
Queue Length 50th (ft)	132	81			268	24				133	268	63
Queue Length 95th (ft)	209	107			335	48				205	337	147
Internal Link Dist (ft)		228			45		159				210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	262	2148			1625	1177				498	996	503
Starvation Cap Reductn	0	0			417	70				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.61	0.22			0.85	0.60				0.38	0.66	0.48

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75

MS

Synchro 9 Report
Page 1

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 24.6

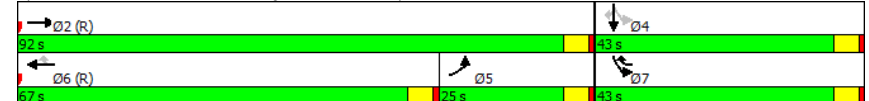
Intersection LOS: C

Intersection Capacity Utilization 70.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



MS

Synchro 9 Report
Page 2

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖
Traffic Volume (vph)	508	0	0	1200	712	238
Future Volume (vph)	508	0	0	1200	712	238
Confl. Peds. (#/hr)						79
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	558	0	0	1319	782	262
Shared Lane Traffic (%)						
Lane Group Flow (vph)	558	0	0	1319	782	262
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	10.0
Total Split (s)	86.0			86.0	49.0	49.0
Total Split (%)	63.7%			63.7%	36.3%	36.3%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	81.0			81.0	44.0	44.0
Actuated g/C Ratio	0.60			0.60	0.33	0.33
v/c Ratio	0.26			0.62	0.70	0.40
Control Delay	14.8			11.6	60.2	23.0
Queue Delay	0.0			0.2	0.0	0.0
Total Delay	14.8			11.7	60.2	23.0
LOS	B			B	E	C
Approach Delay	14.8			11.7	50.8	
Approach LOS	B			B	D	
Queue Length 50th (ft)	111			178	295	106
Queue Length 95th (ft)	135			220	438	156
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2123			2123	1118	649
Starvation Cap Reductn	0			183	0	0
Spillback Cap Reductn	0			20	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.26			0.68	0.70	0.40
Intersection Summary						
Cycle Length: 135						
Actuated Cycle Length: 135						
Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Green						
Natural Cycle: 50						
Control Type: Actuated-Coordinated						

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 26.3

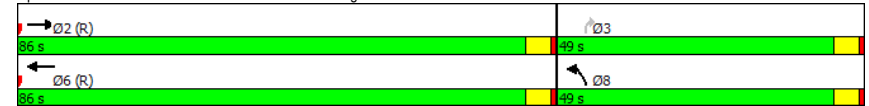
Intersection LOS: C

Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑		
Traffic Volume (vph)	718	0	12	1146	0	0
Future Volume (vph)	718	0	12	1146	0	0
Confl. Peds. (#/hr)		32	32		34	
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	764	0	13	1219	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	764	0	13	1219	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0		
Minimum Split (s)	34.0		8.0	20.0		
Total Split (s)	119.0		16.0	135.0		
Total Split (%)	88.1%		11.9%	100.0%		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		5.0	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effect Green (s)	126.6		133.0	135.0		
Actuated g/C Ratio	0.94		0.99	1.00		
v/c Ratio	0.23		0.02	0.34		
Control Delay	0.9		0.1	0.3		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.9		0.1	0.3		
LOS	A		A	A		
Approach Delay	0.9			0.3		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	3		
Queue Length 95th (ft)	54		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3319		723	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.23		0.02	0.34		

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 45

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 0.5

Intersection LOS: A

Intersection Capacity Utilization 35.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱	↱	↰	↰↱	↱	↰	↰	↰↱	↱	↰	↰↱
Traffic Volume (vph)	87	731	11	15	870	131	27	23	155	96	25	244
Future Volume (vph)	87	731	11	15	870	131	27	23	155	96	25	244
Confl. Peds. (#/hr)	43		7	7		43	22		23	23		22
Confl. Bikes (#/hr)			4			3						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	90	754	11	15	897	135	28	24	160	99	26	252
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	765	0	15	897	135	0	52	160	0	125	252
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	22.0		8.0	28.0	28.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (s)	15.0	89.0		15.0	89.0	89.0	31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	11.1%	65.9%		11.1%	65.9%	65.9%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	97.9	94.5		92.4	86.6	86.6		26.0	26.0		26.0	26.0
Actuated g/C Ratio	0.73	0.70		0.68	0.64	0.64		0.19	0.19		0.19	0.19
v/c Ratio	0.22	0.31		0.03	0.40	0.15		0.18	0.38		0.49	0.52
Control Delay	5.2	6.0		1.9	5.5	2.0		47.6	9.5		56.0	11.3
Queue Delay	0.0	0.3		0.0	0.3	0.0		0.0	0.0		0.0	0.0
Total Delay	5.2	6.3		1.9	5.7	2.0		47.6	9.5		56.0	11.3
LOS	A	A		A	A	A		D	A		E	B
Approach Delay		6.2			5.2			18.8			26.1	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)	16	81		1	116	10		39	0		99	11
Queue Length 95th (ft)	26	105		m2	157	29		78	60		166	90
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	438	2472		547	2269	904		288	419		256	481
Starvation Cap Reductn	0	958		0	668	0		0	0		0	0
Spillback Cap Reductn	0	125		0	0	0		0	5		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.21	0.51		0.03	0.56	0.15		0.18	0.39		0.49	0.52

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

MS

Synchro 9 Report
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6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 9.9

Intersection LOS: A

Intersection Capacity Utilization 78.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↗		↕↖	↕↗					↕↖	↕↗	↕↖
Traffic Volume (vph)	0	921	29	306	1073	0	0	0	0	37	196	138
Future Volume (vph)	0	921	29	306	1073	0	0	0	0	37	196	138
Confl. Peds. (#/hr)			36	36						71		17
Confl. Bikes (#/hr)			7									14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	990	31	329	1154	0	0	0	0	40	211	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1021	0	329	1154	0	0	0	0	40	211	148
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effct Green (s)		78.2		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.58		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.50		0.78	0.45					0.13	0.30	0.36
Control Delay		12.8		35.1	4.5					45.8	47.3	12.1
Queue Delay		0.5		0.5	0.2					0.0	0.0	0.0
Total Delay		13.3		35.6	4.7					45.8	47.3	12.1
LOS		B		D	A					D	D	B
Approach Delay		13.3			11.5						34.1	
Approach LOS		B			B						C	
Queue Length 50th (ft)		228		130	125					29	83	10
Queue Length 95th (ft)		272		m234	m130					64	122	70
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		2036		474	2569					313	707	406
Starvation Cap Reductn		532		19	613					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.68		0.72	0.59					0.13	0.30	0.36

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80

MS

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78

Intersection Signal Delay: 15.2
Intersection Capacity Utilization 76.8%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service D
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 10

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩			↩↩		↩	↩	↩			
Traffic Volume (vph)	83	952	0	0	1116	51	214	314	337	0	0	0
Future Volume (vph)	83	952	0	0	1116	51	214	314	337	0	0	0
Confl. Peds. (#/hr)			33			87	17		148			
Confl. Bikes (#/hr)						4			12			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	86	981	0	0	1151	53	221	324	347	0	0	0
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	86	981	0	0	1204	0	199	346	347	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	104.0			89.0		31.0	31.0	31.0			
Total Split (%)	11.1%	77.0%			65.9%		23.0%	23.0%	23.0%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	99.0	99.0			86.7		26.0	26.0	26.0			
Actuated g/C Ratio	0.73	0.73			0.64		0.19	0.19	0.19			
v/c Ratio	0.28	0.38			0.54		0.64	1.02	1.00			
Control Delay	4.2	1.5			7.1		70.2	115.9	84.6			
Queue Delay	0.0	0.0			0.5		0.0	0.0	0.0			
Total Delay	4.2	1.6			7.6		70.2	115.9	84.6			
LOS	A	A			A		E	F	F			
Approach Delay		1.8			7.6			93.5				
Approach LOS		A			A			F				
Queue Length 50th (ft)	4	23			108		176	~342	187			
Queue Length 95th (ft)	15	25			124		270	#551	#393			
Internal Link Dist (ft)		321			699			350		106		
Turn Bay Length (ft)	120											
Base Capacity (vph)	336	2595			2229		313	339	348			
Starvation Cap Reductn	0	257			535		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.26	0.42			0.71		0.64	1.02	1.00			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 60

MS

Synchro 9 Report
Page 11

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 29.9

Intersection LOS: C

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑	↑
Traffic Volume (vph)	0	20	11	85	94	0	0	0	0	27	1020	22
Future Volume (vph)	0	20	11	85	94	0	0	0	0	27	1020	22
Confl. Peds. (#/hr)			67							43		
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Parking (#/hr)		0										
Adj. Flow (vph)	0	21	11	89	98	0	0	0	0	28	1063	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	11	0	187	0	0	0	0	0	1114	0
Turn Type	NA	Perm	Perm	NA						Perm	NA	
Protected Phases	4 12			4 12							2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12	4 12	4 12	4 12						2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		25.4	25.4		25.4						85.6	
Actuated g/C Ratio		0.19	0.19		0.19						0.63	
v/c Ratio		0.07	0.03		0.64						0.50	
Control Delay		24.9	0.2		42.3						7.9	
Queue Delay		0.0	0.0		0.0						0.0	
Total Delay		24.9	0.2		42.3						7.9	
LOS		C	A		D						A	
Approach Delay		16.4			42.3						7.9	
Approach LOS		B			D						A	
Queue Length 50th (ft)		10	0		101						131	
Queue Length 95th (ft)		25	0		120						192	
Internal Link Dist (ft)		177			244			271			262	
Turn Bay Length (ft)												
Base Capacity (vph)		533	509		497						2242	
Starvation Cap Reductn		0	0		0						0	
Spillback Cap Reductn		0	0		0						0	
Storage Cap Reductn		0	0		0						0	
Reduced v/c Ratio		0.04	0.02		0.38						0.50	
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												

MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	21.0	21.0	22.5	22.5
Total Split (s)	56.0	29.0	24.0	26.0
Total Split (%)	41%	21%	18%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
Page 14

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 12.9

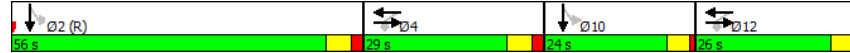
Intersection LOS: B

Intersection Capacity Utilization 69.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	44	0	0	54	26	63	997	52	0	0	0
Future Volume (vph)	10	44	0	0	54	26	63	997	52	0	0	0
Confl. Peds. (#/hr)	33								46			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)	0											
Adj. Flow (vph)	11	48	0	0	59	28	68	1084	57	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	87	0	0	1152	57	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	22.3			22.3			88.7	88.7				
Actuated g/C Ratio	0.17			0.17			0.66	0.66				
v/c Ratio	0.23			0.28			0.35	0.06				
Control Delay	33.3			24.8			10.6	4.7				
Queue Delay	0.0			0.0			0.1	0.0				
Total Delay	33.3			24.8			10.7	4.7				
LOS	C			C			B	A				
Approach Delay	33.3			24.8			10.4					
Approach LOS	C			C			B					
Queue Length 50th (ft)	28			38			183	13				
Queue Length 95th (ft)	50			66			135	17				
Internal Link Dist (ft)	244			319			272			254		
Turn Bay Length (ft)								100				
Base Capacity (vph)	524			609			3435	908				
Starvation Cap Reductn	0			0			642	0				
Spillback Cap Reductn	0			0			0	0				
Storage Cap Reductn	0			0			0	0				
Reduced v/c Ratio	0.11			0.14			0.41	0.06				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 100

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	54.0	28.0	25.0	28.0
Total Split (%)	40%	21%	19%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 12.3

Intersection LOS: B

Intersection Capacity Utilization 43.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	43	0	0	54	27	62	1062	51	0	0	0
Future Volume (vph)	10	43	0	0	54	27	62	1062	51	0	0	0
Confl. Peds. (#/hr)						163		85				
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Parking (#/hr)					0							
Adj. Flow (vph)	11	45	0	0	57	28	65	1118	54	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	85	0	0	1183	54	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	20.6				20.6			90.4	90.4			
Actuated g/C Ratio	0.15				0.15			0.67	0.67			
v/c Ratio	0.21				0.35			0.35	0.05			
Control Delay	28.7				26.6			6.2	2.3			
Queue Delay	0.0				0.0			0.4	0.0			
Total Delay	28.7				26.6			6.6	2.3			
LOS	C				C			A	A			
Approach Delay	28.7				26.6			6.4				
Approach LOS	C				C			A				
Queue Length 50th (ft)	30				38			145	6			
Queue Length 95th (ft)	54				66			138	m7			
Internal Link Dist (ft)	233				60			281			272	
Turn Bay Length (ft)									100			
Base Capacity (vph)	570				490			3376	1089			
Starvation Cap Reductn	0				0			1523	0			
Spillback Cap Reductn	0				0			106	0			
Storage Cap Reductn	0				0			0	0			
Reduced v/c Ratio	0.10				0.17			0.64	0.05			
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green												

MS

Synchro 9 Report
Page 19

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	55.0	32.0	24.0	24.0
Total Split (%)	41%	24%	18%	18%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
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28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 8.6

Intersection LOS: A

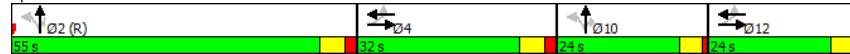
Intersection Capacity Utilization 53.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	871	95	212	1707	0	0	0	0	149	841	267
Future Volume (vph)	0	871	95	212	1707	0	0	0	0	149	841	267
Confl. Peds. (#/hr)			18	18						20		27
Confl. Bikes (#/hr)												27
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1013	110	247	1985	0	0	0	0	173	978	310
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1123	0	247	1985	0	0	0	0	0	1151	310
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		58.0			88.0					47.0	47.0	47.0
Total Split (%)		43.0%			65.2%					34.8%	34.8%	34.8%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		53.0		83.0	83.0						42.0	42.0
Actuated g/C Ratio		0.39		0.61	0.61						0.31	0.31
v/c Ratio		0.57		0.63	0.63						0.74	0.59
Control Delay		33.0		24.0	7.3						41.6	29.3
Queue Delay		0.0		5.5	0.2						0.0	0.0
Total Delay		33.0		29.5	7.5						41.6	29.3
LOS		C		C	A						D	C
Approach Delay		33.0			9.9						39.0	
Approach LOS		C			A						D	
Queue Length 50th (ft)		275		70	134						277	124
Queue Length 95th (ft)		304		m130	136						316	209
Internal Link Dist (ft)		262			240			197			285	
Turn Bay Length (ft)				50								100
Base Capacity (vph)		1967		391	3126						1563	525
Starvation Cap Reductn		0		92	392						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.57		0.83	0.73						0.74	0.59

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	8.0
Minimum Split (s)	10.0	13.0
Total Split (s)	15.0	15.0
Total Split (%)	11%	11%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 24.1

Intersection LOS: C

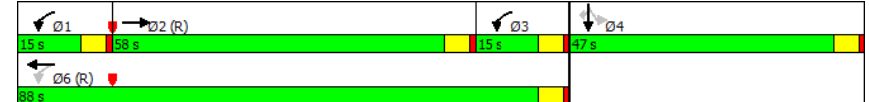
Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	←	→	↖	↗	←	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↖↖			↖↖↖			↖↖↖	↖				
Traffic Volume (vph)	88	900	0	0	1606	66	385	862	157	0	0	0	
Future Volume (vph)	88	900	0	0	1606	66	385	862	157	0	0	0	
Confl. Peds. (#/hr)	47					47	30		18				
Confl. Bikes (#/hr)			2						27				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	98	1000	0	0	1784	73	428	958	174	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	98	1000	0	0	1857	0	0	1386	174	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA	Perm				
Protected Phases	5	2			6			4					
Permitted Phases	2						4		4				
Detector Phase	5	2			6		4	4	4				
Switch Phase													
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0				
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0				
Total Split (s)	20.0	86.0			66.0		49.0	49.0	49.0				
Total Split (%)	14.8%	63.7%			48.9%		36.3%	36.3%	36.3%				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		6.0	6.0	6.0				
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max	Max				
Act Effect Green (s)	81.0	81.0			66.8			43.0	43.0				
Actuated g/C Ratio	0.60	0.60			0.49			0.32	0.32				
v/c Ratio	0.56	0.33			0.74			0.88	0.31				
Control Delay	58.9	3.5			11.9			51.3	13.1				
Queue Delay	0.0	0.1			0.0			0.0	0.0				
Total Delay	58.9	3.6			11.9			51.3	13.1				
LOS	E	A			B			D	B				
Approach Delay		8.5			11.9			47.0					
Approach LOS		A			B			D					
Queue Length 50th (ft)	51	48			117			421	33				
Queue Length 95th (ft)	m108	51			116			485	92				
Internal Link Dist (ft)		240			335			116			281		
Turn Bay Length (ft)	50												
Base Capacity (vph)	247	3051			2495			1573	558				
Starvation Cap Reductn	0	837			0			0	0				
Spillback Cap Reductn	0	0			0			0	0				
Storage Cap Reductn	0	0			0			0	0				
Reduced v/c Ratio	0.40	0.45			0.74			0.88	0.31				

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 75

MS

Synchro 9 Report
Page 25

35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 23.2

Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



MS

Synchro 9 Report
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36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			  			  	
Traffic Volume (vph)	27	1060	21	22	1374	14	8	26	108	127	6	267
Future Volume (vph)	27	1060	21	22	1374	14	8	26	108	127	6	267
Confl. Peds. (#/hr)	32		34	34		32	96		6	6		96
Confl. Bikes (#/hr)			1			2			2			1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	31	1218	24	25	1579	16	9	30	124	146	7	307
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	1242	0	25	1595	0	0	163	0	0	153	307
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	20.0		10.0	22.0		36.0	36.0		10.0	10.0	22.0
Total Split (s)	10.0	79.0		10.0	79.0		46.0	46.0		46.0	46.0	79.0
Total Split (%)	7.4%	58.5%		7.4%	58.5%		34.1%	34.1%		34.1%	34.1%	58.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag						Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effect Green (s)	81.0	78.0		81.0	78.0			41.0			41.0	78.0
Actuated g/C Ratio	0.60	0.58		0.60	0.58			0.30			0.30	0.58
v/c Ratio	0.18	0.42		0.10	0.54			0.29			0.49	0.37
Control Delay	6.2	6.3		5.1	8.7			13.5			45.1	2.9
Queue Delay	0.0	0.2		0.0	0.1			0.0			0.0	0.0
Total Delay	6.2	6.5		5.1	8.9			13.5			45.1	2.9
LOS	A	A		A	A			B			D	A
Approach Delay		6.5			8.8			13.5			17.0	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	0	102		3	345			32			110	0
Queue Length 95th (ft)	0	118		6	157			83			175	37
Internal Link Dist (ft)		335			362			155			114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	172	2927		242	2928			567			310	828
Starvation Cap Reductn	0	687		0	352			0			0	0
Spillback Cap Reductn	0	0		0	37			0			0	8
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.18	0.55		0.10	0.62			0.29			0.49	0.37

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
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36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 87.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 36: Colorado St & W. 15th St



MS

Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖	↑↑↑		↗
Traffic Volume (vph)	1353	0	0	1175	0	1
Future Volume (vph)	1353	0	0	1175	0	1
Confl. Peds. (#/hr)		48	48		40	14
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1573	0	0	1366	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1573	0	0	1366	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	92.0		10.0	102.0		33.0
Total Split (%)	68.1%		7.4%	75.6%		24.4%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effect Green (s)	97.0			97.0		28.0
Actuated g/C Ratio	0.72			0.72		0.21
v/c Ratio	0.43			0.37		0.00
Control Delay	4.5			10.3		0.0
Queue Delay	0.0			0.1		0.0
Total Delay	4.5			10.5		0.0
LOS	A			B		A
Approach Delay	4.5			10.5		
Approach LOS	A			B		
Queue Length 50th (ft)	78			321		0
Queue Length 95th (ft)	90			77		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)						
Base Capacity (vph)	3653			3653		394
Starvation Cap Reductn	408			1059		0
Spillback Cap Reductn	0			292		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.48			0.53		0.00

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70

MS

Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 57.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 37: N. Congress Ave & W. 15th St



MS

Synchro 9 Report
Page 30

38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	←	→	↖	↗	←	↖	↗	→	↖	↗	→	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗			↖ ↗	↖ ↗		↖ ↗	↖ ↗	
Traffic Volume (vph)	5	1341	37	9	1034	5	130	3	114	63	3	85	
Future Volume (vph)	5	1341	37	9	1034	5	130	3	114	63	3	85	
Confl. Peds. (#/hr)	8		9	9		8	5		19	19		5	
Confl. Bikes (#/hr)						1						1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	5	1442	40	10	1112	5	140	3	123	68	3	91	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	5	1482	0	10	1117	0	0	143	123	0	162	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA		
Protected Phases	5	2		1	6			4			8		
Permitted Phases	2			6			4		4	8			
Detector Phase	5	2		1	6		4	4	4	8	8		
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0		
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0		
Total Split (s)	12.0	77.0		12.0	77.0		46.0	46.0	46.0	46.0	46.0		
Total Split (%)	8.9%	57.0%		8.9%	57.0%		34.1%	34.1%	34.1%	34.1%	34.1%		
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0		
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None		
Act Effect Green (s)	99.4	99.4		99.6	99.6		23.2	23.2			23.2		
Actuated g/C Ratio	0.74	0.74		0.74	0.74		0.17	0.17			0.17		
v/c Ratio	0.01	0.40		0.04	0.30		0.84	0.36			0.72		
Control Delay	5.0	3.6		12.2	11.2		89.7	15.2			53.3		
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0			0.0		
Total Delay	5.0	3.7		12.2	11.3		89.7	15.2			53.3		
LOS	A	A		B	B		F	B			D		
Approach Delay		3.7			11.3			55.3				53.3	
Approach LOS		A			B			E				D	
Queue Length 50th (ft)	0	42		3	140			123	18			95	
Queue Length 95th (ft)	m2	87		m11	281			190	69			165	
Internal Link Dist (ft)		356			297			199				273	
Turn Bay Length (ft)	100			40					50				
Base Capacity (vph)	363	3726		289	3748		302	530			361		
Starvation Cap Reductn	0	445		0	1345		0	0			0		
Spillback Cap Reductn	0	138		0	0		0	2			1		
Storage Cap Reductn	0	0		0	0		0	0			0		
Reduced v/c Ratio	0.01	0.45		0.03	0.46		0.47	0.23			0.45		

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65

MS

Synchro 9 Report
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38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 13.6

Intersection LOS: B

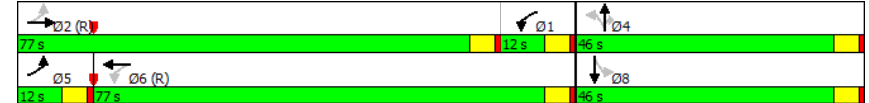
Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



MS

Synchro 9 Report
Page 32

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑					↓	↑↑↑	↑
Traffic Volume (vph)	0	1635	112	65	842	0	0	0	0	269	624	304
Future Volume (vph)	0	1635	112	65	842	0	0	0	0	269	624	304
Confl. Peds. (#/hr)			11	11						31		5
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1758	120	70	905	0	0	0	0	289	671	327
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1878	0	70	905	0	0	0	0	0	960	327
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		80.0		15.0	95.0					40.0	40.0	40.0
Total Split (%)		59.3%		11.1%	70.4%					29.6%	29.6%	29.6%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		81.1		91.4	91.4					33.6	33.6	33.6
Actuated g/C Ratio		0.60		0.68	0.68					0.25	0.25	0.25
v/c Ratio		0.62		0.40	0.26					0.78	0.71	0.71
Control Delay		8.6		26.1	7.6					52.2	40.7	40.7
Queue Delay		0.2		0.0	0.2					0.0	0.1	0.1
Total Delay		8.7		26.1	7.7					52.2	40.8	40.8
LOS		A		C	A					D	D	D
Approach Delay		8.7			9.0					49.3		
Approach LOS		A			A					D		
Queue Length 50th (ft)		145		29	93					284	183	183
Queue Length 95th (ft)		286		m61	113					338	296	296
Internal Link Dist (ft)		297			282			125		272		
Turn Bay Length (ft)				70								50
Base Capacity (vph)		3022		203	3442					1280	475	475
Starvation Cap Reductn		319		0	1386					0	0	0
Spillback Cap Reductn		0		0	153					0	3	3
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.69		0.34	0.44					0.75	0.69	0.69

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

MS

Synchro 9 Report
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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 21.4

Intersection LOS: C

Intersection Capacity Utilization 68.5%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



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Synchro 9 Report
Page 34

40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Traffic Volume (vph)	88	1595	0	0	736	96	176	303	278	0	0	0			
Future Volume (vph)	88	1595	0	0	736	96	176	303	278	0	0	0			
Confl. Peds. (#/hr)	2					2	7		8						
Confl. Bikes (#/hr)									8						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Adj. Flow (vph)	92	1661	0	0	767	100	183	316	290	0	0	0			
Shared Lane Traffic (%)															
Lane Group Flow (vph)	92	1661	0	0	867	0	0	499	290	0	0	0			
Turn Type	pm+pt	NA			NA		Perm	NA	Perm						
Protected Phases	5	2			6			4							
Permitted Phases	2						4		4						
Detector Phase	5	2			6		4	4	4						
Switch Phase															
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0						
Minimum Split (s)	8.0	28.0			28.0		35.0	35.0	35.0						
Total Split (s)	10.0	100.0			90.0		35.0	35.0	35.0						
Total Split (%)	7.4%	74.1%			66.7%		25.9%	25.9%	25.9%						
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0						
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0						
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0						
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0						
Lead/Lag	Lead				Lag										
Lead-Lag Optimize?	Yes				Yes										
Recall Mode	None	C-Max			C-Max		Max	Max	Max						
Act Effect Green (s)	95.0	95.0			85.0		30.0	30.0	30.0						
Actuated g/C Ratio	0.70	0.70			0.63		0.22	0.22	0.22						
v/c Ratio	0.22	0.46			0.27		0.65	0.75	0.75						
Control Delay	4.5	4.5			7.1		52.3	52.6	52.6						
Queue Delay	0.0	0.1			0.0		0.0	0.0	0.0						
Total Delay	4.5	4.6			7.1		52.3	52.6	52.6						
LOS	A	A			A		D	D	D						
Approach Delay		4.6			7.1		52.4								
Approach LOS		A			A		D								
Queue Length 50th (ft)	12	81			83		211	195	195						
Queue Length 95th (ft)	m19	88			m83		273	#322	#322						
Internal Link Dist (ft)		282			641		149			621					
Turn Bay Length (ft)	100														
Base Capacity (vph)	409	3578			3154		769	385	385						
Starvation Cap Reductn	0	748			0		0	0	0						
Spillback Cap Reductn	0	0			0		0	0	0						
Storage Cap Reductn	0	0			0		0	0	0						
Reduced v/c Ratio	0.22	0.59			0.27		0.65	0.75	0.75						

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 75

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Synchro 9 Report
Page 35

40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 16.3

Intersection LOS: B

Intersection Capacity Utilization 68.5%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Trinity St & W. 15th St



MS

Synchro 9 Report
Page 36

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	9.9											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	6	70	14	0	62	36	9	0	15	89	151
Future Vol, veh/h	0	6	70	14	0	62	36	9	0	15	89	151
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	90	18	0	79	46	12	0	19	114	194
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.3	9.7	10.5
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	7%	58%	14%
Vol Thru, %	35%	78%	34%	55%
Vol Right, %	59%	16%	8%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	255	90	107	132
LT Vol	15	6	62	18
Through Vol	89	70	36	73
RT Vol	151	14	9	41
Lane Flow Rate	327	115	137	169
Geometry Grp	1	1	1	1
Degree of Util (X)	0.404	0.166	0.201	0.226
Departure Headway (Hd)	4.451	5.172	5.28	4.806
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	801	685	672	740
Service Time	2.516	3.265	3.371	2.884
HCM Lane V/C Ratio	0.408	0.168	0.204	0.228
HCM Control Delay	10.5	9.3	9.7	9.3
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2	0.6	0.7	0.9

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	18	73	41
Future Vol, veh/h	0	18	73	41
Peak Hour Factor	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	23	94	53
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.3
HCM LOS	A

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	8.8											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	240	0	0	0	166	0	0	0	0	0
Future Vol, veh/h	0	0	240	0	0	0	166	0	0	0	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	279	0	0	0	193	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.1	8.4	0
HCM LOS	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	240	166	12
LT Vol	0	0	0	0
Through Vol	0	240	166	0
RT Vol	0	0	0	12
Lane Flow Rate	0	279	193	14
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.318	0.223	0.017
Departure Headway (Hd)	4.964	4.102	4.165	4.337
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	871	853	830
Service Time	2.965	2.155	2.235	2.337
HCM Lane V/C Ratio	0	0.32	0.226	0.017
HCM Control Delay	8	9.1	8.4	7.4
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	1.4	0.9	0.1

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	12
Future Vol, veh/h	0	0	0	12
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	14
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.4
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	12.9											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	29	174	25	0	10	44	5	0	183	160	0
Future Vol, veh/h	0	29	174	25	0	10	44	5	0	183	160	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	202	29	0	12	51	6	0	213	186	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.1	9.6	15.2
HCM LOS	B	A	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	53%	13%	17%	0%
Vol Thru, %	47%	76%	75%	46%
Vol Right, %	0%	11%	8%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	343	228	59	123
LT Vol	183	29	10	0
Through Vol	160	174	44	56
RT Vol	0	25	5	67
Lane Flow Rate	399	265	69	143
Geometry Grp	1	1	1	1
Degree of Util (X)	0.578	0.402	0.111	0.205
Departure Headway (Hd)	5.213	5.453	5.84	5.172
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	694	660	613	692
Service Time	3.242	3.489	3.888	3.213
HCM Lane V/C Ratio	0.575	0.402	0.113	0.207
HCM Control Delay	15.2	12.1	9.6	9.6
HCM Lane LOS	C	B	A	A
HCM 95th-tile Q	3.7	1.9	0.4	0.8

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	56	67
Future Vol, veh/h	0	0	56	67
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	65	78
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.6
HCM LOS	A

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	11											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	48	155	0	35	23	0	0	0	0	0
Future Vol, veh/h	0	0	48	155	0	35	23	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	51	163	0	37	24	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		10.6	10
HCM LOS		B	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	60%	0%	0%	0%
Vol Thru, %	24%	40%	100%	100%	0%
Vol Right, %	76%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	58	254	254	12
LT Vol	0	35	0	0	0
Through Vol	48	23	254	254	0
RT Vol	155	0	0	0	12
Lane Flow Rate	214	61	267	267	13
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.318	0.108	0.391	0.391	0.01
Departure Headway (Hd)	5.356	6.383	5.28	5.28	2.831
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	667	557	678	678	1243
Service Time	3.126	4.173	3.047	3.047	0.597
HCM Lane V/C Ratio	0.321	0.11	0.394	0.394	0.01
HCM Control Delay	10.6	10	11.4	11.4	5.6
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	1.4	0.4	1.9	1.9	0

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	507	12
Future Vol, veh/h	0	0	507	12
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	534	13
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		11.3
HCM LOS		B

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	8.5											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	77	0	15	0	0	0	0	0	15	129	0
Future Vol, veh/h	0	77	0	15	0	0	0	0	0	15	129	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	94	0	18	0	0	0	0	0	18	157	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.7	0	8.7
HCM LOS	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	84%	0%	0%
Vol Thru, %	90%	0%	100%	47%
Vol Right, %	0%	16%	0%	53%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	92	0	159
LT Vol	15	77	0	0
Through Vol	129	0	0	74
RT Vol	0	15	0	85
Lane Flow Rate	176	112	0	194
Geometry Grp	1	1	1	1
Degree of Util (X)	0.216	0.15	0	0.22
Departure Headway (Hd)	4.429	4.8	4.885	4.084
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	811	748	0	880
Service Time	2.448	2.823	2.916	2.101
HCM Lane V/C Ratio	0.217	0.15	0	0.22
HCM Control Delay	8.7	8.7	7.9	8.3
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.8	0.5	0	0.8

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	74	85
Future Vol, veh/h	0	0	74	85
Peak Hour Factor	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	90	104
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.3
HCM LOS	A

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	0	0	0	50	0	94	0
Future Vol, veh/h	0	0	0	0	0	50	0	94	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	62	0	116	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	0	6.8	7.9
HCM LOS	-	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	0%	0%
Vol Right, %	0%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	50	94
LT Vol	0	0	94
Through Vol	0	0	0
RT Vol	0	50	0
Lane Flow Rate	0	62	116
Geometry Grp	1	1	1
Degree of Util (X)	0	0.061	0.137
Departure Headway (Hd)	4.185	3.535	4.242
Convergence, Y/N	Yes	Yes	Yes
Cap	0	1001	848
Service Time	2.259	1.602	2.254
HCM Lane V/C Ratio	0	0.062	0.137
HCM Control Delay	7.3	6.8	7.9
HCM Lane LOS	N	A	A
HCM 95th-tile Q	0	0.2	0.5

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	626	33	32	1219	2	116
Future Vol, veh/h	626	33	32	1219	2	116
Conflicting Peds, #/hr	0	8	8	0	0	11
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	666	35	34	1297	2	123

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	709	0	1408	370
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	716	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	886	-	130	627
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	445	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	877	-	124	616
Mov Cap-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	455	-
Stage 2	-	-	-	-	428	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	577	-	-	877	-
HCM Lane V/C Ratio	0.218	-	-	0.039	-
HCM Control Delay (s)	13	-	-	9.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑		
Traffic Vol, veh/h	0	20	11	84	94	0	0	0	0	26	964	22
Future Vol, veh/h	0	20	11	84	94	0	0	0	0	26	964	22
Conflicting Peds, #/hr	0	0	0	54	0	0	0	0	0	0	0	41
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	11	87	97	0	0	0	0	27	994	23

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1100	603	615	1111	0
Stage 1	-	1100	-	0	0	-
Stage 2	-	0	-	615	1111	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	4.14
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	2.22
Pot Cap-1 Maneuver	0	211	442	375	208	0
Stage 1	0	286	-	-	0	-
Stage 2	0	-	-	445	283	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	203	425	337	200	-
Mov Cap-2 Maneuver	-	203	-	337	200	-
Stage 1	-	275	-	-	-	-
Stage 2	-	-	-	401	272	-

Approach	EB	WB	SB
HCM Control Delay, s	20.8	52.4	
HCM LOS	C	F	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	203	425	247	-	-	-
HCM Lane V/C Ratio	0.102	0.027	0.743	-	-	-
HCM Control Delay (s)	24.7	13.7	52.4	-	-	-
HCM Lane LOS	C	B	F	-	-	-
HCM 95th %tile Q(veh)	0.3	0.1	5.2	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	10	43	0	0	54	26	63	900	52	0	0	0
Future Vol, veh/h	10	43	0	0	54	26	63	900	52	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	21	25	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	45	0	0	57	27	66	947	55	0	0	0

Major/Minor	Minor2		Minor1		Major1			
Conflicting Flow All	586	1160	-	-	1132	522	25	0
Stage 1	25	25	-	-	1107	-	-	-
Stage 2	561	1135	-	-	25	-	-	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-
Pot Cap-1 Maneuver	444	194	0	0	202	428	1124	-
Stage 1	-	-	0	0	284	-	-	-
Stage 2	437	275	0	0	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	297	178	-	-	186	428	1124	-
Mov Cap-2 Maneuver	297	178	-	-	186	-	-	-
Stage 1	-	-	-	-	267	-	-	-
Stage 2	303	259	-	-	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	31.1		29.8		0.5	
HCM LOS	D		D			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1124	-	-	193	228
HCM Lane V/C Ratio	0.059	-	-	0.289	0.369
HCM Control Delay (s)	8.4	-	-	31.1	29.8
HCM Lane LOS	A	-	-	D	D
HCM 95th %tile Q(veh)	0.2	-	-	1.1	1.6

MS

Synchro 9 Report
Page 3

17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	129	0	0	0	0	0	140	488	0	0	0	0
Future Vol, veh/h	129	0	0	0	0	0	140	488	0	0	0	0
Conflicting Peds, #/hr	0	0	18	0	0	0	21	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	0	0	0	0	0	165	574	0	0	0	0

Major/Minor	Minor2		Major2		Major1			
Conflicting Flow All	581	926	-	-	0	22	0	-
Stage 1	22	22	-	-	-	-	-	-
Stage 2	559	904	-	-	-	-	-	-
Critical Hdwy	6.08	6.53	-	-	-	4.13	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-
Critical Hdwy Stg 2	6.03	5.53	-	-	-	-	-	-
Follow-up Hdwy	3.669	4.019	-	-	-	2.219	-	-
Pot Cap-1 Maneuver	487	268	0	0	-	1593	-	0
Stage 1	960	877	0	0	-	-	-	0
Stage 2	505	355	0	0	-	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	419	0	-	-	-	1593	-	-
Mov Cap-2 Maneuver	419	0	-	-	-	-	-	-
Stage 1	941	0	-	-	-	-	-	-
Stage 2	444	0	-	-	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	18.4		0		1.7	
HCM LOS	C					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1593	-	419	-	-
HCM Lane V/C Ratio	0.103	-	0.362	-	-
HCM Control Delay (s)	7.5	-	18.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	1.6	-	-

MS

Synchro 9 Report
Page 4

25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	9.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	49	61	35	23	0	0	0	0	104	851	0
Future Vol, veh/h	0	49	61	35	23	0	0	0	0	104	851	0
Conflicting Peds, #/hr	0	0	19	0	0	0	0	0	0	94	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	58	72	41	27	0	0	0	0	122	1001	0

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1340	520	887	1340	-	94	0	0
Stage 1	-	1246	-	94	94	-	-	-	-
Stage 2	-	94	-	793	1246	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	151	501	239	151	0	1498	-	-
Stage 1	0	244	-	-	-	0	-	-	-
Stage 2	0	-	-	348	244	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	112	501	97	112	-	1498	-	-
Mov Cap-2 Maneuver	-	112	-	97	112	-	-	-	-
Stage 1	-	199	-	-	-	-	-	-	-
Stage 2	-	-	-	173	199	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	37.3		93		1.1	
HCM LOS	E		F			

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	112	501	102	1498	-	-
HCM Lane V/C Ratio	0.515	0.143	0.669	0.082	-	-
HCM Control Delay (s)	67.1	13.4	93	7.6	0.3	-
HCM Lane LOS	F	B	F	A	A	-
HCM 95th %tile Q(veh)	2.4	0.5	3.4	0.3	-	-

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑↑		
Traffic Vol, veh/h	129	0	0	501	0	0
Future Vol, veh/h	129	0	0	501	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	0	0	604	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	241	-	0	0
Stage 1	0	-	-	-
Stage 2	241	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	727	0	-	-
Stage 1	-	0	-	-
Stage 2	713	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	727	-	-	-
Mov Cap-2 Maneuver	727	-	-	-
Stage 1	-	-	-	-
Stage 2	713	-	-	-

Approach	EB		NB	
HCM Control Delay, s	11.3		0	
HCM LOS	B			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	727
HCM Lane V/C Ratio	-	-	0.214
HCM Control Delay (s)	0	-	11.3
HCM Lane LOS	A	-	B
HCM 95th %tile Q(veh)	-	-	0.8

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	19											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↲	↱	↲
Traffic Vol, veh/h	0	20	11	85	94	0	0	0	0	26	1053	23
Future Vol, veh/h	0	20	11	85	94	0	0	0	0	26	1053	23
Conflicting Peds, #/hr	0	0	0	24	0	0	0	0	0	0	0	42
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	13	98	108	0	0	0	0	30	1210	26

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1312	671	700	1312	-	0	0	0
Stage 1	-	1312	-	0	0	-	-	-	-
Stage 2	-	0	-	700	1312	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	157	399	326	157	0	-	-	-
Stage 1	0	227	-	-	-	0	-	-	-
Stage 2	0	-	-	396	227	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	151	383	278	151	-	-	-	-
Mov Cap-2 Maneuver	-	151	-	278	151	-	-	-	-
Stage 1	-	218	-	-	-	-	-	-	-
Stage 2	-	-	-	343	218	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	28		134.3			
HCM LOS	D		F			

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	192 193	-	-	-
HCM Lane V/C Ratio	0.186 1.066	-	-	-
HCM Control Delay (s)	28 134.3	-	-	-
HCM Lane LOS	D F	-	-	-
HCM 95th %tile Q(veh)	0.7 9.6	-	-	-

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱			↱			↱	
Traffic Vol, veh/h	6	69	14	18	35	8	15	66	41	9	360	41
Future Vol, veh/h	6	69	14	18	35	8	15	66	41	9	360	41
Conflicting Peds, #/hr	0	0	0	0	0	15	85	0	0	0	0	85
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	88	18	23	45	10	19	85	53	12	462	53

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	788	772	573	713	771	126	599	0	0	137	0	0
Stage 1	596	596	-	149	149	-	-	-	-	-	-	-
Stage 2	192	176	-	564	622	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	309	330	519	347	331	924	978	-	-	1447	-	-
Stage 1	490	492	-	854	774	-	-	-	-	-	-	-
Stage 2	810	753	-	510	479	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	238	293	477	250	294	911	978	-	-	1426	-	-
Mov Cap-2 Maneuver	238	293	-	250	294	-	-	-	-	-	-	-
Stage 1	441	447	-	836	758	-	-	-	-	-	-	-
Stage 2	727	737	-	389	435	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	23.5		20.8		1.1		0.2	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	978	-	-	307 305 1426	-	-	-
HCM Lane V/C Ratio	0.02	-	-	0.372 0.256 0.008	-	-	-
HCM Control Delay (s)	8.8	0	-	23.5 20.8 7.5	0	-	-
HCM Lane LOS	A	A	-	C C A A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7 1 0	-	-	-

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	9.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	122	0	0	123	0	0	0	0	0	0	0
Future Vol, veh/h	0	122	0	0	123	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	57	0	25	21	0	0	0	0	21
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	151	0	0	152	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	1	-	-	1	-	-	0	-	-	-	0
Stage 1	-	1	-	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-	-	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-	0	0	-	0
Stage 1	0	895	0	0	-	0	0	-	0	0	-	0
Stage 2	0	-	0	0	895	0	0	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Stage 1	-	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.8			9.8			0			0		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.168	0.17	-
HCM Control Delay (s)	-	9.8	9.8	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.6	0.6	-

31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	79	0	15	44	36	0
Future Vol, veh/h	79	0	15	44	36	0
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	0	26	76	62	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	137	0	265	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1447	-	724	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1447	-	710	910
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	881	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.9		10.6	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1447	-
HCM Lane V/C Ratio	0.087	-	-	0.018	-
HCM Control Delay (s)	10.6	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑			↑↑↑	↑
Traffic Vol, veh/h	0	60	0	0	1015	30
Future Vol, veh/h	0	60	0	0	1015	30
Conflicting Peds, #/hr	0	0	0	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	67	0	0	1140	34
Major/Minor	Minor2			Major2		
Conflicting Flow All	-	585		-	0	
Stage 1	-	-		-	-	
Stage 2	-	-		-	-	
Critical Hdwy	-	7.14		-	-	
Critical Hdwy Stg 1	-	-		-	-	
Critical Hdwy Stg 2	-	-		-	-	
Follow-up Hdwy	-	3.92		-	-	
Pot Cap-1 Maneuver	0	389		-	-	
Stage 1	0	-		-	-	
Stage 2	0	-		-	-	
Platoon blocked, %	-	-		-	-	
Mov Cap-1 Maneuver	-	383		-	-	
Mov Cap-2 Maneuver	-	-		-	-	
Stage 1	-	-		-	-	
Stage 2	-	-		-	-	
Approach	EB			SB		
HCM Control Delay, s	16.4			0		
HCM LOS	C					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	383	-	-			
HCM Lane V/C Ratio	0.176	-	-			
HCM Control Delay (s)	16.4	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	0.6	-	-			

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	749	313	0	527	318	0	0	0	285	681	129
Future Volume (vph)	66	749	313	0	527	318	0	0	0	285	681	129
Confl. Peds. (#/hr)	27		19	19		27				28		19
Confl. Bikes (#/hr)			1			1						12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	70	797	333	0	561	338	0	0	0	303	724	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	1130	0	0	561	338	0	0	0	303	724	137
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6				4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	18.0	75.0			57.0	45.0				45.0	45.0	45.0
Total Split (%)	15.0%	62.5%			47.5%	37.5%				37.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Efect Green (s)	11.6	70.0			55.6	95.6				40.0	40.0	40.0
Actuated g/C Ratio	0.10	0.58			0.46	0.80				0.33	0.33	0.33
v/c Ratio	0.41	0.57			0.34	0.27				0.51	0.61	0.24
Control Delay	57.7	16.3			22.5	1.3				35.9	36.3	11.6
Queue Delay	0.0	0.0			0.0	0.1				0.0	0.0	0.0
Total Delay	57.7	16.3			22.5	1.3				35.9	36.3	11.6
LOS	E	B			C	A				D	D	B
Approach Delay		18.7			14.5						33.3	
Approach LOS		B			B						C	
Queue Length 50th (ft)	51	260			146	0				188	246	23
Queue Length 95th (ft)	99	323			206	31				278	311	70
Internal Link Dist (ft)		228			45			159			210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	191	1970			1639	1274				590	1179	567
Starvation Cap Reductn	0	0			0	140				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.37	0.57			0.34	0.30				0.51	0.61	0.24

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

Control Type: Actuated-Coordinated

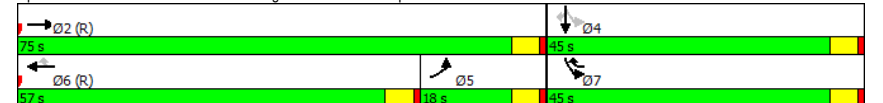
Maximum v/c Ratio: 0.61

Intersection Signal Delay: 22.7	Intersection LOS: C

Intersection Capacity Utilization 62.8%	ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (vph)	1033	0	0	706	343	219
Future Volume (vph)	1033	0	0	706	343	219
Confl. Peds. (#/hr)						10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1201	0	0	821	399	255
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1201	0	0	821	399	255
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	29.0
Total Split (s)	87.0			87.0	33.0	33.0
Total Split (%)	72.5%			72.5%	27.5%	27.5%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	82.0			82.0	28.0	28.0
Actuated g/C Ratio	0.68			0.68	0.23	0.23
v/c Ratio	0.50			0.34	0.50	0.58
Control Delay	8.7			5.7	59.4	47.5
Queue Delay	0.2			0.0	0.0	0.0
Total Delay	9.0			5.7	59.4	47.5
LOS	A			A	E	D
Approach Delay	9.0			5.7	54.7	
Approach LOS	A			A	D	
Queue Length 50th (ft)	155			61	166	141
Queue Length 95th (ft)	167			66	201	161
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2418			2418	801	440
Starvation Cap Reductn	486			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.62			0.34	0.50	0.58
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 19.1	Intersection LOS: B
Intersection Capacity Utilization 56.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd

→ Ø2 (R)	↖ Ø3
87 s	33 s
← Ø6 (R)	↗ Ø8
87 s	33 s

MS

Synchro 9 Report
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5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↕	↕↕		
Traffic Volume (vph)	1089	0	8	956	0	0
Future Volume (vph)	1089	0	8	956	0	0
Confl. Peds. (#/hr)		6	6		1	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1224	0	9	1074	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1224	0	9	1074	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		1.0	5.0		
Minimum Split (s)	34.0		5.5	29.0		
Total Split (s)	107.0		13.0	120.0		
Total Split (%)	89.2%		10.8%	100.0%		
Yellow Time (s)	4.0		3.5	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		4.5	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effect Green (s)	116.4		119.1	120.0		
Actuated g/C Ratio	0.97		0.99	1.00		
v/c Ratio	0.36		0.02	0.30		
Control Delay	0.5		0.0	0.2		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.5		0.0	0.2		
LOS	A		A	A		
Approach Delay	0.5			0.2		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	0		
Queue Length 95th (ft)	47		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3433		501	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.36		0.02	0.30		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 40

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 0.4

Intersection LOS: A

Intersection Capacity Utilization 34.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	↖	→	↗	↖	←	↖	↖	↖	↖	↖	↖	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖	↖	↖	↖	↖
Traffic Volume (vph)	137	734	226	288	948	135	19	0	35	42	1	10
Future Volume (vph)	137	734	226	288	948	135	19	0	35	42	1	10
Confl. Peds. (#/hr)	18		8	8		18	23		7	7		23
Confl. Bikes (#/hr)			3			3						1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	163	874	269	343	1129	161	23	0	42	50	1	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	1143	0	343	1129	161	0	23	42	0	51	12
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	1.0	10.0		1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	5.5	22.0		5.5	28.0	28.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (s)	20.0	70.0		20.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	16.7%	58.3%		16.7%	58.3%	58.3%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	4.0		3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	5.0		4.5	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	75.2	65.7		85.5	71.5	71.5		25.0	25.0		25.0	25.0
Actuated g/C Ratio	0.63	0.55		0.71	0.60	0.60		0.21	0.21		0.21	0.21
v/c Ratio	0.48	0.61		0.89	0.54	0.18		0.08	0.11		0.18	0.03
Control Delay	11.5	12.7		47.6	11.8	3.9		39.4	6.2		41.1	0.2
Queue Delay	0.0	0.4		0.0	0.3	0.0		0.0	0.0		0.0	0.0
Total Delay	11.5	13.1		47.6	12.1	3.9		39.4	6.2		41.1	0.2
LOS	B	B		D	B	A		D	A		D	A
Approach Delay		12.9			18.8			17.9			33.3	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	25	184		133	201	12		15	0		33	0
Queue Length 95th (ft)	56	157		#227	207	20		35	16		65	0
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	434	1871		396	2109	915		271	367		284	360
Starvation Cap Reductn	0	281		0	409	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.38	0.72		0.87	0.66	0.18		0.08	0.11		0.18	0.03

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

MS

Synchro 9 Report
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6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 16.5

Intersection LOS: B

Intersection Capacity Utilization 74.9%

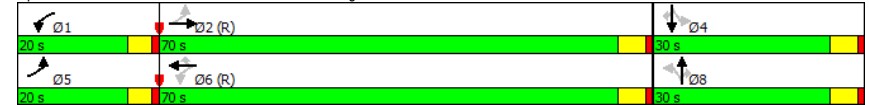
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↓	↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	709	166	491	1361	0	0	0	0	35	50	54
Future Volume (vph)	0	709	166	491	1361	0	0	0	0	35	50	54
Confl. Peds. (#/hr)			52	52						7		47
Confl. Bikes (#/hr)			2									28
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	762	178	528	1463	0	0	0	0	38	54	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	940	0	528	1463	0	0	0	0	38	54	58
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1.9	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1.9	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0
Total Split (s)		62.0			92.0					28.0	28.0	28.0
Total Split (%)		51.7%			76.7%					23.3%	23.3%	23.3%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		57.0			87.5	87.0				23.0	23.0	23.0
Actuated g/C Ratio		0.48			0.73	0.72				0.19	0.19	0.19
v/c Ratio		0.58			1.04	0.57				0.11	0.08	0.16
Control Delay		15.3			60.5	5.9				41.3	40.3	1.8
Queue Delay		0.4			24.4	0.5				0.0	0.0	0.0
Total Delay		15.7			84.9	6.4				41.3	40.3	1.8
LOS		B			F	A				D	D	A
Approach Delay		15.7				27.2					25.7	
Approach LOS		B				C					C	
Queue Length 50th (ft)		112			~275	123				25	18	0
Queue Length 95th (ft)		127			m#370	m126				56	36	6
Internal Link Dist (ft)		273				321			343		244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1624		510		2565				335	678	354
Starvation Cap Reductn		252		74		577				0	0	0
Spillback Cap Reductn		0		0		13				0	0	0
Storage Cap Reductn		0		0		0				0	0	0
Reduced v/c Ratio		0.69		1.21		0.74				0.11	0.08	0.16

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90

MS

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	5.5	9.5
Total Split (s)	15.0	15.0
Total Split (%)	13%	13%
Yellow Time (s)	3.5	3.5
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

MS

Synchro 9 Report
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7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 23.6

Intersection LOS: C

Intersection Capacity Utilization 88.5%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

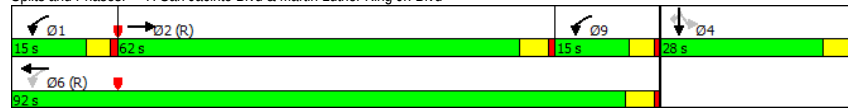
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			↱	↰	↰	↱	↱			
Traffic Volume (vph)	149	523	0	0	1776	57	66	82	107	0	0	0
Future Volume (vph)	149	523	0	0	1776	57	66	82	107	0	0	0
Confl. Peds. (#/hr)			34			57	33		27			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	167	588	0	0	1996	64	74	92	120	0	0	0
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	167	588	0	0	2060	0	67	99	120	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	15.0	94.0			79.0		26.0	26.0	26.0			
Total Split (%)	12.5%	78.3%			65.8%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	89.5	89.0			75.1		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.63		0.18	0.18	0.18			
v/c Ratio	0.80	0.22			0.94		0.24	0.32	0.34			
Control Delay	73.6	1.0			11.4		40.9	42.0	9.0			
Queue Delay	0.0	0.1			3.2		0.2	0.0	0.0			
Total Delay	73.6	1.1			14.6		41.1	42.0	9.0			
LOS	E	A			B		D	D	A			
Approach Delay		17.1			14.6			28.0				
Approach LOS		B			B			C				
Queue Length 50th (ft)	95	13			158		45	68	4			
Queue Length 95th (ft)	#188	15			m91		m68	m98	m29			
Internal Link Dist (ft)		321			675			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	217	2624			2201		277	307	358			
Starvation Cap Reductn	0	936			3		0	0	0			
Spillback Cap Reductn	0	0			89		37	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.77	0.35			0.98		0.28	0.32	0.34			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 100

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 16.5

Intersection LOS: B

Intersection Capacity Utilization 88.5%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑	↑
Traffic Volume (vph)	0	14	46	51	9	0	0	0	0	127	1036	18
Future Volume (vph)	0	14	46	51	9	0	0	0	0	127	1036	18
Confl. Peds. (#/hr)			18								44	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)		0										
Adj. Flow (vph)	0	15	50	55	10	0	0	0	0	138	1126	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	50	0	65	0	0	0	0	0	1284	0
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases	4 12				4 12						2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12	4 12	4 12	4 12						2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	21.4	21.4		21.4							83.3	
Actuated g/C Ratio	0.18	0.18		0.18							0.69	
v/c Ratio	0.05	0.15		0.26							0.54	
Control Delay	20.6	3.7		27.3							7.2	
Queue Delay	0.0	0.0		0.0							0.0	
Total Delay	20.6	3.7		27.3							7.2	
LOS	C	A		C							A	
Approach Delay	7.6			27.3							7.2	
Approach LOS	A			C							A	
Queue Length 50th (ft)	5	0		37							156	
Queue Length 95th (ft)	16	12		51							191	
Internal Link Dist (ft)	177			244				271			262	
Turn Bay Length (ft)												
Base Capacity (vph)	754	714		626							2398	
Starvation Cap Reductn	0	0		0							0	
Spillback Cap Reductn	0	0		0							0	
Storage Cap Reductn	0	0		0							0	
Reduced v/c Ratio	0.02	0.07		0.10							0.54	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												
Natural Cycle: 95												

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	23.0	23.0	22.5	22.5
Total Split (s)	26.0	43.0	28.0	23.0
Total Split (%)	22%	36%	23%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 8.1

Intersection LOS: A

Intersection Capacity Utilization 73.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Traffic Volume (vph)	4	121	0	0	27	26	86	768	130	0	0	0
Future Volume (vph)	4	121	0	0	27	26	86	768	130	0	0	0
Confl. Peds. (#/hr)	30								32			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Parking (#/hr)		0										
Adj. Flow (vph)	5	146	0	0	33	31	104	925	157	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	64	0	0	1029	157	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	25.6			25.6			70.4	70.4				
Actuated g/C Ratio	0.21			0.21			0.59	0.59				
v/c Ratio	0.43			0.16			0.35	0.18				
Control Delay	29.1			12.7			11.5	6.6				
Queue Delay	0.0			0.0			0.0	0.0				
Total Delay	29.1			12.7			11.6	6.6				
LOS	C			B			B	A				
Approach Delay	29.1			12.7			10.9					
Approach LOS	C			B			B					
Queue Length 50th (ft)	64			14			161	47				
Queue Length 95th (ft)	84			29			114	47				
Internal Link Dist (ft)	244			319			272			254		
Turn Bay Length (ft)								100				
Base Capacity (vph)	595			644			3162	918				
Starvation Cap Reductn	0			0			471	0				
Spillback Cap Reductn	0			0			0	0				
Storage Cap Reductn	0			0			0	0				
Reduced v/c Ratio	0.25			0.10			0.38	0.17				
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green												
Natural Cycle: 100												

MS

Synchro 9 Report
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19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	38.0	29.0	27.0	26.0
Total Split (%)	32%	24%	23%	22%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

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Synchro 9 Report
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19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 12.9

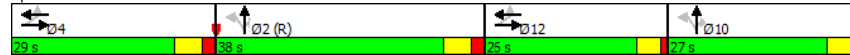
Intersection LOS: B

Intersection Capacity Utilization 39.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔			
Traffic Volume (vph)	4	18	0	0	17	14	86	955	48	0	0	0
Future Volume (vph)	4	18	0	0	17	14	86	955	48	0	0	0
Confl. Peds. (#/hr)						10	57					
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Parking (#/hr)					0							
Adj. Flow (vph)	5	21	0	0	20	17	102	1137	57	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	37	0	0	1239	57	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases	4 12				4 12			2 10				
Permitted Phases	4 12							2 10				
Detector Phase	4 12	4 12			4 12			2 10	2 10	2 10		
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		19.6			19.6			85.0	85.0			
Actuated g/C Ratio		0.16			0.16			0.71	0.71			
v/c Ratio		0.09			0.14			0.35	0.05			
Control Delay		24.3			14.9			2.6	0.2			
Queue Delay		0.0			0.0			0.1	0.0			
Total Delay		24.3			14.9			2.8	0.2			
LOS		C			B			A	A			
Approach Delay		24.3			14.9			2.7				
Approach LOS		C			B			A				
Queue Length 50th (ft)		11			8			39	0			
Queue Length 95th (ft)		m21			m25			41	m0			
Internal Link Dist (ft)		233			60			281			272	
Turn Bay Length (ft)									100			
Base Capacity (vph)		635			566			3539	1140			
Starvation Cap Reductn		0			0			1029	0			
Spillback Cap Reductn		0			0			0	0			
Storage Cap Reductn		0			0			0	0			
Reduced v/c Ratio		0.04			0.07			0.49	0.05			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	42.0	32.0	21.0	25.0
Total Split (%)	35%	27%	18%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 3.4

Intersection LOS: A

Intersection Capacity Utilization 45.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↓↑↑	↑
Traffic Volume (vph)	0	1641	317	195	947	0	0	0	0	101	669	73
Future Volume (vph)	0	1641	317	195	947	0	0	0	0	101	669	73
Confl. Peds. (#/hr)			31	31						29		
Confl. Bikes (#/hr)						1						20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1674	323	199	966	0	0	0	0	103	683	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1997	0	199	966	0	0	0	0	0	786	74
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		56.0			84.0					36.0	36.0	36.0
Total Split (%)		46.7%			70.0%					30.0%	30.0%	30.0%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		51.2		79.0	79.0						31.0	31.0
Actuated g/C Ratio		0.43		0.66	0.66						0.26	0.26
v/c Ratio		0.94		0.61	0.29						0.61	0.16
Control Delay		42.7		38.3	3.6						36.5	4.8
Queue Delay		0.2		11.1	0.1						0.4	0.0
Total Delay		42.9		49.4	3.7						36.9	4.8
LOS		D		D	A						D	A
Approach Delay		42.9			11.5						34.1	
Approach LOS		D			B						C	
Queue Length 50th (ft)		527		100	34						200	2
Queue Length 95th (ft)		#645		173	39						238	21
Internal Link Dist (ft)		262			240			197			285	
Turn Bay Length (ft)				50								100
Base Capacity (vph)		2118		327	3347						1297	459
Starvation Cap Reductn		0		100	931						0	0
Spillback Cap Reductn		6		0	0						144	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.95		0.88	0.40						0.68	0.16

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90

MS

Synchro 9 Report
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34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	5.0
Minimum Split (s)	13.0	10.0
Total Split (s)	14.0	14.0
Total Split (%)	12%	12%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

MS

Synchro 9 Report
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34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 31.9

Intersection LOS: C

Intersection Capacity Utilization 85.0%

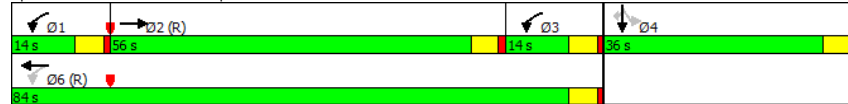
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩↩			↩↩↩			↩↩↩	↩			
Traffic Volume (vph)	273	1396	0	0	1024	127	128	657	155	0	0	0
Future Volume (vph)	273	1396	0	0	1024	127	128	657	155	0	0	0
Confl. Peds. (#/hr)	36					36	17		46			
Confl. Bikes (#/hr)									10			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	290	1485	0	0	1089	135	136	699	165	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	290	1485	0	0	1224	0	0	835	165	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0			
Total Split (s)	19.0	79.0			60.0		41.0	41.0	41.0			
Total Split (%)	15.8%	65.8%			50.0%		34.2%	34.2%	34.2%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	74.0	74.0			55.3			35.0	35.0			
Actuated g/C Ratio	0.62	0.62			0.46			0.29	0.29			
v/c Ratio	0.87	0.47			0.53			0.57	0.35			
Control Delay	56.5	2.6			10.8			37.9	22.5			
Queue Delay	3.4	0.3			0.1			0.0	0.0			
Total Delay	59.9	2.9			10.9			37.9	22.5			
LOS	E	A			B			D	C			
Approach Delay		12.2			10.9			35.4				
Approach LOS		B			B			D				
Queue Length 50th (ft)	153	35			69			201	60			
Queue Length 95th (ft)	m173	m47			78			246	122			
Internal Link Dist (ft)		240			335			116			281	
Turn Bay Length (ft)	50											
Base Capacity (vph)	336	3135			2301			1465	470			
Starvation Cap Reductn	15	916			161			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.90	0.67			0.57			0.57	0.35			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

35: Lavaca St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site

Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 85.0%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



36: Colorado St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site

Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	184	1352	51	70	1086	136	1	21	21	5	19	20
Future Volume (vph)	184	1352	51	70	1086	136	1	21	21	5	19	20
Confl. Peds. (#/hr)	6		80	80		6	4		33	33		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	196	1438	54	74	1155	145	1	22	22	5	20	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	1492	0	74	1300	0	0	45	0	0	25	21
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	22.0		10.0	30.0		32.0	32.0		32.0	32.0	30.0
Total Split (s)	15.0	72.0		15.0	72.0		33.0	33.0		33.0	33.0	72.0
Total Split (%)	12.5%	60.0%		12.5%	60.0%		27.5%	27.5%		27.5%	27.5%	60.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effct Green (s)	79.8	72.0		74.8	67.6		28.0	28.0		28.0	28.0	67.6
Actuated g/C Ratio	0.66	0.60		0.62	0.56		0.23	0.23		0.23	0.23	0.56
v/c Ratio	0.64	0.50		0.30	0.46		0.11	0.11		0.06	0.06	0.02
Control Delay	29.2	4.3		9.7	8.5		22.8	22.8		36.4	36.4	0.1
Queue Delay	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	0.0
Total Delay	29.2	4.4		9.7	8.5		22.8	22.8		36.4	36.4	0.1
LOS	C	A		A	A		C	C		D	D	A
Approach Delay		7.3			8.6		22.8	22.8		19.8	19.8	
Approach LOS		A			A		C	C		B	B	
Queue Length 50th (ft)	44	71		9	149		14	14		15	15	0
Queue Length 95th (ft)	113	92		22	206		46	46		39	39	0
Internal Link Dist (ft)		335			362		155	155		114	114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	312	3006		285	2819		410	410		416	416	904
Starvation Cap Reductn	0	371		0	365		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.63	0.57		0.26	0.53		0.11	0.11		0.06	0.06	0.02

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 8.2

Intersection LOS: A

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 36: Colorado St & W. 15th St



37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↓	↓	↑↑↑	↓	↑
Traffic Volume (vph)	1352	27	18	1379	0	1
Future Volume (vph)	1352	27	18	1379	0	1
Confl. Peds. (#/hr)		29	29		12	20
Confl. Bikes (#/hr)						12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1380	28	18	1407	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1408	0	18	1407	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	72.0		15.0	87.0		33.0
Total Split (%)	60.0%		12.5%	72.5%		27.5%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effct Green (s)	77.5		82.0	82.0		28.0
Actuated g/C Ratio	0.65		0.68	0.68		0.23
v/c Ratio	0.43		0.07	0.41		0.00
Control Delay	3.3		5.2	7.0		0.0
Queue Delay	0.0		0.0	0.1		0.0
Total Delay	3.3		5.2	7.1		0.0
LOS	A		A	A		A
Approach Delay	3.3			7.1		
Approach LOS	A			A		
Queue Length 50th (ft)	29		3	164		0
Queue Length 95th (ft)	44		m5	63		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)			100			
Base Capacity (vph)	3270		301	3474		489
Starvation Cap Reductn	166		0	709		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.45		0.06	0.51		0.00

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43

Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 58.4% ICU Level of Service B
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰	↰↰↰		↰↰↰	↰
Traffic Volume (vph)	77	1088	47	26	1400	81	4	2	7	2	0	4
Future Volume (vph)	77	1088	47	26	1400	81	4	2	7	2	0	4
Confl. Peds. (#/hr)	1		9	9		1	9		4	4		9
Confl. Bikes (#/hr)						1						17
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	79	1122	48	27	1443	84	4	2	7	2	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	1170	0	27	1527	0	0	6	7	0	6	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	15.0	78.0		10.0	73.0		32.0	32.0	32.0	32.0	32.0	
Total Split (%)	12.5%	65.0%		8.3%	60.8%		26.7%	26.7%	26.7%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	103.0	105.0		99.6	100.6			10.0	10.0		10.0	
Actuated g/C Ratio	0.86	0.88		0.83	0.84			0.08	0.08		0.08	
v/c Ratio	0.26	0.27		0.07	0.36			0.05	0.03		0.03	
Control Delay	7.1	4.1		1.9	1.7			51.7	0.3		0.2	
Queue Delay	0.0	0.0		0.0	0.1			0.0	0.0		0.0	
Total Delay	7.1	4.2		1.9	1.7			51.7	0.3		0.2	
LOS	A	A		A	A			D	A		A	
Approach Delay		4.4			1.7			24.0			0.2	
Approach LOS		A			A			C			A	
Queue Length 50th (ft)	11	105		1	16			4	0		0	
Queue Length 95th (ft)	38	115		2	124			18	0		0	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40					50			
Base Capacity (vph)	348	4414		409	4225			346	434		413	
Starvation Cap Reductn	0	1121		0	845			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.23	0.36		0.07	0.45			0.02	0.02		0.01	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.36
Intersection Signal Delay: 3.0
Intersection Capacity Utilization 57.6%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service B

Splits and Phases: 38: Brazos St & W. 15th St



39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	830	343	157	1486	0	0	0	0	92	175	43
Future Volume (vph)	0	830	343	157	1486	0	0	0	0	92	175	43
Confl. Peds. (#/hr)			22	22						9		7
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	838	346	159	1501	0	0	0	0	93	177	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1184	0	159	1501	0	0	0	0	0	270	43
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		68.0		20.0	88.0					32.0	32.0	32.0
Total Split (%)		56.7%		16.7%	73.3%					26.7%	26.7%	26.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		85.2		98.0	98.0						12.0	12.0
Actuated g/C Ratio		0.71		0.82	0.82						0.10	0.10
v/c Ratio		0.34		0.41	0.36						0.54	0.20
Control Delay		2.4		6.7	3.8						55.1	7.4
Queue Delay		0.1		0.0	0.3						0.0	0.0
Total Delay		2.5		6.7	4.0						55.1	7.4
LOS		A		A	A						E	A
Approach Delay		2.5			4.3						48.6	
Approach LOS		A			A						D	
Queue Length 50th (ft)		0		24	94						73	0
Queue Length 95th (ft)		0		m30	101						101	20
Internal Link Dist (ft)		297			282			125			272	
Turn Bay Length (ft)				70								50
Base Capacity (vph)		3444		476	4150						1120	398
Starvation Cap Reductn		1007		0	1666						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.49		0.33	0.60						0.24	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 8.0

Intersection LOS: A

Intersection Capacity Utilization 88.0%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	↑↑↑	→	←	↑↑↑	→	←	↑↑↑	→	←	↑↑↑	→
Traffic Volume (vph)	218	752	0	0	1593	639	58	164	11	0	0	0
Future Volume (vph)	218	752	0	0	1593	639	58	164	11	0	0	0
Confl. Peds. (#/hr)	1					1	3		6			
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	225	775	0	0	1642	659	60	169	11	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	225	775	0	0	2301	0	0	229	11	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	28.0			5.5		28.0	28.0	28.0			
Total Split (s)	20.0	92.0			72.0		28.0	28.0	28.0			
Total Split (%)	16.7%	76.7%			60.0%		23.3%	23.3%	23.3%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	87.5	87.0			69.1			23.0	23.0			
Actuated g/C Ratio	0.73	0.72			0.58			0.19	0.19			
v/c Ratio	0.84	0.21			0.81			0.34	0.03			
Control Delay	62.8	3.7			8.4			43.7	0.2			
Queue Delay	0.0	0.1			0.1			0.0	0.0			
Total Delay	62.8	3.8			8.5			43.7	0.2			
LOS	E	A			A			D	A			
Approach Delay		17.1			8.5			41.7				
Approach LOS		B			A			D				
Queue Length 50th (ft)	120	35			119			81	0			
Queue Length 95th (ft)	#223	42			m158			121	0			
Internal Link Dist (ft)		282			657			149			621	
Turn Bay Length (ft)	100											
Base Capacity (vph)	289	3686			2850			668	344			
Starvation Cap Reductn	0	1674			54			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.78	0.39			0.82			0.34	0.03			

Intersection Summary

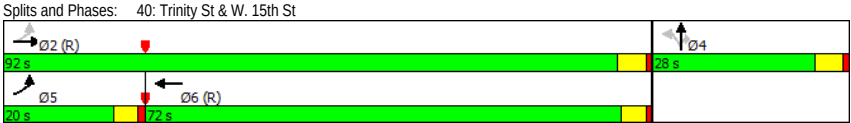
Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 13.2	Intersection LOS: B
Intersection Capacity Utilization 88.0%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	



11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	10											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	4	201	34	0	21	31	5	0	15	20	44
Future Vol, veh/h	0	4	201	34	0	21	31	5	0	15	20	44
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	228	39	0	24	35	6	0	17	23	50
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	10.5	8.8	8.5
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	2%	37%	2%
Vol Thru, %	25%	84%	54%	91%
Vol Right, %	56%	14%	9%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	239	57	227
LT Vol	15	4	21	4
Through Vol	20	201	31	207
RT Vol	44	34	5	16
Lane Flow Rate	90	272	65	258
Geometry Grp	1	1	1	1
Degree of Util (X)	0.119	0.36	0.093	0.346
Departure Headway (Hd)	4.791	4.774	5.147	4.826
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	741	750	690	740
Service Time	2.867	2.834	3.226	2.886
HCM Lane V/C Ratio	0.121	0.363	0.094	0.349
HCM Control Delay	8.5	10.5	8.8	10.4
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.4	1.6	0.3	1.5

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	4	207	16
Future Vol, veh/h	0	4	207	16
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	5	235	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.4
HCM LOS	B

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	251	0	0	0	54	0	0	0	0	0
Future Vol, veh/h	0	0	251	0	0	0	54	0	0	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	289	0	0	0	62	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.9	7.5	0
HCM LOS	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	251	54	8
LT Vol	0	0	0	0
Through Vol	0	251	54	0
RT Vol	0	0	0	8
Lane Flow Rate	0	289	62	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.32	0.072	0.01
Departure Headway (Hd)	4.697	3.996	4.164	4.08
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	900	853	882
Service Time	2.697	2.014	2.222	2.08
HCM Lane V/C Ratio	0	0.321	0.073	0.01
HCM Control Delay	7.7	8.9	7.5	7.1
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	1.4	0.2	0

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	8
Future Vol, veh/h	0	0	0	8
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	9
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.1
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	12.6											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	117	79	7	0	17	115	106	0	20	0	0
Future Vol, veh/h	0	117	79	7	0	17	115	106	0	20	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	148	100	9	0	22	146	134	0	25	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.1	12	9.6
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	58%	7%	5%
Vol Thru, %	0%	39%	48%	85%
Vol Right, %	0%	3%	45%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	203	238	262
LT Vol	20	117	17	14
Through Vol	0	79	115	224
RT Vol	0	7	106	24
Lane Flow Rate	25	257	301	332
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.393	0.428	0.498
Departure Headway (Hd)	6.245	5.503	5.114	5.403
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	571	653	702	667
Service Time	4.305	3.544	3.154	3.442
HCM Lane V/C Ratio	0.044	0.394	0.429	0.498
HCM Control Delay	9.6	12.1	12	13.7
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.1	1.9	2.2	2.8

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	14	224	24
Future Vol, veh/h	0	14	224	24
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	18	284	30
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.7
HCM LOS	B

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	14.1											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↶				↷					
Traffic Vol, veh/h	0	0	13	95	0	71	172	0	0	0	0	0
Future Vol, veh/h	0	0	13	95	0	71	172	0	0	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	14	101	0	76	183	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		10.4	15.3
HCM LOS		B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	29%	0%	0%	0%
Vol Thru, %	12%	71%	100%	100%	0%
Vol Right, %	88%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	108	243	318	318	68
LT Vol	0	71	0	0	0
Through Vol	13	172	318	318	0
RT Vol	95	0	0	0	68
Lane Flow Rate	115	259	338	338	72
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.196	0.476	0.541	0.541	0.066
Departure Headway (Hd)	6.14	6.631	5.761	5.761	3.302
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	584	543	628	628	1082
Service Time	3.881	4.366	3.489	3.489	1.03
HCM Lane V/C Ratio	0.197	0.477	0.538	0.538	0.067
HCM Control Delay	10.4	15.3	15.1	15.1	6.3
HCM Lane LOS	B	C	C	C	A
HCM 95th-tile Q	0.7	2.5	3.2	3.2	0.2

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↶↷	↷
Traffic Vol, veh/h	0	0	635	68
Future Vol, veh/h	0	0	635	68
Peak Hour Factor	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	676	72
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		14.2
HCM LOS		B

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	10.1											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	30	185	34	0	0	25	0	0	15	41	0
Future Vol, veh/h	0	30	185	34	0	0	25	0	0	15	41	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	210	39	0	0	28	0	0	17	47	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	10.5	8.4	8.6
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	12%	0%	0%
Vol Thru, %	73%	74%	100%	88%
Vol Right, %	0%	14%	0%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	249	25	233
LT Vol	15	30	0	0
Through Vol	41	185	25	206
RT Vol	0	34	0	27
Lane Flow Rate	64	283	28	265
Geometry Grp	1	1	1	1
Degree of Util (X)	0.09	0.37	0.04	0.346
Departure Headway (Hd)	5.073	4.703	5.088	4.701
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	702	761	699	763
Service Time	3.137	2.751	3.157	2.75
HCM Lane V/C Ratio	0.091	0.372	0.04	0.347
HCM Control Delay	8.6	10.5	8.4	10.2
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.3	1.7	0.1	1.5

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	206	27
Future Vol, veh/h	0	0	206	27
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	234	31
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.2
HCM LOS	B

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	28	0	206	16	0	37	0
Future Vol, veh/h	0	0	28	0	206	16	0	37	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	32	0	234	18	0	42	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.4	8.6	8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	93%	0%
Vol Right, %	0%	7%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	222	37
LT Vol	0	0	37
Through Vol	28	206	0
RT Vol	0	16	0
Lane Flow Rate	32	252	42
Geometry Grp	1	1	1
Degree of Util (X)	0.037	0.279	0.055
Departure Headway (Hd)	4.197	3.987	4.745
Convergence, Y/N	Yes	Yes	Yes
Cap	841	898	759
Service Time	2.281	2.031	2.745
HCM Lane V/C Ratio	0.038	0.281	0.055
HCM Control Delay	7.4	8.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	1.1	0.2

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	1081	92	144	761	0	21
Future Vol, veh/h	1081	92	144	761	0	21
Conflicting Peds, #/hr	0	1	1	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1243	106	166	875	0	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1349	0	2064	680
Stage 1	-	-	-	-	1296	-
Stage 2	-	-	-	-	768	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	506	-	47	393
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	418	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	504	-	31	391
Mov Cap-2 Maneuver	-	-	-	-	31	-
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	280	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		2.5		14.8	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	391	-	-	504	-
HCM Lane V/C Ratio	0.062	-	-	0.328	-
HCM Control Delay (s)	14.8	-	-	15.6	-
HCM Lane LOS	B	-	-	C	-
HCM 95th %tile Q(veh)	0.2	-	-	1.4	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	
Traffic Vol, veh/h	0	12	46	60	9	0	0	0	0	74	1074	18
Future Vol, veh/h	0	12	46	60	9	0	0	0	0	74	1074	18
Conflicting Peds, #/hr	0	0	0	12	0	0	0	0	0	0	0	36
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	48	63	9	0	0	0	0	78	1131	19

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1332	623	739	1341	0
Stage 1	-	1332	-	0	0	-
Stage 2	-	0	-	739	1341	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	4.14
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	2.22
Pot Cap-1 Maneuver	0	153	429	306	151	0
Stage 1	0	222	-	-	-	0
Stage 2	0	-	-	375	219	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	148	414	253	146	-
Mov Cap-2 Maneuver	-	148	-	253	146	-
Stage 1	-	214	-	-	-	-
Stage 2	-	-	-	312	211	-

Approach	EB		WB		SB	
HCM Control Delay, s	18.3		27.6			
HCM LOS	C		D			

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	148	414	231	-	-	-
HCM Lane V/C Ratio	0.085	0.117	0.314	-	-	-
HCM Control Delay (s)	31.6	14.8	27.6	-	-	-
HCM Lane LOS	D	B	D	-	-	-
HCM 95th %tile Q(veh)	0.3	0.4	1.3	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	4	69	0	0	34	18	86	530	171	0	0	0
Future Vol, veh/h	4	69	0	0	34	18	86	530	171	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	28	17	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	73	0	0	36	19	91	564	182	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	472	946	-	-	855	401
Stage 1	17	17	-	-	838	-
Stage 2	455	929	-	-	17	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	515	260	0	0	294	512
Stage 1	-	-	0	0	380	-
Stage 2	507	344	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	411	235	-	-	266	512
Mov Cap-2 Maneuver	411	235	-	-	266	-
Stage 1	-	-	-	-	349	-
Stage 2	402	316	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	26.9		18.6		0.9	
HCM LOS	D		C			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1133	-	-	241	319
HCM Lane V/C Ratio	0.081	-	-	0.322	0.173
HCM Control Delay (s)	8.5	-	-	26.9	18.6
HCM Lane LOS	A	-	-	D	C
HCM 95th %tile Q(veh)	0.3	-	-	1.3	0.6

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Synchro 9 Report
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13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	123	127	56	103	14	17
Future Vol, veh/h	123	127	56	103	14	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	138	61	112	15	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	173	0	-	0	522	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	405	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1404	-	-	-	515	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1404	-	-	-	462	935
Mov Cap-2 Maneuver	-	-	-	-	462	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	604	-

Approach	EB		WB		SB	
HCM Control Delay, s	3.9		0		10.9	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1404	-	-	-	639
HCM Lane V/C Ratio	0.095	-	-	-	0.053
HCM Control Delay (s)	7.8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

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Synchro 9 Report
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15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↱			↱	↱	
Traffic Vol, veh/h	35	21	154	69	257	257
Future Vol, veh/h	35	21	154	69	257	257
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	23	167	75	279	279

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	829	419	559	0	- 0
Stage 1	419	-	-	-	-
Stage 2	410	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	340	634	1012	-	-
Stage 1	664	-	-	-	-
Stage 2	670	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	282	634	1012	-	-
Mov Cap-2 Maneuver	282	-	-	-	-
Stage 1	664	-	-	-	-
Stage 2	555	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	6.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1012	-	356	-	-
HCM Lane V/C Ratio	0.165	-	0.171	-	-
HCM Control Delay (s)	9.3	0	17.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	0.6	-	-

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Synchro 9 Report
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17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱		↱	↱	↱			
Traffic Vol, veh/h	27	0	0	0	0	0	341	219	0	0	0	0
Future Vol, veh/h	27	0	0	0	0	0	341	219	0	0	0	0
Conflicting Peds, #/hr	0	0	5	0	0	0	6	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	0	0	0	0	0	388	249	0	0	0	0

Major/Minor	Minor2	Major2		Major1	
Conflicting Flow All	882	1031	-	- 0	7 0 -
Stage 1	7	7	-	- -	- - -
Stage 2	875	1024	-	- -	- - -
Critical Hdwy	6.08	6.53	-	- -	4.13 - -
Critical Hdwy Stg 1	5.43	5.53	-	- -	- - -
Critical Hdwy Stg 2	6.03	5.53	-	- -	- - -
Follow-up Hdwy	3.669	4.019	-	- -	2.219 - -
Pot Cap-1 Maneuver	335	232	0	0 -	1613 - 0
Stage 1	974	890	0	0 -	- - 0
Stage 2	342	312	0	0 -	- - 0
Platoon blocked, %			-	- -	- - -
Mov Cap-1 Maneuver	252	0	-	- -	1613 - -
Mov Cap-2 Maneuver	252	0	-	- -	- - -
Stage 1	968	0	-	- -	- - -
Stage 2	258	0	-	- -	- - -

Approach	EB	WB	NB
HCM Control Delay, s	21.3	0	4.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1613	-	252	-	-
HCM Lane V/C Ratio	0.24	-	0.122	-	-
HCM Control Delay (s)	7.9	-	21.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.9	-	0.4	-	-

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Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	20	58	70	121	0	0	0	0	46	538	103
Future Vol, veh/h	0	20	58	70	121	0	0	0	0	46	538	103
Conflicting Peds, #/hr	0	0	22	0	0	0	0	0	0	4	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	63	76	132	0	0	0	0	50	585	112

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	689	314	429	689	-	4	0	0
Stage 1	-	685	-	4	4	-	-	-	-
Stage 2	-	4	-	425	685	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	367	682	510	367	0	1616	-	-
Stage 1	0	447	-	-	-	0	-	-	-
Stage 2	0	-	-	578	447	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	347	682	422	347	-	1616	-	-
Mov Cap-2 Maneuver	-	347	-	422	347	-	-	-	-
Stage 1	-	424	-	-	-	-	-	-	-
Stage 2	-	-	-	472	424	-	-	-	-

Approach	EB			WB			SB		
HCM Control Delay, s	12.2			26.3			0.6		
HCM LOS	B			D					

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	347	682	371	1616	-	-
HCM Lane V/C Ratio	0.063	0.092	0.56	0.031	-	-
HCM Control Delay (s)	16.1	10.8	26.3	7.3	0.1	-
HCM Lane LOS	C	B	D	A	A	-
HCM 95th %tile Q(veh)	0.2	0.3	3.3	0.1	-	-

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑↑↑		
Traffic Vol, veh/h	35	0	103	527	0	0
Future Vol, veh/h	35	0	103	527	0	0
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	0	118	606	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	482	-	0	0
Stage 1	0	-	-	-
Stage 2	482	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	558	0	-	-
Stage 1	-	0	-	-
Stage 2	536	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	558	-	-	-
Mov Cap-2 Maneuver	558	-	-	-
Stage 1	-	-	-	-
Stage 2	536	-	-	-

Approach	EB		NB	
HCM Control Delay, s	12			
HCM LOS	B			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	558
HCM Lane V/C Ratio	-	-	0.072
HCM Control Delay (s)	-	-	12
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	12	46	40	8	0	0	0	0	23	1086	18
Future Vol, veh/h	0	12	46	40	8	0	0	0	0	23	1086	18
Conflicting Peds, #/hr	0	0	0	20	0	0	0	0	0	0	0	24
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	50	43	9	0	0	0	0	25	1180	20

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1254	634	667	1254	-
Stage 1	-	1254	-	0	0	-
Stage 2	-	0	-	667	1254	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	171	422	344	171	0
Stage 1	0	242	-	-	-	0
Stage 2	0	-	-	414	242	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	167	412	284	167	-
Mov Cap-2 Maneuver	-	167	-	284	167	-
Stage 1	-	236	-	-	-	-
Stage 2	-	-	-	344	236	-

Approach	EB	WB	SB
HCM Control Delay, s	19.2	22.8	
HCM LOS	C	C	

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	316	254	-	-
HCM Lane V/C Ratio	0.2	0.205	-	-
HCM Control Delay (s)	19.2	22.8	-	-
HCM Lane LOS	C	C	-	-
HCM 95th %tile Q(veh)	0.7	0.8	-	-

MS

Synchro 9 Report
Page 9

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	25	33	9	7	5	15	280	8	2	46	16
Future Vol, veh/h	3	25	33	9	7	5	15	280	8	2	46	16
Conflicting Peds, #/hr	0	0	0	0	0	15	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	32	42	11	9	6	19	354	10	3	58	20

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	496	479	71	507	484	374	81	0
Stage 1	76	76	-	397	397	-	-	-
Stage 2	420	403	-	110	87	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	484	486	991	476	483	672	1517	-
Stage 1	933	832	-	629	603	-	-	-
Stage 2	611	600	-	895	823	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	458	475	988	426	472	662	1517	-
Mov Cap-2 Maneuver	458	475	-	426	472	-	-	-
Stage 1	915	827	-	619	593	-	-	-
Stage 2	578	590	-	822	818	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	12.9	0.4	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1517	-	-	659	483	1177	-
HCM Lane V/C Ratio	0.013	-	-	0.117	0.055	0.002	-
HCM Control Delay (s)	7.4	0	-	11.2	12.9	8.1	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0	-

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Synchro 9 Report
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30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	35	0	0	18	0	0	0	0	0	0	0
Future Vol, veh/h	0	35	0	0	18	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	10	0	10	11	0	0	0	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	38	0	0	20	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	1	-	-	1	-	-	0	-	-	-	0
Stage 1	-	1	-	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-	-	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-	0	0	-	0
Stage 1	0	895	0	0	-	0	0	-	0	0	-	0
Stage 2	0	-	0	0	895	0	0	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Stage 1	-	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.2			9.1			0			0		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.043	0.022	-
HCM Control Delay (s)	-	9.2	9.1	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.1	0.1	-

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Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	34	0	3	12	14	0
Future Vol, veh/h	34	0	3	12	14	0
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	0	4	14	17	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	66	0	88	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	22	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1536	-	913	998
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	1001	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1536	-	889	974
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	998	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.5		9.1	
HCM LOS					A	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	889	-	-	1536	-
HCM Lane V/C Ratio	0.019	-	-	0.002	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

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Synchro 9 Report
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32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑			↑↑↑	↑
Traffic Vol, veh/h	0	44	0	0	333	33
Future Vol, veh/h	0	44	0	0	333	33
Conflicting Peds, #/hr	0	0	0	0	0	120
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	53	0	0	401	40
Major/Minor	Minor2			Major2		
Conflicting Flow All	-	321		-	0	
Stage 1	-	-		-	-	
Stage 2	-	-		-	-	
Critical Hdwy	-	7.14		-	-	
Critical Hdwy Stg 1	-	-		-	-	
Critical Hdwy Stg 2	-	-		-	-	
Follow-up Hdwy	-	3.92		-	-	
Pot Cap-1 Maneuver	0	576		-	-	
Stage 1	0	-		-	-	
Stage 2	0	-		-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	510		-	-	
Mov Cap-2 Maneuver	-	-		-	-	
Stage 1	-	-		-	-	
Stage 2	-	-		-	-	
Approach	EB			SB		
HCM Control Delay, s	12.9			0		
HCM LOS	B					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	510	-	-			
HCM Lane V/C Ratio	0.104	-	-			
HCM Control Delay (s)	12.9	-	-			
HCM Lane LOS	B	-	-			
HCM 95th %tile Q(veh)	0.3	-	-			

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	362	129	0	1163	669	0	0	0	187	619	228
Future Volume (vph)	149	362	129	0	1163	669	0	0	0	187	619	228
Confl. Peds. (#/hr)	29		68	68		29				41		68
Confl. Bikes (#/hr)			1			6						3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	159	385	137	0	1237	712	0	0	0	199	659	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	522	0	0	1237	712	0	0	0	199	659	243
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6				4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	25.0	92.0			67.0	43.0				43.0	43.0	43.0
Total Split (%)	18.5%	68.1%			49.6%	31.9%				31.9%	31.9%	31.9%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effct Green (s)	20.0	87.0			62.0	100.0				38.0	38.0	38.0
Actuated g/C Ratio	0.15	0.64			0.46	0.74				0.28	0.28	0.28
v/c Ratio	0.61	0.25			0.76	0.60				0.40	0.66	0.48
Control Delay	64.6	10.0			25.7	2.3				42.2	46.6	18.6
Queue Delay	0.0	0.0			13.8	0.2				0.0	0.0	0.0
Total Delay	64.6	10.0			39.5	2.5				42.2	46.6	18.6
LOS	E	A			D	A				D	D	B
Approach Delay		22.7			26.0						39.6	
Approach LOS		C			C						D	
Queue Length 50th (ft)	132	90			423	20				142	268	63
Queue Length 95th (ft)	209	117			498	43				216	337	147
Internal Link Dist (ft)		228			45			159			210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	262	2122			1625	1177				498	996	503
Starvation Cap Reductn	0	0			392	80				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.61	0.25			1.00	0.65				0.40	0.66	0.48

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

Control Type: Actuated-Coordinated

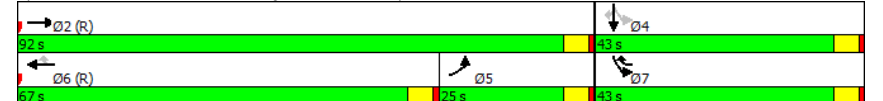
Maximum v/c Ratio: 0.76

Intersection Signal Delay: 29.4	Intersection LOS: C

Intersection Capacity Utilization 75.4% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖
Traffic Volume (vph)	528	0	0	1297	857	238
Future Volume (vph)	528	0	0	1297	857	238
Confl. Peds. (#/hr)						79
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	580	0	0	1425	942	262
Shared Lane Traffic (%)						
Lane Group Flow (vph)	580	0	0	1425	942	262
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	10.0
Total Split (s)	86.0			86.0	49.0	49.0
Total Split (%)	63.7%			63.7%	36.3%	36.3%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	81.0			81.0	44.0	44.0
Actuated g/C Ratio	0.60			0.60	0.33	0.33
v/c Ratio	0.27			0.67	0.84	0.42
Control Delay	13.9			13.6	60.1	18.5
Queue Delay	0.0			0.3	0.0	0.0
Total Delay	13.9			13.9	60.1	18.5
LOS	B			B	E	B
Approach Delay	13.9			13.9	51.1	
Approach LOS	B			B	D	
Queue Length 50th (ft)	122			250	436	82
Queue Length 95th (ft)	150			299	509	114
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2123			2123	1118	631
Starvation Cap Reductn	0			146	0	0
Spillback Cap Reductn	0			191	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.27			0.74	0.84	0.42

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 27.8

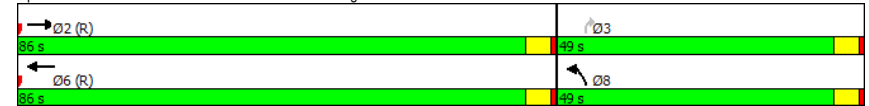
Intersection LOS: C

Intersection Capacity Utilization 87.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
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5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↕	↕↕		
Traffic Volume (vph)	738	0	12	1242	0	0
Future Volume (vph)	738	0	12	1242	0	0
Confl. Peds. (#/hr)		32	32		34	
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	785	0	13	1321	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	785	0	13	1321	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0		
Minimum Split (s)	34.0		8.0	20.0		
Total Split (s)	120.0		15.0	135.0		
Total Split (%)	88.9%		11.1%	100.0%		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		5.0	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effect Green (s)	127.0		133.0	135.0		
Actuated g/C Ratio	0.94		0.99	1.00		
v/c Ratio	0.24		0.02	0.37		
Control Delay	0.7		0.1	0.3		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.7		0.1	0.3		
LOS	A		A	A		
Approach Delay	0.7			0.3		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	3		
Queue Length 95th (ft)	42		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3329		704	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.24		0.02	0.37		

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 45

MS

Synchro 9 Report
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5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 0.5

Intersection LOS: A

Intersection Capacity Utilization 38.5%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱	↱	↰	↰↱	↱	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	87	731	31	44	870	131	124	23	300	96	25	244
Future Volume (vph)	87	731	31	44	870	131	124	23	300	96	25	244
Confl. Peds. (#/hr)	43		7	7		43	22		23	23		22
Confl. Bikes (#/hr)			4			3						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	90	754	32	45	897	135	128	24	309	99	26	252
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	786	0	45	897	135	0	152	309	0	125	252
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	22.0		8.0	28.0	28.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (s)	15.0	89.0		15.0	89.0	89.0	31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	11.1%	65.9%		11.1%	65.9%	65.9%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	95.9	89.7		93.0	86.6	86.6		26.0	26.0		26.0	26.0
Actuated g/C Ratio	0.71	0.66		0.69	0.64	0.64		0.19	0.19		0.19	0.19
v/c Ratio	0.22	0.34		0.10	0.40	0.15		0.73	0.57		0.66	0.52
Control Delay	5.1	7.2		2.0	5.4	2.0		72.3	9.5		68.1	11.3
Queue Delay	0.0	0.3		0.0	0.3	0.0		0.0	0.2		0.0	0.0
Total Delay	5.1	7.5		2.0	5.7	2.0		72.3	9.7		68.1	11.3
LOS	A	A		A	A	A		E	A		E	B
Approach Delay		7.2			5.0			30.3			30.1	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	15	102		2	113	10		127	0		102	11
Queue Length 95th (ft)	24	108		5	154	28		#231	84		#187	90
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	444	2334		519	2269	904		208	539		190	481
Starvation Cap Reductn	0	808		0	666	0		0	0		0	0
Spillback Cap Reductn	0	283		0	0	0		0	24		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.20	0.52		0.09	0.56	0.15		0.73	0.60		0.66	0.52

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

MS

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 13.3

Intersection LOS: B

Intersection Capacity Utilization 78.2%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↔↔					↔	↔↔	↔
Traffic Volume (vph)	0	1066	29	335	1102	0	0	0	0	37	196	138
Future Volume (vph)	0	1066	29	335	1102	0	0	0	0	37	196	138
Confl. Peds. (#/hr)			36	36						71		17
Confl. Bikes (#/hr)			7									14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1146	31	360	1185	0	0	0	0	40	211	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1177	0	360	1185	0	0	0	0	40	211	148
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effct Green (s)		74.7		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.55		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.60		0.90	0.46					0.13	0.30	0.37
Control Delay		15.7		60.2	4.3					45.8	47.3	13.6
Queue Delay		0.5		1.8	0.3					0.0	0.0	0.0
Total Delay		16.2		62.0	4.5					45.8	47.3	13.6
LOS		B		E	A					D	D	B
Approach Delay		16.2			17.9						34.6	
Approach LOS		B			B						C	
Queue Length 50th (ft)		303		207	122					29	83	15
Queue Length 95th (ft)		377		m#337	m127					64	122	76
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1949		418	2569					313	707	401
Starvation Cap Reductn		351		13	626					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.74		0.89	0.61					0.13	0.30	0.37

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

MS

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 19.4

Intersection LOS: B

Intersection Capacity Utilization 82.4%

ICU Level of Service E

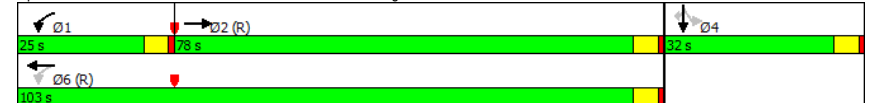
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
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8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩			↩↩		↩	↩	↩			
Traffic Volume (vph)	83	1097	0	0	1176	51	214	314	482	0	0	0
Future Volume (vph)	83	1097	0	0	1176	51	214	314	482	0	0	0
Confl. Peds. (#/hr)			33			87	17		148			
Confl. Bikes (#/hr)						4			12			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	86	1131	0	0	1212	53	221	324	497	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	86	1131	0	0	1265	0	199	346	497	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	104.0			89.0		31.0	31.0	31.0			
Total Split (%)	11.1%	77.0%			65.9%		23.0%	23.0%	23.0%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	99.0	99.0			86.7		26.0	26.0	26.0			
Actuated g/C Ratio	0.73	0.73			0.64		0.19	0.19	0.19			
v/c Ratio	0.30	0.44			0.57		0.64	1.02	1.57			
Control Delay	4.8	1.4			7.0		67.7	113.8	302.5			
Queue Delay	0.0	0.0			0.6		0.9	26.6	0.0			
Total Delay	4.8	1.5			7.7		68.7	140.4	302.5			
LOS	A	A			A		E	F	F			
Approach Delay		1.7			7.7			204.0				
Approach LOS		A			A			F				
Queue Length 50th (ft)	3	22			107		174	~341	~530			
Queue Length 95th (ft)	m12	24			123		269	#553	#754			
Internal Link Dist (ft)		321			699			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	317	2595			2232		313	339	316			
Starvation Cap Reductn	0	222			537		0	0	0			
Spillback Cap Reductn	0	0			0		22	24	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.27	0.48			0.75		0.68	1.10	1.57			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 65

MS

Synchro 9 Report
Page 11

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.57

Intersection Signal Delay: 63.7

Intersection LOS: E

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	20	11	163	94	0	0	0	0	47	1136	22
Future Volume (vph)	0	20	11	163	94	0	0	0	0	47	1136	22
Confl. Peds. (#/hr)			67							43		
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Parking (#/hr)		0										
Adj. Flow (vph)	0	21	11	170	98	0	0	0	0	49	1183	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	11	0	268	0	0	0	0	0	1255	0
Turn Type	NA	Perm	Perm	NA	NA					Perm	NA	
Protected Phases	4 12			4 12							2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12	4 12	4 12	4 12						2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		31.3	31.3		31.3						79.7	
Actuated g/C Ratio		0.23	0.23		0.23						0.59	
v/c Ratio		0.05	0.03		0.78						0.60	
Control Delay		21.9	0.1		35.1						12.1	
Queue Delay		0.0	0.0		0.0						0.0	
Total Delay		21.9	0.1		35.1						12.1	
LOS		C	A		D						B	
Approach Delay		14.4			35.1						12.1	
Approach LOS		B			D						B	
Queue Length 50th (ft)		10	0		84						193	
Queue Length 95th (ft)		24	0		108						246	
Internal Link Dist (ft)		177			244			271			262	
Turn Bay Length (ft)												
Base Capacity (vph)		533	509		471						2076	
Starvation Cap Reductn		0	0		1						0	
Spillback Cap Reductn		0	0		0						0	
Storage Cap Reductn		0	0		0						0	
Reduced v/c Ratio		0.04	0.02		0.57						0.60	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	21.0	21.0	22.5	22.5
Total Split (s)	56.0	29.0	24.0	26.0
Total Split (%)	41%	21%	18%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 16.1

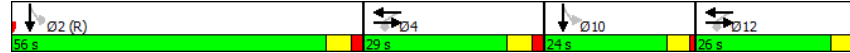
Intersection LOS: B

Intersection Capacity Utilization 74.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖			↗		↖↗↘	↖↗↘	↖				
Traffic Volume (vph)	10	64	0	0	131	123	63	1021	68	0	0	0	
Future Volume (vph)	10	64	0	0	131	123	63	1021	68	0	0	0	
Confl. Peds. (#/hr)	33								46				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Parking (#/hr)		0											
Adj. Flow (vph)	11	70	0	0	142	134	68	1110	74	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	81	0	0	276	0	0	1178	74	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4 12			4 12			2 10					
Permitted Phases	4 12						2 10		2 10				
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10				
Switch Phase													
Minimum Initial (s)													
Minimum Split (s)													
Total Split (s)													
Total Split (%)													
Yellow Time (s)													
All-Red Time (s)													
Lost Time Adjust (s)													
Total Lost Time (s)													
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode													
Act Effct Green (s)	31.2				31.2			79.8	79.8				
Actuated g/C Ratio	0.23				0.23			0.59	0.59				
v/c Ratio	0.22				0.64			0.39	0.09				
Control Delay	21.8				30.2			8.7	2.3				
Queue Delay	0.0				0.0			0.1	0.0				
Total Delay	21.8				30.2			8.8	2.3				
LOS	C				C			A	A				
Approach Delay	21.8				30.2			8.4					
Approach LOS	C				C			A					
Queue Length 50th (ft)	33				127			154	2				
Queue Length 95th (ft)	m62				181			93	11				
Internal Link Dist (ft)	244				319			272			254		
Turn Bay Length (ft)									100				
Base Capacity (vph)	512				592			3052	813				
Starvation Cap Reductn	0				0			465	0				
Spillback Cap Reductn	0				0			0	0				
Storage Cap Reductn	0				0			0	0				
Reduced v/c Ratio	0.16				0.47			0.46	0.09				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Natural Cycle: 100

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	54.0	28.0	25.0	28.0
Total Split (%)	40%	21%	19%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 12.8

Intersection LOS: B

Intersection Capacity Utilization 45.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	43	0	0	54	27	62	1102	51	0	0	0
Future Volume (vph)	10	43	0	0	54	27	62	1102	51	0	0	0
Confl. Peds. (#/hr)						163		85				
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Parking (#/hr)					0							
Adj. Flow (vph)	11	45	0	0	57	28	65	1160	54	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	85	0	0	1225	54	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	20.7				20.7			90.3	90.3			
Actuated g/C Ratio	0.15				0.15			0.67	0.67			
v/c Ratio	0.21				0.35			0.37	0.05			
Control Delay	30.0				26.2			5.9	2.1			
Queue Delay	0.0				0.0			0.4	0.0			
Total Delay	30.0				26.2			6.4	2.1			
LOS	C				C			A	A			
Approach Delay	30.0				26.2			6.2				
Approach LOS	C				C			A				
Queue Length 50th (ft)	32				37			136	5			
Queue Length 95th (ft)	m51				64			130	m6			
Internal Link Dist (ft)	233				60			281		272		
Turn Bay Length (ft)									100			
Base Capacity (vph)	570				490			3364	1085			
Starvation Cap Reductn	0				0			1476	0			
Spillback Cap Reductn	0				0			0	0			
Storage Cap Reductn	0				0			0	0			
Reduced v/c Ratio	0.10				0.17			0.65	0.05			
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green												

MS

Synchro 9 Report
Page 19

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	55.0	32.0	24.0	24.0
Total Split (%)	41%	24%	18%	18%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
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28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 8.3

Intersection LOS: A

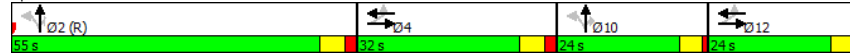
Intersection Capacity Utilization 54.2%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	901	95	212	1707	0	0	0	0	149	889	412
Future Volume (vph)	0	901	95	212	1707	0	0	0	0	149	889	412
Confl. Peds. (#/hr)			18	18						20		27
Confl. Bikes (#/hr)												27
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1048	110	247	1985	0	0	0	0	173	1034	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1158	0	247	1985	0	0	0	0	0	1207	479
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		58.0			88.0					47.0	47.0	47.0
Total Split (%)		43.0%			65.2%					34.8%	34.8%	34.8%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		53.0		83.0	83.0						42.0	42.0
Actuated g/C Ratio		0.39		0.61	0.61						0.31	0.31
v/c Ratio		0.59		0.64	0.63						0.77	0.91
Control Delay		33.4		25.6	7.2						43.9	55.0
Queue Delay		0.0		7.1	0.2						0.0	0.0
Total Delay		33.4		32.7	7.4						43.9	55.0
LOS		C		C	A						D	D
Approach Delay		33.4			10.2						47.1	
Approach LOS		C			B						D	
Queue Length 50th (ft)		287		80	134						307	273
Queue Length 95th (ft)		316		m138	137						356	#488
Internal Link Dist (ft)		262			240			197			285	
Turn Bay Length (ft)				50								100
Base Capacity (vph)		1968		383	3126						1564	525
Starvation Cap Reductn		0		94	411						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.59		0.85	0.73						0.77	0.91

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	8.0
Minimum Split (s)	10.0	13.0
Total Split (s)	15.0	15.0
Total Split (%)	11%	11%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 27.8

Intersection LOS: C

Intersection Capacity Utilization 77.2%

ICU Level of Service D

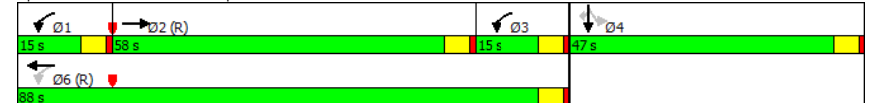
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site

Timing Plan: PM

	←	→	↖	↗	←	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↖↖			↖↖↖			↖↖↖	↖				
Traffic Volume (vph)	118	900	0	0	1606	66	385	872	157	0	0	0	
Future Volume (vph)	118	900	0	0	1606	66	385	872	157	0	0	0	
Confl. Peds. (#/hr)	47					47	30		18				
Confl. Bikes (#/hr)			2						27				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	131	1000	0	0	1784	73	428	969	174	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	131	1000	0	0	1857	0	0	1397	174	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA	Perm				
Protected Phases	5	2			6			4					
Permitted Phases	2						4		4				
Detector Phase	5	2			6		4	4	4				
Switch Phase													
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0				
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0				
Total Split (s)	20.0	86.0			66.0		49.0	49.0	49.0				
Total Split (%)	14.8%	63.7%			48.9%		36.3%	36.3%	36.3%				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		6.0	6.0	6.0				
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max	Max				
Act Effect Green (s)	81.0	81.0			65.1		43.0	43.0	43.0				
Actuated g/C Ratio	0.60	0.60			0.48		0.32	0.32	0.32				
v/c Ratio	0.66	0.33			0.76		0.89	0.31	0.31				
Control Delay	69.2	3.2			12.8		51.8	13.1	13.1				
Queue Delay	0.0	0.1			0.0		0.0	0.0	0.0				
Total Delay	69.2	3.3			12.8		51.8	13.1	13.1				
LOS	E	A			B		D	B	B				
Approach Delay		11.0			12.8		47.5						
Approach LOS		B			B		D						
Queue Length 50th (ft)	81	43			117		426	33	33				
Queue Length 95th (ft)	m147	50			116		491	92	92				
Internal Link Dist (ft)		240			335		116				281		
Turn Bay Length (ft)	50												
Base Capacity (vph)	248	3051			2432		1573	558	558				
Starvation Cap Reductn	0	873			0		0	0	0				
Spillback Cap Reductn	0	0			0		0	0	0				
Storage Cap Reductn	0	0			0		0	0	0				
Reduced v/c Ratio	0.53	0.46			0.76		0.89	0.31	0.31				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
Page 25

35: Lavaca St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 24.3

Intersection LOS: C

Intersection Capacity Utilization 77.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



MS

Synchro 9 Report
Page 26

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	↖	→	↗	↖	←	↖	↖	↖	↖	↖	↖	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖	↖	↖↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	27	1060	21	22	1374	14	8	26	108	127	6	267
Future Volume (vph)	27	1060	21	22	1374	14	8	26	108	127	6	267
Confl. Peds. (#/hr)	32		34	34		32	96		6	6		96
Confl. Bikes (#/hr)			1			2			2			1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	31	1218	24	25	1579	16	9	30	124	146	7	307
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	1242	0	25	1595	0	0	163	0	0	153	307
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	20.0		10.0	22.0		36.0	36.0		10.0	10.0	22.0
Total Split (s)	10.0	79.0		10.0	79.0		46.0	46.0		46.0	46.0	79.0
Total Split (%)	7.4%	58.5%		7.4%	58.5%		34.1%	34.1%		34.1%	34.1%	58.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag						Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes						Yes	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effect Green (s)	81.0	78.0		81.0	78.0			41.0			41.0	78.0
Actuated g/C Ratio	0.60	0.58		0.60	0.58			0.30			0.30	0.58
v/c Ratio	0.18	0.42		0.10	0.54			0.29			0.49	0.37
Control Delay	6.2	6.3		5.1	8.7			13.5			45.1	2.9
Queue Delay	0.0	0.2		0.0	0.1			0.0			0.0	0.0
Total Delay	6.2	6.4		5.1	8.8			13.5			45.1	2.9
LOS	A	A		A	A			B			D	A
Approach Delay		6.4			8.7			13.5			17.0	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	0	100		3	349			32			110	0
Queue Length 95th (ft)	0	116		6	156			83			175	37
Internal Link Dist (ft)		335			362			155			114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	172	2927		242	2928			567			310	828
Starvation Cap Reductn	0	687		0	352			0			0	0
Spillback Cap Reductn	0	0		0	60			0			0	14
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.18	0.55		0.10	0.62			0.29			0.49	0.38

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
Page 27

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 87.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 36: Colorado St & W. 15th St



MS

Synchro 9 Report
Page 28

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖	↑↑↑		↗
Traffic Volume (vph)	1353	0	0	1175	0	1
Future Volume (vph)	1353	0	0	1175	0	1
Confl. Peds. (#/hr)		48	48		40	14
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1573	0	0	1366	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1573	0	0	1366	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	92.0		10.0	102.0		33.0
Total Split (%)	68.1%		7.4%	75.6%		24.4%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effect Green (s)	97.0			97.0		28.0
Actuated g/C Ratio	0.72			0.72		0.21
v/c Ratio	0.43			0.37		0.00
Control Delay	4.5			10.4		0.0
Queue Delay	0.0			0.1		0.0
Total Delay	4.5			10.5		0.0
LOS	A			B		A
Approach Delay	4.5			10.5		
Approach LOS	A			B		
Queue Length 50th (ft)	78			331		0
Queue Length 95th (ft)	90			77		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)						
Base Capacity (vph)	3653			3653		394
Starvation Cap Reductn	408			1059		0
Spillback Cap Reductn	0			289		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.48			0.53		0.00

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70

MS

Synchro 9 Report
Page 29

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 57.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 37: N. Congress Ave & W. 15th St



MS

Synchro 9 Report
Page 30

38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site

Timing Plan: PM

	←	→	↙	↘	←	↙	↘	→	↙	↘	→	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↙ ↘	↙ ↘		↙ ↘	↙ ↘			↙ ↘	↙ ↘		↙ ↘		
Traffic Volume (vph)	5	1341	37	9	1034	5	130	3	114	63	3	85	
Future Volume (vph)	5	1341	37	9	1034	5	130	3	114	63	3	85	
Confl. Peds. (#/hr)	8		9	9		8	5		19	19		5	
Confl. Bikes (#/hr)						1						1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	5	1442	40	10	1112	5	140	3	123	68	3	91	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	5	1482	0	10	1117	0	0	143	123	0	162	0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA		
Protected Phases	5	2		1	6			4			8		
Permitted Phases	2			6			4		4	8			
Detector Phase	5	2		1	6		4	4	4	8	8		
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0		
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0		
Total Split (s)	12.0	77.0		12.0	77.0		46.0	46.0	46.0	46.0	46.0		
Total Split (%)	8.9%	57.0%		8.9%	57.0%		34.1%	34.1%	34.1%	34.1%	34.1%		
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0		
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None		
Act Effect Green (s)	99.4	99.4		99.6	99.6		23.2	23.2			23.2		
Actuated g/C Ratio	0.74	0.74		0.74	0.74		0.17	0.17			0.17		
v/c Ratio	0.01	0.40		0.04	0.30		0.84	0.36			0.72		
Control Delay	5.4	3.8		12.7	11.4		89.7	15.2			53.3		
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0			0.0		
Total Delay	5.4	3.8		12.7	11.5		89.7	15.2			53.3		
LOS	A	A		B	B		F	B			D		
Approach Delay		3.8			11.5		55.3				53.3		
Approach LOS		A			B		E				D		
Queue Length 50th (ft)	0	42		3	144		123	18			95		
Queue Length 95th (ft)	m2	93		m11	289		190	69			165		
Internal Link Dist (ft)		356			297		199				273		
Turn Bay Length (ft)	100			40				50					
Base Capacity (vph)	363	3726		289	3748		302	530			361		
Starvation Cap Reductn	0	445		0	1355		0	0			0		
Spillback Cap Reductn	0	138		0	0		0	2			1		
Storage Cap Reductn	0	0		0	0		0	0			0		
Reduced v/c Ratio	0.01	0.45		0.03	0.47		0.47	0.23			0.45		

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

MS

Synchro 9 Report
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38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 13.8

Intersection LOS: B

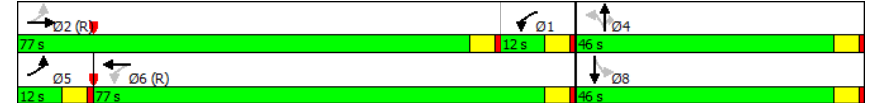
Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



MS

Synchro 9 Report
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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

	←	→	↖	↗	←	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖↗		↖	↖↗					↖↗	↖↗	↖	
Traffic Volume (vph)	0	1635	112	65	842	0	0	0	0	511	624	304	
Future Volume (vph)	0	1635	112	65	842	0	0	0	0	511	624	304	
Confl. Peds. (#/hr)			11	11						31		5	
Confl. Bikes (#/hr)												2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	0	1758	120	70	905	0	0	0	0	549	671	327	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	1878	0	70	905	0	0	0	0	0	1220	327	
Turn Type		NA		pm+pt	NA					Perm	NA	Perm	
Protected Phases		2		1	6						4		
Permitted Phases				6						4		4	
Detector Phase		2		1	6					4	4	4	
Switch Phase													
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0	
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0	
Total Split (s)		80.0		15.0	95.0					40.0	40.0	40.0	
Total Split (%)		59.3%		11.1%	70.4%					29.6%	29.6%	29.6%	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0	
Lead/Lag		Lag		Lead									
Lead-Lag Optimize?		Yes		Yes									
Recall Mode		C-Max		None	C-Max					None	None	None	
Act Effct Green (s)		79.7		90.0	90.0						35.0	35.0	
Actuated g/C Ratio		0.59		0.67	0.67						0.26	0.26	
v/c Ratio		0.63		0.41	0.27						1.22dl	0.71	
Control Delay		8.9		27.2	8.4						67.9	43.7	
Queue Delay		0.2		0.0	0.2						0.0	0.1	
Total Delay		9.1		27.2	8.6						67.9	43.7	
LOS		A		C	A						E	D	
Approach Delay		9.1			9.9						62.8		
Approach LOS		A			A						E		
Queue Length 50th (ft)		145		31	100						389	201	
Queue Length 95th (ft)		286		m64	116						#489	316	
Internal Link Dist (ft)		297			282			125			272		
Turn Bay Length (ft)				70								50	
Base Capacity (vph)		2970		200	3390						1262	460	
Starvation Cap Reductn		319		0	1388						0	0	
Spillback Cap Reductn		0		0	159						0	2	
Storage Cap Reductn		0		0	0						0	0	
Reduced v/c Ratio		0.71		0.35	0.45						0.97	0.71	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70

MS

Synchro 9 Report
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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 28.1

Intersection LOS: C

Intersection Capacity Utilization 72.7%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



MS

Synchro 9 Report
Page 34

40: Trinity St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site

Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1837	0	0	736	145	176	303	278	0	0	0
Future Volume (vph)	88	1837	0	0	736	145	176	303	278	0	0	0
Confl. Peds. (#/hr)	2					2	7		8			
Confl. Bikes (#/hr)									8			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	1914	0	0	767	151	183	316	290	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	1914	0	0	918	0	0	499	290	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		35.0	35.0	35.0			
Total Split (s)	10.0	100.0			90.0		35.0	35.0	35.0			
Total Split (%)	7.4%	74.1%			66.7%		25.9%	25.9%	25.9%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	95.0	95.0			85.0		30.0	30.0	30.0			
Actuated g/C Ratio	0.70	0.70			0.63		0.22	0.22	0.22			
v/c Ratio	0.24	0.53			0.29		0.65	0.75	0.75			
Control Delay	6.3	7.2			6.5		52.3	52.6	52.6			
Queue Delay	0.0	0.2			0.0		0.0	0.1	0.1			
Total Delay	6.3	7.4			6.5		52.3	52.6	52.6			
LOS	A	A			A		D	D	D			
Approach Delay		7.4			6.5		52.4					
Approach LOS		A			A		D					
Queue Length 50th (ft)	20	157			81		211	195	195			
Queue Length 95th (ft)	m30	m167			m78		273	#322	#322			
Internal Link Dist (ft)		282			641		149			621		
Turn Bay Length (ft)	100											
Base Capacity (vph)	389	3578			3136		769	385	385			
Starvation Cap Reductn	0	711			0		0	0	0			
Spillback Cap Reductn	0	120			0		0	1	1			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.24	0.67			0.29		0.65	0.76	0.76			

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
Page 35

40: Trinity St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 16.7

Intersection LOS: B

Intersection Capacity Utilization 72.7%

ICU Level of Service C

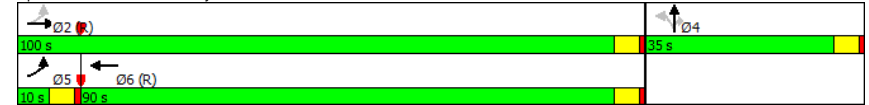
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Trinity St & W. 15th St



MS

Synchro 9 Report
Page 36

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	13.3											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	6	103	14	0	62	201	9	0	15	89	151
Future Vol, veh/h	0	6	103	14	0	62	201	9	0	15	89	151
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	132	18	0	79	258	12	0	19	114	194
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11	15.3	13.4
HCM LOS	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	5%	23%	14%
Vol Thru, %	35%	84%	74%	55%
Vol Right, %	59%	11%	3%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	255	123	272	132
LT Vol	15	6	62	18
Through Vol	89	103	201	73
RT Vol	151	14	9	41
Lane Flow Rate	327	158	349	169
Geometry Grp	1	1	1	1
Degree of Util (X)	0.486	0.258	0.545	0.273
Departure Headway (Hd)	5.353	5.895	5.627	5.808
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	670	606	638	614
Service Time	3.422	3.975	3.69	3.89
HCM Lane V/C Ratio	0.488	0.261	0.547	0.275
HCM Control Delay	13.4	11	15.3	11.1
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.7	1	3.3	1.1

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	18	73	41
Future Vol, veh/h	0	18	73	41
Peak Hour Factor	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	23	94	53
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.1
HCM LOS	B

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	10.3											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	274	0	0	0	331	0	0	0	0	0
Future Vol, veh/h	0	0	274	0	0	0	331	0	0	0	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	319	0	0	0	385	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	10	10.7	0
HCM LOS	A	B	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	274	331	12
LT Vol	0	0	0	0
Through Vol	0	274	331	0
RT Vol	0	0	0	12
Lane Flow Rate	0	319	385	14
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.384	0.448	0.019
Departure Headway (Hd)	5.456	4.344	4.195	4.821
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	832	843	745
Service Time	3.472	2.348	2.294	2.834
HCM Lane V/C Ratio	0	0.383	0.457	0.019
HCM Control Delay	8.5	10	10.7	7.9
HCM Lane LOS	N	A	B	A
HCM 95th-tile Q	0	1.8	2.3	0.1

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	12
Future Vol, veh/h	0	0	0	12
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	14
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.9
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	20.8											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	39	270	25	0	10	64	25	0	183	160	0
Future Vol, veh/h	0	39	270	25	0	10	64	25	0	183	160	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	45	314	29	0	12	74	29	0	213	186	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	23.1	12.4	24
HCM LOS	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	53%	12%	10%	36%
Vol Thru, %	47%	81%	65%	21%
Vol Right, %	0%	7%	25%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	343	334	99	268
LT Vol	183	39	10	97
Through Vol	160	270	64	56
RT Vol	0	25	25	115
Lane Flow Rate	399	388	115	312
Geometry Grp	1	1	1	1
Degree of Util (X)	0.713	0.696	0.228	0.551
Departure Headway (Hd)	6.44	6.454	7.134	6.362
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	558	559	500	564
Service Time	4.51	4.52	5.231	4.436
HCM Lane V/C Ratio	0.715	0.694	0.23	0.553
HCM Control Delay	24	23.1	12.4	17
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	5.8	5.5	0.9	3.3

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	97	56	115
Future Vol, veh/h	0	97	56	115
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	113	65	134
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	17
HCM LOS	C

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	15.4											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	96	300	0	35	53	0	0	0	0	0
Future Vol, veh/h	0	0	96	300	0	35	53	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	101	316	0	37	56	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		18.8	11.2
HCM LOS		C	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	40%	0%	0%	0%
Vol Thru, %	24%	60%	100%	100%	0%
Vol Right, %	76%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	396	88	264	264	22
LT Vol	0	35	0	0	0
Through Vol	96	53	264	264	0
RT Vol	300	0	0	0	22
Lane Flow Rate	417	93	277	277	23
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.659	0.178	0.467	0.467	0.023
Departure Headway (Hd)	5.691	6.899	6.06	6.06	3.595
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	634	520	594	594	992
Service Time	3.43	4.652	3.797	3.797	1.331
HCM Lane V/C Ratio	0.658	0.179	0.466	0.466	0.023
HCM Control Delay	18.8	11.2	14	14	6.4
HCM Lane LOS	C	B	B	B	A
HCM 95th-tile Q	4.9	0.6	2.5	2.5	0.1

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	527	22
Future Vol, veh/h	0	0	527	22
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	555	23
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		13.7
HCM LOS		B

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	9.9											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	77	36	15	0	0	174	0	0	15	129	0
Future Vol, veh/h	0	77	36	15	0	0	174	0	0	15	129	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	94	44	18	0	0	212	0	0	18	157	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.8	10.3	10
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	60%	0%	0%
Vol Thru, %	90%	28%	100%	47%
Vol Right, %	0%	12%	0%	53%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	128	174	159
LT Vol	15	77	0	0
Through Vol	129	36	174	74
RT Vol	0	15	0	85
Lane Flow Rate	176	156	212	194
Geometry Grp	1	1	1	1
Degree of Util (X)	0.25	0.224	0.297	0.257
Departure Headway (Hd)	5.127	5.168	5.042	4.776
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	692	685	704	743
Service Time	3.22	3.266	3.134	2.866
HCM Lane V/C Ratio	0.254	0.228	0.301	0.261
HCM Control Delay	10	9.8	10.3	9.5
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	1	0.9	1.2	1

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	74	85
Future Vol, veh/h	0	0	74	85
Peak Hour Factor	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	90	104
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.5
HCM LOS	A

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	193	0	40	50	0	94	0
Future Vol, veh/h	0	0	193	0	40	50	0	94	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	238	0	49	62	0	116	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.1	7.8	8.8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	44%	0%
Vol Right, %	0%	56%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	193	90	94
LT Vol	0	0	94
Through Vol	193	40	0
RT Vol	0	50	0
Lane Flow Rate	238	111	116
Geometry Grp	1	1	1
Degree of Util (X)	0.288	0.128	0.158
Departure Headway (Hd)	4.344	4.15	4.899
Convergence, Y/N	Yes	Yes	Yes
Cap	829	864	733
Service Time	2.361	2.17	2.923
HCM Lane V/C Ratio	0.287	0.128	0.158
HCM Control Delay	9.1	7.8	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.4	0.6

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	646	33	32	1315	2	116
Future Vol, veh/h	646	33	32	1315	2	116
Conflicting Peds, #/hr	0	8	8	0	0	11
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	687	35	34	1399	2	123

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	730	0	1481	380
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	768	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	870	-	116	618
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	418	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	861	-	111	607
Mov Cap-2 Maneuver	-	-	-	-	111	-
Stage 1	-	-	-	-	444	-
Stage 2	-	-	-	-	401	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		13.2	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	564	-	-	861	-
HCM Lane V/C Ratio	0.223	-	-	0.04	-
HCM Control Delay (s)	13.2	-	-	9.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	32.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	20	11	200	94	0	0	0	0	36	983	22
Future Vol, veh/h	0	20	11	200	94	0	0	0	0	36	983	22
Conflicting Peds, #/hr	0	0	0	54	0	0	0	0	0	0	0	41
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	11	206	97	0	0	0	0	37	1013	23

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1140	613	645	1151	0
Stage 1	-	1140	-	0	0	-
Stage 2	-	0	-	645	1151	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	4.14
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	2.22
Pot Cap-1 Maneuver	0	200	435	357	197	0
Stage 1	0	274	-	-	-	0
Stage 2	0	-	-	427	271	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	192	418	319	189	-
Mov Cap-2 Maneuver	-	192	-	319	189	-
Stage 1	-	263	-	-	-	-
Stage 2	-	-	-	383	260	-

Approach	EB		WB		SB	
HCM Control Delay, s	21.7		147.4			
HCM LOS	C		F			

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	192	418	261	-	-	-
HCM Lane V/C Ratio	0.107	0.027	1.161	-	-	-
HCM Control Delay (s)	26	13.9	147.4	-	-	-
HCM Lane LOS	D	B	F	-	-	-
HCM 95th %tile Q(veh)	0.4	0.1	13.6	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	38.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	10	53	0	0	170	74	63	997	76	0	0	0
Future Vol, veh/h	10	53	0	0	170	74	63	997	76	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	21	25	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	56	0	0	179	78	66	1049	80	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	688	1287	-	-	1247	586
Stage 1	25	25	-	-	1222	-
Stage 2	663	1262	-	-	25	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	388	163	0	0	~ 172	389
Stage 1	-	-	0	0	250	-
Stage 2	379	239	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	150	-	-	~ 158	389
Mov Cap-2 Maneuver	-	150	-	-	~ 158	-
Stage 1	-	-	-	-	235	-
Stage 2	68	225	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		227.3	0.5
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1124	-	-	-	193
HCM Lane V/C Ratio	0.059	-	-	-	1.331
HCM Control Delay (s)	8.4	-	-	-	227.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	14.6

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕	↕	
Traffic Vol, veh/h	24	278	342	20	97	116
Future Vol, veh/h	24	278	342	20	97	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	302	372	22	105	126

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	393	0	-	0	737	383
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	354	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1166	-	-	-	386	664
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	710	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1166	-	-	-	376	664
Mov Cap-2 Maneuver	-	-	-	-	376	-
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	691	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1166	-	-	-	492
HCM Lane V/C Ratio	0.022	-	-	-	0.471
HCM Control Delay (s)	8.2	0	-	-	18.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	2.5

15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	10.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↱	↰	
Traffic Vol, veh/h	242	145	30	195	51	50
Future Vol, veh/h	242	145	30	195	51	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	263	158	33	212	55	54

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	360	83	110	0	- 0
Stage 1	83	-	-	-	-
Stage 2	277	-	-	-	-
Critical Hdwy	7.12	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	596	976	1480	-	-
Stage 1	925	-	-	-	-
Stage 2	729	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	585	976	1480	-	-
Mov Cap-2 Maneuver	585	-	-	-	-
Stage 1	902	-	-	-	-
Stage 2	711	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1480	-	688	-	-
HCM Lane V/C Ratio	0.022	-	0.611	-	-
HCM Control Delay (s)	7.5	0	18.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	4.2	-	-

MS

Synchro 9 Report
Page 5

17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰		↰	↱	↱			
Traffic Vol, veh/h	177	0	0	0	0	0	170	585	0	0	0	0
Future Vol, veh/h	177	0	0	0	0	0	170	585	0	0	0	0
Conflicting Peds, #/hr	0	0	18	0	0	0	21	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	208	0	0	0	0	0	200	688	0	0	0	0

Major/Minor	Minor2	Major2		Major1	
Conflicting Flow All	697	1110	-	- 0	22 0 -
Stage 1	22	22	-	- -	- - -
Stage 2	675	1088	-	- -	- - -
Critical Hdwy	6.08	6.53	-	- -	4.13 - -
Critical Hdwy Stg 1	5.43	5.53	-	- -	- - -
Critical Hdwy Stg 2	6.03	5.53	-	- -	- - -
Follow-up Hdwy	3.669	4.019	-	- -	2.219 - -
Pot Cap-1 Maneuver	422	209	0	0 -	1593 - 0
Stage 1	960	877	0	0 -	- - 0
Stage 2	438	291	0	0 -	- - 0
Platoon blocked, %			-	- -	- - -
Mov Cap-1 Maneuver	354	0	-	- -	1593 - -
Mov Cap-2 Maneuver	354	0	-	- -	- - -
Stage 1	941	0	-	- -	- - -
Stage 2	375	0	-	- -	- - -

Approach	EB	WB	NB
HCM Control Delay, s	28.7	0	1.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1593	-	354	-	-
HCM Lane V/C Ratio	0.126	-	0.588	-	-
HCM Control Delay (s)	7.6	-	28.7	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.4	-	3.6	-	-

MS

Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	31.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	146	158	35	43	0	0	0	0	104	996	20
Future Vol, veh/h	0	146	158	35	43	0	0	0	0	104	996	20
Conflicting Peds, #/hr	0	0	19	0	0	0	0	0	0	94	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	154	166	37	45	0	0	0	0	109	1048	21

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1361	543	933	1361	-	94	0	0
Stage 1	-	1267	-	94	94	-	-	-	-
Stage 2	-	94	-	839	1267	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	~ 147	484	221	147	0	1498	-	-
Stage 1	0	238	-	-	-	0	-	-	-
Stage 2	0	-	-	326	238	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 110	484	-	110	-	1498	-	-
Mov Cap-2 Maneuver	-	~ 110	-	-	110	-	-	-	-
Stage 1	-	195	-	-	-	-	-	-	-
Stage 2	-	-	-	37	195	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	150.7		1
HCM LOS	F	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	110	484	-	1498	-	-
HCM Lane V/C Ratio	1.397	0.344	-	0.073	-	-
HCM Control Delay (s)	296.1	16.3	-	7.6	0.3	-
HCM Lane LOS	F	C	-	A	A	-
HCM 95th %tile Q(veh)	10.8	1.5	-	0.2	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑	↑		
Traffic Vol, veh/h	226	0	20	530	0	0
Future Vol, veh/h	226	0	20	530	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	0	24	639	0	0

Major/Minor	Minor2	Major1		
Conflicting Flow All	304	-	0	0
Stage 1	0	-	-	-
Stage 2	304	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	679	0	-	-
Stage 1	-	0	-	-
Stage 2	662	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	679	-	-	-
Mov Cap-2 Maneuver	679	-	-	-
Stage 1	-	-	-	-
Stage 2	662	-	-	-

Approach	EB	NB
HCM Control Delay, s	13.8	
HCM LOS	B	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	679
HCM Lane V/C Ratio	-	-	0.401
HCM Control Delay (s)	-	-	13.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	1.9

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	34.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	20	11	85	94	0	0	0	0	26	1246	23
Future Vol, veh/h	0	20	11	85	94	0	0	0	0	26	1246	23
Conflicting Peds, #/hr	0	0	0	24	0	0	0	0	0	0	0	42
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	13	98	108	0	0	0	0	30	1432	26

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1534	782	811	1534	-	0	0	0
Stage 1	-	1534	-	0	0	-	-	-	-
Stage 2	-	0	-	811	1534	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	115	337	271	115	0	-	-	-
Stage 1	0	177	-	-	-	0	-	-	-
Stage 2	0	-	-	339	177	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	110	324	219	110	-	-	-	-
Mov Cap-2 Maneuver	-	110	-	219	110	-	-	-	-
Stage 1	-	170	-	-	-	-	-	-	-
Stage 2	-	-	-	282	170	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	38		285.8			
HCM LOS	E		F			

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	144 144	-	-	-
HCM Lane V/C Ratio	0.247 1.429	-	-	-
HCM Control Delay (s)	38 285.8	-	-	-
HCM Lane LOS	E F	-	-	-
HCM 95th %tile Q(veh)	0.9 13.5	-	-	-

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Synchro 9 Report
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29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	69	14	18	35	8	15	66	41	9	360	41
Future Vol, veh/h	6	69	14	18	35	8	15	66	41	9	360	41
Conflicting Peds, #/hr	0	0	0	0	0	15	85	0	0	0	0	85
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	88	18	23	45	10	19	85	53	12	462	53

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	788	772	573	713	771	126	599	0	0	137	0	0
Stage 1	596	596	-	149	149	-	-	-	-	-	-	-
Stage 2	192	176	-	564	622	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	309	330	519	347	331	924	978	-	-	1447	-	-
Stage 1	490	492	-	854	774	-	-	-	-	-	-	-
Stage 2	810	753	-	510	479	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	238	293	477	250	294	911	978	-	-	1426	-	-
Mov Cap-2 Maneuver	238	293	-	250	294	-	-	-	-	-	-	-
Stage 1	441	447	-	836	758	-	-	-	-	-	-	-
Stage 2	727	737	-	389	435	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	23.5		20.8		1.1		0.2	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	978	-	-	307 305 1426	-	-	-
HCM Lane V/C Ratio	0.02	-	-	0.372 0.256 0.008	-	-	-
HCM Control Delay (s)	8.8	0	-	23.5 20.8 7.5	0	-	-
HCM Lane LOS	A	A	-	C C A A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7 1 0	-	-	-

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Synchro 9 Report
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30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	9.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	122	0	0	123	0	0	0	0	0	0	0
Future Vol, veh/h	0	122	0	0	123	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	57	0	25	21	0	0	0	0	21
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	151	0	0	152	0	0	0	0	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	1	-	-	1	-	-	0
Stage 1	-	1	-	-	0	-	-	-
Stage 2	-	0	-	-	1	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-
Stage 1	0	895	0	0	-	0	0	-
Stage 2	0	-	0	0	895	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-
Stage 1	-	895	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.8	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.168	0.17	-
HCM Control Delay (s)	-	9.8	9.8	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.6	0.6	-

MS

Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	79	0	15	44	36	0
Future Vol, veh/h	79	0	15	44	36	0
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	0	26	76	62	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	137	0	265	137
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1447	-	724	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	898	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1447	-	710	910
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1447	-
HCM Lane V/C Ratio	0.087	-	-	0.018	-
HCM Control Delay (s)	10.6	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

MS

Synchro 9 Report
Page 12

32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2020 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑			↑↑↑	↑
Traffic Vol, veh/h	0	60	0	0	1256	30
Future Vol, veh/h	0	60	0	0	1256	30
Conflicting Peds, #/hr	0	0	0	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	67	0	0	1411	34
Major/Minor	Minor2			Major2		
Conflicting Flow All	-	721		-	0	
Stage 1	-	-		-	-	
Stage 2	-	-		-	-	
Critical Hdwy	-	7.14		-	-	
Critical Hdwy Stg 1	-	-		-	-	
Critical Hdwy Stg 2	-	-		-	-	
Follow-up Hdwy	-	3.92		-	-	
Pot Cap-1 Maneuver	0	317		-	-	
Stage 1	0	-		-	-	
Stage 2	0	-		-	-	
Platoon blocked, %	-	-		-	-	
Mov Cap-1 Maneuver	-	312		-	-	
Mov Cap-2 Maneuver	-	-		-	-	
Stage 1	-	-		-	-	
Stage 2	-	-		-	-	
Approach	EB			SB		
HCM Control Delay, s	19.7			0		
HCM LOS	C					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	312	-	-			
HCM Lane V/C Ratio	0.216	-	-			
HCM Control Delay (s)	19.7	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	0.8	-	-			

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	←	→	↙	↘	←	↙	↘	→	↙	↘	→	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↙	↙↘			↙↘	↙				↙	↙↘	↙	
Traffic Volume (vph)	67	763	316	0	537	324	0	0	0	289	694	132	
Future Volume (vph)	67	763	316	0	537	324	0	0	0	289	694	132	
Confl. Peds. (#/hr)	28		19	19		28				29		19	
Confl. Bikes (#/hr)			1			1						13	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	71	812	336	0	571	345	0	0	0	307	738	140	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	71	1148	0	0	571	345	0	0	0	307	738	140	
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm	
Protected Phases	5	2			6	7				7	4		
Permitted Phases					6					4		4	
Detector Phase	5	2			6	7				7	4	4	
Switch Phase													
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0	
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0	
Total Split (s)	18.0	75.0			57.0	45.0				45.0	45.0	45.0	
Total Split (%)	15.0%	62.5%			47.5%	37.5%				37.5%	37.5%	37.5%	
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0	
Lead/Lag	Lag				Lead								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max	None				None	Max	Max	
Act Effect Green (s)	11.6	70.0			55.6	95.6				40.0	40.0	40.0	
Actuated g/C Ratio	0.10	0.58			0.46	0.80				0.33	0.33	0.33	
v/c Ratio	0.42	0.58			0.35	0.27				0.52	0.63	0.25	
Control Delay	57.9	16.5			22.9	1.4				36.1	36.5	11.9	
Queue Delay	0.0	0.0			0.0	0.0				0.0	0.0	0.0	
Total Delay	57.9	16.5			22.9	1.4				36.1	36.5	11.9	
LOS	E	B			C	A				D	D	B	
Approach Delay		18.9			14.8						33.5		
Approach LOS		B			B						C		
Queue Length 50th (ft)	52	267			153	0				191	252	24	
Queue Length 95th (ft)	100	331			214	36				282	318	73	
Internal Link Dist (ft)		228			45		159				210		
Turn Bay Length (ft)	160									130		120	
Base Capacity (vph)	191	1968			1639	1274				590	1179	566	
Starvation Cap Reductn	0	0			0	137				0	0	0	
Spillback Cap Reductn	0	0			0	0				0	0	0	
Storage Cap Reductn	0	0			0	0				0	0	0	
Reduced v/c Ratio	0.37	0.58			0.35	0.30				0.52	0.63	0.25	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
Page 1

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 23.0

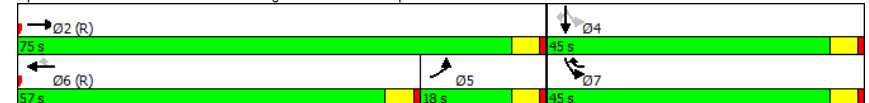
Intersection LOS: C

Intersection Capacity Utilization 62.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



MS

Synchro 9 Report
Page 2

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖
Traffic Volume (vph)	1052	0	0	720	349	223
Future Volume (vph)	1052	0	0	720	349	223
Confl. Peds. (#/hr)						11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1223	0	0	837	406	259
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1223	0	0	837	406	259
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	29.0
Total Split (s)	87.0			87.0	33.0	33.0
Total Split (%)	72.5%			72.5%	27.5%	27.5%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	82.0			82.0	28.0	28.0
Actuated g/C Ratio	0.68			0.68	0.23	0.23
v/c Ratio	0.51			0.35	0.51	0.59
Control Delay	9.5			5.0	57.6	46.3
Queue Delay	0.3			0.0	0.0	0.0
Total Delay	9.8			5.0	57.6	46.3
LOS	A			A	E	D
Approach Delay	9.8			5.0	53.2	
Approach LOS	A			A	D	
Queue Length 50th (ft)	157			53	169	130
Queue Length 95th (ft)	169			57	188	138
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2418			2418	801	437
Starvation Cap Reductn	521			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.64			0.35	0.51	0.59
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 57.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd

→ Ø2 (R)	↖ Ø3
87 s	33 s
← Ø6 (R)	↗ Ø8
87 s	33 s

MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↕	↕↕		
Traffic Volume (vph)	1109	0	8	975	0	0
Future Volume (vph)	1109	0	8	975	0	0
Confl. Peds. (#/hr)		6	6		1	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1246	0	9	1096	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1246	0	9	1096	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		1.0	5.0		
Minimum Split (s)	34.0		5.5	29.0		
Total Split (s)	107.0		13.0	120.0		
Total Split (%)	89.2%		10.8%	100.0%		
Yellow Time (s)	4.0		3.5	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		4.5	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effect Green (s)	116.4		119.1	120.0		
Actuated g/C Ratio	0.97		0.99	1.00		
v/c Ratio	0.36		0.02	0.31		
Control Delay	0.4		0.0	0.2		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.4		0.0	0.2		
LOS	A		A	A		
Approach Delay	0.4			0.2		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	0		
Queue Length 95th (ft)	37		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3433		491	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.36		0.02	0.31		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 40

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 0.3

Intersection LOS: A

Intersection Capacity Utilization 34.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱	↱	↰	↰↱	↱	↰	↰	↰	↰	↱	↱
Traffic Volume (vph)	140	748	228	290	967	138	19	0	35	42	1	11
Future Volume (vph)	140	748	228	290	967	138	19	0	35	42	1	11
Confl. Peds. (#/hr)	18		8	8		18	23		7	7		23
Confl. Bikes (#/hr)			3			3						1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	167	890	271	345	1151	164	23	0	42	50	1	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	1161	0	345	1151	164	0	23	42	0	51	13
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	1.0	10.0		1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	5.5	22.0		5.5	28.0	28.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (s)	20.0	70.0		20.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	16.7%	58.3%		16.7%	58.3%	58.3%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	4.0		3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	5.0		4.5	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	75.2	65.6		85.4	71.4	71.4		25.0	25.0		25.0	25.0
Actuated g/C Ratio	0.63	0.55		0.71	0.60	0.60		0.21	0.21		0.21	0.21
v/c Ratio	0.50	0.62		0.90	0.55	0.18		0.08	0.11		0.18	0.04
Control Delay	13.3	12.9		51.1	11.9	4.0		39.4	6.2		41.1	0.2
Queue Delay	0.0	0.4		0.0	0.4	0.0		0.0	0.0		0.0	0.0
Total Delay	13.3	13.3		51.1	12.2	4.0		39.4	6.2		41.1	0.2
LOS	B	B		D	B	A		D	A		D	A
Approach Delay		13.3			19.5			17.9			32.8	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	25	177		139	202	12		15	0		33	0
Queue Length 95th (ft)	68	162		#244	210	20		35	16		65	0
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	427	1868		389	2104	913		271	367		284	360
Starvation Cap Reductn	0	272		0	413	0		0	0		0	0
Spillback Cap Reductn	0	5		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.39	0.73		0.89	0.68	0.18		0.08	0.11		0.18	0.04

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

MS

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 17.1

Intersection LOS: B

Intersection Capacity Utilization 75.5%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↓	↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	731	189	510	1413	0	0	0	0	36	51	55
Future Volume (vph)	0	731	189	510	1413	0	0	0	0	36	51	55
Confl. Peds. (#/hr)			53	53						7		48
Confl. Bikes (#/hr)			2									29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	786	203	548	1519	0	0	0	0	39	55	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	989	0	548	1519	0	0	0	0	39	55	59
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1.9	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1.9	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0
Total Split (s)		62.0			92.0					28.0	28.0	28.0
Total Split (%)		51.7%			76.7%					23.3%	23.3%	23.3%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		57.0		87.5	87.0					23.0	23.0	23.0
Actuated g/C Ratio		0.48		0.73	0.72					0.19	0.19	0.19
v/c Ratio		0.61		1.11	0.59					0.12	0.08	0.17
Control Delay		16.8		86.2	5.9					41.3	40.3	2.1
Queue Delay		0.4		1.4	0.5					0.0	0.0	0.0
Total Delay		17.2		87.6	6.4					41.3	40.3	2.1
LOS		B		F	A					D	D	A
Approach Delay		17.2			28.0						25.8	
Approach LOS		B			C						C	
Queue Length 50th (ft)		122		~363	126					25	18	0
Queue Length 95th (ft)		146		m#418	m128					57	37	6
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1618		495	2565					335	678	353
Starvation Cap Reductn		222		73	550					0	0	0
Spillback Cap Reductn		0		0	20					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.71		1.30	0.75					0.12	0.08	0.17

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90

MS

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	5.5	9.5
Total Split (s)	15.0	15.0
Total Split (%)	13%	13%
Yellow Time (s)	3.5	3.5
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

MS

Synchro 9 Report
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7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 24.5

Intersection LOS: C

Intersection Capacity Utilization 89.5%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	152	533	0	0	1805	58	67	84	108	0	0	0
Future Volume (vph)	152	533	0	0	1805	58	67	84	108	0	0	0
Confl. Peds. (#/hr)			35			58	34		28			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	171	599	0	0	2028	65	75	94	121	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	171	599	0	0	2093	0	67	102	121	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	15.0	94.0			79.0		26.0	26.0	26.0			
Total Split (%)	12.5%	78.3%			65.8%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	89.5	89.0			75.0		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.62		0.18	0.18	0.18			
v/c Ratio	0.82	0.23			0.95		0.24	0.33	0.34			
Control Delay	75.1	1.0			12.5		41.1	42.1	9.0			
Queue Delay	0.0	0.1			10.2		0.3	0.0	0.0			
Total Delay	75.1	1.1			22.7		41.5	42.1	9.0			
LOS	E	A			C		D	D	A			
Approach Delay		17.6			22.7			28.2				
Approach LOS		B			C			C				
Queue Length 50th (ft)	98	13			173		45	70	4			
Queue Length 95th (ft)	#195	16			m92		m68	m102	m27			
Internal Link Dist (ft)		321			675			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	217	2624			2199		277	306	359			
Starvation Cap Reductn	0	970			3		0	0	0			
Spillback Cap Reductn	0	0			133		46	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.79	0.36			1.01		0.29	0.33	0.34			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 100

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 21.9

Intersection LOS: C

Intersection Capacity Utilization 89.5%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑	↑
Traffic Volume (vph)	0	14	47	52	10	0	0	0	0	127	1056	18
Future Volume (vph)	0	14	47	52	10	0	0	0	0	127	1056	18
Confl. Peds. (#/hr)			18							45		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)		0										
Adj. Flow (vph)	0	15	51	57	11	0	0	0	0	138	1148	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	51	0	68	0	0	0	0	0	1306	0
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases	4 12				4 12						2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12		4 12	4 12	4 12					2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	21.6	21.6		21.6							83.1	
Actuated g/C Ratio	0.18	0.18		0.18							0.69	
v/c Ratio	0.05	0.16		0.27							0.55	
Control Delay	20.6	3.9		24.2							7.3	
Queue Delay	0.0	0.0		0.0							0.0	
Total Delay	20.6	3.9		24.2							7.3	
LOS	C	A		C							A	
Approach Delay	7.7			24.2							7.3	
Approach LOS	A			C							A	
Queue Length 50th (ft)	5	0		34							161	
Queue Length 95th (ft)	16	13		48							196	
Internal Link Dist (ft)	177			244				271			262	
Turn Bay Length (ft)												
Base Capacity (vph)	754	714		628							2393	
Starvation Cap Reductn	0	0		0							0	
Spillback Cap Reductn	0	0		0							0	
Storage Cap Reductn	0	0		0							0	
Reduced v/c Ratio	0.02	0.07		0.11							0.55	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												
Natural Cycle: 95												

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	23.0	23.0	22.5	22.5
Total Split (s)	26.0	43.0	28.0	23.0
Total Split (%)	22%	36%	23%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 8.2

Intersection LOS: A

Intersection Capacity Utilization 74.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	121	0	0	27	26	88	781	131	0	0	0
Future Volume (vph)	4	121	0	0	27	26	88	781	131	0	0	0
Confl. Peds. (#/hr)	31								33			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Parking (#/hr)		0										
Adj. Flow (vph)	5	146	0	0	33	31	106	941	158	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	64	0	0	1047	158	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		25.6			25.6			70.4	70.4			
Actuated g/C Ratio		0.21			0.21			0.59	0.59			
v/c Ratio		0.43			0.16			0.35	0.18			
Control Delay		30.1			12.7			10.6	5.7			
Queue Delay		0.0			0.0			0.0	0.0			
Total Delay		30.1			12.7			10.6	5.7			
LOS		C			B			B	A			
Approach Delay		30.1			12.7			10.0				
Approach LOS		C			B			A				
Queue Length 50th (ft)		64			14			143	40			
Queue Length 95th (ft)		85			29			75	19			
Internal Link Dist (ft)		244			319			272		254		
Turn Bay Length (ft)									100			
Base Capacity (vph)		595			644			3160	914			
Starvation Cap Reductn		0			0			457	0			
Spillback Cap Reductn		0			0			0	0			
Storage Cap Reductn		0			0			0	0			
Reduced v/c Ratio		0.25			0.10			0.39	0.17			
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 5 (4%), Referenced to phase 2:NBT, Start of Green												
Natural Cycle: 100												

MS

Synchro 9 Report
Page 17

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	38.0	29.0	27.0	26.0
Total Split (%)	32%	24%	23%	22%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
Page 18

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 12.2
Intersection Capacity Utilization 39.4%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔↔↔	↔			
Traffic Volume (vph)	4	18	0	0	17	14	88	970	49	0	0	0
Future Volume (vph)	4	18	0	0	17	14	88	970	49	0	0	0
Confl. Peds. (#/hr)						11	58					
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Parking (#/hr)					0							
Adj. Flow (vph)	5	21	0	0	20	17	105	1155	58	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	37	0	0	1260	58	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases	4 12				4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		19.6			19.6			85.0	85.0			
Actuated g/C Ratio		0.16			0.16			0.71	0.71			
v/c Ratio		0.09			0.14			0.36	0.05			
Control Delay		24.2			14.9			2.6	0.3			
Queue Delay		0.0			0.0			0.1	0.0			
Total Delay		24.2			14.9			2.7	0.3			
LOS		C			B			A	A			
Approach Delay		24.2			14.9			2.6				
Approach LOS		C			B			A				
Queue Length 50th (ft)		11			8			32	0			
Queue Length 95th (ft)		m21			m25			45	m0			
Internal Link Dist (ft)		233			60			281			272	
Turn Bay Length (ft)									100			
Base Capacity (vph)		638			568			3527	1137			
Starvation Cap Reductn		0			0			998	0			
Spillback Cap Reductn		0			0			0	0			
Storage Cap Reductn		0			0			0	0			
Reduced v/c Ratio		0.04			0.07			0.50	0.05			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	42.0	32.0	21.0	25.0
Total Split (%)	35%	27%	18%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 3.3

Intersection LOS: A

Intersection Capacity Utilization 45.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	1671	324	199	966	0	0	0	0	103	682	74
Future Volume (vph)	0	1671	324	199	966	0	0	0	0	103	682	74
Confl. Peds. (#/hr)			32	32						30		
Confl. Bikes (#/hr)						1						20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1705	331	203	986	0	0	0	0	105	696	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2036	0	203	986	0	0	0	0	0	801	76
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		56.0			84.0					36.0	36.0	36.0
Total Split (%)		46.7%			70.0%					30.0%	30.0%	30.0%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		51.2			79.0						31.0	31.0
Actuated g/C Ratio		0.43			0.66						0.26	0.26
v/c Ratio		0.96			0.63						0.62	0.17
Control Delay		45.4			39.0						36.6	4.9
Queue Delay		0.5			12.6						0.4	0.0
Total Delay		45.9			51.6						37.0	4.9
LOS		D			D						D	A
Approach Delay		45.9			11.9						34.2	
Approach LOS		D			B						C	
Queue Length 50th (ft)		545			104						203	3
Queue Length 95th (ft)		#668			177						242	m21
Internal Link Dist (ft)		262				240			197		285	
Turn Bay Length (ft)					50							100
Base Capacity (vph)		2118			327	3347					1297	458
Starvation Cap Reductn		0			100	933					0	0
Spillback Cap Reductn		11			0	0					144	0
Storage Cap Reductn		0			0	0					0	0
Reduced v/c Ratio		0.97			0.89	0.41					0.69	0.17

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	5.0
Minimum Split (s)	13.0	10.0
Total Split (s)	14.0	14.0
Total Split (%)	12%	12%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary	

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 33.5

Intersection LOS: C

Intersection Capacity Utilization 86.0%

ICU Level of Service E

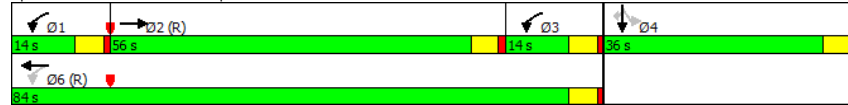
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩↩			↩↩↩			↩↩↩	↩			
Traffic Volume (vph)	275	1425	0	0	1045	130	131	669	158	0	0	0
Future Volume (vph)	275	1425	0	0	1045	130	131	669	158	0	0	0
Confl. Peds. (#/hr)	37					37	17		47			
Confl. Bikes (#/hr)									11			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	293	1516	0	0	1112	138	139	712	168	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	293	1516	0	0	1250	0	0	851	168	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0			
Total Split (s)	19.0	79.0			60.0		41.0	41.0	41.0			
Total Split (%)	15.8%	65.8%			50.0%		34.2%	34.2%	34.2%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	74.0	74.0			55.2			35.0	35.0			
Actuated g/C Ratio	0.62	0.62			0.46			0.29	0.29			
v/c Ratio	0.90	0.48			0.54			0.58	0.36			
Control Delay	58.5	2.6			10.9			38.2	22.9			
Queue Delay	4.3	0.4			0.1			0.0	0.0			
Total Delay	62.8	2.9			11.0			38.2	22.9			
LOS	E	A			B			D	C			
Approach Delay		12.6			11.0			35.6				
Approach LOS		B			B			D				
Queue Length 50th (ft)	160	35			71			205	61			
Queue Length 95th (ft)	m174	m48			80			251	125			
Internal Link Dist (ft)		240			335			116			281	
Turn Bay Length (ft)	50											
Base Capacity (vph)	330	3135			2295			1465	469			
Starvation Cap Reductn	14	915			141			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.93	0.68			0.58			0.58	0.36			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90

Intersection Signal Delay: 17.9 Intersection LOS: B
Intersection Capacity Utilization 86.0% ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩ ↲ ↳	↲ ↳ ↩	↩	↩ ↲ ↳	↲ ↳ ↩	↩	↩ ↲ ↳	↲ ↳ ↩	↩	↩ ↲ ↳	↲ ↳ ↩	↩
Traffic Volume (vph)	188	1379	52	71	1108	139	1	21	21	5	19	20
Future Volume (vph)	188	1379	52	71	1108	139	1	21	21	5	19	20
Confl. Peds. (#/hr)	6		82	82		6	4		34	34		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	200	1467	55	76	1179	148	1	22	22	5	20	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	1522	0	76	1327	0	0	45	0	0	25	21
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	22.0		10.0	30.0		32.0	32.0		32.0	32.0	30.0
Total Split (s)	15.0	72.0		15.0	72.0		33.0	33.0		33.0	33.0	72.0
Total Split (%)	12.5%	60.0%		12.5%	60.0%		27.5%	27.5%		27.5%	27.5%	60.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effct Green (s)	79.8	72.0		74.8	67.6		28.0	28.0		28.0	28.0	67.6
Actuated g/C Ratio	0.66	0.60		0.62	0.56		0.23	0.23		0.23	0.23	0.56
v/c Ratio	0.67	0.51		0.32	0.47		0.11	0.11		0.06	0.06	0.02
Control Delay	32.5	4.3		10.2	8.7		22.8	22.8		36.4	36.4	0.1
Queue Delay	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	0.0
Total Delay	32.5	4.4		10.2	8.7		22.8	22.8		36.4	36.4	0.1
LOS	C	A		B	A		C	C		D	D	A
Approach Delay		7.7			8.8		22.8	22.8		19.8	19.8	
Approach LOS		A			A		C	C		B	B	
Queue Length 50th (ft)	52	72		9	156		14	14		15	15	0
Queue Length 95th (ft)	120	94		23	213		46	46		39	39	0
Internal Link Dist (ft)		335			362		155	155		114	114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	306	3004		280	2819		410	410		416	416	904
Starvation Cap Reductn	0	342		0	341		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.65	0.57		0.27	0.54		0.11	0.11		0.06	0.06	0.02

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 8.6

Intersection LOS: A

Intersection Capacity Utilization 80.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 36: Colorado St & W. 15th St



37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↖	↖	↑↑↑	↖	↖
Traffic Volume (vph)	1379	28	18	1407	0	1
Future Volume (vph)	1379	28	18	1407	0	1
Confl. Peds. (#/hr)		30	30		13	20
Confl. Bikes (#/hr)						13
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1407	29	18	1436	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1436	0	18	1436	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	72.0		15.0	87.0		33.0
Total Split (%)	60.0%		12.5%	72.5%		27.5%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag			Lag	Lead		
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effct Green (s)	77.5		82.0	82.0		28.0
Actuated g/C Ratio	0.65		0.68	0.68		0.23
v/c Ratio	0.44		0.07	0.41		0.00
Control Delay	3.4		5.2	7.0		0.0
Queue Delay	0.0		0.0	0.1		0.0
Total Delay	3.4		5.2	7.1		0.0
LOS	A		A	A		A
Approach Delay	3.4			7.0		
Approach LOS	A			A		
Queue Length 50th (ft)	36		3	165		0
Queue Length 95th (ft)	45		m5	64		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)			100			
Base Capacity (vph)	3270		296	3474		487
Starvation Cap Reductn	166		0	677		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.46		0.06	0.51		0.00

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.44

Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 59.0% ICU Level of Service B
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	↑↑↑	→	←	↑↑↑	→	←	↑	↑	→	↑	→
Traffic Volume (vph)	79	1110	48	27	1428	83	4	2	7	2	0	4
Future Volume (vph)	79	1110	48	27	1428	83	4	2	7	2	0	4
Confl. Peds. (#/hr)	1		10	10		1	10		4	4		10
Confl. Bikes (#/hr)						1						17
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	81	1144	49	28	1472	86	4	2	7	2	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	1193	0	28	1558	0	0	6	7	0	6	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	15.0	78.0		10.0	73.0		32.0	32.0	32.0	32.0	32.0	
Total Split (%)	12.5%	65.0%		8.3%	60.8%		26.7%	26.7%	26.7%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	103.0	105.0		99.6	100.6			10.0	10.0		10.0	
Actuated g/C Ratio	0.86	0.88		0.83	0.84			0.08	0.08		0.08	
v/c Ratio	0.27	0.27		0.07	0.37			0.05	0.03		0.03	
Control Delay	7.6	4.1		1.9	1.7			51.7	0.3		0.2	
Queue Delay	0.0	0.0		0.0	0.1			0.0	0.0		0.0	
Total Delay	7.6	4.2		1.9	1.7			51.7	0.3		0.2	
LOS	A	A		A	A			D	A		A	
Approach Delay		4.4			1.8			24.0			0.2	
Approach LOS		A			A			C			A	
Queue Length 50th (ft)	11	107		1	16			4	0		0	
Queue Length 95th (ft)	41	117		3	126			18	0		0	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40					50			
Base Capacity (vph)	341	4413		400	4223			346	434		412	
Starvation Cap Reductn	0	1085		0	799			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.24	0.36		0.07	0.46			0.02	0.02		0.01	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.37
Intersection Signal Delay: 3.0
Intersection Capacity Utilization 58.7%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service B

Splits and Phases: 38: Brazos St & W. 15th St



39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	843	350	160	1515	0	0	0	0	92	179	44
Future Volume (vph)	0	843	350	160	1515	0	0	0	0	92	179	44
Confl. Peds. (#/hr)			22	22						10		7
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	852	354	162	1530	0	0	0	0	93	181	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1206	0	162	1530	0	0	0	0	0	274	44
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		68.0		20.0	88.0					32.0	32.0	32.0
Total Split (%)		56.7%		16.7%	73.3%					26.7%	26.7%	26.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		85.1		97.9	97.9						12.1	12.1
Actuated g/C Ratio		0.71		0.82	0.82						0.10	0.10
v/c Ratio		0.35		0.42	0.37						0.55	0.21
Control Delay		2.4		7.4	3.8						55.2	7.8
Queue Delay		0.1		0.0	0.3						0.0	0.0
Total Delay		2.6		7.4	4.1						55.2	7.8
LOS		A		A	A						E	A
Approach Delay		2.6			4.4						48.6	
Approach LOS		A			A						D	
Queue Length 50th (ft)		0		24	94						75	0
Queue Length 95th (ft)		0		m30	102						103	21
Internal Link Dist (ft)		297			282			125			272	
Turn Bay Length (ft)				70								50
Base Capacity (vph)		3438		468	4147						1119	398
Starvation Cap Reductn		979		0	1660						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.49		0.35	0.62						0.24	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 8.1

Intersection LOS: A

Intersection Capacity Utilization 88.8%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱↱↱			↱↱↱			↱↱	↱			
Traffic Volume (vph)	220	766	0	0	1625	644	59	167	12	0	0	0
Future Volume (vph)	220	766	0	0	1625	644	59	167	12	0	0	0
Confl. Peds. (#/hr)	1					1	3		6			
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	790	0	0	1675	664	61	172	12	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	790	0	0	2339	0	0	233	12	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	28.0			5.5		28.0	28.0	28.0			
Total Split (s)	20.0	92.0			72.0		28.0	28.0	28.0			
Total Split (%)	16.7%	76.7%			60.0%		23.3%	23.3%	23.3%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	87.5	87.0			69.0			23.0	23.0			
Actuated g/C Ratio	0.73	0.72			0.58			0.19	0.19			
v/c Ratio	0.85	0.21			0.82			0.35	0.03			
Control Delay	63.3	3.7			8.8			43.7	0.2			
Queue Delay	0.0	0.1			0.1			0.0	0.0			
Total Delay	63.3	3.8			8.9			43.7	0.2			
LOS	E	A			A			D	A			
Approach Delay		17.1			8.9			41.6				
Approach LOS		B			A			D				
Queue Length 50th (ft)	121	36			131			83	0			
Queue Length 95th (ft)	#227	42			m160			123	0			
Internal Link Dist (ft)		282			657			149			621	
Turn Bay Length (ft)	100											
Base Capacity (vph)	289	3686			2847			668	344			
Starvation Cap Reductn	0	1652			54			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.79	0.39			0.84			0.35	0.03			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 13.4 Intersection LOS: B

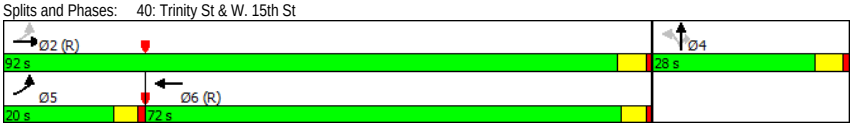
Intersection Capacity Utilization 88.8% ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	10.1											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	4	201	35	0	21	31	5	0	15	20	45
Future Vol, veh/h	0	4	201	35	0	21	31	5	0	15	20	45
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	228	40	0	24	35	6	0	17	23	51
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	10.6	8.8	8.5
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	2%	37%	2%
Vol Thru, %	25%	84%	54%	91%
Vol Right, %	56%	15%	9%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	240	57	231
LT Vol	15	4	21	4
Through Vol	20	201	31	211
RT Vol	45	35	5	16
Lane Flow Rate	91	273	65	262
Geometry Grp	1	1	1	1
Degree of Util (X)	0.121	0.362	0.093	0.352
Departure Headway (Hd)	4.797	4.785	5.163	4.832
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	740	747	687	740
Service Time	2.874	2.847	3.244	2.893
HCM Lane V/C Ratio	0.123	0.365	0.095	0.354
HCM Control Delay	8.5	10.6	8.8	10.5
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.4	1.7	0.3	1.6

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	4	211	16
Future Vol, veh/h	0	4	211	16
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	5	240	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.5
HCM LOS	B

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	252	0	0	0	55	0	0	0	0	0
Future Vol, veh/h	0	0	252	0	0	0	55	0	0	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	290	0	0	0	63	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.9	7.6	0
HCM LOS	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	252	55	8
LT Vol	0	0	0	0
Through Vol	0	252	55	0
RT Vol	0	0	0	8
Lane Flow Rate	0	290	63	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.322	0.073	0.01
Departure Headway (Hd)	4.702	3.997	4.165	4.086
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	901	853	881
Service Time	2.702	2.015	2.223	2.086
HCM Lane V/C Ratio	0	0.322	0.074	0.01
HCM Control Delay	7.7	8.9	7.6	7.1
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	1.4	0.2	0

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	8
Future Vol, veh/h	0	0	0	8
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	9
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.1
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	12.7											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	118	80	7	0	17	116	106	0	20	0	0
Future Vol, veh/h	0	118	80	7	0	17	116	106	0	20	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	149	101	9	0	22	147	134	0	25	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.2	12.1	9.6
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	58%	7%	5%
Vol Thru, %	0%	39%	49%	86%
Vol Right, %	0%	3%	44%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	205	239	266
LT Vol	20	118	17	14
Through Vol	0	80	116	228
RT Vol	0	7	106	24
Lane Flow Rate	25	259	303	337
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.398	0.432	0.507
Departure Headway (Hd)	6.276	5.528	5.141	5.421
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	569	651	699	663
Service Time	4.336	3.568	3.179	3.458
HCM Lane V/C Ratio	0.044	0.398	0.433	0.508
HCM Control Delay	9.6	12.2	12.1	13.9
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.1	1.9	2.2	2.9

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	14	228	24
Future Vol, veh/h	0	14	228	24
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	18	289	30
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.9
HCM LOS	B

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	14.3											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	13	97	0	72	172	0	0	0	0	0
Future Vol, veh/h	0	0	13	97	0	72	172	0	0	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	14	103	0	77	183	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		10.5	15.4
HCM LOS		B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	30%	0%	0%	0%
Vol Thru, %	12%	70%	100%	100%	0%
Vol Right, %	88%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	244	323	323	68
LT Vol	0	72	0	0	0
Through Vol	13	172	323	323	0
RT Vol	97	0	0	0	68
Lane Flow Rate	117	260	343	343	72
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.2	0.48	0.55	0.55	0.067
Departure Headway (Hd)	6.166	6.66	5.775	5.775	3.316
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	582	543	624	624	1078
Service Time	3.908	4.395	3.503	3.503	1.043
HCM Lane V/C Ratio	0.201	0.479	0.55	0.55	0.067
HCM Control Delay	10.5	15.4	15.4	15.4	6.3
HCM Lane LOS	B	C	C	C	A
HCM 95th-tile Q	0.7	2.6	3.3	3.3	0.2

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	645	68
Future Vol, veh/h	0	0	645	68
Peak Hour Factor	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	686	72
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		14.5
HCM LOS		B

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	10.2											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	31	185	35	0	0	25	0	0	15	41	0
Future Vol, veh/h	0	31	185	35	0	0	25	0	0	15	41	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	35	210	40	0	0	28	0	0	17	47	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	10.6	8.4	8.7
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	12%	0%	0%
Vol Thru, %	73%	74%	100%	88%
Vol Right, %	0%	14%	0%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	251	25	238
LT Vol	15	31	0	0
Through Vol	41	185	25	210
RT Vol	0	35	0	28
Lane Flow Rate	64	285	28	270
Geometry Grp	1	1	1	1
Degree of Util (X)	0.09	0.374	0.04	0.354
Departure Headway (Hd)	5.088	4.716	5.105	4.708
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	699	759	696	760
Service Time	3.153	2.765	3.178	2.757
HCM Lane V/C Ratio	0.092	0.375	0.04	0.355
HCM Control Delay	8.7	10.6	8.4	10.3
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.3	1.7	0.1	1.6

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	210	28
Future Vol, veh/h	0	0	210	28
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	239	32
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.3
HCM LOS	B

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	28	0	206	16	0	38	0
Future Vol, veh/h	0	0	28	0	206	16	0	38	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	32	0	234	18	0	43	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.5	8.6	8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	93%	0%
Vol Right, %	0%	7%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	222	38
LT Vol	0	0	38
Through Vol	28	206	0
RT Vol	0	16	0
Lane Flow Rate	32	252	43
Geometry Grp	1	1	1
Degree of Util (X)	0.037	0.28	0.057
Departure Headway (Hd)	4.199	3.989	4.747
Convergence, Y/N	Yes	Yes	Yes
Cap	840	896	759
Service Time	2.286	2.035	2.747
HCM Lane V/C Ratio	0.038	0.281	0.057
HCM Control Delay	7.5	8.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	1.2	0.2

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑↑		↑↑	
Traffic Vol, veh/h	1101	93	146	776	0	21
Future Vol, veh/h	1101	93	146	776	0	21
Conflicting Peds, #/hr	0	1	1	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1266	107	168	892	0	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1373	0	2102	692
Stage 1	-	-	-	-	1320	-
Stage 2	-	-	-	-	782	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	496	-	44	386
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	411	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	494	-	29	384
Mov Cap-2 Maneuver	-	-	-	-	29	-
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	271	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		2.5		15	
HCM LOS					C	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	384	-	-	494	-
HCM Lane V/C Ratio	0.063	-	-	0.34	-
HCM Control Delay (s)	15	-	-	16	-
HCM Lane LOS	C	-	-	C	-
HCM 95th %tile Q(veh)	0.2	-	-	1.5	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	13	47	60	10	0	0	0	0	75	1093	18
Future Vol, veh/h	0	13	47	60	10	0	0	0	0	75	1093	18
Conflicting Peds, #/hr	0	0	0	13	0	0	0	0	0	0	0	37
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	49	63	11	0	0	0	0	79	1151	19

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1355	635	753	1364	0
Stage 1	-	1355	-	0	0	-
Stage 2	-	0	-	753	1364	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	4.14
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	2.22
Pot Cap-1 Maneuver	0	148	421	298	146	0
Stage 1	0	216	-	-	0	-
Stage 2	0	-	-	368	214	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	143	406	243	141	-
Mov Cap-2 Maneuver	-	143	-	243	141	-
Stage 1	-	208	-	-	-	-
Stage 2	-	-	-	302	206	-

Approach	EB		WB		SB	
HCM Control Delay, s	18.9		29.4			
HCM LOS	C		D			

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	143	406	220	-	-	-
HCM Lane V/C Ratio	0.096	0.122	0.335	-	-	-
HCM Control Delay (s)	32.8	15.1	29.4	-	-	-
HCM Lane LOS	D	C	D	-	-	-
HCM 95th %tile Q(veh)	0.3	0.4	1.4	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	4	69	0	0	34	19	88	541	172	0	0	0
Future Vol, veh/h	4	69	0	0	34	19	88	541	172	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	29	17	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	73	0	0	36	20	94	576	183	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	482	963	-	-	871	408
Stage 1	17	17	-	-	854	-
Stage 2	465	946	-	-	17	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	508	254	0	0	288	506
Stage 1	-	-	0	0	373	-
Stage 2	500	338	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	402	229	-	-	260	506
Mov Cap-2 Maneuver	402	229	-	-	260	-
Stage 1	-	-	-	-	342	-
Stage 2	394	310	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	27.7		18.9		0.9	
HCM LOS	D		C			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1133	-	-	235	315
HCM Lane V/C Ratio	0.083	-	-	0.33	0.179
HCM Control Delay (s)	8.5	-	-	27.7	18.9
HCM Lane LOS	A	-	-	D	C
HCM 95th %tile Q(veh)	0.3	-	-	1.4	0.6

MS

Synchro 9 Report
Page 3

13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	123	129	57	103	14	17
Future Vol, veh/h	123	129	57	103	14	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	140	62	112	15	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	174	0	-	0	526	118
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1403	-	-	-	512	934
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1403	-	-	-	459	934
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	601	-

Approach	EB		WB		SB	
HCM Control Delay, s	3.8		0		11	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1403	-	-	-	637
HCM Lane V/C Ratio	0.095	-	-	-	0.053
HCM Control Delay (s)	7.8	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

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Synchro 9 Report
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15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↱			↱	↱	
Traffic Vol, veh/h	35	21	154	70	262	257
Future Vol, veh/h	35	21	154	70	262	257
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	23	167	76	285	279

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	835	424	564	0	- 0
Stage 1	424	-	-	-	-
Stage 2	411	-	-	-	-
Critical Hdwy	7.12	6.22	4.12	-	-
Critical Hdwy Stg 1	6.12	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	287	630	1008	-	-
Stage 1	608	-	-	-	-
Stage 2	618	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	249	630	1008	-	-
Mov Cap-2 Maneuver	249	-	-	-	-
Stage 1	503	-	-	-	-
Stage 2	511	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	6.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1008	-	322	-	-
HCM Lane V/C Ratio	0.166	-	0.189	-	-
HCM Control Delay (s)	9.3	0	18.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	0.7	-	-

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Synchro 9 Report
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17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱		↱	↱	↱			
Traffic Vol, veh/h	27	0	0	0	0	0	344	223	0	0	0	0
Future Vol, veh/h	27	0	0	0	0	0	344	223	0	0	0	0
Conflicting Peds, #/hr	0	0	5	0	0	0	6	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	0	0	0	0	0	391	253	0	0	0	0

Major/Minor	Minor2	Major2		Major1	
Conflicting Flow All	890	1042	-	- 0	7 0 -
Stage 1	7	7	-	- -	- - -
Stage 2	883	1035	-	- -	- - -
Critical Hdwy	6.08	6.53	-	- -	4.13 - -
Critical Hdwy Stg 1	5.43	5.53	-	- -	- - -
Critical Hdwy Stg 2	6.03	5.53	-	- -	- - -
Follow-up Hdwy	3.669	4.019	-	- -	2.219 - -
Pot Cap-1 Maneuver	332	229	0	0 -	1613 - 0
Stage 1	974	890	0	0 -	- - 0
Stage 2	339	308	0	0 -	- - 0
Platoon blocked, %				- -	- -
Mov Cap-1 Maneuver	249	0	-	- -	1613 - -
Mov Cap-2 Maneuver	249	0	-	- -	- - -
Stage 1	968	0	-	- -	- - -
Stage 2	255	0	-	- -	- - -

Approach	EB	WB	NB
HCM Control Delay, s	21.5	0	4.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1613	-	249	-	-
HCM Lane V/C Ratio	0.242	-	0.123	-	-
HCM Control Delay (s)	7.9	-	21.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	1	-	0.4	-	-

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Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	20	59	71	121	0	0	0	0	47	549	103
Future Vol, veh/h	0	20	59	71	121	0	0	0	0	47	549	103
Conflicting Peds, #/hr	0	0	22	0	0	0	0	0	0	4	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	64	77	132	0	0	0	0	51	597	112

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	703	320	437	703	-
Stage 1	-	699	-	4	4	-
Stage 2	-	4	-	433	699	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	360	676	503	360	0
Stage 1	0	440	-	-	-	0
Stage 2	0	-	-	571	440	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	340	676	414	340	-
Mov Cap-2 Maneuver	-	340	-	414	340	-
Stage 1	-	417	-	-	-	-
Stage 2	-	-	-	464	417	-

Approach	EB	WB	SB
HCM Control Delay, s	12.3	27.4	0.6
HCM LOS	B	D	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	340	676	364	1616	-	-
HCM Lane V/C Ratio	0.064	0.095	0.573	0.032	-	-
HCM Control Delay (s)	16.3	10.9	27.4	7.3	0.1	-
HCM Lane LOS	C	B	D	A	A	-
HCM 95th %tile Q(veh)	0.2	0.3	3.4	0.1	-	-

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑↑↑		
Traffic Vol, veh/h	35	0	103	534	0	0
Future Vol, veh/h	35	0	103	534	0	0
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	0	118	614	0	0

Major/Minor	Minor2	Major1	
Conflicting Flow All	485	-	0
Stage 1	0	-	-
Stage 2	485	-	-
Critical Hdwy	5.74	-	5.34
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6.04	-	-
Follow-up Hdwy	3.82	-	3.12
Pot Cap-1 Maneuver	556	0	-
Stage 1	-	0	-
Stage 2	534	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	556	-	-
Mov Cap-2 Maneuver	556	-	-
Stage 1	-	-	-
Stage 2	534	-	-

Approach	EB	NB
HCM Control Delay, s	12	
HCM LOS	B	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	556
HCM Lane V/C Ratio	-	-	0.072
HCM Control Delay (s)	-	-	12
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	13	47	40	8	0	0	0	0	23	1108	18
Future Vol, veh/h	0	13	47	40	8	0	0	0	0	23	1108	18
Conflicting Peds, #/hr	0	0	0	20	0	0	0	0	0	0	0	24
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	51	43	9	0	0	0	0	25	1204	20

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1278	646	679	1278	-
Stage 1	-	1278	-	0	0	-
Stage 2	-	0	-	679	1278	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	165	414	338	165	0
Stage 1	0	235	-	-	-	0
Stage 2	0	-	-	408	235	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	161	405	276	161	-
Mov Cap-2 Maneuver	-	161	-	276	161	-
Stage 1	-	230	-	-	-	-
Stage 2	-	-	-	335	230	-

Approach	EB	WB	SB
HCM Control Delay, s	20	23.4	
HCM LOS	C	C	

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	305	247	-	-
HCM Lane V/C Ratio	0.214	0.211	-	-
HCM Control Delay (s)	20	23.4	-	-
HCM Lane LOS	C	C	-	-
HCM 95th %tile Q(veh)	0.8	0.8	-	-

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Synchro 9 Report
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29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	25	34	10	7	5	15	286	8	2	47	16
Future Vol, veh/h	3	25	34	10	7	5	15	286	8	2	47	16
Conflicting Peds, #/hr	0	0	0	0	0	15	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	32	43	13	9	6	19	362	10	3	59	20

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	506	488	73	517	493	382	83	0
Stage 1	78	78	-	405	405	-	-	-
Stage 2	428	410	-	112	88	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	477	480	989	469	477	665	1514	-
Stage 1	931	830	-	622	598	-	-	-
Stage 2	605	595	-	893	822	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	451	470	986	419	467	656	1514	-
Mov Cap-2 Maneuver	451	470	-	419	467	-	-	-
Stage 1	913	825	-	612	588	-	-	-
Stage 2	572	585	-	819	817	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	13.1	0.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1514	-	-	657	473	1169	-
HCM Lane V/C Ratio	0.013	-	-	0.119	0.059	0.002	-
HCM Control Delay (s)	7.4	0	-	11.2	13.1	8.1	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0	-

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Synchro 9 Report
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30: N. Congress Ave & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	36	0	0	18	0	0	0	0	0	0	0
Future Vol, veh/h	0	36	0	0	18	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	11	0	11	12	0	0	0	0	12
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	39	0	0	20	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	1	-	-	1	-	-	0	-	-	-	0
Stage 1	-	1	-	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-	-	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-	0	0	-	0
Stage 1	0	895	0	0	-	0	0	-	0	0	-	0
Stage 2	0	-	0	0	895	0	0	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Stage 1	-	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.2			9.1			0			0		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.044	0.022	-
HCM Control Delay (s)	-	9.2	9.1	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.1	0.1	-

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Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	35	0	3	13	14	0
Future Vol, veh/h	35	0	3	13	14	0
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	0	4	16	17	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	67	0	90	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	23	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1535	-	910	997
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	1000	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1535	-	886	973
Mov Cap-2 Maneuver	-	-	-	-	886	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	997	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		9.1	
HCM LOS					A	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	886	-	-	1535	-
HCM Lane V/C Ratio	0.019	-	-	0.002	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

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Synchro 9 Report
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32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑			↑↑↑	↑
Traffic Vol, veh/h	0	45	0	0	339	34
Future Vol, veh/h	0	45	0	0	339	34
Conflicting Peds, #/hr	0	0	0	0	0	122
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	54	0	0	408	41
Major/Minor						
	Minor2				Major2	
Conflicting Flow All	-	326			-	0
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	7.14			-	-
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	3.92			-	-
Pot Cap-1 Maneuver	0	572			-	-
Stage 1	0	-			-	-
Stage 2	0	-			-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	506			-	-
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Approach						
	EB				SB	
HCM Control Delay, s	13				0	
HCM LOS	B					
Minor Lane/Major Mvmt						
	EBLn1	SBT	SBR			
Capacity (veh/h)	506	-	-			
HCM Lane V/C Ratio	0.107	-	-			
HCM Control Delay (s)	13	-	-			
HCM Lane LOS	B	-	-			
HCM 95th %tile Q(veh)	0.4	-	-			

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩			↩↩	↩				↩	↩↩	↩
Traffic Volume (vph)	152	369	131	0	1183	681	0	0	0	190	632	232
Future Volume (vph)	152	369	131	0	1183	681	0	0	0	190	632	232
Confl. Peds. (#/hr)	30		69	69		30				41		69
Confl. Bikes (#/hr)			1			6						3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	162	393	139	0	1259	724	0	0	0	202	672	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	532	0	0	1259	724	0	0	0	202	672	247
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6						4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	25.0	92.0			67.0	43.0				43.0	43.0	43.0
Total Split (%)	18.5%	68.1%			49.6%	31.9%				31.9%	31.9%	31.9%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effect Green (s)	20.0	87.0			62.0	100.0				38.0	38.0	38.0
Actuated g/C Ratio	0.15	0.64			0.46	0.74				0.28	0.28	0.28
v/c Ratio	0.62	0.25			0.77	0.62				0.41	0.67	0.49
Control Delay	65.1	10.1			26.0	2.5				42.3	47.0	19.2
Queue Delay	0.0	0.0			18.6	0.2				0.0	0.0	0.0
Total Delay	65.1	10.1			44.6	2.7				42.3	47.0	19.2
LOS	E	B			D	A				D	D	B
Approach Delay		22.9			29.3						40.1	
Approach LOS		C			C						D	
Queue Length 50th (ft)	135	92			433	22				144	275	67
Queue Length 95th (ft)	213	120			514	m49				220	345	153
Internal Link Dist (ft)		228			45		159				210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	262	2121			1625	1174				498	996	502
Starvation Cap Reductn	0	0			392	80				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.62	0.25			1.02	0.66				0.41	0.67	0.49

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

MS

Synchro 9 Report
Page 1

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 31.3

Intersection LOS: C

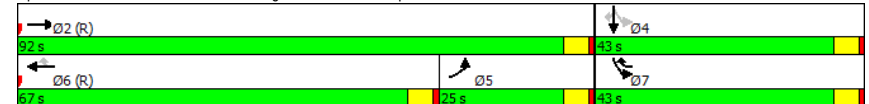
Intersection Capacity Utilization 76.1%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



MS

Synchro 9 Report
Page 2

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (vph)	538	0	0	1321	871	243
Future Volume (vph)	538	0	0	1321	871	243
Confl. Peds. (#/hr)						81
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	591	0	0	1452	957	267
Shared Lane Traffic (%)						
Lane Group Flow (vph)	591	0	0	1452	957	267
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	10.0
Total Split (s)	86.0			86.0	49.0	49.0
Total Split (%)	63.7%			63.7%	36.3%	36.3%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	81.0			81.0	44.0	44.0
Actuated g/C Ratio	0.60			0.60	0.33	0.33
v/c Ratio	0.28			0.68	0.86	0.42
Control Delay	13.9			13.9	61.0	18.9
Queue Delay	0.3			0.3	0.0	0.0
Total Delay	14.2			14.2	61.0	18.9
LOS	B			B	E	B
Approach Delay	14.2			14.2	51.8	
Approach LOS	B			B	D	
Queue Length 50th (ft)	124			256	444	84
Queue Length 95th (ft)	152			311	517	117
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2123			2123	1118	631
Starvation Cap Reductn	880			137	0	0
Spillback Cap Reductn	0			211	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.48			0.76	0.86	0.42

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 28.3

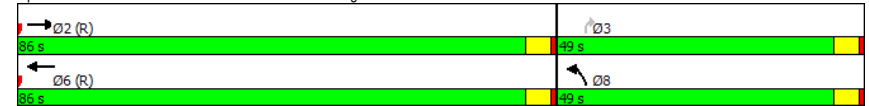
Intersection LOS: C

Intersection Capacity Utilization 88.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔↔		↖	↔↔		
Traffic Volume (vph)	752	0	13	1265	0	0
Future Volume (vph)	752	0	13	1265	0	0
Confl. Peds. (#/hr)		33	33		35	
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	800	0	14	1346	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	800	0	14	1346	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0		
Minimum Split (s)	34.0		8.0	20.0		
Total Split (s)	121.0		14.0	135.0		
Total Split (%)	89.6%		10.4%	100.0%		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		5.0	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effect Green (s)	127.4		133.0	135.0		
Actuated g/C Ratio	0.94		0.99	1.00		
v/c Ratio	0.24		0.02	0.38		
Control Delay	0.7		0.1	0.3		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.7		0.1	0.3		
LOS	A		A	A		
Approach Delay	0.7			0.3		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	3		
Queue Length 95th (ft)	42		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3339		686	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.24		0.02	0.38		

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 45

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 0.5

Intersection LOS: A

Intersection Capacity Utilization 39.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱	↱	↰	↰↱	↱	↰	↰	↰↱	↱	↰	↰↱
Traffic Volume (vph)	89	745	31	45	887	134	124	23	303	98	25	248
Future Volume (vph)	89	745	31	45	887	134	124	23	303	98	25	248
Confl. Peds. (#/hr)	44		7	7		44	22		23	23		22
Confl. Bikes (#/hr)			4			3						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	92	768	32	46	914	138	128	24	312	101	26	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	800	0	46	914	138	0	152	312	0	127	256
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	22.0		8.0	28.0	28.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (s)	15.0	89.0		15.0	89.0	89.0	31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	11.1%	65.9%		11.1%	65.9%	65.9%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	95.9	89.7		93.0	86.6	86.6		26.0	26.0		26.0	26.0
Actuated g/C Ratio	0.71	0.66		0.69	0.64	0.64		0.19	0.19		0.19	0.19
v/c Ratio	0.23	0.34		0.10	0.40	0.15		0.74	0.58		0.67	0.54
Control Delay	5.2	7.3		2.1	5.5	2.0		73.1	10.3		69.2	12.5
Queue Delay	0.0	0.3		0.0	0.3	0.0		0.0	0.2		0.0	0.0
Total Delay	5.2	7.5		2.1	5.8	2.0		73.1	10.5		69.2	12.5
LOS	A	A		A	A	A		E	B		E	B
Approach Delay		7.3			5.2			31.0			31.3	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	15	104		2	117	10		127	5		104	17
Queue Length 95th (ft)	24	112		6	156	28		#233	92		#193	101
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	437	2334		512	2269	901		206	536		189	477
Starvation Cap Reductn	0	799		0	648	0		0	0		0	0
Spillback Cap Reductn	0	289		0	0	0		0	24		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.21	0.52		0.09	0.56	0.15		0.74	0.61		0.67	0.54

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

MS

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 13.6

Intersection LOS: B

Intersection Capacity Utilization 78.7%

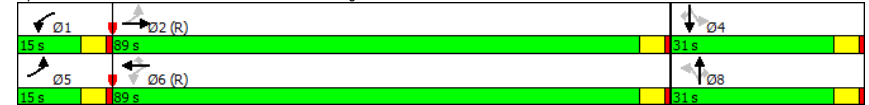
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑					↓	↑↑	↑
Traffic Volume (vph)	0	1084	29	341	1122	0	0	0	0	38	200	141
Future Volume (vph)	0	1084	29	341	1122	0	0	0	0	38	200	141
Confl. Peds. (#/hr)			37	37						72		17
Confl. Bikes (#/hr)			7									14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1166	31	367	1206	0	0	0	0	41	215	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1197	0	367	1206	0	0	0	0	41	215	152
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effect Green (s)		74.2		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.55		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.62		0.92	0.47					0.13	0.30	0.38
Control Delay		16.2		65.4	4.3					45.8	47.4	15.2
Queue Delay		0.5		2.6	0.3					0.0	0.0	0.0
Total Delay		16.8		68.0	4.6					45.8	47.4	15.2
LOS		B		E	A					D	D	B
Approach Delay		16.8			19.4						35.2	
Approach LOS		B			B						D	
Queue Length 50th (ft)		312		221	123					30	85	22
Queue Length 95th (ft)		386		m#368	m129					65	124	85
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1934		410	2569					312	707	397
Starvation Cap Reductn		336		12	626					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.75		0.92	0.62					0.13	0.30	0.38

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90

MS

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 20.4

Intersection LOS: C

Intersection Capacity Utilization 83.2%

ICU Level of Service E

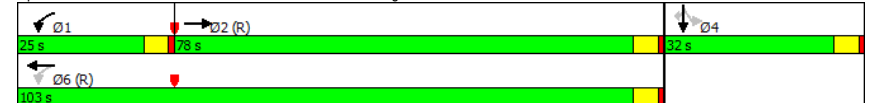
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 10

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩			↩↩		↩	↩	↩			
Traffic Volume (vph)	85	1116	0	0	1198	52	215	321	486	0	0	0
Future Volume (vph)	85	1116	0	0	1198	52	215	321	486	0	0	0
Confl. Peds. (#/hr)			34			89	17		151			
Confl. Bikes (#/hr)						4			13			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	1151	0	0	1235	54	222	331	501	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	88	1151	0	0	1289	0	200	353	501	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	104.0			89.0		31.0	31.0	31.0			
Total Split (%)	11.1%	77.0%			65.9%		23.0%	23.0%	23.0%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	99.0	99.0			86.6		26.0	26.0	26.0			
Actuated g/C Ratio	0.73	0.73			0.64		0.19	0.19	0.19			
v/c Ratio	0.31	0.44			0.58		0.64	1.04	1.62			
Control Delay	5.6	1.4			7.3		70.0	120.2	324.4			
Queue Delay	0.0	0.0			0.7		1.4	21.5	0.0			
Total Delay	5.6	1.5			8.0		71.5	141.7	324.4			
LOS	A	A			A		E	F	F			
Approach Delay		1.8			8.0			215.2				
Approach LOS		A			A			F				
Queue Length 50th (ft)	3	23			115		180	~354	~548			
Queue Length 95th (ft)	m14	25			128		269	#566	#770			
Internal Link Dist (ft)		321			699			350		106		
Turn Bay Length (ft)	120											
Base Capacity (vph)	310	2595			2231		313	339	309			
Starvation Cap Reductn	0	220			532		0	0	0			
Spillback Cap Reductn	0	0			0		30	33	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.28	0.48			0.76		0.71	1.15	1.62			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 65

MS

Synchro 9 Report
Page 11

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.62

Intersection Signal Delay: 66.8

Intersection LOS: E

Intersection Capacity Utilization 83.2%

ICU Level of Service E

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

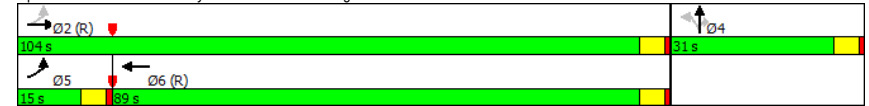
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	20	12	164	96	0	0	0	0	47	1156	22
Future Volume (vph)	0	20	12	164	96	0	0	0	0	47	1156	22
Confl. Peds. (#/hr)			68									
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Parking (#/hr)		0										
Adj. Flow (vph)	0	21	13	171	100	0	0	0	0	49	1204	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	13	0	271	0	0	0	0	0	1276	0
Turn Type	NA	Perm	Perm	NA	NA					Perm	NA	
Protected Phases	4 12			4 12							2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12	4 12	4 12	4 12						2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		31.5	31.5		31.5						79.5	
Actuated g/C Ratio		0.23	0.23		0.23						0.59	
v/c Ratio		0.05	0.03		0.79						0.62	
Control Delay		21.9	0.2		35.0						12.4	
Queue Delay		0.0	0.0		0.0						0.0	
Total Delay		21.9	0.2		35.1						12.4	
LOS		C	A		D						B	
Approach Delay		13.6			35.1						12.4	
Approach LOS		B			D						B	
Queue Length 50th (ft)		10	0		85						200	
Queue Length 95th (ft)		24	0		108						256	
Internal Link Dist (ft)		177			244			271			262	
Turn Bay Length (ft)												
Base Capacity (vph)		533	509		472						2071	
Starvation Cap Reductn		0	0		1						0	
Spillback Cap Reductn		0	0		0						0	
Storage Cap Reductn		0	0		0						0	
Reduced v/c Ratio		0.04	0.03		0.58						0.62	
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												

MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	21.0	21.0	22.5	22.5
Total Split (s)	56.0	29.0	24.0	26.0
Total Split (%)	41%	21%	18%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 16.3

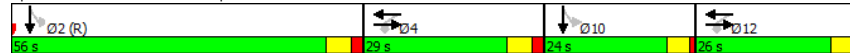
Intersection LOS: B

Intersection Capacity Utilization 75.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	↖	→	↘	↙	←	↖	↙	↗	↘	↖	↙	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖			↘		↖↗↘	↖				
Traffic Volume (vph)	11	64	0	0	133	123	65	1041	69	0	0	0
Future Volume (vph)	11	64	0	0	133	123	65	1041	69	0	0	0
Confl. Peds. (#/hr)	34							47				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)	0											
Adj. Flow (vph)	12	70	0	0	145	134	71	1132	75	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	0	0	279	0	0	1203	75	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	31.3				31.3			79.7	79.7			
Actuated g/C Ratio	0.23				0.23			0.59	0.59			
v/c Ratio	0.23				0.65			0.40	0.09			
Control Delay	21.8				30.4			8.7	2.4			
Queue Delay	0.0				0.0			0.1	0.0			
Total Delay	21.8				30.4			8.8	2.4			
LOS	C				C			A	A			
Approach Delay	21.8				30.4			8.4				
Approach LOS	C				C			A				
Queue Length 50th (ft)	33				129			149	2			
Queue Length 95th (ft)	m63				183			102	13			
Internal Link Dist (ft)	244				319			272			254	
Turn Bay Length (ft)									100			
Base Capacity (vph)	508				592			3048	809			
Starvation Cap Reductn	0				0			443	0			
Spillback Cap Reductn	0				0			0	0			
Storage Cap Reductn	0				0			0	0			
Reduced v/c Ratio	0.16				0.47			0.46	0.09			

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 100

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	54.0	28.0	25.0	28.0
Total Split (%)	40%	21%	19%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 12.8

Intersection LOS: B

Intersection Capacity Utilization 46.0%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	44	0	0	55	28	64	1123	52	0	0	0
Future Volume (vph)	11	44	0	0	55	28	64	1123	52	0	0	0
Confl. Peds. (#/hr)						167	87					
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Parking (#/hr)					0							
Adj. Flow (vph)	12	46	0	0	58	29	67	1182	55	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	0	0	87	0	0	1249	55	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12								2 10			
Detector Phase	4 12	4 12			4 12			2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	20.8				20.8			90.2	90.2			
Actuated g/C Ratio	0.15				0.15			0.67	0.67			
v/c Ratio	0.22				0.36			0.37	0.05			
Control Delay	29.7				26.0			6.0	2.1			
Queue Delay	0.0				0.0			0.5	0.0			
Total Delay	29.7				26.0			6.4	2.1			
LOS	C				C			A	A			
Approach Delay	29.7				26.0			6.2				
Approach LOS	C				C			A				
Queue Length 50th (ft)	34				37			141	6			
Queue Length 95th (ft)	m52				64			m127	m5			
Internal Link Dist (ft)	233				60			281		272		
Turn Bay Length (ft)									100			
Base Capacity (vph)	568				488			3355	1083			
Starvation Cap Reductn	0				0			1459	0			
Spillback Cap Reductn	0				0			0	0			
Storage Cap Reductn	0				0			0	0			
Reduced v/c Ratio	0.10				0.18			0.66	0.05			
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green												

MS

Synchro 9 Report
Page 19

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	55.0	32.0	24.0	24.0
Total Split (%)	41%	24%	18%	18%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
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28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 8.4

Intersection LOS: A

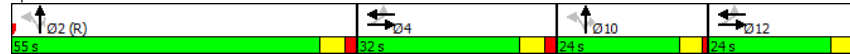
Intersection Capacity Utilization 54.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	918	97	217	1741	0	0	0	0	152	906	418
Future Volume (vph)	0	918	97	217	1741	0	0	0	0	152	906	418
Confl. Peds. (#/hr)			18	18						20		28
Confl. Bikes (#/hr)												28
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1067	113	252	2024	0	0	0	0	177	1053	486
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1180	0	252	2024	0	0	0	0	0	1230	486
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		58.0			88.0					47.0	47.0	47.0
Total Split (%)		43.0%			65.2%					34.8%	34.8%	34.8%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		53.0		83.0	83.0						42.0	42.0
Actuated g/C Ratio		0.39		0.61	0.61						0.31	0.31
v/c Ratio		0.60		0.67	0.65						0.79	0.93
Control Delay		33.6		27.0	7.2						44.5	57.5
Queue Delay		0.0		9.0	0.3						0.0	0.0
Total Delay		33.6		36.0	7.5						44.5	57.5
LOS		C		D	A						D	E
Approach Delay		33.6			10.6						48.2	
Approach LOS		C			B						D	
Queue Length 50th (ft)		294		87	136						316	282
Queue Length 95th (ft)		323		m141	139						365	#506
Internal Link Dist (ft)		262			240			197			285	
Turn Bay Length (ft)				50								100
Base Capacity (vph)		1969		378	3126						1564	524
Starvation Cap Reductn		0		93	411						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.60		0.88	0.75						0.79	0.93

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	8.0
Minimum Split (s)	10.0	13.0
Total Split (s)	15.0	15.0
Total Split (%)	11%	11%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 78.4%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	←	→	↖	↗	←	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↖↖			↖↖↖			↖↖↖	↖				
Traffic Volume (vph)	120	918	0	0	1638	67	393	889	160	0	0	0	
Future Volume (vph)	120	918	0	0	1638	67	393	889	160	0	0	0	
Confl. Peds. (#/hr)	48					48	31		18				
Confl. Bikes (#/hr)			2						28				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	133	1020	0	0	1820	74	437	988	178	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	133	1020	0	0	1894	0	0	1425	178	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA	Perm				
Protected Phases	5	2			6			4					
Permitted Phases	2						4		4				
Detector Phase	5	2			6		4	4	4				
Switch Phase													
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0				
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0				
Total Split (s)	20.0	86.0			66.0		49.0	49.0	49.0				
Total Split (%)	14.8%	63.7%			48.9%		36.3%	36.3%	36.3%				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		6.0	6.0	6.0				
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max	Max				
Act Effect Green (s)	81.0	81.0			65.0		43.0	43.0	43.0				
Actuated g/C Ratio	0.60	0.60			0.48		0.32	0.32	0.32				
v/c Ratio	0.67	0.33			0.78		0.91	0.32	0.32				
Control Delay	69.5	3.2			13.1		53.4	14.6	14.6				
Queue Delay	0.0	0.1			0.0		0.0	0.0	0.0				
Total Delay	69.5	3.4			13.1		53.4	14.6	14.6				
LOS	E	A			B		D	B	B				
Approach Delay		11.0			13.1		49.1						
Approach LOS		B			B		D						
Queue Length 50th (ft)	83	44			120		438	39	39				
Queue Length 95th (ft)	m149	50			119		504	101	101				
Internal Link Dist (ft)		240			335		116				281		
Turn Bay Length (ft)	50												
Base Capacity (vph)	248	3051			2428		1572	553	553				
Starvation Cap Reductn	0	872			0		0	0	0				
Spillback Cap Reductn	0	0			0		0	0	0				
Storage Cap Reductn	0	0			0		0	0	0				
Reduced v/c Ratio	0.54	0.47			0.78		0.91	0.32	0.32				

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 75

MS

Synchro 9 Report
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35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 25.0

Intersection LOS: C

Intersection Capacity Utilization 78.4%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



MS

Synchro 9 Report
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36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	←	→	↖	↗	↙	↘	↖	↗	↙	↘	↖	↗	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	↖ ↗		
Traffic Volume (vph)	28	1082	21	22	1401	14	8	27	110	130	6	273		
Future Volume (vph)	28	1082	21	22	1401	14	8	27	110	130	6	273		
Confl. Peds. (#/hr)	33		35	35		33	98		6	6		98		
Confl. Bikes (#/hr)			1			2			2			1		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87		
Adj. Flow (vph)	32	1244	24	25	1610	16	9	31	126	149	7	314		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	32	1268	0	25	1626	0	0	166	0	0	156	314		
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom		
Protected Phases	5	2		1	6			4			8			
Permitted Phases	2			6			4			8		6		
Detector Phase	5	2		1	6		4	4		8	8	6		
Switch Phase														
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0		
Minimum Split (s)	10.0	20.0		10.0	22.0		36.0	36.0		10.0	10.0	22.0		
Total Split (s)	10.0	79.0		10.0	79.0		46.0	46.0		46.0	46.0	79.0		
Total Split (%)	7.4%	58.5%		7.4%	58.5%		34.1%	34.1%		34.1%	34.1%	58.5%		
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0		
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0		
Lead/Lag	Lead	Lag		Lead	Lag							Lag		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes		
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max		
Act Effect Green (s)	81.0	78.0		81.0	78.0			41.0			41.0	78.0		
Actuated g/C Ratio	0.60	0.58		0.60	0.58			0.30			0.30	0.58		
v/c Ratio	0.19	0.43		0.11	0.55			0.29			0.51	0.38		
Control Delay	6.6	6.5		5.5	8.9			14.4			45.7	3.0		
Queue Delay	0.0	0.2		0.0	0.1			0.0			0.0	0.0		
Total Delay	6.6	6.7		5.5	9.0			14.4			45.7	3.0		
LOS	A	A		A	A			B			D	A		
Approach Delay		6.7			9.0			14.4				17.2		
Approach LOS		A			A			B				B		
Queue Length 50th (ft)	0	105		3	357			35			113	0		
Queue Length 95th (ft)	0	120		7	179			87			180	38		
Internal Link Dist (ft)		335			362			155			114			
Turn Bay Length (ft)	90			90								100		
Base Capacity (vph)	167	2927		236	2931			566			307	826		
Starvation Cap Reductn	0	666		0	327			0			0	0		
Spillback Cap Reductn	0	0		0	62			0			0	14		
Storage Cap Reductn	0	0		0	0			0			0	0		
Reduced v/c Ratio	0.19	0.56		0.11	0.62			0.29			0.51	0.39		

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
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36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 9.5

Intersection LOS: A

Intersection Capacity Utilization 88.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 36: Colorado St & W. 15th St



MS

Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖	↑↑↑		↗
Traffic Volume (vph)	1380	0	0	1198	0	1
Future Volume (vph)	1380	0	0	1198	0	1
Confl. Peds. (#/hr)		49	49		40	14
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1605	0	0	1393	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1605	0	0	1393	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	92.0		10.0	102.0		33.0
Total Split (%)	68.1%		7.4%	75.6%		24.4%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effect Green (s)	97.0			97.0		28.0
Actuated g/C Ratio	0.72			0.72		0.21
v/c Ratio	0.44			0.38		0.00
Control Delay	4.5			5.9		0.0
Queue Delay	0.0			0.1		0.0
Total Delay	4.5			6.0		0.0
LOS	A			A		A
Approach Delay	4.5			6.0		
Approach LOS	A			A		
Queue Length 50th (ft)	81			171		0
Queue Length 95th (ft)	92			87		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)						
Base Capacity (vph)	3653			3653		391
Starvation Cap Reductn	365			882		0
Spillback Cap Reductn	0			230		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.49			0.50		0.00

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70

MS

Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 5.2

Intersection LOS: A

Intersection Capacity Utilization 58.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 37: N. Congress Ave & W. 15th St



MS

Synchro 9 Report
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38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background

Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↓	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗			↖ ↗	↖ ↗		↖ ↗	
Traffic Volume (vph)	5	1368	38	10	1055	5	133	3	117	65	3	87
Future Volume (vph)	5	1368	38	10	1055	5	133	3	117	65	3	87
Confl. Peds. (#/hr)	8		10	10		8	5		19	19		5
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1471	41	11	1134	5	143	3	126	70	3	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1512	0	11	1139	0	0	146	126	0	167	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	12.0	77.0		12.0	77.0		46.0	46.0	46.0	46.0	46.0	
Total Split (%)	8.9%	57.0%		8.9%	57.0%		34.1%	34.1%	34.1%	34.1%	34.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	96.6	96.6		99.1	99.1		23.6	23.6			23.6	
Actuated g/C Ratio	0.72	0.72		0.73	0.73		0.17	0.17			0.17	
v/c Ratio	0.02	0.42		0.04	0.31		0.85	0.36			0.74	
Control Delay	3.8	2.6		7.7	6.2		90.1	15.5			54.6	
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0			0.0	
Total Delay	3.8	2.7		7.7	6.4		90.1	15.5			54.6	
LOS	A	A		A	A		F	B			D	
Approach Delay		2.7			6.4			55.6			54.6	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	0	12		2	82		125	20			100	
Queue Length 95th (ft)	m1	49		m10	198		192	71			170	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40				50				
Base Capacity (vph)	346	3618		278	3730		300	530			358	
Starvation Cap Reductn	0	401		0	1319		0	0			0	
Spillback Cap Reductn	0	114		0	0		0	2			1	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.01	0.47		0.04	0.47		0.49	0.24			0.47	

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 10 (7%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

MS

Synchro 9 Report
Page 31

38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 11.5

Intersection LOS: B

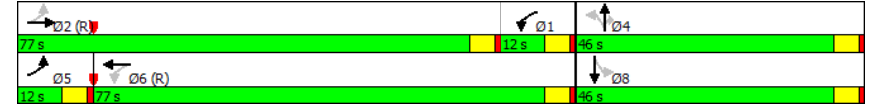
Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



MS

Synchro 9 Report
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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑					↓↑↑		↑
Traffic Volume (vph)	0	1667	115	66	858	0	0	0	0	516	636	310
Future Volume (vph)	0	1667	115	66	858	0	0	0	0	516	636	310
Confl. Peds. (#/hr)			12	12						32		5
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1792	124	71	923	0	0	0	0	555	684	333
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1916	0	71	923	0	0	0	0	0	1239	333
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		80.0		15.0	95.0					40.0	40.0	40.0
Total Split (%)		59.3%		11.1%	70.4%					29.6%	29.6%	29.6%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		79.6		90.0	90.0					35.0	35.0	35.0
Actuated g/C Ratio		0.59		0.67	0.67					0.26	0.26	0.26
v/c Ratio		0.65		0.43	0.27					1.24dl	0.72	0.72
Control Delay		8.6		32.5	6.2					71.0	44.6	44.6
Queue Delay		0.1		0.0	0.2					0.0	0.0	0.0
Total Delay		8.7		32.5	6.4					71.0	44.6	44.6
LOS		A		C	A					E	D	D
Approach Delay		8.7			8.2						65.4	
Approach LOS		A			A						E	
Queue Length 50th (ft)		147		17	83					397	207	207
Queue Length 95th (ft)		264		m61	97					#502	323	323
Internal Link Dist (ft)		297			282			125		272		
Turn Bay Length (ft)				70								50
Base Capacity (vph)		2967		196	3390					1261	460	460
Starvation Cap Reductn		203		0	1365					0	0	0
Spillback Cap Reductn		0		0	33					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.69		0.36	0.46					0.98	0.72	0.72

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 75

MS

Synchro 9 Report
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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 28.5

Intersection LOS: C

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



MS

Synchro 9 Report
Page 34

40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	1868	0	0	750	146	179	309	283	0	0	0
Future Volume (vph)	88	1868	0	0	750	146	179	309	283	0	0	0
Confl. Peds. (#/hr)	2					2	7		8			
Confl. Bikes (#/hr)									8			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	1946	0	0	781	152	186	322	295	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	1946	0	0	933	0	0	508	295	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		35.0	35.0	35.0			
Total Split (s)	10.0	100.0			90.0		35.0	35.0	35.0			
Total Split (%)	7.4%	74.1%			66.7%		25.9%	25.9%	25.9%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	95.0	95.0			85.0		30.0	30.0	30.0			
Actuated g/C Ratio	0.70	0.70			0.63		0.22	0.22	0.22			
v/c Ratio	0.24	0.54			0.30		0.66	0.77	0.77			
Control Delay	6.2	7.2			15.2		52.6	53.7	53.7			
Queue Delay	0.0	0.2			0.0		0.0	0.1	0.1			
Total Delay	6.2	7.4			15.2		52.6	53.7	53.7			
LOS	A	A			B		D	D	D			
Approach Delay		7.3			15.2		53.0					
Approach LOS		A			B		D					
Queue Length 50th (ft)	20	159			178		215	200	200			
Queue Length 95th (ft)	m29	m168			193		278	#331	#331			
Internal Link Dist (ft)		282			641		149			621		
Turn Bay Length (ft)	100											
Base Capacity (vph)	383	3578			3138		769	385	385			
Starvation Cap Reductn	0	714			0		0	0	0			
Spillback Cap Reductn	0	156			0		0	1	1			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.24	0.68			0.30		0.66	0.77	0.77			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 75

MS

Synchro 9 Report
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40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 19.0

Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Trinity St & W. 15th St



MS

Synchro 9 Report
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11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	13.6											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	6	105	14	0	64	202	10	0	15	91	154
Future Vol, veh/h	0	6	105	14	0	64	202	10	0	15	91	154
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	135	18	0	82	259	13	0	19	117	197
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.2	15.7	13.8
HCM LOS	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	5%	23%	14%
Vol Thru, %	35%	84%	73%	56%
Vol Right, %	59%	11%	4%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	260	125	276	133
LT Vol	15	6	64	18
Through Vol	91	105	202	74
RT Vol	154	14	10	41
Lane Flow Rate	333	160	354	171
Geometry Grp	1	1	1	1
Degree of Util (X)	0.499	0.265	0.557	0.278
Departure Headway (Hd)	5.391	5.942	5.663	5.859
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	663	599	633	607
Service Time	3.464	4.03	3.733	3.948
HCM Lane V/C Ratio	0.502	0.267	0.559	0.282
HCM Control Delay	13.8	11.2	15.7	11.2
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.8	1.1	3.4	1.1

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	18	74	41
Future Vol, veh/h	0	18	74	41
Peak Hour Factor	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	23	95	53
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.2
HCM LOS	B

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	10.5											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	279	0	0	0	334	0	0	0	0	0
Future Vol, veh/h	0	0	279	0	0	0	334	0	0	0	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	324	0	0	0	388	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	10.1	11	0
HCM LOS	B	B	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	279	334	13
LT Vol	0	0	0	0
Through Vol	0	279	334	0
RT Vol	0	0	0	13
Lane Flow Rate	0	324	388	15
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.392	0.464	0.02
Departure Headway (Hd)	5.479	4.352	4.303	4.841
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	831	843	739
Service Time	3.514	2.364	2.303	2.874
HCM Lane V/C Ratio	0	0.39	0.46	0.02
HCM Control Delay	8.5	10.1	11	8
HCM Lane LOS	N	B	B	A
HCM 95th-tile Q	0	1.9	2.5	0.1

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	13
Future Vol, veh/h	0	0	0	13
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	15
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	21.9											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	40	274	25	0	11	64	25	0	187	163	0
Future Vol, veh/h	0	40	274	25	0	11	64	25	0	187	163	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	47	319	29	0	13	74	29	0	217	190	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	24.3	12.6	25.7
HCM LOS	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	53%	12%	11%	36%
Vol Thru, %	47%	81%	64%	21%
Vol Right, %	0%	7%	25%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	350	339	100	270
LT Vol	187	40	11	97
Through Vol	163	274	64	57
RT Vol	0	25	25	116
Lane Flow Rate	407	394	116	314
Geometry Grp	1	1	1	1
Degree of Util (X)	0.735	0.713	0.237	0.561
Departure Headway (Hd)	6.499	6.516	7.337	6.436
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	553	552	492	556
Service Time	4.58	4.594	5.337	4.525
HCM Lane V/C Ratio	0.736	0.714	0.236	0.565
HCM Control Delay	25.7	24.3	12.6	17.5
HCM Lane LOS	D	C	B	C
HCM 95th-tile Q	6.2	5.8	0.9	3.4

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	97	57	116
Future Vol, veh/h	0	97	57	116
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	113	66	135
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	17.5
HCM LOS	C

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	15.8											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	97	303	0	36	53	0	0	0	0	0
Future Vol, veh/h	0	0	97	303	0	36	53	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	102	319	0	38	56	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		19.3	11.2
HCM LOS		C	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	40%	0%	0%	0%
Vol Thru, %	24%	60%	100%	100%	0%
Vol Right, %	76%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	400	89	269	269	23
LT Vol	0	36	0	0	0
Through Vol	97	53	269	269	0
RT Vol	303	0	0	0	23
Lane Flow Rate	421	94	283	283	24
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.669	0.181	0.478	0.478	0.024
Departure Headway (Hd)	5.723	6.943	6.083	6.083	3.617
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	632	516	594	594	986
Service Time	3.465	4.699	3.82	3.82	1.353
HCM Lane V/C Ratio	0.666	0.182	0.476	0.476	0.024
HCM Control Delay	19.3	11.2	14.3	14.3	6.4
HCM Lane LOS	C	B	B	B	A
HCM 95th-tile Q	5.1	0.7	2.6	2.6	0.1

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	537	23
Future Vol, veh/h	0	0	537	23
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	565	24
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		14
HCM LOS		B

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	10											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	79	36	15	0	0	174	0	0	15	132	0
Future Vol, veh/h	0	79	36	15	0	0	174	0	0	15	132	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	96	44	18	0	0	212	0	0	18	161	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.9	10.4	10.1
HCM LOS	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	61%	0%	0%
Vol Thru, %	90%	28%	100%	46%
Vol Right, %	0%	12%	0%	54%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	130	174	162
LT Vol	15	79	0	0
Through Vol	132	36	174	75
RT Vol	0	15	0	87
Lane Flow Rate	179	159	212	198
Geometry Grp	1	1	1	1
Degree of Util (X)	0.261	0.233	0.305	0.268
Departure Headway (Hd)	5.245	5.293	5.167	4.891
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	687	679	698	737
Service Time	3.265	3.321	3.186	2.91
HCM Lane V/C Ratio	0.261	0.234	0.304	0.269
HCM Control Delay	10.1	9.9	10.4	9.7
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1	0.9	1.3	1.1

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	75	87
Future Vol, veh/h	0	0	75	87
Peak Hour Factor	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	91	106
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.7
HCM LOS	A

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↰		↰			↰	
Traffic Vol, veh/h	0	0	193	0	40	51	0	96	0
Future Vol, veh/h	0	0	193	0	40	51	0	96	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	238	0	49	63	0	119	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.1	7.8	8.9
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	44%	0%
Vol Right, %	0%	56%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	193	91	96
LT Vol	0	0	96
Through Vol	193	40	0
RT Vol	0	51	0
Lane Flow Rate	238	112	119
Geometry Grp	1	1	1
Degree of Util (X)	0.288	0.13	0.161
Departure Headway (Hd)	4.354	4.155	4.903
Convergence, Y/N	Yes	Yes	Yes
Cap	827	864	732
Service Time	2.369	2.173	2.926
HCM Lane V/C Ratio	0.288	0.13	0.163
HCM Control Delay	9.1	7.8	8.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.4	0.6

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	659	34	33	1340	2	118
Future Vol, veh/h	659	34	33	1340	2	118
Conflicting Peds, #/hr	0	8	8	0	0	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	701	36	35	1426	2	126

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	745	0	1510	389
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	783	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	859	-	111	610
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	411	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	849	-	106	598
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	394	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		13.4	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	555	-	-	849	-
HCM Lane V/C Ratio	0.23	-	-	0.041	-
HCM Control Delay (s)	13.4	-	-	9.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	36.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	20	12	202	96	0	0	0	0	36	1003	22
Future Vol, veh/h	0	20	12	202	96	0	0	0	0	36	1003	22
Conflicting Peds, #/hr	0	0	0	55	0	0	0	0	0	0	0	41
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	12	208	99	0	0	0	0	37	1034	23

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1161	624	657	1172	-
Stage 1	-	1161	-	0	0	-
Stage 2	-	0	-	657	1172	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	194	428	350	191	0
Stage 1	0	268	-	-	-	0
Stage 2	0	-	-	420	264	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	186	411	311	184	-
Mov Cap-2 Maneuver	-	186	-	311	184	-
Stage 1	-	258	-	-	-	-
Stage 2	-	-	-	375	254	-

Approach	EB		WB		SB	
HCM Control Delay, s	22		166			
HCM LOS	C		F			

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	186	411	254	-	-	-
HCM Lane V/C Ratio	0.111	0.03	1.21	-	-	-
HCM Control Delay (s)	26.8	14	166	-	-	-
HCM Lane LOS	D	B	F	-	-	-
HCM 95th %tile Q(veh)	0.4	0.1	14.6	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	42.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	11	53	0	0	171	75	65	1015	77	0	0	0
Future Vol, veh/h	11	53	0	0	171	75	65	1015	77	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	21	25	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	56	0	0	180	79	68	1068	81	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	700	1311	-	-	1271	596
Stage 1	25	25	-	-	1246	-
Stage 2	675	1286	-	-	25	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	382	158	0	0	~ 167	383
Stage 1	-	-	0	0	244	-
Stage 2	373	233	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	145	-	-	~ 153	383
Mov Cap-2 Maneuver	-	145	-	-	~ 153	-
Stage 1	-	-	-	-	229	-
Stage 2	60	219	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		250.4	0.5
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1124	-	-	-	187
HCM Lane V/C Ratio	0.061	-	-	-	1.385
HCM Control Delay (s)	8.4	-	-	-	250.4
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	15.3

Notes				
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon	

13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕	↕	
Traffic Vol, veh/h	24	284	348	20	97	116
Future Vol, veh/h	24	284	348	20	97	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	309	378	22	105	126

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	400	0	-	0	750	389
Stage 1	-	-	-	-	389	-
Stage 2	-	-	-	-	361	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1159	-	-	-	379	659
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1159	-	-	-	369	659
Mov Cap-2 Maneuver	-	-	-	-	369	-
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	686	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	19
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1159	-	-	-	485
HCM Lane V/C Ratio	0.023	-	-	-	0.477
HCM Control Delay (s)	8.2	0	-	-	19
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	2.5

15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	9.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	242	145	30	199	52	50
Future Vol, veh/h	242	145	30	199	52	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	263	158	33	216	57	54

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	366	84	111	0	- 0
Stage 1	84	-	-	-	-
Stage 2	282	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	634	975	1479	-	-
Stage 1	939	-	-	-	-
Stage 2	766	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	618	975	1479	-	-
Mov Cap-2 Maneuver	618	-	-	-	-
Stage 1	939	-	-	-	-
Stage 2	747	-	-	-	-

Approach	EB	NB		SB
HCM Control Delay, s	16.9	1		0
HCM LOS	C			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1479	-	716	-	-
HCM Lane V/C Ratio	0.022	-	0.588	-	-
HCM Control Delay (s)	7.5	0	16.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.9	-	-

MS

Synchro 9 Report
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17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	7.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑		↑	↑	↑			
Traffic Vol, veh/h	180	0	0	0	0	0	173	595	0	0	0	0
Future Vol, veh/h	180	0	0	0	0	0	173	595	0	0	0	0
Conflicting Peds, #/hr	0	0	18	0	0	0	21	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	212	0	0	0	0	0	204	700	0	0	0	0

Major/Minor	Minor2	Major2		Major1	
Conflicting Flow All	709	1129	-	- 0	22 0 -
Stage 1	22	22	-	- -	- - -
Stage 2	687	1107	-	- -	- - -
Critical Hdwy	6.08	6.53	-	- -	4.13 - -
Critical Hdwy Stg 1	5.43	5.53	-	- -	- - -
Critical Hdwy Stg 2	6.03	5.53	-	- -	- - -
Follow-up Hdwy	3.669	4.019	-	- -	2.219 - -
Pot Cap-1 Maneuver	416	203	0	0 -	1593 - 0
Stage 1	960	877	0	0 -	- - 0
Stage 2	432	285	0	0 -	- - 0
Platoon blocked, %			-	- -	- - -
Mov Cap-1 Maneuver	348	0	-	- -	1593 - -
Mov Cap-2 Maneuver	348	0	-	- -	- - -
Stage 1	941	0	-	- -	- - -
Stage 2	369	0	-	- -	- - -

Approach	EB	WB		NB
HCM Control Delay, s	30.2	0		1.7
HCM LOS	D			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1593	-	348	-	-
HCM Lane V/C Ratio	0.128	-	0.609	-	-
HCM Control Delay (s)	7.6	-	30.2	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.4	-	3.8	-	-

MS

Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	69.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	147	159	36	43	0	0	0	0	106	1013	20
Future Vol, veh/h	0	147	159	36	43	0	0	0	0	106	1013	20
Conflicting Peds, #/hr	0	0	19	0	0	0	0	0	0	96	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	173	187	42	51	0	0	0	0	125	1192	24

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1537	615	1047	1537	-	96	0	0
Stage 1	-	1441	-	96	96	-	-	-	-
Stage 2	-	96	-	951	1441	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	~ 115	434	182	115	0	1496	-	-
Stage 1	0	196	-	-	-	0	-	-	-
Stage 2	0	-	-	279	196	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 77	434	-	77	-	1496	-	-
Mov Cap-2 Maneuver	-	~ 77	-	-	77	-	-	-	-
Stage 1	-	~ 145	-	-	-	-	-	-	-
Stage 2	-	-	-	-	145	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	\$ 340.1		1.2
HCM LOS	F	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	77	434	-	1496	-	-
HCM Lane V/C Ratio	2.246	0.431	-	0.083	-	-
HCM Control Delay (s)	\$ 686.9	19.4	-	7.6	0.5	-
HCM Lane LOS	F	C	-	A	A	-
HCM 95th %tile Q(veh)	16	2.1	-	0.3	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑	↑		
Traffic Vol, veh/h	228	0	20	540	0	0
Future Vol, veh/h	228	0	20	540	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	0	24	651	0	0

Major/Minor	Minor2	Major1		
Conflicting Flow All	308	-	0	0
Stage 1	0	-	-	-
Stage 2	308	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	676	0	-	-
Stage 1	-	0	-	-
Stage 2	659	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	676	-	-	-
Mov Cap-2 Maneuver	676	-	-	-
Stage 1	-	-	-	-
Stage 2	659	-	-	-

Approach	EB	NB
HCM Control Delay, s	13.9	
HCM LOS	B	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	676
HCM Lane V/C Ratio	-	-	0.406
HCM Control Delay (s)	-	-	13.9
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	38.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↲	↱	↲
Traffic Vol, veh/h	0	20	12	87	96	0	0	0	0	27	1268	23
Future Vol, veh/h	0	20	12	87	96	0	0	0	0	27	1268	23
Conflicting Peds, #/hr	0	0	0	24	0	0	0	0	0	0	0	42
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	14	100	110	0	0	0	0	31	1457	26

Major/Minor	Minor2		Minor1		Major2		
Conflicting Flow All	-	1562	795	826	1562	-	0 0 0
Stage 1	-	1562	-	0	0	-	- - -
Stage 2	-	0	-	826	1562	-	- - -
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14 - -
Critical Hdwy Stg 1	-	5.54	-	-	-	-	- - -
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	- - -
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22 - -
Pot Cap-1 Maneuver	0	111	330	264	111	0	- - -
Stage 1	0	171	-	-	-	0	- - -
Stage 2	0	-	-	332	171	0	- - -
Platoon blocked, %	-	-	-	-	-	-	- - -
Mov Cap-1 Maneuver	-	107	317	211	~ 107	-	- - -
Mov Cap-2 Maneuver	-	107	-	211	~ 107	-	- - -
Stage 1	-	164	-	-	-	-	- - -
Stage 2	-	-	-	273	164	-	- - -

Approach	EB		WB		SB		
HCM Control Delay, s	39		\$ 317.5				
HCM LOS	E		F				

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	142 140	-	-	-
HCM Lane V/C Ratio	0.259 1.502	-	-	-
HCM Control Delay (s)	39\$ 317.5	-	-	-
HCM Lane LOS	E F	-	-	-
HCM 95th %tile Q(veh)	1 14.3	-	-	-

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↲	↱	↲
Traffic Vol, veh/h	6	70	14	18	36	8	15	67	41	10	367	41
Future Vol, veh/h	6	70	14	18	36	8	15	67	41	10	367	41
Conflicting Peds, #/hr	0	0	0	0	0	15	87	0	0	0	0	87
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	90	18	23	46	10	19	86	53	13	471	53

Major/Minor	Minor2		Minor1		Major1			Major2		
Conflicting Flow All	803	786	584	727	787	127	610	0	0	138 0 0
Stage 1	609	609	-	151	151	-	-	-	-	- - -
Stage 2	194	177	-	576	636	-	-	-	-	- - -
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12 - -
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	- - -
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	- - -
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218 - -
Pot Cap-1 Maneuver	302	324	512	339	324	923	969	-	-	1446 - -
Stage 1	482	485	-	851	772	-	-	-	-	- - -
Stage 2	808	753	-	503	472	-	-	-	-	- - -
Platoon blocked, %	-	-	-	-	-	-	-	-	-	- - -
Mov Cap-1 Maneuver	231	287	470	241	287	910	969	-	-	1425 - -
Mov Cap-2 Maneuver	231	287	-	241	287	-	-	-	-	- - -
Stage 1	433	439	-	833	756	-	-	-	-	- - -
Stage 2	724	737	-	380	427	-	-	-	-	- - -

Approach	EB		WB		NB			SB		
HCM Control Delay, s	24.3		21.5		1.1			0.2		
HCM LOS	C		C							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	969	-	-	300 297 1425	-	-	-
HCM Lane V/C Ratio	0.02	-	-	0.385 0.268 0.009	-	-	-
HCM Control Delay (s)	8.8	0	-	24.3 21.5 7.5	0	-	-
HCM Lane LOS	A	A	-	C C A A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7 1.1 0	-	-	-

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	9.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	124	0	0	125	0	0	0	0	0	0	0
Future Vol, veh/h	0	124	0	0	125	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	58	0	25	21	0	0	0	0	21
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	153	0	0	154	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	1	-	-	1	-	-	0	-	-	-	0
Stage 1	-	1	-	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-	-	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-	0	0	-	0
Stage 1	0	895	0	0	-	0	0	-	0	0	-	0
Stage 2	0	-	0	0	895	0	0	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Stage 1	-	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.9			9.9			0			0		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.171	0.172	-
HCM Control Delay (s)	-	9.9	9.9	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	0.6	0.6	-

MS

Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	81	0	15	45	37	0
Future Vol, veh/h	81	0	15	45	37	0
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	0	26	78	64	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	270	141
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	129	-
Critical Hdwy	-	-	4.12	-	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	6.12	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1442	-	683	907
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1442	-	672	906
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	858	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.9		10.9	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	672	-	-	1442	-
HCM Lane V/C Ratio	0.095	-	-	0.018	-
HCM Control Delay (s)	10.9	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

MS

Synchro 9 Report
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32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	62	0	0	1277	31
Future Vol, veh/h	0	62	0	0	1277	31
Conflicting Peds, #/hr	0	0	0	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	70	0	0	1435	35

Major/Minor	Minor2	Major2
Conflicting Flow All	- 732	- 0
Stage 1	- -	- -
Stage 2	- -	- -
Critical Hdwy	- 7.14	- -
Critical Hdwy Stg 1	- -	- -
Critical Hdwy Stg 2	- -	- -
Follow-up Hdwy	- 3.92	- -
Pot Cap-1 Maneuver	0 312	- -
Stage 1	0 -	- -
Stage 2	0 -	- -
Platoon blocked, %	- -	- -
Mov Cap-1 Maneuver	- 308	- -
Mov Cap-2 Maneuver	- -	- -
Stage 1	- -	- -
Stage 2	- -	- -

Approach	EB	SB
HCM Control Delay, s	20.1	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	308	-	-
HCM Lane V/C Ratio	0.226	-	-
HCM Control Delay (s)	20.1	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.9	-	-

33: Colorado St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	68	0	0	399
Future Vol, veh/h	0	0	68	0	0	399
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	74	0	0	434

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	508 74	0 0	74 0
Stage 1	74 -	- -	- -
Stage 2	434 -	- -	- -
Critical Hdwy	6.42 6.22	- -	4.12 -
Critical Hdwy Stg 1	5.42 -	- -	- -
Critical Hdwy Stg 2	5.42 -	- -	- -
Follow-up Hdwy	3.518 3.318	- -	2.218 -
Pot Cap-1 Maneuver	525 988	- -	1526 -
Stage 1	949 -	- -	- -
Stage 2	653 -	- -	- -
Platoon blocked, %	- -	- -	- -
Mov Cap-1 Maneuver	525 988	- -	1526 -
Mov Cap-2 Maneuver	525 -	- -	- -
Stage 1	949 -	- -	- -
Stage 2	653 -	- -	- -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	- 1526	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	- 0	0	-
HCM Lane LOS	-	- A	A	-
HCM 95th %tile Q(veh)	-	-	- 0	-

62: Colorado St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	68	399	0
Future Vol, veh/h	0	0	0	68	399	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	74	434	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	508	434	434	0	- 0
Stage 1	434	-	-	-	-
Stage 2	74	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	525	622	1126	-	-
Stage 1	653	-	-	-	-
Stage 2	949	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	525	622	1126	-	-
Mov Cap-2 Maneuver	525	-	-	-	-
Stage 1	653	-	-	-	-
Stage 2	949	-	-	-	-

Approach	EB	NB		SB
HCM Control Delay, s	0	0		0
HCM LOS	A			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1126	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

69: E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	96	0	0	92	0	0
Future Vol, veh/h	96	0	0	92	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	0	0	100	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	104	0	204	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	100	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1488	-	784	951
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	924	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1488	-	784	951
Mov Cap-2 Maneuver	-	-	-	-	784	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB		NB
HCM Control Delay, s	0	0		0
HCM LOS				A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1488	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	←	→	↖	↗	←	↖	↗	→	↖	↗	→	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↗			↖↗	↖				↖	↖↗	↖	
Traffic Volume (vph)	67	793	406	0	553	329	0	0	0	289	724	132	
Future Volume (vph)	67	793	406	0	553	329	0	0	0	289	724	132	
Confl. Peds. (#/hr)	28		19	19		28				29		19	
Confl. Bikes (#/hr)			1			1						13	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	71	844	432	0	588	350	0	0	0	307	770	140	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	71	1276	0	0	588	350	0	0	0	307	770	140	
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm	
Protected Phases	5	2			6	7				7	4		
Permitted Phases						6				4		4	
Detector Phase	5	2			6	7				7	4	4	
Switch Phase													
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0	
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0	
Total Split (s)	18.0	75.0			57.0	45.0				45.0	45.0	45.0	
Total Split (%)	15.0%	62.5%			47.5%	37.5%				37.5%	37.5%	37.5%	
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0	
Lead/Lag	Lag				Lead								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max	None				None	Max	Max	
Act Effect Green (s)	11.6	70.0			55.6	95.6				40.0	40.0	40.0	
Actuated g/C Ratio	0.10	0.58			0.46	0.80				0.33	0.33	0.33	
v/c Ratio	0.42	0.66			0.36	0.27				0.52	0.65	0.25	
Control Delay	57.9	18.2			24.1	1.4				36.1	37.2	12.6	
Queue Delay	0.0	0.0			0.0	0.1				0.0	0.0	0.0	
Total Delay	57.9	18.2			24.1	1.5				36.1	37.2	12.6	
LOS	E	B			C	A				D	D	B	
Approach Delay		20.3			15.6						34.1		
Approach LOS		C			B						C		
Queue Length 50th (ft)	52	321			161	2				191	266	27	
Queue Length 95th (ft)	100	395			234	47				282	335	75	
Internal Link Dist (ft)		228			45		159				210		
Turn Bay Length (ft)	160									130		120	
Base Capacity (vph)	191	1948			1639	1275				590	1179	564	
Starvation Cap Reductn	0	0			0	137				0	0	0	
Spillback Cap Reductn	0	0			0	0				0	0	0	
Storage Cap Reductn	0	0			0	0				0	0	0	
Reduced v/c Ratio	0.37	0.66			0.36	0.31				0.52	0.65	0.25	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75

MS

Synchro 9 Report
Page 1

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 23.9

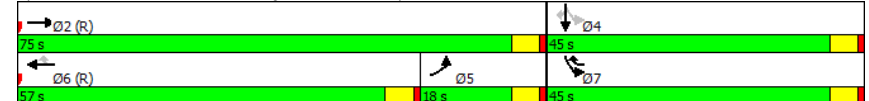
Intersection LOS: C

Intersection Capacity Utilization 66.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



MS

Synchro 9 Report
Page 2

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖
Traffic Volume (vph)	1082	0	0	722	368	223
Future Volume (vph)	1082	0	0	722	368	223
Confl. Peds. (#/hr)						11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1258	0	0	840	428	259
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1258	0	0	840	428	259
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	29.0
Total Split (s)	87.0			87.0	33.0	33.0
Total Split (%)	72.5%			72.5%	27.5%	27.5%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	82.0			82.0	28.0	28.0
Actuated g/C Ratio	0.68			0.68	0.23	0.23
v/c Ratio	0.52			0.35	0.53	0.60
Control Delay	8.5			5.8	60.7	50.4
Queue Delay	0.4			0.0	0.0	0.0
Total Delay	8.8			5.8	60.7	50.4
LOS	A			A	E	D
Approach Delay	8.8			5.8	56.8	
Approach LOS	A			A	E	
Queue Length 50th (ft)	156			60	179	149
Queue Length 95th (ft)	168			67	213	163
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2418			2418	801	431
Starvation Cap Reductn	552			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.67			0.35	0.53	0.60

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 19.7

Intersection LOS: B

Intersection Capacity Utilization 58.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd

→ Ø2 (R)	↖ Ø3
87 s	33 s
← Ø6 (R)	↖ Ø8
87 s	33 s

MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↕	↕↕		
Traffic Volume (vph)	1118	0	8	1035	0	0
Future Volume (vph)	1118	0	8	1035	0	0
Confl. Peds. (#/hr)		6	6		1	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1256	0	9	1163	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1256	0	9	1163	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		1.0	5.0		
Minimum Split (s)	34.0		5.5	29.0		
Total Split (s)	107.0		13.0	120.0		
Total Split (%)	89.2%		10.8%	100.0%		
Yellow Time (s)	4.0		3.5	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		4.5	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effct Green (s)	116.4		119.1	120.0		
Actuated g/C Ratio	0.97		0.99	1.00		
v/c Ratio	0.37		0.02	0.33		
Control Delay	0.5		0.0	0.2		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.5		0.0	0.2		
LOS	A		A	A		
Approach Delay	0.5			0.2		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	0		
Queue Length 95th (ft)	46		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3433		488	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.37		0.02	0.33		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 40

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 0.4

Intersection LOS: A

Intersection Capacity Utilization 35.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	←	→	↖	↗	←	→	↖	↗	←	→	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↗	↖	↖↗	↗		↖	↖↗	↗	↖	↖↗
Traffic Volume (vph)	140	757	228	290	1027	138	19	0	35	42	1	11
Future Volume (vph)	140	757	228	290	1027	138	19	0	35	42	1	11
Confl. Peds. (#/hr)	18		8	8		18	23		7	7		23
Confl. Bikes (#/hr)			3			3						1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	167	901	271	345	1223	164	23	0	42	50	1	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	1172	0	345	1223	164	0	23	42	0	51	13
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	1.0	10.0		1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	5.5	22.0		5.5	28.0	28.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (s)	20.0	70.0		20.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	16.7%	58.3%		16.7%	58.3%	58.3%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	4.0		3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	5.0		4.5	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	75.4	65.5		85.1	71.1	71.1		25.0	25.0		25.0	25.0
Actuated g/C Ratio	0.63	0.55		0.71	0.59	0.59		0.21	0.21		0.21	0.21
v/c Ratio	0.53	0.63		0.91	0.58	0.18		0.08	0.11		0.18	0.04
Control Delay	15.4	14.6		53.1	12.0	4.2		39.4	6.2		41.1	0.2
Queue Delay	0.0	0.4		0.0	0.4	0.0		0.0	0.0		0.0	0.0
Total Delay	15.4	15.0		53.1	12.5	4.2		39.4	6.2		41.1	0.2
LOS	B	B		D	B	A		D	A		D	A
Approach Delay		15.0			19.8			17.9			32.8	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	30	208		143	206	12		15	0		33	0
Queue Length 95th (ft)	74	180		#258	221	21		35	16		65	0
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	403	1866		385	2096	908		271	367		284	360
Starvation Cap Reductn	0	265		0	388	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.41	0.73		0.90	0.72	0.18		0.08	0.11		0.18	0.04

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

MS

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 18.0

Intersection LOS: B

Intersection Capacity Utilization 75.7%

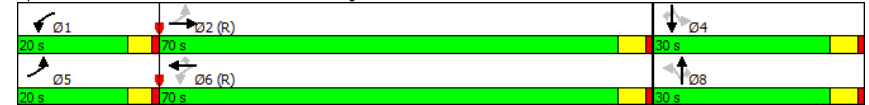
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↓	↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	740	189	630	1473	0	0	0	0	36	51	55
Future Volume (vph)	0	740	189	630	1473	0	0	0	0	36	51	55
Confl. Peds. (#/hr)			53	53						7		48
Confl. Bikes (#/hr)			2									29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	796	203	677	1584	0	0	0	0	39	55	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	999	0	677	1584	0	0	0	0	39	55	59
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1.9	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1.9	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0
Total Split (s)		62.0			92.0					28.0	28.0	28.0
Total Split (%)		51.7%			76.7%					23.3%	23.3%	23.3%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		57.0		87.5	87.0					23.0	23.0	23.0
Actuated g/C Ratio		0.48		0.73	0.72					0.19	0.19	0.19
v/c Ratio		0.62		1.38	0.62					0.12	0.08	0.17
Control Delay		15.1		196.5	5.6					41.3	40.3	2.1
Queue Delay		0.4		1.2	0.8					0.0	0.0	0.0
Total Delay		15.5		197.7	6.4					41.3	40.3	2.1
LOS		B		F	A					D	D	A
Approach Delay		15.5			63.7						25.8	
Approach LOS		B			E						C	
Queue Length 50th (ft)		113		~333	125					25	18	0
Queue Length 95th (ft)		123		m#372	m121					57	37	6
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1620		492	2565					335	678	353
Starvation Cap Reductn		221		63	607					0	0	0
Spillback Cap Reductn		0		0	22					0	0	13
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.71		1.58	0.81					0.12	0.08	0.17

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 110

MS

Synchro 9 Report
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7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	5.5	9.5
Total Split (s)	15.0	15.0
Total Split (%)	13%	13%
Yellow Time (s)	3.5	3.5
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

MS

Synchro 9 Report
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7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.38

Intersection Signal Delay: 47.9

Intersection LOS: D

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	152	542	0	0	1985	58	67	84	125	0	0	0
Future Volume (vph)	152	542	0	0	1985	58	67	84	125	0	0	0
Confl. Peds. (#/hr)			35			58	34		28			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	171	609	0	0	2230	65	75	94	140	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	171	609	0	0	2295	0	67	102	140	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	15.0	94.0			79.0		26.0	26.0	26.0			
Total Split (%)	12.5%	78.3%			65.8%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	89.5	89.0			75.0		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.62		0.18	0.18	0.18			
v/c Ratio	0.82	0.23			1.04		0.24	0.33	0.37			
Control Delay	74.8	1.0			35.9		41.4	42.5	8.9			
Queue Delay	0.0	0.1			23.8		2.6	0.0	0.0			
Total Delay	74.8	1.1			59.7		44.0	42.5	8.9			
LOS	E	A			E		D	D	A			
Approach Delay		17.3			59.7			27.6				
Approach LOS		B			E			C				
Queue Length 50th (ft)	98	13			~314		45	71	5			
Queue Length 95th (ft)	#195	16			m98		m67	m98	m28			
Internal Link Dist (ft)		321			675			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	217	2624			2201		277	306	374			
Starvation Cap Reductn	0	962			1		0	0	0			
Spillback Cap Reductn	0	0			239		133	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.79	0.37			1.17		0.47	0.33	0.37			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 130

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 47.0

Intersection LOS: D

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑	↑
Traffic Volume (vph)	0	14	47	52	10	0	0	0	0	127	1177	18
Future Volume (vph)	0	14	47	52	10	0	0	0	0	127	1177	18
Confl. Peds. (#/hr)			18							45		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)		0										
Adj. Flow (vph)	0	15	51	57	11	0	0	0	0	138	1279	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	51	0	68	0	0	0	0	0	1437	0
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases	4 12				4 12						2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12		4 12	4 12	4 12					2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	21.8	21.8		21.8							82.9	
Actuated g/C Ratio	0.18	0.18		0.18							0.69	
v/c Ratio	0.05	0.16		0.27							0.60	
Control Delay	20.7	3.9		27.4							8.0	
Queue Delay	0.0	0.0		0.0							0.0	
Total Delay	20.7	3.9		27.4							8.0	
LOS	C	A		C							A	
Approach Delay	7.7			27.4							8.0	
Approach LOS	A			C							A	
Queue Length 50th (ft)	5	0		37							188	
Queue Length 95th (ft)	16	13		51							228	
Internal Link Dist (ft)	177			244				271			262	
Turn Bay Length (ft)												
Base Capacity (vph)	754	714		628							2392	
Starvation Cap Reductn	0	0		0							0	
Spillback Cap Reductn	0	0		0							0	
Storage Cap Reductn	0	0		0							0	
Reduced v/c Ratio	0.02	0.07		0.11							0.60	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												
Natural Cycle: 95												

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	23.0	23.0	22.5	22.5
Total Split (s)	26.0	43.0	28.0	23.0
Total Split (%)	22%	36%	23%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 8.9

Intersection LOS: A

Intersection Capacity Utilization 77.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	121	0	0	27	26	88	800	131	0	0	0
Future Volume (vph)	4	121	0	0	27	26	88	800	131	0	0	0
Confl. Peds. (#/hr)	31								33			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Parking (#/hr)		0										
Adj. Flow (vph)	5	146	0	0	33	31	106	964	158	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	64	0	0	1070	158	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	25.5			25.5			70.5	70.5				
Actuated g/C Ratio	0.21			0.21			0.59	0.59				
v/c Ratio	0.43			0.16			0.36	0.18				
Control Delay	27.4			12.7			11.0	6.3				
Queue Delay	0.0			0.0			0.0	0.0				
Total Delay	27.4			12.7			11.0	6.3				
LOS	C			B			B	A				
Approach Delay	27.4			12.7			10.4					
Approach LOS	C			B			B					
Queue Length 50th (ft)	63			14			167	47				
Queue Length 95th (ft)	86			29			105	37				
Internal Link Dist (ft)	244			319			272			254		
Turn Bay Length (ft)							100					
Base Capacity (vph)	595			644			3142	909				
Starvation Cap Reductn	0			0			415	0				
Spillback Cap Reductn	0			0			0	0				
Storage Cap Reductn	0			0			0	0				
Reduced v/c Ratio	0.25			0.10			0.39	0.17				
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green												
Natural Cycle: 100												

MS

Synchro 9 Report
Page 17

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	38.0	29.0	27.0	26.0
Total Split (%)	32%	24%	23%	22%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
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19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 12.3

Intersection LOS: B

Intersection Capacity Utilization 39.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔	↔			
Traffic Volume (vph)	4	138	0	0	23	33	88	970	91	0	0	0
Future Volume (vph)	4	138	0	0	23	33	88	970	91	0	0	0
Confl. Peds. (#/hr)						11	58					
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Parking (#/hr)					0							
Adj. Flow (vph)	5	164	0	0	27	39	105	1155	108	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	169	0	0	66	0	0	1260	108	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases	4 12				4 12			2 10				
Permitted Phases	4 12							2 10				
Detector Phase	4 12	4 12			4 12			2 10	2 10	2 10		
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	22.6				22.6			73.4	73.4			
Actuated g/C Ratio	0.19				0.19			0.61	0.61			
v/c Ratio	0.49				0.21			0.41	0.11			
Control Delay	27.9				15.3			3.9	0.9			
Queue Delay	0.0				0.0			0.2	0.0			
Total Delay	27.9				15.3			4.1	0.9			
LOS	C				B			A	A			
Approach Delay	27.9				15.3			3.8				
Approach LOS	C				B			A				
Queue Length 50th (ft)	67				17			41	2			
Queue Length 95th (ft)	93				m34			m47	m7			
Internal Link Dist (ft)	233				60			281			272	
Turn Bay Length (ft)									100			
Base Capacity (vph)	693				585			3058	995			
Starvation Cap Reductn	0				0			877	0			
Spillback Cap Reductn	0				0			0	0			
Storage Cap Reductn	0				0			0	0			
Reduced v/c Ratio	0.24				0.11			0.58	0.11			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	42.0	32.0	21.0	25.0
Total Split (%)	35%	27%	18%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 6.8Intersection LOS: A
Intersection Capacity Utilization 45.8%ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	1762	324	201	974	0	0	0	0	103	684	78
Future Volume (vph)	0	1762	324	201	974	0	0	0	0	103	684	78
Confl. Peds. (#/hr)			32	32						30		37
Confl. Bikes (#/hr)						1						20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1798	331	205	994	0	0	0	0	105	698	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2129	0	205	994	0	0	0	0	0	803	80
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		56.0			84.0					36.0	36.0	36.0
Total Split (%)		46.7%			70.0%					30.0%	30.0%	30.0%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		51.2		79.0	79.0					31.0	31.0	31.0
Actuated g/C Ratio		0.43		0.66	0.66					0.26	0.26	0.26
v/c Ratio		1.01		0.63	0.30					0.62	0.17	0.17
Control Delay		54.7		38.9	3.6					36.0	5.0	5.0
Queue Delay		4.2		13.4	0.1					0.4	0.0	0.0
Total Delay		58.9		52.4	3.7					36.4	5.0	5.0
LOS		E		D	A					D	A	A
Approach Delay		58.9			12.0					33.6		
Approach LOS		E			B					C		
Queue Length 50th (ft)		~600		105	35					194	3	3
Queue Length 95th (ft)		#724		180	40					231	m20	m20
Internal Link Dist (ft)		262			240			197		285		
Turn Bay Length (ft)				50								100
Base Capacity (vph)		2118		327	3347					1298	458	458
Starvation Cap Reductn		0		100	929					0	0	0
Spillback Cap Reductn		30		0	0					144	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		1.02		0.90	0.41					0.70	0.17	0.17

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 100

MS

Synchro 9 Report
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34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	5.0
Minimum Split (s)	13.0	10.0
Total Split (s)	14.0	14.0
Total Split (%)	12%	12%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

MS

Synchro 9 Report
Page 24

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 40.3

Intersection LOS: D

Intersection Capacity Utilization 87.8%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

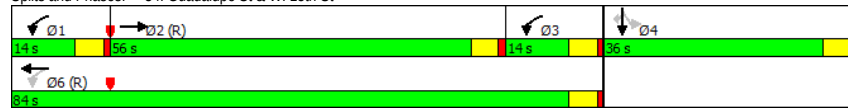
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰			↰↰↰			↰↰↰	↰			
Traffic Volume (vph)	305	1485	0	0	1055	130	131	681	176	0	0	0
Future Volume (vph)	305	1485	0	0	1055	130	131	681	176	0	0	0
Confl. Peds. (#/hr)	37					37	17		47			
Confl. Bikes (#/hr)									11			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	324	1580	0	0	1122	138	139	724	187	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	324	1580	0	0	1260	0	0	863	187	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0			
Total Split (s)	19.0	79.0			60.0		41.0	41.0	41.0			
Total Split (%)	15.8%	65.8%			50.0%		34.2%	34.2%	34.2%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	74.0	74.0			55.0			35.0	35.0			
Actuated g/C Ratio	0.62	0.62			0.46			0.29	0.29			
v/c Ratio	0.99	0.50			0.55			0.59	0.40			
Control Delay	71.0	2.7			11.3			38.3	24.9			
Queue Delay	10.9	0.4			0.1			0.0	0.0			
Total Delay	81.9	3.1			11.4			38.3	24.9			
LOS	F	A			B			D	C			
Approach Delay		16.5			11.4			35.9				
Approach LOS		B			B			D				
Queue Length 50th (ft)	187	47			76			209	74			
Queue Length 95th (ft)	m#191	m47			84			255	143			
Internal Link Dist (ft)		240			335			116			281	
Turn Bay Length (ft)	50											
Base Capacity (vph)	328	3135			2289			1465	469			
Starvation Cap Reductn	13	914			183			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	1.03	0.71			0.60			0.59	0.40			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 19.8

Intersection LOS: B

Intersection Capacity Utilization 87.8%

ICU Level of Service E

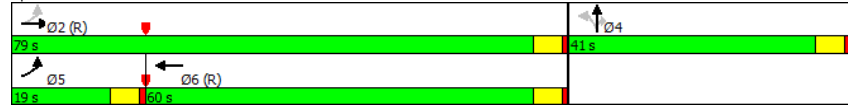
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩ ↪ ↪	↩ ↪ ↪	↩	↩ ↪ ↪	↩ ↪ ↪	↩	↩ ↪ ↪	↩ ↪ ↪	↩ ↪ ↪	↩ ↪ ↪	↩ ↪ ↪	↩ ↪ ↪
Traffic Volume (vph)	266	1379	52	71	1108	259	1	21	21	26	19	31
Future Volume (vph)	266	1379	52	71	1108	259	1	21	21	26	19	31
Confl. Peds. (#/hr)	6		82	82		6	4		34	34		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	283	1467	55	76	1179	276	1	22	22	28	20	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	283	1522	0	76	1455	0	0	45	0	0	48	33
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	22.0		10.0	30.0		32.0	32.0		32.0	32.0	30.0
Total Split (s)	15.0	72.0		15.0	72.0		33.0	33.0		33.0	33.0	72.0
Total Split (%)	12.5%	60.0%		12.5%	60.0%		27.5%	27.5%		27.5%	27.5%	60.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effct Green (s)	80.0	72.0		74.2	67.0			28.0			28.0	67.0
Actuated g/C Ratio	0.67	0.60		0.62	0.56			0.23			0.23	0.56
v/c Ratio	1.03	0.51		0.32	0.52			0.11			0.13	0.04
Control Delay	94.6	4.6		10.4	9.0			22.8			37.7	0.7
Queue Delay	0.0	0.1		0.0	0.1			0.0			0.0	0.0
Total Delay	94.6	4.7		10.4	9.1			22.8			37.7	0.7
LOS	F	A		B	A			C			D	A
Approach Delay		18.8			9.2			22.8			22.6	
Approach LOS		B			A			C			C	
Queue Length 50th (ft)	~147	83		10	182			14			30	0
Queue Length 95th (ft)	#303	96		24	236			46			63	4
Internal Link Dist (ft)		335			362			155			114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	276	3004		280	2774			410			359	896
Starvation Cap Reductn	0	358		0	217			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	1.03	0.58		0.27	0.57			0.11			0.13	0.04

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 14.7

Intersection LOS: B

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

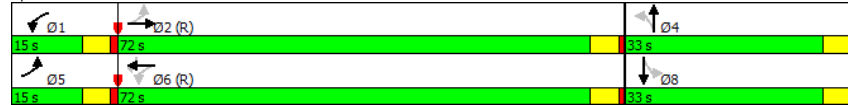
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 36: Colorado St & W. 15th St



37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↖	↖	↑↑↑	↖	↖
Traffic Volume (vph)	1400	28	18	1527	0	1
Future Volume (vph)	1400	28	18	1527	0	1
Confl. Peds. (#/hr)		30	30		13	20
Confl. Bikes (#/hr)						13
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1429	29	18	1558	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1458	0	18	1558	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	72.0		15.0	87.0		33.0
Total Split (%)	60.0%		12.5%	72.5%		27.5%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effct Green (s)	77.5		82.0	82.0		28.0
Actuated g/C Ratio	0.65		0.68	0.68		0.23
v/c Ratio	0.45		0.08	0.45		0.00
Control Delay	4.0		5.3	7.0		0.0
Queue Delay	0.0		0.0	0.1		0.0
Total Delay	4.0		5.3	7.1		0.0
LOS	A		A	A		A
Approach Delay	4.0			7.1		
Approach LOS	A			A		
Queue Length 50th (ft)	46		3	175		0
Queue Length 95th (ft)	53		m5	70		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)			100			
Base Capacity (vph)	3270		291	3474		485
Starvation Cap Reductn	169		0	542		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.47		0.06	0.53		0.00

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45

Intersection Signal Delay: 5.6 Intersection LOS: A
Intersection Capacity Utilization 59.4% ICU Level of Service B
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Traffic Volume (vph)	79	1131	48	27	1548	113	4	2	7	2	0	4
Future Volume (vph)	79	1131	48	27	1548	113	4	2	7	2	0	4
Confl. Peds. (#/hr)	1		10	10		1	10		4	4		10
Confl. Bikes (#/hr)						1						17
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	81	1166	49	28	1596	116	4	2	7	2	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	1215	0	28	1712	0	0	6	7	0	6	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	15.0	78.0		10.0	73.0		32.0	32.0	32.0	32.0	32.0	
Total Split (%)	12.5%	65.0%		8.3%	60.8%		26.7%	26.7%	26.7%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	103.0	105.0		99.5	100.5			10.0	10.0		10.0	
Actuated g/C Ratio	0.86	0.88		0.83	0.84			0.08	0.08		0.08	
v/c Ratio	0.31	0.28		0.07	0.41			0.05	0.03		0.03	
Control Delay	9.3	4.0		2.0	1.8			51.7	0.3		0.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	9.3	4.1		2.0	1.8			51.7	0.3		0.2	
LOS	A	A		A	A			D	A		A	
Approach Delay		4.4			1.8			24.0			0.2	
Approach LOS		A			A			C			A	
Queue Length 50th (ft)	11	100		1	17			4	0		0	
Queue Length 95th (ft)	48	116		3	137			18	0		0	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40					50			
Base Capacity (vph)	307	4414		392	4210			346	434		412	
Starvation Cap Reductn	0	1051		0	555			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.26	0.36		0.07	0.47			0.02	0.02		0.01	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 3.0
Intersection Capacity Utilization 61.7%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service B

Splits and Phases: 38: Brazos St & W. 15th St



39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	864	350	160	1666	0	0	0	0	92	179	44
Future Volume (vph)	0	864	350	160	1666	0	0	0	0	92	179	44
Confl. Peds. (#/hr)			22	22						10		7
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	873	354	162	1683	0	0	0	0	93	181	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1227	0	162	1683	0	0	0	0	0	274	44
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		68.0		20.0	88.0					32.0	32.0	32.0
Total Split (%)		56.7%		16.7%	73.3%					26.7%	26.7%	26.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		85.1		97.9	97.9					12.1	12.1	12.1
Actuated g/C Ratio		0.71		0.82	0.82					0.10	0.10	0.10
v/c Ratio		0.36		0.43	0.41					0.55	0.21	0.21
Control Delay		2.4		7.4	3.8					55.2	7.8	7.8
Queue Delay		0.1		0.0	0.3					0.0	0.0	0.0
Total Delay		2.5		7.4	4.1					55.2	7.8	7.8
LOS		A		A	A					E	A	A
Approach Delay		2.5			4.4					48.6		
Approach LOS		A			A					D		
Queue Length 50th (ft)		0		23	101					75	0	0
Queue Length 95th (ft)		0		m28	112					103	21	21
Internal Link Dist (ft)		297			282			125		272		
Turn Bay Length (ft)				70								50
Base Capacity (vph)		3441		462	4147					1119	398	398
Starvation Cap Reductn		957		0	1607					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.49		0.35	0.66					0.24	0.11	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 7.9

Intersection LOS: A

Intersection Capacity Utilization 91.7%

ICU Level of Service F

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	↑↑↑	→	←	↑↑↑	→	←	↑↑↑	→	←	↑↑↑	→
Traffic Volume (vph)	220	786	0	0	1775	644	59	167	12	0	0	0
Future Volume (vph)	220	786	0	0	1775	644	59	167	12	0	0	0
Confl. Peds. (#/hr)	1					1	3		6			
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	810	0	0	1830	664	61	172	12	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	810	0	0	2494	0	0	233	12	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	28.0			5.5		28.0	28.0	28.0			
Total Split (s)	20.0	92.0			72.0		28.0	28.0	28.0			
Total Split (%)	16.7%	76.7%			60.0%		23.3%	23.3%	23.3%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	87.5	87.0			69.0			23.0	23.0			
Actuated g/C Ratio	0.73	0.72			0.58			0.19	0.19			
v/c Ratio	0.85	0.22			0.87			0.35	0.03			
Control Delay	63.6	3.6			10.3			43.7	0.2			
Queue Delay	0.0	0.1			0.2			0.0	0.0			
Total Delay	63.6	3.7			10.5			43.7	0.2			
LOS	E	A			B			D	A			
Approach Delay		16.8			10.5			41.6				
Approach LOS		B			B			D				
Queue Length 50th (ft)	122	36			155			83	0			
Queue Length 95th (ft)	#225	42			m161			123	0			
Internal Link Dist (ft)		282			657			149			621	
Turn Bay Length (ft)	100											
Base Capacity (vph)	289	3686			2852			668	344			
Starvation Cap Reductn	0	1622			51			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.79	0.39			0.89			0.35	0.03			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 14.3 Intersection LOS: B

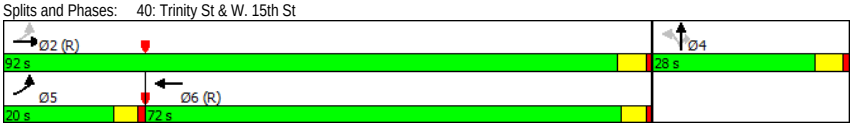
Intersection Capacity Utilization 91.7% ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	11.8											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			+				+				+	
Traffic Vol, veh/h	0	4	201	35	0	21	31	5	0	15	30	61
Future Vol, veh/h	0	4	201	35	0	21	31	5	0	15	30	61
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	228	40	0	24	35	6	0	17	34	69
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.6	9.4	9.2
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	2%	37%	1%
Vol Thru, %	28%	84%	54%	94%
Vol Right, %	58%	15%	9%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	240	57	322
LT Vol	15	4	21	4
Through Vol	30	201	31	302
RT Vol	61	35	5	16
Lane Flow Rate	120	273	65	366
Geometry Grp	1	1	1	1
Degree of Util (X)	0.17	0.395	0.102	0.512
Departure Headway (Hd)	5.085	5.219	5.673	5.038
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	706	690	632	721
Service Time	3.116	3.25	3.712	3.038
HCM Lane V/C Ratio	0.17	0.396	0.103	0.508
HCM Control Delay	9.2	11.6	9.4	13.2
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.6	1.9	0.3	2.9

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			+	
Traffic Vol, veh/h	0	4	302	16
Future Vol, veh/h	0	4	302	16
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	5	343	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.2
HCM LOS	B

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.8											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	269	0	0	0	55	0	0	0	0	0
Future Vol, veh/h	0	0	269	0	0	0	55	0	0	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	309	0	0	0	63	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.1	7.6	0
HCM LOS	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	269	55	8
LT Vol	0	0	0	0
Through Vol	0	269	55	0
RT Vol	0	0	0	8
Lane Flow Rate	0	309	63	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.343	0.073	0.011
Departure Headway (Hd)	4.743	3.997	4.18	4.126
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	900	850	873
Service Time	2.744	2.017	2.243	2.126
HCM Lane V/C Ratio	0	0.343	0.074	0.01
HCM Control Delay	7.7	9.1	7.6	7.2
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	1.5	0.2	0

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	8
Future Vol, veh/h	0	0	0	8
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	9
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.2
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	13											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	118	97	7	0	17	116	106	0	20	0	0
Future Vol, veh/h	0	118	97	7	0	17	116	106	0	20	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	149	123	9	0	22	147	134	0	25	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.8	12.2	9.7
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	53%	7%	5%
Vol Thru, %	0%	44%	49%	86%
Vol Right, %	0%	3%	44%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	222	239	266
LT Vol	20	118	17	14
Through Vol	0	97	116	228
RT Vol	0	7	106	24
Lane Flow Rate	25	281	303	337
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.432	0.436	0.513
Departure Headway (Hd)	6.357	5.533	5.185	5.482
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	561	649	693	657
Service Time	4.424	3.58	3.231	3.524
HCM Lane V/C Ratio	0.045	0.433	0.437	0.513
HCM Control Delay	9.7	12.8	12.2	14.2
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.1	2.2	2.2	2.9

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	14	228	24
Future Vol, veh/h	0	14	228	24
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	18	289	30
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.2
HCM LOS	B

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	17.4											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↰				↱					
Traffic Vol, veh/h	0	0	30	97	0	72	172	0	0	0	0	0
Future Vol, veh/h	0	0	30	97	0	72	172	0	0	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	32	103	0	77	183	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		11.4	16.6
HCM LOS		B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	30%	0%	0%	0%
Vol Thru, %	24%	70%	100%	100%	0%
Vol Right, %	76%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	127	244	383	383	68
LT Vol	0	72	0	0	0
Through Vol	30	172	383	383	0
RT Vol	97	0	0	0	68
Lane Flow Rate	135	260	407	407	72
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.245	0.502	0.666	0.666	0.069
Departure Headway (Hd)	6.535	6.969	5.882	5.882	3.42
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	549	517	615	615	1043
Service Time	4.285	4.714	3.616	3.616	1.154
HCM Lane V/C Ratio	0.246	0.503	0.662	0.662	0.069
HCM Control Delay	11.4	16.6	19.6	19.6	6.4
HCM Lane LOS	B	C	C	C	A
HCM 95th-tile Q	1	2.8	5	5	0.2

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↰↱	↱
Traffic Vol, veh/h	0	0	766	68
Future Vol, veh/h	0	0	766	68
Peak Hour Factor	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	815	72
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		18.5
HCM LOS		C

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	11.7											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	31	185	35	0	0	25	0	0	15	68	0
Future Vol, veh/h	0	31	185	35	0	0	25	0	0	15	68	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	35	210	40	0	0	28	0	0	17	77	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.5	8.9	9.2
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	12%	0%	0%
Vol Thru, %	82%	74%	100%	91%
Vol Right, %	0%	14%	0%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	251	25	328
LT Vol	15	31	0	0
Through Vol	68	185	25	300
RT Vol	0	35	0	28
Lane Flow Rate	94	285	28	373
Geometry Grp	1	1	1	1
Degree of Util (X)	0.14	0.4	0.044	0.498
Departure Headway (Hd)	5.347	5.043	5.602	4.808
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	674	707	642	742
Service Time	3.349	3.129	3.608	2.887
HCM Lane V/C Ratio	0.139	0.403	0.044	0.503
HCM Control Delay	9.2	11.5	8.9	12.6
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.5	1.9	0.1	2.8

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	300	28
Future Vol, veh/h	0	0	300	28
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	341	32
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	12.6
HCM LOS	B

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	28	0	206	16	0	38	0
Future Vol, veh/h	0	0	28	0	206	16	0	38	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	32	0	234	18	0	43	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.5	8.6	8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	93%	0%
Vol Right, %	0%	7%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	222	38
LT Vol	0	0	38
Through Vol	28	206	0
RT Vol	0	16	0
Lane Flow Rate	32	252	43
Geometry Grp	1	1	1
Degree of Util (X)	0.037	0.28	0.057
Departure Headway (Hd)	4.199	3.989	4.747
Convergence, Y/N	Yes	Yes	Yes
Cap	840	896	759
Service Time	2.286	2.035	2.747
HCM Lane V/C Ratio	0.038	0.281	0.057
HCM Control Delay	7.5	8.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	1.2	0.2

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	1101	124	207	776	2	30
Future Vol, veh/h	1101	124	207	776	2	30
Conflicting Peds, #/hr	0	1	1	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1266	143	238	892	2	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1409	0	2260	710
Stage 1	-	-	-	-	1338	-
Stage 2	-	-	-	-	922	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	480	-	35	376
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	348	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	478	-	18	374
Mov Cap-2 Maneuver	-	-	-	-	18	-
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	175	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		4.2		32.5	
HCM LOS					D	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	167	-	-	478	-
HCM Lane V/C Ratio	0.22	-	-	0.498	-
HCM Control Delay (s)	32.5	-	-	19.8	-
HCM Lane LOS	D	-	-	C	-
HCM 95th %tile Q(veh)	0.8	-	-	2.7	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	13	47	60	10	0	0	0	0	75	1214	18
Future Vol, veh/h	0	13	47	60	10	0	0	0	0	75	1214	18
Conflicting Peds, #/hr	0	0	0	13	0	0	0	0	0	0	0	37
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	49	63	11	0	0	0	0	79	1278	19

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1482	698	817	1492	0
Stage 1	-	1482	-	0	0	-
Stage 2	-	0	-	817	1492	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	4.14
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	2.22
Pot Cap-1 Maneuver	0	124	383	268	122	0
Stage 1	0	187	-	-	-	0
Stage 2	0	-	-	337	185	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	120	370	212	118	-
Mov Cap-2 Maneuver	-	120	-	212	118	-
Stage 1	-	180	-	-	-	-
Stage 2	-	-	-	270	178	-

Approach	EB		WB		SB	
HCM Control Delay, s	21.1		35.5			
HCM LOS	C		E			

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	120	370	190	-	-	-
HCM Lane V/C Ratio	0.114	0.134	0.388	-	-	-
HCM Control Delay (s)	38.8	16.2	35.5	-	-	-
HCM Lane LOS	E	C	E	-	-	-
HCM 95th %tile Q(veh)	0.4	0.5	1.7	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	4	69	0	0	34	19	88	560	172	0	0	0
Future Vol, veh/h	4	69	0	0	34	19	88	560	172	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	29	17	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	73	0	0	36	20	94	596	183	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	490	983	-	-	891	418
Stage 1	17	17	-	-	874	-
Stage 2	473	966	-	-	17	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	503	247	0	0	280	499
Stage 1	-	-	0	0	365	-
Stage 2	494	331	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	397	223	-	-	253	499
Mov Cap-2 Maneuver	397	223	-	-	253	-
Stage 1	-	-	-	-	335	-
Stage 2	388	304	-	-	-	-

Approach	EB		WB		NB	
HCM Control Delay, s	28.7		19.3		0.9	
HCM LOS	D		C			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1133	-	-	228	307
HCM Lane V/C Ratio	0.083	-	-	0.341	0.184
HCM Control Delay (s)	8.5	-	-	28.7	19.3
HCM Lane LOS	A	-	-	D	C
HCM 95th %tile Q(veh)	0.3	-	-	1.4	0.7

MS

Synchro 9 Report
Page 3

13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	123	146	57	103	14	17
Future Vol, veh/h	123	146	57	103	14	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	159	62	112	15	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	174	0	-	0	544	118
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	426	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1403	-	-	-	500	934
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1403	-	-	-	448	934
Mov Cap-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	590	-

Approach	EB		WB		SB	
HCM Control Delay, s	3.6		0		11.1	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1403	-	-	-	627
HCM Lane V/C Ratio	0.095	-	-	-	0.054
HCM Control Delay (s)	7.8	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

MS

Synchro 9 Report
Page 4

15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↱			↱	↱	
Traffic Vol, veh/h	35	21	154	70	262	257
Future Vol, veh/h	35	21	154	70	262	257
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	23	167	76	285	279

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	835	424	564	0	- 0
Stage 1	424	-	-	-	-
Stage 2	411	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	338	630	1008	-	-
Stage 1	660	-	-	-	-
Stage 2	669	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	280	630	1008	-	-
Mov Cap-2 Maneuver	280	-	-	-	-
Stage 1	660	-	-	-	-
Stage 2	553	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	6.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1008	-	354	-	-
HCM Lane V/C Ratio	0.166	-	0.172	-	-
HCM Control Delay (s)	9.3	0	17.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	0.6	-	-

MS

Synchro 9 Report
Page 5

17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱		↱	↱↱				
Traffic Vol, veh/h	44	0	0	0	0	0	344	223	0	0	0	0
Future Vol, veh/h	44	0	0	0	0	0	344	223	0	0	0	0
Conflicting Peds, #/hr	0	0	5	0	0	0	6	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	0	0	0	0	0	391	253	0	0	0	0

Major/Minor	Minor2	Major2		Major1	
Conflicting Flow All	890	1042	-	7	0 -
Stage 1	7	7	-	-	-
Stage 2	883	1035	-	-	-
Critical Hdwy	6.08	6.53	-	4.13	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-
Critical Hdwy Stg 2	6.03	5.53	-	-	-
Follow-up Hdwy	3.669	4.019	-	2.219	-
Pot Cap-1 Maneuver	332	229	0	1613	- 0
Stage 1	974	890	0	-	- 0
Stage 2	339	308	0	-	- 0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	249	0	-	1613	-
Mov Cap-2 Maneuver	249	0	-	-	-
Stage 1	968	0	-	-	-
Stage 2	255	0	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	23.1	0	4.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1613	-	249	-	-
HCM Lane V/C Ratio	0.242	-	0.201	-	-
HCM Control Delay (s)	7.9	-	23.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	1	-	0.7	-	-

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Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	20	59	71	121	0	0	0	0	47	669	103
Future Vol, veh/h	0	20	59	71	121	0	0	0	0	47	669	103
Conflicting Peds, #/hr	0	0	22	0	0	0	0	0	0	4	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	64	77	132	0	0	0	0	51	727	112

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	833	386	503	833	-
Stage 1	-	829	-	4	4	-
Stage 2	-	4	-	499	829	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	303	612	451	303	0
Stage 1	0	383	-	-	-	0
Stage 2	0	-	-	522	383	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	283	612	361	283	-
Mov Cap-2 Maneuver	-	283	-	361	283	-
Stage 1	-	360	-	-	-	-
Stage 2	-	-	-	412	360	-

Approach	EB	WB	SB
HCM Control Delay, s	13.4	38.1	0.5
HCM LOS	B	E	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	283	612	308	1616	-	-
HCM Lane V/C Ratio	0.077	0.105	0.678	0.032	-	-
HCM Control Delay (s)	18.8	11.6	38.1	7.3	0.1	-
HCM Lane LOS	C	B	E	A	A	-
HCM 95th %tile Q(veh)	0.2	0.3	4.6	0.1	-	-

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑↑↑		
Traffic Vol, veh/h	35	0	103	534	0	0
Future Vol, veh/h	35	0	103	534	0	0
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	0	118	614	0	0

Major/Minor	Minor2	Major1	
Conflicting Flow All	485	-	0
Stage 1	0	-	-
Stage 2	485	-	-
Critical Hdwy	5.74	-	5.34
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6.04	-	-
Follow-up Hdwy	3.82	-	3.12
Pot Cap-1 Maneuver	556	0	-
Stage 1	-	0	-
Stage 2	534	0	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	556	-	-
Mov Cap-2 Maneuver	556	-	-
Stage 1	-	-	-
Stage 2	534	-	-

Approach	EB	NB
HCM Control Delay, s	12	
HCM LOS	B	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	556
HCM Lane V/C Ratio	-	-	0.072
HCM Control Delay (s)	-	-	12
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	13	47	46	8	0	0	0	0	144	1108	18
Future Vol, veh/h	0	13	47	46	8	0	0	0	0	144	1108	18
Conflicting Peds, #/hr	0	0	0	20	0	0	0	0	0	0	0	24
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	51	50	9	0	0	0	0	157	1204	20

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1541	646	942	1541	-	0	0	0
Stage 1	-	1541	-	0	0	-	-	-	-
Stage 2	-	0	-	942	1541	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	114	414	218	114	0	-	-	-
Stage 1	0	175	-	-	-	0	-	-	-
Stage 2	0	-	-	283	175	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	111	405	172	111	-	-	-	-
Mov Cap-2 Maneuver	-	111	-	172	111	-	-	-	-
Stage 1	-	171	-	-	-	-	-	-	-
Stage 2	-	-	-	227	171	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	23.7		40.3			
HCM LOS	C		E			

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	257 159	-	-	-
HCM Lane V/C Ratio	0.254 0.369	-	-	-
HCM Control Delay (s)	23.7 40.3	-	-	-
HCM Lane LOS	C E	-	-	-
HCM 95th %tile Q(veh)	1 1.6	-	-	-

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	13.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	25	81	112	56	5	45	307	8	2	119	34
Future Vol, veh/h	8	25	81	112	56	5	45	307	8	2	119	34
Conflicting Peds, #/hr	0	0	0	0	0	15	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	32	103	142	71	6	57	389	10	3	151	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	741	693	175	752	710	409	197	0	0	399	0	0
Stage 1	180	180	-	508	508	-	-	-	-	-	-	-
Stage 2	561	513	-	244	202	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	332	367	868	327	359	642	1376	-	-	1160	-	-
Stage 1	822	750	-	547	539	-	-	-	-	-	-	-
Stage 2	512	536	-	760	734	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	260	346	866	257	338	633	1376	-	-	1143	-	-
Mov Cap-2 Maneuver	260	346	-	257	338	-	-	-	-	-	-	-
Stage 1	776	746	-	518	510	-	-	-	-	-	-	-
Stage 2	407	508	-	640	730	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.3		50.1		1		0.1	
HCM LOS	B		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1376	-	-	580 284 1143	-	-	-
HCM Lane V/C Ratio	0.041	-	-	0.249 0.771 0.002	-	-	-
HCM Control Delay (s)	7.7	0	-	13.3 50.1 8.2	0	-	-
HCM Lane LOS	A	A	-	B F A A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1 5.9 0	-	-	-

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	9.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	36	0	0	169	0	0	0	0	0	0	0
Future Vol, veh/h	0	36	0	0	169	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	11	0	11	12	0	0	0	0	12
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	39	0	0	184	0	0	0	0	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	1	-	-	1	-	-	0
Stage 1	-	1	-	-	0	-	-	-
Stage 2	-	0	-	-	1	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-
Stage 1	0	895	0	0	-	0	0	-
Stage 2	0	-	0	0	895	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-
Stage 1	-	895	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	10.1	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.044	0.205	-
HCM Control Delay (s)	-	9.2	10.1	-
HCM Lane LOS	-	A	B	-
HCM 95th %tile Q(veh)	-	0.1	0.8	-

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Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	35	0	3	133	44	0
Future Vol, veh/h	35	0	3	133	44	0
Conflicting Peds, #/hr	0	0	25	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	0	4	160	53	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	67	0	234	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1535	-	754	997
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1535	-	734	973
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	860	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	734	-	-	1535	-
HCM Lane V/C Ratio	0.072	-	-	0.002	-
HCM Control Delay (s)	10.3	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

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Synchro 9 Report
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32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	45	0	0	339	154
Future Vol, veh/h	0	45	0	0	339	154
Conflicting Peds, #/hr	0	0	0	0	0	122
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	54	0	0	408	186

Major/Minor	Minor2	Major2
Conflicting Flow All	- 326	- 0
Stage 1	- -	- -
Stage 2	- -	- -
Critical Hdwy	- 7.14	- -
Critical Hdwy Stg 1	- -	- -
Critical Hdwy Stg 2	- -	- -
Follow-up Hdwy	- 3.92	- -
Pot Cap-1 Maneuver	0 572	- -
Stage 1	0 -	- -
Stage 2	0 -	- -
Platoon blocked, %	- -	- -
Mov Cap-1 Maneuver	- 506	- -
Mov Cap-2 Maneuver	- -	- -
Stage 1	- -	- -
Stage 2	- -	- -

Approach	EB	SB
HCM Control Delay, s	13	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	506	-	-
HCM Lane V/C Ratio	0.107	-	-
HCM Control Delay (s)	13	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

33: Colorado St & Parking Dr. 3
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	15	457	90	120	348
Future Vol, veh/h	14	15	457	90	120	348
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	16	497	98	130	378

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1185 546	0 0	595 0
Stage 1	546 -	- -	- -
Stage 2	639 -	- -	- -
Critical Hdwy	6.42 6.22	- -	4.12 -
Critical Hdwy Stg 1	5.42 -	- -	- -
Critical Hdwy Stg 2	5.42 -	- -	- -
Follow-up Hdwy	3.518 3.318	- -	2.218 -
Pot Cap-1 Maneuver	209 538	- -	981 -
Stage 1	580 -	- -	- -
Stage 2	526 -	- -	- -
Platoon blocked, %	- -	- -	- -
Mov Cap-1 Maneuver	174 538	- -	981 -
Mov Cap-2 Maneuver	174 -	- -	- -
Stage 1	580 -	- -	- -
Stage 2	438 -	- -	- -

Approach	WB	NB	SB
HCM Control Delay, s	20.2	0	2.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	- - 268	981 -	-	-
HCM Lane V/C Ratio	- - 0.118	0.133 -	-	-
HCM Control Delay (s)	- - 20.2	9.2 0	-	-
HCM Lane LOS	- - C	A A	-	-
HCM 95th %tile Q(veh)	- - 0.4	0.5 -	-	-

62: Colorado St & Parking Dr. 4
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	12	84	387	456	96
Future Vol, veh/h	12	12	84	387	456	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	91	421	496	104

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1151	548	600	0	- 0
Stage 1	548	-	-	-	-
Stage 2	603	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	219	536	977	-	-
Stage 1	579	-	-	-	-
Stage 2	546	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	192	536	977	-	-
Mov Cap-2 Maneuver	192	-	-	-	-
Stage 1	579	-	-	-	-
Stage 2	479	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19	1.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	977	-	283	-	-
HCM Lane V/C Ratio	0.093	-	0.092	-	-
HCM Control Delay (s)	9.1	0	19	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	-	-

69: Parking Dr. 5 & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	109	120	90	44	19	10
Future Vol, veh/h	109	120	90	44	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	118	130	98	48	21	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	249	0	427	184
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	243	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1317	-	584	858
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1317	-	540	858
Mov Cap-2 Maneuver	-	-	-	-	540	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	736	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.3	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	619	-	-	1317	-
HCM Lane V/C Ratio	0.051	-	-	0.074	-
HCM Control Delay (s)	11.1	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	374	147	0	1288	707	0	0	0	190	637	232
Future Volume (vph)	152	374	147	0	1288	707	0	0	0	190	637	232
Confl. Peds. (#/hr)	30		69	69		30				41		69
Confl. Bikes (#/hr)			1			6						3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	162	398	156	0	1370	752	0	0	0	202	678	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	554	0	0	1370	752	0	0	0	202	678	247
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6				4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	25.0	92.0			67.0	43.0				43.0	43.0	43.0
Total Split (%)	18.5%	68.1%			49.6%	31.9%				31.9%	31.9%	31.9%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effect Green (s)	20.0	87.0			62.0	100.0				38.0	38.0	38.0
Actuated g/C Ratio	0.15	0.64			0.46	0.74				0.28	0.28	0.28
v/c Ratio	0.62	0.26			0.84	0.64				0.41	0.68	0.49
Control Delay	65.1	10.2			28.6	2.4				42.3	47.2	19.3
Queue Delay	0.0	0.0			47.6	0.3				0.0	0.0	0.0
Total Delay	65.1	10.2			76.2	2.7				42.3	47.2	19.3
LOS	E	B			E	A				D	D	B
Approach Delay		22.6			50.2						40.2	
Approach LOS		C			D						D	
Queue Length 50th (ft)	135	97			517	21				144	278	68
Queue Length 95th (ft)	213	126			m575	m42				220	348	154
Internal Link Dist (ft)		228			45			159			210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	262	2108			1625	1174				498	996	501
Starvation Cap Reductn	0	0			381	85				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.62	0.26			1.10	0.69				0.41	0.68	0.49

Intersection Summary

Cycle Length: 135
 Actuated Cycle Length: 135
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 80

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

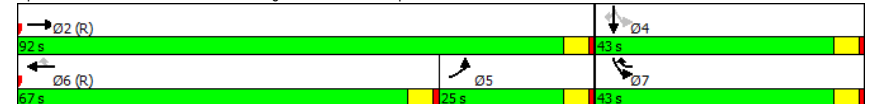
Intersection LOS: D

ICU Level of Service D

Analysis Period (min) 15

- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖↗
Traffic Volume (vph)	543	0	0	1331	992	243
Future Volume (vph)	543	0	0	1331	992	243
Confl. Peds. (#/hr)						81
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	597	0	0	1463	1090	267
Shared Lane Traffic (%)						
Lane Group Flow (vph)	597	0	0	1463	1090	267
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	10.0
Total Split (s)	86.0			86.0	49.0	49.0
Total Split (%)	63.7%			63.7%	36.3%	36.3%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	81.0			81.0	44.0	44.0
Actuated g/C Ratio	0.60			0.60	0.33	0.33
v/c Ratio	0.28			0.69	0.97	0.44
Control Delay	13.8			14.1	76.2	24.2
Queue Delay	0.3			0.6	5.9	0.0
Total Delay	14.1			14.7	82.1	24.2
LOS	B			B	F	C
Approach Delay	14.1			14.7	70.7	
Approach LOS	B			B	E	
Queue Length 50th (ft)	124			260	509	86
Queue Length 95th (ft)	152			318	#641	170
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2123			2123	1118	611
Starvation Cap Reductn	873			135	0	0
Spillback Cap Reductn	0			294	32	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.48			0.80	1.00	0.44

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Ms

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 36.8

Intersection LOS: D

Intersection Capacity Utilization 92.4%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd



Ms

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖↗		↖	↖↗		
Traffic Volume (vph)	805	0	13	1276	0	0
Future Volume (vph)	805	0	13	1276	0	0
Confl. Peds. (#/hr)		33	33		35	
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	856	0	14	1357	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	856	0	14	1357	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0		
Minimum Split (s)	34.0		8.0	20.0		
Total Split (s)	121.0		14.0	135.0		
Total Split (%)	89.6%		10.4%	100.0%		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		5.0	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effect Green (s)	127.4		133.0	135.0		
Actuated g/C Ratio	0.94		0.99	1.00		
v/c Ratio	0.26		0.02	0.38		
Control Delay	0.6		0.1	0.3		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.6		0.1	0.3		
LOS	A		A	A		
Approach Delay	0.6			0.3		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	3		
Queue Length 95th (ft)	38		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3339		657	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.26		0.02	0.38		

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 45

Ms

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 0.5

Intersection LOS: A

Intersection Capacity Utilization 39.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



Ms

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↪	↪	↩	↩↪	↪	↩	↩	↩↪	↪	↩	↩↪
Traffic Volume (vph)	89	798	31	45	898	134	124	23	303	98	25	248
Future Volume (vph)	89	798	31	45	898	134	124	23	303	98	25	248
Confl. Peds. (#/hr)	44		7	7		44	22		23	23		22
Confl. Bikes (#/hr)			4			3						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	92	823	32	46	926	138	128	24	312	101	26	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	855	0	46	926	138	0	152	312	0	127	256
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	22.0		8.0	28.0	28.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (s)	15.0	89.0		15.0	89.0	89.0	31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	11.1%	65.9%		11.1%	65.9%	65.9%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	95.9	89.7		93.0	86.6	86.6		26.0	26.0		26.0	26.0
Actuated g/C Ratio	0.71	0.66		0.69	0.64	0.64		0.19	0.19		0.19	0.19
v/c Ratio	0.23	0.37		0.10	0.41	0.15		0.74	0.60		0.67	0.54
Control Delay	5.2	7.6		2.2	5.5	1.9		73.1	12.9		69.2	12.9
Queue Delay	0.0	0.3		0.0	0.3	0.0		0.0	0.3		0.0	0.0
Total Delay	5.2	7.9		2.2	5.8	1.9		73.1	13.2		69.2	12.9
LOS	A	A		A	A	A		E	B		E	B
Approach Delay		7.6			5.1			32.9			31.6	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	15	112		2	117	9		127	21		104	20
Queue Length 95th (ft)	25	127		6	156	27		#233	115		#193	103
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	433	2334		486	2269	901		206	518		189	475
Starvation Cap Reductn	0	750		0	634	0		0	0		0	0
Spillback Cap Reductn	0	306		0	0	0		0	24		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.21	0.54		0.09	0.57	0.15		0.74	0.63		0.67	0.54

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Ms

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 13.9

Intersection LOS: B

Intersection Capacity Utilization 79.0%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



Ms

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑					↓	↑↑	↑
Traffic Volume (vph)	0	1137	29	363	1132	0	0	0	0	38	200	141
Future Volume (vph)	0	1137	29	363	1132	0	0	0	0	38	200	141
Confl. Peds. (#/hr)			37	37						72		17
Confl. Bikes (#/hr)			7									14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1223	31	390	1217	0	0	0	0	41	215	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1254	0	390	1217	0	0	0	0	41	215	152
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effect Green (s)		73.0		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.54		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.66		1.00	0.47					0.13	0.30	0.39
Control Delay		17.3		84.8	4.2					45.8	47.4	15.8
Queue Delay		0.6		7.1	0.3					0.0	0.0	0.0
Total Delay		17.9		91.9	4.5					45.8	47.4	15.8
LOS		B		F	A					D	D	B
Approach Delay		17.9			25.7						35.5	
Approach LOS		B			C						D	
Queue Length 50th (ft)		340		259	121					30	85	24
Queue Length 95th (ft)		413		m#448	m126					65	124	88
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1904		391	2569					312	707	394
Starvation Cap Reductn		277		10	639					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.77		1.02	0.63					0.13	0.30	0.39

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Ms

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 23.9

Intersection LOS: C

Intersection Capacity Utilization 85.9%

ICU Level of Service E

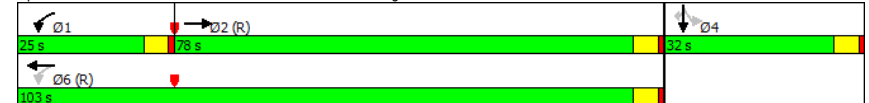
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



Ms

Synchro 9 Report
Page 10

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰			↰↰		↰	↰	↰		↓	↰
Traffic Volume (vph)	85	1169	0	0	1230	52	215	321	591	0	0	0
Future Volume (vph)	85	1169	0	0	1230	52	215	321	591	0	0	0
Confl. Peds. (#/hr)			34			89	17		151			
Confl. Bikes (#/hr)						4			13			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	1205	0	0	1268	54	222	331	609	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	88	1205	0	0	1322	0	200	353	609	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	104.0			89.0		31.0	31.0	31.0			
Total Split (%)	11.1%	77.0%			65.9%		23.0%	23.0%	23.0%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	99.0	99.0			86.6		26.0	26.0	26.0			
Actuated g/C Ratio	0.73	0.73			0.64		0.19	0.19	0.19			
v/c Ratio	0.32	0.46			0.59		0.64	1.04	2.03			
Control Delay	6.4	1.4			7.3		69.1	119.4	500.4			
Queue Delay	0.0	0.1			0.8		3.4	22.4	0.0			
Total Delay	6.4	1.5			8.1		72.5	141.8	500.4			
LOS	A	A			A		E	F	F			
Approach Delay		1.8			8.1			317.8				
Approach LOS		A			A			F				
Queue Length 50th (ft)	3	22			113		178	~354	~766			
Queue Length 95th (ft)	m12	25			128		270	#567	#1002			
Internal Link Dist (ft)		321			699			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	300	2595			2232		313	339	300			
Starvation Cap Reductn	0	215			533		0	0	0			
Spillback Cap Reductn	0	0			41		52	56	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.29	0.51			0.78		0.77	1.25	2.03			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 75

Ms

Synchro 9 Report
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8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.03

Intersection Signal Delay: 101.2

Intersection LOS: F

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

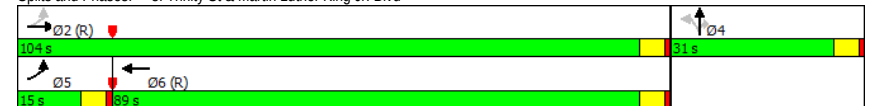
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



Ms

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	20	12	164	96	0	0	0	0	47	1178	22
Future Volume (vph)	0	20	12	164	96	0	0	0	0	47	1178	22
Confl. Peds. (#/hr)			68									
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Parking (#/hr)		0										
Adj. Flow (vph)	0	21	13	171	100	0	0	0	0	49	1227	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	13	0	271	0	0	0	0	0	1299	0
Turn Type	NA	Perm	Perm	NA						Perm	NA	
Protected Phases	4 12			4 12							2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12	4 12	4 12	4 12						2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		31.5	31.5		31.5						79.5	
Actuated g/C Ratio		0.23	0.23		0.23						0.59	
v/c Ratio		0.05	0.03		0.79						0.63	
Control Delay		21.9	0.2		34.9						12.7	
Queue Delay		0.0	0.0		0.0						0.0	
Total Delay		21.9	0.2		35.0						12.7	
LOS		C	A		C						B	
Approach Delay		13.6			35.0						12.7	
Approach LOS		B			C						B	
Queue Length 50th (ft)		10	0		84						206	
Queue Length 95th (ft)		24	0		131						270	
Internal Link Dist (ft)		177			244			271			262	
Turn Bay Length (ft)												
Base Capacity (vph)		533	509		472						2071	
Starvation Cap Reductn		0	0		1						0	
Spillback Cap Reductn		0	0		0						0	
Storage Cap Reductn		0	0		0						0	
Reduced v/c Ratio		0.04	0.03		0.58						0.63	
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												

Ms

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	21.0	21.0	22.5	22.5
Total Split (s)	56.0	29.0	24.0	26.0
Total Split (%)	41%	21%	18%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Ms

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 16.5

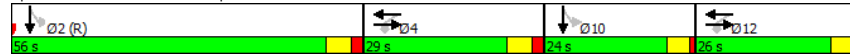
Intersection LOS: B

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖			↗		↖↗↘	↖					
Traffic Volume (vph)	11	64	0	0	133	123	65	1161	69	0	0	0	
Future Volume (vph)	11	64	0	0	133	123	65	1161	69	0	0	0	
Confl. Peds. (#/hr)	34							47					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Parking (#/hr)		0											
Adj. Flow (vph)	12	70	0	0	145	134	71	1262	75	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	82	0	0	279	0	0	1333	75	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4 12			4 12			2 10					
Permitted Phases	4 12						2 10		2 10				
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10				
Switch Phase													
Minimum Initial (s)													
Minimum Split (s)													
Total Split (s)													
Total Split (%)													
Yellow Time (s)													
All-Red Time (s)													
Lost Time Adjust (s)													
Total Lost Time (s)													
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode													
Act Effct Green (s)	31.4				31.4			79.6	79.6				
Actuated g/C Ratio	0.23				0.23			0.59	0.59				
v/c Ratio	0.23				0.66			0.45	0.09				
Control Delay	21.8				31.4			10.2	4.3				
Queue Delay	0.0				0.0			0.0	0.0				
Total Delay	21.8				31.4			10.2	4.3				
LOS	C				C			B	A				
Approach Delay	21.8				31.4			9.9					
Approach LOS	C				C			A					
Queue Length 50th (ft)	32				128			147	11				
Queue Length 95th (ft)	m62				189			152	m18				
Internal Link Dist (ft)	244				319			272			254		
Turn Bay Length (ft)									100				
Base Capacity (vph)	508				585			3009	800				
Starvation Cap Reductn	0				0			273	0				
Spillback Cap Reductn	0				7			0	0				
Storage Cap Reductn	0				0			0	0				
Reduced v/c Ratio	0.16				0.48			0.49	0.09				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Natural Cycle: 100

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	54.0	28.0	25.0	28.0
Total Split (%)	40%	21%	19%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Ms

Synchro 9 Report
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19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 13.8

Intersection LOS: B

Intersection Capacity Utilization 48.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: Lavaca St & E. 17th St



Ms

Synchro 9 Report
Page 18

28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	65	0	0	92	148	64	1123	60	0	0	0
Future Volume (vph)	11	65	0	0	92	148	64	1123	60	0	0	0
Confl. Peds. (#/hr)						167		87				
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Parking (#/hr)					0							
Adj. Flow (vph)	12	68	0	0	97	156	67	1182	63	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	253	0	0	1249	63	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		31.2			31.2			79.8	79.8			
Actuated g/C Ratio		0.23			0.23			0.59	0.59			
v/c Ratio		0.20			0.77			0.42	0.07			
Control Delay		22.9			37.6			11.1	3.4			
Queue Delay		0.0			0.0			0.4	0.0			
Total Delay		22.9			37.6			11.5	3.4			
LOS		C			D			B	A			
Approach Delay		22.9			37.6			11.1				
Approach LOS		C			D			B				
Queue Length 50th (ft)		36			112			106	1			
Queue Length 95th (ft)		m67			167			m245	m7			
Internal Link Dist (ft)		233			60			281			272	
Turn Bay Length (ft)									100			
Base Capacity (vph)		568			448			2969	965			
Starvation Cap Reductn		0			0			1051	0			
Spillback Cap Reductn		0			0			0	0			
Storage Cap Reductn		0			0			0	0			
Reduced v/c Ratio		0.14			0.56			0.65	0.07			
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green												

Ms

Synchro 9 Report
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28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	55.0	32.0	24.0	24.0
Total Split (%)	41%	24%	18%	18%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Ms

Synchro 9 Report
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28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 15.7

Intersection LOS: B

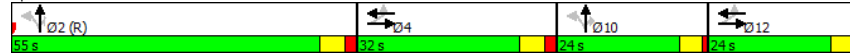
Intersection Capacity Utilization 54.7%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	934	97	232	1793	0	0	0	0	152	917	444
Future Volume (vph)	0	934	97	232	1793	0	0	0	0	152	917	444
Confl. Peds. (#/hr)			18	18						20		28
Confl. Bikes (#/hr)												28
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1086	113	270	2085	0	0	0	0	177	1066	516
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1199	0	270	2085	0	0	0	0	0	1243	516
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		58.0			88.0					47.0	47.0	47.0
Total Split (%)		43.0%			65.2%					34.8%	34.8%	34.8%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		53.0		83.0	83.0						42.0	42.0
Actuated g/C Ratio		0.39		0.61	0.61						0.31	0.31
v/c Ratio		0.61		0.72	0.67						0.79	0.98
Control Delay		33.9		30.8	7.0						44.9	69.4
Queue Delay		0.0		17.1	0.3						0.0	0.0
Total Delay		33.9		47.9	7.3						44.9	69.4
LOS		C		D	A						D	E
Approach Delay		33.9			12.0						52.1	
Approach LOS		C			B						D	
Queue Length 50th (ft)		300		106	136						322	308
Queue Length 95th (ft)		330		m150	139						369	#562
Internal Link Dist (ft)		262			240			197			285	
Turn Bay Length (ft)				50								100
Base Capacity (vph)		1968		374	3126						1564	524
Starvation Cap Reductn		0		92	415						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.61		0.96	0.77						0.79	0.98

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	8.0
Minimum Split (s)	10.0	13.0
Total Split (s)	15.0	15.0
Total Split (%)	11%	11%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 30.2

Intersection LOS: C

Intersection Capacity Utilization 80.1%

ICU Level of Service D

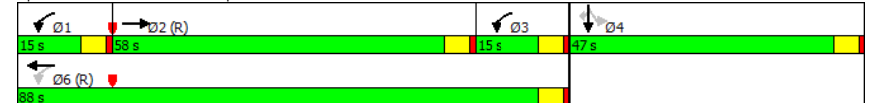
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↖↖			↖↖↖			↖↖↖	↖				
Traffic Volume (vph)	125	929	0	0	1706	67	393	891	163	0	0	0	
Future Volume (vph)	125	929	0	0	1706	67	393	891	163	0	0	0	
Confl. Peds. (#/hr)	48					48	31		18				
Confl. Bikes (#/hr)			2						28				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	139	1032	0	0	1896	74	437	990	181	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	139	1032	0	0	1970	0	0	1427	181	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA	Perm				
Protected Phases	5	2			6			4					
Permitted Phases	2						4		4				
Detector Phase	5	2			6		4	4	4				
Switch Phase													
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0				
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0				
Total Split (s)	20.0	86.0			66.0		49.0	49.0	49.0				
Total Split (%)	14.8%	63.7%			48.9%		36.3%	36.3%	36.3%				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		6.0	6.0	6.0				
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max	Max				
Act Effect Green (s)	81.0	81.0			64.8		43.0	43.0	43.0				
Actuated g/C Ratio	0.60	0.60			0.48		0.32	0.32	0.32				
v/c Ratio	0.69	0.34			0.81		0.91	0.33	0.33				
Control Delay	71.6	3.2			14.5		53.5	15.4	15.4				
Queue Delay	0.3	0.1			0.0		2.6	0.0	0.0				
Total Delay	71.9	3.3			14.5		56.1	15.4	15.4				
LOS	E	A			B		E	B	B				
Approach Delay		11.4			14.5		51.5						
Approach LOS		B			B		D						
Queue Length 50th (ft)	88	44			135		439	43	43				
Queue Length 95th (ft)	m156	49			132		#505	106	106				
Internal Link Dist (ft)		240			335		116					281	
Turn Bay Length (ft)	50												
Base Capacity (vph)	248	3051			2419		1572	551	551				
Starvation Cap Reductn	8	873			0		0	0	0				
Spillback Cap Reductn	0	0			0		75	0	0				
Storage Cap Reductn	0	0			0		0	0	0				
Reduced v/c Ratio	0.58	0.47			0.81		0.95	0.33	0.33				

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 80

Ms

Synchro 9 Report
Page 25

35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 26.3

Intersection LOS: C

Intersection Capacity Utilization 80.1%

ICU Level of Service D

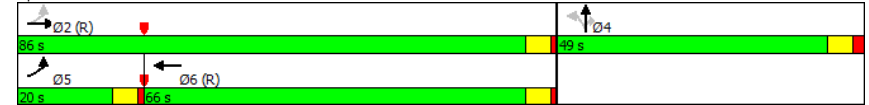
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



Ms

Synchro 9 Report
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36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	←	→	↖	↗	←	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖		↖	↖	↖	
Traffic Volume (vph)	42	1082	21	22	1401	35	8	27	110	261	6	341	
Future Volume (vph)	42	1082	21	22	1401	35	8	27	110	261	6	341	
Confl. Peds. (#/hr)	33		35	35		33	98		6	6		98	
Confl. Bikes (#/hr)			1			2			2			1	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	
Adj. Flow (vph)	48	1244	24	25	1610	40	9	31	126	300	7	392	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	48	1268	0	25	1650	0	0	166	0	0	307	392	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom	
Protected Phases	5	2		1	6			4			8		
Permitted Phases	2			6			4			8		6	
Detector Phase	5	2		1	6		4	4		8	8	6	
Switch Phase													
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0	
Minimum Split (s)	10.0	20.0		10.0	22.0		36.0	36.0		10.0	10.0	22.0	
Total Split (s)	10.0	79.0		10.0	79.0		46.0	46.0		46.0	46.0	79.0	
Total Split (%)	7.4%	58.5%		7.4%	58.5%		34.1%	34.1%		34.1%	34.1%	58.5%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max	
Act Effect Green (s)	81.0	78.0		80.0	76.0			41.0			41.0	76.0	
Actuated g/C Ratio	0.60	0.58		0.59	0.56			0.30			0.30	0.56	
v/c Ratio	0.30	0.43		0.11	0.58			0.29			1.01	0.47	
Control Delay	11.0	6.6		5.2	9.7			14.4			100.8	3.7	
Queue Delay	0.0	0.2		0.0	0.1			0.0			0.0	0.0	
Total Delay	11.0	6.8		5.2	9.9			14.4			100.8	3.8	
LOS	B	A		A	A			B			F	A	
Approach Delay		6.9			9.8			14.4			46.4		
Approach LOS		A			A			B			D		
Queue Length 50th (ft)	0	105		3	359			35			~274	6	
Queue Length 95th (ft)	12	120		6	160			87			#446	46	
Internal Link Dist (ft)		335			362			155			114		
Turn Bay Length (ft)	90			90								100	
Base Capacity (vph)	159	2927		235	2843			563			304	841	
Starvation Cap Reductn	0	667		0	294			0			0	0	
Spillback Cap Reductn	0	0		0	99			0			0	23	
Storage Cap Reductn	0	0		0	0			0			0	0	
Reduced v/c Ratio	0.30	0.56		0.11	0.65			0.29			1.01	0.48	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75

Ms

Synchro 9 Report
Page 27

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 15.7

Intersection LOS: B

Intersection Capacity Utilization 93.3%

ICU Level of Service F

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 36: Colorado St & W. 15th St



Ms

Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖	↑↑↑		↗
Traffic Volume (vph)	1511	0	0	1220	0	1
Future Volume (vph)	1511	0	0	1220	0	1
Confl. Peds. (#/hr)		49	49		40	14
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1757	0	0	1419	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1757	0	0	1419	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	92.0		10.0	102.0		33.0
Total Split (%)	68.1%		7.4%	75.6%		24.4%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effect Green (s)	97.0			97.0		28.0
Actuated g/C Ratio	0.72			0.72		0.21
v/c Ratio	0.48			0.39		0.00
Control Delay	6.0			7.8		0.0
Queue Delay	0.1			0.1		0.0
Total Delay	6.1			8.0		0.0
LOS	A			A		A
Approach Delay	6.1			8.0		
Approach LOS	A			A		
Queue Length 50th (ft)	136			178		0
Queue Length 95th (ft)	m147			79		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)						
Base Capacity (vph)	3653			3653		385
Starvation Cap Reductn	369			991		0
Spillback Cap Reductn	0			293		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.54			0.53		0.00

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75

Ms

Synchro 9 Report
Page 29

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 6.9

Intersection LOS: A

Intersection Capacity Utilization 60.9%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



Ms

Synchro 9 Report
Page 30

38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site

Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↓	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗			↖ ↗	↖ ↗		↖ ↗	
Traffic Volume (vph)	5	1500	38	10	1077	11	133	3	117	65	3	87
Future Volume (vph)	5	1500	38	10	1077	11	133	3	117	65	3	87
Confl. Peds. (#/hr)	8		10	10		8	5		19	19		5
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1613	41	11	1158	12	143	3	126	70	3	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1654	0	11	1170	0	0	146	126	0	167	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0		
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0		
Total Split (s)	12.0	77.0		12.0	77.0		46.0	46.0	46.0	46.0		
Total Split (%)	8.9%	57.0%		8.9%	57.0%		34.1%	34.1%	34.1%	34.1%		
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None		
Act Effect Green (s)	96.6	96.6		99.1	99.1		23.6	23.6			23.6	
Actuated g/C Ratio	0.72	0.72		0.73	0.73		0.17	0.17			0.17	
v/c Ratio	0.02	0.46		0.05	0.31		0.85	0.36			0.74	
Control Delay	6.0	4.4		6.3	5.0		90.1	15.5			54.6	
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0			0.0	
Total Delay	6.0	4.4		6.3	5.1		90.1	15.5			54.6	
LOS	A	A		A	A		F	B			D	
Approach Delay		4.4			5.1			55.6				54.6
Approach LOS		A			A			E				D
Queue Length 50th (ft)	0	42		2	83		125	20			100	
Queue Length 95th (ft)	m2	101		m8	215		192	71			170	
Internal Link Dist (ft)		356			297			199				273
Turn Bay Length (ft)	100			40				50				
Base Capacity (vph)	336	3618		246	3725		300	530			358	
Starvation Cap Reductn	0	214		0	1268		0	0			0	
Spillback Cap Reductn	0	255		0	0		0	4			2	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.01	0.49		0.04	0.48		0.49	0.24			0.47	

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Ms

Synchro 9 Report
Page 31

38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 11.5

Intersection LOS: B

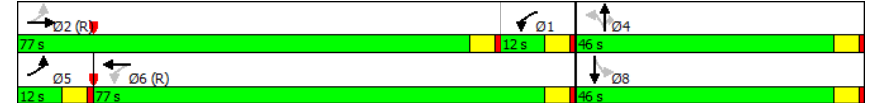
Intersection Capacity Utilization 69.1%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



Ms

Synchro 9 Report
Page 32

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	←	→	↙	↘	←	↙	↘	→	↙	↘	→	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑		↓	↑↑↑					↓	↑↑↑	↑	
Traffic Volume (vph)	0	1798	115	66	885	0	0	0	0	516	636	310	
Future Volume (vph)	0	1798	115	66	885	0	0	0	0	516	636	310	
Confl. Peds. (#/hr)			12	12						32		5	
Confl. Bikes (#/hr)												2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	0	1933	124	71	952	0	0	0	0	555	684	333	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	2057	0	71	952	0	0	0	0	0	1239	333	
Turn Type		NA		pm+pt	NA					Perm	NA	Perm	
Protected Phases		2		1	6						4		
Permitted Phases				6						4		4	
Detector Phase		2		1	6					4	4	4	
Switch Phase													
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0	
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0	
Total Split (s)		80.0		15.0	95.0					40.0	40.0	40.0	
Total Split (%)		59.3%		11.1%	70.4%					29.6%	29.6%	29.6%	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0	
Lead/Lag		Lag		Lead									
Lead-Lag Optimize?		Yes		Yes									
Recall Mode		C-Max		None	C-Max					None	None	None	
Act Effct Green (s)		79.6		90.0	90.0						35.0	35.0	
Actuated g/C Ratio		0.59		0.67	0.67						0.26	0.26	
v/c Ratio		0.69		0.46	0.28					1.24	dl	0.72	
Control Delay		9.7		41.5	6.1						71.0	44.6	
Queue Delay		0.1		0.0	0.2						0.0	0.0	
Total Delay		9.9		41.5	6.3						71.0	44.6	
LOS		A		D	A						E	D	
Approach Delay		9.9			8.7						65.4		
Approach LOS		A			A						E		
Queue Length 50th (ft)		147		23	84						397	207	
Queue Length 95th (ft)		346		m72	97						#502	323	
Internal Link Dist (ft)		297			282			125			272		
Turn Bay Length (ft)				70								50	
Base Capacity (vph)		2970		183	3390						1261	460	
Starvation Cap Reductn		193		0	1322						0	0	
Spillback Cap Reductn		0		0	0						0	0	
Storage Cap Reductn		0		0	0						0	0	
Reduced v/c Ratio		0.74		0.39	0.46						0.98	0.72	

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 75

Ms

Synchro 9 Report
Page 33

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 28.4

Intersection LOS: C

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



Ms

Synchro 9 Report
Page 34

40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↓	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖			↖↖↖			↖↖	↖			
Traffic Volume (vph)	88	2000	0	0	777	146	179	309	283	0	0	0
Future Volume (vph)	88	2000	0	0	777	146	179	309	283	0	0	0
Confl. Peds. (#/hr)	2					2	7		8			
Confl. Bikes (#/hr)									8			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	92	2083	0	0	809	152	186	322	295	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	2083	0	0	961	0	0	508	295	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		35.0	35.0	35.0			
Total Split (s)	10.0	100.0			90.0		35.0	35.0	35.0			
Total Split (%)	7.4%	74.1%			66.7%		25.9%	25.9%	25.9%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	95.0	95.0			85.0		30.0	30.0	30.0			
Actuated g/C Ratio	0.70	0.70			0.63		0.22	0.22	0.22			
v/c Ratio	0.25	0.58			0.31		0.66	0.77	0.77			
Control Delay	5.9	6.8			15.0		52.6	53.7	53.7			
Queue Delay	0.0	0.3			0.0		0.0	0.1	0.1			
Total Delay	5.9	7.1			15.0		52.6	53.8	53.8			
LOS	A	A			B		D	D	D			
Approach Delay		7.1			15.0		53.1					
Approach LOS		A			B		D					
Queue Length 50th (ft)	19	160			182		215	200	200			
Queue Length 95th (ft)	m25	m169			195		278	#331	#331			
Internal Link Dist (ft)		282			641		149			621		
Turn Bay Length (ft)	100											
Base Capacity (vph)	372	3578			3137		769	385	385			
Starvation Cap Reductn	0	683			0		0	0	0			
Spillback Cap Reductn	0	291			0		0	2	2			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.25	0.72			0.31		0.66	0.77	0.77			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 75

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Synchro 9 Report
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40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 18.4

Intersection LOS: B

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Trinity St & W. 15th St



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Synchro 9 Report
Page 36

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	26											
Intersection LOS	D											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	6	105	14	0	64	202	10	0	15	154	259
Future Vol, veh/h	0	6	105	14	0	64	202	10	0	15	154	259
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	135	18	0	82	259	13	0	19	197	332
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.4	21.3	37.1
HCM LOS	B	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	5%	23%	12%
Vol Thru, %	36%	84%	73%	60%
Vol Right, %	61%	11%	4%	28%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	428	125	276	149
LT Vol	15	6	64	18
Through Vol	154	105	202	90
RT Vol	259	14	10	41
Lane Flow Rate	549	160	354	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.881	0.315	0.651	0.357
Departure Headway (Hd)	5.778	7.078	6.621	6.728
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	626	505	541	531
Service Time	3.841	5.175	4.697	4.82
HCM Lane V/C Ratio	0.877	0.317	0.654	0.36
HCM Control Delay	37.1	13.4	21.3	13.6
HCM Lane LOS	E	B	C	B
HCM 95th-tile Q	10.4	1.3	4.7	1.6

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	18	90	41
Future Vol, veh/h	0	18	90	41
Peak Hour Factor	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	23	115	53
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.6
HCM LOS	B

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	11.9											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↶				↷				↶	
Traffic Vol, veh/h	0	0	384	0	0	0	334	0	0	0	0	0
Future Vol, veh/h	0	0	384	0	0	0	334	0	0	0	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	447	0	0	0	388	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.4	11.4	0
HCM LOS	B	B	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	384	334	13
LT Vol	0	0	0	0
Through Vol	0	384	334	0
RT Vol	0	0	0	13
Lane Flow Rate	0	447	388	15
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.541	0.477	0.021
Departure Headway (Hd)	5.737	4.363	4.417	5.092
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	831	819	701
Service Time	3.784	2.377	2.431	3.137
HCM Lane V/C Ratio	0	0.538	0.474	0.021
HCM Control Delay	8.8	12.4	11.4	8.2
HCM Lane LOS	N	B	B	A
HCM 95th-tile Q	0	3.3	2.6	0.1

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↶
Traffic Vol, veh/h	0	0	0	13
Future Vol, veh/h	0	0	0	13
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	15
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.2
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	40.9											
Intersection LOS	E											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	40	379	25	0	11	64	25	0	187	163	0
Future Vol, veh/h	0	40	379	25	0	11	64	25	0	187	163	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	47	441	29	0	13	74	29	0	217	190	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	62.1	14.2	36
HCM LOS	F	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	53%	9%	11%	36%
Vol Thru, %	47%	85%	64%	21%
Vol Right, %	0%	6%	25%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	350	444	100	270
LT Vol	187	40	11	97
Through Vol	163	379	64	57
RT Vol	0	25	25	116
Lane Flow Rate	407	516	116	314
Geometry Grp	1	1	1	1
Degree of Util (X)	0.822	0.985	0.266	0.634
Departure Headway (Hd)	7.27	6.867	8.234	7.266
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	497	527	440	493
Service Time	5.35	4.936	6.234	5.354
HCM Lane V/C Ratio	0.819	0.979	0.264	0.637
HCM Control Delay	36	62.1	14.2	22.2
HCM Lane LOS	E	F	B	C
HCM 95th-tile Q	8	13.4	1.1	4.4

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	97	57	116
Future Vol, veh/h	0	97	57	116
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	113	66	135
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	22.2
HCM LOS	C

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	25											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	202	303	0	36	53	0	0	0	0	0
Future Vol, veh/h	0	0	202	303	0	36	53	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	213	319	0	38	56	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		37.7	11.8
HCM LOS		E	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	40%	0%	0%	0%
Vol Thru, %	40%	60%	100%	100%	0%
Vol Right, %	60%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	505	89	279	279	23
LT Vol	0	36	0	0	0
Through Vol	202	53	279	279	0
RT Vol	303	0	0	0	23
Lane Flow Rate	532	94	294	294	24
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.881	0.19	0.528	0.528	0.027
Departure Headway (Hd)	5.965	7.282	6.467	6.467	3.993
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	606	491	555	555	890
Service Time	3.722	5.059	4.222	4.222	1.747
HCM Lane V/C Ratio	0.878	0.191	0.53	0.53	0.027
HCM Control Delay	37.7	11.8	16.3	16.3	6.9
HCM Lane LOS	E	B	C	C	A
HCM 95th-tile Q	10.3	0.7	3.1	3.1	0.1

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	558	23
Future Vol, veh/h	0	0	558	23
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	587	24
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		15.9
HCM LOS		C

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	13.2											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	79	36	15	0	0	174	0	0	15	300	0
Future Vol, veh/h	0	79	36	15	0	0	174	0	0	15	300	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	96	44	18	0	0	212	0	0	18	366	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.3	12.1	15.7
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	61%	0%	0%
Vol Thru, %	95%	28%	100%	51%
Vol Right, %	0%	12%	0%	49%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	315	130	174	178
LT Vol	15	79	0	0
Through Vol	300	36	174	91
RT Vol	0	15	0	87
Lane Flow Rate	384	159	212	217
Geometry Grp	1	1	1	1
Degree of Util (X)	0.578	0.266	0.347	0.325
Departure Headway (Hd)	5.414	6.043	5.882	5.394
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	665	591	609	662
Service Time	3.468	4.116	3.949	3.461
HCM Lane V/C Ratio	0.577	0.269	0.348	0.328
HCM Control Delay	15.7	11.3	12.1	11.1
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.7	1.1	1.5	1.4

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	91	87
Future Vol, veh/h	0	0	91	87
Peak Hour Factor	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	111	106
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.1
HCM LOS	B

24: E. 17th St & Brazos St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	193	0	40	51	0	96	0
Future Vol, veh/h	0	0	193	0	40	51	0	96	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	238	0	49	63	0	119	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.1	7.8	8.9
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	44%	0%
Vol Right, %	0%	56%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	193	91	96
LT Vol	0	0	96
Through Vol	193	40	0
RT Vol	0	51	0
Lane Flow Rate	238	112	119
Geometry Grp	1	1	1
Degree of Util (X)	0.288	0.13	0.161
Departure Headway (Hd)	4.354	4.155	4.903
Convergence, Y/N	Yes	Yes	Yes
Cap	827	864	732
Service Time	2.369	2.173	2.926
HCM Lane V/C Ratio	0.288	0.13	0.163
HCM Control Delay	9.1	7.8	8.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.4	0.6

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	659	39	44	1340	13	170
Future Vol, veh/h	659	39	44	1340	13	170
Conflicting Peds, #/hr	0	8	8	0	0	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	701	41	47	1426	14	181

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	751	0	1536	391
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	806	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	854	-	107	608
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	400	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	844	-	100	596
Mov Cap-2 Maneuver	-	-	-	-	100	-
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	378	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	19.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	441	-	-	844	-
HCM Lane V/C Ratio	0.441	-	-	0.055	-
HCM Control Delay (s)	19.5	-	-	9.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	2.2	-	-	0.2	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	38.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	20	12	202	96	0	0	0	0	36	1024	22
Future Vol, veh/h	0	20	12	202	96	0	0	0	0	36	1024	22
Conflicting Peds, #/hr	0	0	0	55	0	0	0	0	0	0	0	41
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	21	12	208	99	0	0	0	0	37	1056	23

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1182	635	667	1194	0
Stage 1	-	1182	-	0	0	-
Stage 2	-	0	-	667	1194	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	188	421	344	185	0
Stage 1	0	262	-	-	-	0
Stage 2	0	-	-	414	258	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	181	405	304	178	-
Mov Cap-2 Maneuver	-	181	-	304	178	-
Stage 1	-	252	-	-	-	-
Stage 2	-	-	-	369	248	-

Approach	EB	WB	SB
HCM Control Delay, s	22.4	178	
HCM LOS	C	F	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	181	405	248	-	-	-
HCM Lane V/C Ratio	0.114	0.031	1.239	-	-	-
HCM Control Delay (s)	27.4	14.2	178	-	-	-
HCM Lane LOS	D	B	F	-	-	-
HCM 95th %tile Q(veh)	0.4	0.1	15.1	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	56.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	11	53	0	0	171	75	65	1136	77	0	0	0
Future Vol, veh/h	11	53	0	0	171	75	65	1136	77	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	21	25	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	56	0	0	180	79	68	1196	81	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	751	1439	-	-	1398	659
Stage 1	25	25	-	-	1373	-
Stage 2	726	1414	-	-	25	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	357	132	0	0	~ 140	348
Stage 1	-	-	0	0	212	-
Stage 2	347	202	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	121	-	-	~ 128	348
Mov Cap-2 Maneuver	-	121	-	-	~ 128	-
Stage 1	-	-	-	-	199	-
Stage 2	24	190	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		\$ 360.4	0.4
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1124	-	-	-	159
HCM Lane V/C Ratio	0.061	-	-	-	1.629
HCM Control Delay (s)	8.4	-	-	-	\$ 360.4
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	17.9

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕	↕	
Traffic Vol, veh/h	24	389	348	20	97	116
Future Vol, veh/h	24	389	348	20	97	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	423	378	22	105	126

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	400	0	-	0	864	389
Stage 1	-	-	-	-	389	-
Stage 2	-	-	-	-	475	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1159	-	-	-	325	659
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1159	-	-	-	316	659
Mov Cap-2 Maneuver	-	-	-	-	316	-
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	608	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	21.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1159	-	-	-	441
HCM Lane V/C Ratio	0.023	-	-	-	0.525
HCM Control Delay (s)	8.2	0	-	-	21.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	3

15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	9.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↱	↰	
Traffic Vol, veh/h	242	145	30	199	52	50
Future Vol, veh/h	242	145	30	199	52	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	263	158	33	216	57	54

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	366	84	111	0	- 0
Stage 1	84	-	-	-	-
Stage 2	282	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	634	975	1479	-	-
Stage 1	939	-	-	-	-
Stage 2	766	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	618	975	1479	-	-
Mov Cap-2 Maneuver	618	-	-	-	-
Stage 1	939	-	-	-	-
Stage 2	747	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1479	-	716	-	-
HCM Lane V/C Ratio	0.022	-	0.588	-	-
HCM Control Delay (s)	7.5	0	16.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.9	-	-

Ms

Synchro 9 Report
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17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	21.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰		↰	↱	↱			
Traffic Vol, veh/h	285	0	0	0	0	0	173	595	0	0	0	0
Future Vol, veh/h	285	0	0	0	0	0	173	595	0	0	0	0
Conflicting Peds, #/hr	0	0	18	0	0	0	21	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	335	0	0	0	0	0	204	700	0	0	0	0

Major/Minor	Minor2	Major2		Major1	
Conflicting Flow All	709	1129	-	- 0	22 0 -
Stage 1	22	22	-	- -	- - -
Stage 2	687	1107	-	- -	- - -
Critical Hdwy	6.08	6.53	-	- -	4.13 - -
Critical Hdwy Stg 1	5.43	5.53	-	- -	- - -
Critical Hdwy Stg 2	6.03	5.53	-	- -	- - -
Follow-up Hdwy	3.669	4.019	-	- -	2.219 - -
Pot Cap-1 Maneuver	416	203	0	0 -	1593 - 0
Stage 1	960	877	0	0 -	- - 0
Stage 2	432	285	0	0 -	- - 0
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	348	0	-	- -	1593 - -
Mov Cap-2 Maneuver	348	0	-	- -	- - -
Stage 1	941	0	-	- -	- - -
Stage 2	369	0	-	- -	- - -

Approach	EB	WB	NB
HCM Control Delay, s	74.6	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1593	-	348	-	-
HCM Lane V/C Ratio	0.128	-	0.963	-	-
HCM Control Delay (s)	7.6	-	74.6	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.4	-	10.4	-	-

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Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	37.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	147	159	36	43	0	0	0	0	106	1035	20
Future Vol, veh/h	0	147	159	36	43	0	0	0	0	106	1035	20
Conflicting Peds, #/hr	0	0	19	0	0	0	0	0	0	96	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	155	167	38	45	0	0	0	0	112	1089	21

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1409	564	960	1409	-	96	0	0
Stage 1	-	1313	-	96	96	-	-	-	-
Stage 2	-	96	-	864	1313	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	~ 137	469	211	137	0	1496	-	-
Stage 1	0	226	-	-	-	0	-	-	-
Stage 2	0	-	-	315	226	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 100	469	-	100	-	1496	-	-
Mov Cap-2 Maneuver	-	~ 100	-	-	100	-	-	-	-
Stage 1	-	181	-	-	-	-	-	-	-
Stage 2	-	-	-	~ 24	181	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	184		1.1
HCM LOS	F	-	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	100	469	-	1496	-	-
HCM Lane V/C Ratio	1.547	0.357	-	0.075	-	-
HCM Control Delay (s)	\$ 364.7	16.9	-	7.6	0.4	-
HCM Lane LOS	F	C	-	A	A	-
HCM 95th %tile Q(veh)	11.8	1.6	-	0.2	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑	↑		
Traffic Vol, veh/h	228	0	20	540	0	0
Future Vol, veh/h	228	0	20	540	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	0	24	651	0	0

Major/Minor	Minor2	Major1		
Conflicting Flow All	308	-	0	0
Stage 1	0	-	-	-
Stage 2	308	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	676	0	-	-
Stage 1	-	0	-	-
Stage 2	659	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	676	-	-	-
Mov Cap-2 Maneuver	676	-	-	-
Stage 1	-	-	-	-
Stage 2	659	-	-	-

Approach	EB	NB
HCM Control Delay, s	13.9	
HCM LOS	B	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	676
HCM Lane V/C Ratio	-	-	0.406
HCM Control Delay (s)	-	-	13.9
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	64.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖					↖	↗	↖
Traffic Vol, veh/h	0	20	12	124	96	0	0	0	0	48	1268	23
Future Vol, veh/h	0	20	12	124	96	0	0	0	0	48	1268	23
Conflicting Peds, #/hr	0	0	0	24	0	0	0	0	0	0	0	42
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	14	143	110	0	0	0	0	55	1457	26

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1610	795	875	1610	-	0	0	0
Stage 1	-	1610	-	0	0	-	-	-	-
Stage 2	-	0	-	875	1610	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	104	330	243	~ 104	0	-	-	-
Stage 1	0	162	-	-	-	0	-	-	-
Stage 2	0	-	-	310	162	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	100	317	191	~ 100	-	-	-	-
Mov Cap-2 Maneuver	-	100	-	191	~ 100	-	-	-	-
Stage 1	-	156	-	-	-	-	-	-	-
Stage 2	-	-	-	253	156	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	41.4		\$ 462.5			
HCM LOS	E		F			

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	135 137	-	-	-
HCM Lane V/C Ratio	0.272 1.846	-	-	-
HCM Control Delay (s)	41.4\$ 462.5	-	-	-
HCM Lane LOS	E F	-	-	-
HCM 95th %tile Q(veh)	1 19.4	-	-	-

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	31.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖			↖		↖	↗	↖
Traffic Vol, veh/h	38	70	53	36	45	8	56	203	41	10	380	45
Future Vol, veh/h	38	70	53	36	45	8	56	203	41	10	380	45
Conflicting Peds, #/hr	0	0	0	0	0	15	87	0	0	0	0	87
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	90	68	46	58	10	72	260	53	13	487	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1108	1085	603	1051	1088	302	632	0	0	313	0	0
Stage 1	629	629	-	430	430	-	-	-	-	-	-	-
Stage 2	479	456	-	621	658	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	187	217	499	205	216	738	951	-	-	1247	-	-
Stage 1	470	475	-	603	583	-	-	-	-	-	-	-
Stage 2	568	568	-	475	461	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	115	178	458	98	177	727	951	-	-	1229	-	-
Mov Cap-2 Maneuver	115	178	-	98	177	-	-	-	-	-	-	-
Stage 1	391	429	-	548	529	-	-	-	-	-	-	-
Stage 2	447	516	-	315	416	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	137.4		93.2		1.7		0.2	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	951	-	-	192 141 1229	-	-	-
HCM Lane V/C Ratio	0.075	-	-	1.075 0.809 0.01	-	-	-
HCM Control Delay (s)	9.1	0	-	137.4 93.2 8	0	-	-
HCM Lane LOS	A	A	-	F F A A	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	9.7 5.1 0	-	-	-

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	124	0	0	152	0	0	0	0	0	0	0
Future Vol, veh/h	0	124	0	0	152	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	58	0	25	21	0	0	0	0	21
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	153	0	0	188	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	1	-	-	1	-	-	0	-	-	-	0
Stage 1	-	1	-	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-	-	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-	0	0	-	0
Stage 1	0	895	0	0	-	0	0	-	0	0	-	0
Stage 2	0	-	0	0	895	0	0	-	0	0	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-	-	-	-	-
Stage 1	-	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.9			10.1			0			0		
HCM LOS	A			B								

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.171	0.21	-
HCM Control Delay (s)	-	9.9	10.1	-
HCM Lane LOS	-	A	B	-
HCM 95th %tile Q(veh)	-	0.6	0.8	-

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Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	81	0	15	66	43	0
Future Vol, veh/h	81	0	15	66	43	0
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	0	26	114	74	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	307	141
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	166	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1442	-	685	907
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1442	-	671	906
Mov Cap-2 Maneuver	-	-	-	-	671	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	847	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		11	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	671	-	-	1442	-
HCM Lane V/C Ratio	0.11	-	-	0.018	-
HCM Control Delay (s)	11	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

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Synchro 9 Report
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32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	62	0	0	1277	52
Future Vol, veh/h	0	62	0	0	1277	52
Conflicting Peds, #/hr	0	0	0	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	70	0	0	1435	58

Major/Minor	Minor2	Major2
Conflicting Flow All	- 732	- 0
Stage 1	- -	- -
Stage 2	- -	- -
Critical Hdwy	- 7.14	- -
Critical Hdwy Stg 1	- -	- -
Critical Hdwy Stg 2	- -	- -
Follow-up Hdwy	- 3.92	- -
Pot Cap-1 Maneuver	0 312	- -
Stage 1	0 -	- -
Stage 2	0 -	- -
Platoon blocked, %	- -	- -
Mov Cap-1 Maneuver	- 308	- -
Mov Cap-2 Maneuver	- -	- -
Stage 1	- -	- -
Stage 2	- -	- -

Approach	EB	SB
HCM Control Delay, s	20.1	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	308	-	-
HCM Lane V/C Ratio	0.226	-	-
HCM Control Delay (s)	20.1	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.9	-	-

33: Colorado St & Parking Dr. 3
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	89	95	87	16	21	509
Future Vol, veh/h	89	95	87	16	21	509
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	97	103	95	17	23	553

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	702 103	0 0	112 0
Stage 1	103 -	- -	- -
Stage 2	599 -	- -	- -
Critical Hdwy	6.42 6.22	- -	4.12 -
Critical Hdwy Stg 1	5.42 -	- -	- -
Critical Hdwy Stg 2	5.42 -	- -	- -
Follow-up Hdwy	3.518 3.318	- -	2.218 -
Pot Cap-1 Maneuver	404 952	- -	1478 -
Stage 1	921 -	- -	- -
Stage 2	549 -	- -	- -
Platoon blocked, %	- -	- -	- -
Mov Cap-1 Maneuver	395 952	- -	1478 -
Mov Cap-2 Maneuver	395 -	- -	- -
Stage 1	921 -	- -	- -
Stage 2	537 -	- -	- -

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 566	1478	-
HCM Lane V/C Ratio	-	- 0.353	0.015	-
HCM Control Delay (s)	-	- 14.8	7.5	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 1.6	0	-

62: Colorado St & Parking Dr. 4
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	79	15	167	452	17
Future Vol, veh/h	79	79	15	167	452	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	86	16	182	491	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	715	501	510	0	- 0
Stage 1	501	-	-	-	-
Stage 2	214	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	397	570	1055	-	-
Stage 1	609	-	-	-	-
Stage 2	822	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	390	570	1055	-	-
Mov Cap-2 Maneuver	390	-	-	-	-
Stage 1	609	-	-	-	-
Stage 2	808	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1055	-	463	-	-
HCM Lane V/C Ratio	0.015	-	0.371	-	-
HCM Control Delay (s)	8.5	0	17.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.7	-	-

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Synchro 9 Report
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69: Parking Dr. 5 & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2022 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	103	21	16	129	121	63
Future Vol, veh/h	103	21	16	129	121	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	23	17	140	132	68

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	135	0	298	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	175	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1449	-	693	928
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1449	-	684	928
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	844	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	752	-	-	1449	-
HCM Lane V/C Ratio	0.266	-	-	0.012	-
HCM Control Delay (s)	11.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0	-

Ms

Synchro 9 Report
Page 16

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	807	409	0	563	335	0	0	0	294	738	134
Future Volume (vph)	68	807	409	0	563	335	0	0	0	294	738	134
Confl. Peds. (#/hr)	28		19	19		28				29		19
Confl. Bikes (#/hr)			1			1						13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	72	859	435	0	599	356	0	0	0	313	785	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1294	0	0	599	356	0	0	0	313	785	143
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6				4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	18.0	75.0			57.0	45.0				45.0	45.0	45.0
Total Split (%)	15.0%	62.5%			47.5%	37.5%				37.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effect Green (s)	11.6	70.0			55.6	95.6				40.0	40.0	40.0
Actuated g/C Ratio	0.10	0.58			0.46	0.80				0.33	0.33	0.33
v/c Ratio	0.42	0.66			0.37	0.28				0.53	0.67	0.25
Control Delay	58.1	18.5			24.6	1.5				36.4	37.6	13.0
Queue Delay	0.0	0.0			0.0	0.1				0.0	0.0	0.0
Total Delay	58.1	18.5			24.6	1.6				36.4	37.6	13.0
LOS	E	B			C	A				D	D	B
Approach Delay		20.6			16.0						34.5	
Approach LOS		C			B						C	
Queue Length 50th (ft)	53	330			165	3				195	273	28
Queue Length 95th (ft)	101	405			246	49				287	342	78
Internal Link Dist (ft)		228			45		159				210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	191	1949			1639	1276				590	1179	564
Starvation Cap Reductn	0	0			0	136				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.38	0.66			0.37	0.31				0.53	0.67	0.25

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

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Synchro 9 Report
Page 1

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 24.2

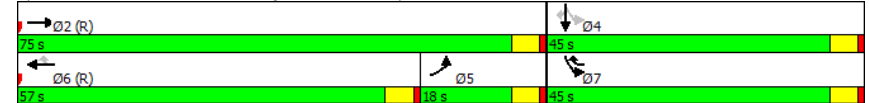
Intersection LOS: C

Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



MS

Synchro 9 Report
Page 2

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	→	↗	↖	←	↙	↘
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↗↘	↖↗
Traffic Volume (vph)	1101	0	0	736	375	227
Future Volume (vph)	1101	0	0	736	375	227
Confl. Peds. (#/hr)						11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1280	0	0	856	436	264
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1280	0	0	856	436	264
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	29.0
Total Split (s)	87.0			87.0	33.0	33.0
Total Split (%)	72.5%			72.5%	27.5%	27.5%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	82.0			82.0	28.0	28.0
Actuated g/C Ratio	0.68			0.68	0.23	0.23
v/c Ratio	0.53			0.35	0.54	0.62
Control Delay	8.5			5.8	59.9	50.8
Queue Delay	0.4			0.0	0.0	0.0
Total Delay	8.8			5.8	59.9	50.8
LOS	A			A	E	D
Approach Delay	8.8			5.8	56.5	
Approach LOS	A			A	E	
Queue Length 50th (ft)	159			61	181	149
Queue Length 95th (ft)	171			68	213	167
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2418			2418	801	428
Starvation Cap Reductn	547			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.68			0.35	0.54	0.62
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 19.7

Intersection LOS: B

Intersection Capacity Utilization 58.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd

→ Ø2 (R)	↖ Ø3
87 s	33 s
← Ø6 (R)	↗ Ø8
87 s	33 s

MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↖	↕↕		
Traffic Volume (vph)	1138	0	9	1054	0	0
Future Volume (vph)	1138	0	9	1054	0	0
Confl. Peds. (#/hr)		6	6		1	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1279	0	10	1184	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1279	0	10	1184	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		1.0	5.0		
Minimum Split (s)	34.0		5.5	29.0		
Total Split (s)	107.0		13.0	120.0		
Total Split (%)	89.2%		10.8%	100.0%		
Yellow Time (s)	4.0		3.5	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		4.5	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effct Green (s)	116.4		119.1	120.0		
Actuated g/C Ratio	0.97		0.99	1.00		
v/c Ratio	0.37		0.02	0.33		
Control Delay	0.5		0.1	0.2		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.5		0.1	0.2		
LOS	A		A	A		
Approach Delay	0.5			0.2		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	0		
Queue Length 95th (ft)	46		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3433		480	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.37		0.02	0.33		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 40

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 0.4

Intersection LOS: A

Intersection Capacity Utilization 35.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱	↱	↰	↰↱	↱	↰	↰	↰	↰	↱	↱
Traffic Volume (vph)	143	772	231	293	1047	141	20	0	35	43	1	11
Future Volume (vph)	143	772	231	293	1047	141	20	0	35	43	1	11
Confl. Peds. (#/hr)	18		9	9		18	24		8	8		24
Confl. Bikes (#/hr)			3			3						1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	170	919	275	349	1246	168	24	0	42	51	1	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	1194	0	349	1246	168	0	24	42	0	52	13
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	1.0	10.0		1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	5.5	22.0		5.5	28.0	28.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (s)	20.0	70.0		20.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	16.7%	58.3%		16.7%	58.3%	58.3%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	4.0		3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	5.0		4.5	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	75.4	65.3		85.0	70.9	70.9		25.0	25.0		25.0	25.0
Actuated g/C Ratio	0.63	0.54		0.71	0.59	0.59		0.21	0.21		0.21	0.21
v/c Ratio	0.55	0.64		0.93	0.60	0.19		0.09	0.11		0.18	0.04
Control Delay	16.9	15.0		58.0	12.3	4.4		39.5	6.2		41.2	0.2
Queue Delay	0.0	0.4		0.0	0.4	0.0		0.0	0.0		0.0	0.0
Total Delay	16.9	15.4		58.0	12.8	4.4		39.5	6.2		41.2	0.2
LOS	B	B		E	B	A		D	A		D	A
Approach Delay		15.6			20.9			18.3			33.0	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)	32	215		150	212	12		15	0		33	0
Queue Length 95th (ft)	80	185		#276	227	21		37	16		65	0
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	396	1858		378	2090	906		270	367		283	360
Starvation Cap Reductn	0	252		0	375	0		0	0		0	0
Spillback Cap Reductn	0	0		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.43	0.74		0.92	0.73	0.19		0.09	0.11		0.18	0.04

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

MS

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 18.9

Intersection LOS: B

Intersection Capacity Utilization 76.4%

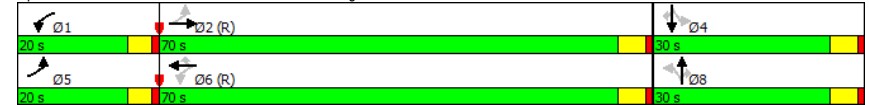
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	744	172	625	1469	0	0	0	0	37	52	56
Future Volume (vph)	0	744	172	625	1469	0	0	0	0	37	52	56
Confl. Peds. (#/hr)			54	54						8		49
Confl. Bikes (#/hr)			2									29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	800	185	672	1580	0	0	0	0	40	56	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	985	0	672	1580	0	0	0	0	40	56	60
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1.9	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1.9	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0
Total Split (s)		62.0			92.0					28.0	28.0	28.0
Total Split (%)		51.7%			76.7%					23.3%	23.3%	23.3%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		57.0			87.5	87.0				23.0	23.0	23.0
Actuated g/C Ratio		0.48			0.73	0.72				0.19	0.19	0.19
v/c Ratio		0.61			1.36	0.62				0.12	0.08	0.17
Control Delay		14.9			188.3	5.6				41.4	40.3	2.2
Queue Delay		0.5			1.3	0.9				0.0	0.0	0.1
Total Delay		15.3			189.6	6.5				41.4	40.3	2.3
LOS		B			F	A				D	D	A
Approach Delay		15.3				61.1					26.0	
Approach LOS		B				E					C	
Queue Length 50th (ft)		110			~394	125				26	18	0
Queue Length 95th (ft)		122			m#344	m118				58	37	8
Internal Link Dist (ft)		273				321			343		244	
Turn Bay Length (ft)					120					100		100
Base Capacity (vph)		1623			495	2565				334	678	353
Starvation Cap Reductn		246			66	629				0	0	0
Spillback Cap Reductn		0			0	24				0	0	46
Storage Cap Reductn		0			0	0				0	0	0
Reduced v/c Ratio		0.72			1.57	0.82				0.12	0.08	0.20

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 110

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	5.5	9.5
Total Split (s)	15.0	15.0
Total Split (%)	13%	13%
Yellow Time (s)	3.5	3.5
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.36

Intersection Signal Delay: 46.2

Intersection LOS: D

Intersection Capacity Utilization 95.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	155	552	0	0	2015	60	68	86	126	0	0	0
Future Volume (vph)	155	552	0	0	2015	60	68	86	126	0	0	0
Confl. Peds. (#/hr)			36			60	35		28			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	174	620	0	0	2264	67	76	97	142	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	174	620	0	0	2331	0	68	105	142	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6		4		4			
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	15.0	94.0			79.0		26.0	26.0	26.0			
Total Split (%)	12.5%	78.3%			65.8%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	89.5	89.0			75.0		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.62		0.18	0.18	0.18			
v/c Ratio	0.83	0.24			1.06		0.25	0.34	0.38			
Control Delay	76.7	1.0			43.5		41.5	42.6	8.8			
Queue Delay	0.0	0.1			17.2		2.2	0.0	0.0			
Total Delay	76.7	1.1			60.7		43.7	42.6	8.8			
LOS	E	A			E		D	D	A			
Approach Delay		17.7			60.7			27.6				
Approach LOS		B			E			C				
Queue Length 50th (ft)	101	14			~346		47	73	5			
Queue Length 95th (ft)	#202	16			m123		m67	m103	m28			
Internal Link Dist (ft)		321			675			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	217	2624			2200		276	306	376			
Starvation Cap Reductn	0	930			0		0	0	0			
Spillback Cap Reductn	0	0			228		124	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.80	0.37			1.18		0.45	0.34	0.38			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 130

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 47.8

Intersection LOS: D

Intersection Capacity Utilization 95.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

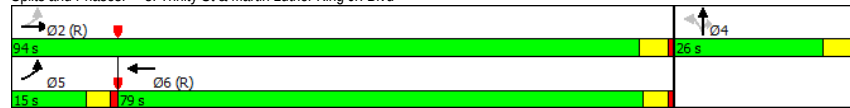
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑	↗		↖						↖↗		
Traffic Volume (vph)	0	14	48	52	10	0	0	0	0	128	1197	18	
Future Volume (vph)	0	14	48	52	10	0	0	0	0	128	1197	18	
Confl. Peds. (#/hr)			18							45			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Parking (#/hr)		0											
Adj. Flow (vph)	0	15	52	57	11	0	0	0	0	139	1301	20	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	15	52	0	68	0	0	0	0	0	1460	0	
Turn Type		NA	Perm	Perm	NA					Perm	NA		
Protected Phases	4 12				4 12						2 10		
Permitted Phases			4 12	4 12						2 10			
Detector Phase	4 12		4 12	4 12	4 12					2 10	2 10		
Switch Phase													
Minimum Initial (s)													
Minimum Split (s)													
Total Split (s)													
Total Split (%)													
Yellow Time (s)													
All-Red Time (s)													
Lost Time Adjust (s)													
Total Lost Time (s)													
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode													
Act Effct Green (s)	21.8	21.8		21.8							82.9		
Actuated g/C Ratio	0.18	0.18		0.18							0.69		
v/c Ratio	0.05	0.16		0.27							0.61		
Control Delay	20.7	4.1		26.9							8.2		
Queue Delay	0.0	0.0		0.0							0.0		
Total Delay	20.7	4.1		26.9							8.2		
LOS	C	A		C							A		
Approach Delay	7.8			26.9							8.2		
Approach LOS	A			C							A		
Queue Length 50th (ft)	5	0		36							193		
Queue Length 95th (ft)	16	13		50							234		
Internal Link Dist (ft)	177			244				271			262		
Turn Bay Length (ft)													
Base Capacity (vph)	754	714		628							2392		
Starvation Cap Reductn	0	0		0							0		
Spillback Cap Reductn	0	0		0							0		
Storage Cap Reductn	0	0		0							0		
Reduced v/c Ratio	0.02	0.07		0.11							0.61		
Intersection Summary													
Cycle Length: 120													
Actuated Cycle Length: 120													
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green													
Natural Cycle: 95													

18: Guadalupe St & E. 17th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background

Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	23.0	23.0	22.5	22.5
Total Split (s)	26.0	43.0	28.0	23.0
Total Split (%)	22%	36%	23%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

18: Guadalupe St & E. 17th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background

Timing Plan: AM

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 9.0	Intersection LOS: A
Intersection Capacity Utilization 78.1%	ICU Level of Service D
Analysis Period (min) 15	



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	121	0	0	28	26	90	813	132	0	0	0
Future Volume (vph)	4	121	0	0	28	26	90	813	132	0	0	0
Confl. Peds. (#/hr)	31								34			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Parking (#/hr)		0										
Adj. Flow (vph)	5	146	0	0	34	31	108	980	159	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	65	0	0	1088	159	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	25.4			25.4			70.6	70.6				
Actuated g/C Ratio	0.21			0.21			0.59	0.59				
v/c Ratio	0.43			0.17			0.37	0.18				
Control Delay	27.1			12.8			10.8	6.1				
Queue Delay	0.0			0.0			0.0	0.0				
Total Delay	27.1			12.8			10.8	6.1				
LOS	C			B			B	A				
Approach Delay	27.1			12.8			10.2					
Approach LOS	C			B			B					
Queue Length 50th (ft)	62			14			167	46				
Queue Length 95th (ft)	87			29			98	33				
Internal Link Dist (ft)	244			319			272			254		
Turn Bay Length (ft)							100					
Base Capacity (vph)	595			644			3126	901				
Starvation Cap Reductn	0			0			392	0				
Spillback Cap Reductn	0			0			0	0				
Storage Cap Reductn	0			0			0	0				
Reduced v/c Ratio	0.25			0.10			0.40	0.18				
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green												
Natural Cycle: 100												

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	38.0	29.0	27.0	26.0
Total Split (%)	32%	24%	23%	22%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 12.1
Intersection Capacity Utilization 40.0%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖			↗		↖↗↘	↖↗↘	↖				
Traffic Volume (vph)	4	139	0	0	23	33	90	985	92	0	0	0	
Future Volume (vph)	4	139	0	0	23	33	90	985	92	0	0	0	
Confl. Peds. (#/hr)						11	60						
Confl. Bikes (#/hr)						2							
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
Parking (#/hr)					0								
Adj. Flow (vph)	5	165	0	0	27	39	107	1173	110	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	170	0	0	66	0	0	1280	110	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases	4 12				4 12			2 10					
Permitted Phases	4 12							2 10	2 10				
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10				
Switch Phase													
Minimum Initial (s)													
Minimum Split (s)													
Total Split (s)													
Total Split (%)													
Yellow Time (s)													
All-Red Time (s)													
Lost Time Adjust (s)													
Total Lost Time (s)													
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode													
Act Effct Green (s)	22.6				22.6			73.4	73.4				
Actuated g/C Ratio	0.19				0.19			0.61	0.61				
v/c Ratio	0.49				0.22			0.42	0.11				
Control Delay	27.8				15.5			3.8	0.9				
Queue Delay	0.0				0.0			0.2	0.0				
Total Delay	27.8				15.5			4.0	0.9				
LOS	C				B			A	A				
Approach Delay	27.8				15.5			3.7					
Approach LOS	C				B			A					
Queue Length 50th (ft)	66				18			35	1				
Queue Length 95th (ft)	94				m35			m52	m8				
Internal Link Dist (ft)	233				60			281			272		
Turn Bay Length (ft)									100				
Base Capacity (vph)	693				585			3055	994				
Starvation Cap Reductn	0				0			849	0				
Spillback Cap Reductn	0				0			0	0				
Storage Cap Reductn	0				0			0	0				
Reduced v/c Ratio	0.25				0.11			0.58	0.11				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	42.0	32.0	21.0	25.0
Total Split (%)	35%	27%	18%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Efect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 6.7Intersection LOS: A
Intersection Capacity Utilization 46.2%ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	1792	330	205	994	0	0	0	0	105	697	79
Future Volume (vph)	0	1792	330	205	994	0	0	0	0	105	697	79
Confl. Peds. (#/hr)			32	32						30		38
Confl. Bikes (#/hr)						1						21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1829	337	209	1014	0	0	0	0	107	711	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2166	0	209	1014	0	0	0	0	0	818	81
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		56.0			84.0					36.0	36.0	36.0
Total Split (%)		46.7%			70.0%					30.0%	30.0%	30.0%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		51.2			79.0	79.0					31.0	31.0
Actuated g/C Ratio		0.43			0.66	0.66					0.26	0.26
v/c Ratio		1.02			0.65	0.30					0.63	0.18
Control Delay		59.2			39.7	3.5					36.2	5.0
Queue Delay		6.1			15.4	0.1					0.4	0.0
Total Delay		65.3			55.1	3.6					36.6	5.0
LOS		E			E	A					D	A
Approach Delay		65.3				12.4					33.8	
Approach LOS		E				B					C	
Queue Length 50th (ft)		~649			109	35					199	4
Queue Length 95th (ft)		#745			183	40					235	m20
Internal Link Dist (ft)		262				240			197		285	
Turn Bay Length (ft)					50							100
Base Capacity (vph)		2118			327	3347					1298	458
Starvation Cap Reductn		0			100	927					0	0
Spillback Cap Reductn		35			0	0					144	0
Storage Cap Reductn		0			0	0					0	0
Reduced v/c Ratio		1.04			0.92	0.42					0.71	0.18

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 100

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	5.0
Minimum Split (s)	13.0	10.0
Total Split (s)	14.0	14.0
Total Split (%)	12%	12%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 43.6

Intersection LOS: D

Intersection Capacity Utilization 88.8%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

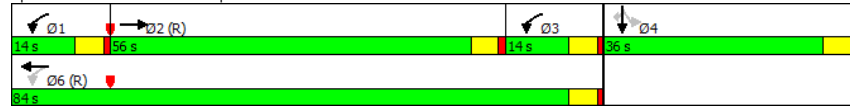
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩↩			↩↩↩			↩↩↩	↩			
Traffic Volume (vph)	308	1513	0	0	1076	132	133	694	179	0	0	0
Future Volume (vph)	308	1513	0	0	1076	132	133	694	179	0	0	0
Confl. Peds. (#/hr)	38					38	17		48			
Confl. Bikes (#/hr)									11			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	328	1610	0	0	1145	140	141	738	190	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	328	1610	0	0	1285	0	0	879	190	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0			
Total Split (s)	19.0	79.0			60.0		41.0	41.0	41.0			
Total Split (%)	15.8%	65.8%			50.0%		34.2%	34.2%	34.2%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	74.0	74.0			55.0			35.0	35.0			
Actuated g/C Ratio	0.62	0.62			0.46			0.29	0.29			
v/c Ratio	1.02	0.51			0.56			0.60	0.41			
Control Delay	76.4	2.7			11.3			38.5	25.2			
Queue Delay	13.3	0.5			0.1			0.0	0.0			
Total Delay	89.8	3.1			11.4			38.5	25.2			
LOS	F	A			B			D	C			
Approach Delay		17.8			11.4			36.2				
Approach LOS		B			B			D				
Queue Length 50th (ft)	~198	47			78			213	76			
Queue Length 95th (ft)	m#196	m46			86			260	146			
Internal Link Dist (ft)		240			335			116			281	
Turn Bay Length (ft)	50											
Base Capacity (vph)	323	3135			2288			1465	469			
Starvation Cap Reductn	13	912			181			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	1.06	0.72			0.61			0.60	0.41			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 20.5

Intersection LOS: C

Intersection Capacity Utilization 88.8%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩ ↪	↩ ↪		↩ ↪	↩ ↪			↩ ↪			↩ ↪	↩ ↪
Traffic Volume (vph)	270	1407	53	73	1131	262	1	22	22	26	19	31
Future Volume (vph)	270	1407	53	73	1131	262	1	22	22	26	19	31
Confl. Peds. (#/hr)	6		83	83		6	4		35	35		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	287	1497	56	78	1203	279	1	23	23	28	20	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	287	1553	0	78	1482	0	0	47	0	0	48	33
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	22.0		10.0	30.0		32.0	32.0		32.0	32.0	30.0
Total Split (s)	15.0	72.0		15.0	72.0		33.0	33.0		33.0	33.0	72.0
Total Split (%)	12.5%	60.0%		12.5%	60.0%		27.5%	27.5%		27.5%	27.5%	60.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effct Green (s)	79.9	71.9		74.2	67.0		28.0	28.0		28.0	28.0	67.0
Actuated g/C Ratio	0.67	0.60		0.62	0.56		0.23	0.23		0.23	0.23	0.56
v/c Ratio	1.06	0.52		0.33	0.53		0.11	0.11		0.13	0.13	0.04
Control Delay	105.5	4.7		11.0	9.1		22.8	22.8		37.7	37.7	0.7
Queue Delay	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	0.0
Total Delay	105.5	4.8		11.0	9.2		22.8	22.8		37.7	37.7	0.7
LOS	F	A		B	A		C	C		D	D	A
Approach Delay		20.5			9.3		22.8	22.8		22.6	22.6	
Approach LOS		C			A		C	C		C	C	
Queue Length 50th (ft)	~172	85		11	190		15	15		30	30	0
Queue Length 95th (ft)	#321	98		24	241		47	47		63	63	4
Internal Link Dist (ft)		335			362		155	155		114	114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	270	3002		274	2773		410	410		358	358	896
Starvation Cap Reductn	0	356		0	193		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.06	0.59		0.28	0.57		0.11	0.11		0.13	0.13	0.04

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 15.6

Intersection LOS: B

Intersection Capacity Utilization 83.6%

ICU Level of Service E

Analysis Period (min) 15

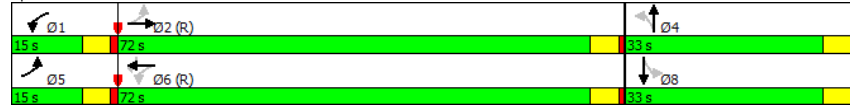
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 36: Colorado St & W. 15th St



37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↓	↓	↑↑↑	↓	↑
Traffic Volume (vph)	1427	28	18	1555	0	1
Future Volume (vph)	1427	28	18	1555	0	1
Confl. Peds. (#/hr)		30	30		13	21
Confl. Bikes (#/hr)						13
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1456	29	18	1587	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1485	0	18	1587	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	72.0		15.0	87.0		33.0
Total Split (%)	60.0%		12.5%	72.5%		27.5%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effct Green (s)	77.5		82.0	82.0		28.0
Actuated g/C Ratio	0.65		0.68	0.68		0.23
v/c Ratio	0.45		0.08	0.46		0.00
Control Delay	4.1		5.3	7.0		0.0
Queue Delay	0.0		0.0	0.1		0.0
Total Delay	4.1		5.3	7.1		0.0
LOS	A		A	A		A
Approach Delay	4.1			7.1		
Approach LOS	A			A		
Queue Length 50th (ft)	46		3	178		0
Queue Length 95th (ft)	54		m5	71		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)			100			
Base Capacity (vph)	3270		286	3474		484
Starvation Cap Reductn	172		0	507		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.48		0.06	0.53		0.00

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46

Intersection Signal Delay: 5.6 Intersection LOS: A
Intersection Capacity Utilization 59.9% ICU Level of Service B
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰	↰		↰↰	↰
Traffic Volume (vph)	80	1153	49	27	1577	115	4	2	8	2	0	4
Future Volume (vph)	80	1153	49	27	1577	115	4	2	8	2	0	4
Confl. Peds. (#/hr)	1		10	10		1	10		4	4		10
Confl. Bikes (#/hr)						1						17
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	82	1189	51	28	1626	119	4	2	8	2	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1240	0	28	1745	0	0	6	8	0	6	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	15.0	78.0		10.0	73.0		32.0	32.0	32.0	32.0	32.0	
Total Split (%)	12.5%	65.0%		8.3%	60.8%		26.7%	26.7%	26.7%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	103.0	105.0		99.4	100.4			10.0	10.0		10.0	
Actuated g/C Ratio	0.86	0.88		0.83	0.84			0.08	0.08		0.08	
v/c Ratio	0.32	0.28		0.07	0.41			0.05	0.03		0.03	
Control Delay	10.5	4.0		2.0	1.8			51.7	0.2		0.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	10.5	4.1		2.0	1.8			51.7	0.2		0.2	
LOS	B	A		A	A			D	A		A	
Approach Delay		4.5			1.8			22.3			0.2	
Approach LOS		A			A			C			A	
Queue Length 50th (ft)	11	103		1	17			4	0		0	
Queue Length 95th (ft)	52	119		m3	141			18	0		0	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40					50			
Base Capacity (vph)	299	4413		383	4206			346	434		412	
Starvation Cap Reductn	0	1012		0	504			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.27	0.36		0.07	0.47			0.02	0.02		0.01	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 3.0 Intersection LOS: A

Intersection Capacity Utilization 62.3% ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	878	357	164	1696	0	0	0	0	93	182	45
Future Volume (vph)	0	878	357	164	1696	0	0	0	0	93	182	45
Confl. Peds. (#/hr)			23	23						10		8
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	887	361	166	1713	0	0	0	0	94	184	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1248	0	166	1713	0	0	0	0	0	278	45
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		68.0		20.0	88.0					32.0	32.0	32.0
Total Split (%)		56.7%		16.7%	73.3%					26.7%	26.7%	26.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		84.9		97.8	97.8					12.2	12.2	12.2
Actuated g/C Ratio		0.71		0.82	0.82					0.10	0.10	0.10
v/c Ratio		0.36		0.45	0.41					0.55	0.21	0.21
Control Delay		2.4		8.1	3.9					55.1	7.9	7.9
Queue Delay		0.1		0.0	0.3					0.0	0.0	0.0
Total Delay		2.6		8.1	4.2					55.1	7.9	7.9
LOS		A		A	A					E	A	A
Approach Delay		2.6			4.5					48.6		
Approach LOS		A			A					D		
Queue Length 50th (ft)		0		24	102					76	0	0
Queue Length 95th (ft)		0		m29	113					104	22	22
Internal Link Dist (ft)		297			282			125		272		
Turn Bay Length (ft)				70								50
Base Capacity (vph)		3433		456	4143					1119	397	397
Starvation Cap Reductn		927		0	1601					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.50		0.36	0.67					0.25	0.11	0.11

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 7.9

Intersection LOS: A

Intersection Capacity Utilization 92.6%

ICU Level of Service F

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰			↰↰↰			↰↰↰	↰			
Traffic Volume (vph)	222	800	0	0	1808	649	61	169	12	0	0	0
Future Volume (vph)	222	800	0	0	1808	649	61	169	12	0	0	0
Confl. Peds. (#/hr)	1					1	3		6			
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	229	825	0	0	1864	669	63	174	12	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	825	0	0	2533	0	0	237	12	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	28.0			5.5		28.0	28.0	28.0			
Total Split (s)	20.0	92.0			72.0		28.0	28.0	28.0			
Total Split (%)	16.7%	76.7%			60.0%		23.3%	23.3%	23.3%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	87.5	87.0			69.0			23.0	23.0			
Actuated g/C Ratio	0.73	0.72			0.58			0.19	0.19			
v/c Ratio	0.85	0.22			0.89			0.35	0.03			
Control Delay	64.3	3.6			10.7			43.8	0.2			
Queue Delay	0.0	0.1			0.3			0.0	0.0			
Total Delay	64.3	3.7			10.9			43.8	0.2			
LOS	E	A			B			D	A			
Approach Delay		16.9			10.9			41.7				
Approach LOS		B			B			D				
Queue Length 50th (ft)	123	36			160			84	0			
Queue Length 95th (ft)	#231	43			m165			124	0			
Internal Link Dist (ft)		282			657			149			621	
Turn Bay Length (ft)	100											
Base Capacity (vph)	289	3686			2849			668	344			
Starvation Cap Reductn	0	1600			47			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.79	0.40			0.90			0.35	0.03			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 14.6 Intersection LOS: B

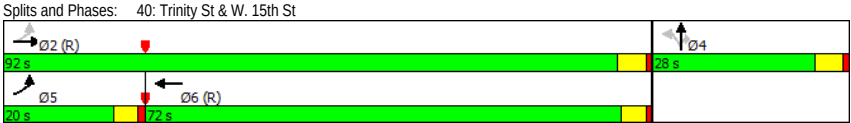
Intersection Capacity Utilization 92.6% ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	11.9											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	4	202	36	0	22	32	5	0	15	31	62
Future Vol, veh/h	0	4	202	36	0	22	32	5	0	15	31	62
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	230	41	0	25	36	6	0	17	35	70
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.8	9.4	9.2
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	2%	37%	1%
Vol Thru, %	29%	83%	54%	94%
Vol Right, %	57%	15%	8%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	108	242	59	326
LT Vol	15	4	22	4
Through Vol	31	202	32	306
RT Vol	62	36	5	16
Lane Flow Rate	123	275	67	370
Geometry Grp	1	1	1	1
Degree of Util (X)	0.174	0.401	0.106	0.521
Departure Headway (Hd)	5.11	5.243	5.703	5.062
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	701	688	627	715
Service Time	3.148	3.277	3.749	3.062
HCM Lane V/C Ratio	0.175	0.4	0.107	0.517
HCM Control Delay	9.2	11.8	9.4	13.4
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.6	1.9	0.4	3

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	4	306	16
Future Vol, veh/h	0	4	306	16
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	5	348	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.4
HCM LOS	B

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.8											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	271	0	0	0	55	0	0	0	0	0
Future Vol, veh/h	0	0	271	0	0	0	55	0	0	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	311	0	0	0	63	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.1	7.6	0
HCM LOS	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	271	55	9
LT Vol	0	0	0	0
Through Vol	0	271	55	0
RT Vol	0	0	0	9
Lane Flow Rate	0	311	63	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.346	0.073	0.012
Departure Headway (Hd)	4.749	3.999	4.183	4.131
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	900	848	872
Service Time	2.75	2.019	2.248	2.131
HCM Lane V/C Ratio	0	0.346	0.074	0.011
HCM Control Delay	7.8	9.1	7.6	7.2
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	1.6	0.2	0

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	9
Future Vol, veh/h	0	0	0	9
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	10
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.2
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	13.2											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	120	98	8	0	17	116	106	0	21	0	0
Future Vol, veh/h	0	120	98	8	0	17	116	106	0	21	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	152	124	10	0	22	147	134	0	27	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13	12.3	9.8
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	53%	7%	5%
Vol Thru, %	0%	43%	49%	86%
Vol Right, %	0%	4%	44%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	226	239	271
LT Vol	21	120	17	14
Through Vol	0	98	116	233
RT Vol	0	8	106	24
Lane Flow Rate	27	286	303	343
Geometry Grp	1	1	1	1
Degree of Util (X)	0.047	0.442	0.439	0.525
Departure Headway (Hd)	6.398	5.565	5.227	5.508
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	557	647	687	655
Service Time	4.469	3.61	3.272	3.55
HCM Lane V/C Ratio	0.048	0.442	0.441	0.524
HCM Control Delay	9.8	13	12.3	14.5
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.1	2.3	2.2	3.1

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	14	233	24
Future Vol, veh/h	0	14	233	24
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	18	295	30
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.5
HCM LOS	B

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	17.3											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	23	77	0	74	173	0	0	0	0	0
Future Vol, veh/h	0	0	23	77	0	74	173	0	0	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	24	82	0	79	184	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		10.9	16.6
HCM LOS		B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	30%	0%	0%	0%
Vol Thru, %	23%	70%	100%	100%	0%
Vol Right, %	77%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	247	389	389	69
LT Vol	0	74	0	0	0
Through Vol	23	173	389	389	0
RT Vol	77	0	0	0	69
Lane Flow Rate	106	263	413	413	73
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.193	0.505	0.667	0.667	0.068
Departure Headway (Hd)	6.539	6.924	5.807	5.807	3.348
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	548	520	624	624	1067
Service Time	4.285	4.664	3.538	3.538	1.077
HCM Lane V/C Ratio	0.193	0.506	0.662	0.662	0.068
HCM Control Delay	10.9	16.6	19.4	19.4	6.3
HCM Lane LOS	B	C	C	C	A
HCM 95th-tile Q	0.7	2.8	5	5	0.2

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	777	69
Future Vol, veh/h	0	0	777	69
Peak Hour Factor	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	827	73
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		18.3
HCM LOS		C

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	11.8											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	31	185	36	0	0	25	0	0	15	69	0
Future Vol, veh/h	0	31	185	36	0	0	25	0	0	15	69	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	35	210	41	0	0	28	0	0	17	78	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.6	8.9	9.2
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	12%	0%	0%
Vol Thru, %	82%	73%	100%	92%
Vol Right, %	0%	14%	0%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	252	25	333
LT Vol	15	31	0	0
Through Vol	69	185	25	305
RT Vol	0	36	0	28
Lane Flow Rate	95	286	28	378
Geometry Grp	1	1	1	1
Degree of Util (X)	0.142	0.402	0.044	0.506
Departure Headway (Hd)	5.361	5.057	5.625	4.816
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	673	704	640	742
Service Time	3.361	3.145	3.631	2.894
HCM Lane V/C Ratio	0.141	0.406	0.044	0.509
HCM Control Delay	9.2	11.6	8.9	12.8
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.5	1.9	0.1	2.9

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	305	28
Future Vol, veh/h	0	0	305	28
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	347	32
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	12.8
HCM LOS	B

Intersection									
Intersection Delay, s/veh	8.4								
Intersection LOS	A								

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	28	0	206	16	0	39	0
Future Vol, veh/h	0	0	28	0	206	16	0	39	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	32	0	234	18	0	44	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB			WB		SB		
Opposing Approach	WB			EB				
Opposing Lanes	1			1		0		
Conflicting Approach Left	SB					WB		
Conflicting Lanes Left	1			0		1		
Conflicting Approach Right				SB		EB		
Conflicting Lanes Right	0			1		1		
HCM Control Delay	7.5			8.6		8		
HCM LOS	A			A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	93%	0%
Vol Right, %	0%	7%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	222	39
LT Vol	0	0	39
Through Vol	28	206	0
RT Vol	0	16	0
Lane Flow Rate	32	252	44
Geometry Grp	1	1	1
Degree of Util (X)	0.037	0.28	0.058
Departure Headway (Hd)	4.201	3.991	4.747
Convergence, Y/N	Yes	Yes	Yes
Cap	840	896	759
Service Time	2.288	2.037	2.747
HCM Lane V/C Ratio	0.038	0.281	0.058
HCM Control Delay	7.5	8.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	1.2	0.2

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	1121	125	210	792	2	30
Future Vol, veh/h	1121	125	210	792	2	30
Conflicting Peds, #/hr	0	1	1	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1289	144	241	910	2	34

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1433	0	2299	722
Stage 1	-	-	-	-	1361	-
Stage 2	-	-	-	-	938	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	470	-	33	369
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	341	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	468	-	16	367
Mov Cap-2 Maneuver	-	-	-	-	16	-
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	165	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		4.3		35.3	
HCM LOS					E	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	155	-	-	468	-
HCM Lane V/C Ratio	0.237	-	-	0.516	-
HCM Control Delay (s)	35.3	-	-	20.6	-
HCM Lane LOS	E	-	-	C	-
HCM 95th %tile Q(veh)	0.9	-	-	2.9	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑		
Traffic Vol, veh/h	0	13	48	61	10	0	0	0	0	75	1234	18
Future Vol, veh/h	0	13	48	61	10	0	0	0	0	75	1234	18
Conflicting Peds, #/hr	0	0	0	13	0	0	0	0	0	0	0	38
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	51	64	11	0	0	0	0	79	1299	19

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1504	710	827	1514	-	0	0	0
Stage 1	-	1504	-	0	0	-	-	-	-
Stage 2	-	0	-	827	1514	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	120	376	264	119	0	-	-	-
Stage 1	0	183	-	-	-	0	-	-	-
Stage 2	0	-	-	332	181	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	116	362	207	115	-	-	-	-
Mov Cap-2 Maneuver	-	116	-	207	115	-	-	-	-
Stage 1	-	176	-	-	-	-	-	-	-
Stage 2	-	-	-	263	174	-	-	-	-

Approach	EB			WB			SB		
HCM Control Delay, s	21.6			36.8					
HCM LOS	C			E					

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	116	362	186	-	-	-
HCM Lane V/C Ratio	0.118	0.14	0.402	-	-	-
HCM Control Delay (s)	40.1	16.6	36.8	-	-	-
HCM Lane LOS	E	C	E	-	-	-
HCM 95th %tile Q(veh)	0.4	0.5	1.8	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	4	70	0	0	34	19	90	570	173	0	0	0
Future Vol, veh/h	4	70	0	0	34	19	90	570	173	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	29	17	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	0	0	36	20	96	606	184	0	0	0

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	498	999	-	-	907	424	17	0	0
Stage 1	17	17	-	-	890	-	-	-	-
Stage 2	481	982	-	-	17	-	-	-	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-	-
Pot Cap-1 Maneuver	498	242	0	0	274	495	1133	-	-
Stage 1	-	-	0	0	359	-	-	-	-
Stage 2	489	325	0	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	391	218	-	-	247	495	1133	-	-
Mov Cap-2 Maneuver	391	218	-	-	247	-	-	-	-
Stage 1	-	-	-	-	329	-	-	-	-
Stage 2	382	297	-	-	-	-	-	-	-

Approach	EB			WB			NB		
HCM Control Delay, s	29.7			19.7			0.9		
HCM LOS	D			C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1133	-	-	223	301
HCM Lane V/C Ratio	0.085	-	-	0.353	0.187
HCM Control Delay (s)	8.5	-	-	29.7	19.7
HCM Lane LOS	A	-	-	D	C
HCM 95th %tile Q(veh)	0.3	-	-	1.5	0.7

MS

Synchro 9 Report
Page 3

13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕	↕	
Traffic Vol, veh/h	123	147	58	103	14	17
Future Vol, veh/h	123	147	58	103	14	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	160	63	112	15	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	175	0	-	0	546	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	427	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1401	-	-	-	499	933
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	658	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1401	-	-	-	447	933
Mov Cap-2 Maneuver	-	-	-	-	447	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	589	-

Approach	EB		WB		SB	
HCM Control Delay, s	3.6		0		11.1	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1401	-	-	-	626
HCM Lane V/C Ratio	0.095	-	-	-	0.054
HCM Control Delay (s)	7.8	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

MS

Synchro 9 Report
Page 4

15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↱			↱	↱	
Traffic Vol, veh/h	35	21	154	71	267	257
Future Vol, veh/h	35	21	154	71	267	257
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	23	167	77	290	279

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	842	430	570	0	-	0
Stage 1	430	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	334	625	1002	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	276	625	1002	-	-	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	553	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	6.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1002	-	349	-	-
HCM Lane V/C Ratio	0.167	-	0.174	-	-
HCM Control Delay (s)	9.3	0	17.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	0.6	-	-

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Synchro 9 Report
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17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱		↱	↱	↱			
Traffic Vol, veh/h	44	0	0	0	0	0	348	227	0	0	0	0
Future Vol, veh/h	44	0	0	0	0	0	348	227	0	0	0	0
Conflicting Peds, #/hr	0	0	5	0	0	0	6	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	0	0	0	0	0	395	258	0	0	0	0

Major/Minor	Minor2		Major2		Major1	
Conflicting Flow All	901	1056	-	-	0	7
Stage 1	7	7	-	-	-	-
Stage 2	894	1049	-	-	-	-
Critical Hdwy	6.78	6.53	-	-	-	4.13
Critical Hdwy Stg 1	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	6.73	5.53	-	-	-	-
Follow-up Hdwy	3.669	4.019	-	-	-	2.219
Pot Cap-1 Maneuver	275	225	0	0	-	1613
Stage 1	973	890	0	0	-	-
Stage 2	281	303	0	0	-	0
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	222	169	-	-	-	1613
Mov Cap-2 Maneuver	222	169	-	-	-	-
Stage 1	731	885	-	-	-	-
Stage 2	212	229	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	25.9	0	4.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1613	-	222	-	-
HCM Lane V/C Ratio	0.245	-	0.225	-	-
HCM Control Delay (s)	8	-	25.9	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	1	-	0.8	-	-

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Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	8.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	21	60	73	121	0	0	0	0	48	680	103
Future Vol, veh/h	0	21	60	73	121	0	0	0	0	48	680	103
Conflicting Peds, #/hr	0	0	23	0	0	0	0	0	0	4	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	65	79	132	0	0	0	0	52	739	112

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	847	393	512	847	-	4	0	0
Stage 1	-	843	-	4	4	-	-	-	-
Stage 2	-	4	-	508	843	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	297	606	445	297	0	1616	-	-
Stage 1	0	378	-	-	-	0	-	-	-
Stage 2	0	-	-	516	378	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	277	606	353	277	-	1616	-	-
Mov Cap-2 Maneuver	-	277	-	353	277	-	-	-	-
Stage 1	-	354	-	-	-	-	-	-	-
Stage 2	-	-	-	404	354	-	-	-	-

Approach	EB			WB			SB		
HCM Control Delay, s	13.6			40.7			0.5		
HCM LOS	B			E					

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	277	606	301	1616	-	-
HCM Lane V/C Ratio	0.082	0.108	0.701	0.032	-	-
HCM Control Delay (s)	19.2	11.7	40.7	7.3	0.1	-
HCM Lane LOS	C	B	E	A	A	-
HCM 95th %tile Q(veh)	0.3	0.4	4.9	0.1	-	-

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑↑↑		
Traffic Vol, veh/h	36	0	103	542	0	0
Future Vol, veh/h	36	0	103	542	0	0
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	0	118	623	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	489	-	0	0
Stage 1	0	-	-	-
Stage 2	489	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	554	0	-	-
Stage 1	-	0	-	-
Stage 2	532	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	554	-	-	-
Mov Cap-2 Maneuver	554	-	-	-
Stage 1	-	-	-	-
Stage 2	532	-	-	-

Approach	EB		NB	
HCM Control Delay, s	12			
HCM LOS	B			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	554
HCM Lane V/C Ratio	-	-	0.075
HCM Control Delay (s)	-	-	12
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱	↱	
Traffic Vol, veh/h	0	13	48	47	9	0	0	0	0	144	1129	18
Future Vol, veh/h	0	13	48	47	9	0	0	0	0	144	1129	18
Conflicting Peds, #/hr	0	0	0	21	0	0	0	0	0	0	0	25
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	52	51	10	0	0	0	0	157	1227	20

Major/Minor	Minor2		Minor1		Major2		
Conflicting Flow All	-	1565	660	955	1565	-	0 0 0
Stage 1	-	1565	-	0	0	-	- - -
Stage 2	-	0	-	955	1565	-	- - -
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14 - -
Critical Hdwy Stg 1	-	5.54	-	-	-	-	- - -
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	- - -
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22 - -
Pot Cap-1 Maneuver	0	110	406	213	110	0	- - -
Stage 1	0	170	-	-	-	0	- - -
Stage 2	0	-	-	278	170	0	- - -
Platoon blocked, %	-	-	-	-	-	-	- - -
Mov Cap-1 Maneuver	-	107	396	166	107	-	- - -
Mov Cap-2 Maneuver	-	107	-	166	107	-	- - -
Stage 1	-	166	-	-	-	-	- - -
Stage 2	-	-	-	221	166	-	- - -

Approach	EB		WB		SB		
HCM Control Delay, s	24.4		43.7				
HCM LOS	C		E				

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	251	152	-	-
HCM Lane V/C Ratio	0.264	0.4	-	-
HCM Control Delay (s)	24.4	43.7	-	-
HCM Lane LOS	C	E	-	-
HCM 95th %tile Q(veh)	1	1.7	-	-

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	13.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱	↱	
Traffic Vol, veh/h	8	26	82	112	56	5	45	313	9	2	120	34
Future Vol, veh/h	8	26	82	112	56	5	45	313	9	2	120	34
Conflicting Peds, #/hr	0	0	0	0	0	15	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	33	104	142	71	6	57	396	11	3	152	43

Major/Minor	Minor2		Minor1		Major1			Major2		
Conflicting Flow All	750	703	176	763	719	417	198	0	0	408 0 0
Stage 1	181	181	-	516	516	-	-	-	-	- - -
Stage 2	569	522	-	247	203	-	-	-	-	- - -
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12 - -
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	- - -
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	- - -
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218 - -
Pot Cap-1 Maneuver	328	362	867	321	354	636	1375	-	-	1151 - -
Stage 1	821	750	-	542	534	-	-	-	-	- - -
Stage 2	507	531	-	757	733	-	-	-	-	- - -
Platoon blocked, %	-	-	-	-	-	-	-	-	-	- - -
Mov Cap-1 Maneuver	256	340	865	250	333	627	1375	-	-	1135 - -
Mov Cap-2 Maneuver	256	340	-	250	333	-	-	-	-	- - -
Stage 1	774	746	-	513	505	-	-	-	-	- - -
Stage 2	402	502	-	635	729	-	-	-	-	- - -

Approach	EB		WB		NB			SB		
HCM Control Delay, s	13.4		53.6		0.9			0.1		
HCM LOS	B		F							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1375	-	-	573	277	1135	-
HCM Lane V/C Ratio	0.041	-	-	0.256	0.791	0.002	-
HCM Control Delay (s)	7.7	0	-	13.4	53.6	8.2	0
HCM Lane LOS	A	A	-	B	F	A	A
HCM 95th %tile Q(veh)	0.1	-	-	1	6.1	0	-

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection												
Int Delay, s/veh	9.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	37	0	0	169	0	0	0	0	0	0	0
Future Vol, veh/h	0	37	0	0	169	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	11	0	11	12	0	0	0	0	12
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	0	0	184	0	0	0	0	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	1	-	-	1	-	-	0
Stage 1	-	1	-	-	0	-	-	-
Stage 2	-	0	-	-	1	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-
Stage 1	0	895	0	0	-	0	0	-
Stage 2	0	-	0	0	895	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-
Stage 1	-	895	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.2		10.1		0		0	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.045	0.205	-
HCM Control Delay (s)	-	9.2	10.1	-
HCM Lane LOS	-	A	B	-
HCM 95th %tile Q(veh)	-	0.1	0.8	-

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Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	36	0	3	133	44	0
Future Vol, veh/h	36	0	3	133	44	0
Conflicting Peds, #/hr	0	0	26	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	0	4	160	53	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	69	0	236	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1532	-	752	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1532	-	731	969
Mov Cap-2 Maneuver	-	-	-	-	731	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	860	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		10.3	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	731	-	-	1532	-
HCM Lane V/C Ratio	0.073	-	-	0.002	-
HCM Control Delay (s)	10.3	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

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Synchro 9 Report
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32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	45	0	0	345	155
Future Vol, veh/h	0	45	0	0	345	155
Conflicting Peds, #/hr	0	0	0	0	0	125
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	54	0	0	416	187

Major/Minor	Minor2	Major2
Conflicting Flow All	- 333	- 0
Stage 1	- -	- -
Stage 2	- -	- -
Critical Hdwy	- 7.14	- -
Critical Hdwy Stg 1	- -	- -
Critical Hdwy Stg 2	- -	- -
Follow-up Hdwy	- 3.92	- -
Pot Cap-1 Maneuver	0 566	- -
Stage 1	0 -	- -
Stage 2	0 -	- -
Platoon blocked, %	- -	- -
Mov Cap-1 Maneuver	- 499	- -
Mov Cap-2 Maneuver	- -	- -
Stage 1	- -	- -
Stage 2	- -	- -

Approach	EB	SB
HCM Control Delay, s	13.1	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	499	-	-
HCM Lane V/C Ratio	0.109	-	-
HCM Control Delay (s)	13.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

33: Colorado St & Parking Dr. 3
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	15	464	90	120	354
Future Vol, veh/h	14	15	464	90	120	354
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	16	504	98	130	385

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1199 553	0 0	602 0
Stage 1	553 -	- -	- -
Stage 2	646 -	- -	- -
Critical Hdwy	6.42 6.22	- -	4.12 -
Critical Hdwy Stg 1	5.42 -	- -	- -
Critical Hdwy Stg 2	5.42 -	- -	- -
Follow-up Hdwy	3.518 3.318	- -	2.218 -
Pot Cap-1 Maneuver	205 533	- -	975 -
Stage 1	576 -	- -	- -
Stage 2	522 -	- -	- -
Platoon blocked, %	- -	- -	- -
Mov Cap-1 Maneuver	170 533	- -	975 -
Mov Cap-2 Maneuver	170 -	- -	- -
Stage 1	576 -	- -	- -
Stage 2	433 -	- -	- -

Approach	WB	NB	SB
HCM Control Delay, s	20.6	0	2.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	- -	262 975	-	-
HCM Lane V/C Ratio	- -	0.12 0.134	-	-
HCM Control Delay (s)	- -	20.6 9.3	0	-
HCM Lane LOS	- -	C A	A	-
HCM 95th %tile Q(veh)	- -	0.4 0.5	-	-

62: Colorado St & Parking Dr. 4
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh		1.2				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	12	84	394	462	96
Future Vol, veh/h	12	12	84	394	462	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	91	428	502	104
Major/Minor						
	Minor2		Major1		Major2	
Conflicting Flow All	1165	554	607	0	-	0
Stage 1	554	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	215	532	971	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	189	532	971	-	-	-
Mov Cap-2 Maneuver	189	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	19.2		1.6		0	
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	971	-	279	-	-	
HCM Lane V/C Ratio	0.094	-	0.094	-	-	
HCM Control Delay (s)	9.1	0	19.2	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.3	-	0.3	-	-	

69: Parking Dr. 5 & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	110	120	90	45	19	10
Future Vol, veh/h	110	120	90	45	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	130	98	49	21	11
Major/Minor						
	Major1		Major2		Minor1	
Conflicting Flow All	0	0	250	0	430	185
Stage 1	-	-	-	-	185	-
Stage 2	-	-	-	-	245	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1316	-	582	857
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	796	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1316	-	537	857
Mov Cap-2 Maneuver	-	-	-	-	537	-
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	735	-
Approach						
	EB		WB		NB	
HCM Control Delay, s	0		5.3		11.2	
HCM LOS					B	
Minor Lane/Major Mvmt						
	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	616	-	-	1316	-	
HCM Lane V/C Ratio	0.051	-	-	0.074	-	
HCM Control Delay (s)	11.2	-	-	8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-	

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

	↖	→	↘	↙	←	↖	↙	↘	↗	↘	↙	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗			↖↗	↖				↖	↖↗	↖
Traffic Volume (vph)	155	381	149	0	1308	720	0	0	0	194	650	237
Future Volume (vph)	155	381	149	0	1308	720	0	0	0	194	650	237
Confl. Peds. (#/hr)	30		70	70		30				42		70
Confl. Bikes (#/hr)			1			6						3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	165	405	159	0	1391	766	0	0	0	206	691	252
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	564	0	0	1391	766	0	0	0	206	691	252
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6				4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	25.0	92.0			67.0	43.0				43.0	43.0	43.0
Total Split (%)	18.5%	68.1%			49.6%	31.9%				31.9%	31.9%	31.9%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effect Green (s)	20.0	87.0			62.0	100.0				38.0	38.0	38.0
Actuated g/C Ratio	0.15	0.64			0.46	0.74				0.28	0.28	0.28
v/c Ratio	0.63	0.27			0.86	0.65				0.41	0.69	0.50
Control Delay	65.7	10.3			29.1	2.6				42.5	47.7	19.9
Queue Delay	0.0	0.0			47.4	0.3				0.0	0.0	0.0
Total Delay	65.7	10.3			76.5	2.9				42.5	47.7	19.9
LOS	E	B			E	A				D	D	B
Approach Delay		22.8				50.4					40.6	
Approach LOS		C				D					D	
Queue Length 50th (ft)	138	100			525	24				147	285	72
Queue Length 95th (ft)	217	129			m592	m51				224	356	159
Internal Link Dist (ft)		228			45		159				210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	262	2106			1625	1172				498	996	500
Starvation Cap Reductn	0	0			382	84				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.63	0.27			1.12	0.70				0.41	0.69	0.50

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

MS

Synchro 9 Report
Page 1

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 42.6

Intersection LOS: D

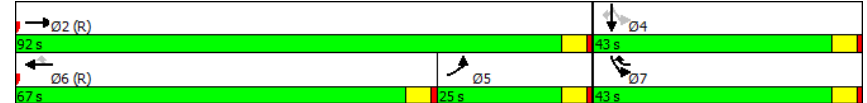
Intersection Capacity Utilization 79.7%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



MS

Synchro 9 Report
Page 2

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

	→	↗	↖	←	↙	↘
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↗↘	↖↗
Traffic Volume (vph)	554	0	0	1356	1006	248
Future Volume (vph)	554	0	0	1356	1006	248
Confl. Peds. (#/hr)						82
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	609	0	0	1490	1105	273
Shared Lane Traffic (%)						
Lane Group Flow (vph)	609	0	0	1490	1105	273
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	10.0
Total Split (s)	86.0			86.0	49.0	49.0
Total Split (%)	63.7%			63.7%	36.3%	36.3%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	81.0			81.0	44.0	44.0
Actuated g/C Ratio	0.60			0.60	0.33	0.33
v/c Ratio	0.29			0.70	0.99	0.45
Control Delay	13.8			14.4	78.5	24.4
Queue Delay	0.3			0.7	9.9	0.0
Total Delay	14.1			15.1	88.4	24.4
LOS	B			B	F	C
Approach Delay	14.1			15.1	75.7	
Approach LOS	B			B	E	
Queue Length 50th (ft)	126			266	518	86
Queue Length 95th (ft)	155			330	#658	175
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2123			2123	1118	611
Starvation Cap Reductn	865			126	0	0
Spillback Cap Reductn	0			303	41	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.48			0.82	1.03	0.45
Intersection Summary						
Cycle Length: 135						
Actuated Cycle Length: 135						
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 38.9	Intersection LOS: D
Intersection Capacity Utilization 93.9%	ICU Level of Service F
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↖	↕↕		
Traffic Volume (vph)	819	0	13	1300	0	0
Future Volume (vph)	819	0	13	1300	0	0
Confl. Peds. (#/hr)		33	33		35	
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	871	0	14	1383	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	871	0	14	1383	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0		
Minimum Split (s)	34.0		8.0	20.0		
Total Split (s)	121.0		14.0	135.0		
Total Split (%)	89.6%		10.4%	100.0%		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		5.0	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effct Green (s)	127.4		133.0	135.0		
Actuated g/C Ratio	0.94		0.99	1.00		
v/c Ratio	0.26		0.02	0.39		
Control Delay	0.7		0.1	0.4		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.7		0.1	0.4		
LOS	A		A	A		
Approach Delay	0.7			0.4		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	3		
Queue Length 95th (ft)	41		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3339		650	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.26		0.02	0.39		

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 45

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 0.5

Intersection LOS: A

Intersection Capacity Utilization 40.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

	←	→	↖	↗	←	↖	↗	←	↖	↗	←	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↗		↖	↖↗	↖		↖	↖↗		↖	↖↗	
Traffic Volume (vph)	91	813	32	45	916	136	125	24	306	100	26	253	
Future Volume (vph)	91	813	32	45	916	136	125	24	306	100	26	253	
Confl. Peds. (#/hr)	44		7	7		44	22		23	23		22	
Confl. Bikes (#/hr)			4			3							
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	94	838	33	46	944	140	129	25	315	103	27	261	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	94	871	0	46	944	140	0	154	315	0	130	261	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	5	2		1	6			8			4		
Permitted Phases	2			6		6	8		8	4		4	
Detector Phase	5	2		1	6	6	8	8	8	4	4	4	
Switch Phase													
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	8.0	22.0		8.0	28.0	28.0	30.0	30.0	30.0	30.0	30.0	30.0	
Total Split (s)	15.0	89.0		15.0	89.0	89.0	31.0	31.0	31.0	31.0	31.0	31.0	
Total Split (%)	11.1%	65.9%		11.1%	65.9%	65.9%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes							
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max	
Act Effect Green (s)	96.0	89.7		92.9	86.5	86.5		26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.71	0.66		0.69	0.64	0.64		0.19	0.19		0.19	0.19	
v/c Ratio	0.24	0.37		0.11	0.42	0.16		0.75	0.61		0.69	0.55	
Control Delay	5.3	7.7		2.3	5.7	2.0		75.0	13.9		70.8	14.2	
Queue Delay	0.0	0.3		0.0	0.3	0.0		0.0	0.3		0.0	0.0	
Total Delay	5.3	7.9		2.3	6.0	2.0		75.0	14.2		70.8	14.2	
LOS	A	A		A	A	A		E	B		E	B	
Approach Delay		7.7			5.3			34.2			33.0		
Approach LOS		A			A			C			C		
Queue Length 50th (ft)	15	115		2	121	10		129	27		107	26	
Queue Length 95th (ft)	25	128		6	161	28		#238	124		#200	113	
Internal Link Dist (ft)		377			273			135			212		
Turn Bay Length (ft)	160			100		100			100				
Base Capacity (vph)	425	2334		479	2267	899		204	514		188	472	
Starvation Cap Reductn	0	737		0	613	0		0	0		0	0	
Spillback Cap Reductn	0	316		0	0	0		0	24		0	0	
Storage Cap Reductn	0	0		0	0	0		0	0		0	0	
Reduced v/c Ratio	0.22	0.55		0.10	0.57	0.16		0.75	0.64		0.69	0.55	

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

MS

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 14.3

Intersection LOS: B

Intersection Capacity Utilization 79.5%

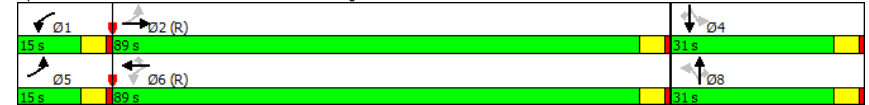
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↓	↑↑					↓	↑↑	↑
Traffic Volume (vph)	0	1156	30	369	1152	0	0	0	0	39	204	144
Future Volume (vph)	0	1156	30	369	1152	0	0	0	0	39	204	144
Confl. Peds. (#/hr)			37	37						73		17
Confl. Bikes (#/hr)			8									14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1243	32	397	1239	0	0	0	0	42	219	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1275	0	397	1239	0	0	0	0	42	219	155
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2			1	6					4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effct Green (s)		73.0		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.54		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.67		1.03	0.48					0.13	0.31	0.40
Control Delay		17.6		93.8	4.2					45.9	47.5	17.7
Queue Delay		0.5		9.1	0.3					0.0	0.0	0.0
Total Delay		18.1		102.9	4.5					45.9	47.5	17.7
LOS		B		F	A					D	D	B
Approach Delay		18.1			28.4						36.2	
Approach LOS		B			C						D	
Queue Length 50th (ft)		349		~281	122					31	86	30
Queue Length 95th (ft)		422		m#472	m130					65	127	96
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1904		385	2569					312	707	390
Starvation Cap Reductn		260		10	639					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.78		1.06	0.64					0.13	0.31	0.40

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90

MS

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 25.4

Intersection LOS: C

Intersection Capacity Utilization 86.8%

ICU Level of Service E

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 10

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩			↩↩		↩	↩	↩		↓	↩
Traffic Volume (vph)	87	1188	0	0	1253	53	217	327	595	0	0	0
Future Volume (vph)	87	1188	0	0	1253	53	217	327	595	0	0	0
Confl. Peds. (#/hr)			34			90	17		153			
Confl. Bikes (#/hr)						4			13			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	90	1225	0	0	1292	55	224	337	613	0	0	0
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	90	1225	0	0	1347	0	202	359	613	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	104.0			89.0		31.0	31.0	31.0			
Total Split (%)	11.1%	77.0%			65.9%		23.0%	23.0%	23.0%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	99.0	99.0			86.6		26.0	26.0	26.0			
Actuated g/C Ratio	0.73	0.73			0.64		0.19	0.19	0.19			
v/c Ratio	0.34	0.47			0.60		0.65	1.06	2.07			
Control Delay	8.1	1.4			7.5		69.4	123.7	518.5			
Queue Delay	0.0	0.1			0.8		3.6	16.7	0.0			
Total Delay	8.1	1.5			8.3		72.9	140.4	518.5			
LOS	A	A			A		E	F	F			
Approach Delay		1.9			8.3			326.2				
Approach LOS		A			A			F				
Queue Length 50th (ft)	3	23			116		181	~366	~778			
Queue Length 95th (ft)	m18	25			132		273	#580	#1018			
Internal Link Dist (ft)		321			699			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	294	2595			2230		313	339	296			
Starvation Cap Reductn	0	216			528		0	0	0			
Spillback Cap Reductn	0	0			51		52	56	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.31	0.51			0.79		0.77	1.27	2.07			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 75

MS

Synchro 9 Report
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8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.07

Intersection Signal Delay: 103.4

Intersection LOS: F

Intersection Capacity Utilization 86.8%

ICU Level of Service E

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

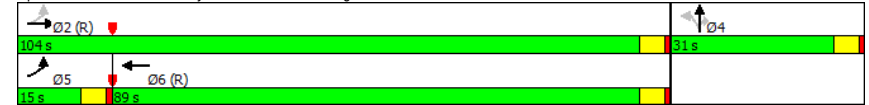
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 12

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑	↑
Traffic Volume (vph)	0	21	12	166	97	0	0	0	0	48	1199	23
Future Volume (vph)	0	21	12	166	97	0	0	0	0	48	1199	23
Confl. Peds. (#/hr)			69							44		
Confl. Bikes (#/hr)								2				
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Parking (#/hr)		0										
Adj. Flow (vph)	0	22	13	173	101	0	0	0	0	50	1249	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	13	0	274	0	0	0	0	0	1323	0
Turn Type	NA	Perm	Perm	NA	NA					Perm	NA	
Protected Phases	4 12				4 12						2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase		4 12	4 12	4 12	4 12					2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		31.9	31.9		31.9						79.1	
Actuated g/C Ratio		0.24	0.24		0.24						0.59	
v/c Ratio		0.06	0.03		0.79						0.64	
Control Delay		21.6	0.2		34.8						13.3	
Queue Delay		0.0	0.0		0.0						0.0	
Total Delay		21.6	0.2		34.8						13.3	
LOS		C	A		C						B	
Approach Delay		13.6			34.8						13.3	
Approach LOS		B			C						B	
Queue Length 50th (ft)		10	0		89						213	
Queue Length 95th (ft)		24	0		128						294	
Internal Link Dist (ft)		177			244			271			262	
Turn Bay Length (ft)												
Base Capacity (vph)		533	508		471						2061	
Starvation Cap Reductn		0	0		1						0	
Spillback Cap Reductn		0	0		0						0	
Storage Cap Reductn		0	0		0						0	
Reduced v/c Ratio		0.04	0.03		0.58						0.64	
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												

MS

Synchro 9 Report
Page 13

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	21.0	21.0	22.5	22.5
Total Split (s)	56.0	29.0	24.0	26.0
Total Split (%)	41%	21%	18%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
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18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 16.9

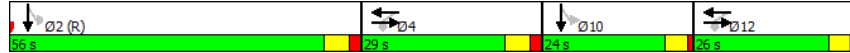
Intersection LOS: B

Intersection Capacity Utilization 77.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖			↗		↖↗↘	↖					
Traffic Volume (vph)	11	65	0	0	134	124	66	1182	70	0	0	0	
Future Volume (vph)	11	65	0	0	134	124	66	1182	70	0	0	0	
Confl. Peds. (#/hr)	34							47					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Parking (#/hr)		0											
Adj. Flow (vph)	12	71	0	0	146	135	72	1285	76	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	83	0	0	281	0	0	1357	76	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4 12			4 12			2 10					
Permitted Phases	4 12						2 10		2 10				
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10				
Switch Phase													
Minimum Initial (s)													
Minimum Split (s)													
Total Split (s)													
Total Split (%)													
Yellow Time (s)													
All-Red Time (s)													
Lost Time Adjust (s)													
Total Lost Time (s)													
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode													
Act Effct Green (s)	31.4				31.4			79.6	79.6				
Actuated g/C Ratio	0.23				0.23			0.59	0.59				
v/c Ratio	0.23				0.66			0.45	0.10				
Control Delay	21.3				31.7			9.9	4.2				
Queue Delay	0.0				0.0			0.0	0.0				
Total Delay	21.3				31.7			9.9	4.2				
LOS	C				C			A	A				
Approach Delay	21.3				31.7			9.6					
Approach LOS	C				C			A					
Queue Length 50th (ft)	33				128			141	10				
Queue Length 95th (ft)	m62				192			152	m18				
Internal Link Dist (ft)	244				319			272			254		
Turn Bay Length (ft)									100				
Base Capacity (vph)	509				584			3005	799				
Starvation Cap Reductn	0				0			249	0				
Spillback Cap Reductn	0				7			0	0				
Storage Cap Reductn	0				0			0	0				
Reduced v/c Ratio	0.16				0.49			0.49	0.10				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 100

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	54.0	28.0	25.0	28.0
Total Split (%)	40%	21%	19%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 13.6
Intersection Capacity Utilization 48.8%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service A
m Volume for 95th percentile queue is metered by upstream signal.



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	66	0	0	93	149	65	1145	61	0	0	0
Future Volume (vph)	11	66	0	0	93	149	65	1145	61	0	0	0
Confl. Peds. (#/hr)						170		88				
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Parking (#/hr)					0							
Adj. Flow (vph)	12	69	0	0	98	157	68	1205	64	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	81	0	0	255	0	0	1273	64	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		31.6			31.6			79.4	79.4			
Actuated g/C Ratio		0.23			0.23			0.59	0.59			
v/c Ratio		0.20			0.77			0.43	0.07			
Control Delay		22.6			38.1			11.6	3.5			
Queue Delay		0.0			0.0			0.4	0.0			
Total Delay		22.6			38.1			12.0	3.5			
LOS		C			D			B	A			
Approach Delay		22.6			38.1			11.6				
Approach LOS		C			D			B				
Queue Length 50th (ft)		37			114			113	1			
Queue Length 95th (ft)		m67			170			m247	m7			
Internal Link Dist (ft)		233			60			281			272	
Turn Bay Length (ft)									100			
Base Capacity (vph)		569			445			2955	961			
Starvation Cap Reductn		0			0			1042	0			
Spillback Cap Reductn		0			0			0	0			
Storage Cap Reductn		0			0			0	0			
Reduced v/c Ratio		0.14			0.57			0.67	0.07			
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green												

MS

Synchro 9 Report
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28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	55.0	32.0	24.0	24.0
Total Split (%)	41%	24%	18%	18%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
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28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

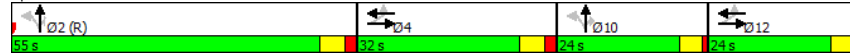
Intersection Signal Delay: 16.2 Intersection LOS: B

Intersection Capacity Utilization 55.1% ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	952	99	237	1828	0	0	0	0	155	934	450
Future Volume (vph)	0	952	99	237	1828	0	0	0	0	155	934	450
Confl. Peds. (#/hr)			18	18						20		
Confl. Bikes (#/hr)												28
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1107	115	276	2126	0	0	0	0	180	1086	523
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1222	0	276	2126	0	0	0	0	0	1266	523
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		58.0			88.0					47.0	47.0	47.0
Total Split (%)		43.0%			65.2%					34.8%	34.8%	34.8%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		53.0		83.0	83.0						42.0	42.0
Actuated g/C Ratio		0.39		0.61	0.61						0.31	0.31
v/c Ratio		0.62		0.75	0.68						0.81	1.00
Control Delay		34.2		32.3	7.0						45.4	72.6
Queue Delay		0.0		22.9	0.4						0.0	0.0
Total Delay		34.2		55.2	7.3						45.4	72.6
LOS		C		E	A						D	E
Approach Delay		34.2			12.8						53.4	
Approach LOS		C			B						D	
Queue Length 50th (ft)		308		113	139						331	317
Queue Length 95th (ft)		337		m153	142						377	#577
Internal Link Dist (ft)		262			240			197			285	
Turn Bay Length (ft)				50								100
Base Capacity (vph)		1968		370	3126						1564	524
Starvation Cap Reductn		0		91	416						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.62		0.99	0.78						0.81	1.00

Intersection Summary

Cycle Length: 135

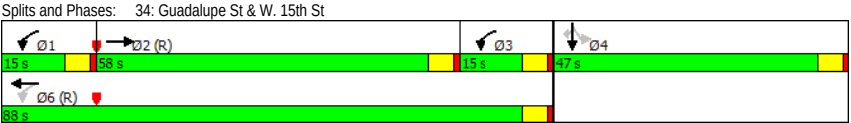
Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	8.0
Minimum Split (s)	10.0	13.0
Total Split (s)	15.0	15.0
Total Split (%)	11%	11%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 31.1	Intersection LOS: C
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩↩			↩↩↩			↩↩↩	↩			
Traffic Volume (vph)	127	947	0	0	1739	68	401	909	167	0	0	0
Future Volume (vph)	127	947	0	0	1739	68	401	909	167	0	0	0
Confl. Peds. (#/hr)	48					48	31		18			
Confl. Bikes (#/hr)			2						28			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	141	1052	0	0	1932	76	446	1010	186	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	1052	0	0	2008	0	0	1456	186	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0			
Total Split (s)	20.0	86.0			66.0		49.0	49.0	49.0			
Total Split (%)	14.8%	63.7%			48.9%		36.3%	36.3%	36.3%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	81.0	81.0			64.7			43.0	43.0			
Actuated g/C Ratio	0.60	0.60			0.48			0.32	0.32			
v/c Ratio	0.70	0.34			0.83			0.93	0.34			
Control Delay	72.0	3.1			15.0			55.5	16.7			
Queue Delay	0.3	0.1			0.0			4.5	0.0			
Total Delay	72.3	3.3			15.0			60.0	16.7			
LOS	E	A			B			E	B			
Approach Delay		11.4			15.0			55.1				
Approach LOS		B			B			E				
Queue Length 50th (ft)	90	45			137			451	50			
Queue Length 95th (ft)	m158	49			135			#543	115			
Internal Link Dist (ft)		240			335			116			281	
Turn Bay Length (ft)	50											
Base Capacity (vph)	248	3051			2416			1572	548			
Starvation Cap Reductn	8	873			0			0	0			
Spillback Cap Reductn	0	0			0			81	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	0.59	0.48			0.83			0.98	0.34			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 80

MS

Synchro 9 Report
Page 25

35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 27.7

Intersection LOS: C

Intersection Capacity Utilization 81.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



MS

Synchro 9 Report
Page 26

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	1103	22	23	1429	35	9	27	113	263	6	347
Future Volume (vph)	42	1103	22	23	1429	35	9	27	113	263	6	347
Confl. Peds. (#/hr)	33		35	35		33	99		6	6		99
Confl. Bikes (#/hr)			1			2			2			1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	48	1268	25	26	1643	40	10	31	130	302	7	399
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	1293	0	26	1683	0	0	171	0	0	309	399
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	20.0		10.0	22.0		36.0	36.0		10.0	10.0	22.0
Total Split (s)	10.0	79.0		10.0	79.0		46.0	46.0		46.0	46.0	79.0
Total Split (%)	7.4%	58.5%		7.4%	58.5%		34.1%	34.1%		34.1%	34.1%	58.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effect Green (s)	81.0	78.0		80.0	76.0			41.0			41.0	76.0
Actuated g/C Ratio	0.60	0.58		0.59	0.56			0.30			0.30	0.56
v/c Ratio	0.31	0.44		0.11	0.59			0.31			1.03	0.47
Control Delay	11.9	6.8		5.3	9.8			15.6			105.9	3.9
Queue Delay	0.0	0.2		0.0	0.1			0.0			0.0	0.1
Total Delay	11.9	7.0		5.3	9.9			15.6			105.9	3.9
LOS	B	A		A	A			B			F	A
Approach Delay		7.2			9.9			15.6			48.4	
Approach LOS		A			A			B			D	
Queue Length 50th (ft)	0	108		3	367			41			~289	7
Queue Length 95th (ft)	13	123		6	163			94			#451	48
Internal Link Dist (ft)		335			362			155			114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	155	2927		229	2843			559			300	840
Starvation Cap Reductn	0	647		0	268			0			0	0
Spillback Cap Reductn	0	0		0	111			0			0	26
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.31	0.57		0.11	0.65			0.31			1.03	0.49

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
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36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 16.1

Intersection LOS: B

Intersection Capacity Utilization 94.2%

ICU Level of Service F

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 36: Colorado St & W. 15th St



MS

Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖	↑↑↑		↗
Traffic Volume (vph)	1539	0	0	1244	0	1
Future Volume (vph)	1539	0	0	1244	0	1
Confl. Peds. (#/hr)		49	49		41	14
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1790	0	0	1447	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1790	0	0	1447	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	92.0		10.0	102.0		33.0
Total Split (%)	68.1%		7.4%	75.6%		24.4%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effct Green (s)	97.0			97.0		28.0
Actuated g/C Ratio	0.72			0.72		0.21
v/c Ratio	0.49			0.40		0.00
Control Delay	6.1			7.8		0.0
Queue Delay	0.0			0.1		0.0
Total Delay	6.1			8.0		0.0
LOS	A			A		A
Approach Delay	6.1			8.0		
Approach LOS	A			A		
Queue Length 50th (ft)	139			182		0
Queue Length 95th (ft)	m149			80		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)						
Base Capacity (vph)	3653			3653		383
Starvation Cap Reductn	326			953		0
Spillback Cap Reductn	0			293		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.54			0.54		0.00

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75

MS

Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 7.0

Intersection LOS: A

Intersection Capacity Utilization 61.4%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



MS

Synchro 9 Report
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38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background

Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↓	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗			↖ ↗	↖ ↗		↖ ↗	
Traffic Volume (vph)	5	1527	39	10	1098	11	135	3	119	66	3	89
Future Volume (vph)	5	1527	39	10	1098	11	135	3	119	66	3	89
Confl. Peds. (#/hr)	8		9	9		8	5		19	19		5
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1642	42	11	1181	12	145	3	128	71	3	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1684	0	11	1193	0	0	148	128	0	170	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	12.0	77.0		12.0	77.0		46.0	46.0	46.0	46.0	46.0	
Total Split (%)	8.9%	57.0%		8.9%	57.0%		34.1%	34.1%	34.1%	34.1%	34.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	96.2	96.2		98.8	98.8			24.0	24.0		24.0	
Actuated g/C Ratio	0.71	0.71		0.73	0.73			0.18	0.18		0.18	
v/c Ratio	0.02	0.47		0.05	0.32			0.85	0.36		0.74	
Control Delay	6.6	4.5		6.5	5.1			89.9	15.8		54.5	
Queue Delay	0.0	0.0		0.0	0.1			0.0	0.0		0.0	
Total Delay	6.6	4.6		6.5	5.2			89.9	15.8		54.5	
LOS	A	A		A	A			F	B		D	
Approach Delay		4.6			5.3			55.5			54.5	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	0	43		2	84			127	22		102	
Queue Length 95th (ft)	m2	106		m7	220			193	74		173	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40					50			
Base Capacity (vph)	328	3605		240	3711			298	530		358	
Starvation Cap Reductn	0	173		0	1233			0	0		0	
Spillback Cap Reductn	0	269		0	0			0	4		2	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.50		0.05	0.48			0.50	0.24		0.48	

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

MS

Synchro 9 Report
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38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 11.6

Intersection LOS: B

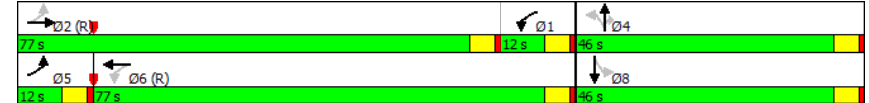
Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



MS

Synchro 9 Report
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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	1830	117	67	902	0	0	0	0	522	648	315
Future Volume (vph)	0	1830	117	67	902	0	0	0	0	522	648	315
Confl. Peds. (#/hr)			11	11						32		5
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1968	126	72	970	0	0	0	0	561	697	339
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2094	0	72	970	0	0	0	0	0	1258	339
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		80.0		15.0	95.0					40.0	40.0	40.0
Total Split (%)		59.3%		11.1%	70.4%					29.6%	29.6%	29.6%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		79.6		90.0	90.0					35.0	35.0	35.0
Actuated g/C Ratio		0.59		0.67	0.67					0.26	0.26	0.26
v/c Ratio		0.71		0.47	0.29					1.25dl	0.74	0.74
Control Delay		9.9		41.8	6.2					74.5	45.5	45.5
Queue Delay		0.1		0.0	0.2					0.0	0.0	0.0
Total Delay		10.1		41.8	6.4					74.5	45.5	45.5
LOS		B		D	A					E	D	D
Approach Delay		10.1			8.8						68.4	
Approach LOS		B			A						E	
Queue Length 50th (ft)		150		24	87						405	213
Queue Length 95th (ft)		353		m72	101						#514	332
Internal Link Dist (ft)		297			282			125			272	
Turn Bay Length (ft)				70								50
Base Capacity (vph)		2969		183	3390						1261	460
Starvation Cap Reductn		167		0	1301						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.75		0.39	0.46						1.00	0.74

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

MS

Synchro 9 Report
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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 29.5

Intersection LOS: C

Intersection Capacity Utilization 77.4%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



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Synchro 9 Report
Page 34

40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	2032	0	0	791	147	183	315	289	0	0	0
Future Volume (vph)	89	2032	0	0	791	147	183	315	289	0	0	0
Confl. Peds. (#/hr)	2					2	7		8			
Confl. Bikes (#/hr)									9			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	93	2117	0	0	824	153	191	328	301	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	2117	0	0	977	0	0	519	301	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		35.0	35.0	35.0			
Total Split (s)	10.0	100.0			90.0		35.0	35.0	35.0			
Total Split (%)	7.4%	74.1%			66.7%		25.9%	25.9%	25.9%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	95.0	95.0			85.0		30.0	30.0				
Actuated g/C Ratio	0.70	0.70			0.63		0.22	0.22				
v/c Ratio	0.25	0.59			0.31		0.67	0.78				
Control Delay	5.9	6.8			15.3		53.1	55.2				
Queue Delay	0.0	0.3			0.0		0.0	0.2				
Total Delay	5.9	7.1			15.3		53.1	55.4				
LOS	A	A			B		D	E				
Approach Delay		7.0			15.3		54.0					
Approach LOS		A			B		D					
Queue Length 50th (ft)	19	162			188		221	206				
Queue Length 95th (ft)	m25	m170			201		285	#342				
Internal Link Dist (ft)		282			641		149			621		
Turn Bay Length (ft)	100											
Base Capacity (vph)	365	3578			3140		769	384				
Starvation Cap Reductn	0	683			0		0	0				
Spillback Cap Reductn	0	326			0		0	3				
Storage Cap Reductn	0	0			0		0	0				
Reduced v/c Ratio	0.25	0.73			0.31		0.67	0.79				

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 75

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Synchro 9 Report
Page 35

40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 18.6
Intersection Capacity Utilization 77.4%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Trinity St & W. 15th St



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Synchro 9 Report
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11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	27.4											
Intersection LOS	D											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	6	106	14	0	65	202	10	0	15	156	262
Future Vol, veh/h	0	6	106	14	0	65	202	10	0	15	156	262
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	136	18	0	83	259	13	0	19	200	336
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.7	21.9	39.7
HCM LOS	B	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	5%	23%	12%
Vol Thru, %	36%	84%	73%	61%
Vol Right, %	61%	11%	4%	28%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	433	126	277	152
LT Vol	15	6	65	18
Through Vol	156	106	202	92
RT Vol	262	14	10	42
Lane Flow Rate	555	162	355	195
Geometry Grp	1	1	1	1
Degree of Util (X)	0.897	0.325	0.658	0.373
Departure Headway (Hd)	5.814	7.245	6.675	6.883
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	499	536	526
Service Time	3.897	5.258	4.774	4.883
HCM Lane V/C Ratio	0.901	0.325	0.662	0.371
HCM Control Delay	39.7	13.7	21.9	13.9
HCM Lane LOS	E	B	C	B
HCM 95th-tile Q	10.9	1.4	4.8	1.7

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	18	92	42
Future Vol, veh/h	0	18	92	42
Peak Hour Factor	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	23	118	54
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.9
HCM LOS	B

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	12											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	0	389	0	0	0	338	0	0	0	0	0
Future Vol, veh/h	0	0	389	0	0	0	338	0	0	0	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	452	0	0	0	393	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB				WB				NB			
Opposing Approach	WB				EB				SB			
Opposing Lanes	1				1				1			
Conflicting Approach Left	SB				NB				EB			
Conflicting Lanes Left	1				1				1			
Conflicting Approach Right	NB				SB				WB			
Conflicting Lanes Right	1				1				1			
HCM Control Delay	12.6				11.5				0			
HCM LOS	B				B				-			

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	389	338	13
LT Vol	0	0	0	0
Through Vol	0	389	338	0
RT Vol	0	0	0	13
Lane Flow Rate	0	452	393	15
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.549	0.483	0.021
Departure Headway (Hd)	5.758	4.368	4.423	5.113
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	828	817	698
Service Time	3.807	2.382	2.437	3.159
HCM Lane V/C Ratio	0	0.546	0.481	0.021
HCM Control Delay	8.8	12.6	11.5	8.3
HCM Lane LOS	N	B	B	A
HCM 95th-tile Q	0	3.4	2.7	0.1

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↕
Traffic Vol, veh/h	0	0	0	13
Future Vol, veh/h	0	0	0	13
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	15
Number of Lanes	0	0	0	1

Approach	SB			
Opposing Approach	NB			
Opposing Lanes	1			
Conflicting Approach Left	WB			
Conflicting Lanes Left	1			
Conflicting Approach Right	EB			
Conflicting Lanes Right	1			
HCM Control Delay	8.3			
HCM LOS	A			

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	44.8											
Intersection LOS	E											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	40	383	26	0	11	65	25	0	191	167	0
Future Vol, veh/h	0	40	383	26	0	11	65	25	0	191	167	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	47	445	30	0	13	76	29	0	222	194	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	68.6	14.5	39.9
HCM LOS	F	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	53%	9%	11%	36%
Vol Thru, %	47%	85%	64%	21%
Vol Right, %	0%	6%	25%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	358	449	101	273
LT Vol	191	40	11	97
Through Vol	167	383	65	58
RT Vol	0	26	25	118
Lane Flow Rate	416	522	117	317
Geometry Grp	1	1	1	1
Degree of Util (X)	0.851	1.009	0.27	0.651
Departure Headway (Hd)	7.361	6.957	8.402	7.379
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	491	522	430	486
Service Time	5.439	5.024	6.402	5.465
HCM Lane V/C Ratio	0.847	1	0.272	0.652
HCM Control Delay	39.9	68.6	14.5	23.3
HCM Lane LOS	E	F	B	C
HCM 95th-tile Q	8.7	14.2	1.1	4.6

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	97	58	118
Future Vol, veh/h	0	97	58	118
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	113	67	137
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	23.3
HCM LOS	C

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	25.9											
Intersection LOS	D											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	203	306	0	37	54	0	0	0	0	0
Future Vol, veh/h	0	0	203	306	0	37	54	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	214	322	0	39	57	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		39.6	11.9
HCM LOS		E	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	41%	0%	0%	0%
Vol Thru, %	40%	59%	100%	100%	0%
Vol Right, %	60%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	509	91	285	285	23
LT Vol	0	37	0	0	0
Through Vol	203	54	285	285	0
RT Vol	306	0	0	0	23
Lane Flow Rate	536	96	299	299	24
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.893	0.195	0.54	0.54	0.027
Departure Headway (Hd)	6.002	7.328	6.494	6.494	4.019
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	600	488	554	554	884
Service Time	3.757	5.105	4.251	4.251	1.775
HCM Lane V/C Ratio	0.893	0.197	0.54	0.54	0.027
HCM Control Delay	39.6	11.9	16.7	16.7	6.9
HCM Lane LOS	E	B	C	C	A
HCM 95th-tile Q	10.7	0.7	3.2	3.2	0.1

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	569	23
Future Vol, veh/h	0	0	569	23
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	599	24
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		16.3
HCM LOS		C

Intersection												
Intersection Delay, s/veh	13.3											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	80	36	15	0	0	174	0	0	15	302	0
Future Vol, veh/h	0	80	36	15	0	0	174	0	0	15	302	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	98	44	18	0	0	212	0	0	18	368	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB				WB				NB			
Opposing Approach	WB				EB				SB			
Opposing Lanes	1				1				1			
Conflicting Approach Left	SB				NB				EB			
Conflicting Lanes Left	1				1				1			
Conflicting Approach Right	NB				SB				WB			
Conflicting Lanes Right	1				1				1			
HCM Control Delay	11.4				12.1				15.9			
HCM LOS	B				B				C			

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	61%	0%	0%
Vol Thru, %	95%	27%	100%	51%
Vol Right, %	0%	11%	0%	49%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	131	174	182
LT Vol	15	80	0	0
Through Vol	302	36	174	93
RT Vol	0	15	0	89
Lane Flow Rate	387	160	212	222
Geometry Grp	1	1	1	1
Degree of Util (X)	0.583	0.269	0.348	0.333
Departure Headway (Hd)	5.428	6.069	5.907	5.407
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	661	588	605	661
Service Time	3.486	4.144	3.978	3.475
HCM Lane V/C Ratio	0.585	0.272	0.35	0.336
HCM Control Delay	15.9	11.4	12.1	11.2
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	3.8	1.1	1.6	1.5

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	93	89
Future Vol, veh/h	0	0	93	89
Peak Hour Factor	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	113	109
Number of Lanes	0	0	1	0

Approach	SB			
Opposing Approach	NB			
Opposing Lanes	1			
Conflicting Approach Left	WB			
Conflicting Lanes Left	1			
Conflicting Approach Right	EB			
Conflicting Lanes Right	1			
HCM Control Delay	11.2			
HCM LOS	B			

Intersection									
Intersection Delay, s/veh	8.7								
Intersection LOS	A								

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↰		↱			↰↱	
Traffic Vol, veh/h	0	0	193	0	40	52	0	97	0
Future Vol, veh/h	0	0	193	0	40	52	0	97	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	238	0	49	64	0	120	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB			WB		SB		
Opposing Approach	WB			EB				
Opposing Lanes	1			1		0		
Conflicting Approach Left	SB					WB		
Conflicting Lanes Left	1			0		1		
Conflicting Approach Right				SB		EB		
Conflicting Lanes Right	0			1		1		
HCM Control Delay	9.1			7.8		8.9		
HCM LOS	A			A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	43%	0%
Vol Right, %	0%	57%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	193	92	97
LT Vol	0	0	97
Through Vol	193	40	0
RT Vol	0	52	0
Lane Flow Rate	238	114	120
Geometry Grp	1	1	1
Degree of Util (X)	0.288	0.131	0.163
Departure Headway (Hd)	4.357	4.155	4.904
Convergence, Y/N	Yes	Yes	Yes
Cap	827	864	733
Service Time	2.374	2.174	2.928
HCM Lane V/C Ratio	0.288	0.132	0.164
HCM Control Delay	9.1	7.8	8.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.5	0.6

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	672	40	44	1365	13	173
Future Vol, veh/h	672	40	44	1365	13	173
Conflicting Peds, #/hr	0	8	8	0	0	11
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	715	43	47	1452	14	184

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	765	0	1564	398
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	820	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	844	-	102	601
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	393	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	835	-	96	590
Mov Cap-2 Maneuver	-	-	-	-	96	-
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	371	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		20.1	
HCM LOS					C	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	835	-
HCM Lane V/C Ratio	0.456	-	-	0.056	-
HCM Control Delay (s)	20.1	-	-	9.6	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	2.3	-	-	0.2	-

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	42.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	21	12	204	97	0	0	0	0	37	1044	23
Future Vol, veh/h	0	21	12	204	97	0	0	0	0	37	1044	23
Conflicting Peds, #/hr	0	0	0	56	0	0	0	0	0	0	0	42
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	12	210	100	0	0	0	0	38	1076	24

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1206	648	681	1218	-	0	0	0
Stage 1	-	1206	-	0	0	-	-	-	-
Stage 2	-	0	-	681	1218	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	182	413	336	179	0	-	-	-
Stage 1	0	255	-	-	-	0	-	-	-
Stage 2	0	-	-	407	251	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	175	396	295	172	-	-	-	-
Mov Cap-2 Maneuver	-	175	-	295	172	-	-	-	-
Stage 1	-	245	-	-	-	-	-	-	-
Stage 2	-	-	-	359	241	-	-	-	-

Approach	EB			WB			SB		
HCM Control Delay, s	23.4			200.2					
HCM LOS	C			F					

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	175	396	240	-	-	-
HCM Lane V/C Ratio	0.124	0.031	1.293	-	-	-
HCM Control Delay (s)	28.5	14.4	200.2	-	-	-
HCM Lane LOS	D	B	F	-	-	-
HCM 95th %tile Q(veh)	0.4	0.1	16	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	59.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	11	54	0	0	172	75	66	1154	78	0	0	0
Future Vol, veh/h	11	54	0	0	172	75	66	1154	78	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	21	25	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	57	0	0	181	79	69	1215	82	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	761	1461	-	-	1420	669
Stage 1	25	25	-	-	1395	-
Stage 2	736	1436	-	-	25	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	352	128	0	0	~ 135	343
Stage 1	-	-	0	0	207	-
Stage 2	342	197	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	117	-	-	~ 124	343
Mov Cap-2 Maneuver	-	117	-	-	~ 124	-
Stage 1	-	-	-	-	194	-
Stage 2	16	185	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		\$ 387.6	0.4
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1124	-	-	-	154
HCM Lane V/C Ratio	0.062	-	-	-	1.688
HCM Control Delay (s)	8.4	-	-	-	\$ 387.6
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	18.5

Notes				
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon	

13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕	↕	↕
Traffic Vol, veh/h	24	394	354	20	97	116
Future Vol, veh/h	24	394	354	20	97	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	428	385	22	105	126

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	407	0	-	0	876	396
Stage 1	-	-	-	-	396	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1152	-	-	-	319	653
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1152	-	-	-	309	653
Mov Cap-2 Maneuver	-	-	-	-	309	-
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	603	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	22.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1152	-	-	-	433
HCM Lane V/C Ratio	0.023	-	-	-	0.535
HCM Control Delay (s)	8.2	0	-	-	22.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	3.1

15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	9.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	242	145	30	202	53	50
Future Vol, veh/h	242	145	30	202	53	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	263	158	33	220	58	54

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	370	85	112	0	- 0
Stage 1	85	-	-	-	-
Stage 2	285	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	630	974	1478	-	-
Stage 1	938	-	-	-	-
Stage 2	763	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	614	974	1478	-	-
Mov Cap-2 Maneuver	614	-	-	-	-
Stage 1	938	-	-	-	-
Stage 2	744	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1478	-	713	-	-
HCM Lane V/C Ratio	0.022	-	0.59	-	-
HCM Control Delay (s)	7.5	0	17	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	3.9	-	-

17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	23.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑		↑	↑	↑			
Traffic Vol, veh/h	288	0	0	0	0	0	176	605	0	0	0	0
Future Vol, veh/h	288	0	0	0	0	0	176	605	0	0	0	0
Conflicting Peds, #/hr	0	0	18	0	0	0	21	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	339	0	0	0	0	0	207	712	0	0	0	0

Major/Minor	Minor2	Major2		Major1	
Conflicting Flow All	721	1148	-	- 0	22 0 -
Stage 1	22	22	-	- - -	- - -
Stage 2	699	1126	-	- - -	- - -
Critical Hdwy	6.08	6.53	-	- - -	4.13 - -
Critical Hdwy Stg 1	5.43	5.53	-	- - -	- - -
Critical Hdwy Stg 2	6.03	5.53	-	- - -	- - -
Follow-up Hdwy	3.669	4.019	-	- - -	2.219 - -
Pot Cap-1 Maneuver	410	198	0	0 - -	1593 - 0
Stage 1	960	877	0	0 - -	- - 0
Stage 2	425	279	0	0 - -	- - 0
Platoon blocked, %				- - -	- - -
Mov Cap-1 Maneuver	343	0	-	- - -	1593 - -
Mov Cap-2 Maneuver	343	0	-	- - -	- - -
Stage 1	941	0	-	- - -	- - -
Stage 2	362	0	-	- - -	- - -

Approach	EB	WB	NB
HCM Control Delay, s	81.1	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1593	-	343	-	-
HCM Lane V/C Ratio	0.13	-	0.988	-	-
HCM Control Delay (s)	7.6	-	81.1	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.4	-	11	-	-

25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	80.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	148	161	37	44	0	0	0	0	108	1052	20
Future Vol, veh/h	0	148	161	37	44	0	0	0	0	108	1052	20
Conflicting Peds, #/hr	0	0	19	0	0	0	0	0	0	97	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	174	189	44	52	0	0	0	0	127	1238	24

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1589	638	1076	1589	-	97	0	0
Stage 1	-	1492	-	97	97	-	-	-	-
Stage 2	-	97	-	979	1492	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	~ 107	419	174	107	0	1494	-	-
Stage 1	0	185	-	-	-	0	-	-	-
Stage 2	0	-	-	268	185	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 69	419	-	69	-	1494	-	-
Mov Cap-2 Maneuver	-	~ 69	-	-	69	-	-	-	-
Stage 1	-	~ 132	-	-	-	-	-	-	-
Stage 2	-	-	-	-	132	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	\$ 403.6				1.2	
HCM LOS	F					

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	69	419	-	1494	-	-
HCM Lane V/C Ratio	2.523	0.452	-	0.085	-	-
HCM Control Delay (s)	\$ 820.4	20.5	-	7.6	0.6	-
HCM Lane LOS	F	C	-	A	A	-
HCM 95th %tile Q(veh)	17	2.3	-	0.3	-	-

Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑↑↑		
Traffic Vol, veh/h	231	0	20	551	0	0
Future Vol, veh/h	231	0	20	551	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	0	24	664	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	314	-	0	0
Stage 1	0	-	-	-
Stage 2	314	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	672	0	-	-
Stage 1	-	0	-	-
Stage 2	654	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	672	-	-	-
Mov Cap-2 Maneuver	672	-	-	-
Stage 1	-	-	-	-
Stage 2	654	-	-	-

Approach	EB		NB	
HCM Control Delay, s	14.1			
HCM LOS	B			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	672
HCM Lane V/C Ratio	-	-	0.414
HCM Control Delay (s)	-	-	14.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	70.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱	↱	↱
Traffic Vol, veh/h	0	21	12	126	97	0	0	0	0	48	1289	24
Future Vol, veh/h	0	21	12	126	97	0	0	0	0	48	1289	24
Conflicting Peds, #/hr	0	0	0	24	0	0	0	0	0	0	0	43
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	24	14	145	111	0	0	0	0	55	1482	28

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1635	808	887	1635	-
Stage 1	-	1635	-	0	0	-
Stage 2	-	0	-	887	1635	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	100	324	239	~ 100	0
Stage 1	0	157	-	-	-	0
Stage 2	0	-	-	305	157	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	96	311	184	~ 96	-
Mov Cap-2 Maneuver	-	96	-	184	~ 96	-
Stage 1	-	151	-	-	-	-
Stage 2	-	-	-	245	151	-

Approach	EB		WB		SB	
HCM Control Delay, s	44.6		\$ 506.4			
HCM LOS	E		F			

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	128 132	-	-	-
HCM Lane V/C Ratio	0.296 1.942	-	-	-
HCM Control Delay (s)	44.6\$ 506.4	-	-	-
HCM Lane LOS	E F	-	-	-
HCM 95th %tile Q(veh)	1.1 20.3	-	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	34.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱			↱			↱	↱
Traffic Vol, veh/h	38	71	53	37	45	9	56	205	42	10	388	45
Future Vol, veh/h	38	71	53	37	45	9	56	205	42	10	388	45
Conflicting Peds, #/hr	0	0	0	0	0	15	88	0	0	0	0	88
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	91	68	47	58	12	72	263	54	13	497	58

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	1123	1100	614	1064	1102	305	643	0 0
Stage 1	640	640	-	433	433	-	-	- -
Stage 2	483	460	-	631	669	-	-	- -
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	- -
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	- -
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	- -
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	- -
Pot Cap-1 Maneuver	183	212	492	201	212	735	942	- -
Stage 1	464	470	-	601	582	-	-	- -
Stage 2	565	566	-	469	456	-	-	- -
Platoon blocked, %	-	-	-	-	-	-	-	- -
Mov Cap-1 Maneuver	112	174	451	93	174	725	942	- -
Mov Cap-2 Maneuver	112	174	-	93	174	-	-	- -
Stage 1	386	424	-	545	528	-	-	- -
Stage 2	443	513	-	308	412	-	-	- -

Approach	EB		WB		NB		SB	
HCM Control Delay, s	150.3		105.5		1.7		0.2	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	942	-	-	187 136	1225	-	-
HCM Lane V/C Ratio	0.076	-	-	1.111 0.858	0.01	-	-
HCM Control Delay (s)	9.1	0	-	150.3 105.5	8	0	-
HCM Lane LOS	A	A	-	F F	A A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	10.2 5.5	0	-	-

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	127	0	0	155	0	0	0	0	0	0	0
Future Vol, veh/h	0	127	0	0	155	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	59	0	25	21	0	0	0	0	21
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	157	0	0	191	0	0	0	0	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	1	-	-	1	-	-	0
Stage 1	-	1	-	-	0	-	-	-
Stage 2	-	0	-	-	1	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-
Stage 1	0	895	0	0	-	0	0	-
Stage 2	0	-	0	0	895	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-
Stage 1	-	895	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.9		10.1		0		0	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.175	0.214	-
HCM Control Delay (s)	-	9.9	10.1	-
HCM Lane LOS	-	A	B	-
HCM 95th %tile Q(veh)	-	0.6	0.8	-

MS

Synchro 9 Report
Page 11

31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	82	0	15	67	43	0
Future Vol, veh/h	82	0	15	67	43	0
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	0	26	116	74	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	142	0	309	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1441	-	683	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1441	-	669	905
Mov Cap-2 Maneuver	-	-	-	-	669	-
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	847	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		11.1	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	669	-	-	1441	-
HCM Lane V/C Ratio	0.111	-	-	0.018	-
HCM Control Delay (s)	11.1	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

MS

Synchro 9 Report
Page 12

32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh		0.9				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					  	
Traffic Vol, veh/h	0	63	0	0	1298	53
Future Vol, veh/h	0	63	0	0	1298	53
Conflicting Peds, #/hr	0	0	0	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	71	0	0	1458	60
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	744			-	0
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	7.14			-	-
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	3.92			-	-
Pot Cap-1 Maneuver	0	306			-	-
Stage 1	0	-			-	-
Stage 2	0	-			-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	302			-	-
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Approach	EB		SB			
HCM Control Delay, s	20.5		0			
HCM LOS	C					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	302	-	-			
HCM Lane V/C Ratio	0.234	-	-			
HCM Control Delay (s)	20.5	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	0.9	-	-			

33: Colorado St & Parking Dr. 3
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	89	95	89	16	21	517
Future Vol, veh/h	89	95	89	16	21	517
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	97	103	97	17	23	562
Major/Minor						
	Minor1		Major1		Major2	
Conflicting Flow All	713	105	0	0	114	0
Stage 1	105	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	398	949	-	-	1475	-
Stage 1	919	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	389	949	-	-	1475	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	15		0		0.3	
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	- 559	1475	-		
HCM Lane V/C Ratio	-	- 0.358	0.015	-		
HCM Control Delay (s)	-	- 15	7.5	0		
HCM Lane LOS	-	- C	A	A		
HCM 95th %tile Q(veh)	-	- 1.6	0	-		

62: Colorado St & Parking Dr. 4
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh		3.5				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	79	15	168	460	17
Future Vol, veh/h	79	79	15	168	460	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	86	16	183	500	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	724	509	518	0	-	0
Stage 1	509	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	393	564	1048	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	386	564	1048	-	-	-
Mov Cap-2 Maneuver	386	-	-	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.5	0.7		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1048	-	458	-	-	
HCM Lane V/C Ratio	0.016	-	0.375	-	-	
HCM Control Delay (s)	8.5	0	17.5	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	1.7	-	-	

69: Parking Dr. 5 & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	105	21	16	131	121	63
Future Vol, veh/h	105	21	16	131	121	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	23	17	142	132	68
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	137	0	303	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	177	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1447	-	689	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	854	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1447	-	680	924
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	843	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		11.6	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	748	-	-	1447	-	
HCM Lane V/C Ratio	0.267	-	-	0.012	-	
HCM Control Delay (s)	11.6	-	-	7.5	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	1.1	-	-	0	-	

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	←	→	↖	↗	←	↖	↗	←	↖	↗	←	↖	↗	←	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	↖	↖↗			↖↗	↖				↖	↖↗	↖				
Traffic Volume (vph)	68	837	500	0	580	339	0	0	0	294	769	134				
Future Volume (vph)	68	837	500	0	580	339	0	0	0	294	769	134				
Confl. Peds. (#/hr)	28		19	19		28				29		19				
Confl. Bikes (#/hr)			1			1						13				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94				
Adj. Flow (vph)	72	890	532	0	617	361	0	0	0	313	818	143				
Shared Lane Traffic (%)																
Lane Group Flow (vph)	72	1422	0	0	617	361	0	0	0	313	818	143				
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm				
Protected Phases	5	2			6	7				7	4					
Permitted Phases					6					4		4				
Detector Phase	5	2			6	7				7	4	4				
Switch Phase																
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0				
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0				
Total Split (s)	18.0	75.0			57.0	45.0				45.0	45.0	45.0				
Total Split (%)	15.0%	62.5%			47.5%	37.5%				37.5%	37.5%	37.5%				
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0				
Lead/Lag	Lag				Lead											
Lead-Lag Optimize?	Yes				Yes											
Recall Mode	None	C-Max			C-Max	None				None	Max	Max				
Act Effect Green (s)	11.6	70.0			55.6	95.6				40.0	40.0	40.0				
Actuated g/C Ratio	0.10	0.58			0.46	0.80				0.33	0.33	0.33				
v/c Ratio	0.42	0.74			0.38	0.28				0.53	0.69	0.25				
Control Delay	58.1	20.7			26.7	1.6				36.4	38.4	13.5				
Queue Delay	0.0	0.0			0.0	0.1				0.0	0.0	0.0				
Total Delay	58.1	20.7			26.7	1.6				36.4	38.4	13.5				
LOS	E	C			C	A				D	D	B				
Approach Delay		22.5			17.4						35.1					
Approach LOS		C			B						D					
Queue Length 50th (ft)	53	392			181	12				195	287	30				
Queue Length 95th (ft)	101	481			274	38				287	360	80				
Internal Link Dist (ft)		228			45		159				210					
Turn Bay Length (ft)	160									130		120				
Base Capacity (vph)	191	1931			1639	1278				590	1179	562				
Starvation Cap Reductn	0	0			0	135				0	0	0				
Spillback Cap Reductn	0	0			0	0				0	0	0				
Storage Cap Reductn	0	0			0	0				0	0	0				
Reduced v/c Ratio	0.38	0.74			0.38	0.32				0.53	0.69	0.25				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
Page 1

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 25.5

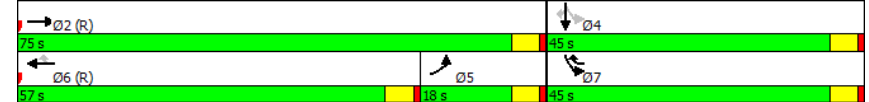
Intersection LOS: C

Intersection Capacity Utilization 70.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



MS

Synchro 9 Report
Page 2

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖
Traffic Volume (vph)	1131	0	0	744	387	227
Future Volume (vph)	1131	0	0	744	387	227
Confl. Peds. (#/hr)						11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1315	0	0	865	450	264
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1315	0	0	865	450	264
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	29.0
Total Split (s)	87.0			87.0	33.0	33.0
Total Split (%)	72.5%			72.5%	27.5%	27.5%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	82.0			82.0	28.0	28.0
Actuated g/C Ratio	0.68			0.68	0.23	0.23
v/c Ratio	0.54			0.36	0.56	0.62
Control Delay	8.2			5.7	58.2	49.9
Queue Delay	0.5			0.0	0.0	0.0
Total Delay	8.7			5.7	58.2	49.9
LOS	A			A	E	D
Approach Delay	8.7			5.7	55.1	
Approach LOS	A			A	E	
Queue Length 50th (ft)	159			61	187	139
Queue Length 95th (ft)	170			69	208	176
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2418			2418	801	423
Starvation Cap Reductn	604			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.72			0.36	0.56	0.62
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 120						
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 19.3	Intersection LOS: B
Intersection Capacity Utilization 59.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd

→ Ø2 (R)	↖ Ø3
87 s	33 s
← Ø6 (R)	↗ Ø8
87 s	33 s

MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	→	↖	↙	←	↘	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↖	↕↕		
Traffic Volume (vph)	1158	0	9	1176	0	0
Future Volume (vph)	1158	0	9	1176	0	0
Confl. Peds. (#/hr)		6	6		1	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1301	0	10	1321	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1301	0	10	1321	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		1.0	5.0		
Minimum Split (s)	34.0		5.5	29.0		
Total Split (s)	108.0		12.0	120.0		
Total Split (%)	90.0%		10.0%	100.0%		
Yellow Time (s)	4.0		3.5	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		4.5	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effct Green (s)	116.6		119.1	120.0		
Actuated g/C Ratio	0.97		0.99	1.00		
v/c Ratio	0.38		0.02	0.37		
Control Delay	0.5		0.1	0.2		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.5		0.1	0.2		
LOS	A		A	A		
Approach Delay	0.5			0.2		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	0		
Queue Length 95th (ft)	46		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3439		460	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	0		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.38		0.02	0.37		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 40

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 0.4

Intersection LOS: A

Intersection Capacity Utilization 36.7%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	↖	→	↘	↙	←	↖	↙	↘	↗	↘	↙	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗	↖		↖	↖↗	↖	↖	↖
Traffic Volume (vph)	143	792	231	293	1168	141	20	0	39	43	1	11
Future Volume (vph)	143	792	231	293	1168	141	20	0	39	43	1	11
Confl. Peds. (#/hr)	18		9	9		18	24		8	8		24
Confl. Bikes (#/hr)			3			3						1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	170	943	275	349	1390	168	24	0	46	51	1	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	1218	0	349	1390	168	0	24	46	0	52	13
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	1.0	10.0		1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	5.5	22.0		5.5	28.0	28.0	22.0	22.0	22.0	28.0	28.0	28.0
Total Split (s)	20.0	70.0		20.0	70.0	70.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	16.7%	58.3%		16.7%	58.3%	58.3%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	4.0		3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	5.0		4.5	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	76.3	65.1		84.3	69.8	69.8		25.0	25.0		25.0	25.0
Actuated g/C Ratio	0.64	0.54		0.70	0.58	0.58		0.21	0.21		0.21	0.21
v/c Ratio	0.61	0.66		0.95	0.68	0.19		0.09	0.13		0.18	0.04
Control Delay	24.9	16.8		62.3	13.4	5.0		39.5	7.6		41.2	0.2
Queue Delay	0.0	0.5		0.0	0.7	0.0		0.0	0.0		0.0	0.0
Total Delay	24.9	17.3		62.3	14.2	5.0		39.5	7.6		41.2	0.2
LOS	C	B		E	B	A		D	A		D	A
Approach Delay		18.2			22.2			18.6			33.0	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)	53	240		158	237	13		15	0		33	0
Queue Length 95th (ft)	104	216		#297	251	22		37	20		65	0
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	350	1855		369	2058	889		270	367		283	360
Starvation Cap Reductn	0	242		0	330	0		0	0		0	0
Spillback Cap Reductn	0	4		0	0	0		0	0		0	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.49	0.76		0.95	0.80	0.19		0.09	0.13		0.18	0.04

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

MS

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 20.7

Intersection LOS: C

Intersection Capacity Utilization 78.1%

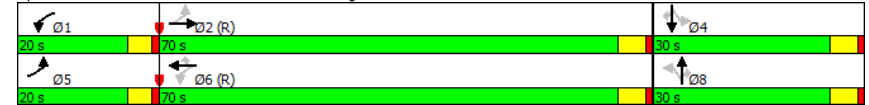
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

															
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Traffic Volume (vph)	0	769	172	685	1591	0	0	0	0	37	52	56			
Future Volume (vph)	0	769	172	685	1591	0	0	0	0	37	52	56			
Confl. Peds. (#/hr)			54	54						8		49			
Confl. Bikes (#/hr)			2									29			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Adj. Flow (vph)	0	827	185	737	1711	0	0	0	0	40	56	60			
Shared Lane Traffic (%)															
Lane Group Flow (vph)	0	1012	0	737	1711	0	0	0	0	40	56	60			
Turn Type		NA		pm+pt	NA					Perm	NA	Perm			
Protected Phases		2		1.9	6						4				
Permitted Phases				6						4		4			
Detector Phase		2		1.9	6					4	4	4			
Switch Phase															
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0			
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0			
Total Split (s)		62.0			92.0					28.0	28.0	28.0			
Total Split (%)		51.7%			76.7%					23.3%	23.3%	23.3%			
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0			
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0			
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0			
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0			
Lead/Lag		Lag													
Lead-Lag Optimize?		Yes													
Recall Mode		C-Max			C-Max					Max	Max	Max			
Act Effct Green (s)		57.0		87.5	87.0					23.0	23.0	23.0			
Actuated g/C Ratio		0.48		0.73	0.72					0.19	0.19	0.19			
v/c Ratio		0.62		1.51	0.67					0.12	0.08	0.17			
Control Delay		14.2		256.2	5.5					41.4	40.3	2.2			
Queue Delay		0.5		1.3	1.6					0.0	0.0	0.1			
Total Delay		14.7		257.5	7.2					41.4	40.3	2.4			
LOS		B		F	A					D	D	A			
Approach Delay		14.7			82.6						26.0				
Approach LOS		B			F						C				
Queue Length 50th (ft)		106		~512	134					26	18	0			
Queue Length 95th (ft)		117		m#366	m117					58	37	8			
Internal Link Dist (ft)		273			321			343			244				
Turn Bay Length (ft)				120						100		100			
Base Capacity (vph)		1625		488	2565					334	678	353			
Starvation Cap Reductn		242		65	632					0	0	0			
Spillback Cap Reductn		0		0	167					0	0	47			
Storage Cap Reductn		0		0	0					0	0	0			
Reduced v/c Ratio		0.73		1.74	0.89					0.12	0.08	0.20			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 130

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	5.5	9.5
Total Split (s)	15.0	15.0
Total Split (%)	13%	13%
Yellow Time (s)	3.5	3.5
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.51

Intersection Signal Delay: 61.1

Intersection LOS: E

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

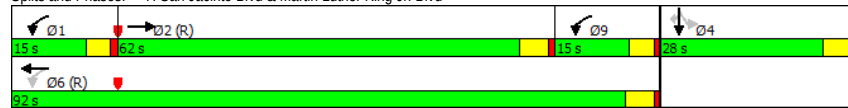
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↖↗			↖↗		↖	↖↗	↖				
Traffic Volume (vph)	155	577	0	0	2198	60	68	86	126	0	0	0	
Future Volume (vph)	155	577	0	0	2198	60	68	86	126	0	0	0	
Confl. Peds. (#/hr)			36			60	35		28				
Confl. Bikes (#/hr)						4			4				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Adj. Flow (vph)	174	648	0	0	2470	67	76	97	142	0	0	0	
Shared Lane Traffic (%)							10%						
Lane Group Flow (vph)	174	648	0	0	2537	0	68	105	142	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA	Perm				
Protected Phases	5	2			6			4					
Permitted Phases	2						4		4				
Detector Phase	5	2			6		4	4	4				
Switch Phase													
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0				
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0				
Total Split (s)	15.0	94.0			79.0		26.0	26.0	26.0				
Total Split (%)	12.5%	78.3%			65.8%		21.7%	21.7%	21.7%				
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0				
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max	Max				
Act Effct Green (s)	89.5	89.0			75.0		21.0	21.0	21.0				
Actuated g/C Ratio	0.75	0.74			0.62		0.18	0.18	0.18				
v/c Ratio	0.83	0.25			1.15		0.25	0.34	0.38				
Control Delay	76.6	1.0			87.1		41.2	42.5	8.4				
Queue Delay	0.0	0.1			0.5		3.1	0.0	0.0				
Total Delay	76.6	1.1			87.6		44.3	42.5	8.4				
LOS	E	A			F		D	D	A				
Approach Delay		17.1			87.6			27.5					
Approach LOS		B			F			C					
Queue Length 50th (ft)	101	14			~1197		46	73	5				
Queue Length 95th (ft)	#202	16			m127		m66	m100	m24				
Internal Link Dist (ft)		321			675			350				106	
Turn Bay Length (ft)	120												
Base Capacity (vph)	217	2624			2201		276	306	376				
Starvation Cap Reductn	0	912			0		0	0	0				
Spillback Cap Reductn	0	0			408		138	0	0				
Storage Cap Reductn	0	0			0		0	0	0				
Reduced v/c Ratio	0.80	0.38			1.41		0.49	0.34	0.38				

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 150

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 66.7

Intersection LOS: E

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

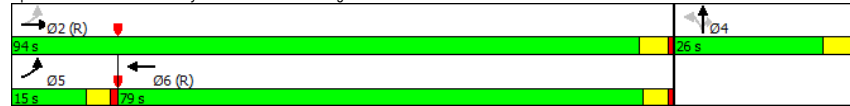
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑	↑
Traffic Volume (vph)	0	14	48	52	10	0	0	0	0	201	1246	18
Future Volume (vph)	0	14	48	52	10	0	0	0	0	201	1246	18
Confl. Peds. (#/hr)			18							45		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Parking (#/hr)		0										
Adj. Flow (vph)	0	15	52	57	11	0	0	0	0	218	1354	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	52	0	68	0	0	0	0	0	1592	0
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases	4 12				4 12						2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase	4 12		4 12	4 12	4 12					2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	21.8	21.8		21.8							82.9	
Actuated g/C Ratio	0.18	0.18		0.18							0.69	
v/c Ratio	0.05	0.16		0.27							0.67	
Control Delay	20.7	4.1		24.4							9.1	
Queue Delay	0.0	0.0		0.0							0.0	
Total Delay	20.7	4.1		24.4							9.1	
LOS	C	A		C							A	
Approach Delay	7.8			24.4							9.1	
Approach LOS	A			C							A	
Queue Length 50th (ft)	5	0		33							228	
Queue Length 95th (ft)	16	13		51							276	
Internal Link Dist (ft)	177			244				271			262	
Turn Bay Length (ft)												
Base Capacity (vph)	754	714		628							2371	
Starvation Cap Reductn	0	0		0							0	
Spillback Cap Reductn	0	0		0							0	
Storage Cap Reductn	0	0		0							0	
Reduced v/c Ratio	0.02	0.07		0.11							0.67	
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												
Natural Cycle: 95												

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	23.0	23.0	22.5	22.5
Total Split (s)	26.0	43.0	28.0	23.0
Total Split (%)	22%	36%	23%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 9.7	Intersection LOS: A
Intersection Capacity Utilization 81.6%	ICU Level of Service D
Analysis Period (min) 15	



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	194	0	0	28	32	90	819	132	0	0	0
Future Volume (vph)	4	194	0	0	28	32	90	819	132	0	0	0
Confl. Peds. (#/hr)	31								34			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Parking (#/hr)		0										
Adj. Flow (vph)	5	234	0	0	34	39	108	987	159	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	239	0	0	73	0	0	1095	159	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)	29.5			29.5			66.5	66.5				
Actuated g/C Ratio	0.25			0.25			0.55	0.55				
v/c Ratio	0.58			0.16			0.39	0.19				
Control Delay	29.0			10.3			10.5	5.6				
Queue Delay	0.0			0.0			0.0	0.0				
Total Delay	29.0			10.3			10.5	5.6				
LOS	C			B			B	A				
Approach Delay	29.0			10.3			9.9					
Approach LOS	C			B			A					
Queue Length 50th (ft)	89			13			141	36				
Queue Length 95th (ft)	131			29			95	32				
Internal Link Dist (ft)	244			319			272			254		
Turn Bay Length (ft)								100				
Base Capacity (vph)	597			644			2931	851				
Starvation Cap Reductn	0			0			294	0				
Spillback Cap Reductn	0			0			0	0				
Storage Cap Reductn	0			0			0	0				
Reduced v/c Ratio	0.40			0.11			0.42	0.19				
Intersection Summary												
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green												
Natural Cycle: 100												

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	38.0	29.0	27.0	26.0
Total Split (%)	32%	24%	23%	22%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 12.8
Intersection Capacity Utilization 41.1%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 19: Lavaca St & E. 17th St



28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖			↗		↖↗↘	↖↗↘	↖				
Traffic Volume (vph)	4	187	0	0	29	40	90	985	135	0	0	0	
Future Volume (vph)	4	187	0	0	29	40	90	985	135	0	0	0	
Confl. Peds. (#/hr)						11	60						
Confl. Bikes (#/hr)						2							
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
Parking (#/hr)					0								
Adj. Flow (vph)	5	223	0	0	35	48	107	1173	161	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	228	0	0	83	0	0	1280	161	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases	4 12				4 12			2 10					
Permitted Phases	4 12							2 10					
Detector Phase	4 12	4 12			4 12			2 10	2 10	2 10			
Switch Phase													
Minimum Initial (s)													
Minimum Split (s)													
Total Split (s)													
Total Split (%)													
Yellow Time (s)													
All-Red Time (s)													
Lost Time Adjust (s)													
Total Lost Time (s)													
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode													
Act Effct Green (s)	24.9				24.9			71.1	71.1				
Actuated g/C Ratio	0.21				0.21			0.59	0.59				
v/c Ratio	0.59				0.25			0.43	0.17				
Control Delay	28.8				16.0			4.3	1.2				
Queue Delay	0.0				0.0			0.2	0.0				
Total Delay	28.8				16.0			4.5	1.2				
LOS	C				B			A	A				
Approach Delay	28.8				16.0			4.1					
Approach LOS	C				B			A					
Queue Length 50th (ft)	86				25			34	1				
Queue Length 95th (ft)	123				m42			m71	m11				
Internal Link Dist (ft)	233				60			281				272	
Turn Bay Length (ft)									100				
Base Capacity (vph)	694				586			2959	974				
Starvation Cap Reductn	0				0			768	0				
Spillback Cap Reductn	0				0			0	0				
Storage Cap Reductn	0				0			0	0				
Reduced v/c Ratio	0.33				0.14			0.58	0.17				

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	42.0	32.0	21.0	25.0
Total Split (%)	35%	27%	18%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Efect Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 7.9Intersection LOS: A
Intersection Capacity Utilization 46.2%ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	1883	330	207	1002	0	0	0	0	105	699	84
Future Volume (vph)	0	1883	330	207	1002	0	0	0	0	105	699	84
Confl. Peds. (#/hr)			32	32						30		
Confl. Bikes (#/hr)						1						21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1921	337	211	1022	0	0	0	0	107	713	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2258	0	211	1022	0	0	0	0	0	820	86
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		56.0			84.0					36.0	36.0	36.0
Total Split (%)		46.7%			70.0%					30.0%	30.0%	30.0%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		51.2			79.0	79.0					31.0	31.0
Actuated g/C Ratio		0.43			0.66	0.66					0.26	0.26
v/c Ratio		1.07			0.65	0.31					0.63	0.19
Control Delay		73.0			39.7	3.5					35.6	5.2
Queue Delay		11.0			16.5	0.1					0.4	0.0
Total Delay		84.0			56.2	3.6					36.0	5.2
LOS		F			E	A					D	A
Approach Delay		84.0				12.6					33.1	
Approach LOS		F				B					C	
Queue Length 50th (ft)		~704			111	35					190	4
Queue Length 95th (ft)		#800			185	40					226	m18
Internal Link Dist (ft)		262				240			197		285	
Turn Bay Length (ft)					50							100
Base Capacity (vph)		2119			327	3347					1298	458
Starvation Cap Reductn		0			100	927					0	0
Spillback Cap Reductn		51			0	0					144	0
Storage Cap Reductn		0			0	0					0	0
Reduced v/c Ratio		1.09			0.93	0.42					0.71	0.19

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 100

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	5.0
Minimum Split (s)	13.0	10.0
Total Split (s)	14.0	14.0
Total Split (%)	12%	12%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 53.5

Intersection LOS: D

Intersection Capacity Utilization 90.6%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

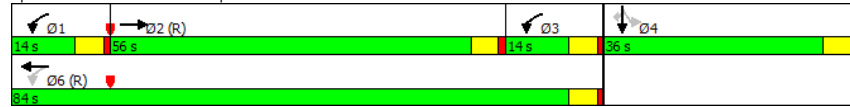
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 34: Guadalupe St & W. 15th St



35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩↩			↩↩↩			↩↩↩	↩			
Traffic Volume (vph)	338	1574	0	0	1087	132	133	706	198	0	0	0
Future Volume (vph)	338	1574	0	0	1087	132	133	706	198	0	0	0
Confl. Peds. (#/hr)	38					38	17		48			
Confl. Bikes (#/hr)									11			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	360	1674	0	0	1156	140	141	751	211	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	360	1674	0	0	1296	0	0	892	211	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0			
Total Split (s)	19.0	79.0			60.0		41.0	41.0	41.0			
Total Split (%)	15.8%	65.8%			50.0%		34.2%	34.2%	34.2%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0			
Lost Time Adjust (s)	0.0	0.0			0.0			0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0			6.0	6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	74.0	74.0			55.0			35.0	35.0			
Actuated g/C Ratio	0.62	0.62			0.46			0.29	0.29			
v/c Ratio	1.12	0.53			0.57			0.61	0.45			
Control Delay	104.6	2.8			11.7			38.7	27.2			
Queue Delay	0.5	0.5			0.2			0.0	0.0			
Total Delay	105.1	3.3			11.8			38.7	27.2			
LOS	F	A			B			D	C			
Approach Delay		21.3			11.8			36.5				
Approach LOS		C			B			D				
Queue Length 50th (ft)	~237	49			84			217	91			
Queue Length 95th (ft)	m#213	m46			91			265	167			
Internal Link Dist (ft)		240			335			116			281	
Turn Bay Length (ft)	50											
Base Capacity (vph)	321	3135			2288			1466	469			
Starvation Cap Reductn	13	911			271			0	0			
Spillback Cap Reductn	0	0			0			0	0			
Storage Cap Reductn	0	0			0			0	0			
Reduced v/c Ratio	1.17	0.75			0.64			0.61	0.45			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 80

35: Lavaca St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12

Intersection Signal Delay: 22.3

Intersection LOS: C

Intersection Capacity Utilization 90.6%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩ ↲ ↳	↲ ↳ ↩	↩ ↲ ↳	↩ ↲ ↳	↲ ↳ ↩	↲ ↳ ↩	↩ ↲ ↳	↲ ↳ ↩	↲ ↳ ↩	↩ ↲ ↳	↲ ↳ ↩	↲ ↳ ↩
Traffic Volume (vph)	349	1407	53	73	1131	414	1	22	22	47	19	42
Future Volume (vph)	349	1407	53	73	1131	414	1	22	22	47	19	42
Confl. Peds. (#/hr)	6		83	83		6	4		35	35		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	371	1497	56	78	1203	440	1	23	23	50	20	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	1553	0	78	1643	0	0	47	0	0	70	45
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	22.0		10.0	30.0		32.0	32.0		32.0	32.0	30.0
Total Split (s)	15.0	72.0		15.0	72.0		33.0	33.0		33.0	33.0	72.0
Total Split (%)	12.5%	60.0%		12.5%	60.0%		27.5%	27.5%		27.5%	27.5%	60.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effct Green (s)	79.9	71.9		74.2	67.0			28.0			28.0	67.0
Actuated g/C Ratio	0.67	0.60		0.62	0.56			0.23			0.23	0.56
v/c Ratio	1.52	0.52		0.33	0.60			0.11			0.21	0.05
Control Delay	283.5	5.0		10.8	9.0			22.8			39.2	1.6
Queue Delay	0.0	0.1		0.0	0.0			0.0			0.0	0.0
Total Delay	283.5	5.1		10.8	9.0			22.8			39.2	1.6
LOS	F	A		B	A			C			D	A
Approach Delay		58.8			9.1			22.8			24.5	
Approach LOS		E			A			C			C	
Queue Length 50th (ft)	~321	87		10	219			15			44	0
Queue Length 95th (ft)	#517	101		22	258			47			86	10
Internal Link Dist (ft)		335			362			155			114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	244	3002		274	2755			410			332	896
Starvation Cap Reductn	0	413		0	50			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	1.52	0.60		0.28	0.61			0.11			0.21	0.05

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 1.52

Intersection Signal Delay: 34.8

Intersection LOS: C

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

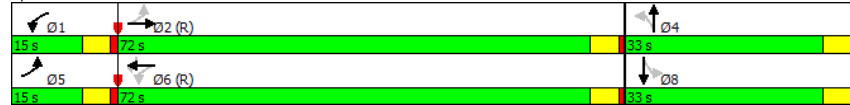
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 36: Colorado St & W. 15th St



37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↖	↖	↑↑↑	↖	↖
Traffic Volume (vph)	1448	28	18	1707	0	1
Future Volume (vph)	1448	28	18	1707	0	1
Confl. Peds. (#/hr)		30	30		13	21
Confl. Bikes (#/hr)						13
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1478	29	18	1742	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1507	0	18	1742	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	72.0		15.0	87.0		33.0
Total Split (%)	60.0%		12.5%	72.5%		27.5%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effct Green (s)	77.5		82.0	82.0		28.0
Actuated g/C Ratio	0.65		0.68	0.68		0.23
v/c Ratio	0.46		0.08	0.50		0.00
Control Delay	4.5		5.4	7.2		0.0
Queue Delay	0.0		0.0	0.1		0.0
Total Delay	4.5		5.4	7.2		0.0
LOS	A		A	A		A
Approach Delay	4.5			7.2		
Approach LOS	A			A		
Queue Length 50th (ft)	53		3	194		0
Queue Length 95th (ft)	60		m4	78		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)			100			
Base Capacity (vph)	3270		281	3474		482
Starvation Cap Reductn	172		0	377		0
Spillback Cap Reductn	0		0	2		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.49		0.06	0.56		0.00

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 6.0

Intersection LOS: A

Intersection Capacity Utilization 60.3%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



38: Brazos St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	80	1174	49	27	1729	115	4	2	8	2	0	4
Future Volume (vph)	80	1174	49	27	1729	115	4	2	8	2	0	4
Confl. Peds. (#/hr)	1		10	10		1	10		4	4		10
Confl. Bikes (#/hr)						1						17
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	82	1210	51	28	1782	119	4	2	8	2	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1261	0	28	1901	0	0	6	8	0	6	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	15.0	78.0		10.0	73.0		32.0	32.0	32.0	32.0	32.0	
Total Split (%)	12.5%	65.0%		8.3%	60.8%		26.7%	26.7%	26.7%	26.7%	26.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effct Green (s)	103.0	105.0		99.3	100.3			10.0	10.0		10.0	
Actuated g/C Ratio	0.86	0.88		0.83	0.84			0.08	0.08		0.08	
v/c Ratio	0.35	0.29		0.07	0.45			0.05	0.03		0.03	
Control Delay	14.2	3.9		2.0	1.9			51.7	0.2		0.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	14.2	4.0		2.0	1.9			51.7	0.2		0.2	
LOS	B	A		A	A			D	A		A	
Approach Delay		4.6			1.9			22.3			0.2	
Approach LOS		A			A			C			A	
Queue Length 50th (ft)	11	102		1	19			4	0		0	
Queue Length 95th (ft)	63	118		m3	152			18	0		0	
Internal Link Dist (ft)		356			297			199			273	
Turn Bay Length (ft)	100			40					50			
Base Capacity (vph)	274	4414		377	4206			346	434		412	
Starvation Cap Reductn	0	988		0	269			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.30	0.37		0.07	0.48			0.02	0.02		0.01	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 3.1

Intersection LOS: A

Intersection Capacity Utilization 65.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



39: San Jacinto Blvd & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	899	357	164	1848	0	0	0	0	93	182	45
Future Volume (vph)	0	899	357	164	1848	0	0	0	0	93	182	45
Confl. Peds. (#/hr)			23	23						10		8
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	908	361	166	1867	0	0	0	0	94	184	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1269	0	166	1867	0	0	0	0	0	278	45
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		68.0		20.0	88.0					32.0	32.0	32.0
Total Split (%)		56.7%		16.7%	73.3%					26.7%	26.7%	26.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		84.9		97.8	97.8					12.2	12.2	12.2
Actuated g/C Ratio		0.71		0.82	0.82					0.10	0.10	0.10
v/c Ratio		0.37		0.45	0.45					0.55	0.21	0.21
Control Delay		2.4		8.5	3.9					55.1	7.9	7.9
Queue Delay		0.1		0.0	0.4					0.0	0.0	0.0
Total Delay		2.5		8.5	4.3					55.1	7.9	7.9
LOS		A		A	A					E	A	A
Approach Delay		2.5			4.7					48.6		
Approach LOS		A			A					D		
Queue Length 50th (ft)		0		25	111					76	0	0
Queue Length 95th (ft)		0		m28	m119					104	22	22
Internal Link Dist (ft)		297			282			125		272		
Turn Bay Length (ft)				70								50
Base Capacity (vph)		3433		450	4143					1119	397	397
Starvation Cap Reductn		903		0	1555					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.50		0.37	0.72					0.25	0.11	0.11

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 7.8

Intersection LOS: A

Intersection Capacity Utilization 95.5%

ICU Level of Service F

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



40: Trinity St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰			↰↰↰		↰	↰	↰			
Traffic Volume (vph)	222	821	0	0	1960	649	61	169	12	0	0	0
Future Volume (vph)	222	821	0	0	1960	649	61	169	12	0	0	0
Confl. Peds. (#/hr)	1					1	3		6			
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	229	846	0	0	2021	669	63	174	12	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	846	0	0	2690	0	63	174	12	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	28.0			5.5		28.0	28.0	28.0			
Total Split (s)	20.0	92.0			72.0		28.0	28.0	28.0			
Total Split (%)	16.7%	76.7%			60.0%		23.3%	23.3%	23.3%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	87.5	87.0			69.0		23.0	23.0	23.0			
Actuated g/C Ratio	0.73	0.72			0.58		0.19	0.19	0.19			
v/c Ratio	0.85	0.23			0.94		0.19	0.49	0.03			
Control Delay	64.7	3.5			11.7		42.4	48.6	0.2			
Queue Delay	0.0	0.1			0.8		0.0	0.0	0.0			
Total Delay	64.7	3.7			12.5		42.4	48.6	0.2			
LOS	E	A			B		D	D	A			
Approach Delay		16.7			12.5			44.7				
Approach LOS		B			B			D				
Queue Length 50th (ft)	123	37			169		41	121	0			
Queue Length 95th (ft)	#231	43			m166		83	194	0			
Internal Link Dist (ft)		282			657			149			621	
Turn Bay Length (ft)	100											
Base Capacity (vph)	289	3686			2855		337	357	344			
Starvation Cap Reductn	0	1570			44		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.79	0.40			0.96		0.19	0.49	0.03			

Intersection Summary

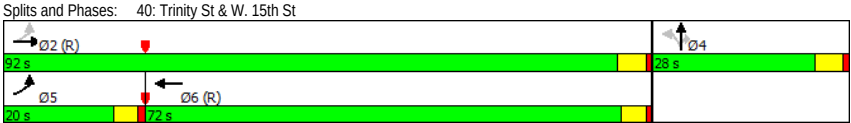
Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 95.5%	ICU Level of Service F
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	



11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	21.3											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	4	202	36	0	82	32	5	0	15	60	66
Future Vol, veh/h	0	4	202	36	0	82	32	5	0	15	60	66
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	230	41	0	93	36	6	0	17	68	75
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	14.8	12.1	11.3
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	2%	69%	1%
Vol Thru, %	43%	83%	27%	96%
Vol Right, %	47%	15%	4%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	242	119	478
LT Vol	15	4	82	4
Through Vol	60	202	32	458
RT Vol	66	36	5	16
Lane Flow Rate	160	275	135	543
Geometry Grp	1	1	1	1
Degree of Util (X)	0.269	0.476	0.254	0.829
Departure Headway (Hd)	6.034	6.233	6.751	5.604
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	596	583	533	652
Service Time	4.067	4.233	4.775	3.604
HCM Lane V/C Ratio	0.268	0.472	0.253	0.833
HCM Control Delay	11.3	14.8	12.1	29.9
HCM Lane LOS	B	B	B	D
HCM 95th-tile Q	1.1	2.6	1	8.8

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	4	458	16
Future Vol, veh/h	0	4	458	16
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	5	520	18
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	29.9
HCM LOS	D

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	8.9											
Intersection LOS	A											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↶				↷				↶	
Traffic Vol, veh/h	0	0	275	0	0	0	116	0	0	0	0	0
Future Vol, veh/h	0	0	275	0	0	0	116	0	0	0	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	316	0	0	0	133	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.3	8	0
HCM LOS	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	275	116	9
LT Vol	0	0	0	0
Through Vol	0	275	116	0
RT Vol	0	0	0	9
Lane Flow Rate	0	316	133	10
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.356	0.155	0.012
Departure Headway (Hd)	4.911	4.051	4.187	4.29
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	885	848	839
Service Time	2.911	2.088	2.256	2.29
HCM Lane V/C Ratio	0	0.357	0.157	0.012
HCM Control Delay	7.9	9.3	8	7.3
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	1.6	0.5	0

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↶
Traffic Vol, veh/h	0	0	0	9
Future Vol, veh/h	0	0	0	9
Peak Hour Factor	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	10
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.3
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	14.8											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	124	98	8	0	17	177	106	0	21	0	0
Future Vol, veh/h	0	124	98	8	0	17	177	106	0	21	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	157	124	10	0	22	224	134	0	27	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.7	15.2	10.2
HCM LOS	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	54%	6%	5%
Vol Thru, %	0%	43%	59%	86%
Vol Right, %	0%	3%	35%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	230	300	271
LT Vol	21	124	17	14
Through Vol	0	98	177	233
RT Vol	0	8	106	24
Lane Flow Rate	27	291	380	343
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.464	0.564	0.547
Departure Headway (Hd)	6.717	5.742	5.342	5.743
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	529	623	672	624
Service Time	4.812	3.806	3.401	3.802
HCM Lane V/C Ratio	0.051	0.467	0.565	0.55
HCM Control Delay	10.2	13.7	15.2	15.6
HCM Lane LOS	B	B	C	C
HCM 95th-tile Q	0.2	2.5	3.5	3.3

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	14	233	24
Future Vol, veh/h	0	14	233	24
Peak Hour Factor	0.79	0.79	0.79	0.79
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	18	295	30
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15.6
HCM LOS	C

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	17											
Intersection LOS	C											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱					
Traffic Vol, veh/h	0	0	23	77	0	74	173	0	0	0	0	0
Future Vol, veh/h	0	0	23	77	0	74	173	0	0	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	24	82	0	79	184	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		10.9	16.7
HCM LOS		B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	30%	0%	0%	0%
Vol Thru, %	23%	70%	100%	100%	0%
Vol Right, %	77%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	247	389	389	130
LT Vol	0	74	0	0	0
Through Vol	23	173	389	389	0
RT Vol	77	0	0	0	130
Lane Flow Rate	106	263	413	413	138
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.195	0.508	0.668	0.668	0.129
Departure Headway (Hd)	6.588	6.965	5.815	5.815	3.354
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	544	518	620	620	1065
Service Time	4.336	4.707	3.546	3.546	1.086
HCM Lane V/C Ratio	0.195	0.508	0.666	0.666	0.13
HCM Control Delay	10.9	16.7	19.5	19.5	6.6
HCM Lane LOS	B	C	C	C	A
HCM 95th-tile Q	0.7	2.8	5	5	0.4

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↱↱	↱
Traffic Vol, veh/h	0	0	777	130
Future Vol, veh/h	0	0	777	130
Peak Hour Factor	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	827	138
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		17.7
HCM LOS		C

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Intersection Delay, s/veh	30.2											
Intersection LOS	D											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	31	185	109	0	0	25	0	0	21	102	0
Future Vol, veh/h	0	31	185	109	0	0	25	0	0	21	102	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	35	210	124	0	0	28	0	0	24	116	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	17.7	10.4	11.3
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	10%	0%	0%
Vol Thru, %	83%	57%	100%	95%
Vol Right, %	0%	34%	0%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	325	25	546
LT Vol	21	31	0	0
Through Vol	102	185	25	518
RT Vol	0	109	0	28
Lane Flow Rate	140	369	28	620
Geometry Grp	1	1	1	1
Degree of Util (X)	0.241	0.605	0.055	0.929
Departure Headway (Hd)	6.216	5.898	7.016	5.39
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	573	609	514	670
Service Time	4.312	3.973	5.016	3.452
HCM Lane V/C Ratio	0.244	0.606	0.054	0.925
HCM Control Delay	11.3	17.7	10.4	42.8
HCM Lane LOS	B	C	B	E
HCM 95th-tile Q	0.9	4	0.2	12.5

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	518	28
Future Vol, veh/h	0	0	518	28
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	589	32
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	42.8
HCM LOS	E

Intersection									
Intersection Delay, s/veh	8.4								
Intersection LOS	A								

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	28	0	206	16	0	39	0
Future Vol, veh/h	0	0	28	0	206	16	0	39	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	32	0	234	18	0	44	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB			WB		SB		
Opposing Approach	WB			EB				
Opposing Lanes	1			1		0		
Conflicting Approach Left	SB					WB		
Conflicting Lanes Left	1			0		1		
Conflicting Approach Right				SB		EB		
Conflicting Lanes Right	0			1		1		
HCM Control Delay	7.5			8.6		8		
HCM LOS	A			A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	93%	0%
Vol Right, %	0%	7%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	28	222	39
LT Vol	0	0	39
Through Vol	28	206	0
RT Vol	0	16	0
Lane Flow Rate	32	252	44
Geometry Grp	1	1	1
Degree of Util (X)	0.037	0.28	0.058
Departure Headway (Hd)	4.201	3.991	4.747
Convergence, Y/N	Yes	Yes	Yes
Cap	840	896	759
Service Time	2.288	2.037	2.747
HCM Lane V/C Ratio	0.038	0.281	0.058
HCM Control Delay	7.5	8.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	1.2	0.2

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	48.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	1121	156	331	792	10	51
Future Vol, veh/h	1121	156	331	792	10	51
Conflicting Peds, #/hr	0	1	1	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1289	179	380	910	11	59

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1469	0	2595	740
Stage 1	-	-	-	-	1379	-
Stage 2	-	-	-	-	1216	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	455	-	20	359
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	243	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	453	-	~ 3	357
Mov Cap-2 Maneuver	-	-	-	-	~ 3	-
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	39	-

Approach	EB	WB	NB
HCM Control Delay, s	0	12.5	\$ 1736.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	18	-	-	453	-
HCM Lane V/C Ratio	3.895	-	-	0.84	-
HCM Control Delay (s)	\$ 1736.7	-	-	42.5	-
HCM Lane LOS	F	-	-	E	-
HCM 95th %tile Q(veh)	9.3	-	-	8.2	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	13	48	61	10	0	0	0	0	75	1355	18
Future Vol, veh/h	0	13	48	61	10	0	0	0	0	75	1355	18
Conflicting Peds, #/hr	0	0	0	13	0	0	0	0	0	0	0	38
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	51	64	11	0	0	0	0	79	1426	19

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1632	774	891	1641	-
Stage 1	-	1632	-	0	0	-
Stage 2	-	0	-	891	1641	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-
Pot Cap-1 Maneuver	0	100	341	237	99	0
Stage 1	0	158	-	-	-	0
Stage 2	0	-	-	304	156	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	96	329	179	95	-
Mov Cap-2 Maneuver	-	96	-	179	95	-
Stage 1	-	152	-	-	-	-
Stage 2	-	-	-	234	150	-

Approach	EB	WB	SB
HCM Control Delay, s	24.4	46.3	
HCM LOS	C	E	

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	96	329	159	-	-	-
HCM Lane V/C Ratio	0.143	0.154	0.47	-	-	-
HCM Control Delay (s)	48.6	17.9	46.3	-	-	-
HCM Lane LOS	E	C	E	-	-	-
HCM 95th %tile Q(veh)	0.5	0.5	2.2	-	-	-

10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	4	70	0	0	34	19	90	583	173	0	0	0
Future Vol, veh/h	4	70	0	0	34	19	90	583	173	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	29	17	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	74	0	0	36	20	96	620	184	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	504	1013	-	-	921	431
Stage 1	17	17	-	-	904	-
Stage 2	487	996	-	-	17	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	494	237	0	0	269	489
Stage 1	-	-	0	0	354	-
Stage 2	485	320	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	386	213	-	-	242	489
Mov Cap-2 Maneuver	386	213	-	-	242	-
Stage 1	-	-	-	-	324	-
Stage 2	378	293	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	30.6	20	0.9
HCM LOS	D	C	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1133	-	-	218	296
HCM Lane V/C Ratio	0.085	-	-	0.361	0.19
HCM Control Delay (s)	8.5	-	-	30.6	20
HCM Lane LOS	A	-	-	D	C
HCM 95th %tile Q(veh)	0.3	-	-	1.6	0.7

MS

Synchro 9 Report
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13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	123	151	119	103	14	17
Future Vol, veh/h	123	151	119	103	14	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	164	129	112	15	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	241	0	-	0	617	185
Stage 1	-	-	-	-	185	-
Stage 2	-	-	-	-	432	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1326	-	-	-	453	857
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	655	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1326	-	-	-	403	857
Mov Cap-2 Maneuver	-	-	-	-	403	-
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	582	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1326	-	-	-	568
HCM Lane V/C Ratio	0.101	-	-	-	0.059
HCM Control Delay (s)	8	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

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Synchro 9 Report
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15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↱			↱	↱	
Traffic Vol, veh/h	35	21	154	80	267	257
Future Vol, veh/h	35	21	154	80	267	257
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	23	167	87	290	279

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	852	430	570	0	- 0
Stage 1	430	-	-	-	-
Stage 2	422	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	330	625	1002	-	-
Stage 1	656	-	-	-	-
Stage 2	662	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	272	625	1002	-	-
Mov Cap-2 Maneuver	272	-	-	-	-
Stage 1	656	-	-	-	-
Stage 2	546	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.7	6.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1002	-	345	-	-
HCM Lane V/C Ratio	0.167	-	0.176	-	-
HCM Control Delay (s)	9.3	0	17.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	0.6	-	-

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Synchro 9 Report
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17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱		↱	↱	↱			
Traffic Vol, veh/h	44	0	0	0	0	0	348	227	0	0	0	0
Future Vol, veh/h	44	0	0	0	0	0	348	227	0	0	0	0
Conflicting Peds, #/hr	0	0	5	0	0	0	6	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	0	0	0	0	0	395	258	0	0	0	0

Major/Minor	Minor2	Major2		Major1	
Conflicting Flow All	901	1056	-	-	0 7 0 -
Stage 1	7	7	-	-	-
Stage 2	894	1049	-	-	-
Critical Hdwy	6.08	6.53	-	-	4.13 - -
Critical Hdwy Stg 1	5.43	5.53	-	-	- - -
Critical Hdwy Stg 2	6.03	5.53	-	-	- - -
Follow-up Hdwy	3.669	4.019	-	-	2.219 - -
Pot Cap-1 Maneuver	327	225	0	0	- 1613 - 0
Stage 1	974	890	0	0	- - 0
Stage 2	334	303	0	0	- - 0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	244	0	-	-	- 1613 - -
Mov Cap-2 Maneuver	244	0	-	-	- - -
Stage 1	968	0	-	-	- - -
Stage 2	251	0	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	23.5	0	4.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1613	-	244	-	-
HCM Lane V/C Ratio	0.245	-	0.205	-	-
HCM Control Delay (s)	8	-	23.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	1	-	0.8	-	-

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Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	8.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	21	60	73	121	0	0	0	0	48	680	103
Future Vol, veh/h	0	21	60	73	121	0	0	0	0	48	680	103
Conflicting Peds, #/hr	0	0	23	0	0	0	0	0	0	4	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	23	65	79	132	0	0	0	0	52	739	112

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	847	393	512	847	-	4	0	0
Stage 1	-	843	-	4	4	-	-	-	-
Stage 2	-	4	-	508	843	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	297	606	445	297	0	1616	-	-
Stage 1	0	378	-	-	-	0	-	-	-
Stage 2	0	-	-	516	378	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	277	606	353	277	-	1616	-	-
Mov Cap-2 Maneuver	-	277	-	353	277	-	-	-	-
Stage 1	-	354	-	-	-	-	-	-	-
Stage 2	-	-	-	404	354	-	-	-	-

Approach	EB			WB			SB		
HCM Control Delay, s	13.6			40.7			0.5		
HCM LOS	B			E					

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	277	606	301	1616	-	-
HCM Lane V/C Ratio	0.082	0.108	0.701	0.032	-	-
HCM Control Delay (s)	19.2	11.7	40.7	7.3	0.1	-
HCM Lane LOS	C	B	E	A	A	-
HCM 95th %tile Q(veh)	0.3	0.4	4.9	0.1	-	-

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection							
Int Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↓			↑↑↑			
Traffic Vol, veh/h	36	0	103	542	0	0	
Future Vol, veh/h	36	0	103	542	0	0	
Conflicting Peds, #/hr	3	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	-	-	
Veh in Median Storage, #	0	-	-	0	-	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	87	87	87	87	87	87	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	41	0	118	623	0	0	

Major/Minor	Minor2		Major1	
Conflicting Flow All	489	-	0	0
Stage 1	0	-	-	-
Stage 2	489	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	554	0	-	-
Stage 1	-	0	-	-
Stage 2	532	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	554	-	-	-
Mov Cap-2 Maneuver	554	-	-	-
Stage 1	-	-	-	-
Stage 2	532	-	-	-

Approach	EB		NB	
HCM Control Delay, s	12			
HCM LOS	B			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	554
HCM Lane V/C Ratio	-	-	0.075
HCM Control Delay (s)	-	-	12
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱	↱	↱
Traffic Vol, veh/h	0	13	48	53	9	0	0	0	0	193	1129	18
Future Vol, veh/h	0	13	48	53	9	0	0	0	0	193	1129	18
Conflicting Peds, #/hr	0	0	0	21	0	0	0	0	0	0	0	25
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	52	58	10	0	0	0	0	210	1227	20

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1672	660	1061	1672	-	0	0	0
Stage 1	-	1672	-	0	0	-	-	-	-
Stage 2	-	0	-	1061	1672	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	95	406	178	95	0	-	-	-
Stage 1	0	151	-	-	-	0	-	-	-
Stage 2	0	-	-	239	151	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	93	396	137	93	-	-	-	-
Mov Cap-2 Maneuver	-	93	-	137	93	-	-	-	-
Stage 1	-	147	-	-	-	-	-	-	-
Stage 2	-	-	-	188	147	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	26.4		60.8			
HCM LOS	D		F			

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	234 128	-	-	-
HCM Lane V/C Ratio	0.283 0.526	-	-	-
HCM Control Delay (s)	26.4 60.8	-	-	-
HCM Lane LOS	D F	-	-	-
HCM 95th %tile Q(veh)	1.1 2.5	-	-	-

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	71.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱			↱			↱	
Traffic Vol, veh/h	17	26	88	112	56	5	94	495	9	2	145	95
Future Vol, veh/h	17	26	88	112	56	5	94	495	9	2	145	95
Conflicting Peds, #/hr	0	0	0	0	0	15	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	33	111	142	71	6	119	627	11	3	184	120

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1176	1128	247	1191	1182	647	307	0	0	638	0	0
Stage 1	252	252	-	870	870	-	-	-	-	-	-	-
Stage 2	924	876	-	321	312	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	168	204	792	164	190	471	1254	-	-	946	-	-
Stage 1	752	698	-	346	369	-	-	-	-	-	-	-
Stage 2	323	367	-	691	658	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	95	173	790	~ 107	161	464	1254	-	-	932	-	-
Mov Cap-2 Maneuver	95	173	-	~ 107	161	-	-	-	-	-	-	-
Stage 1	640	693	-	295	315	-	-	-	-	-	-	-
Stage 2	208	313	-	563	653	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	31.4		\$ 442.8		1.3		0.1	
HCM LOS	D		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1254	-	-	297 123 932	-	-	-
HCM Lane V/C Ratio	0.095	-	-	0.558 1.78 0.003	-	-	-
HCM Control Delay (s)	8.2	0	-	31.4\$ 442.8 8.9	0	-	-
HCM Lane LOS	A	A	-	D F A A	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	3.2 16.9 0	-	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection												
Int Delay, s/veh	9.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	37	0	0	169	0	0	0	0	0	0	0
Future Vol, veh/h	0	37	0	0	169	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	11	0	11	12	0	0	0	0	12
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	0	0	184	0	0	0	0	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	1	-	-	1	-	-	0
Stage 1	-	1	-	-	0	-	-	-
Stage 2	-	0	-	-	1	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-
Stage 1	0	895	0	0	-	0	0	-
Stage 2	0	-	0	0	895	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-
Stage 1	-	895	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.2		10.1		0		0	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.045	0.205	-
HCM Control Delay (s)	-	9.2	10.1	-
HCM Lane LOS	-	A	B	-
HCM 95th %tile Q(veh)	-	0.1	0.8	-

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Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	36	0	3	133	44	0
Future Vol, veh/h	36	0	3	133	44	0
Conflicting Peds, #/hr	0	0	26	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	0	4	160	53	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	69	0	236	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1532	-	752	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1532	-	731	969
Mov Cap-2 Maneuver	-	-	-	-	731	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	860	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		10.3	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	731	-	-	1532	-
HCM Lane V/C Ratio	0.073	-	-	0.002	-
HCM Control Delay (s)	10.3	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

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Synchro 9 Report
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32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh		1.1				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Vol, veh/h	0	45	0	0	345	155
Future Vol, veh/h	0	45	0	0	345	155
Conflicting Peds, #/hr	0	0	0	0	0	125
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	54	0	0	416	187
Major/Minor						
	Minor2		Major2			
Conflicting Flow All	-	333			-	0
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	7.14			-	-
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	3.92			-	-
Pot Cap-1 Maneuver	0	566			-	-
Stage 1	0	-			-	-
Stage 2	0	-			-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	499			-	-
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Approach	EB		SB			
HCM Control Delay, s	13.1	0				
HCM LOS	B					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	499	-	-			
HCM Lane V/C Ratio	0.109	-	-			
HCM Control Delay (s)	13.1	-	-			
HCM Lane LOS	B	-	-			
HCM 95th %tile Q(veh)	0.4	-	-			

33: Colorado St & Parking Dr. 3
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	15	695	90	120	386
Future Vol, veh/h	14	15	695	90	120	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	16	755	98	130	420
Major/Minor						
	Minor1		Major1		Major2	
Conflicting Flow All	1484	804	0	0	853	0
Stage 1	804	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	137	383	-	-	786	-
Stage 1	440	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	107	383	-	-	786	-
Mov Cap-2 Maneuver	107	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	30.8		0		2.5	
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	- 171	786	-		
HCM Lane V/C Ratio	-	- 0.184	0.166	-		
HCM Control Delay (s)	-	- 30.8	10.5	0		
HCM Lane LOS	-	- D	B	A		
HCM 95th %tile Q(veh)	-	- 0.7	0.6	-		

62: Colorado St & Parking Dr. 4
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh		1.1				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	12	84	625	494	96
Future Vol, veh/h	12	12	84	625	494	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	13	91	679	537	104
Major/Minor						
	Minor2	Major1		Major2		
Conflicting Flow All	1451	589	641	0	-	0
Stage 1	589	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	144	508	943	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	122	508	943	-	-	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	26		1.1		0	
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	943	-	197	-	-	
HCM Lane V/C Ratio	0.097	-	0.132	-	-	
HCM Control Delay (s)	9.2	0	26	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-	

69: Parking Dr. 5 & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	120	90	154	19	10
Future Vol, veh/h	125	120	90	154	19	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	130	98	167	21	11
Major/Minor						
	Major1		Major2		Minor1	
Conflicting Flow All	0	0	266	0	564	201
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	363	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1298	-	487	840
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	704	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1298	-	447	840
Mov Cap-2 Maneuver	-	-	-	-	447	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	646	-
Approach						
	EB		WB		NB	
HCM Control Delay, s	0		3		12.2	
HCM LOS					B	
Minor Lane/Major Mvmt						
	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	533	-	-	1298	-	
HCM Lane V/C Ratio	0.059	-	-	0.075	-	
HCM Control Delay (s)	12.2	-	-	8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-	

71: E. 16th St & Parking Dr. 6
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection							
Int Delay, s/veh	2						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↕	↕		↕		
Traffic Vol, veh/h	91	231	64	109	15	12	
Future Vol, veh/h	91	231	64	109	15	12	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	99	251	70	118	16	13	

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	188	0	-	0	578 129
Stage 1	-	-	-	-	129 -
Stage 2	-	-	-	-	449 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1386	-	-	-	478 921
Stage 1	-	-	-	-	897 -
Stage 2	-	-	-	-	643 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1386	-	-	-	438 921
Mov Cap-2 Maneuver	-	-	-	-	438 -
Stage 1	-	-	-	-	897 -
Stage 2	-	-	-	-	590 -

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	571
HCM Lane V/C Ratio	0.071	-	-	-	0.051
HCM Control Delay (s)	7.8	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

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Synchro 9 Report
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73: Colorado St & Parking Dr. 7/Parkin Dr. 8
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: AM

Intersection													
Int Delay, s/veh	2.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕		↕	↕			↕		
Traffic Vol, veh/h	16	0	12	13	0	15	85	336	97	109	411	116	
Future Vol, veh/h	16	0	12	13	0	15	85	336	97	109	411	116	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	17	0	13	14	0	16	92	365	105	118	447	126	

Major/Minor	Minor2	Minor1	Major1	Major2	
Conflicting Flow All	1358 1402 510	1356 1413 418	573 0 0	471 0 0	
Stage 1	747 747 -	603 603 -	- - -	- - -	
Stage 2	611 655 -	753 810 -	- - -	- - -	
Critical Hdwy	7.12 6.52 6.22	7.12 6.52 6.22	4.12 - -	4.12 - -	
Critical Hdwy Stg 1	6.12 5.52 -	6.12 5.52 -	- - -	- - -	
Critical Hdwy Stg 2	6.12 5.52 -	6.12 5.52 -	- - -	- - -	
Follow-up Hdwy	3.518 4.018 3.318	3.518 4.018 3.318	2.218 - -	2.218 - -	
Pot Cap-1 Maneuver	126 140 563	126 138 635	1000 - -	1091 - -	
Stage 1	405 420 -	486 488 -	- - -	- - -	
Stage 2	481 463 -	402 393 -	- - -	- - -	
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver	97 102 563	98 101 635	1000 - -	1091 - -	
Mov Cap-2 Maneuver	97 102 -	98 101 -	- - -	- - -	
Stage 1	354 352 -	424 426 -	- - -	- - -	
Stage 2	409 404 -	329 329 -	- - -	- - -	

Approach	EB	WB	NB	SB
HCM Control Delay, s	35	29.2	1.5	1.5
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1000	-	-	150	179	1091	-	-
HCM Lane V/C Ratio	0.092	-	-	0.203	0.17	0.109	-	-
HCM Control Delay (s)	9	0	-	35	29.2	8.7	0	-
HCM Lane LOS	A	A	-	E	D	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.7	0.6	0.4	-	-

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Synchro 9 Report
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1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	387	165	0	1414	746	0	0	0	194	655	237
Future Volume (vph)	155	387	165	0	1414	746	0	0	0	194	655	237
Confl. Peds. (#/hr)	30		70	70		30				42		70
Confl. Bikes (#/hr)			1			6						3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	165	412	176	0	1504	794	0	0	0	206	697	252
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	588	0	0	1504	794	0	0	0	206	697	252
Turn Type	Prot	NA			NA	pm+ov				pm+pt	NA	Perm
Protected Phases	5	2			6	7				7	4	
Permitted Phases						6				4		4
Detector Phase	5	2			6	7				7	4	4
Switch Phase												
Minimum Initial (s)	2.0	15.0			15.0	10.0				10.0	5.0	5.0
Minimum Split (s)	7.0	27.0			34.0	15.0				15.0	32.0	32.0
Total Split (s)	25.0	92.0			67.0	43.0				43.0	43.0	43.0
Total Split (%)	18.5%	68.1%			49.6%	31.9%				31.9%	31.9%	31.9%
Yellow Time (s)	4.0	4.0			4.0	4.0				4.0	4.0	4.0
All-Red Time (s)	1.0	1.0			1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0	5.0				5.0	5.0	5.0
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max	None				None	Max	Max
Act Effct Green (s)	20.0	87.0			62.0	100.0				38.0	38.0	38.0
Actuated g/C Ratio	0.15	0.64			0.46	0.74				0.28	0.28	0.28
v/c Ratio	0.63	0.28			0.93	0.68				0.41	0.70	0.51
Control Delay	65.7	10.4			33.3	2.8				42.5	47.9	20.1
Queue Delay	0.0	0.0			45.6	0.4				0.0	0.0	0.0
Total Delay	65.7	10.4			78.9	3.2				42.5	47.9	20.1
LOS	E	B			E	A				D	D	C
Approach Delay		22.6			52.7						40.8	
Approach LOS		C			D						D	
Queue Length 50th (ft)	138	106			601	25				147	288	73
Queue Length 95th (ft)	217	136			m655	m63				224	360	160
Internal Link Dist (ft)		228			45			159			210	
Turn Bay Length (ft)	160									130		120
Base Capacity (vph)	262	2094			1625	1172				498	996	499
Starvation Cap Reductn	0	0			371	88				0	0	0
Spillback Cap Reductn	0	0			0	0				0	0	0
Storage Cap Reductn	0	0			0	0				0	0	0
Reduced v/c Ratio	0.63	0.28			1.20	0.73				0.41	0.70	0.51

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

1: Martin Luther King Jr. Blvd & Guadalupe St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 44.1

Intersection LOS: D

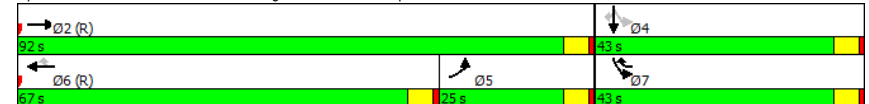
Intersection Capacity Utilization 82.7%

ICU Level of Service E

Analysis Period (min) 15

- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Martin Luther King Jr. Blvd & Guadalupe St



3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖↗
Traffic Volume (vph)	559	0	0	1409	1086	248
Future Volume (vph)	559	0	0	1409	1086	248
Confl. Peds. (#/hr)						82
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	614	0	0	1548	1193	273
Shared Lane Traffic (%)						
Lane Group Flow (vph)	614	0	0	1548	1193	273
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						3
Detector Phase	2			6	8	3
Switch Phase						
Minimum Initial (s)	10.0			10.0	5.0	5.0
Minimum Split (s)	30.0			15.0	10.0	10.0
Total Split (s)	86.0			86.0	49.0	49.0
Total Split (%)	63.7%			63.7%	36.3%	36.3%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	1.0			1.0	1.0	1.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	Max	Max
Act Effct Green (s)	81.0			81.0	44.0	44.0
Actuated g/C Ratio	0.60			0.60	0.33	0.33
v/c Ratio	0.29			0.73	1.07	0.45
Control Delay	13.7			15.1	99.0	26.8
Queue Delay	0.3			1.3	13.6	0.0
Total Delay	14.0			16.4	112.6	26.8
LOS	B			B	F	C
Approach Delay	14.0			16.4	96.6	
Approach LOS	B			B	F	
Queue Length 50th (ft)	126			282	~601	108
Queue Length 95th (ft)	155			352	#743	174
Internal Link Dist (ft)	272			277	337	
Turn Bay Length (ft)						
Base Capacity (vph)	2123			2123	1118	601
Starvation Cap Reductn	857			115	0	0
Spillback Cap Reductn	0			344	90	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.48			0.87	1.16	0.45

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

MS

Synchro 9 Report
Page 3

3: Lavaca St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 48.4

Intersection LOS: D

Intersection Capacity Utilization 97.7%

ICU Level of Service F

Analysis Period (min) 15

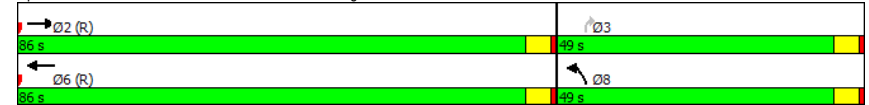
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Lavaca St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 4

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕		↖	↕↕		
Traffic Volume (vph)	952	0	13	1321	0	0
Future Volume (vph)	952	0	13	1321	0	0
Confl. Peds. (#/hr)		33	33		35	
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1013	0	14	1405	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1013	0	14	1405	0	0
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Detector Phase	2		1	6		
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0		
Minimum Split (s)	34.0		8.0	20.0		
Total Split (s)	121.0		14.0	135.0		
Total Split (%)	89.6%		10.4%	100.0%		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	1.0		1.0	1.0		
Lost Time Adjust (s)	0.0		0.0	0.0		
Total Lost Time (s)	5.0		5.0	5.0		
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		
Act Effct Green (s)	127.4		133.0	135.0		
Actuated g/C Ratio	0.94		0.99	1.00		
v/c Ratio	0.30		0.02	0.40		
Control Delay	0.8		0.1	0.4		
Queue Delay	0.0		0.0	0.0		
Total Delay	0.8		0.1	0.4		
LOS	A		A	A		
Approach Delay	0.8			0.4		
Approach LOS	A			A		
Queue Length 50th (ft)	0		0	3		
Queue Length 95th (ft)	56		m0	0		
Internal Link Dist (ft)	366			377	331	
Turn Bay Length (ft)			115			
Base Capacity (vph)	3339		578	3539		
Starvation Cap Reductn	0		0	0		
Spillback Cap Reductn	0		0	17		
Storage Cap Reductn	0		0	0		
Reduced v/c Ratio	0.30		0.02	0.40		

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 45

MS

Synchro 9 Report
Page 5

5: N. Congress Ave & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 0.5

Intersection LOS: A

Intersection Capacity Utilization 40.7%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: N. Congress Ave & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 6

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	945	32	45	938	136	125	24	333	100	26	253
Future Volume (vph)	91	945	32	45	938	136	125	24	333	100	26	253
Confl. Peds. (#/hr)	44		7	7		44	22		23	23		22
Confl. Bikes (#/hr)			4			3						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	94	974	33	46	967	140	129	25	343	103	27	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	1007	0	46	967	140	0	154	343	0	130	261
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.0	22.0		8.0	28.0	28.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (s)	15.0	89.0		15.0	89.0	89.0	31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	11.1%	65.9%		11.1%	65.9%	65.9%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max	Max	Max	Max	Max
Act Effect Green (s)	96.0	89.7		92.9	86.5	86.5		26.0	26.0		26.0	26.0
Actuated g/C Ratio	0.71	0.66		0.69	0.64	0.64		0.19	0.19		0.19	0.19
v/c Ratio	0.24	0.43		0.12	0.43	0.16		0.75	0.71		0.69	0.56
Control Delay	5.5	8.4		2.5	5.7	1.9		75.0	25.1		70.8	14.9
Queue Delay	0.0	0.3		0.0	0.3	0.0		0.0	1.5		0.7	0.0
Total Delay	5.5	8.7		2.5	6.0	1.9		75.0	26.6		71.5	14.9
LOS	A	A		A	A	A		E	C		E	B
Approach Delay		8.4			5.4			41.6			33.7	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)	16	155		2	123	10		129	86		107	30
Queue Length 95th (ft)	26	149		m6	162	27		#238	204		#200	118
Internal Link Dist (ft)		377			273			135			212	
Turn Bay Length (ft)	160			100		100			100			
Base Capacity (vph)	417	2337		422	2267	899		204	480		188	468
Starvation Cap Reductn	0	618		0	585	0		0	0		0	0
Spillback Cap Reductn	0	367		0	0	0		0	42		5	0
Storage Cap Reductn	0	0		0	0	0		0	0		0	0
Reduced v/c Ratio	0.23	0.59		0.11	0.57	0.16		0.75	0.78		0.71	0.56

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

MS

Synchro 9 Report
Page 7

6: Brazos St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 15.7

Intersection LOS: B

Intersection Capacity Utilization 83.3%

ICU Level of Service E

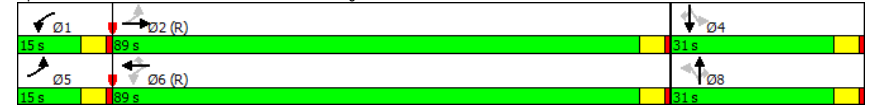
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Brazos St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 8

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1315	30	379	1174	0	0	0	0	39	204	144
Future Volume (vph)	0	1315	30	379	1174	0	0	0	0	39	204	144
Confl. Peds. (#/hr)			37	37						73		17
Confl. Bikes (#/hr)			8									14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1414	32	408	1262	0	0	0	0	42	219	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1446	0	408	1262	0	0	0	0	42	219	155
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2			1	6					4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effct Green (s)		73.0		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.54		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.76		1.19	0.49					0.13	0.31	0.40
Control Delay		20.4		149.3	4.2					45.9	47.5	19.0
Queue Delay		0.4		0.2	0.3					0.0	0.0	0.0
Total Delay		20.7		149.4	4.5					45.9	47.5	19.0
LOS		C		F	A					D	D	B
Approach Delay		20.7			39.9						36.7	
Approach LOS		C			D						D	
Queue Length 50th (ft)		428		~364	123					31	86	34
Queue Length 95th (ft)		503		m#575	m127					65	127	100
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1906		344	2569					312	707	386
Starvation Cap Reductn		112		5	641					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.81		1.20	0.65					0.13	0.31	0.40

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

MS

Synchro 9 Report
Page 9

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 31.7

Intersection LOS: C

Intersection Capacity Utilization 91.7%

ICU Level of Service F

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

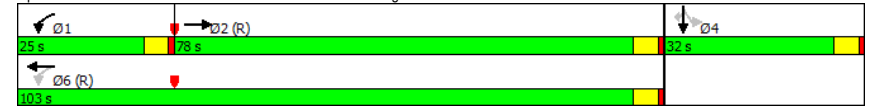
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 10

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

	←	→	↙	↘	←	↙	↘	→	↙	↘	→	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↘	↗			↗		↘	↗	↘				
Traffic Volume (vph)	87	1347	0	0	1285	53	217	327	595	0	0	0	
Future Volume (vph)	87	1347	0	0	1285	53	217	327	595	0	0	0	
Confl. Peds. (#/hr)			34			90	17		153				
Confl. Bikes (#/hr)						4			13				
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	90	1389	0	0	1325	55	224	337	613	0	0	0	
Shared Lane Traffic (%)						10%							
Lane Group Flow (vph)	90	1389	0	0	1380	0	202	359	613	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA	Perm				
Protected Phases	5	2			6			4					
Permitted Phases	2						4		4				
Detector Phase	5	2			6		4	4	4				
Switch Phase													
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0				
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0				
Total Split (s)	15.0	104.0			89.0		31.0	31.0	31.0				
Total Split (%)	11.1%	77.0%			65.9%		23.0%	23.0%	23.0%				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0				
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max	Max				
Act Effect Green (s)	99.0	99.0			86.6		26.0	26.0	26.0				
Actuated g/C Ratio	0.73	0.73			0.64		0.19	0.19	0.19				
v/c Ratio	0.35	0.54			0.62		0.65	1.06	2.25				
Control Delay	8.3	1.3			7.6		69.2	123.6	599.9				
Queue Delay	0.0	0.1			1.0		20.2	19.5	0.0				
Total Delay	8.3	1.4			8.5		89.4	143.1	599.9				
LOS	A	A			A		F	F	F				
Approach Delay		1.8			8.5			372.4					
Approach LOS		A			A			F					
Queue Length 50th (ft)	3	22			116		181	~367	~823				
Queue Length 95th (ft)	m4	24			131		272	#578	#1062				
Internal Link Dist (ft)		321			699			350			106		
Turn Bay Length (ft)	120												
Base Capacity (vph)	286	2595			2230		313	339	272				
Starvation Cap Reductn	0	198			529		0	0	0				
Spillback Cap Reductn	0	0			104		100	109	0				
Storage Cap Reductn	0	0			0		0	0	0				
Reduced v/c Ratio	0.31	0.58			0.81		0.95	1.56	2.25				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 70

MS

Synchro 9 Report
Page 11

8: Trinity St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.25

Intersection Signal Delay: 112.0

Intersection LOS: F

Intersection Capacity Utilization 91.7%

ICU Level of Service F

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

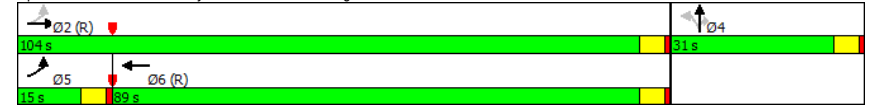
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 12

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↓	
Traffic Volume (vph)	0	21	12	166	97	0	0	0	0	61	1207	23
Future Volume (vph)	0	21	12	166	97	0	0	0	0	61	1207	23
Confl. Peds. (#/hr)			69								44	
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Parking (#/hr)		0										
Adj. Flow (vph)	0	22	13	173	101	0	0	0	0	64	1257	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	13	0	274	0	0	0	0	0	1345	0
Turn Type	NA	Perm	Perm	NA	NA					Perm	NA	
Protected Phases	4 12				4 12						2 10	
Permitted Phases			4 12	4 12						2 10		
Detector Phase		4 12	4 12	4 12	4 12					2 10	2 10	
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		31.9	31.9		31.9						79.1	
Actuated g/C Ratio		0.24	0.24		0.24						0.59	
v/c Ratio		0.06	0.03		0.79						0.65	
Control Delay		21.6	0.2		35.0						13.7	
Queue Delay		0.0	0.0		0.0						0.0	
Total Delay		21.6	0.2		35.0						13.7	
LOS		C	A		D						B	
Approach Delay		13.6			35.0						13.7	
Approach LOS		B			D						B	
Queue Length 50th (ft)		10	0		100						220	
Queue Length 95th (ft)		24	0		128						308	
Internal Link Dist (ft)		177			244			271			262	
Turn Bay Length (ft)												
Base Capacity (vph)		533	508		471						2060	
Starvation Cap Reductn		0	0		1						0	
Spillback Cap Reductn		0	0		0						0	
Storage Cap Reductn		0	0		0						0	
Reduced v/c Ratio		0.04	0.03		0.58						0.65	
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green												

MS

Synchro 9 Report
Page 13

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	21.0	21.0	22.5	22.5
Total Split (s)	56.0	29.0	24.0	26.0
Total Split (%)	41%	21%	18%	19%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
Page 14

18: Guadalupe St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 17.2

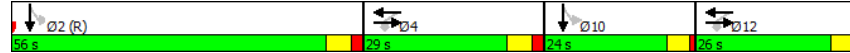
Intersection LOS: B

Intersection Capacity Utilization 77.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Guadalupe St & E. 17th St



19: Lavaca St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↖	↗	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↖			↗		↖↗↘	↖↗↘	↖				
Traffic Volume (vph)	11	78	0	0	134	161	66	1224	70	0	0	0	
Future Volume (vph)	11	78	0	0	134	161	66	1224	70	0	0	0	
Confl. Peds. (#/hr)	34								47				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Parking (#/hr)		0											
Adj. Flow (vph)	12	85	0	0	146	175	72	1330	76	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	97	0	0	321	0	0	1402	76	0	0	0	
Turn Type	Perm	NA			NA		Perm	NA	Perm				
Protected Phases		4 12			4 12			2 10					
Permitted Phases	4 12						2 10		2 10				
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10				
Switch Phase													
Minimum Initial (s)													
Minimum Split (s)													
Total Split (s)													
Total Split (%)													
Yellow Time (s)													
All-Red Time (s)													
Lost Time Adjust (s)													
Total Lost Time (s)													
Lead/Lag													
Lead-Lag Optimize?													
Recall Mode													
Act Effct Green (s)	33.7				33.7			77.3	77.3				
Actuated g/C Ratio	0.25				0.25			0.57	0.57				
v/c Ratio	0.25				0.72			0.48	0.10				
Control Delay	22.1				33.7			11.2	4.5				
Queue Delay	0.0				0.0			0.0	0.0				
Total Delay	22.1				33.7			11.2	4.5				
LOS	C				C			B	A				
Approach Delay	22.1				33.7			10.9					
Approach LOS	C				C			B					
Queue Length 50th (ft)	41				154			163	9				
Queue Length 95th (ft)	m75				220			161	m16				
Internal Link Dist (ft)	244				319			272			254		
Turn Bay Length (ft)									100				
Base Capacity (vph)	501				577			2907	775				
Starvation Cap Reductn	0				0			154	0				
Spillback Cap Reductn	0				0			0	0				
Storage Cap Reductn	0				0			0	0				
Reduced v/c Ratio	0.19				0.56			0.51	0.10				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 100

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	26.0	28.0	22.5	22.5
Total Split (s)	54.0	28.0	25.0	28.0
Total Split (%)	40%	21%	19%	21%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 15.3Intersection LOS: B
Intersection Capacity Utilization 51.9%ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.



28: Lavaca St & E. 16th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	74	0	0	130	191	65	1145	68	0	0	0
Future Volume (vph)	11	74	0	0	130	191	65	1145	68	0	0	0
Confl. Peds. (#/hr)						170		88				
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Parking (#/hr)					0							
Adj. Flow (vph)	12	78	0	0	137	201	68	1205	72	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	0	338	0	0	1273	72	0	0	0
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4 12			4 12			2 10				
Permitted Phases	4 12						2 10		2 10			
Detector Phase	4 12	4 12			4 12		2 10	2 10	2 10			
Switch Phase												
Minimum Initial (s)												
Minimum Split (s)												
Total Split (s)												
Total Split (%)												
Yellow Time (s)												
All-Red Time (s)												
Lost Time Adjust (s)												
Total Lost Time (s)												
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode												
Act Effct Green (s)		38.0			38.0			73.0	73.0			
Actuated g/C Ratio		0.28			0.28			0.54	0.54			
v/c Ratio		0.18			0.86			0.47	0.08			
Control Delay		20.8			44.2			15.5	4.3			
Queue Delay		0.0			0.0			0.7	0.0			
Total Delay		20.8			44.2			16.2	4.3			
LOS		C			D			B	A			
Approach Delay		20.8			44.2			15.6				
Approach LOS		C			D			B				
Queue Length 50th (ft)		41			168			230	7			
Queue Length 95th (ft)		m73			238			m243	m8			
Internal Link Dist (ft)		233			60			281			272	
Turn Bay Length (ft)									100			
Base Capacity (vph)		568			449			2706	885			
Starvation Cap Reductn		0			0			961	0			
Spillback Cap Reductn		0			0			26	0			
Storage Cap Reductn		0			0			0	0			
Reduced v/c Ratio		0.16			0.75			0.73	0.08			
Intersection Summary												
Cycle Length: 135												
Actuated Cycle Length: 135												
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green												

MS

Synchro 9 Report
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28: Lavaca St & E. 16th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: PM

Lane Group	Ø2	Ø4	Ø10	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Confl. Peds. (#/hr)				
Confl. Bikes (#/hr)				
Peak Hour Factor				
Parking (#/hr)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	10	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	15.0	15.0	5.0	5.0
Minimum Split (s)	28.0	32.0	21.0	20.0
Total Split (s)	55.0	32.0	24.0	24.0
Total Split (%)	41%	24%	18%	18%
Yellow Time (s)	4.0	4.0	3.5	3.5
All-Red Time (s)	2.0	2.0	1.0	1.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				

MS

Synchro 9 Report
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28: Lavaca St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 21.3

Intersection LOS: C

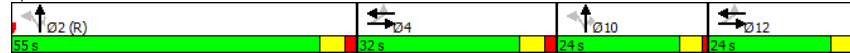
Intersection Capacity Utilization 56.4%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 28: Lavaca St & E. 16th St



34: Guadalupe St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑						↑↑↑	↑
Traffic Volume (vph)	0	968	99	253	1881	0	0	0	0	155	944	476
Future Volume (vph)	0	968	99	253	1881	0	0	0	0	155	944	476
Confl. Peds. (#/hr)			18	18						20		28
Confl. Bikes (#/hr)												28
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1126	115	294	2187	0	0	0	0	180	1098	553
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1241	0	294	2187	0	0	0	0	0	1278	553
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1 3	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1 3	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0			5.0					5.0	5.0	5.0
Minimum Split (s)		25.0			25.0					32.0	32.0	32.0
Total Split (s)		58.0			88.0					47.0	47.0	47.0
Total Split (%)		43.0%			65.2%					34.8%	34.8%	34.8%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0						0.0	0.0
Total Lost Time (s)		5.0			5.0						5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		53.0		83.0	83.0						42.0	42.0
Actuated g/C Ratio		0.39		0.61	0.61						0.31	0.31
v/c Ratio		0.63		0.81	0.70						0.82	1.06
Control Delay		34.4		36.7	6.8						45.7	87.7
Queue Delay		0.0		44.2	0.4						0.0	0.0
Total Delay		34.4		81.0	7.2						45.7	87.7
LOS		C		F	A						D	F
Approach Delay		34.4			15.9						58.4	
Approach LOS		C			B						E	
Queue Length 50th (ft)		315		133	139						337	~454
Queue Length 95th (ft)		344		m172	141						383	#631
Internal Link Dist (ft)		262			240			197			285	
Turn Bay Length (ft)				50								100
Base Capacity (vph)		1968		365	3126						1564	524
Starvation Cap Reductn		0		90	417						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.63		1.07	0.81						0.82	1.06

Intersection Summary

Cycle Length: 135

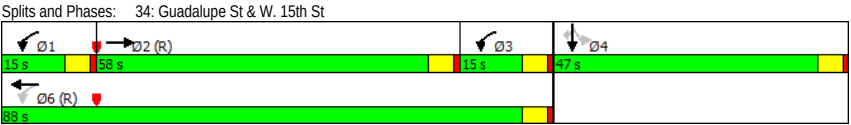
Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

Lane Group	Ø1	Ø3
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	3
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	5.0	8.0
Minimum Split (s)	10.0	13.0
Total Split (s)	15.0	15.0
Total Split (%)	11%	11%
Yellow Time (s)	4.0	4.0
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	Min	None
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 34.1	Intersection LOS: C
Intersection Capacity Utilization 83.0%	ICU Level of Service E
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	



35: Lavaca St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: PM

	←	→	↙	↘	←	↙	↘	→	↙	↘	→	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↙	↙↙↙			↙↙↙			↙↙↙	↙				
Traffic Volume (vph)	132	958	0	0	1808	68	401	911	170	0	0	0	
Future Volume (vph)	132	958	0	0	1808	68	401	911	170	0	0	0	
Confl. Peds. (#/hr)	48					48	31		18				
Confl. Bikes (#/hr)			2						28				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	147	1064	0	0	2009	76	446	1012	189	0	0	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	147	1064	0	0	2085	0	0	1458	189	0	0	0	
Turn Type	pm+pt	NA			NA		Perm	NA	Perm				
Protected Phases	5	2			6			4					
Permitted Phases	2						4		4				
Detector Phase	5	2			6		4	4	4				
Switch Phase													
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0				
Minimum Split (s)	8.0	28.0			28.0		33.0	33.0	33.0				
Total Split (s)	20.0	86.0			66.0		49.0	49.0	49.0				
Total Split (%)	14.8%	63.7%			48.9%		36.3%	36.3%	36.3%				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		2.0	2.0	2.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		6.0	6.0	6.0				
Lead/Lag	Lead				Lag								
Lead-Lag Optimize?	Yes				Yes								
Recall Mode	None	C-Max			C-Max		Max	Max	Max				
Act Effect Green (s)	81.0	81.0			64.4		43.0	43.0	43.0				
Actuated g/C Ratio	0.60	0.60			0.48		0.32	0.32	0.32				
v/c Ratio	0.71	0.35			0.87		0.93	0.35	0.35				
Control Delay	72.8	3.1			16.5		55.6	17.5	17.5				
Queue Delay	0.4	0.1			0.0		17.9	0.0	0.0				
Total Delay	73.2	3.2			16.5		73.5	17.5	17.5				
LOS	E	A			B		E	B	B				
Approach Delay		11.7			16.5		67.0						
Approach LOS		B			B		E						
Queue Length 50th (ft)	96	45			132		452	54	54				
Queue Length 95th (ft)	m164	48			131		#545	120	120				
Internal Link Dist (ft)		240			335		116				281		
Turn Bay Length (ft)	50												
Base Capacity (vph)	249	3051			2407		1572	546	546				
Starvation Cap Reductn	8	875			0		0	0	0				
Spillback Cap Reductn	0	0			5		157	0	0				
Storage Cap Reductn	0	0			0		0	0	0				
Reduced v/c Ratio	0.61	0.49			0.87		1.03	0.35	0.35				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

MS

Synchro 9 Report
Page 25

35: Lavaca St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 32.2

Intersection LOS: C

Intersection Capacity Utilization 83.0%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Lavaca St & W. 15th St



MS

Synchro 9 Report
Page 26

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	56	1103	22	23	1429	62	9	27	113	396	6	415
Future Volume (vph)	56	1103	22	23	1429	62	9	27	113	396	6	415
Confl. Peds. (#/hr)	33		35	35		33	99		6	6		99
Confl. Bikes (#/hr)			1			2			2			1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	64	1268	25	26	1643	71	10	31	130	455	7	477
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	1293	0	26	1714	0	0	171	0	0	462	477
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	custom
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		6
Detector Phase	5	2		1	6		4	4		8	8	6
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	15.0
Minimum Split (s)	10.0	20.0		10.0	22.0		36.0	36.0		10.0	10.0	22.0
Total Split (s)	10.0	79.0		10.0	79.0		46.0	46.0		46.0	46.0	79.0
Total Split (%)	7.4%	58.5%		7.4%	58.5%		34.1%	34.1%		34.1%	34.1%	58.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	C-Max
Act Effect Green (s)	81.0	78.0		80.0	76.0			41.0			41.0	76.0
Actuated g/C Ratio	0.60	0.58		0.59	0.56			0.30			0.30	0.56
v/c Ratio	0.43	0.44		0.11	0.61			0.36			1.54	0.59
Control Delay	21.9	6.9		5.2	9.9			16.5			292.5	9.9
Queue Delay	0.0	0.2		0.0	0.1			0.0			0.0	0.2
Total Delay	21.9	7.1		5.2	10.0			16.5			292.5	10.0
LOS	C	A		A	B			B			F	B
Approach Delay		7.8			10.0			16.5			149.0	
Approach LOS		A			A			B			F	
Queue Length 50th (ft)	7	108		3	371			41			~568	88
Queue Length 95th (ft)	31	123		6	163			98			#748	176
Internal Link Dist (ft)		335			362			155			114	
Turn Bay Length (ft)	90			90								100
Base Capacity (vph)	150	2927		229	2830			480			300	807
Starvation Cap Reductn	0	648		0	232			0			0	0
Spillback Cap Reductn	0	0		0	141			0			0	33
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.43	0.57		0.11	0.66			0.36			1.54	0.62

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90

MS

Synchro 9 Report
Page 27

36: Colorado St & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.54

Intersection Signal Delay: 40.6

Intersection LOS: D

Intersection Capacity Utilization 99.1%

ICU Level of Service F

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 36: Colorado St & W. 15th St



MS

Synchro 9 Report
Page 28

37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖	↑↑↑		↗
Traffic Volume (vph)	1671	0	0	1271	0	1
Future Volume (vph)	1671	0	0	1271	0	1
Confl. Peds. (#/hr)		49	49		41	14
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1943	0	0	1478	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1943	0	0	1478	0	1
Turn Type	NA		pm+pt	NA		Perm
Protected Phases	2		1	6		
Permitted Phases			6			4
Detector Phase	2		1	6		4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0		5.0
Minimum Split (s)	25.0		10.0	25.0		33.0
Total Split (s)	92.0		10.0	102.0		33.0
Total Split (%)	68.1%		7.4%	75.6%		24.4%
Yellow Time (s)	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0		1.0	1.0		1.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	5.0		5.0	5.0		5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max		None	C-Max		Max
Act Effect Green (s)	97.0			97.0		28.0
Actuated g/C Ratio	0.72			0.72		0.21
v/c Ratio	0.53			0.40		0.00
Control Delay	8.0			7.7		0.0
Queue Delay	0.1			0.1		0.0
Total Delay	8.0			7.9		0.0
LOS	A			A		A
Approach Delay	8.0			7.9		
Approach LOS	A			A		
Queue Length 50th (ft)	194			183		0
Queue Length 95th (ft)	m187			81		0
Internal Link Dist (ft)	362			356	125	
Turn Bay Length (ft)						
Base Capacity (vph)	3653			3653		379
Starvation Cap Reductn	325			914		0
Spillback Cap Reductn	0			304		0
Storage Cap Reductn	0			0		0
Reduced v/c Ratio	0.58			0.54		0.00

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80

MS

Synchro 9 Report
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37: N. Congress Ave & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 7.9

Intersection LOS: A

Intersection Capacity Utilization 64.0%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: N. Congress Ave & W. 15th St



MS

Synchro 9 Report
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38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↓	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗			↖ ↗	↖ ↗		↖ ↗	
Traffic Volume (vph)	5	1660	39	10	1125	11	135	3	119	66	3	89
Future Volume (vph)	5	1660	39	10	1125	11	135	3	119	66	3	89
Confl. Peds. (#/hr)	8		9	9		8	5		19	19		5
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	1785	42	11	1210	12	145	3	128	71	3	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1827	0	11	1222	0	0	148	128	0	170	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4		4	8		
Detector Phase	5	2		1	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	10.0	22.0		10.0	22.0		32.0	32.0	32.0	32.0	32.0	
Total Split (s)	12.0	77.0		12.0	77.0		46.0	46.0	46.0	46.0	46.0	
Total Split (%)	8.9%	57.0%		8.9%	57.0%		34.1%	34.1%	34.1%	34.1%	34.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Act Effect Green (s)	96.2	96.2		98.8	98.8		24.0	24.0			24.0	
Actuated g/C Ratio	0.71	0.71		0.73	0.73		0.18	0.18			0.18	
v/c Ratio	0.02	0.51		0.05	0.33		0.85	0.36			0.74	
Control Delay	6.4	4.4		6.8	5.1		89.9	15.8			54.5	
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0			0.0	
Total Delay	6.4	4.4		6.8	5.2		89.9	15.8			54.5	
LOS	A	A		A	A		F	B			D	
Approach Delay		4.4			5.2			55.5			54.5	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	0	42		2	86		127	22			102	
Queue Length 95th (ft)	m1	108		m7	223		193	74			173	
Internal Link Dist (ft)		356			297		199				273	
Turn Bay Length (ft)	100			40				50				
Base Capacity (vph)	320	3609		214	3716		298	530			358	
Starvation Cap Reductn	0	132		0	1193		0	0			0	
Spillback Cap Reductn	0	270		0	0		0	4			2	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.02	0.55		0.05	0.48		0.50	0.24			0.48	

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
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38: Brazos St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 11.1

Intersection LOS: B

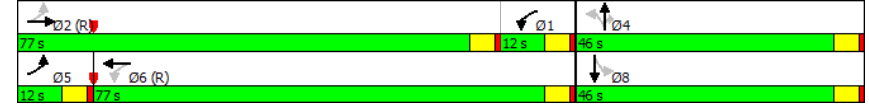
Intersection Capacity Utilization 72.5%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 38: Brazos St & W. 15th St



MS

Synchro 9 Report
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39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↓	↑↑↑						↑↑↑	↓
Traffic Volume (vph)	0	1963	117	67	929	0	0	0	0	522	648	315
Future Volume (vph)	0	1963	117	67	929	0	0	0	0	522	648	315
Confl. Peds. (#/hr)			11	11						32		5
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	2111	126	72	999	0	0	0	0	561	697	339
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2237	0	72	999	0	0	0	0	0	1258	339
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					7.0	7.0	7.0
Minimum Split (s)		28.0		8.0	28.0					32.0	32.0	32.0
Total Split (s)		80.0		15.0	95.0					40.0	40.0	40.0
Total Split (%)		59.3%		11.1%	70.4%					29.6%	29.6%	29.6%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0						0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0						5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None	None	None
Act Effct Green (s)		79.6		90.0	90.0						35.0	35.0
Actuated g/C Ratio		0.59		0.67	0.67						0.26	0.26
v/c Ratio		0.75		0.47	0.29					1.25	dl	0.74
Control Delay		10.9		41.7	6.1						74.5	45.5
Queue Delay		0.1		0.0	0.2						0.0	0.0
Total Delay		11.0		41.7	6.3						74.5	45.5
LOS		B		D	A						E	D
Approach Delay		11.0			8.6						68.4	
Approach LOS		B			A						E	
Queue Length 50th (ft)		150		24	87						405	213
Queue Length 95th (ft)		595		m71	102						#514	332
Internal Link Dist (ft)		297			282			125			272	
Turn Bay Length (ft)				70								50
Base Capacity (vph)		2972		183	3390						1261	460
Starvation Cap Reductn		89		0	1256						0	0
Spillback Cap Reductn		0		0	0						0	0
Storage Cap Reductn		0		0	0						0	0
Reduced v/c Ratio		0.78		0.39	0.47						1.00	0.74

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80

MS

Synchro 9 Report
Page 33

39: San Jacinto Blvd & W. 15th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 29.2

Intersection LOS: C

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 39: San Jacinto Blvd & W. 15th St



MS

Synchro 9 Report
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40: Trinity St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: PM

	↖	→	↘	↙	←	↖	↗	↘	↙	↓	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖			↖↖↖			↖↖	↖			
Traffic Volume (vph)	89	2165	0	0	818	147	183	315	289	0	0	0
Future Volume (vph)	89	2165	0	0	818	147	183	315	289	0	0	0
Confl. Peds. (#/hr)	2					2	7		8			
Confl. Bikes (#/hr)									9			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	93	2255	0	0	852	153	191	328	301	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	2255	0	0	1005	0	0	519	301	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	28.0			28.0		35.0	35.0	35.0			
Total Split (s)	10.0	100.0			90.0		35.0	35.0	35.0			
Total Split (%)	7.4%	74.1%			66.7%		25.9%	25.9%	25.9%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	95.0	95.0			85.0		30.0	30.0				
Actuated g/C Ratio	0.70	0.70			0.63		0.22	0.22				
v/c Ratio	0.26	0.63			0.32		0.67	0.78				
Control Delay	5.6	6.5			15.1		53.1	55.2				
Queue Delay	0.0	0.4			0.0		0.0	0.3				
Total Delay	5.6	6.9			15.1		53.1	55.5				
LOS	A	A			B		D	E				
Approach Delay		6.8			15.1		54.0					
Approach LOS		A			B		D					
Queue Length 50th (ft)	18	163			191		221	206				
Queue Length 95th (ft)	m22	m171			202		285	#342				
Internal Link Dist (ft)		282			641		149			621		
Turn Bay Length (ft)	100											
Base Capacity (vph)	356	3578			3139		769	384				
Starvation Cap Reductn	0	656			0		0	0				
Spillback Cap Reductn	0	513			0		0	5				
Storage Cap Reductn	0	0			0		0	0				
Reduced v/c Ratio	0.26	0.77			0.32		0.67	0.79				

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
Page 35

40: Trinity St & W. 15th St

TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site

Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 18.1

Intersection LOS: B

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 40: Trinity St & W. 15th St



MS

Synchro 9 Report
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11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	127.6											
Intersection LOS	F											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	6	106	14	0	76	202	10	0	15	342	289
Future Vol, veh/h	0	6	106	14	0	76	202	10	0	15	342	289
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	136	18	0	97	259	13	0	19	438	371
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	16.1	28.5	224.2
HCM LOS	C	D	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	5%	26%	10%
Vol Thru, %	53%	84%	70%	66%
Vol Right, %	45%	11%	3%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	646	126	288	179
LT Vol	15	6	76	18
Through Vol	342	106	202	119
RT Vol	289	14	10	42
Lane Flow Rate	828	162	369	229
Geometry Grp	1	1	1	1
Degree of Util (X)	1.436	0.338	0.713	0.448
Departure Headway (Hd)	6.24	8.743	7.985	7.89
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	588	414	458	459
Service Time	4.24	6.743	5.985	5.89
HCM Lane V/C Ratio	1.408	0.391	0.806	0.499
HCM Control Delay	224.2	16.1	28.5	17.1
HCM Lane LOS	F	C	D	C
HCM 95th-tile Q	39.3	1.5	5.5	2.3

11: Colorado St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	18	119	42
Future Vol, veh/h	0	18	119	42
Peak Hour Factor	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	23	153	54
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	17.1
HCM LOS	C

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	12.7											
Intersection LOS	B											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↱				↱				↱	
Traffic Vol, veh/h	0	0	415	0	0	0	348	0	0	0	0	0
Future Vol, veh/h	0	0	415	0	0	0	348	0	0	0	0	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	483	0	0	0	405	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	13.5	11.9	0
HCM LOS	B	B	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	415	348	13
LT Vol	0	0	0	0
Through Vol	0	415	348	0
RT Vol	0	0	0	13
Lane Flow Rate	0	483	405	15
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.587	0.501	0.022
Departure Headway (Hd)	5.844	4.381	4.454	5.198
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	825	809	686
Service Time	3.899	2.399	2.472	3.248
HCM Lane V/C Ratio	0	0.585	0.501	0.022
HCM Control Delay	8.9	13.5	11.9	8.4
HCM Lane LOS	N	B	B	A
HCM 95th-tile Q	0	3.9	2.9	0.1

12: N. Congress Ave & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection			
Intersection Delay, s/veh			
Intersection LOS			

Movement	SBU	SBL	SBT	SBR
Lane Configurations				↱
Traffic Vol, veh/h	0	0	0	13
Future Vol, veh/h	0	0	0	13
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	15
Number of Lanes	0	0	0	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.4
HCM LOS	A

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	52.6											
Intersection LOS	F											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	67	383	26	0	11	76	25	0	191	167	0
Future Vol, veh/h	0	67	383	26	0	11	76	25	0	191	167	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	78	445	30	0	13	88	29	0	222	194	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	87.8	15	39.7
HCM LOS	F	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	53%	14%	10%	36%
Vol Thru, %	47%	80%	68%	21%
Vol Right, %	0%	5%	22%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	358	476	112	273
LT Vol	191	67	11	97
Through Vol	167	383	76	58
RT Vol	0	26	25	118
Lane Flow Rate	416	553	130	317
Geometry Grp	1	1	1	1
Degree of Util (X)	0.843	1.075	0.295	0.645
Departure Headway (Hd)	7.63	6.994	8.51	7.669
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	479	520	425	473
Service Time	5.63	5.062	6.51	5.669
HCM Lane V/C Ratio	0.868	1.063	0.306	0.67
HCM Control Delay	39.7	87.8	15	23.6
HCM Lane LOS	E	F	B	C
HCM 95th-tile Q	8.4	16.9	1.2	4.5

14: Brazos St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection			
Intersection Delay, s/veh			
Intersection LOS			

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	97	58	118
Future Vol, veh/h	0	97	58	118
Peak Hour Factor	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	113	67	137
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	23.6
HCM LOS	C

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	25.9											
Intersection LOS	D											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↰				↱					
Traffic Vol, veh/h	0	0	203	306	0	37	54	0	0	0	0	0
Future Vol, veh/h	0	0	203	306	0	37	54	0	0	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	214	322	0	39	57	0	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	0	0

Approach		EB	WB
Opposing Approach		WB	EB
Opposing Lanes		1	1
Conflicting Approach Left		SB	
Conflicting Lanes Left		3	0
Conflicting Approach Right			SB
Conflicting Lanes Right		0	3
HCM Control Delay		39.9	11.9
HCM LOS		E	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	41%	0%	0%	0%
Vol Thru, %	40%	59%	100%	100%	0%
Vol Right, %	60%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	509	91	285	285	34
LT Vol	0	37	0	0	0
Through Vol	203	54	285	285	0
RT Vol	306	0	0	0	34
Lane Flow Rate	536	96	299	299	36
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.895	0.195	0.54	0.54	0.04
Departure Headway (Hd)	6.013	7.342	6.495	6.495	4.021
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	600	487	554	554	883
Service Time	3.768	5.12	4.254	4.254	1.779
HCM Lane V/C Ratio	0.893	0.197	0.54	0.54	0.041
HCM Control Delay	39.9	11.9	16.7	16.7	6.9
HCM Lane LOS	E	B	C	C	A
HCM 95th-tile Q	10.7	0.7	3.2	3.2	0.1

16: San Jacinto Blvd & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection			
Intersection Delay, s/veh			
Intersection LOS			

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↰↱	↱
Traffic Vol, veh/h	0	0	569	34
Future Vol, veh/h	0	0	569	34
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	599	36
Number of Lanes	0	0	2	1

Approach		SB
Opposing Approach		
Opposing Lanes		0
Conflicting Approach Left		WB
Conflicting Lanes Left		1
Conflicting Approach Right		EB
Conflicting Lanes Right		1
HCM Control Delay		16.1
HCM LOS		C

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Intersection Delay, s/veh	57.5											
Intersection LOS	F											

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	80	36	28	0	0	174	0	0	52	514	0
Future Vol, veh/h	0	80	36	28	0	0	174	0	0	52	514	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	98	44	34	0	0	212	0	0	63	627	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	14.4	15.4	98
HCM LOS	B	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	56%	0%	0%
Vol Thru, %	91%	25%	100%	60%
Vol Right, %	0%	19%	0%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	566	144	174	220
LT Vol	52	80	0	0
Through Vol	514	36	174	131
RT Vol	0	28	0	89
Lane Flow Rate	690	176	212	268
Geometry Grp	1	1	1	1
Degree of Util (X)	1.123	0.345	0.411	0.463
Departure Headway (Hd)	5.859	7.51	7.383	6.528
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	481	490	555
Service Time	3.938	5.51	5.383	4.528
HCM Lane V/C Ratio	1.124	0.366	0.433	0.483
HCM Control Delay	98	14.4	15.4	15
HCM Lane LOS	F	B	C	B
HCM 95th-tile Q	21.3	1.5	2	2.4

20: Colorado St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	0	131	89
Future Vol, veh/h	0	0	131	89
Peak Hour Factor	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	160	109
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	15
HCM LOS	B

Intersection									
Intersection Delay, s/veh	8.7								
Intersection LOS	A								

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Lane Configurations			↱		↱			↱↲	
Traffic Vol, veh/h	0	0	193	0	40	52	0	97	0
Future Vol, veh/h	0	0	193	0	40	52	0	97	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	238	0	49	64	0	120	0
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB			WB		SB		
Opposing Approach	WB			EB				
Opposing Lanes	1			1		0		
Conflicting Approach Left	SB					WB		
Conflicting Lanes Left	1			0		1		
Conflicting Approach Right				SB		EB		
Conflicting Lanes Right	0			1		1		
HCM Control Delay	9.1			7.8		8.9		
HCM LOS	A			A		A		

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	43%	0%
Vol Right, %	0%	57%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	193	92	97
LT Vol	0	0	97
Through Vol	193	40	0
RT Vol	0	52	0
Lane Flow Rate	238	114	120
Geometry Grp	1	1	1
Degree of Util (X)	0.288	0.131	0.163
Departure Headway (Hd)	4.357	4.155	4.904
Convergence, Y/N	Yes	Yes	Yes
Cap	827	864	733
Service Time	2.374	2.174	2.928
HCM Lane V/C Ratio	0.288	0.132	0.164
HCM Control Delay	9.1	7.8	8.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.5	0.6

4: Colorado St & Martin Luther King Jr. Blvd
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	32.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	672	45	66	1365	66	305
Future Vol, veh/h	672	45	66	1365	66	305
Conflicting Peds, #/hr	0	8	8	0	0	11
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	40	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	715	48	70	1452	70	324

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	771	0	1613	400
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	866	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	840	-	95	600
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	372	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	831	-	86	589
Mov Cap-2 Maneuver	-	-	-	-	86	-
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	341	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		0.4		219.8	
HCM LOS					F	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	289	-	-	831	-
HCM Lane V/C Ratio	1.366	-	-	0.084	-
HCM Control Delay (s)	219.8	-	-	9.7	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	20.4	-	-	0.3	-

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Synchro 9 Report
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9: Guadalupe St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	45.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑						↑↑	
Traffic Vol, veh/h	0	21	12	204	97	0	0	0	0	37	1066	23
Future Vol, veh/h	0	21	12	204	97	0	0	0	0	37	1066	23
Conflicting Peds, #/hr	0	0	0	56	0	0	0	0	0	0	0	42
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	12	210	100	0	0	0	0	38	1099	24

Major/Minor	Minor2		Minor1		Major2	
Conflicting Flow All	-	1229	659	693	1241	0
Stage 1	-	1229	-	0	0	-
Stage 2	-	0	-	693	1241	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	4.14
Critical Hdwy Stg 1	-	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	2.22
Pot Cap-1 Maneuver	0	177	406	330	174	0
Stage 1	0	248	-	-	-	0
Stage 2	0	-	-	400	245	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	170	390	288	167	-
Mov Cap-2 Maneuver	-	170	-	288	167	-
Stage 1	-	238	-	-	-	-
Stage 2	-	-	-	352	235	-

Approach	EB		WB		SB	
HCM Control Delay, s	23.9		216.9			
HCM LOS	C		F			

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	170	390	233	-	-	-
HCM Lane V/C Ratio	0.127	0.032	1.332	-	-	-
HCM Control Delay (s)	29.2	14.5	216.9	-	-	-
HCM Lane LOS	D	B	F	-	-	-
HCM 95th %tile Q(veh)	0.4	0.1	16.7	-	-	-

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Synchro 9 Report
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10: Lavaca St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	71.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕ ↕ ↕					
Traffic Vol, veh/h	11	54	0	0	172	75	66	1234	78	0	0	0
Future Vol, veh/h	11	54	0	0	172	75	66	1234	78	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	21	25	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	57	0	0	181	79	69	1299	82	0	0	0

Major/Minor	Minor2		Minor1		Major1	
Conflicting Flow All	795	1545	-	-	1504	712
Stage 1	25	25	-	-	1479	-
Stage 2	770	1520	-	-	25	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92
Pot Cap-1 Maneuver	336	114	0	0	~ 120	322
Stage 1	-	-	0	0	188	-
Stage 2	326	179	0	0	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	104	-	-	~ 110	322
Mov Cap-2 Maneuver	-	104	-	-	~ 110	-
Stage 1	-	-	-	-	~ 176	-
Stage 2	-	168	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		\$ 484.8	0.4
HCM LOS	-	F	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1124	-	-	-	137
HCM Lane V/C Ratio	0.062	-	-	-	1.898
HCM Control Delay (s)	8.4	-	-	-	\$ 484.8
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	20.2

Notes				
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon	

13: W. 18th St & Parking Dr. 2
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕	↕	
Traffic Vol, veh/h	24	421	365	20	97	116
Future Vol, veh/h	24	421	365	20	97	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	458	397	22	105	126

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	418	0	-	0	918	408
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	510	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1141	-	-	-	302	643
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	603	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1141	-	-	-	293	643
Mov Cap-2 Maneuver	-	-	-	-	293	-
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	24
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1141	-	-	-	416
HCM Lane V/C Ratio	0.023	-	-	-	0.557
HCM Control Delay (s)	8.2	0	-	-	24
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	3.3

15: Brazos St & Parking Dr. 1
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	9.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↱	↰	
Traffic Vol, veh/h	242	145	30	255	53	50
Future Vol, veh/h	242	145	30	255	53	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	263	158	33	277	58	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	427	85	112	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	584	974	1478	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	569	974	1478	-	-	-
Mov Cap-2 Maneuver	569	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	700	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	0.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1478	-	674	-	-
HCM Lane V/C Ratio	0.022	-	0.624	-	-
HCM Control Delay (s)	7.5	0	18.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	4.4	-	-

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Synchro 9 Report
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17: Trinity St & W. 18th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	23.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰		↰	↱	↱			
Traffic Vol, veh/h	288	0	0	0	0	0	176	605	0	0	0	0
Future Vol, veh/h	288	0	0	0	0	0	176	605	0	0	0	0
Conflicting Peds, #/hr	0	0	18	0	0	0	21	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	115	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	339	0	0	0	0	0	207	712	0	0	0	0

Major/Minor	Minor2		Major2		Major1	
Conflicting Flow All	721	1148	-	-	0	22
Stage 1	22	22	-	-	-	-
Stage 2	699	1126	-	-	-	-
Critical Hdwy	6.08	6.53	-	-	-	4.13
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-
Critical Hdwy Stg 2	6.03	5.53	-	-	-	-
Follow-up Hdwy	3.669	4.019	-	-	-	2.219
Pot Cap-1 Maneuver	410	198	0	0	-	1593
Stage 1	960	877	0	0	-	-
Stage 2	425	279	0	0	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	343	0	-	-	-	1593
Mov Cap-2 Maneuver	343	0	-	-	-	-
Stage 1	941	0	-	-	-	-
Stage 2	362	0	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	81.1	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBT	WBR
Capacity (veh/h)	1593	-	343	-	-
HCM Lane V/C Ratio	0.13	-	0.988	-	-
HCM Control Delay (s)	7.6	-	81.1	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.4	-	11	-	-

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Synchro 9 Report
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25: San Jacinto Blvd & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	80.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑					↑↑	↑	↑
Traffic Vol, veh/h	0	148	161	37	44	0	0	0	0	108	1052	20
Future Vol, veh/h	0	148	161	37	44	0	0	0	0	108	1052	20
Conflicting Peds, #/hr	0	0	19	0	0	0	0	0	0	97	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	40	-	-	-	-	-	-	-	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	174	189	44	52	0	0	0	0	127	1238	24

Major/Minor	Minor2			Minor1			Major2		
Conflicting Flow All	-	1589	638	1076	1589	-	97	0	0
Stage 1	-	1492	-	97	97	-	-	-	-
Stage 2	-	97	-	979	1492	-	-	-	-
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22	-	-
Pot Cap-1 Maneuver	0	~ 107	419	174	107	0	1494	-	-
Stage 1	0	185	-	-	-	0	-	-	-
Stage 2	0	-	-	268	185	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 69	419	-	69	-	1494	-	-
Mov Cap-2 Maneuver	-	~ 69	-	-	69	-	-	-	-
Stage 1	-	~ 132	-	-	-	-	-	-	-
Stage 2	-	-	-	-	132	-	-	-	-

Approach	EB			WB			SB		
HCM Control Delay, s	\$ 403.6						1.2		
HCM LOS	F								

Minor Lane/Major Mvmt	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	69	419	-	1494	-	-
HCM Lane V/C Ratio	2.523	0.452	-	0.085	-	-
HCM Control Delay (s)	\$ 820.4	20.5	-	7.6	0.6	-
HCM Lane LOS	F	C	-	A	A	-
HCM 95th %tile Q(veh)	17	2.3	-	0.3	-	-

Notes			
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon			

26: Trinity St & E. 17th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓		↑↑↑	↑↑↑		
Traffic Vol, veh/h	231	0	20	551	0	0
Future Vol, veh/h	231	0	20	551	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	0	24	664	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	314	-	0	0
Stage 1	0	-	-	-
Stage 2	314	-	-	-
Critical Hdwy	5.74	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-
Follow-up Hdwy	3.82	-	3.12	-
Pot Cap-1 Maneuver	672	0	-	-
Stage 1	-	0	-	-
Stage 2	654	0	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	672	-	-	-
Mov Cap-2 Maneuver	672	-	-	-
Stage 1	-	-	-	-
Stage 2	654	-	-	-

Approach	EB		NB	
HCM Control Delay, s	14.1			
HCM LOS	B			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	672
HCM Lane V/C Ratio	-	-	0.414
HCM Control Delay (s)	-	-	14.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	2

27: Guadalupe St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	102											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱	↱	↱
Traffic Vol, veh/h	0	21	12	163	97	0	0	0	0	57	1289	24
Future Vol, veh/h	0	21	12	163	97	0	0	0	0	57	1289	24
Conflicting Peds, #/hr	0	0	0	24	0	0	0	0	0	0	0	43
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	24	14	187	111	0	0	0	0	66	1482	28

Major/Minor	Minor2		Minor1		Major2		
Conflicting Flow All	-	1656	808	908	1656	-	0 0 0
Stage 1	-	1656	-	0	0	-	- - -
Stage 2	-	0	-	908	1656	-	- - -
Critical Hdwy	-	6.54	6.94	7.54	6.54	-	4.14 - -
Critical Hdwy Stg 1	-	5.54	-	-	-	-	- - -
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	- - -
Follow-up Hdwy	-	4.02	3.32	3.52	4.02	-	2.22 - -
Pot Cap-1 Maneuver	0	97	324	230	~ 97	0	- - -
Stage 1	0	154	-	-	-	0	- - -
Stage 2	0	-	-	296	154	0	- - -
Platoon blocked, %	-	-	-	-	-	-	- - -
Mov Cap-1 Maneuver	-	93	311	~ 176	~ 93	-	- - -
Mov Cap-2 Maneuver	-	93	-	~ 176	~ 93	-	- - -
Stage 1	-	148	-	-	-	-	- - -
Stage 2	-	-	-	237	148	-	- - -

Approach	EB		WB		SB		
HCM Control Delay, s	45.9		\$ 646.3				
HCM LOS	E		F				

Minor Lane/Major Mvmt	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	125 132	-	-	-
HCM Lane V/C Ratio	0.303 2.264	-	-	-
HCM Control Delay (s)	45.9\$ 646.3	-	-	-
HCM Lane LOS	E F	-	-	-
HCM 95th %tile Q(veh)	1.2 25.3	-	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

29: Colorado St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	283.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱	↱	↱
Traffic Vol, veh/h	91	71	95	37	45	9	65	237	42	10	547	56
Future Vol, veh/h	91	71	95	37	45	9	65	237	42	10	547	56
Conflicting Peds, #/hr	0	0	0	0	0	15	88	0	0	0	0	88
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	91	122	47	58	12	83	304	54	13	701	72

Major/Minor	Minor2		Minor1		Major1			Major2		
Conflicting Flow All	1398	1375	825	1366	1384	346	861	0	0	358 0 0
Stage 1	851	851	-	497	497	-	-	-	-	- - -
Stage 2	547	524	-	869	887	-	-	-	-	- - -
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12 - -
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	- - -
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	- - -
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218 - -
Pot Cap-1 Maneuver	118	145	372	124	143	697	781	-	-	1201 - -
Stage 1	355	376	-	555	545	-	-	-	-	- - -
Stage 2	521	530	-	347	362	-	-	-	-	- - -
Platoon blocked, %	-	-	-	-	-	-	-	-	-	- - -
Mov Cap-1 Maneuver	~ 55	113	341	~ 24	111	687	781	-	-	1184 - -
Mov Cap-2 Maneuver	~ 55	113	-	~ 24	111	-	-	-	-	- - -
Stage 1	282	338	-	481	472	-	-	-	-	- - -
Stage 2	384	459	-	160	325	-	-	-	-	- - -

Approach	EB		WB		NB			SB		
HCM Control Delay, s	\$ 1123		\$ 885.9		1.9			0.1		
HCM LOS	F		F							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	781	-	-	100 46 1184	-	-	-
HCM Lane V/C Ratio	0.107	-	-	3.295 2.536 0.011	-	-	-
HCM Control Delay (s)	10.2	0	-	\$ 1123\$ 885.9	8.1	0	-
HCM Lane LOS	B	A	-	F F A A	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	32.5 12.4	0	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

30: N. Congress Ave
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	127	0	0	155	0	0	0	0	0	0	0
Future Vol, veh/h	0	127	0	0	155	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	59	0	25	21	0	0	0	0	21
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	157	0	0	191	0	0	0	0	0	0	0

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	1	-	-	1	-	-	0
Stage 1	-	1	-	-	0	-	-	-
Stage 2	-	0	-	-	1	-	-	-
Critical Hdwy	-	6.52	-	-	6.52	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-
Follow-up Hdwy	-	4.018	-	-	4.018	-	-	-
Pot Cap-1 Maneuver	0	895	0	0	895	0	0	-
Stage 1	0	895	0	0	-	0	0	-
Stage 2	0	-	0	0	895	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	895	-	-	895	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	895	-	-	-
Stage 1	-	895	-	-	-	-	-	-
Stage 2	-	-	-	-	895	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.9		10.1		0		0	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	-	895	895	-
HCM Lane V/C Ratio	-	0.175	0.214	-
HCM Control Delay (s)	-	9.9	10.1	-
HCM Lane LOS	-	A	B	-
HCM 95th %tile Q(veh)	-	0.6	0.8	-

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Synchro 9 Report
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31: Brazos St & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	82	0	15	67	43	0
Future Vol, veh/h	82	0	15	67	43	0
Conflicting Peds, #/hr	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	0	26	116	74	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	142	0	309	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1441	-	683	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1441	-	669	905
Mov Cap-2 Maneuver	-	-	-	-	669	-
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	847	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		11.1	
HCM LOS					B	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	669	-	-	1441	-
HCM Lane V/C Ratio	0.111	-	-	0.018	-
HCM Control Delay (s)	11.1	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

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Synchro 9 Report
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32: San Jacinto Blvd & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh		0.9				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					  	
Traffic Vol, veh/h	0	63	0	0	1298	53
Future Vol, veh/h	0	63	0	0	1298	53
Conflicting Peds, #/hr	0	0	0	0	0	15
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	50
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	71	0	0	1458	60
Major/Minor	Minor2		Major2			
Conflicting Flow All	-	744			-	0
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	7.14			-	-
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	3.92			-	-
Pot Cap-1 Maneuver	0	306			-	-
Stage 1	0	-			-	-
Stage 2	0	-			-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	302			-	-
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Approach	EB		SB			
HCM Control Delay, s	20.5		0			
HCM LOS	C					
Minor Lane/Major Mvmt	EBLn1	SBT	SBR			
Capacity (veh/h)	302	-	-			
HCM Lane V/C Ratio	0.234	-	-			
HCM Control Delay (s)	20.5	-	-			
HCM Lane LOS	C	-	-			
HCM 95th %tile Q(veh)	0.9	-	-			

33: Colorado St & Parking Dr. 3
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	89	95	130	16	21	719
Future Vol, veh/h	89	95	130	16	21	719
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	97	103	141	17	23	782

Major/Minor		Minor1	Major1	Major2	
Conflicting Flow All	977	150	0	159	0
Stage 1	150	-	-	-	-
Stage 2	827	-	-	-	-
Critical Hdwy	6.42	6.22	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	2.218	-
Pot Cap-1 Maneuver	278	896	-	1420	-
Stage 1	878	-	-	-	-
Stage 2	430	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	270	896	-	1420	-
Mov Cap-2 Maneuver	270	-	-	-	-
Stage 1	878	-	-	-	-
Stage 2	418	-	-	-	-
Approach	WB	NB	SB		
HCM Control Delay, s	21	0	0.2		
HCM LOS	C				
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)	-	- 422	1420	-	
HCM Lane V/C Ratio	-	- 0.474	0.016	-	
HCM Control Delay (s)	-	- 21	7.6	0	
HCM Lane LOS	-	- C	A	A	
HCM 95th %tile Q(veh)	-	- 2.5	0	-	

62: Colorado St & Parking Dr. 4
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh		4.2				
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	79	15	209	661	17
Future Vol, veh/h	79	79	15	209	661	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	86	16	227	718	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	988	728	737	0	-	0
Stage 1	728	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	274	423	869	-	-	-
Stage 1	478	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	268	423	869	-	-	-
Mov Cap-2 Maneuver	268	-	-	-	-	-
Stage 1	478	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	27.4	0.6		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	869	-	328	-	-	
HCM Lane V/C Ratio	0.019	-	0.524	-	-	
HCM Control Delay (s)	9.2	0	27.4	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	0.1	-	2.9	-	-	

69: Parking Dr. 5 & E. 16th St
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection						
Int Delay, s/veh	4.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	21	16	150	121	63
Future Vol, veh/h	200	21	16	150	121	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	217	23	17	163	132	68
Major/Minor						
	Major1		Major2		Minor1	
Conflicting Flow All	0	0	240	0	427	229
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	198	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1327	-	584	810
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	835	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1327	-	576	810
Mov Cap-2 Maneuver	-	-	-	-	576	-
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	823	-
Approach						
	EB	WB		NB		
HCM Control Delay, s	0	0.7		13.2		
HCM LOS			B			
Minor Lane/Major Mvmt						
	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	639	-	-	1327	-	
HCM Lane V/C Ratio	0.313	-	-	0.013	-	
HCM Control Delay (s)	13.2	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	1.3	-	-	0	-	

71: E. 16th St & Parking Dr. 6
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection							
Int Delay, s/veh	4.1						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↕	↕		↕		
Traffic Vol, veh/h	16	126	252	19	95	80	
Future Vol, veh/h	16	126	252	19	95	80	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	17	137	274	21	103	87	
Major/Minor							
	Major1		Major2		Minor2		
Conflicting Flow All	295	0	-	0	456	284	
Stage 1	-	-	-	-	284	-	
Stage 2	-	-	-	-	172	-	
Critical Hdwy	4.12	-	-	-	6.42	6.22	
Critical Hdwy Stg 1	-	-	-	-	5.42	-	
Critical Hdwy Stg 2	-	-	-	-	5.42	-	
Follow-up Hdwy	2.218	-	-	-	3.518	3.318	
Pot Cap-1 Maneuver	1266	-	-	-	562	755	
Stage 1	-	-	-	-	764	-	
Stage 2	-	-	-	-	858	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1266	-	-	-	554	755	
Mov Cap-2 Maneuver	-	-	-	-	554	-	
Stage 1	-	-	-	-	764	-	
Stage 2	-	-	-	-	845	-	
Approach							
	EB		WB		SB		
HCM Control Delay, s	0.9		0		13.1		
HCM LOS					B		
Minor Lane/Major Mvmt							
	EBL	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	1266	-	-	-	631		
HCM Lane V/C Ratio	0.014	-	-	-	0.301		
HCM Control Delay (s)	7.9	0	-	-	13.1		
HCM Lane LOS	A	A	-	-	B		
HCM 95th %tile Q(veh)	0	-	-	-	1.3		

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Synchro 9 Report
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73: Colorado St & Parking Dr. 7/Parking Dr. 8
TIA for Texas Capitol Complex Master Plan 2018 Update

2024 Background + Site
Timing Plan: PM

Intersection													
Int Delay, s/veh	7.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕		↕	↕			↕		
Traffic Vol, veh/h	101	0	74	85	0	95	15	304	17	19	136	21	
Future Vol, veh/h	101	0	74	85	0	95	15	304	17	19	136	21	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	
Mvmt Flow	110	0	80	92	0	103	16	330	18	21	148	23	
Major/Minor													
	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	625	583	159	613	584	340	171	0	0	349	0	0	
Stage 1	201	201	-	372	372	-	-	-	-	-	-	-	
Stage 2	424	382	-	241	212	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Pot Cap-1 Maneuver	397	424	886	405	423	702	1406	-	-	1210	-	-	
Stage 1	801	735	-	648	619	-	-	-	-	-	-	-	
Stage 2	608	613	-	762	727	-	-	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	330	410	886	359	409	702	1406	-	-	1210	-	-	
Mov Cap-2 Maneuver	330	410	-	359	409	-	-	-	-	-	-	-	
Stage 1	790	721	-	639	610	-	-	-	-	-	-	-	
Stage 2	511	604	-	680	713	-	-	-	-	-	-	-	
Approach													
	EB			WB			NB			SB			
HCM Control Delay, s	18.8			17.4			0.3			0.9			
HCM LOS	C			C									
Minor Lane/Major Mvmt													
	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1406	-	-	449	484	1210	-	-					
HCM Lane V/C Ratio	0.012	-	-	0.424	0.404	0.017	-	-					
HCM Control Delay (s)	7.6	0	-	18.8	17.4	8	0	-					
HCM Lane LOS	A	A	-	C	C	A	A	-					
HCM 95th %tile Q(veh)	0	-	-	2.1	1.9	0.1	-	-					

MS

Synchro 9 Report
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8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2020 Background (Optimized)
Timing Plan: PM

	↖	→	↘	↙	←	↖	↙	↘	↗	↘	↙	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖			↖↖		↖	↖	↖			
Traffic Volume (vph)	83	952	0	0	1116	51	214	314	337	0	0	0
Future Volume (vph)	83	952	0	0	1116	51	214	314	337	0	0	0
Confl. Peds. (#/hr)			33			87	17		148			
Confl. Bikes (#/hr)						4			12			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	86	981	0	0	1151	53	221	324	347	0	0	0
Shared Lane Traffic (%)									10%			
Lane Group Flow (vph)	86	981	0	0	1204	0	221	359	312	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	75.0			60.0		60.0	60.0	60.0			
Total Split (%)	11.1%	55.6%			44.4%		44.4%	44.4%	44.4%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	70.0	70.0			56.4		55.0	55.0	55.0			
Actuated g/C Ratio	0.52	0.52			0.42		0.41	0.41	0.41			
v/c Ratio	0.50	0.53			0.83		0.32	0.52	0.66			
Control Delay	48.5	13.1			21.3		36.9	41.5	40.6			
Queue Delay	0.0	0.1			0.0		0.0	0.0	0.0			
Total Delay	48.5	13.2			21.3		36.9	41.5	40.6			
LOS	D	B			C		D	D	D			
Approach Delay		16.1			21.3			40.1				
Approach LOS		B			C			D				
Queue Length 50th (ft)	32	114			181		148	268	200			
Queue Length 95th (ft)	97	137			223		m209	364	m316			
Internal Link Dist (ft)		321			699			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	189	1835			1452		697	692	475			
Starvation Cap Reductn	0	130			0		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.46	0.58			0.83		0.32	0.52	0.66			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 60

MS

Synchro 9 Report
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8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2020 Background (Optimized)
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 24.8

Intersection LOS: C

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
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8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2020 Background + Site (Optimized)
Timing Plan: PM

	↖	→	↘	↙	←	↖	↙	↘	↗	↘	↙	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖			↖↖		↖	↖	↖			
Traffic Volume (vph)	83	1097	0	0	1176	51	214	314	482	0	0	0
Future Volume (vph)	83	1097	0	0	1176	51	214	314	482	0	0	0
Confl. Peds. (#/hr)			33			87	17		148			
Confl. Bikes (#/hr)						4			12			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	86	1131	0	0	1212	53	221	324	497	0	0	0
Shared Lane Traffic (%)									22%			
Lane Group Flow (vph)	86	1131	0	0	1265	0	221	433	388	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	75.0			60.0		60.0	60.0	60.0			
Total Split (%)	11.1%	55.6%			44.4%		44.4%	44.4%	44.4%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	70.0	70.0			56.4		55.0	55.0	55.0			
Actuated g/C Ratio	0.52	0.52			0.42		0.41	0.41	0.41			
v/c Ratio	0.51	0.62			0.87		0.32	0.67	0.83			
Control Delay	52.7	13.4			24.5		34.9	43.9	54.0			
Queue Delay	0.0	0.1			0.0		0.2	0.0	0.0			
Total Delay	52.7	13.5			24.5		35.1	43.9	54.0			
LOS	D	B			C		D	D	D			
Approach Delay		16.3			24.5			45.8				
Approach LOS		B			C			D				
Queue Length 50th (ft)	41	130			203		142	324	288			
Queue Length 95th (ft)	m95	150			249		m204	455	#484			
Internal Link Dist (ft)		321			699			350		106		
Turn Bay Length (ft)	120											
Base Capacity (vph)	184	1835			1454		697	650	465			
Starvation Cap Reductn	0	108			0		0	0	0			
Spillback Cap Reductn	0	0			0		92	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.47	0.65			0.87		0.37	0.67	0.83			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 60

MS

Synchro 9 Report
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8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2020 Background + Site (Optimized)
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 28.0

Intersection LOS: C

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 2

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2022 Background (Optimized)
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰			↰↰		↰	↰	↰		↓	↰
Traffic Volume (vph)	152	533	0	0	1805	58	67	84	108	0	0	0
Future Volume (vph)	152	533	0	0	1805	58	67	84	108	0	0	0
Confl. Peds. (#/hr)			35			58	34		28			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	171	599	0	0	1900	61	75	94	121	0	0	0
Shared Lane Traffic (%)									17%			
Lane Group Flow (vph)	171	599	0	0	1961	0	75	115	100	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	14.4	94.0			79.6		26.0	26.0	26.0			
Total Split (%)	12.0%	78.3%			66.3%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	89.5	89.0			75.4		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.63		0.18	0.18	0.18			
v/c Ratio	0.85	0.23			0.89		0.26	0.38	0.30			
Control Delay	78.2	1.0			8.5		40.9	39.7	9.4			
Queue Delay	0.0	0.1			1.5		0.3	0.0	0.0			
Total Delay	78.2	1.2			10.0		41.2	39.7	9.4			
LOS	E	A			A		D	D	A			
Approach Delay		18.3			10.0			29.6				
Approach LOS		B			A			C				
Queue Length 50th (ft)	99	13			105		49	74	4			
Queue Length 95th (ft)	#204	16			m54		m72	m108	m23			
Internal Link Dist (ft)		321			675			350		106		
Turn Bay Length (ft)	120											
Base Capacity (vph)	207	2624			2211		291	304	328			
Starvation Cap Reductn	0	980			81		0	0	0			
Spillback Cap Reductn	0	0			113		48	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.83	0.36			0.93		0.31	0.38	0.30			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 90

MS

Synchro 9 Report
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8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2022 Background (Optimized)
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 14.0

Intersection LOS: B

Intersection Capacity Utilization 89.5%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 2

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2022 Background (Optimized)
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰			↰↰		↰	↰	↰		↓	↰
Traffic Volume (vph)	85	1116	0	0	1198	52	215	321	486	0	0	0
Future Volume (vph)	85	1116	0	0	1198	52	215	321	486	0	0	0
Confl. Peds. (#/hr)			34			89	17		151			
Confl. Bikes (#/hr)						4			13			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	1151	0	0	1235	54	222	331	501	0	0	0
Shared Lane Traffic (%)									22%			
Lane Group Flow (vph)	88	1151	0	0	1289	0	222	441	391	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	75.0			60.0		60.0	60.0	60.0			
Total Split (%)	11.1%	55.6%			44.4%		44.4%	44.4%	44.4%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	70.0	70.0			56.4		55.0	55.0	55.0			
Actuated g/C Ratio	0.52	0.52			0.42		0.41	0.41	0.41			
v/c Ratio	0.53	0.63			0.89		0.32	0.68	0.85			
Control Delay	53.8	13.5			24.5		36.2	46.4	57.5			
Queue Delay	0.0	0.1			0.0		0.2	0.0	0.0			
Total Delay	53.8	13.7			24.5		36.4	46.4	57.5			
LOS	D	B			C		D	D	E			
Approach Delay		16.5			24.5			48.4				
Approach LOS		B			C			D				
Queue Length 50th (ft)	43	133			195		152	356	310			
Queue Length 95th (ft)	m95	153			#704		m218	485	#493			
Internal Link Dist (ft)		321			699			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	184	1835			1453		697	650	461			
Starvation Cap Reductn	0	108			0		0	0	0			
Spillback Cap Reductn	0	0			0		101	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.48	0.67			0.89		0.37	0.68	0.85			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 65

MS

Synchro 9 Report
Page 1

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2022 Background (Optimized)
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 28.8

Intersection LOS: C

Intersection Capacity Utilization 83.2%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 2

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2022 Background + Site (Optimized)
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰			↰↰		↰	↰	↰			
Traffic Volume (vph)	152	542	0	0	1985	58	67	84	125	0	0	0
Future Volume (vph)	152	542	0	0	1985	58	67	84	125	0	0	0
Confl. Peds. (#/hr)			35			58	34		28			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	171	609	0	0	2089	61	75	94	140	0	0	0
Shared Lane Traffic (%)									21%			
Lane Group Flow (vph)	171	609	0	0	2150	0	75	123	111	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	14.4	94.0			79.6		26.0	26.0	26.0			
Total Split (%)	12.0%	78.3%			66.3%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	89.5	89.0			75.4		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.63		0.18	0.18	0.18			
v/c Ratio	0.85	0.23			0.97		0.26	0.41	0.33			
Control Delay	78.3	1.0			14.4		41.1	39.5	9.2			
Queue Delay	0.0	0.1			33.1		2.1	0.0	0.0			
Total Delay	78.3	1.1			47.5		43.2	39.5	9.2			
LOS	E	A			D		D	D	A			
Approach Delay		18.1			47.5			29.5				
Approach LOS		B			D			C				
Queue Length 50th (ft)	99	13			191		49	77	4			
Queue Length 95th (ft)	#204	16			m60		m70	m112	m25			
Internal Link Dist (ft)		321			675			350		106		
Turn Bay Length (ft)	120											
Base Capacity (vph)	207	2624			2213		291	303	337			
Starvation Cap Reductn	0	972			35		0	0	0			
Spillback Cap Reductn	0	0			220		128	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.83	0.37			1.08		0.46	0.41	0.33			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 110

MS

Synchro 9 Report
Page 1

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2022 Background + Site (Optimized)
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 38.7

Intersection LOS: D

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 2

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2022 Background + Site (Optimized)
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1169	0	0	1230	52	215	321	591	0	0	0
Future Volume (vph)	85	1169	0	0	1230	52	215	321	591	0	0	0
Confl. Peds. (#/hr)			34			89	17		151			
Confl. Bikes (#/hr)						4			13			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	1205	0	0	1268	54	222	331	609	0	0	0
Shared Lane Traffic (%)									27%			
Lane Group Flow (vph)	88	1205	0	0	1322	0	222	495	445	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	75.0			60.0		60.0	60.0	60.0			
Total Split (%)	11.1%	55.6%			44.4%		44.4%	44.4%	44.4%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	70.0	70.0			56.4		55.0	55.0	55.0			
Actuated g/C Ratio	0.52	0.52			0.42		0.41	0.41	0.41			
v/c Ratio	0.53	0.66			0.91		0.32	0.79	0.97			
Control Delay	53.3	13.5			26.9		35.4	51.5	75.9			
Queue Delay	0.0	0.2			0.2		0.2	0.0	0.0			
Total Delay	53.3	13.6			27.1		35.6	51.5	75.9			
LOS	D	B			C		D	D	E			
Approach Delay		16.3			27.1			57.8				
Approach LOS		B			C			E				
Queue Length 50th (ft)	44	135			207		150	411	377			
Queue Length 95th (ft)	m87	156			#736		m215	561	#607			
Internal Link Dist (ft)		321			699			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	184	1835			1453		697	629	461			
Starvation Cap Reductn	0	104			0		0	0	0			
Spillback Cap Reductn	0	0			8		116	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.48	0.70			0.91		0.38	0.79	0.97			

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

MS

Synchro 9 Report
Page 1

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2022 Background + Site (Optimized)
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 32.9

Intersection LOS: C

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 2

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background (Optimized)
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	744	172	625	1469	0	0	0	0	37	52	56
Future Volume (vph)	0	744	172	625	1469	0	0	0	0	37	52	56
Confl. Peds. (#/hr)			54	54						8		49
Confl. Bikes (#/hr)			2									29
Peak Hour Factor	0.93	0.93	0.93	0.99	0.97	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	800	185	631	1514	0	0	0	0	40	56	60
Shared Lane Traffic (%)				23%								
Lane Group Flow (vph)	0	985	0	486	1659	0	0	0	0	40	56	60
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1.9	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1.9	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0
Total Split (s)		55.0			92.0					28.0	28.0	28.0
Total Split (%)		45.8%			76.7%					23.3%	23.3%	23.3%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		50.0		87.5	87.0					23.0	23.0	23.0
Actuated g/C Ratio		0.42		0.73	0.72					0.19	0.19	0.19
v/c Ratio		0.69		0.96	0.96					0.12	0.08	0.17
Control Delay		23.8		42.1	23.5					41.4	40.3	2.2
Queue Delay		0.9		42.0	23.7					0.0	0.0	0.0
Total Delay		24.8		84.1	47.2					41.4	40.3	2.2
LOS		C		F	D					D	D	A
Approach Delay		24.8			55.6						25.9	
Approach LOS		C			E						C	
Queue Length 50th (ft)		152		245	264					26	18	0
Queue Length 95th (ft)		174		m264	m281					58	37	8
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1426		506	1731					334	678	353
Starvation Cap Reductn		199		90	134					0	0	0
Spillback Cap Reductn		0		0	155					0	0	8
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.80		1.17	1.05					0.12	0.08	0.17

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 100

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background (Optimized)
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	5.5	9.5
Total Split (s)	20.0	17.0
Total Split (%)	17%	14%
Yellow Time (s)	3.5	3.5
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background (Optimized)
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 44.9

Intersection LOS: D

Intersection Capacity Utilization 95.5%

ICU Level of Service F

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background (Optimized)
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			↱	↱	↰	↱	↱			
Traffic Volume (vph)	155	552	0	0	2015	60	68	86	126	0	0	0
Future Volume (vph)	155	552	0	0	2015	60	68	86	126	0	0	0
Confl. Peds. (#/hr)			36			60	35		28			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	174	620	0	0	2121	63	76	97	142	0	0	0
Shared Lane Traffic (%)									21%			
Lane Group Flow (vph)	174	620	0	0	2184	0	76	127	112	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	13.6	94.0			80.4		26.0	26.0	26.0			
Total Split (%)	11.3%	78.3%			67.0%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	89.5	89.0			75.9		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.63		0.18	0.18	0.18			
v/c Ratio	0.89	0.24			0.98		0.26	0.42	0.33			
Control Delay	87.4	1.2			15.5		41.6	40.4	9.2			
Queue Delay	0.0	0.2			25.9		1.1	0.0	0.0			
Total Delay	87.4	1.4			41.3		42.7	40.4	9.2			
LOS	F	A			D		D	D	A			
Approach Delay		20.2			41.3			29.9				
Approach LOS		C			D			C				
Queue Length 50th (ft)	104	14			197		51	82	4			
Queue Length 95th (ft)	m#205	17			m47		m72	m115	m25			
Internal Link Dist (ft)		321			675			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	196	2624			2226		291	303	338			
Starvation Cap Reductn	0	1073			68		0	0	0			
Spillback Cap Reductn	0	0			174		97	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.89	0.40			1.06		0.39	0.42	0.33			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 110

8: Trinity St & Martin Luther King Jr. Blvd

2024 Background (Optimized)

TIA for TFC Capitol Complex in Austin, Texas

Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 35.1 Intersection LOS: D

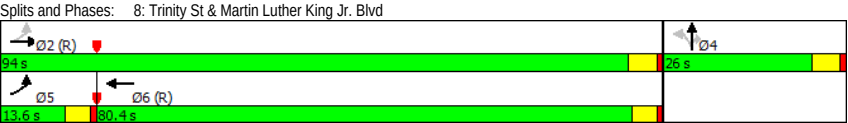
Intersection Capacity Utilization 95.5% ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background (Optimized)
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↓	↑↑					↓	↑↑	↑
Traffic Volume (vph)	0	1156	30	369	1152	0	0	0	0	39	204	144
Future Volume (vph)	0	1156	30	369	1152	0	0	0	0	39	204	144
Confl. Peds. (#/hr)			37	37						73		17
Confl. Bikes (#/hr)			8									14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1243	32	397	1239	0	0	0	0	42	219	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1275	0	397	1239	0	0	0	0	42	219	155
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effect Green (s)		73.0		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.54		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.67		1.03	0.48					0.13	0.31	0.40
Control Delay		16.4		95.3	3.6					45.9	47.5	17.7
Queue Delay		0.5		17.4	0.5					0.0	0.0	0.0
Total Delay		16.9		112.7	4.2					45.9	47.5	17.7
LOS		B		F	A					D	D	B
Approach Delay		16.9			30.5						36.2	
Approach LOS		B			C						D	
Queue Length 50th (ft)		271		~283	70					31	86	30
Queue Length 95th (ft)		285		m#357	m83					65	127	96
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1904		385	2569					312	707	390
Starvation Cap Reductn		260		18	810					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.78		1.08	0.70					0.13	0.31	0.40

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

MS

Synchro 9 Report
Page 1

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background (Optimized)
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 26.0

Intersection LOS: C

Intersection Capacity Utilization 86.8%

ICU Level of Service E

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 2

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background (Optimized)
Timing Plan: PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰			↰↰		↰	↰	↰		↓	↰
Traffic Volume (vph)	87	1188	0	0	1253	53	217	327	595	0	0	0
Future Volume (vph)	87	1188	0	0	1253	53	217	327	595	0	0	0
Confl. Peds. (#/hr)			34			90	17		153			
Confl. Bikes (#/hr)						4			13			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	90	1225	0	0	1292	55	224	337	613	0	0	0
Shared Lane Traffic (%)									27%			
Lane Group Flow (vph)	90	1225	0	0	1347	0	224	503	447	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	75.0			60.0		60.0	60.0	60.0			
Total Split (%)	11.1%	55.6%			44.4%		44.4%	44.4%	44.4%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	70.0	70.0			56.3		55.0	55.0	55.0			
Actuated g/C Ratio	0.52	0.52			0.42		0.41	0.41	0.41			
v/c Ratio	0.54	0.67			0.93		0.32	0.80	0.97			
Control Delay	54.1	13.8			27.8		35.5	52.5	78.0			
Queue Delay	0.0	0.2			0.5		0.2	0.0	0.0			
Total Delay	54.1	13.9			28.3		35.7	52.5	78.0			
LOS	D	B			C		D	D	E			
Approach Delay		16.7			28.3			59.0				
Approach LOS		B			C			E				
Queue Length 50th (ft)	45	137			201		151	422	382			
Queue Length 95th (ft)	m88	163			#741		m216	571	#614			
Internal Link Dist (ft)		321			699			350		106		
Turn Bay Length (ft)	120											
Base Capacity (vph)	184	1835			1451		697	629	459			
Starvation Cap Reductn	0	105			0		0	0	0			
Spillback Cap Reductn	0	0			14		116	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.49	0.71			0.94		0.39	0.80	0.97			

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 70

MS

Synchro 9 Report
Page 3

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background (Optimized)
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 33.7

Intersection LOS: C

Intersection Capacity Utilization 86.8%

ICU Level of Service E

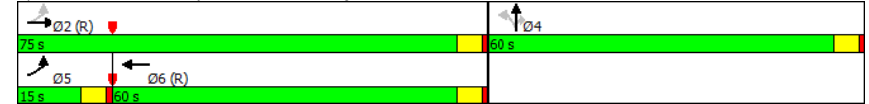
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 4

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background + Site (Optimized)
Timing Plan: AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↓	↑↑					↓	↑↑	↓
Traffic Volume (vph)	0	769	172	685	1591	0	0	0	0	37	52	56
Future Volume (vph)	0	769	172	685	1591	0	0	0	0	37	52	56
Confl. Peds. (#/hr)			54	54						8		49
Confl. Bikes (#/hr)			2									29
Peak Hour Factor	0.93	0.93	0.93	0.99	0.97	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	827	185	692	1640	0	0	0	0	40	56	60
Shared Lane Traffic (%)				23%								
Lane Group Flow (vph)	0	1012	0	533	1799	0	0	0	0	40	56	60
Turn Type		NA		pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1.9	6						4	
Permitted Phases				6						4		4
Detector Phase		2		1.9	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0			10.0					10.0	10.0	10.0
Minimum Split (s)		30.0			30.0					28.0	28.0	28.0
Total Split (s)		55.0			92.0					28.0	28.0	28.0
Total Split (%)		45.8%			76.7%					23.3%	23.3%	23.3%
Yellow Time (s)		4.0			4.0					4.0	4.0	4.0
All-Red Time (s)		1.0			1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0			5.0					5.0	5.0	5.0
Lead/Lag		Lag										
Lead-Lag Optimize?		Yes										
Recall Mode		C-Max			C-Max					Max	Max	Max
Act Effct Green (s)		50.0			87.5	87.0				23.0	23.0	23.0
Actuated g/C Ratio		0.42			0.73	0.72				0.19	0.19	0.19
v/c Ratio		0.71			1.07	1.06				0.12	0.08	0.17
Control Delay		15.5			64.7	40.4				41.4	40.3	2.2
Queue Delay		4.2			14.8	17.8				0.0	0.0	21.4
Total Delay		19.7			79.4	58.3				41.4	40.3	23.6
LOS		B			E	E				D	D	C
Approach Delay		19.7				63.1					34.2	
Approach LOS		B				E					C	
Queue Length 50th (ft)		293			~305	~239				26	18	0
Queue Length 95th (ft)		405			m#257	m169				58	37	8
Internal Link Dist (ft)		273				321			343		244	
Turn Bay Length (ft)					120					100		100
Base Capacity (vph)		1427			498	1700				334	678	353
Starvation Cap Reductn		330			155	301				0	0	0
Spillback Cap Reductn		0			0	76				0	0	277
Storage Cap Reductn		0			0	0				0	0	0
Reduced v/c Ratio		0.92			1.55	1.29				0.12	0.08	0.79

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 120

MS

Synchro 9 Report
Page 1

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background + Site (Optimized)
Timing Plan: AM

Lane Group	Ø1	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	9
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	5.0
Minimum Split (s)	5.5	9.5
Total Split (s)	20.0	17.0
Total Split (%)	17%	14%
Yellow Time (s)	3.5	3.5
All-Red Time (s)	1.0	1.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

MS

Synchro 9 Report
Page 2

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background + Site (Optimized)
Timing Plan: AM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 49.3

Intersection LOS: D

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background + Site (Optimized)
Timing Plan: AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	155	577	0	0	2198	60	68	86	126	0	0	0
Future Volume (vph)	155	577	0	0	2198	60	68	86	126	0	0	0
Confl. Peds. (#/hr)			36			60	35		28			
Confl. Bikes (#/hr)						4			4			
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	174	648	0	0	2314	63	76	97	142	0	0	0
Shared Lane Traffic (%)									21%			
Lane Group Flow (vph)	174	648	0	0	2377	0	76	127	112	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	1.0	10.0			1.0		10.0	10.0	10.0			
Minimum Split (s)	5.5	26.0			5.5		26.0	26.0	26.0			
Total Split (s)	13.6	94.0			80.4		26.0	26.0	26.0			
Total Split (%)	11.3%	78.3%			67.0%		21.7%	21.7%	21.7%			
Yellow Time (s)	3.5	4.0			3.5		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	4.5	5.0			4.5		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effct Green (s)	89.5	89.0			75.9		21.0	21.0	21.0			
Actuated g/C Ratio	0.75	0.74			0.63		0.18	0.18	0.18			
v/c Ratio	0.89	0.25			1.07		0.26	0.42	0.33			
Control Delay	75.7	2.7			47.3		41.4	40.1	9.1			
Queue Delay	0.0	0.3			12.3		0.4	0.0	0.0			
Total Delay	75.7	3.0			59.6		41.7	40.1	9.1			
LOS	E	A			E		D	D	A			
Approach Delay		18.4			59.6			29.5				
Approach LOS		B			E			C				
Queue Length 50th (ft)	113	21			~351		50	83	4			
Queue Length 95th (ft)	m#188	52			m54		m69	m110	m22			
Internal Link Dist (ft)		321			675			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	196	2624			2227		291	303	338			
Starvation Cap Reductn	0	1258			23		0	0	0			
Spillback Cap Reductn	0	0			59		48	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.89	0.47			1.10		0.31	0.42	0.33			

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 140

8: Trinity St & Martin Luther King Jr. Blvd

2024 Background + Site (Optimized)

TIA for TFC Capitol Complex in Austin, Texas

Timing Plan: AM

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 47.2	Intersection LOS: D
Intersection Capacity Utilization 100.5%	ICU Level of Service G
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background + Site
Timing Plan: PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1315	30	379	1174	0	0	0	0	39	204	144
Future Volume (vph)	0	1315	30	379	1174	0	0	0	0	39	204	144
Confl. Peds. (#/hr)			37	37						73		17
Confl. Bikes (#/hr)			8									14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1414	32	408	1262	0	0	0	0	42	219	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1446	0	408	1262	0	0	0	0	42	219	155
Turn Type		NA	pm+pt		NA					Perm	NA	Perm
Protected Phases		2			1	6					4	
Permitted Phases				6						4		4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		10.0		3.0	10.0					5.0	5.0	5.0
Minimum Split (s)		32.0		8.0	30.0					30.0	30.0	30.0
Total Split (s)		78.0		25.0	103.0					32.0	32.0	32.0
Total Split (%)		57.8%		18.5%	76.3%					23.7%	23.7%	23.7%
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					5.0	5.0	5.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					Max	Max	Max
Act Effct Green (s)		73.0		98.0	98.0					27.0	27.0	27.0
Actuated g/C Ratio		0.54		0.73	0.73					0.20	0.20	0.20
v/c Ratio		0.76		1.19	0.49					0.13	0.31	0.40
Control Delay		19.0		150.0	3.6					45.9	47.5	19.0
Queue Delay		0.4		0.4	0.6					0.0	0.0	0.0
Total Delay		19.3		150.3	4.1					45.9	47.5	19.0
LOS		B		F	A					D	D	B
Approach Delay		19.3			39.9						36.7	
Approach LOS		B			D						D	
Queue Length 50th (ft)		428		~365	70					31	86	34
Queue Length 95th (ft)		402		m#441	m81					65	127	100
Internal Link Dist (ft)		273			321			343			244	
Turn Bay Length (ft)				120						100		100
Base Capacity (vph)		1906		344	2569					312	707	386
Starvation Cap Reductn		112		11	810					0	0	0
Spillback Cap Reductn		0		0	0					0	0	0
Storage Cap Reductn		0		0	0					0	0	0
Reduced v/c Ratio		0.81		1.23	0.72					0.13	0.31	0.40

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 90

MS

Synchro 9 Report
Page 1

7: San Jacinto Blvd & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 31.1

Intersection LOS: C

Intersection Capacity Utilization 91.7%

ICU Level of Service F

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

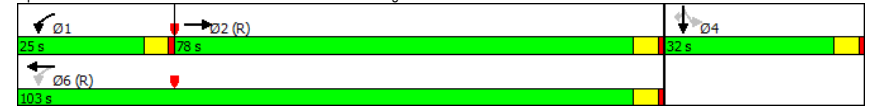
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: San Jacinto Blvd & Martin Luther King Jr. Blvd



MS

Synchro 9 Report
Page 2

8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background + Site
Timing Plan: PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰			↰↰		↰	↰	↰		↓	↰
Traffic Volume (vph)	87	1347	0	0	1285	53	217	327	595	0	0	0
Future Volume (vph)	87	1347	0	0	1285	53	217	327	595	0	0	0
Confl. Peds. (#/hr)			34			90	17		153			
Confl. Bikes (#/hr)						4			13			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	90	1389	0	0	1325	55	224	337	613	0	0	0
Shared Lane Traffic (%)									27%			
Lane Group Flow (vph)	90	1389	0	0	1380	0	224	503	447	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases	2						4		4			
Detector Phase	5	2			6		4	4	4			
Switch Phase												
Minimum Initial (s)	3.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	8.0	26.0			26.0		26.0	26.0	26.0			
Total Split (s)	15.0	75.0			60.0		60.0	60.0	60.0			
Total Split (%)	11.1%	55.6%			44.4%		44.4%	44.4%	44.4%			
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Max			C-Max		Max	Max	Max			
Act Effect Green (s)	70.0	70.0			56.3		55.0	55.0	55.0			
Actuated g/C Ratio	0.52	0.52			0.42		0.41	0.41	0.41			
v/c Ratio	0.54	0.76			0.95		0.32	0.80	0.97			
Control Delay	51.8	15.9			31.3		35.8	52.7	78.2			
Queue Delay	0.0	0.3			2.6		0.9	0.0	0.0			
Total Delay	51.8	16.2			33.9		36.7	52.7	78.2			
LOS	D	B			C		D	D	E			
Approach Delay		18.4			33.9			59.4				
Approach LOS		B			C			E				
Queue Length 50th (ft)	45	146			213		152	422	381			
Queue Length 95th (ft)	m73	242			#771		m217	573	#612			
Internal Link Dist (ft)		321			699			350			106	
Turn Bay Length (ft)	120											
Base Capacity (vph)	184	1835			1452		697	629	459			
Starvation Cap Reductn	0	93			0		0	0	0			
Spillback Cap Reductn	0	0			35		258	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.49	0.80			0.97		0.51	0.80	0.97			

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 75

MS

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8: Trinity St & Martin Luther King Jr. Blvd
TIA for TFC Capitol Complex in Austin, Texas

2024 Background + Site
Timing Plan: PM

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 35.6

Intersection LOS: D

Intersection Capacity Utilization 91.7%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Trinity St & Martin Luther King Jr. Blvd



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