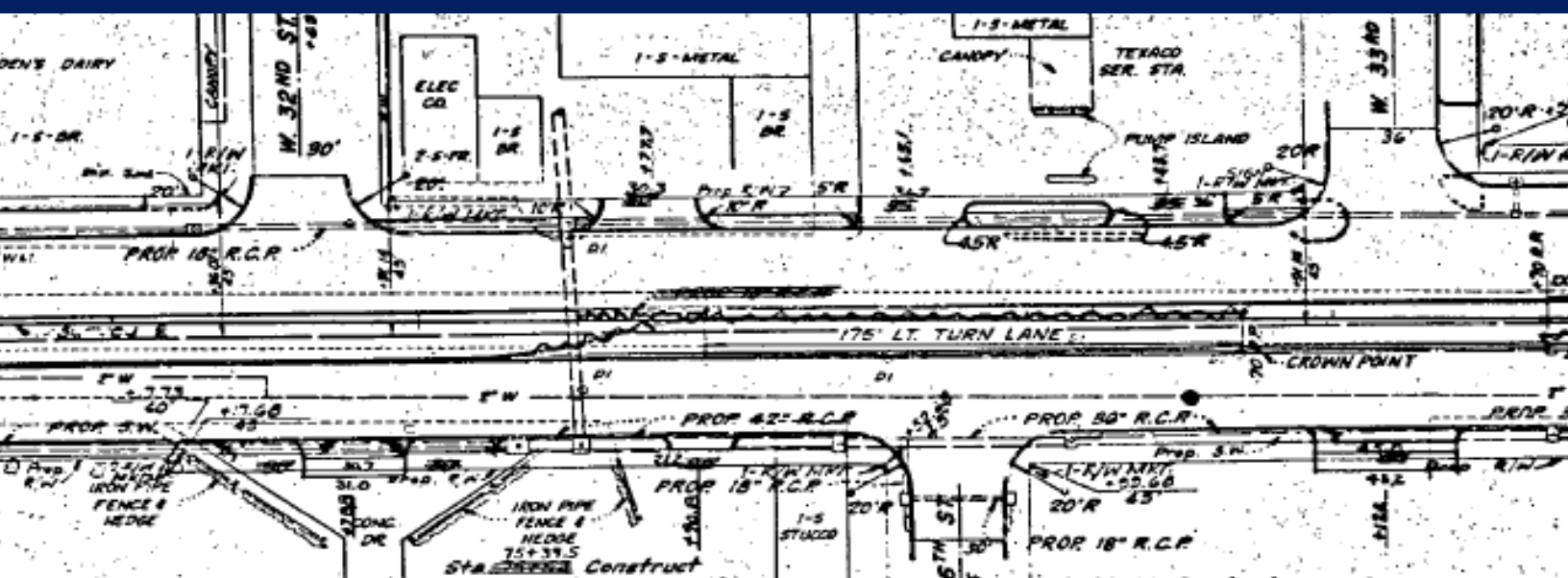
TEXARKANA STATELINE

Corridor Plan

US 71/Stateline Avenue
Corridor Plan | January 2022



The US 71 / Stateline Avenue Corridor Plan was prepared by MTG Engineers & Surveyors under direct contract with the Texarkana Metropolitan Planning Organization.

Consultant Team

MTG Engineers & Surveyors

Norris Design

Peters & Associates

Special Thanks:

Rea Donna Jones, Texarkana MPO

Jo Anne Grey, Texarkana MPO

Project Advisory Team

Technical Advisory Committee

MPO Policy Board

City of Texarkana, Arkansas

City of Texarkana, Texas

ArDOT

TxDOT

EXECUTIVE SUMMARY 4

PREFACE: PLAN CONTENT 5

CHAPTER 1: OVERVIEW AND REPORT OBJECTIVES 6
STATELINE CORRIDOR STUDY OBJECTIVES 6
STUDY AREA BOUNDARY 7
GENERAL CHARACTERISTICS 8
CONNECTIVITY MAP 9
DATA COLLECTION 10
HISTORIC SAFETY REVIEW 12
PUBLIC INVOLVEMENT 13

CHAPTER 2: STUDY VISION & GOALS 16
CORRIDOR VISION STATEMENT 16
GOALS 17
COMPLETE STREET 18
NEEDS AND DEFICIENCIES 19
PUBLIC INPUT 20
PROPERTY OWNER INPUT 21
GENERAL PUBLIC AND STAKEHOLDER INPUT SUMMARY 22

CHAPTER 3: CORRIDOR ALTERNATIVES AND FRAMEWORK 23
DESIGN CRITERIA 23
CONNECTIVITY CONCEPTS 24
DRAFT DESIGN CONCEPTS CONSIDERED 25
CONTEXT SENSITIVE DESIGN ELEMENTS 28
STATELINE OVERLAY DISTRICT 37
STATELINE DISTRICTS 38

CHAPTER 4: DESIGN ALTERNATIVE 1: BOULEVARD CONCEPT 43
OVERVIEW 43
RAISED MEDIAN IMPACTS 44
CORRIDOR DESIGN & CONNECTIVITY 46

CHAPTER 5: DESIGN ALTERNATIVE 2: REDEVELOPMENT CONCEPT 54
OVERVIEW 54
CORRIDOR DESIGN & CONNECTIVITY 55

CHAPTER 6: QUANTIFIABLE MEASURES 63
OVERVIEW 63
CAPACITY AND LEVEL OF SERVICE 64
UTILITY IMPACTS 70
SAFETY IMPROVEMENTS 71
BICYCLE LEVEL OF STRESS EXISTING BICYCLE FACILITIES 72
PEDESTRIAN LEVEL OF STRESS 74

CHAPTER 7: IMPLEMENTATION 77
COST ANALYSIS 77
POTENTIAL FUNDING MECHANISMS 80
ACTION PLAN 81
SUMMARY ERROR! BOOKMARK NOT DEFINED.

APPENDIX A: PUBLIC MEETING #1

APPENDIX B: PUBLIC MEETING #2

APPENDIX C: OWNER INPUT DATA

APPENDIX D: EXISTING TRAFFIC CONDITIONS AND TRAFFIC OPERATIONAL ANALYSIS RESULTS

APPENDIX E: "DO NOTHING" WITH GROWTH

APPENDIX F: ALTERNATIVE #1 RAISED MEDIAN WITH GROWTH

APPENDIX G: ALTERNATIVE #2 TWO-WAY LEFT TURN LANE WITH GROWTH

APPENDIX H: COMMENTS & RESPONSES

Executive Summary

Connecting two separate municipalities and two different states, the Stateline Corridor is a unique roadway. This corridor study directs the Texarkana Metropolitan Planning Organization to future improvements and advancements for Stateline Avenue. Throughout this study, the main emphasis has been centered on safety and efficiency for the proposed multimodal 2.75-mile corridor.

Aesthetic and economic decline along Stateline have contributed to the need for revitalization. This corridor plan will be a guide to future development on Stateline and will serve as a starting point for vital improvements. This plan will outline two potential alternatives that, if implemented along the Stateline Corridor, could greatly improve safety, promote redevelopment, and encourage individuals to utilize this area more frequently.

The first alternative, named the Boulevard Concept, utilizes raised medians, while the second alternative, named the Redevelopment Concept, would focus on an Overlay District that promotes a driveway consolidation plan. Both options would address the primary safety issues experienced on Stateline today, which include pedestrian safety and access management. Similar strategies are included for each alternative to address pedestrian safety. These strategies are centered around an 8-foot-wide mixed-use path on both sides of the corridor and improved connectivity to promote safer roadway crossings.

The addition of softening elements (landscaping, street furniture, etc.) in the Right of Way would provide a more inviting corridor and promote use. Due to limited space, segmentation of landscape areas caused by driveways/side streets, sight visibility for traffic movements, and Department of Transportation (DOT) requirements, some features, such as trees, must be minimized.

Implementation of aspects outlined in this report range from short term, or immediate, to long term redevelopment goals. Since Stateline Avenue is classified as US Highway 71 and is a vital connection between Interstate 30, US Highway 67, and US Highway 82, this corridor is owned and maintained by the Arkansas Department of Transportation and the Texas Department of Transportation. In order to implement many aspects of this plan, approval from these agencies will be required. Additionally, with a roadway reconstruction project slated to begin in the year 2022, this is a prime opportunity for any roadway reconfiguration necessary to accommodate the changes outlined in this plan.

Due to the limited time and scope of this project, further studies will be necessary prior to detailed design. The improvements outlined in this report are general considerations and may not reflect the final design. Additionally, some elements recommended will require further traffic studies and have been noted as such in the plan.

Preface: Plan Content

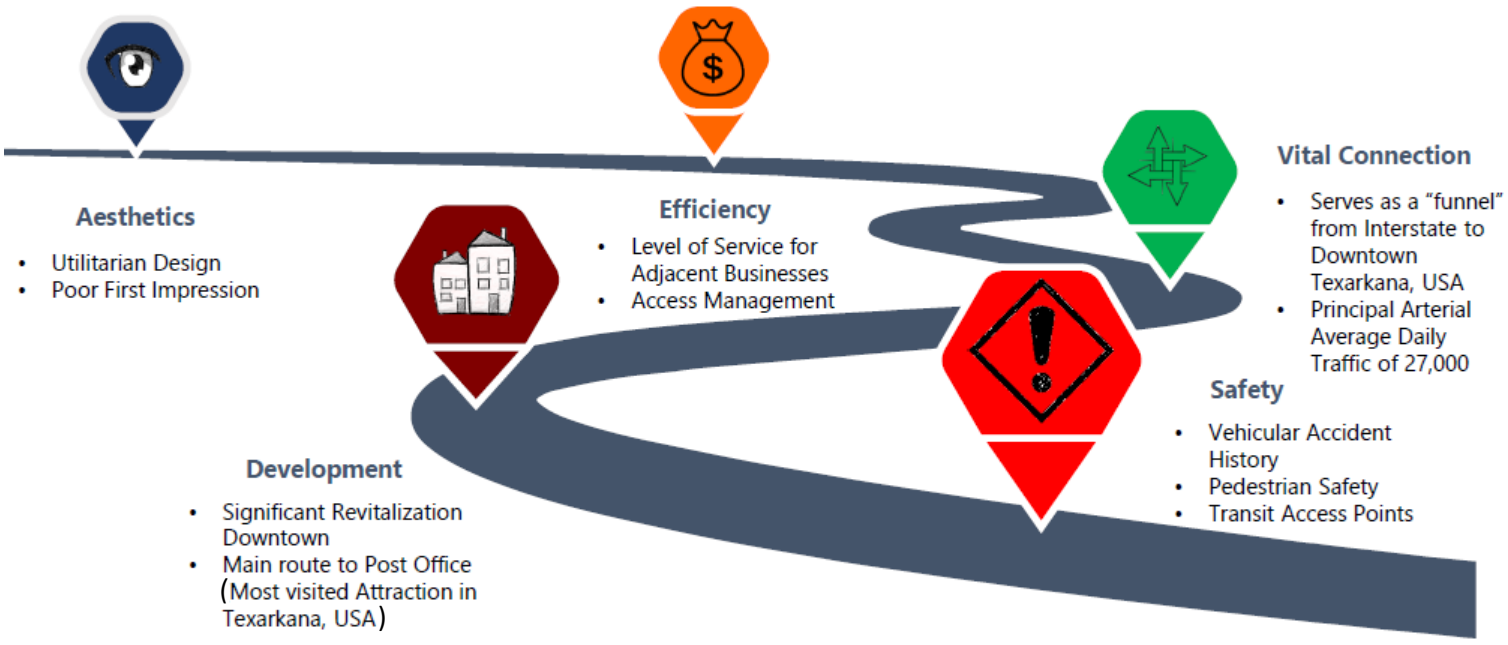
The following chapters include

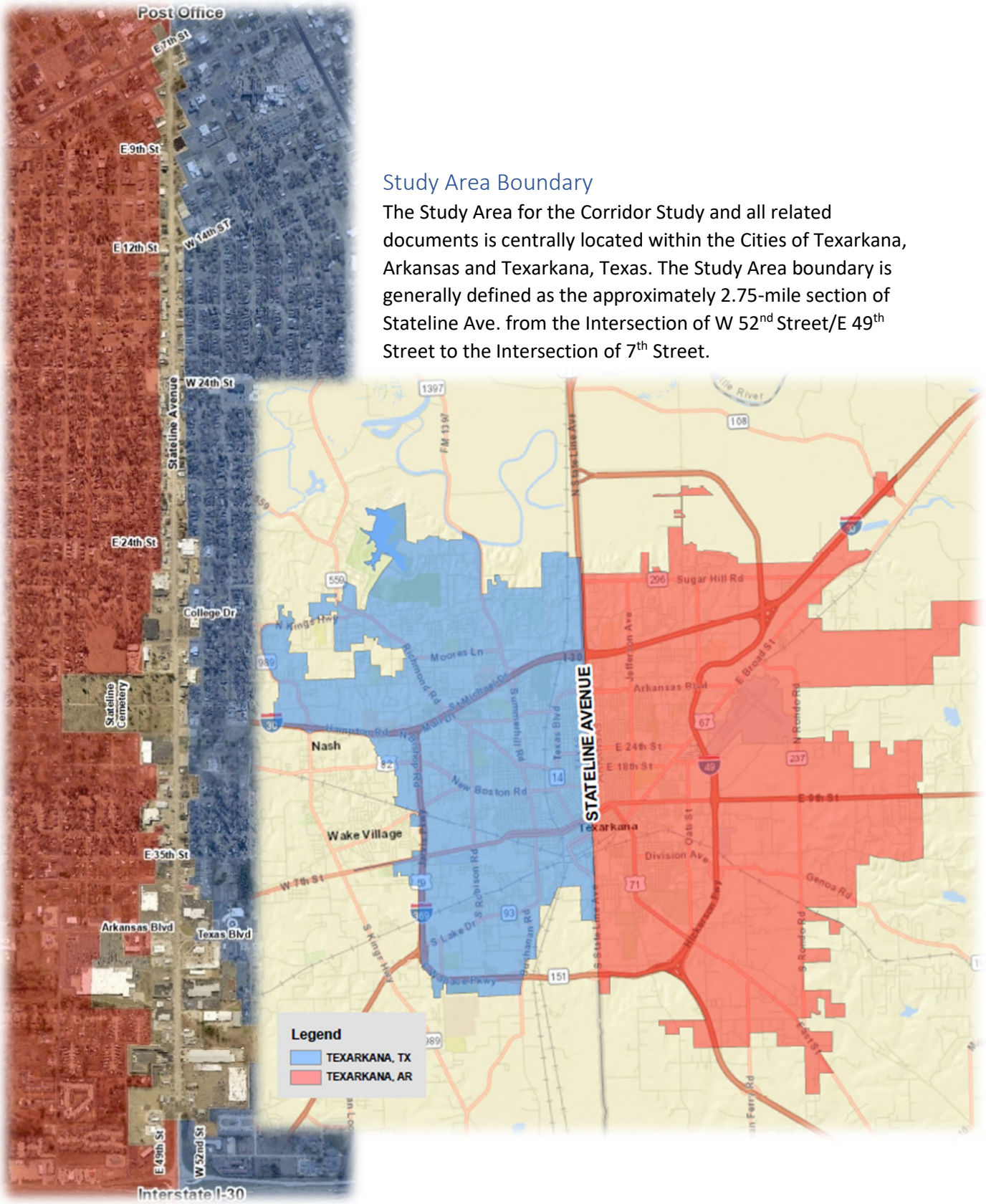
- *Chapter 1: Overview and Report Objectives*
    - This chapter will describe the corridor as it exists today, and the main objectives desired by the authorization of this project. Additionally, this chapter will cover the means and methods used to collect input from the public and a brief overview of the historical safety review covered in the existing conditions report.
- *Chapter 2: Study Vision and Goals*
    - This chapter will cover the vision cast as the nexus utilized for the entire plan. The vision is based on input from Advisory Committees, public input, and coordination with the MPO. The goals established from the vision shall be used as the rubric to measure proposed improvements for each alternative.
- *Chapter 3: Corridor Alternatives and Framework*
    - This chapter will cover the general design considerations common to both alternatives. The design criteria used as a baseline for all technical considerations will be detailed in this chapter. It will briefly touch on the process leading up to the completion of this report and concepts considered.
- *Chapter 4 Design Alternative 1*
    - This chapter will describe the Boulevard Concept plan in detail and provide images and exhibits to further convey the potential for Stateline. This alternative provides much needed improvements for pedestrian and bike mobility while incorporating the use of raised medians to limit left turn movements to improve safety and provide additional locations for beautification.
- *Chapter 5: Design Alternative 2*
    - This chapter will describe the Redevelopment Concept plan in detail and provide images and exhibits to further convey the potential for Stateline. This alternative provides much needed improvements for pedestrian and bike mobility while causing minimal changes to the vehicular corridor. This alternative will require significant focus on redevelopment and increased regulations to improve safety by means of a drive reduction initiative.
- *Chapter 6: Quantifiable Measures*
    - This chapter will provide technical data relating to the quantifiable impacts to vehicular and pedestrian mobility, safety, and operations based on the existing and proposed conditions. This data shall be used as a tool for moving forward by the agencies involved when determining selected improvements and as needed for grant funding.
- *Chapter 7: Implementation.*
    - This chapter will provide the high-level funding analysis of each alternative based on major item categories and provide potential funding mechanisms to accomplish these improvements. Based on all pertinent input received thus far, an action plan is provided as groundwork moving forward.

Chapter 1: Overview and Report Objectives

Stateline Corridor Study Objectives

The Stateline Corridor Study was authorized by the Texarkana Metropolitan Planning Organization (MPO) to be completed by MTG Engineers and Surveyors (MTG) and the associated design team consisting of Norris Design (Norris) and Peters and Associates (Peters). The planning team will evaluate the need for improvements to enhance the safety and efficiency of the Stateline Corridor from W 52nd Street to 7th Street. The improvements outlined in this report should be viewed as a guideline and be continuously updated and expanded based on further studies and future development along the corridor.





Study Area Boundary

The Study Area for the Corridor Study and all related documents is centrally located within the Cities of Texarkana, Arkansas and Texarkana, Texas. The Study Area boundary is generally defined as the approximately 2.75-mile section of Stateline Ave. from the Intersection of W 52nd Street/E 49th Street to the Intersection of 7th Street.

General Characteristics

US Highway 71 is a multi-lane highway classified as a principal arterial corridor. The limits of this study are bound by major roadway intersections; Interstate 30 on the north end and US Highway 82 and US Highway 67 on the south. This is a unique corridor as it sits atop the state line between Texas and Arkansas originally established in the 1800s as the boundary between the Republic of Texas and the United States.

The corridor consists of a 5-lane section with two southbound lanes, two northbound lanes, and a continuous two way left turn lane. North of Texas Boulevard there is an additional lane on the Texas side and north of W 52nd Street there are additional lanes on both sides totaling three each direction. While North Stateline Avenue was originally planned to have raised medians installed as part of the 1970s widening project, raised medians were removed as part of a change order and the corridor today is undivided with continuous access to the approximately 210 driveways and 56 side street intersections.

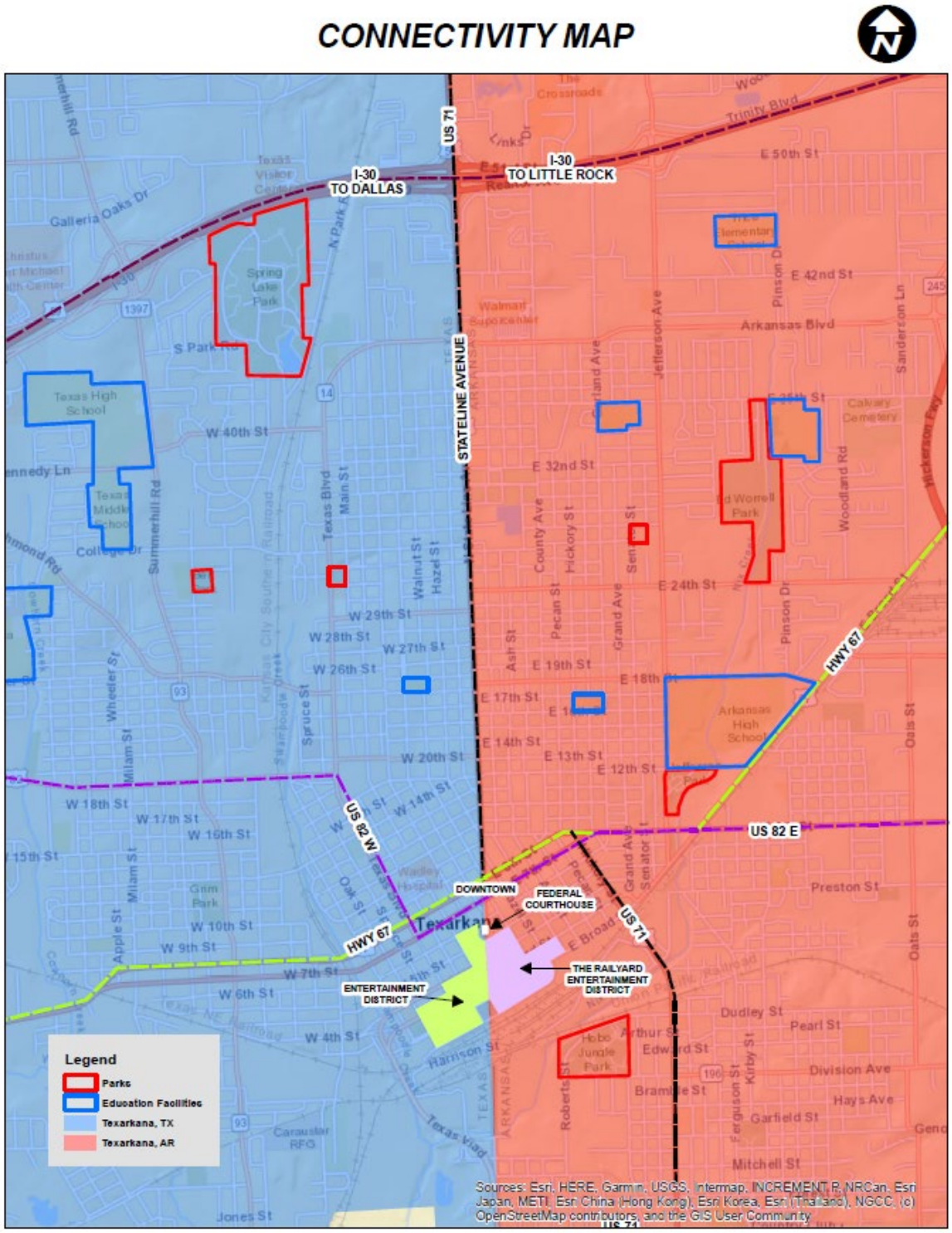
Based on information from the Encyclopedia of Arkansas, the U.S. Highway 71 designation dates back to 1860 where it was used as part of the civil war trail from south of Texarkana to the Missouri state line. Stateline Avenue is home to multiple sites listed on the National Registry for Historic Places. This includes Union Station, just south of the limits of this study and the Texarkana U.S. Post Office and Courthouse.

Connectivity Map

Originally established as the main thoroughfare through Texarkana, Stateline Avenue still acts as a major artery for all traffic between the east side of Texarkana, Texas and the west end of Texarkana, Arkansas.

As shown on this map, there are numerous school facilities and parks on either side of Stateline and large commercial areas.

Interstate 30 feeds traffic from both directions onto Stateline Avenue, where it is then funneled to the Historic Downtown area.



Data Collection

Traffic Conditions

Traffic operations along the Stateline Avenue corridor were assessed in a comprehensive manner, consisting of field observations, research of available data, traffic volume counts and intersection in traffic operations analysis. Data collected and referenced is included in the attached Traffic Data Appendix.

Field Observations

Traffic operations in the Stateline Avenue Corridor were observed over a two-week period on multiple weekdays in May 2021. Comments related to observed traffic operations include the following:

1. The only intersection observed to have considerable traffic operational delays was the intersection of Stateline Avenue and Texas Boulevard / Arkansas Boulevard during the AM and PM peak hours.
2. All the other study intersections were observed to have minimal traffic operational delays during the AM and PM peak hours.
3. It was observed that there was pedestrian activity throughout the Stateline Avenue Corridor study intersection during the AM and PM peak hours.
4. During corridor travel times, no excessive delays along the Stateline Avenue Corridor were noted.

Peak Hour Traffic Volumes

Peak hour traffic volume count data was assembled for weekday AM (7:00 – 9:00 AM) and PM (4:00 – 6:00 PM) peak hours. This included intersection turning movement counts along the Stateline Avenue Corridor at the following intersections:

- W. 52nd Street / 49th Street.
- Texas Blvd. / Arkansas Blvd.
- E. 37th Street.
- W. 42nd Street / E. 36th Street.
- W. 41st Street / E. 35th Street.
- College Drive.
- E. 24th Street.
- E. 16th Street.
- W. 19th Street / E. 12th Street.
- W. 12th Street / E. 10th Street.
- Hazel Street / E. 9th Street.
- Dr. MLK Blvd.
- W. 7th Street / E. 7th Street.

Counts were made of pedestrians, bicycles, cars, and trucks. Heavy truck volume data indicated that the percentage truck volume in overall traffic counts were found to be low, ranging from 0.5 to 2.0 percent.

It was observed that there was pedestrian activity throughout the Stateline Avenue Corridor study intersections. However, there were minimal bicycles observed.

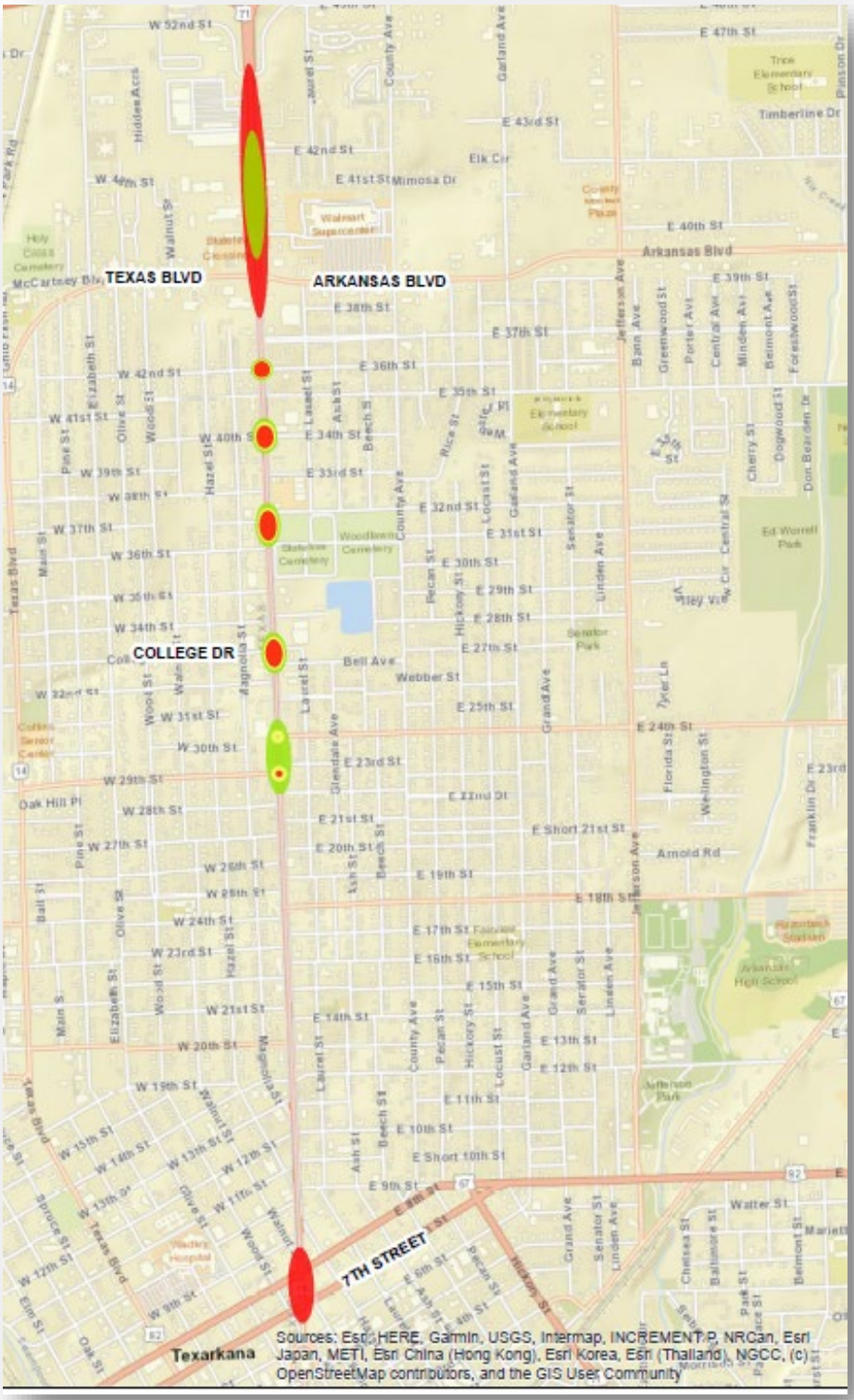
Average Daily Traffic Volumes

24-hour traffic volume data was also researched from both TxDOT and ARDOT sources. Existing two-way, 24-hour traffic volume counts range from 6,000 vehicles per day toward the south end of the Stateline Avenue Corridor to over 27,000 vehicles per day near the north end of the Corridor.

Average Daily Traffic Counts		
Location	ARDOT	TXDOT
Around E. 42nd St.	27,000	27,881
South of Texas Blvd.	20,000	21,839
Around College St.	19,000	19,793
Around E. 18th St.	16,000	17,632
Around E. 9th St.	11,000	13,251
Around W 7th St.	5,600	5,100

Speed & Trip/Origin Data

Corridor Travel Time Data was assessed for multiple travel runs for the Corridor for both AM and PM peak travel periods. Travel times during the AM peak period ranged from 3.5 to almost 6.0 minutes, with 2 to 3 stops at traffic signals. Travel times during the PM peak period ranged from 5.5 to almost 8.0 minutes, with 2 to 5 stops at traffic signals.



Historic Safety Review

A Summary of Accidents by Location for years 2016-2021 was assembled from ARDOT's Crash Analytics Tool and TxDOT's Crash Extract data. During this period, data shows a total of 315 vehicular accidents occurred in the Stateline Avenue Corridor. These accidents resulted in a total of 565 personal injuries and 4 fatalities. One fatal accident (at W. 21st Street) was the driver of a motorcycle. Additionally, there were 5 fatal pedestrian accidents in this time period. The intersection of Stateline Avenue and Texas / Arkansas Boulevard had the highest number of accidents in the period: 82 accidents or 26 percent of the Corridor total.

Scale ranges from Green to Red. Red depicting areas with greatest number of accidents and green being the fewest recorded accidents.

Public Involvement

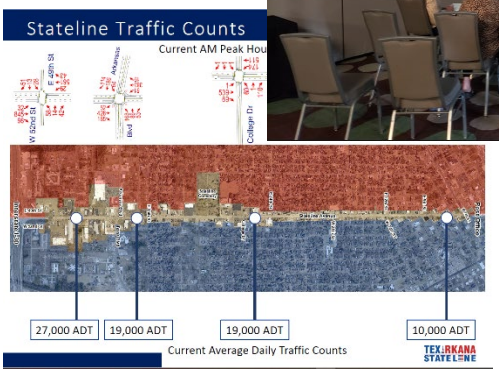
A key component of the Corridor plan was to engage the public and collect vital input. The process utilized is outlined below.

Involvement Strategy

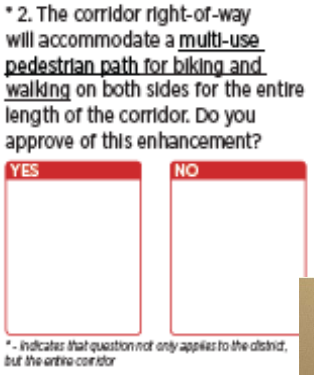
This corridor study has utilized the public's input from the very beginning of the study to discuss future objectives and to identify existing key corridor conditions and issues. To keep the community informed, there have been multiple public workshops to discuss the corridor plans and planning process.

Public Meetings

- Public Meeting #1
  - Public Meeting #1 for the Stateline Avenue Corridor Study was held on Tuesday June 29, 2021, from 6:00pm-8:00pm. This public meeting was held at the Texarkana Arkansas Convention Center. During this meeting, the community was given the opportunity to give their general input about Stateline. In this meeting, breakout groups were implemented to introduce Stateline, traffic patterns, pedestrian and bike mobility, beautification, and the introduction of potential districts Stateline could potentially have.

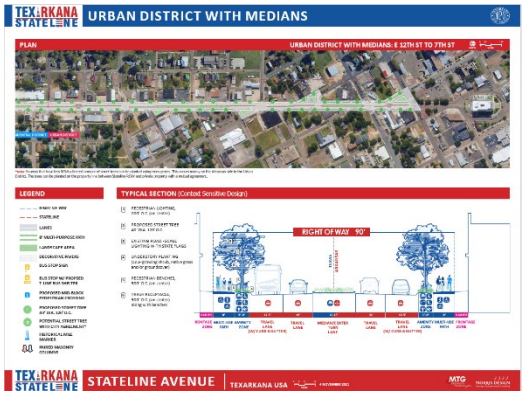


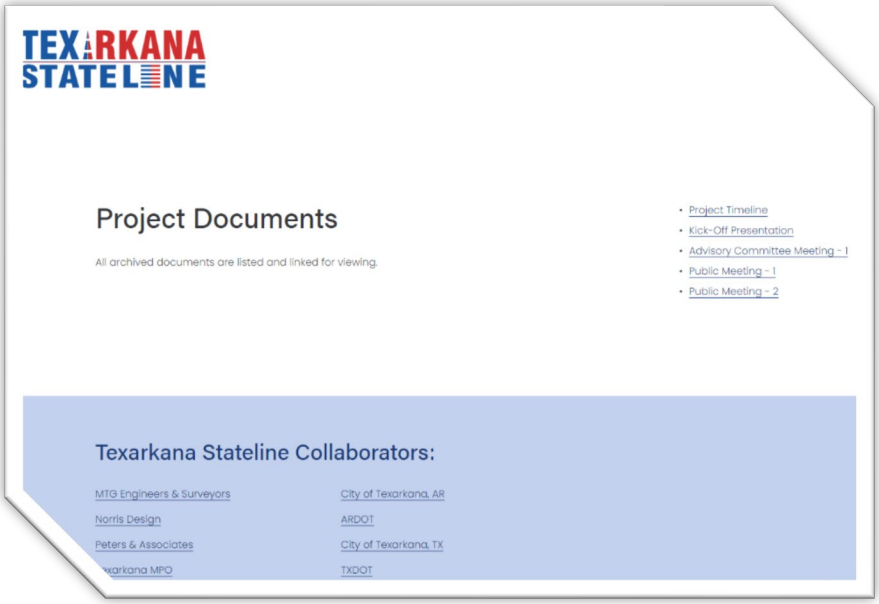
  - **Attendace recorded was 42 in person participants and 260 virtual participants.**
- Public Meeting #2
  - Public Meeting #2 for the Stateline Avenue Corridor Study was held on Thursday September 9, 2021, from 6:00pm-8:00pm. This public meeting was held at the Texarkana Texas Convention Center. During this meeting, the community was informed of the survey results and public input from Public Meeting #1. This meeting also included plan views and cross sections of the potential plans for Stateline. In this meeting, breakout rooms were implemented to introduce each district to the community. The districts that made up each breakout room included the Regional Commercial District, Business District, Residential District, and the Urban District.



  - **Attendace recorded was 44 in person participants and 48 virtual participants.**

- Public Meeting #3
  - Public Meeting #3 for the Stateline Avenue Corridor Study was held on Thursday November 4, 2021, from 5:00pm-6:30pm. This public meeting was held at the Texarkana Regional Arts Center. During this meeting, the community was informed of the public input from Public Meeting #2 and how the final two alternatives were selected for the Corridor Plan. This meeting also included plan views and cross sections of the potential plan alternatives for Stateline. In this meeting, both the Boulevard Concept and Redevelopment Concept was presented, and the attendees were asked to select their preferred alternative for each district. Additionally, there was an interactive display that allowed attendees to see possible median locations and use dry erase markers to trace alternate routes caused by installation of medians.
  - **Attendace recorded was 42 in person participants.**



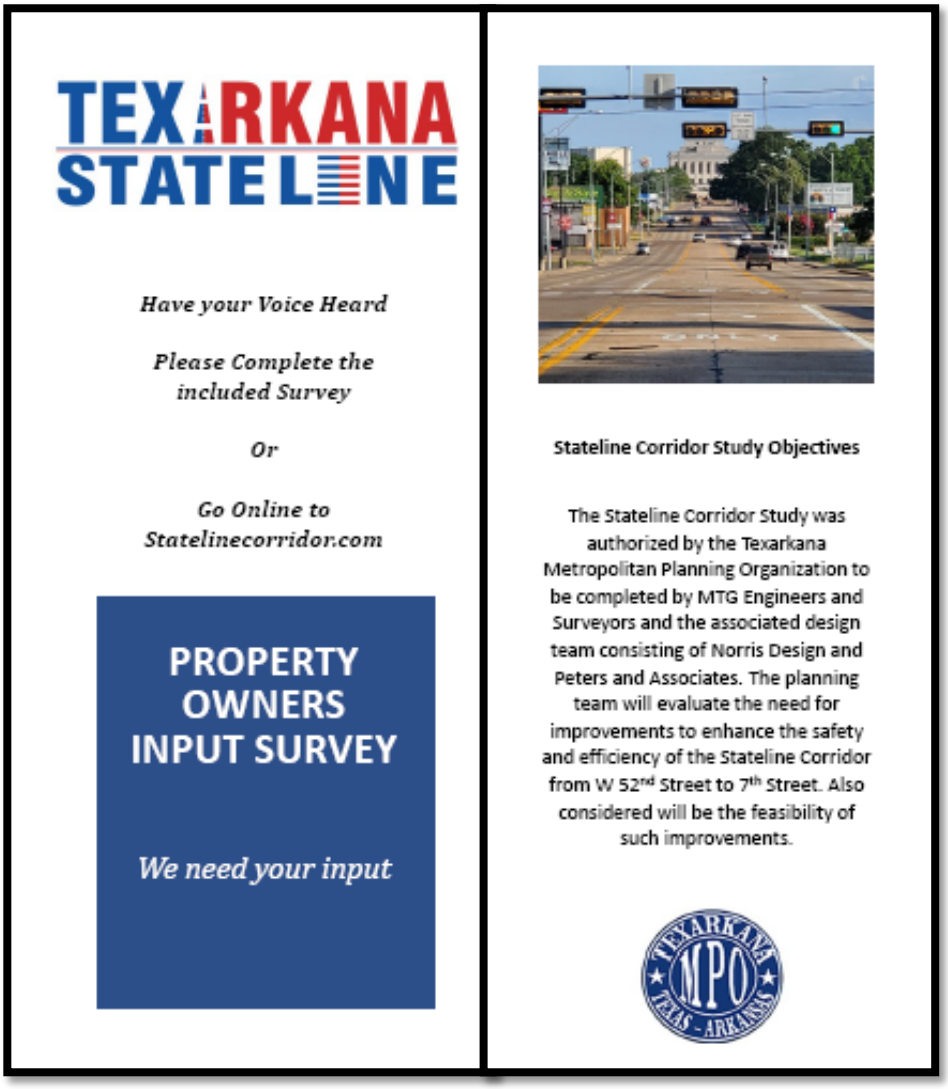


Online Availability

A website for the corridor study has also been implemented throughout the project as a place to maintain corridor information, as well as a place for the community to leave feedback through survey responses. A virtual component for public meetings has also been established through the corridor website. In the online platform for the meetings, the community can still participate and provide survey responses and feedback if they cannot make the in-person public meetings.

Property Owner Input

Property Owner input has been utilized since the beginning of the study. Property Owners have been able to provide the consultants with valuable information pertaining to Stateline and the existing conditions, and what they would like to see implemented on Stateline in the future.



Chapter 2: Study Vision & Goals

Based on initial input from stakeholders, advisory committees, and the participating public, a vision was cast about what Stateline could become. From this vision, a Vision Statement to center our designs and goals around.

Corridor Vision Statement

We believe the Stateline Avenue Corridor will be the premier local corridor in Texarkana, USA. It is our desire that the corridor will function as a complete street for all citizens, providing a safe, efficient, and attractive experience… whether you are driving, walking, enjoying a bike ride, and/or taking the bus.

Goals

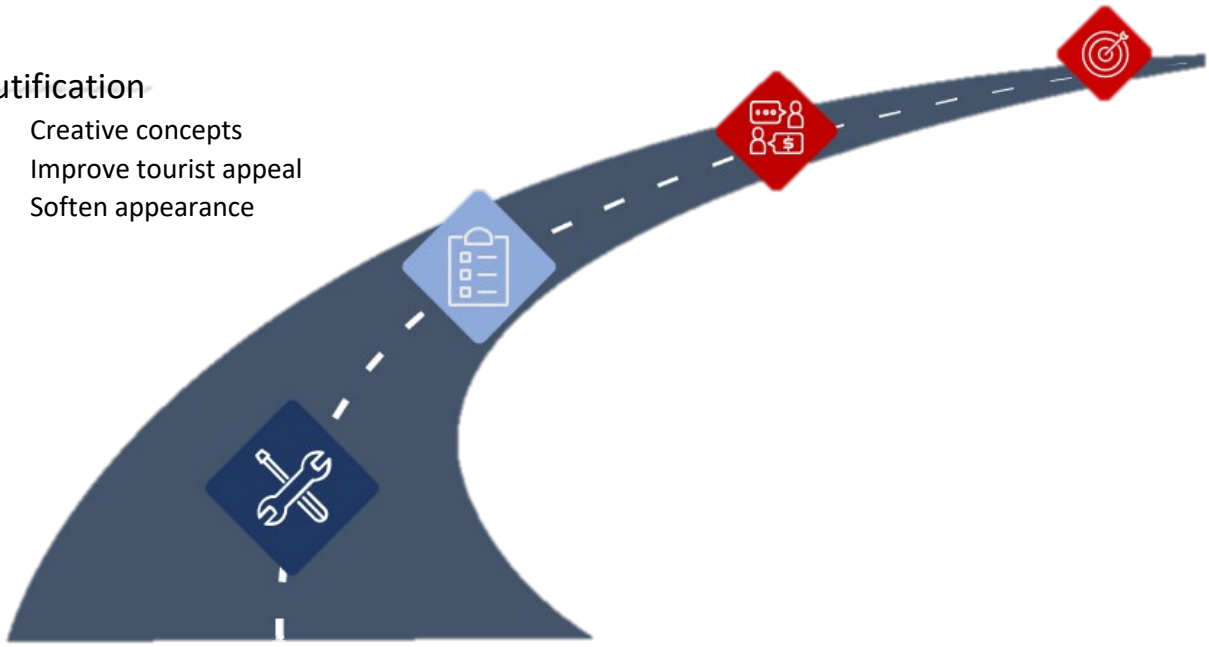
For future redevelopment of Stateline, these goals are aligned with public and stakeholder input, the project advisory team, and the municipalities in both Texarkana, Arkansas and Texarkana, Texas.

- **Safety**
  - Improve traffic safety
  - Emphasize multimodal transportation (Bike/ Pedestrian/ Bus)

- **Economic Development**
  - Set groundwork for future growth
  - Promote existing businesses

- **Public Interest**
  - Improved safety
  - Beautification
  - Pedestrian facilities

- **Beautification**
  - Creative concepts
  - Improve tourist appeal
  - Soften appearance



Complete Street

Complete Streets are streets designed and operated to enable safe use and support mobility for all users. The concept of Complete Streets encompasses many approaches to planning, designing, and operating roadways and rights of way with all users in mind to make the transportation network safer and more efficient, according to the U.S. Department of Transportation. The intended use of a Complete Street on Stateline Avenue would be for the safety and mobility of the community, as well as using future design features to make the environment more inclusive to the public. Example aspects of complete streets include:

Bicycle Accommodations

- Bike Lanes
- Bike Parking

Pedestrian Infrastructure

- Sidewalks
- Crosswalks
- ADA Accessible Facilities

Public Transit

- Bus Shelters
- Bus Lanes

Green Space

- Refuge Areas
- Landscape Zones
- ROW Furniture

Traffic Calming Measures

- Center Medians
- Lower Traffic Speeds
- Narrower Travel Lanes

Needs and Deficiencies

Throughout the Stateline corridor, there are many needs and deficiencies that should be addressed to improve multiple aspects of the corridor and the overall function of Stateline Avenue. The three categories identified are based on input from users of the corridor, business owners, community leaders, and data collected.

Safety

- Enhance Existing Street Conditions
- Improve Pedestrian Safety
- Regulate Cross Traffic Movement
  - Driveway Reduction
  - Median Additions
- Enhance Lighting
- Accessibility

Pedestrian and Bicycle Mobility

- Consider Pedestrians throughout all Transportation Modes
- Implement Sidewalks throughout Corridor
- Implement Bike Accommodations

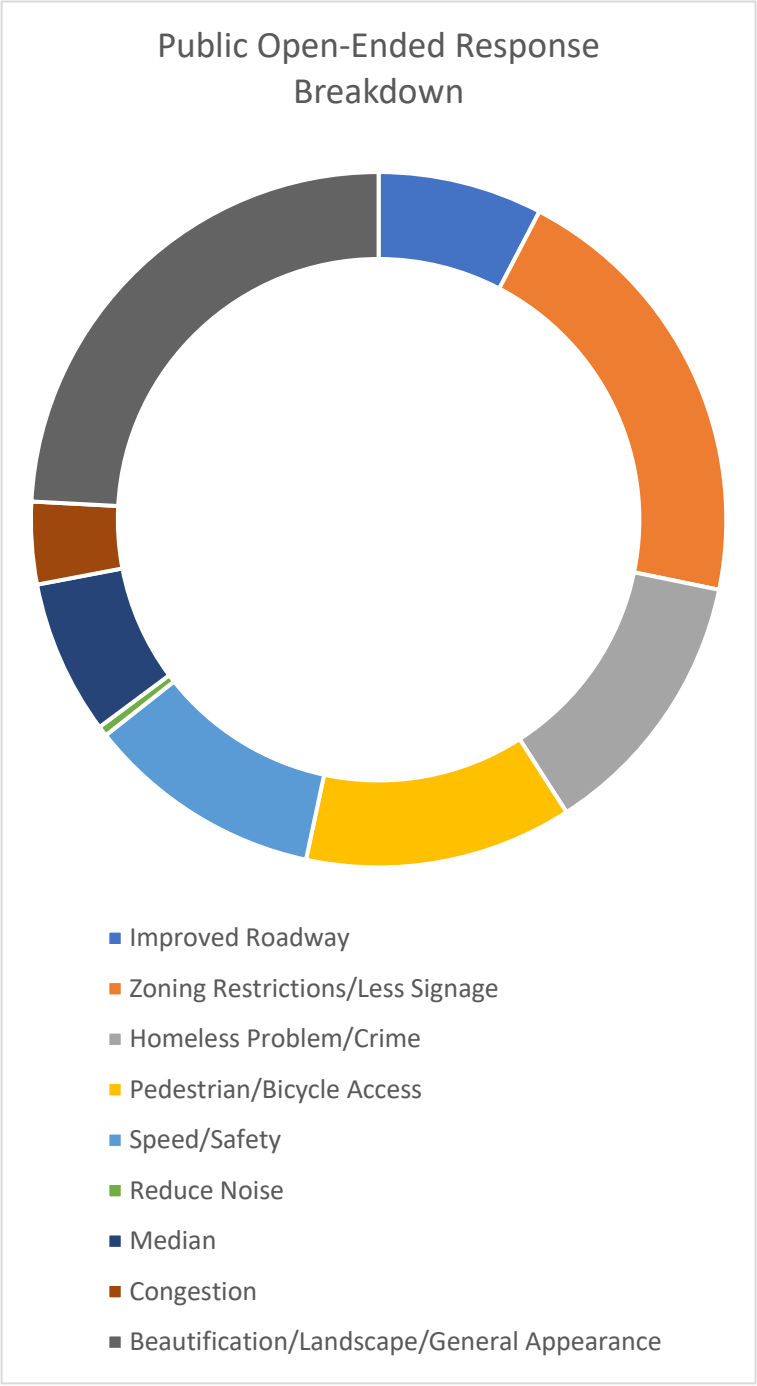
Beautification

- Enhance Overall Appearance of Stateline
- Landscaping
- Cleanliness
- Vibrancy

Public Input

Based on data gathered from public meetings, survey results, and face-to-face interactions, a wide array of responses was collected. Highlights from this data are included below, and full results are presented in the attached Appendices.

- 98% believe the corridor has a greater potential that should be pursued.
- 70% of respondents believe raised medians would create a safer roadway.
- 67% of respondents do not believe number of lanes should be reduced.
- 91% of respondents believe improvements should be made for pedestrian safety.
- 79% of respondents see pedestrians crossing at unmarked, mid-block crossings.
- 95% of respondents believe beautification improvements should be made to Stateline.
- 94% of respondents would be in support of a future sign regulation or ordinance.
- 87% of respondents believe the commercial district requires the greatest attention.



Property Owner Input

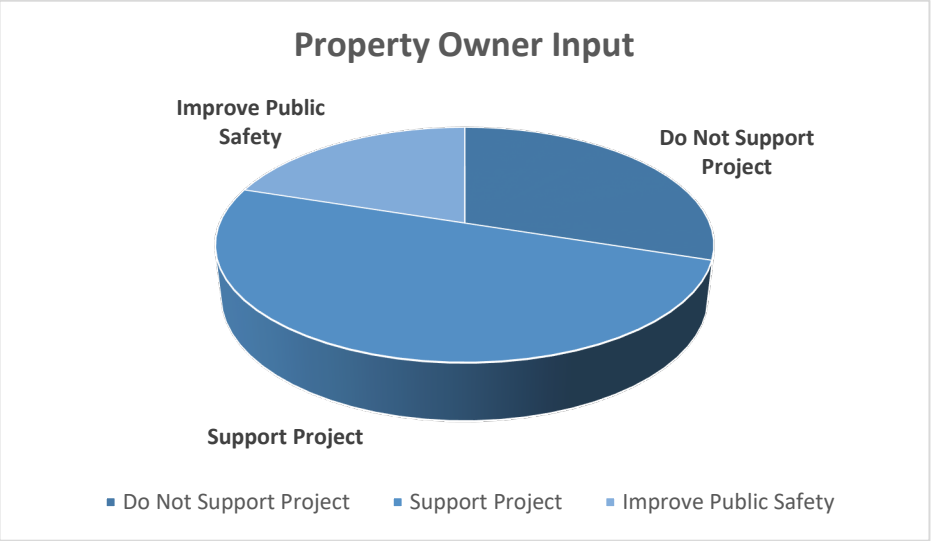
Based on data available from County Records, there are 196 individual parcels along this segment of Stateline Avenue. Of these 196 parcels, there are 168 different Property Owners. These individuals were sent direct invitations to Public Meetings #1 and Public Meeting #2 to provide opportunities to discuss the proposed improvements directly with these individuals. Additionally, an owner-specific survey was created for the Property Owners along Stateline and was sent to them via US Mail and made available online.

Participation results are as follows (full results are included in the attached Appendices.

Contacted: 168

Returned: 9 (No valid contact information available)

Responded: 27

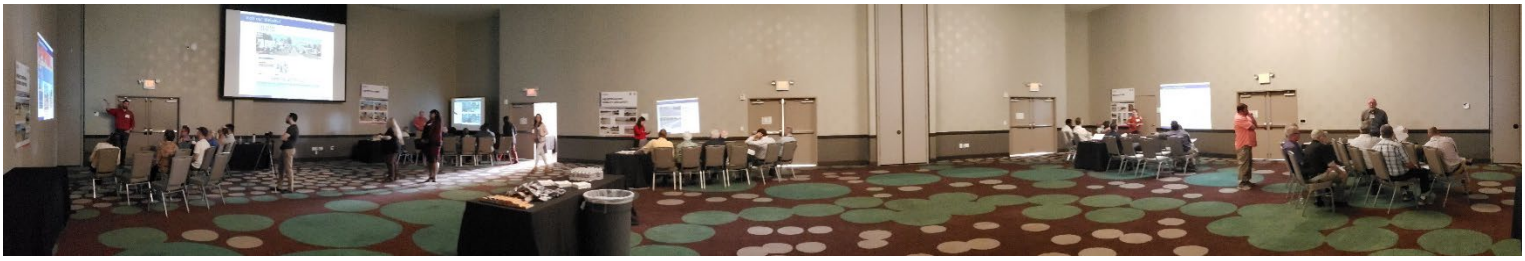


When asked:

"Raised medians provide refuge for pedestrians, aid in managing motor traffic, and allow locations for landscaping. Do you believe adding raised medians would have a positive or negative effect on your business?"

<u>Results were evenly split 50% Positive & 50% Negative.</u>

Question as stated above did not include information relating to the possible implications of adding raised medians in front of businesses.



General Public and Stakeholder Input Summary

Over the course of this study, multiple Property Owners did attend the public meetings and had personal discussions with City Officials and Team Members to voice their concerns over raised medians and other proposed elements of the designs shown. While there are multiple aspects to the designs included in this plan that are viewed as unfavorable to these individuals, the main concern is the negative effect of the addition of raise medians to the corridor. A petition was started by a local business owner which garnered over 800+ signatures from patrons to their establishment and concerned parties.

Based on the small participation percentage of Property Owners and General Public, additional community engagement should be conducted before a final design is selected. While some conclusions can be drawn from the input garnered for this report, larger sample sizes are necessary to adequately gauge the public and owner opinion of these improvements.

The designs included in this report are conceptual in nature and should be viewed as such. Pursuant to Federal guidelines, additional community engagement will be required by the DOTs, regardless of the alternative selected and additional concerns can be voiced at that time. **Additionally, traffic impacts and potential U-turn operations will require detailed design study beyond the limits of this report that could significantly alter the designs and calculations shown in this report. Based on the outcome of these additional studies, Property Owner and Public opinion of the preferred alternative could be altered.**

Chapter 3: Corridor Alternatives and Framework

Design Criteria

Since this corridor is owned and constructed by both ARDOT and TXDOT, main design guidelines utilized for the purposes of this study followed published design standards of both entities. The criteria listed has been analyzed and are based on best practices, but also recognize the unique qualities of Stateline that could impact the final design.

Documents Utilized for the basis of these alternatives:

- Arkansas Department of Transportation Roadway Design Manual

  -Lane Widths

  -Pedestrian Facility Criteria

- Texas Department of Transportation Roadway Design Manual

  -Lane Widths

  -Pedestrian Facility Criteria

  -Bicycle Facility Criteria

  -Median Opening Design

- AASHTO Geometric Design of Highway & Streets

Connectivity Concepts

Traffic

Automobile traffic is impacted by excessive crossroads and drive access along the corridor. These factors cause cross-traffic problems for motorists. High traffic volume and limited intentional pedestrian crossing points also impact existing traffic patterns and connectivity. Improvements, by means of addressing these cross-traffic concerns, will increase connectivity and safety of vehicles traveling along the corridor.

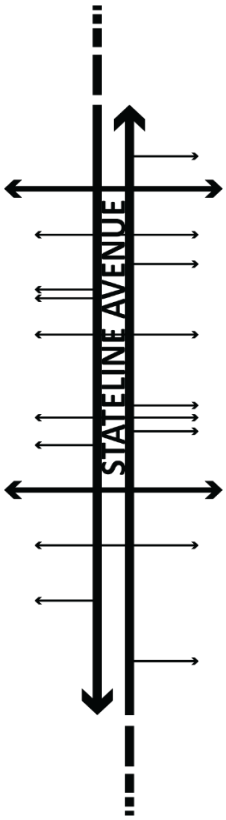
Bus

It is not proposed to adjust current bus routes, rather bus connectivity will be enhanced by re-locating and adding stops at identified high intensity pedestrian locations. In addition, improved bus stops and waiting areas will enhance comfort and promote visual representation of bus presence in the corridor.

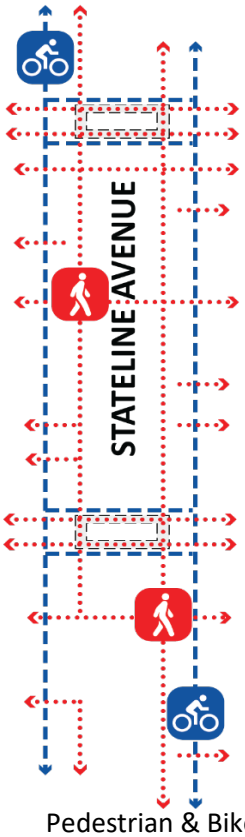
Pedestrian

Pedestrian safety is a concern along the corridor in its entirety. Conflict amongst vehicular traffic and pedestrian/bike traffic has been a reoccurring issue, especially as vehicular traffic has increased. Improved visuals such as painted crosswalk and flashing signals will increase pedestrian safety. An increased number of pedestrian crossings should be considered to aid in pedestrian connectivity along Stateline. All mid-block crossings recommended in this report will require further studies.

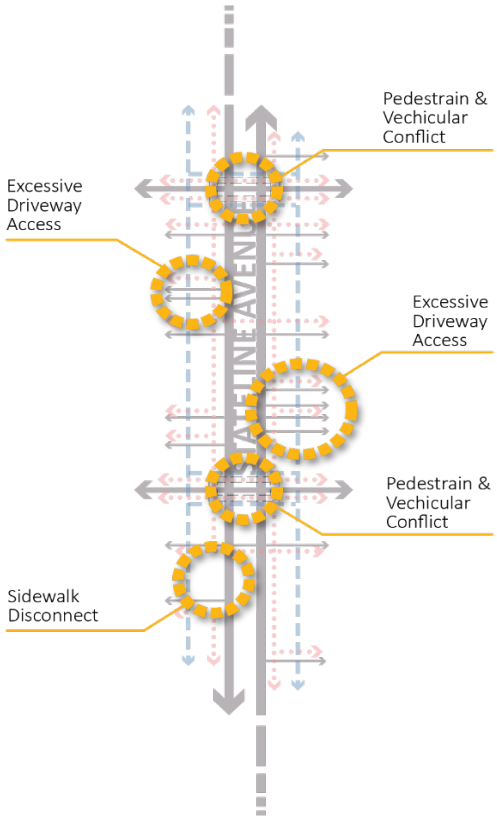
Conceptual Analysis Graphics



Conceptual Traffic Pattern



Pedestrian & Bike Mobility Pattern

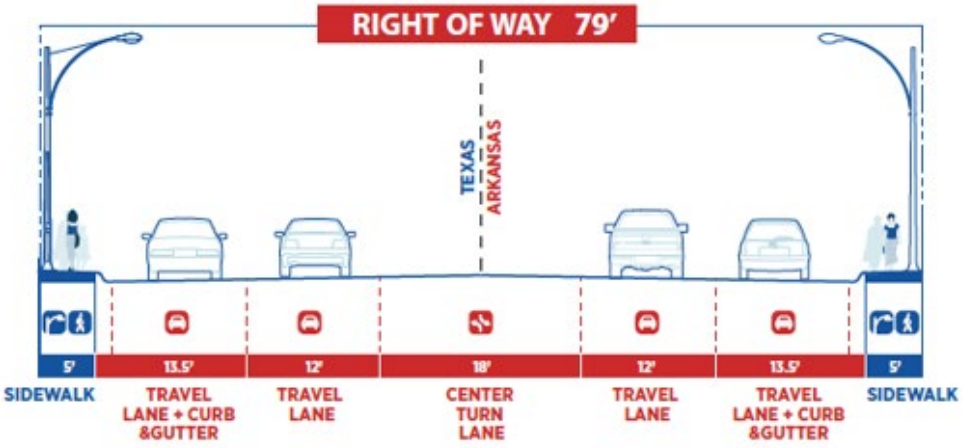


Connectivity Conflict Diagram

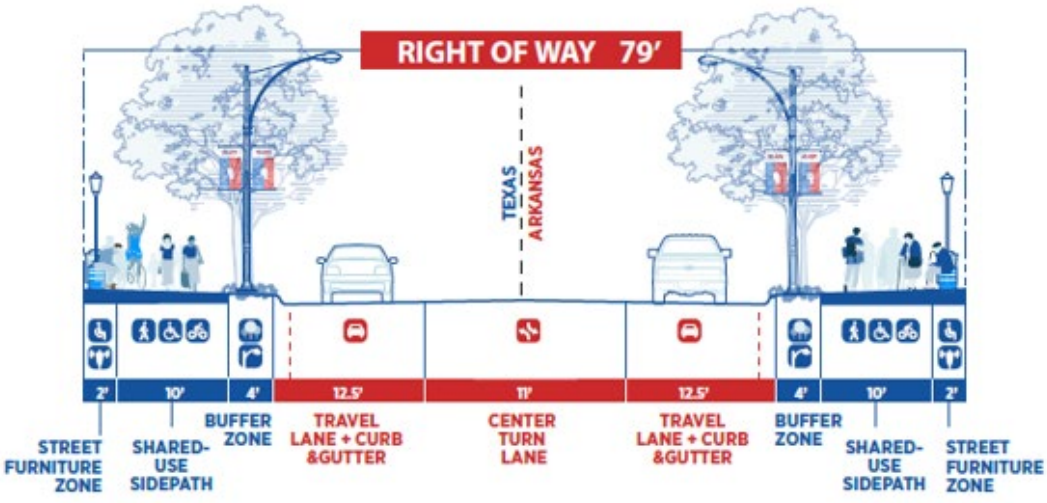
Draft Design Concepts Considered

As part of the planning process, a range of multimodal solutions were identified and analyzed for possible application to the corridor. Constraints caused by excessive driveways, limited ROW width, and high traffic volumes limited the applicability of some solutions. The ultimate goal is to provide end concepts that implement design aspects of complete streets to improve multimodal usage along the corridor and promote economic redevelopment and growth.

EXISTING CONDITION



LANE REDUCTION "ROAD DIET" W/ SHARED -USE SIDEPATH



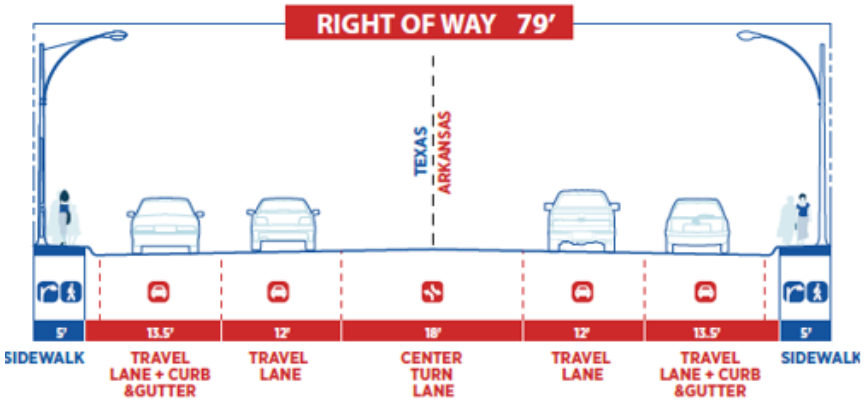
Road Diet

An initial look was made at the possibility of a Road Diet concept to improve roadway safety and provide additional space for multimodal facilities along the corridor. A road diet is achieved by reducing the total number of travel lanes within the right-of-way. The potential of a road diet would require further studies by ArDOT and TxDOT; however, based on the traffic volumes and business overflow into the outside travel lane, this alternative is not recommend this as a viable option for the corridor.

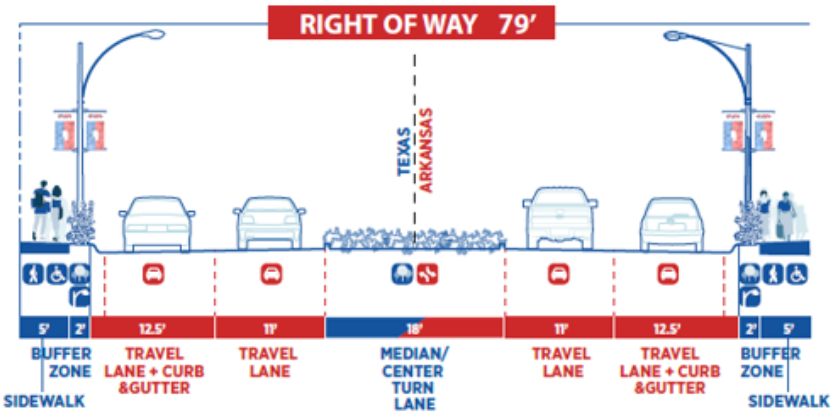
Raised Medians

Medians are raised barriers placed in the center of a street that limit left turn movements, which in turn improves safety. Additionally, due to the current ROW width of Stateline Avenue U-turns would not be allowed at any median openings. Based on studies by the Federal Highway Administration, raised medians have shown to reduce vehicular accidents by over 15%. Raised medians also offer pedestrian benefit by providing safe places of refuge while allowing the pedestrian to focus on crossing one direction of traffic at a time. Based on the information gathered during this study and input from the public/stakeholders in the community, raised medians should be further evaluated for implementation along the corridor.

EXISTING CONDITION

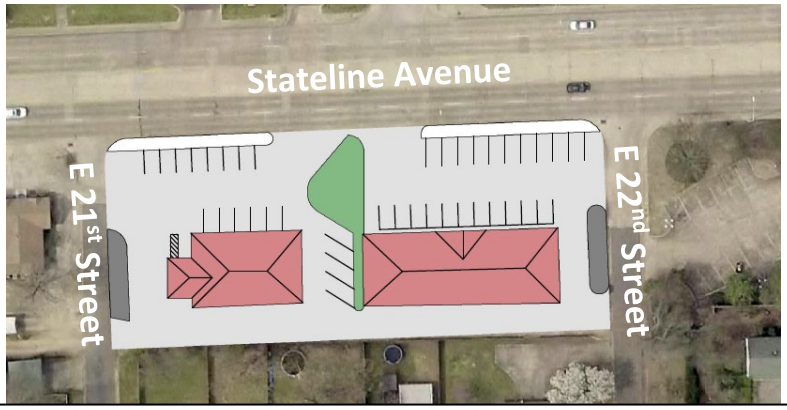


CONTEXTUAL DESIGN STANDARDS W/ RAISED MEDIAN & PED. REFUGE

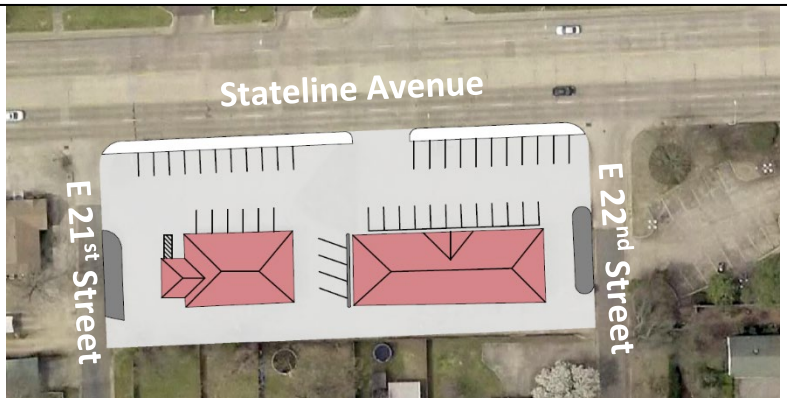


Driveway Consolidation Plan

When Texarkana was originally subdivided, lot widths ranged from 40 to 50 feet. These small and narrow lots created the opportunity for very dense driveway placement. As lots have consolidated into larger parcels, many of the driveways have been grandfathered into compliance. This has resulted in approximately 210 drives along the 2.75 mile stretch of roadway. This, coupled with over 50 side street intersections, creates a hazardous scenario with a nearly continuous possible left turn movement. An alternative to raised medians to improve traffic safety, would be a Driveway Consolidation Plan implemented by the Cities with support from the DOTs. If an overlay district is created, as parcels are redeveloped, the Cities would be able to regulate driveway locations and require cross access between adjoining properties. Additionally, a short-term strategy could be to talk to business and property owners along the corridor regarding driveway elimination in exchange for creating cross access between businesses.



Example Drive Consolidation plan: 2100 Block N. Stateline Ave.
Currently both properties have drives off Stateline with no cross access. With the implementation of a cross access agreement and minimal alterations, one or both driveways from Stateline could be removed



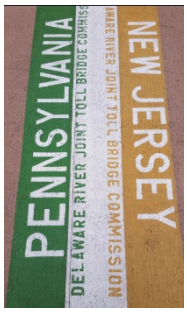
Example Cross Access:
3700 Block N Stateline Ave.
Currently three separate business have sufficient cross access between developments. This is the desired goal, coupled with removal of minimally two of the four Stateline driveways. (These three businesses have a total of ten drives off all available streets.)

Context Sensitive Design Elements

Context Sensitive Design focuses on addressing issues at a localized scale. Context sensitive design outlined by the Institute of Transportation Engineers (ITE), is an integrated design process that looks to improve multimodal conditions for all roadway users, while also preserving aesthetic integrity, historical aspects, community identity during transportation planning. Improvements along Stateline Avenue should warrant context sensitive design as a guiding principle.

Raised Medians

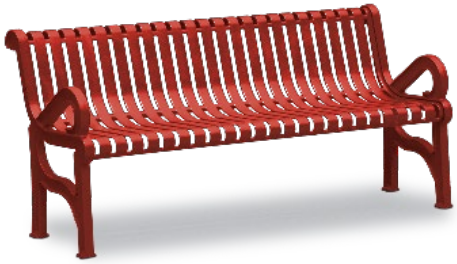
1. Stamped Concrete/ Brick Pavers
   This material can consist of traditional red bricks or the more modern stamped and colored concrete. Since the actual state line between Texas and Arkansas would be located within the median area, a marker could be included of contrasting color to signify this unique aspect. The delineation would not be advertised as a pedestrian feature, but a unique element for motorist along the corridor, especially tourist venturing to Texarkana for the first time.



2. Shrubs
   Landscape planting on the Stateline corridor could include a design with large simple beds of flowering shrubs. The shrubs would include two to three (2-3) types of species that are native to the area which promote drought tolerance and ease of maintenance. The shrubs would be planted within a curvilinear design pattern.

3. Native grasses
   Landscape planting on the Stateline corridor could include a design with large simple beds of native grasses. The grasses would include three to five (3-5) types of species that are native to the area which promote drought tolerance and ease of maintenance. The grasses would be planted to promote a layered design within an overall curvilinear pattern.

1. Pedestrian Street Lights
   (2 globe ornamental/18' tall)
   Pedestrian scale streetlights to run along the edge of the multi-use path providing illumination and safety for the users. The lights selected would be a dark metal with a historic style two-globe fixture. The light standards would be approximately 18 feet tall and located along both sides of Stateline.



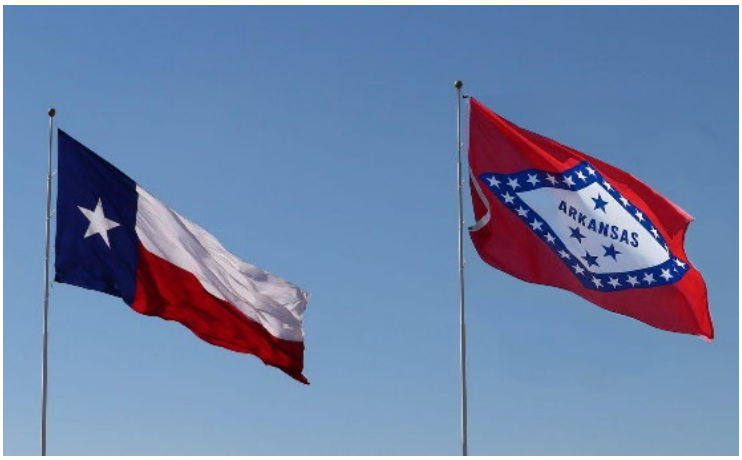
2. Pedestrian Benchs
   Pedestrian benches to be located along both sides of Stateline corridor. The dark metal benches will provide seating for the casual walker enjoying the multi-use pedestrian path. Metal benches should be selected for their quality, durability and low maintenance. All the outdoor pedestrian furniture (benches, trash and bike racks) would be of a compatible design and color.

3. Trash Receptacles
   Trash receptacles and pedestrian benches would be paired together. The trash receptacles made of metal and painted a dark color will help to keep the corridor clean. As with the metal benches, trash receptacles would be selected for their quality, durability, and low maintenance.

4. Bicycle Racks
   Proposed bicycle racks would be located along the corridor adjacent to the multi-use path. The metal bicycle racks would also be selected for their quality, durability and low maintenance.

5. Street Banners & Brackets (heavy vinyl)
   The existing street light poles should be fitted for new vinyl banners and hardware. The poles along both sides of Stateline will then have the same new banners. The banners could be changed out 3 or 4 times a year and would include designs that promote Texarkana USA events and holidays. These would be designed and paid for by both Texarkana USA cities.

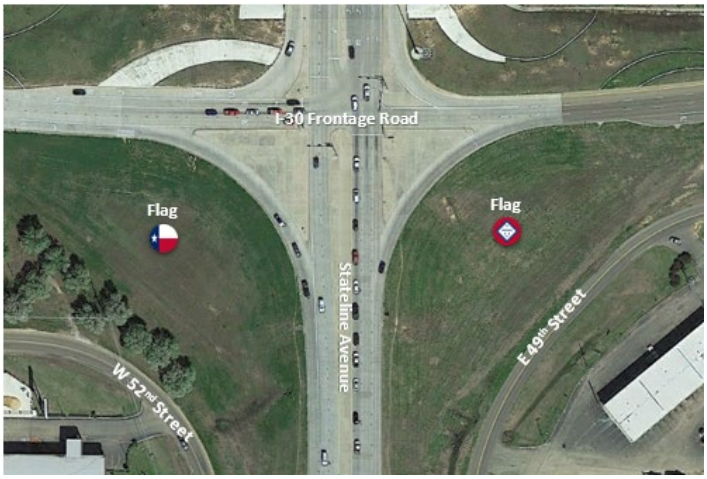
Gateway Features



- Colossal Flag (150’ tall)

The northern gateway feature near the interchange of Interstate-30 and Stateline Avenue would include a proposed pair of 150’ tall flag poles. The flags of both Texas and Arkansas would serve as a visual gateway, from a far distance, of the location of Stateline Avenue. The pair of State flags would be illuminated at night with a series of shielded flood lights protecting adjacent development.

Potential Flag locations to promote visibility from I-30 and larger portion of Stateline



- Columns

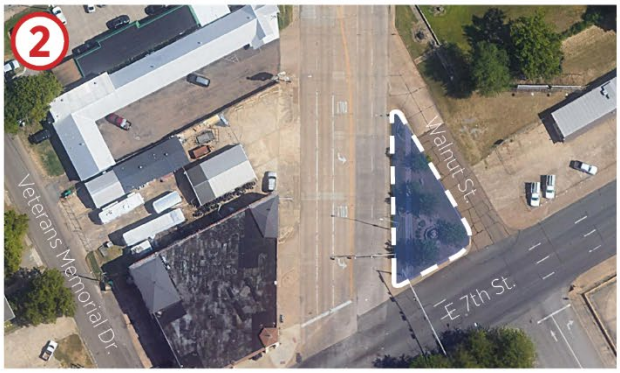
The southern gateway feature located near the US courthouse would include a proposed pair of 16’ masonry columns. The paired columns in both Texas and Arkansas would serve as a visual gateway to the location of Stateline Avenue. The pair would be illuminated at night and include a seal of each of the neighboring cities.

Twin Green Space

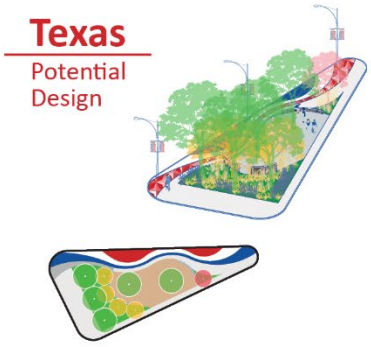
Site One - Texas

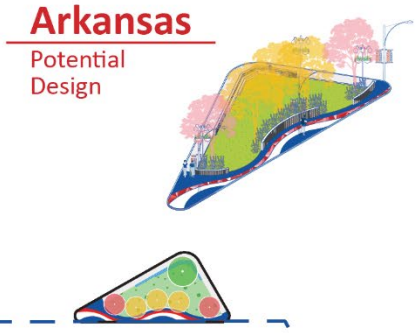
Site Two - Texas

Site One - Arkansas



Site Two - Arkansas





In the Urban District, there are several triangular shaped pieces of open land adjacent to Stateline Avenue ROW. Simple site designs for these four (4) areas for pedestrian use. The designs include pavement, pedestrian benches and landscape planting. Each state would have 2 proposed green spaces.

Stateline Pedestrian Crossing Experience

The final design piece for the Stateline corridor could include several locations where pedestrians can enjoy the uniqueness of Stateline. Proposed locations must be located in safe area outside of the limits of the roadway. Specific locations and designs will be created during the next phase of design work.

Historic Markers

As a part of the original 1841 Republic of Texas survey, mile markers located the actual Texas/Arkansas state line. Today those original markers are gone. New survey monuments could be installed at the same locations to provide a historic link to the uniqueness and importance of Stateline Avenue. The design could include a simple obelisk about three (3) feet tall with both state seals located in the pavement for markers 98, 99 and 100. Historical markers could be placed along the shared use path for pedestrians to stop and learn about the markers and take pictures from the safety of the sidewalk.

Value Added for Street Trees

Street trees are good for increasing adjacent property values. These trees are also an important element in a corridor's revitalization strategy, a corridor like Stateline Avenue. Many times, shoppers are buying more than goods. These shoppers seek positive experiences while shopping; and the appearance of the streetscape and/or buildings is an important part of creating a welcoming, interesting commercial environment.

Vibrant Cities Lab (VCL) a national research organization looking at case study information on the value of street trees gives us the following data. Studies during the last 40-years suggest that people prefer settings with trees – they receive higher ratings for visual quality and appeal. Real estate marketing professionals confirm that people spend more dollars in environments with quality landscapes and pedestrian amenities (benches, lights, clean from trash and safe).

Street trees are not perfect, as they require maintenance and most importantly need a quality design to best ensure success. If not properly designed and located within the corridor, the addition of trees can pose safety concerns from a visibility standpoint, as well as be an obstacle in the event of an accident. There are many different types of tree species and Stateline Avenue is a fairly tight urban corridor. This corridor has constraints of space and size, utilities, and vehicular traffic just to mention the top items. Specific tree species are depicted in the following section.

Maintenance is required for any landscape in Stateline ROW. This maintenance must be shared by both cities along the corridor to ensure a high-quality appearance and best leverage growth in economic development. A maintenance agreement and specifics would follow design of Stateline Avenue improvements.

When shown images of districts with and without trees, but with the same level of building care and street tidiness, participants gave more positive scores for maintenance to districts with trees over those without. Potential shoppers claim they are willing to travel more often, longer, and over greater distances, and once they arrive there, will spend more time in a retail district that has trees.

Why is patronage behavior important along Stateline Avenue? The study's findings could translate to an expanded interest along Stateline and increase patronage. Once they get to these districts, people report that they will stay longer, which could mean greater sales revenue.

Some notable research finding include the following:

- Trees increase retail sales, attract shoppers from further away and improve employee performance.
- The presence of trees along streets decreases stress levels while commuting, and in turn, reduces the likelihood of aggressive driving habits.
- Initial planting and maintenance costs for trees may be about $750 each. As the tree grows, it generates greater economic benefits every year — increased sales, air quality, property value, and human health.
- Trees positively affect judgments of visual quality, but more significantly, appear to influence consumer responses and behaviors.

Review these attached items for greater detail and information on the research behind street tree value via suburban and urban environment:

1. Mobility+Impact (help to calm traffic)
https://www.vibrantcitieslab.com/research/transportation/

2. Trees+Grow+Property+Values (grows property values)
https://www.vibrantcitieslab.com/resources/trees-grow-property-values/

3. Reading,+PA:+Best-in-Nation+Complete+Streets+Policy (complete streets assist people in poverty)
https://www.vibrantcitieslab.com/case-studies/best-in-nation-complete-streets-policy-by-midsize-city-with-high-poverty-rate/

4. Business+Impact (increased retail sales)
https://www.vibrantcitieslab.com/research/economic-development-business-impact/

Tree Species Selection

Specific tree species would be selected during the design phase for Stateline. This will be the next step of the corridor effort. This corridor could utilize multiple tree types and each tree will be selected per the location. These future designs should be completed by a registered Landscape Architect with experience in streetscape design.

Below are some images and tree species that could fit the alternatives depicted in this report as a tree for Stateline. Many have tap roots and a columnar up-right shape.

Goldspire Ginko (male only)

Acer platanoides 'Emerald Queen'

Crimson Spire Oak

Princeton Elm

Highrise Live Oak

Acer campestre ‘Baronne’

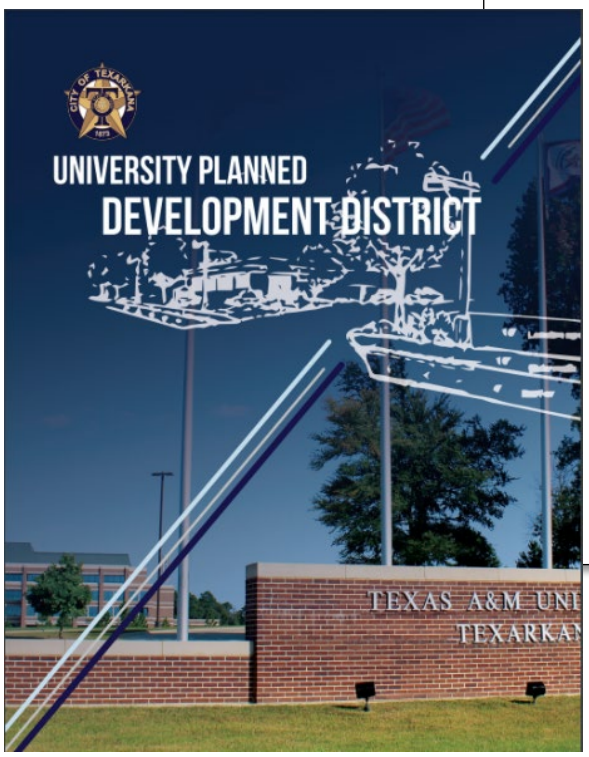
Stateline Overlay District

The creation of an overlay district within the Stateline corridor would permit special zoning in the area to provide a certain degree of standards for said area. Examples of the standards that could be used in the Stateline corridor would be:

- Regulation of signage
- Regulation of existing and future building facades
- Landscape maintenance
- Driveway approval
- Regulation of proposed uses

An overlay district would ensure that the land use is in line for what is being proposed for the future of Stateline, meaning this zoning could provide the standards that are listed above with others that would give more control to the municipalities.

An example is the University Planned Development District established by the City of Texarkana, Texas.



CITY OF TEXARKANA, TEXAS
UNIVERSITY PLANNED DEVELOPMENT DISTRICT (UPDD)

A. PURPOSE OF DISTRICT

The purpose of this district is to provide appropriate design standards for the development of properties within the University Planned Development District (UPDD) Boundary. These standards recognize and support the area's unique development character and significance of the University as a primary source for development in this subject area. The zoning ordinance purpose and vision are paraphrased below in the Goals for the District.

B. GOALS OF THE DISTRICT

Land Use

- Provide for a more compact and integrated mix of land uses and densities that will encourage economic vitality, maintain and embrace the integrity of the existing single family neighborhoods, efficient use of land and city services, and a strong sense of community.
- Provide a greater variety of housing to accommodate a broad range of student and family demand, including both more urban style housing within walking distance of campus amenities and to integrate and complement the existing, single-family housing within the UPDD.
- Retail areas should be designed to be pedestrian-oriented and be integrated with neighboring residential retail to its surrounding, by the inclusion of walkways, roadways, trails and other means of access. Strengthen the University' position as the cultural heart of the district by encouraging retail, restaurant and residential uses with development standards designed to enhance the district's form, character, and function.

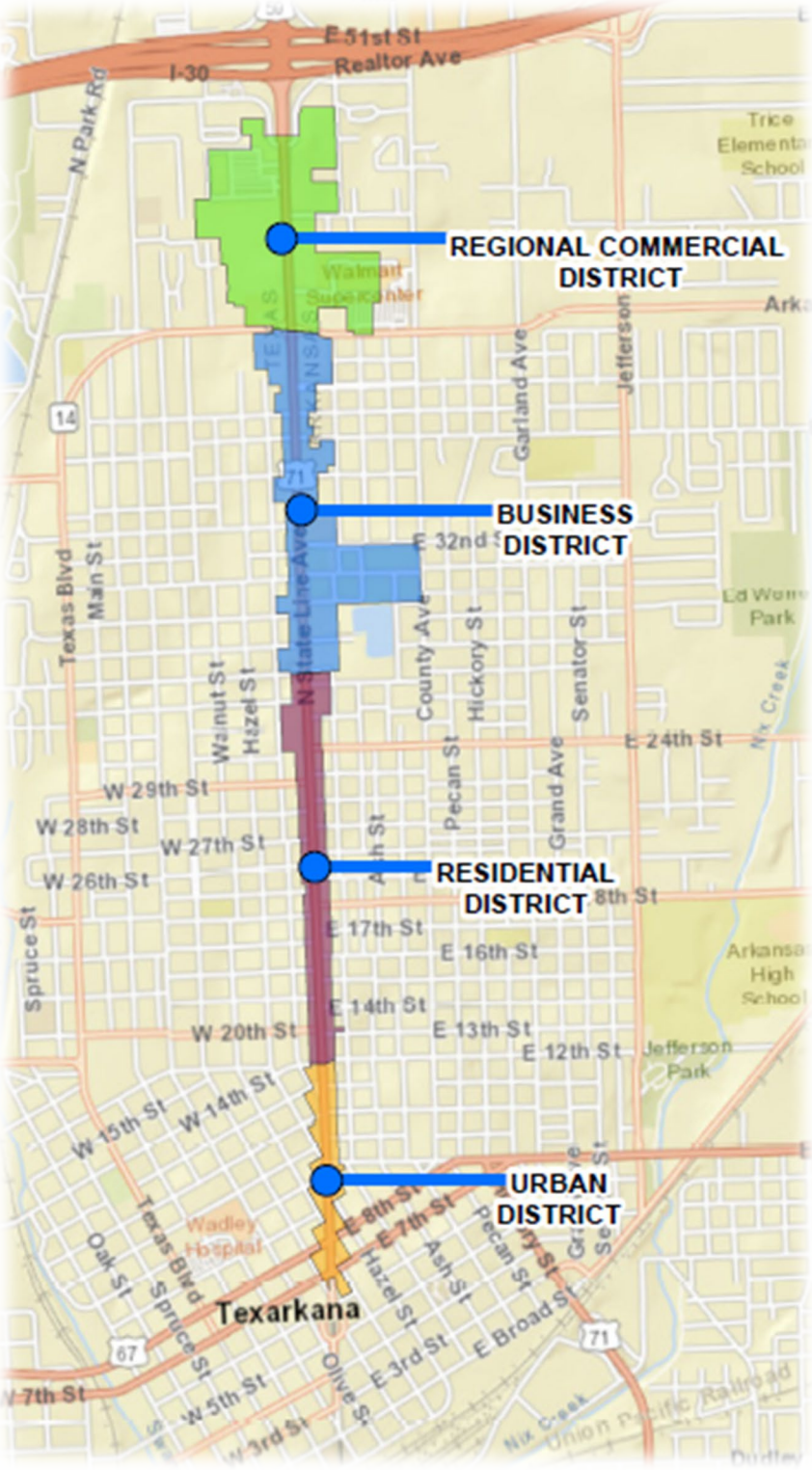
Framework

- Provide University Avenue with landscaping, furnishings and public art to enhance the University lifestyle, and provide the district with cohesive design elements that accommodate vehicular, pedestrian and bicycle traffic.
- Ensure that the character of both private and public buildings and structures reflect a sense of permanence and public pride through prominent locations and high quality of design, landscaping, materials and construction.
- Identify and protect sceneries that contribute to the district's character and uniqueness, particularly Bringle Lake.

Development

- In the mixed use areas set out in this plan, the site layout for commercial and for loft, townhome and urban housing developments should encourage buildings to be place close to the roadway, with parking primarily located to the rear or side of buildings.
- Landscaping must be designed, installed, maintained and replanted to ensure that design objectives and the long-term health of plant materials are achieved. Building faces should be consistent with the overall Texas A&M University-Texarkana

Stateline Districts



District Characteristics

The corridor, for the purposes of this study, has been divided into four districts:

- Regional Commercial
- Business
- Residential
- Urban

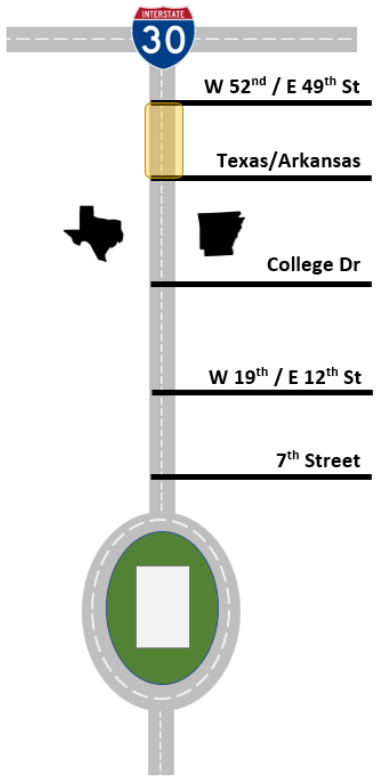
The formation of these districts is intended to guide future development. They are not formally established districts by the Cities or DOTs. All proposed roadway and pedestrian facilities will require further studies prior to implementation to ensure compliance with state design standards and applicability within the corridor.

Regional Commercial District

The Regional Commercial District is an area of dense commercial development catering to local and non-local traffic. Having direct access to Interstate-30, this segment has the highest average daily traffic count and peak hour traffic. This segment of Stateline is characterized by commercial properties much larger than those south of Texas Boulevard. Businesses range from vehicular sales to big box stores, strip centers, hotels, and restaurants. With few side streets, minimal cross access, and numerous driveways, traffic along this section has been characterized as “hectic” by members of the public.

Commencing at the red light for W. 52nd Street and ending at Texas/Arkansas Boulevard, there are no major side streets or traffic lights other than those at the beginning and end locations.

District Overview



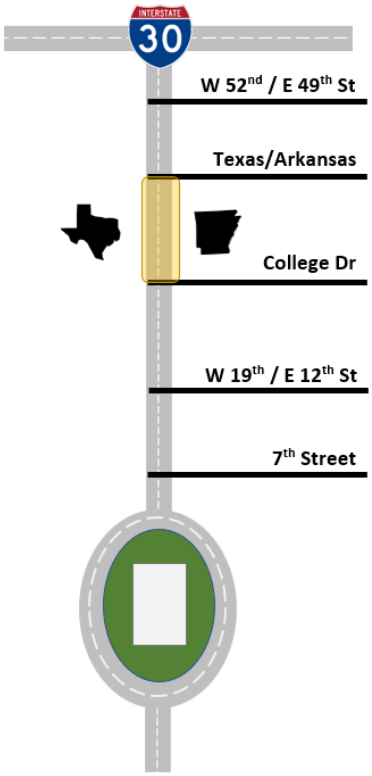
Length	0.45 Miles
ROW Width	120-130 FT
Traffic Volume	27,000 ADT

Business District

The Business District is a transitional area characterized by parcels smaller than that of the Regional Commercial District, but larger than those south of College Drive. These parcels are the combination of two parcel depths creating one lot between Stateline and the adjacent side street. Traffic volumes drop off in this district due to significant turning movements onto Texas/Arkansas Boulevard.

While the Business District has several side streets, only one location other than the commencement and termination locations has a traffic signal, which is E 35th Street. Much like the Regional Commercial District, the Business District has a wide array of businesses along the corridor, as well as the historic Stateline Cemetery.

District Overview



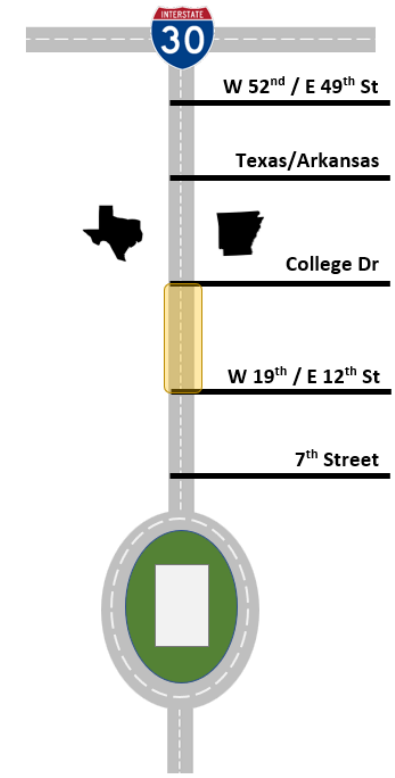
Length	0.85 Miles
ROW Width	85 FT
Traffic Volume	20,000 ADT

Residential District

The Residential District begins south of College Drive and most parcels maintain their original lot depth minus the ROW acquired when Stateline was widened in the 1970s (approximately 135 feet of depth). Businesses in this section included smaller retail stores, office space, and the few remaining residential buildings. The exception is the Pepsi Co. Distribution Center near the intersection with E. 24th Street.

This district has numerous side streets that feed large residential neighborhoods, including E. 24th and E. 16th Streets that are both signalized. E. 16th Street is also a major corridor used for traffic to and from the Arkansas High School Campus.

District Overview



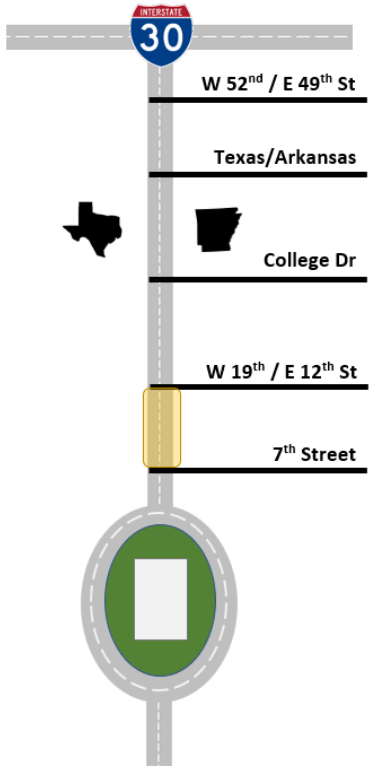
Length	0.95 Miles
ROW Width	85 FT
Traffic Volume	16k to 19k ADT

Urban District

The Urban District serves as a gateway to Downtown with angled side streets and some vintage buildings still in place. Due to the nonperpendicular nature of the intersecting streets, ROW width varies due to the expansion of the ROW and producing uneconomical remainders that required the purchase of entire properties where businesses once stood.

This district has major intersections with US Highway 82 and US Highway 67. There is a third traffic signal located at the connection with E. 9th Street. This district also contains historically significant markers such as the Korean and Vietnam War Memorial and a water fountain believed to have once stood at the intersection of Stateline and Broad Street the site of the old Texarkana Well.

District Overview



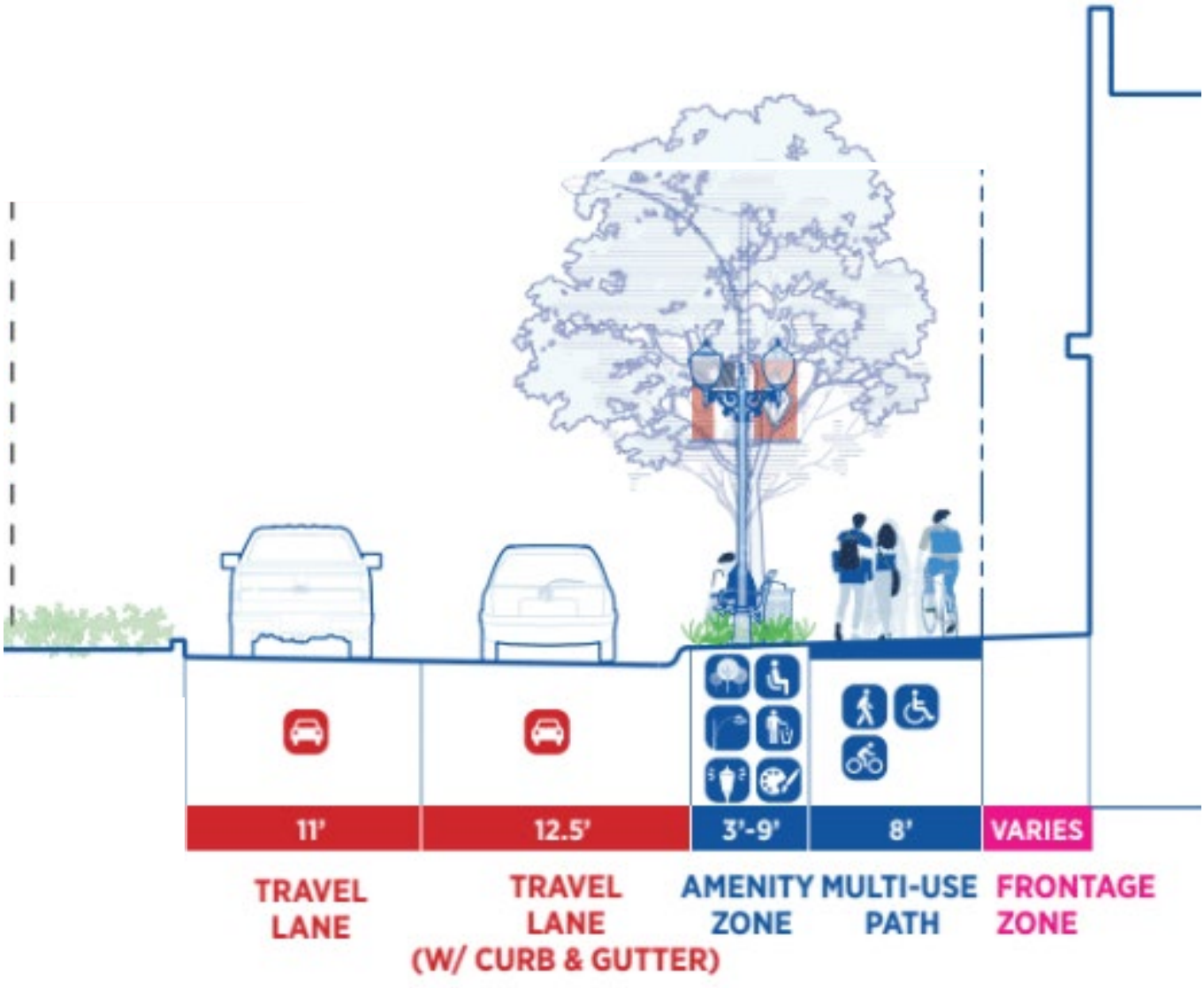
Length	0.60 Miles
ROW Width	85 – 98 FT
Traffic Volume	16k to 13k ADT

Chapter 4: Design Alternative 1: Boulevard Concept

Overview

This chapter will present the framework for the first design alternative including concepts, general district character, proposed multimodal improvements, and key redevelopment opportunities. This alternative called the Boulevard Concept is a transformation from the traffic centric design of today into a corridor that promotes all uses from vehicles to bicycles. A key component of this alternative is the addition of raised medians. Incorporating raised medians would provide greater traffic control by reducing locations of cross traffic turning movements. From a pedestrian safety standpoint, raised medians provide areas of refuge and should reduce the number of incidents along Stateline.

Additionally, providing medians allows for an additional location to incorporate softening features to encourage pedestrian use and invite redevelopment along the corridor. A variety of median landscape and hardscape applications should be utilized to best fit the appropriate district and the desired economic potential.

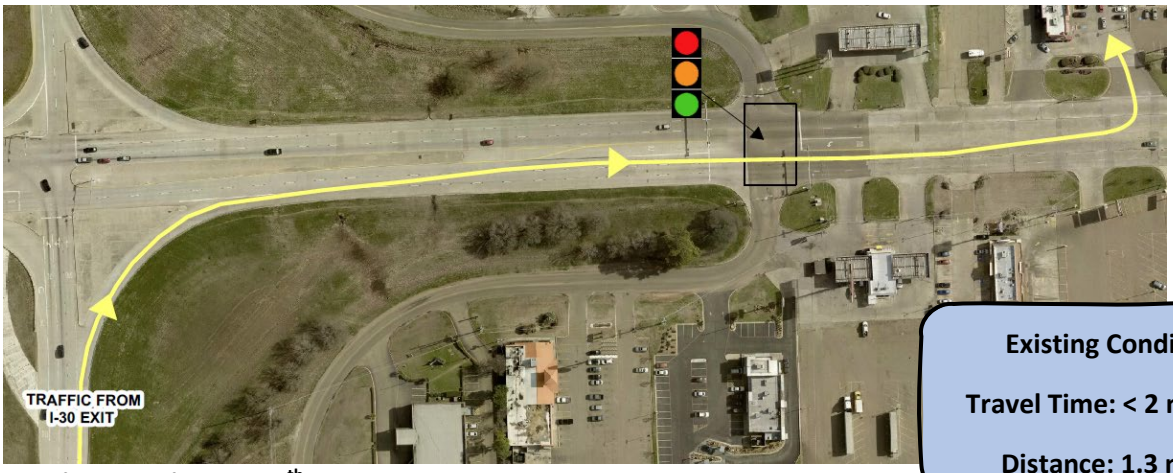


Raised Median Impacts

While much of the public input has been in support of raised medians, the full impact of raised medians effect on travel times and patterns may not be understood. At the first and second public meetings it was conveyed that raised medians would block business entrances and some side streets causing reroutes to occur. After further detailed study it was determined U-turn movements would be restricted as well and conveyed at an interactive table at public meeting #3. As previously mentioned, additional community engagement and awareness should be conducted prior to finalizing a design for the Stateline Reconstruction project. Below are a couple of examples as to the impact caused by installation of raise medians. While U-turns are possible at certain intersections for passenger vehicles, median openings will not accommodate any U-turn movements. Below are two examples of locations affected by the implication of raised medians. It is imperative that additional attempts beyond the scope of this report should be made to convey these impacts to the public prior to accepting a final alternative for further design.

Starting Location: I-30 East Bound Exit Ramp

Destination: 4302 N Stateline Avenue Texarkana, AR (Popeyes)



Existing Condition

Travel Time: < 2 minutes

Distance: 1.3 miles

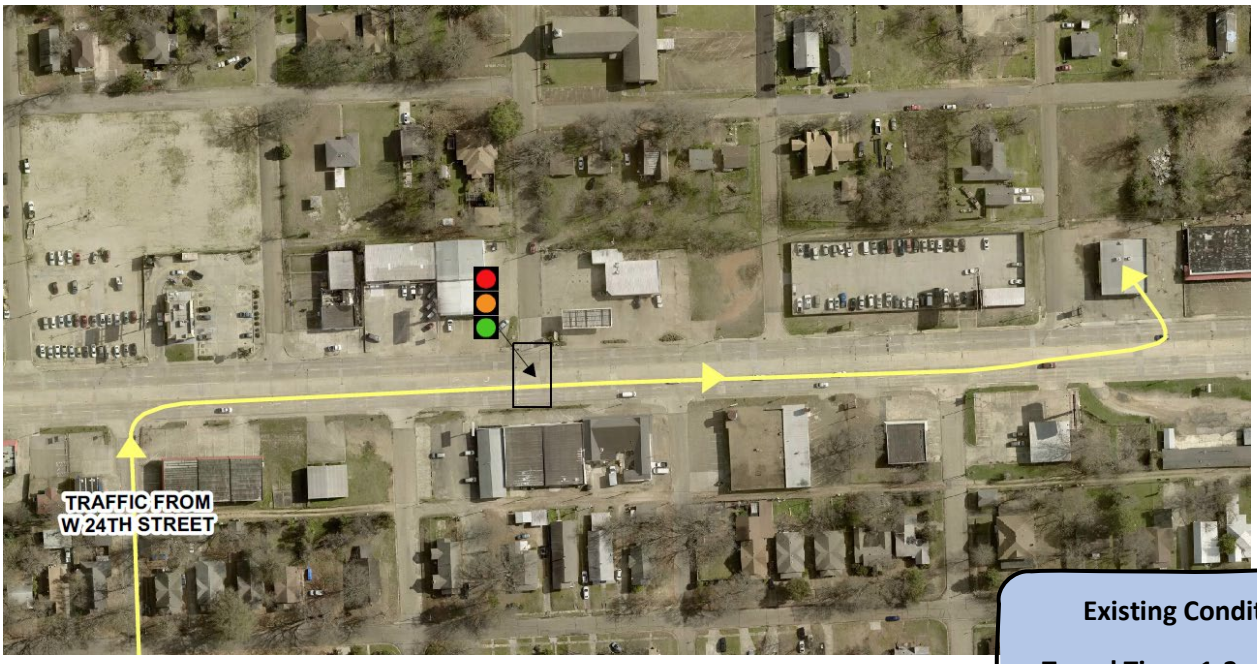
Starting Location: W 24th Street

Destination: 1314 N Stateline Avenue Texarkana, AR 71854

Proposed Condition

Travel Time: 7 minutes

Distance: 2.5 miles



Existing Condition

Travel Time: 1-2 minutes

Distance: 0.3 miles

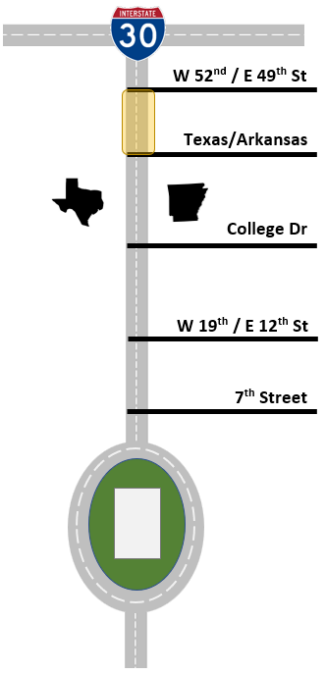
Proposed Condition

Travel Time: 2 minutes

Distance: 0.7 miles

Corridor Design & Connectivity

Regional Commercial



Boulevard Concept

Travel Lane Configuration

To best accommodate the large volume of traffic, the Boulevard Concept for the Regional Commercial District would have three lanes traveling southbound as exists today and three northbound lanes. A continuous raised median would be installed and have left turn bays minimally at West 52nd Street, East 42nd Street, and Arkansas Boulevard. The six-lane section would transition to a four-lane section at the Texas/Arkansas Boulevard intersection.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Due to limited vehicular cross access, the intent would be to improve walkability in this district and promote parking at one location and visiting all desired surrounding locations by foot rather than by vehicle. Additionally, lighting and some pedestrian furniture could be utilized to encourage users.

To accommodate these users across Stateline, signalized crosswalks be added at Texas/Arkansas Boulevard and W. 52nd intersections. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 42nd Street.

All existing bus facility locations would be maintained and be replaced with a shelter and bench at each location, totaling one location in this District.

District Character

To best maintain sight visibility at drive connections, short, low maintenance landscaping should be utilized. Medians could utilize brick colored stamped concrete to provide a contrasting color and negate the need for hazardous maintenance at the center of this busy corridor.

Aesthetic Features

Specialty features included in this district could include Gateway Flags located at the I-30 intersection that depict each State. Brick Columns could be installed near the north end of Stateline as a gateway feature. Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Medians could be stamped concrete to match cross walks. Trees along ROW would be minimal and landscape beds would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses.

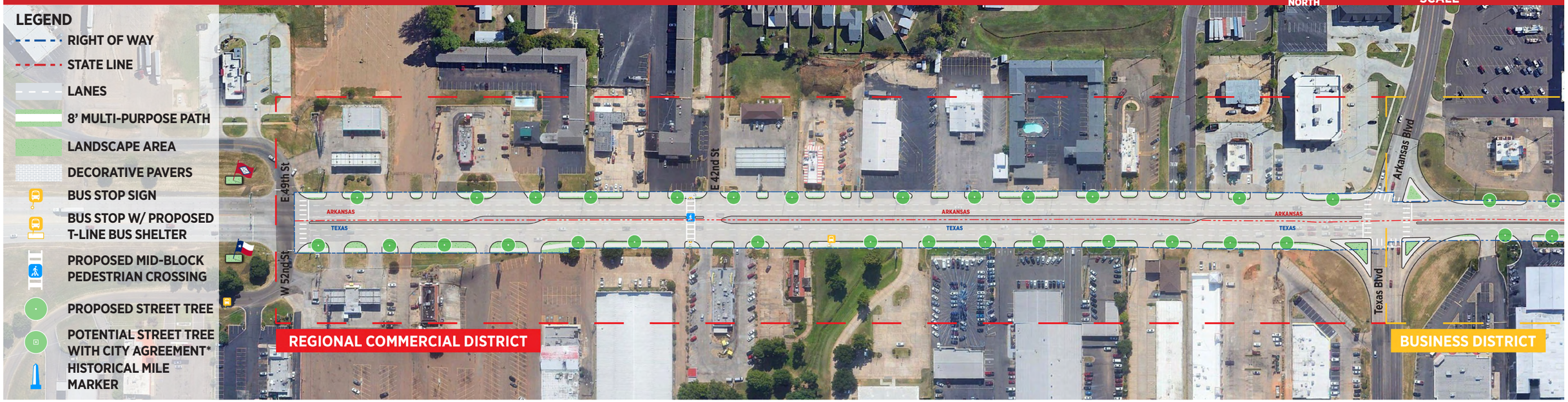
REGIONAL COMMERCIAL DISTRICT WITH MEDIANS

PLAN

REGIONAL COMMERCIAL WITH MEDIANS: I-30 TO TEXAS/ARKANSAS BLVD

NORTH

SCALE 0 100 200 400



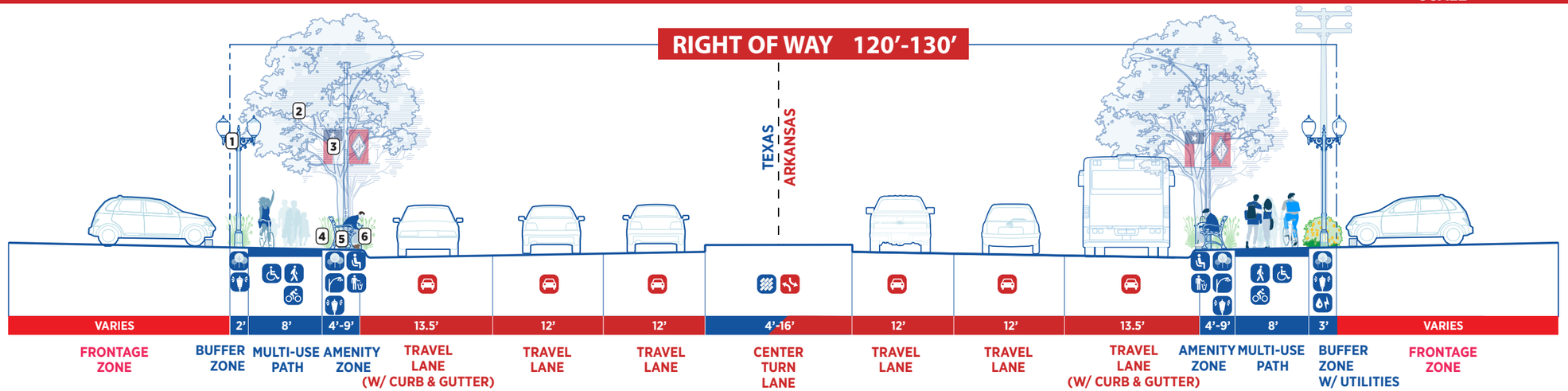
*Note: In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

TYPICAL SECTION (Context Sensitive Design)

SCALE 0 6 12 24

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 25'-40' DIA.(depending on specific species), +/- 120' O.C.
3. EXISTING ROAD-SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, +/- 500' O.C. (on center)
6. TRASH RECEPTACLE, +/- 500' O.C. (on center) along with benches

*Note: Roadway travel dimensions are set any variable dimension taken up in amenity zone width.



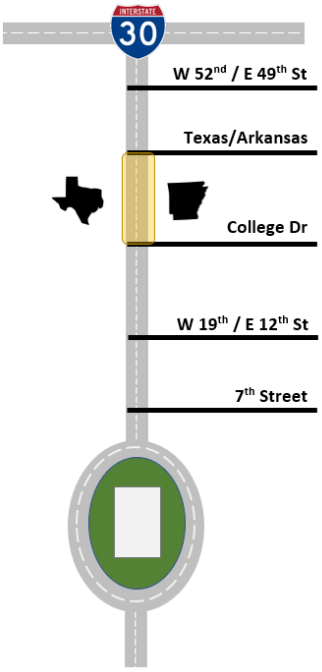
STATELINE AVENUE

TEXARKANA USA
01 NOV 2022

MTG engineers & surveyors

NORRIS DESIGN
Planning | Landscape Architecture | Branding

Business District



Boulevard Concept

Travel Lane Configuration

The existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with the only modification being a raised median divider rather than the current two-way left turn lane. A preliminary study at possible opening locations includes four south bound left turn bays and four north bound left turn bays evenly distributed at major side streets to allow for adequate traffic flow.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users.

To accommodate these users across Stateline, signalized crosswalks should be located at E. 35th Street and College Drive. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing should be installed near the intersection with E. 32nd Street.

All five existing bus facility locations in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

To best maintain sight visibility at drive connections, short, low maintenance landscaping would be utilized similar to that of the Regional Commercial District. Medians would utilize brick colored stamped concrete to provide a contrasting color and negate the need for hazardous maintenance at the center of this busy corridor.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Medians could be stamped concrete to match cross walks. Trees along ROW would be minimal and landscape beds would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses.

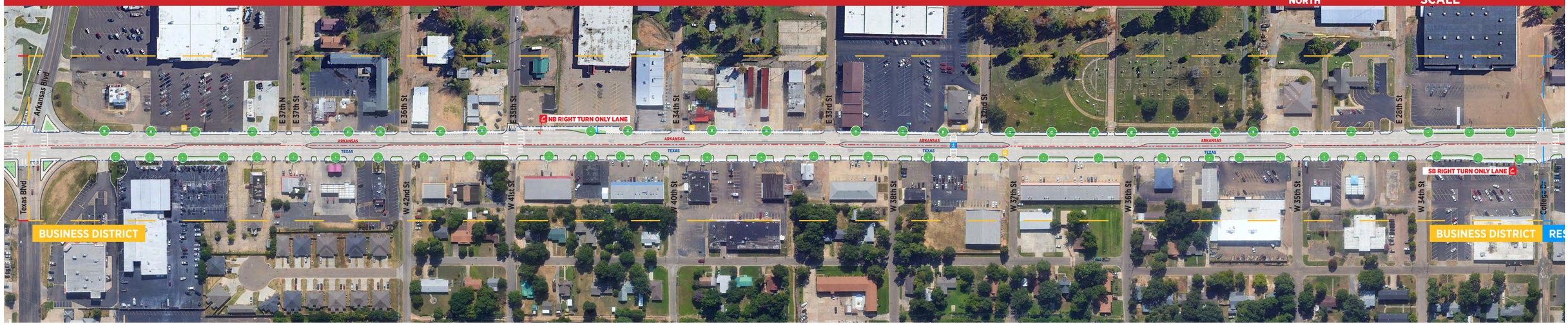
BUSINESS DISTRICT WITH MEDIANS

PLAN

BUSINESS DISTRICT WITH MEDIANS: TEXAS BLVD TO COLLEGE DR

NORTH

SCALE 0 150 300 600



*Note: In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

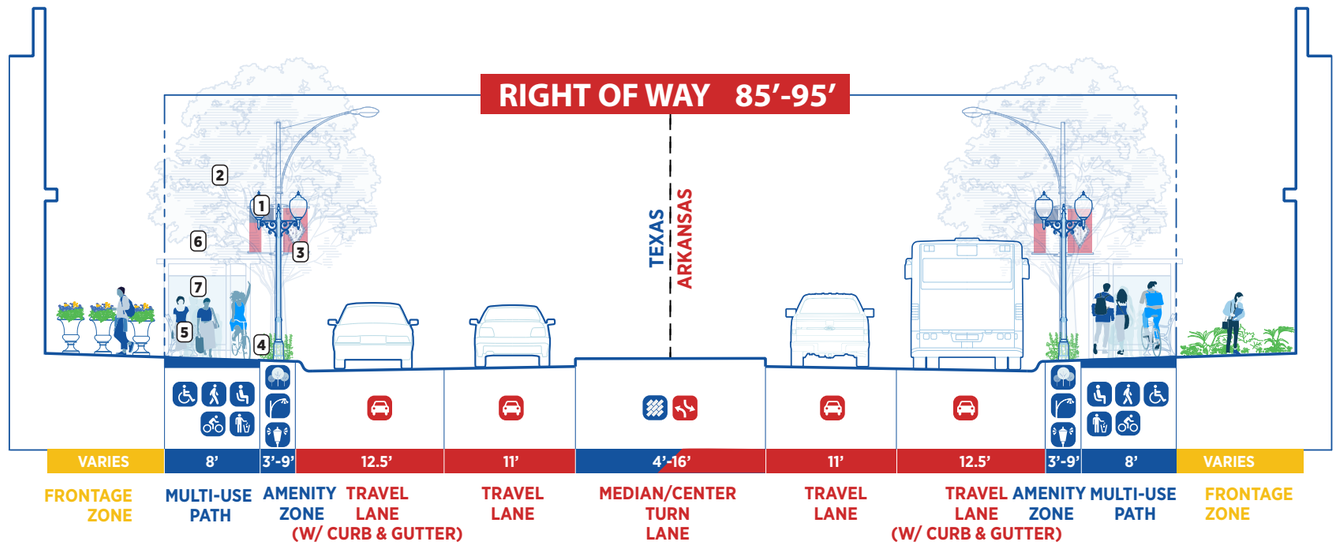
- RIGHT OF WAY
- STATE LINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE
- POTENTIAL STREET TREE WITH CITY AGREEMENT*
- HISTORICAL MILE MARKER

TYPICAL SECTION (Context Sensitive Design)

SCALE 0 6 12 24

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 25'-40' DIA.(depending on specific species), +/- 120' O.C.
3. EXISTING ROAD-SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, +/- 500' O.C. (on center)
6. TRASH RECEPTACLE, +/- 500' O.C. (on center) along with benches
7. T-LINE BUS SHELTER (with Pedestrian Bench & Trash Receptacle)

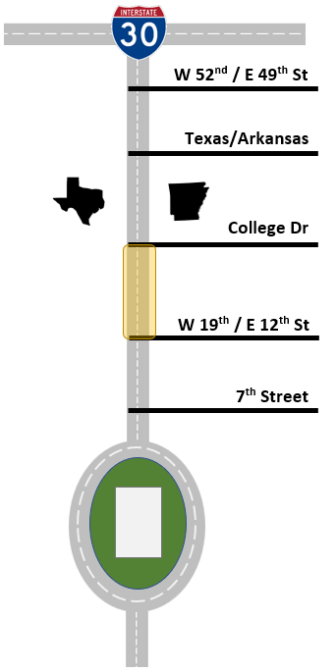
*Note: Roadway travel dimensions are set any variable dimension taken up in amenity zone width.



STATELINE AVENUE

TEXARKANA USA
01 NOV 2022

Residential District



Boulevard Concept

Travel Lane Configuration

The existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a raised median divider. A preliminary study at possible opening locations includes four south bound left turn bays and four north bound left turn bays evenly distributed at major side streets to allow for adequate traffic flow.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users. To accommodate these users across Stateline, signalized crosswalks could be located at E. 24th Street, E. 16th Street, and E. 12th Street. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 20th Street.

All eight existing bus facility locations in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

To best maintain sight visibility at drive connections, short, low maintenance landscaping should be utilized. A more aggressive planting schedule and additional street furniture could be utilized in comparison to that of the Regional Commercial District. Medians would utilize brick colored stamped concrete to provide a contrasting color and landscape beds with short shrubs and low maintenance vegetation.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Medians could be a combination of stamped concrete and landscaped beds in full width locations. Trees along ROW could be spaced as ROW allows. Landscape beds would include short native shrubs and grasses. The installation of street banners and additional artistic features would be highly encouraged.

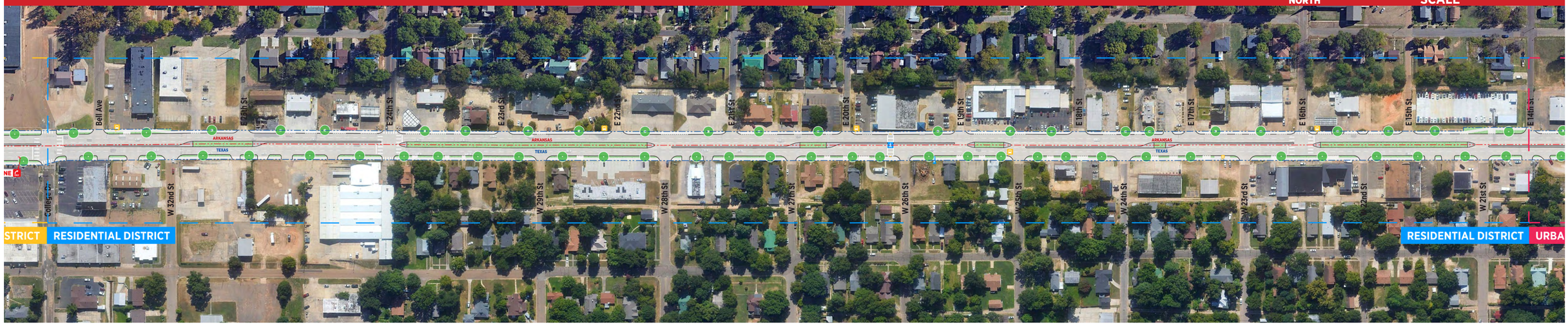
RESIDENTIAL DISTRICT WITH MEDIANS

PLAN

RESIDENTIAL DISTRICT WITH MEDIANS: COLLEGE SR TO E 12TH ST

NORTH

0 150 300 600
SCALE



***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

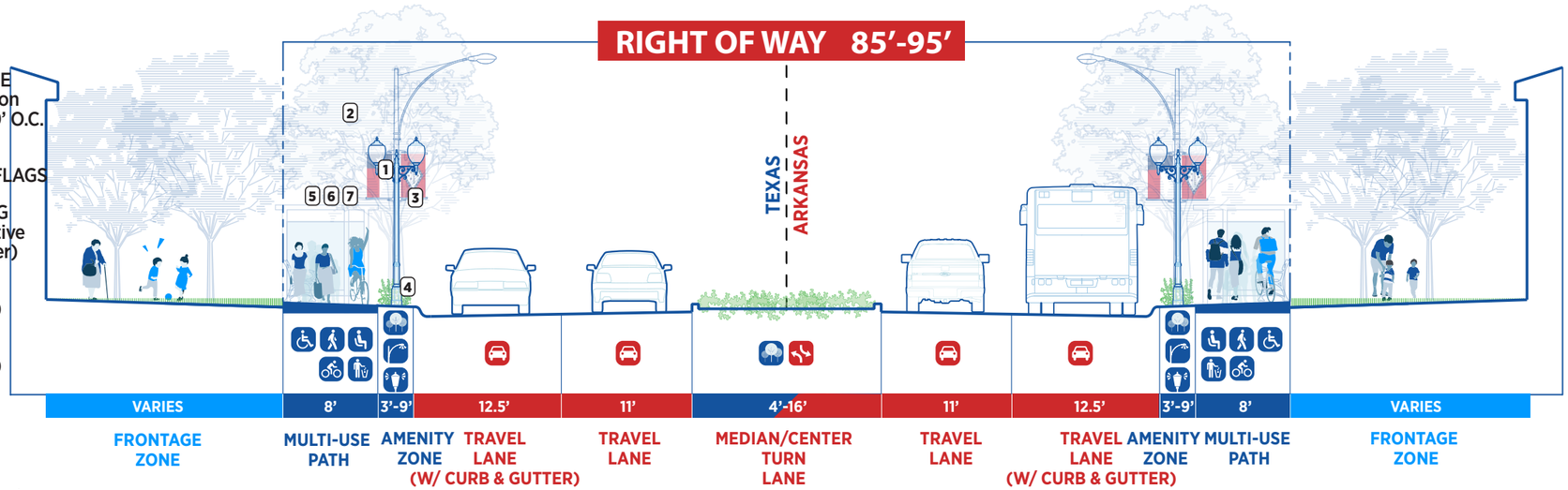
- RIGHT OF WAY
- STATE LINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE
- POTENTIAL STREET TREE WITH CITY AGREEMENT*
- HISTORICAL MILE MARKER

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24
SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 25'-40' DIA.(depending on specific species), +/- 120' O.C.
3. EXISTING ROAD-SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, +/- 500' O.C. (on center)
6. TRASH RECEPTACLE, +/- 500' O.C. (on center) along with benches
7. T-LINE BUS SHELTER (with Pedestrian Bench & Trash Receptacle)

***Note:** Roadway travel dimensions are set any variable dimension taken up in amenity zone width.



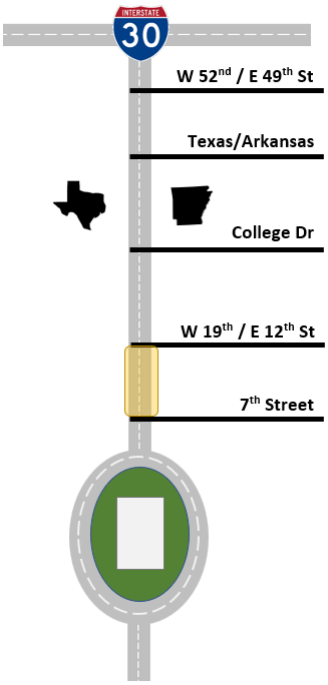
STATELINE AVENUE

TEXARKANA USA
01 NOV 2022

MTG engineers & surveyors

NORRIS DESIGN
Planning | Landscape Architecture | Branding

Urban District



Boulevard Concept

Travel Lane Configuration

The existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a raised median divider. A preliminary study at possible opening locations includes three south bound left turn bays and three north bound left turn bays evenly distributed at major side streets to allow for adequate traffic flow.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users. To accommodate these users across Stateline, signalized crosswalks could be located at W. 7th Street, E. 9th Street, E. 12th Street, and Dr. Martin Luther King Boulevard.

There are currently no bus facilities within this district. Future expansions of the T-Line System would be required for appropriate placement of any bus shelters.

District Character

To maintain sight visibility at drive connections, short, low maintenance landscaping should be utilized, an aggressive planting schedule and additional street furniture could be utilized similar to that of the Residential District. Medians could utilize brick colored stamped concrete to provide a contrasting color and landscape beds with short shrubs and low maintenance vegetation.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Medians could be a combination of stamped concrete and landscape beds in full width locations. Trees along the ROW would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses. The installation of street banners and additional artistic features would be highly encouraged. An additional set of entrance feature columns could be installed to signify entrance to downtown. This district would be the best fit for a Stateline Crossing Experience. Additionally, the Twin Green Spaces are included in this district for additional pedestrian attraction.

TEXARKANA STATELINE

URBAN DISTRICT WITH MEDIANS

PLAN

URBAN DISTRICT WITH MEDIANS: E 12TH to 7TH ST

NORTH

0 150 300 600
SCALE

*Note: In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

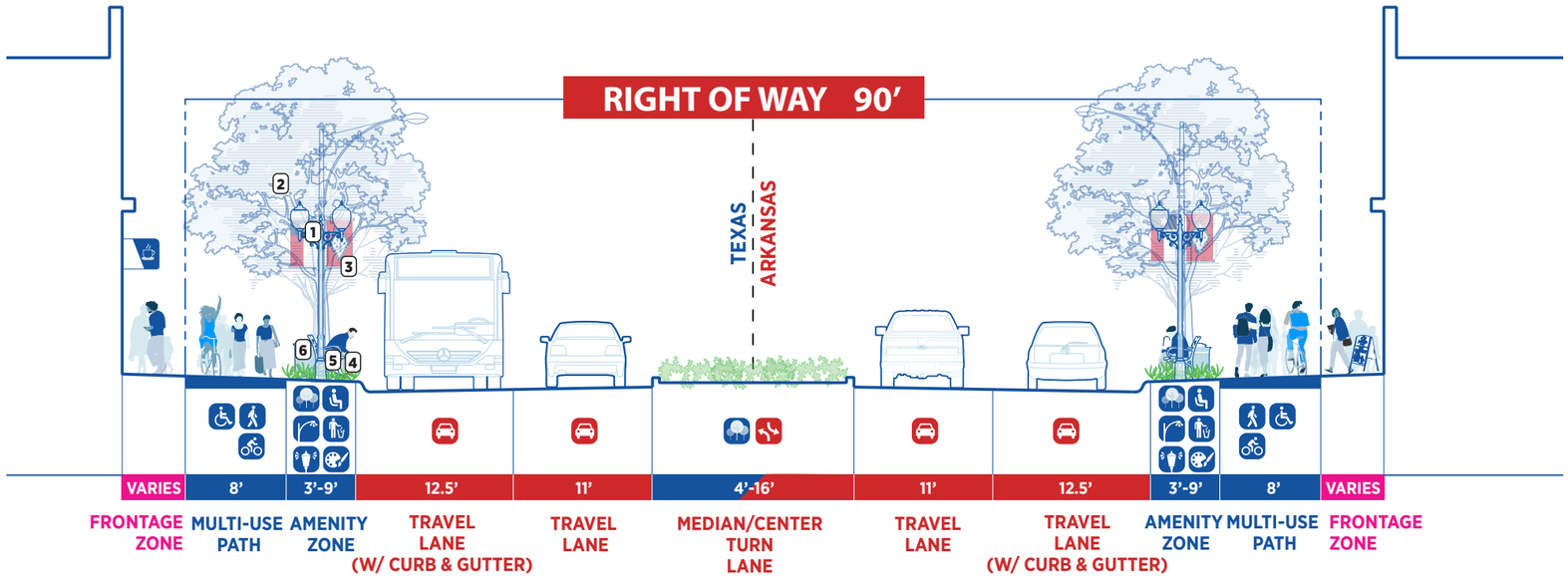
- RIGHT OF WAY
- STATE LINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE
- HISTORICAL MILE MARKER
- PAIRED GATEWAY FEATURE

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24
SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 25'-40' DIA.(depending on specific species), +/- 120' O.C.
3. EXISTING ROAD-SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, +/- 500' O.C. (on center)
6. TRASH RECEPTACLE, +/- 500' O.C. (on center) along with benches

*Note: Roadway travel dimensions are set any variable dimension taken up in amenity zone width.



TEXARKANA STATELINE

STATELINE AVENUE

TEXARKANA USA
01 NOV 2022

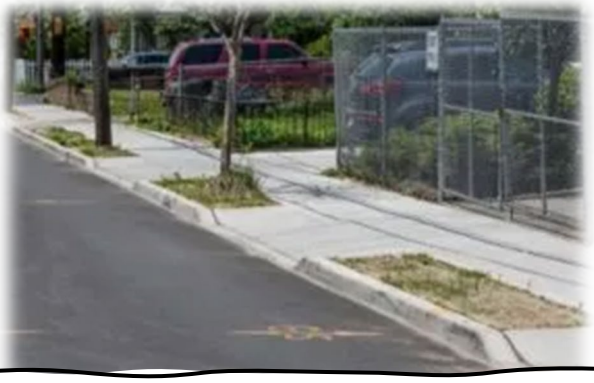
MTG engineers & surveyors

NORRIS DESIGN
Planning | Landscape Architecture | Branding

Chapter 5: Design Alternative 2: Redevelopment Concept

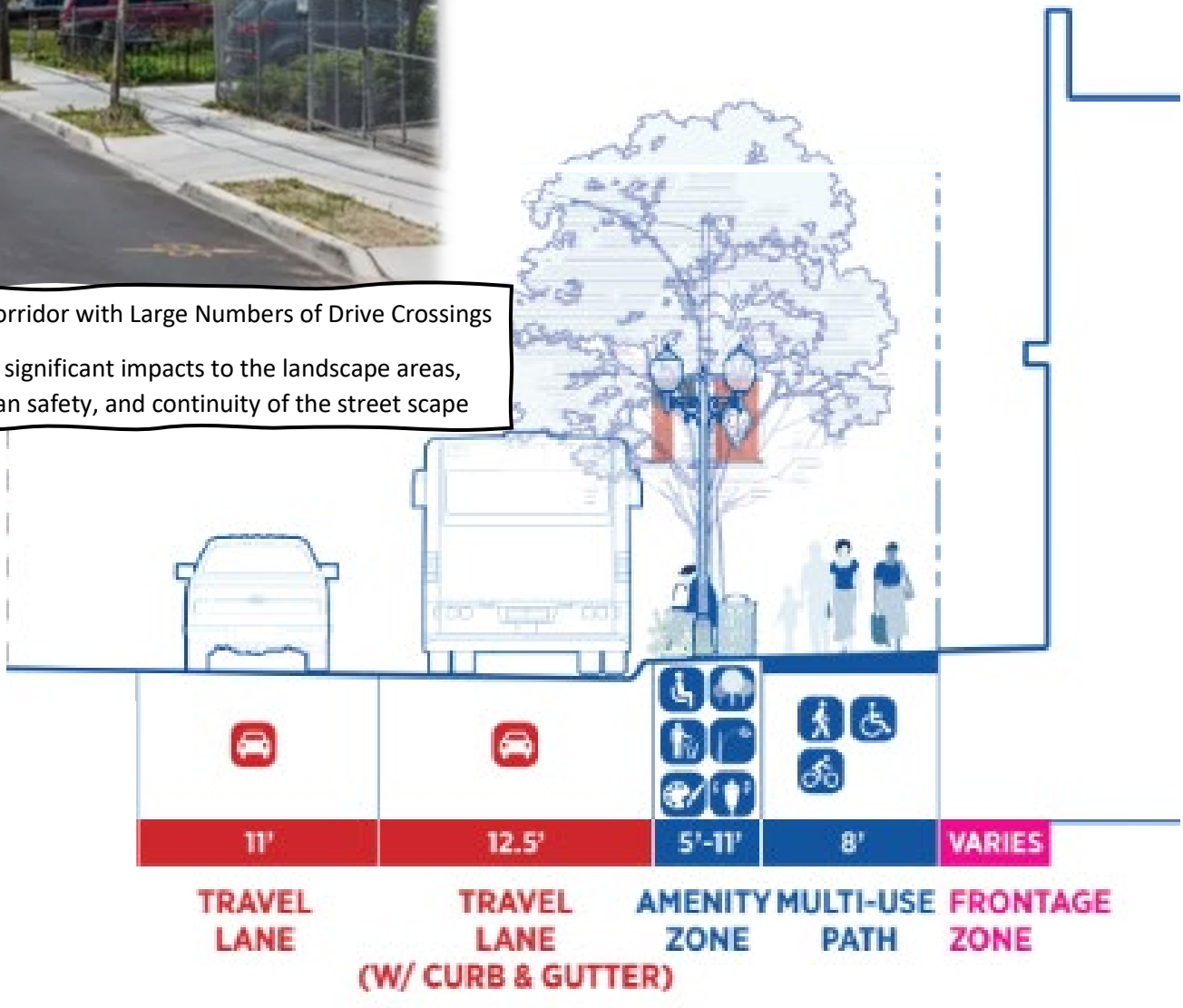
Overview

This chapter will present the framework for the second design alternative, including concepts, general district character, proposed multimodal improvements, and key redevelopment opportunities. This alternative, called the Redevelopment Concept, is a transformation from the traffic centric design of today into a corridor that promotes all uses from vehicles to bicycles. A key component of this alternative is the goal of reducing the number of driveway connections to allow better continuity of the shared use path, which would in turn provide a safer environment for users. An additional key component is a reduced pavement section width to allow for additional space along the street edge for multimodal uses and beautification efforts.



Example Corridor with Large Numbers of Drive Crossings

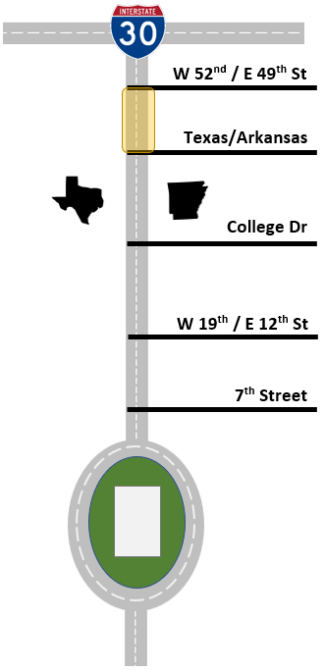
This has significant impacts to the landscape areas, pedestrian safety, and continuity of the street scape



Redevelopment Concept

Corridor Design & Connectivity

Regional Commercial



Travel Lane Configuration

To best accommodate the large volume of traffic, the Boulevard Concept for the Regional Commercial District would have three lanes traveling southbound, as exists today, and three northbound lanes. A continuous two-way left turn lane would be maintained. The six-lane section would transition to a four-lane section at the Texas/Arkansas Boulevard intersection. Per ARDOT design criteria, the six-lane section would require a raised median unless a design exception is allowed.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Due to limited vehicular cross access, the intent would be to improve walkability in this district and promote parking at one location and visiting all desired surrounding locations by foot rather than by vehicle. Additionally, lighting and some pedestrian furniture could be utilized to encourage users.

To accommodate these users across Stateline, signalized crosswalks could be added at Texas/Arkansas Boulevard and W. 52nd intersections. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 42nd Street.

The single existing bus facility location in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

This district, while adding pedestrian features, will still feel very urban with heavy traffic volumes and larger percentages of impervious ground covering. To best maintain sight visibility at drive connections, short, low maintenance landscaping would be utilized.

Aesthetic Features

Specialty features included in this district could include Gateway Flags located at the I-30 intersection that depict each State. Brick Columns could be installed near north end of Stateline as a gateway feature. Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Trees along the ROW would be minimal and landscape beds would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses.

REGIONAL COMMERCIAL DISTRICT WITHOUT MEDIANS

PLAN

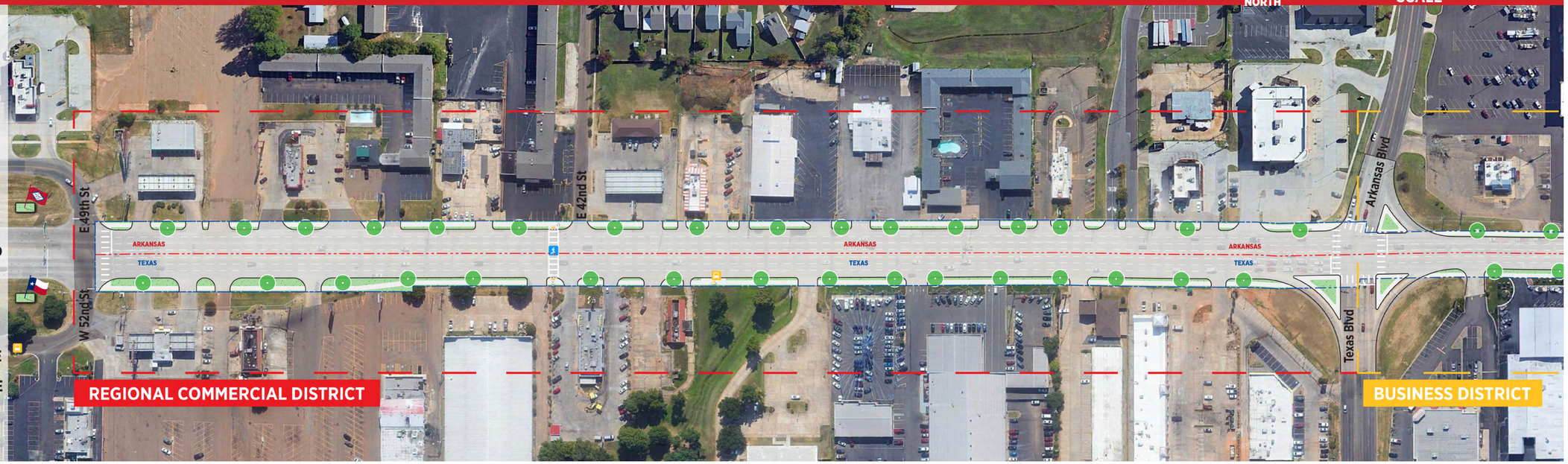
REGIONAL COMMERCIAL WITHOUT MEDIANS: I-30 TO TEXAS/ARKANSAS BLVD

NORTH

0 100 200 400
SCALE

LEGEND

- RIGHT OF WAY
- STATE LINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE
- POTENTIAL STREET TREE WITH CITY AGREEMENT*
- HISTORICAL MILE MARKER
- COLOSSAL FLAGS +/-150' TALL (General location)



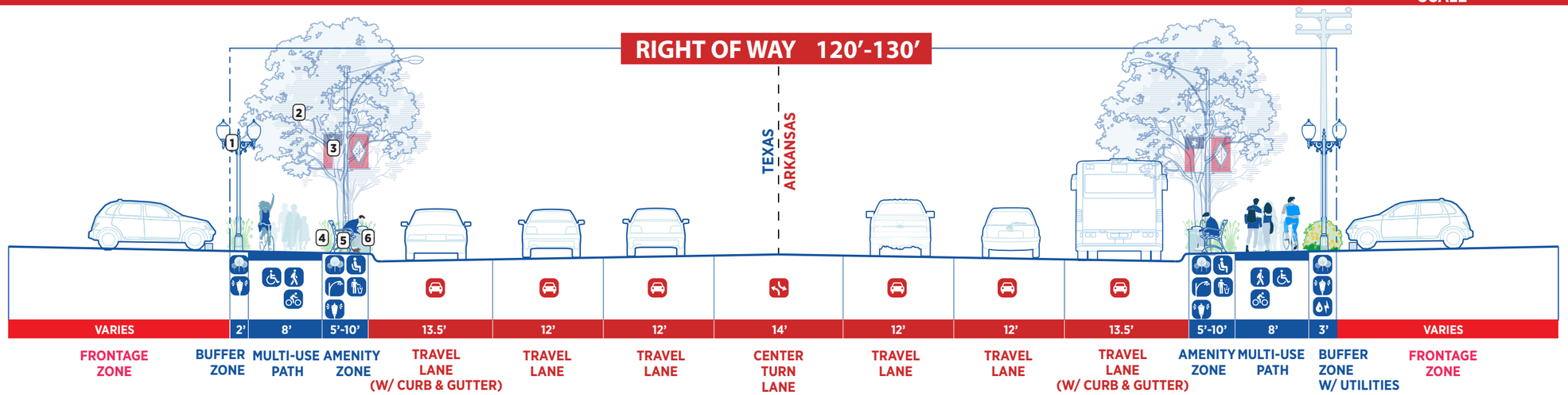
***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24
SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 25'-40' DIA.(depending on specific species), +/- 120' O.C.
3. EXISTING ROAD-SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, +/- 500' O.C. (on center)
6. TRASH RECEPTACLE, +/- 500' O.C. (on center) along with benches

***Note:** Roadway travel dimensions are set any variable dimension taken up in amenity zone width.

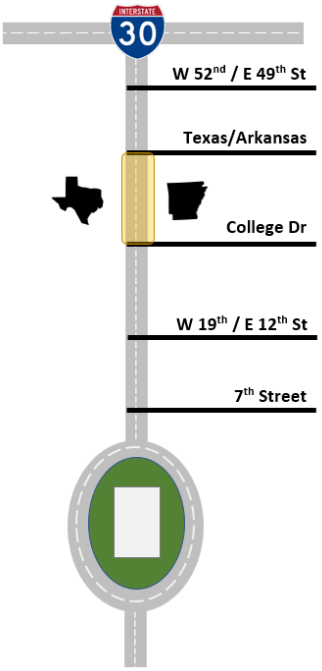


STATELINE AVENUE

TEXARKANA USA
01 NOV 2022

MTG engineers & surveyors
NORRIS DESIGN
Planning | Landscape Architecture | Branding

Business District



Travel Lane Configuration

The existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a continuous two-way left turn lane down the center.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users.

To accommodate these users across Stateline, signalized crosswalks could be located at E. 35th Street and College Drive. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 32nd Street.

All five existing bus facility locations in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

This district, while adding pedestrian features, will still feel urban with heavy traffic volumes and larger percentages of impervious ground covering. This district will be somewhat inviting to pedestrians and cyclists and be a significant improvement over today's conditions. Landscaping and street furniture could be installed as ROW space allows to soften this district as much as possible. To best maintain sight visibility at drive connections, short, low maintenance landscaping would be utilized like that of the Regional Commercial District.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Landscape beds would include short native shrubs and grasses.

TEXARKANA STATELINE

BUSINESS DISTRICT WITHOUT MEDIANS

PLAN

BUSINESS DISTRICT WITHOUT MEDIANS: TEXAS BLVD TO COLLEGE DR

NORTH

0 150 300 600
SCALE

***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

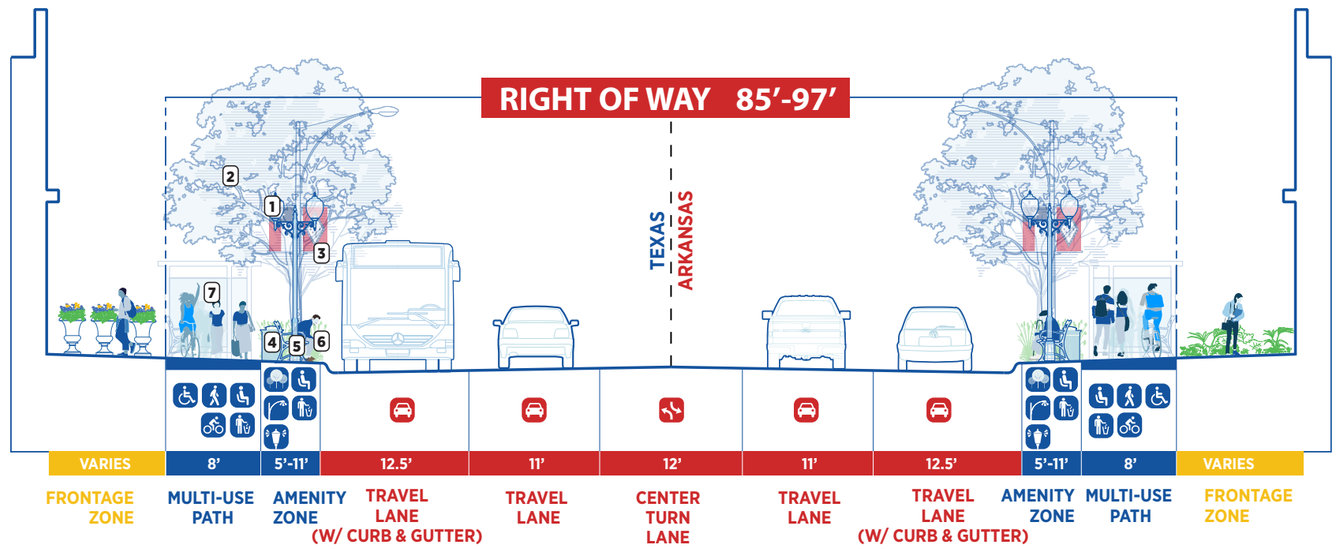
- RIGHT OF WAY
- STATE LINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE
- POTENTIAL STREET TREE WITH CITY AGREEMENT*
- HISTORICAL MILE MARKER

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24
SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 25'-40' DIA.(depending on specific species), +/- 120' O.C.
3. EXISTING ROAD-SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, +/- 500' O.C. (on center)
6. TRASH RECEPTACLE, +/- 500' O.C. (on center) along with benches
7. T-LINE BUS SHELTER (with Pedestrian Bench & Trash Receptacle)

***Note:** Roadway travel dimensions are set any variable dimension taken up in amenity zone width.



TEXARKANA STATELINE

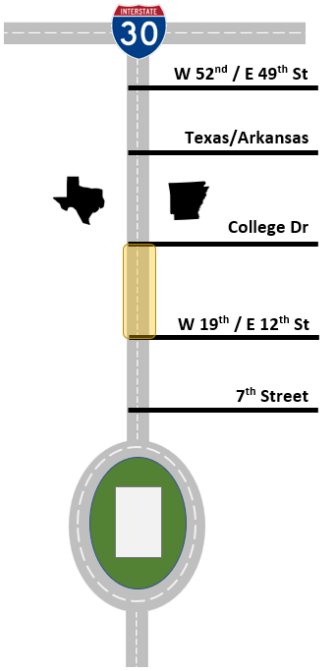
STATELINE AVENUE

TEXARKANA USA
01 NOV 2022

MTG engineers & surveyors

NORRIS DESIGN
Planning | Landscape Architecture | Branding

Residential District



Travel Lane Configuration

The existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a continuous two-way left turn lane down the center.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users. To accommodate these users across Stateline, signalized crosswalks could be located at E. 24th Street, E. 16th Street, and E. 12th Street. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 20th Street.

All eight existing bus facility locations in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

To best maintain sight visibility at drive connections, short, low maintenance landscaping should be utilized. A more aggressive planting schedule and additional street furniture could be utilized to compliment that of the Regional Commercial District. This district could have additional softening features as the corridor travels south and is more multimodal friendly.

Aesthetic Features

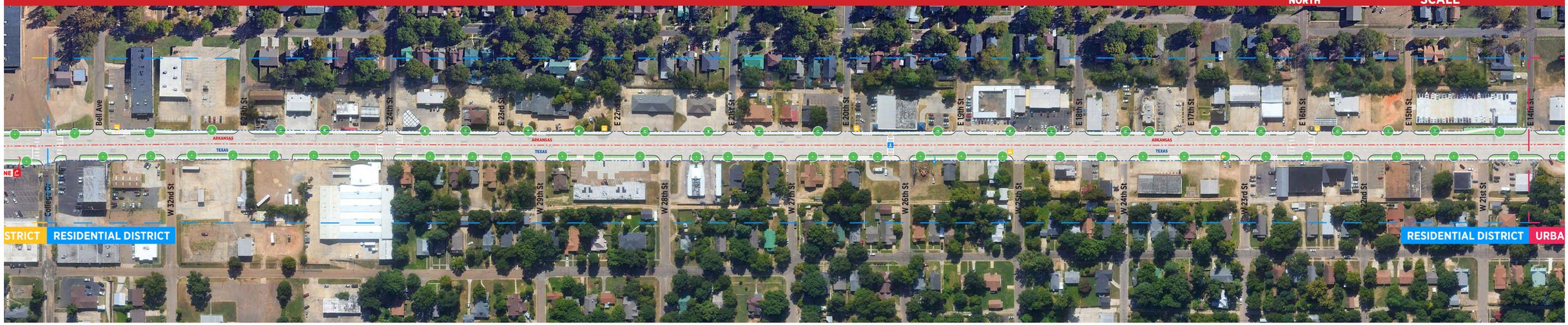
Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Trees along the ROW would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses. The installation of street banners and additional artistic features would be highly encouraged.

RESIDENTIAL DISTRICT WITHOUT MEDIANS

PLAN — RESIDENTIAL DISTRICT WITHOUT MEDIANS: COLLEGE SR TO E 12TH ST

NORTH

0 150 300 600
SCALE



***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

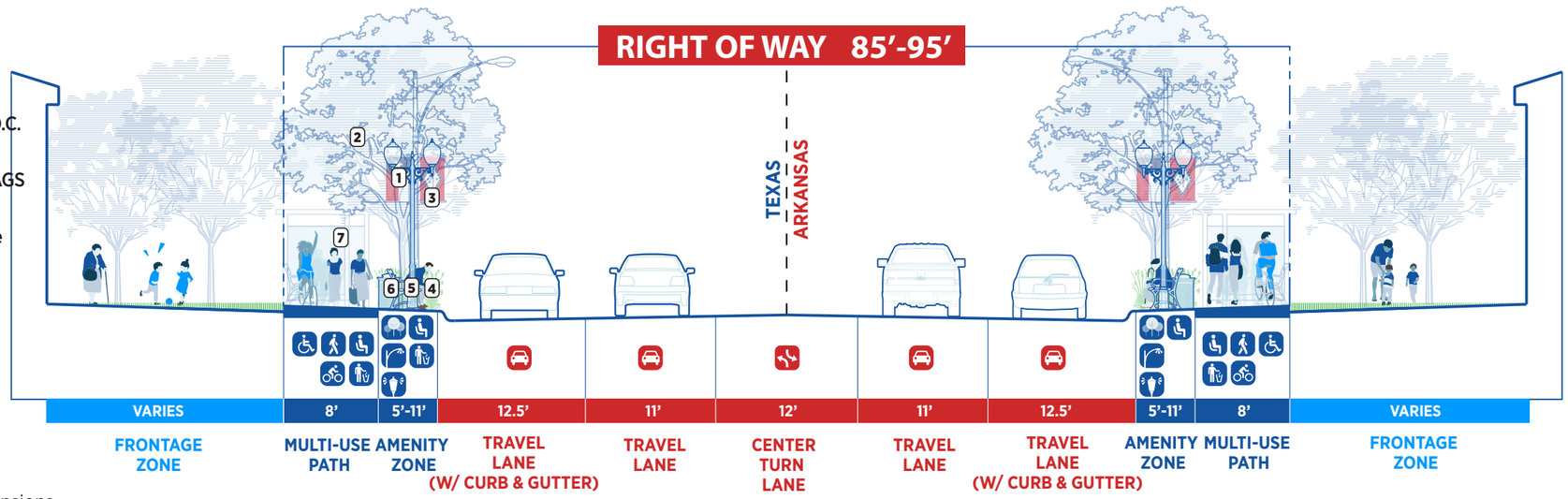
- RIGHT OF WAY
- STATE LINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE
- POTENTIAL STREET TREE WITH CITY AGREEMENT*
- HISTORICAL MILE MARKER

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24
SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 25'-40' DIA.(depending on specific species), +/- 120' O.C.
3. EXISTING ROAD-SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, +/- 500' O.C. (on center)
6. TRASH RECEPTACLE, +/- 500' O.C. (on center) along with benches
7. T-LINE BUS SHELTER (with Pedestrian Bench & Trash Receptacle)

***Note:** Roadway travel dimensions are set any variable dimension taken up in amenity zone width.

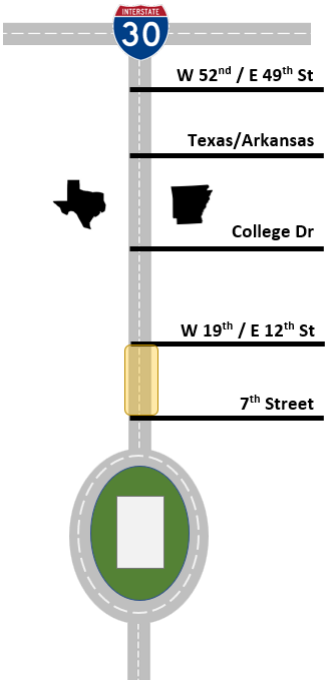


STATELINE AVENUE

TEXARKANA USA
01 NOV 2022

MTG engineers & surveyors
NORRIS DESIGN Planning | Landscape Architecture | Branding

Urban District



Travel Lane Configuration

The existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a continuous two-way left turn lane down the center.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users. To accommodate these users across Stateline, signalized crosswalks could be located at W. 7th Street, E. 9th Street, E. 12th Street, and Dr. Martin Luther King Boulevard.

There are currently no bus facilities within this district. Future expansions of the T-Line System would be required for appropriate placement of any bus shelters.

District Character

To best maintain sight visibility at drive connections, short, low maintenance landscaping should be utilized. An aggressive planting schedule and additional street furniture could be utilized like that of the Residential District. This district would receive the greatest attention outside of the travel lanes and should feel like an extension of downtown, continuing the great work around the Federal Court House moving north.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Trees along the ROW would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses. The installation of street banners and additional artistic features would be highly encouraged. An additional set of entrance feature columns could be installed to signify entrance to downtown. This district would be the best fit for a Stateline Crossing Experience. Additionally, the Twin Green Spaces are included in this district for additional pedestrian attraction.

TEXARKANA STATELINE

URBAN DISTRICT WITHOUT MEDIANS

PLAN

URBAN DISTRICT WITHOUT MEDIANS: E 12TH to 7TH ST

NORTH

0 150 300 600
SCALE

*Note: In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

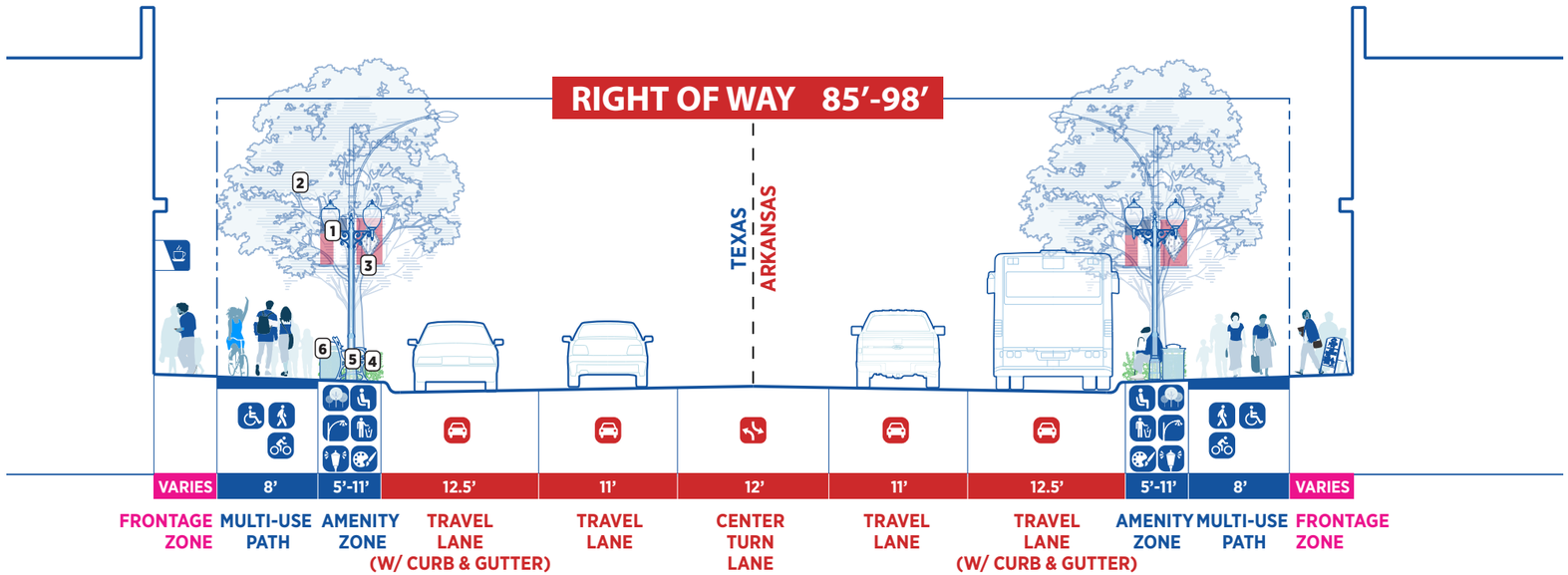
- RIGHT OF WAY
- STATE LINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE
- HISTORICAL MILE MARKER
- PAIRED GATEWAY FEATURE

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24
SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 25'-40' DIA.(depending on specific species), +/- 120' O.C.
3. EXISTING ROAD-SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, +/- 500' O.C. (on center)
6. TRASH RECEPTACLE, +/- 500' O.C. (on center) along with benches

*Note: Roadway travel dimensions are set any variable dimension taken up in amenity zone width.



TEXARKANA STATELINE

STATELINE AVENUE

TEXARKANA USA
01 NOV 2022

MTG engineers & surveyors
NORRIS DESIGN
Planning | Landscape Architecture | Branding

Chapter 6: Quantifiable Measures

Overview

Some of the improvements proposed have quantifiable effects that can be measured and directly compared. This analysis compared measurements for:

- Level of Service
- Roadway Capacity
- Utility Impacts
- Safety Improvements
- Pedestrian Level of Stress
- Bicycle Level of Stress

These items are discussed on the following pages and additional information can be found in the Appendices.

Additional measurements were compared and are anticipated to have no change regardless of the alternative constructed versus the existing conditions. These measurements include:

- Transit Operations
- Drainage Impacts
- Planning Time Index

Capacity and Level of Service

Traffic operational analysis for the study intersections were evaluated based on the methodologies outlined in the Highway Capacity Manual, 2010 Edition, published by the Transportation Research Board. The operating conditions at intersections are graded by the "level of service" experienced by drivers. Level of service (LOS) describes the quality of traffic operating conditions and is rated from "A" to "F". LOS "A" represents the most desirable condition with free-flow movement of traffic with minimal delays. LOS "F" generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in the average delay per stopped vehicle. Delay is measured in seconds per vehicle. The table below shows the upper limit of delay associated with each level of service for signalized and un-signalized intersections.

Intersection Level of Service Delay Thresholds

Level of Service (LOS)	Signalized	Un-Signalized
A	< 10 Seconds	< 10 Seconds
B	< 20 Seconds	< 15 Seconds
C	< 35 Seconds	< 25 Seconds
D	< 55 Seconds	< 35 Seconds
E	< 80 Seconds	< 50 Seconds
F	≥ 80 Seconds	≥ 50 Seconds

For signalized intersections, level of service and average delay relates to all vehicles using the intersection and LOS "D" is the typical minimum standard for signalized intersections. All study intersections were evaluated using the Synchro analysis software package based on Highway Capacity Manual methods. This computer program has been proven to be reliable when used to analyze capacity and levels of traffic service under various operating conditions. Detailed results for all capacity calculations are included in the Appendices. The AM and PM peak traffic periods were used for these calculations.

Existing Conditions

Capacity and level of service analysis was performed for existing traffic volumes, lane geometry and traffic control for the AM and PM peak hours for the study intersections. Operational analysis was done without changes to phasing or timing for traffic signal controlled intersections. Analysis results are summarized below in Table 1.

EXISTING TRAFFIC CONDITIONS		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	C			B			A	A		A	A		**A**	6.3	45.3%
	PM		C			B			A	A		A	A		**B**	10.0	41.9%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	D	B		B	B		A	A		B	B	A	**B**	13.8	49.2%
	PM		D	C		C	C		D	D		D	C	A	**C**	31.2	82.0%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	33.9%
	PM					B		B		A		A	A		**n/a**	0.4	47.5%
Stateline Avenue and W. 42nd Street / E. 36th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	1.4	55.0%
	PM		B			B			A	A		A	A		**n/a**	0.6	53.1%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			C			A	A	A	A	A		**A**	4.8	43.9%
	PM		C			B			A	A	A	A	A		**A**	9.1	52.2%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		A	A		A	A		**A**	5.8	49.3%
	PM		E	B		D	D		A	A		A	B		**B**	13.0	62.0%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		A		A	A		**A**	6.7	34.9%
	PM					B		B		A		A	A		**A**	5.9	56.5%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.9	25.4%
	PM					B		B		A		A	A		**n/a**	0.4	35.3%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	C			C			A	A		A	A		**A**	6.2	39.1%
	PM		C			B			A	A		A	A		**B**	11.0	50.1%
Stateline Avenue and W. 12th Street / E. 10th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	0.4	22.6%
	PM		B			B			A	A		A	A		**n/a**	0.3	30.3%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	3.0	39.2%
	PM		B			C			A	A		A	A		**n/a**	3.4	48.2%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				C			A	A			A		**A**	9.6	20.2%
	PM					C			A	A			A		**A**	7.7	31.0%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	C							A		A	A		**B**	17.6	26.3%
	PM		B							A		B	B		**B**	14.9	31.0%

Table 1 – Level of Service Existing Conditions

Projected "Do Nothing" Conditions

Capacity and level of service analysis was performed for projected "Do Nothing" traffic conditions. This analysis included increases of existing traffic volumes in the Stateline Avenue corridor consisting of two percent compounded volume growth for 10 years on Stateline Avenue and one percent compounded volume growth on intersection side streets for 10 years. The lane geometry and traffic control for the intersections were assumed to remain unchanged for this analysis condition. Operational analysis was done without changes to signal phasing but with corridor coordinated signal timing optimized. Some vehicle movements show improved operation compared to "Existing Conditions," even with background traffic volume growth, as a result of optimized signal timing. It is noted that higher volumes associated with background volume growth result in some vehicle movements at the intersection of Stateline Avenue and Texas Boulevard / Arkansas Boulevard falling below acceptable levels in the PM peak period. Analysis results are summarized below in Table 2.

PROJECTED TRAFFIC CONDITIONS DO NOTHING WITH BACKGROUND GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.6	51.1%
	PM		C			B			B	B		A	B		**B**	11.7	49.9%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	E	B		B	B		B	B		C	C	A	**C**	20.3	54.6%
	PM		F	D		D	E		E	E		F	D	A	**D**	52.1	97.1%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	39.2%
	PM					B		B		A		A	A		**n/a**	0.4	55.7%
Stateline Avenue and W. 42nd Street / E. 36th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	1.5	64.1%
	PM		B			B			A	A		A	A		**n/a**	0.7	62.4%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A	A		**A**	8.2	49.3%
	PM		C			C			A	B	A	B	A		**B**	11.4	59.4%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		B	A		A	A		**A**	9.5	56.1%
	PM		D	A		C	D		B	A		A	C		**B**	16.8	71.0%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		A		A	A		**A**	8.4	39.0%
	PM					B		B		B		B	A		**B**	10.5	65.5%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.9	28.8%
	PM					B		B		A		B	A		**n/a**	0.4	40.8%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.1	42.9%
	PM		C			B			B	B		B	B		**B**	14.0	55.5%
Stateline Avenue and W. 12th Street / E. 10th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	0.4	25.3%
	PM		B			B			A	A		A	A		**n/a**	0.3	34.8%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	3.1	43.3%
	PM		C			C			A	A		A	A		**n/a**	4.2	53.8%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.6	23.0%
	PM					B			A	A			A		**A**	8.5	34.7%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	10.6	28.0%
	PM		B							A		A	A		**B**	10.7	34.7%

Table 2 – Level of Service Projected "Do Nothing" Conditions

Projected Alternative #1 -Boulevard Concept Conditions (Raised Medians)

Capacity and level of service analyses were performed for projected Alternative #1 traffic conditions. This analysis included increases of existing traffic volumes in the Stateline Avenue corridor consisting of two percent compounded volume growth for 10 years on Stateline Avenue and one percent compounded volume growth on intersection side streets for 10 years. The lane widths, anticipated driveway closures and median breaks included in analysis for this condition are as described in the previous sections. Traffic controls for the intersections were assumed to be the same as for existing conditions for this analysis condition. Additional pedestrian crossings were conservatively assumed at the rate of 20 conflicting pedestrians per hour at signalized intersections. Operational analysis was done without changes to signal phasing but with corridor coordinated signal timing optimized. Some vehicle movements show improved operation compared to "Existing Conditions" and "Projected Do Nothing Conditions," even with background traffic volume growth, as a result of optimized signal timing. It is noted that higher volumes associated with background volume growth result in some vehicle movements at the intersection of Stateline Avenue and Texas Boulevard / Arkansas Boulevard falling below acceptable levels in the PM peak period. Analysis results are summarized below in Table 3.

PROJECTED TRAFFIC CONDITIONS ALTERNATIVE #1 WITH RAISED MEDIAN AND BACKGROUND GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		B	A		**A**	9.7	53.2%
	PM		B			B			A	A		B	A		**A**	9.1	48.5%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	C	B		C	B		C	C		C	C	A	**C**	20.1	56.3%
	PM		F	F		F	F		F	E		F	D	A	**F**	96.6	94.3%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	39.6%
	PM					B		B		A		A	A		**n/a**	0.3	52.4%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A	A		**A**	8.5	51.5%
	PM		C			C			A	B	A	B	B		**B**	14.6	62.0%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		B	A		A	A		**A**	9.7	59.3%
	PM		D	B		C	C		C	A		A	B		**B**	14.7	75.0%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		B		A	A		**A**	8.6	45.2%
	PM					B		B		B		C	A		**B**	13.6	69.2%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				C		C		A		A	A		**n/a**	1.1	35.2%
	PM					C		C		A		B	A		**n/a**	0.8	47.3%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.2	45.0%
	PM		D			B			B	B		B	A		**B**	16.8	68.3%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	C			C			A	A		A	A		**n/a**	3.9	50.3%
	PM		F			F			A	A		A	A		**n/a**	25.8	61.4%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.6	30.6%
	PM					B			A	A			A		**A**	9.4	42.0%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	10.5	34.1%
	PM		B							A		A	A		**B**	10.2	42.0%

Table 3 – Level of Service Projected Alternative #1 – Raised Median Conditions

Projected Alternative #2 Conditions
(Two-Way Left Turn Lanes)

Capacity and level of service analysis was performed for projected Alternative #2 traffic conditions. This analysis included increases of existing traffic volumes in the Stateline Avenue corridor consisting of two percent compounded volume growth for 10 years on Stateline Avenue and one percent compounded volume growth on intersection side streets for 10 years. The analysis conditions include a two-way center left turn lane in the corridor, lane widths and anticipated driveway closures as described in the previous sections. Traffic control for the intersections were assumed to be the same as for existing conditions for this analysis condition. Additional pedestrian crossings were conservatively assumed at the rate of 20 conflicting pedestrians per hour at signalized intersections. Operational analysis was done without changes to signal phasing but with corridor coordinated signal timing optimized. Some vehicle movements show improved operation compared to "Existing Conditions" and "Projected Do Nothing Conditions," even with background traffic volume growth, as a result of optimized signal timing. It is noted that higher volumes associated with background volume growth result in some vehicle movements at the intersection of Stateline Avenue and Texas Boulevard / Arkansas Boulevard falling below acceptable levels in the PM peak period. Analysis results are summarized below in Table 4.

PROJECTED TRAFFIC CONDITIONS ALTERNATIVE #2 TWLT WITH GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		B	A		**A**	9.7	53.2%
	PM		C			B			A	B		A	B		**B**	11.8	47.5%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	C	B		C	B		C	C		C	C	A	**C**	20.0	56.3%
	PM		F	D		D	E		E	E		E	D	A	**D**	52.0	98.1%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	45.5%
	PM					B		B		A		A	A		**n/a**	0.4	60.9%
Stateline Avenue and W. 42nd Street / E. 36th Street	AM	2-WAY "STOP" SIGN	C			B			A	A		A			**n/a**	1.6	69.4%
	PM		C			B			A	A		A			**n/a**	0.7	67.0%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A			**A**	8.5	51.5%
	PM		C			C			A	B	A	B			**B**	12.0	60.4%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B			B	A		A			**A**	9.7	59.3%
	PM		D	C		C			B	A		A			**B**	17.3	72.9%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		B		A	A		**A**	8.6	45.2%
	PM					B		B		B		B	A		**B**	10.9	67.1%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.9	35.2%
	PM					B		B		A		B	A		**n/a**	0.4	45.8%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A			**A**	8.2	45.0%
	PM		C			B			B	B		B			**B**	14.3	55.6%
Stateline Avenue and W. 12th Street / E. 10th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A			**n/a**	0.4	31.0%
	PM		B			B			A	A		B			**n/a**	0.3	39.7%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A			**n/a**	3.3	50.3%
	PM		C			D			A	A		A			**n/a**	4.9	60.4%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.4	30.6%
	PM					B			A	A			A		**A**	8.9	43.6%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	10.5	34.1%
	PM		B							A		A	A		**B**	10.6	43.0%

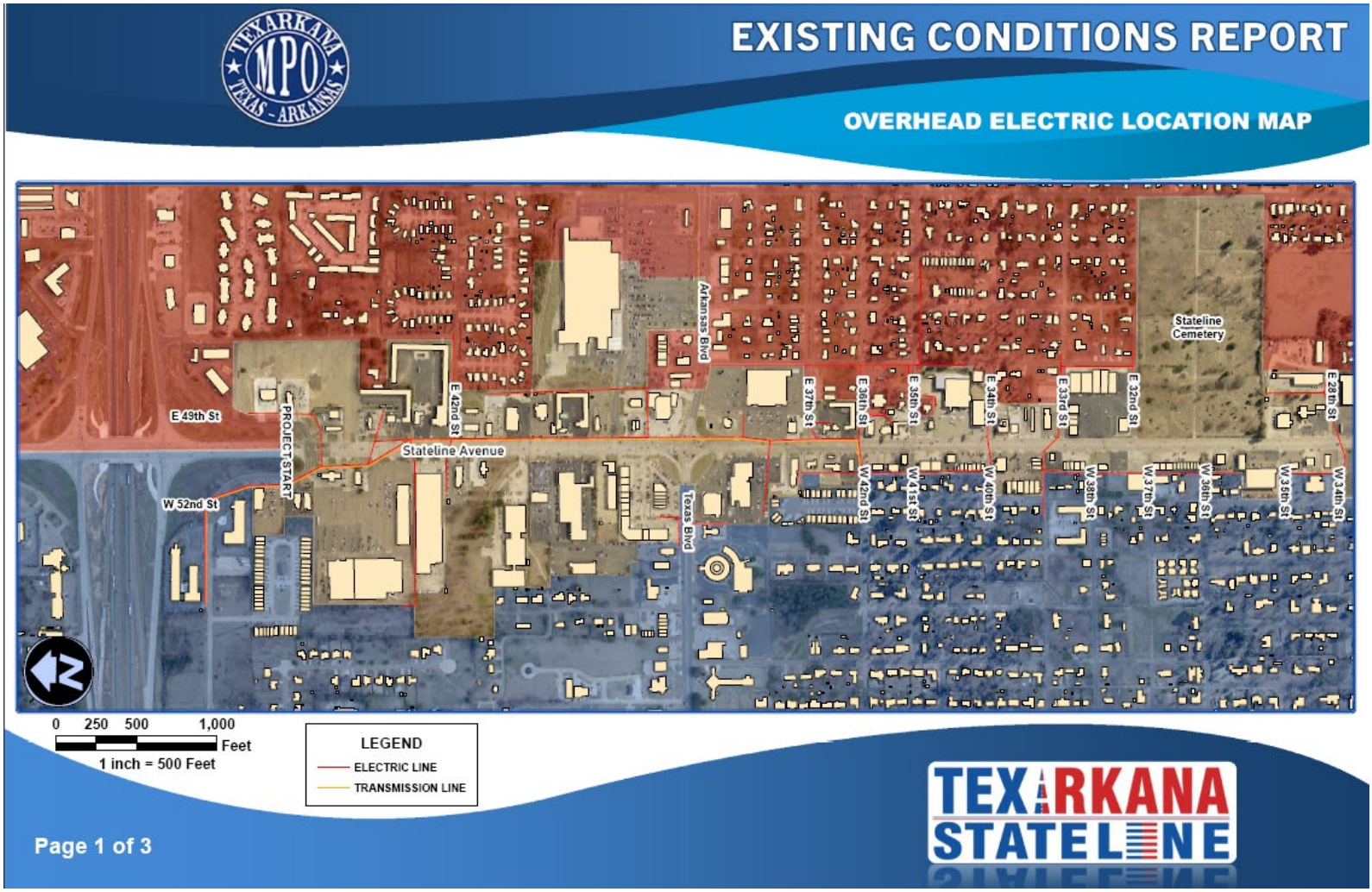
Table 4 – Level of Service Projected Alternative #2 – Two-Way Left Turn Lanes Conditions

Capacity and Level of Service Summary

Capacity and level of service analysis results indicate all intersections earning a LOS “C” or better for the existing corridor. Only the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard has intersection capacity utilization greater than 80 percent. That intersection has the highest volume of entering traffic volume of any of the Stateline Avenue corridor intersections.

With traffic volume growth assumed over the next ten years, only the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard shows potential intersection capacity deficiency with intersection capacity utilization projected to be approaching 100 percent for the “Do Nothing” alternative as well as for Alternative #1 and Alternative #2. Higher volumes associated with background volume growth result in some vehicle movements at the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard falling below acceptable levels in the PM peak period for all scenarios. The analysis results for that intersection indicate that future capacity improvements at the intersection may become needed as volumes increase. The other study intersections in the Stateline Avenue corridor have projected analysis results of overall intersection LOS “B” or better with projected traffic volume growth for each of the alternatives analyzed.

Except as noted above for the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard, both Alternative #1 (Raised Medians) and Alternative #2 (Two-Way Left Turn Lanes) with planned pedestrian improvements offer acceptable traffic operations while improving safety for pedestrians in the corridor.



Utility Impacts

Per conversations with TxDOT and ArDOT, it is our understanding that the proposed Stateline Reconstruction currently does not include utility modifications. Both design alternatives included in this report propose narrower pavement widths than existing traffic lanes and do not propose any vegetation that would have negative impacts to buried utilities. All above grade utilities, such as communications pedestals, can be incorporated into these designs or avoided completely without the need for costly relocation efforts.

Currently, the only overhead electric is between W. 52nd Street and E. 36th Street. These facilities include distribution and larger transmission lines. Existing developments would not allow for these facilities to be relocated outside of ROW, and proposed improvements within this report can be adjusted to avoid overhead electric facilities.

Safety Improvements

Alternative #1- Boulevard Concept

Design Considerations in the Boulevard Concept to improve safety include:

- Raised Medians
    - Raised medians would create predictable left turn movements for oncoming traffic. Studies have shown raised medians can reduce accidents by over 15%.

Alternative #2- Redevelopment Concept

Design Considerations in the Boulevard Concept to improve safety include:

- Driveway Reduction Plan
    - The stretch of Stateline included in this study has 210+ driveway connections which create hazardous conditions for vehicles and pedestrians/cyclists traveling the shared use path. Reducing the quantity of drive connections reduces the quantity of possible conflict points and should improve safety.

Common Safety Improvements to both Alternatives

Design Considerations in the Boulevard Concept to improve safety include:

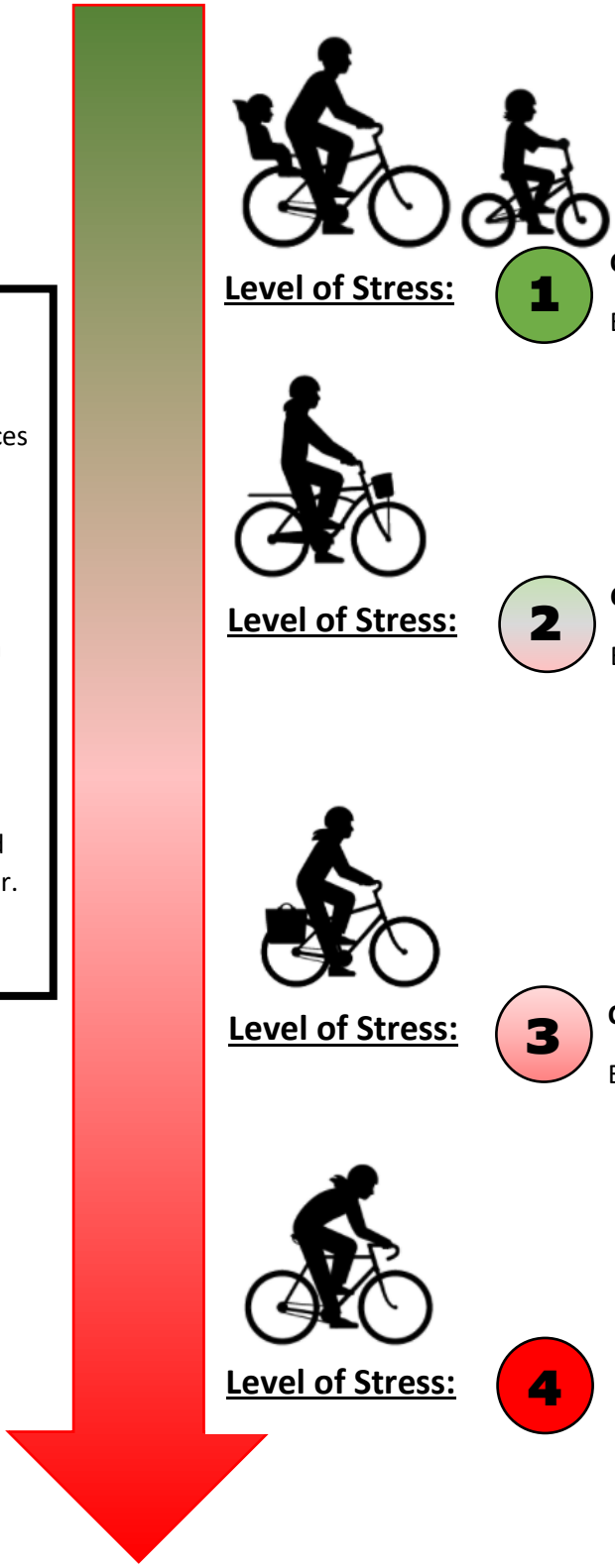
- Shared Use Paths
    - Current cyclists must either use the 4- to 5-foot-wide sidewalk or travel in the main lanes of Stateline. The shared use path would create a safe environment from vehicular traffic, except at driveway and side street intersections. See Bicycle Level of Stress for Further Analysis.
- Mid-Block Crossings
    - Most pedestrian accidents on Stateline have occurred by individuals attempting to cross travel lanes at unsignalized locations. The addition of these new locations could provide additional signalized opportunities to cross, hopefully eliminating future accidents. Additional studies would be required by DOT's to confirm applicability of location.
- Pedestrian Facility Extension from Texas Boulevard to W. 52nd Street
    - This section has the highest number of pedestrian incidents and does not currently have any pedestrian facilities. Adding sidewalks and crosswalks along this section should increase pedestrian awareness for vehicular traffic and provide safer opportunities for pedestrians to reach their desired destinations.
- Narrower Travel Lanes
    - Studies have shown that narrower travel lanes induce lower speeds from drivers and decrease the potential for accidents. Additionally, accidents at higher speeds have a higher fatality rate than the same accidents at lower speeds.

Bicycle Level of Stress

As developed by the Mineta Transportation Institute, Bicycle Level of Traffic Stress Analysis is regarded as one of the best practices for assessing a bicycle network.

This is a data driven approach to determine the cyclist level of comfort and stress along any given bicycle corridor.

As outlined in the graphic, the results from this analysis are based on a rating system from one to four.



Level of Stress: 1

Comfortable for all ages & abilities

Examples:

- Bike Path
- Separate Bike Lane

Level of Stress: 2

Comfortable for most ages & abilities

Examples:

- Buffered Bike Lane/Calm Street
- Separate Bike Lane/Busy Street

Level of Stress: 3

Comfortable for confident riders

Examples:

- Shoulder Space/ Busy Street
- Narrow Bike Lane/Busy Street

Level of Stress: 4

Uncomfortable for most riders

Examples:

- No Bike Facility/Busy Street

Existing Bicycle Facilities

Currently no bicycle facilities exist along the corridor. Cyclists must either utilize main lanes of traffic or portions of the narrow pedestrian sidewalk. To travel Stateline Avenue as a cyclist requires extreme awareness and would be considered very unsafe.

Level of Stress: 4

Boulevard Concept: Alternative #1

This concept would create shared use paths along both sides of the corridor. The eight-foot width shown is the minimum allowable width for TXDOT and does not meet the ten-foot width required by ARDOT to be considered a full shared use path. Since paths will be proposed down both sides of the roadway and current bicycle counts are very low, the proposed width should be adequate to support current level of usage. If use increases dramatically in the coming years, the elements within the ROW may need to be reconfigured to accommodate increased bicycle usage.

Buffers will be provided between shared use path and vehicular traffic, but numerous conflicts will occur at the 210+ driveway crossings and 50+ stop sign regulated, side street crossings.

Level of Stress: 3 → 2

Regional Commercial — Urban

Redevelopment Concept: Alternative #2

This concept would create shared use paths along both sides of the corridor. The eight-foot width shown is the minimum allowable width for TXDOT and does not meet the ten-foot width required by ARDOT to be considered a full shared use path. Since paths will be proposed down both sides of the roadway and current bicycle counts are very low, the proposed width should be adequate to support current level of usage. If use increases dramatically in the coming years, the elements within the ROW may need to be reconfigured to accommodate increase bicycle usage.

Buffers will be provided between shared use path and vehicular traffic, but numerous conflicts will occur at the 210+ driveway crossings and 50+ stop sign regulated, side street crossings.

Level of Stress: 3 → 2

Regional Commercial — Urban

Pedestrian Level of Stress

Like the Bicycle Level of Stress, the pedestrian scale is based on a 1 through 4 rating system:

PLTS 1- Suitable for all users and requires little attention to the traffic situation.

Example: Wooded Trail adjacent to Roadway (large buffer)

PLTS 2- Suitable for teens and adults and requires some attention to the traffic situation.

Example: Lower Speed Roadways with wide sidewalks and buffer zone.

PLTS 3- Able-bodied adults feel uncomfortable but are safe in this environment. Requires moderate attention to traffic situation.

Example: Higher Speed Roadways with smaller buffers zones.

PLTS 4- Only used by confident or trip-purpose users. Requires constant attention to traffic.

Example: High Speed Roadways with narrow sidewalks and little/no buffer.

Segment: Regional Commercial		Existing	Boulevard	Redevelopment
Sidewalk	Condition	Poor	Good	Good
	Width (ft)	4ft	8ft	8ft
Buffer	Width (ft)	None	2ft-9ft	2ft-10ft
	Buffer Type	None	Landscaped	Landscaped
Roadway	# of Lanes	6	6	7
	Speed (mph)	40	40	40
Mid-Block Crossing	Signage	None	PHB	PHB
	Refuge Island	None	Yes	Yes
Land Use	Type	Commercial	Commercial	Commercial

Segment: Regional Commercial	Existing	Boulevard	Redev
Sidewalk Condition	PLTS 4	PLTS 1	PLTS 1
Physical Buffer Type	PLTS 4	PLTS 2	PLTS 2
Total Buffer Width	PLTS 4	PLTS 3	PLTS 3
Intersection Crossing	PLTS 4	PLTS 3	PLTS 3
Mid-Block Crossing	N/A	PLTS 3	PLTS 3
General Land Use	PLTS 3	PLTS 3	PLTS 3
Final Level of Stress	**PLTS 4**	**PLTS 3**	**PLTS 3**

Segment: Business		Existing	Boulevard	Redevelopment
Sidewalk	Condition	Poor	Good	Good
	Width (ft)	4ft - 5ft	8ft	8ft
Buffer	Width (ft)	None	3ft-9ft	5ft-11ft
	Buffer Type	None	Landscaped	Landscaped
Roadway	# of Lanes	5	4	5
	Speed (mph)	40	40	40
Mid-Block Crossing	Signage	None	PHB	PHB
	Refuge Island	None	Yes	Yes
Land Use	Type	Commercial	Commercial	Commercial

Segment: Business	Existing	Boulevard	Redev
Sidewalk Condition	PLTS 3	PLTS 1	PLTS 1
Physical Buffer Type	PLTS 4	PLTS 2	PLTS 2
Total Buffer Width	PLTS 4	PLTS 3	PLTS 3
Intersection Crossing	PLTS 4	PLTS 3	PLTS 3
Mid-Block Crossing	N/A	PLTS 3	PLTS 3
General Land Use	PLTS 3	PLTS 3	PLTS 3
Final Level of Stress	**PLTS 4**	**PLTS 3**	**PLTS 3**

Segment: Residential	Existing	Boulevard	Redev
Sidewalk Condition	PLTS 3	PLTS 1	PLTS 1
Physical Buffer Type	PLTS 4	PLTS 2	PLTS 2
Total Buffer Width	PLTS 4	PLTS 3	PLTS 3
Intersection Crossing	PLTS 4	PLTS 3	PLTS 3
Mid-Block Crossing	N/A	PLTS 3	PLTS 3
General Land Use	PLTS 2	PLTS 2	PLTS 2
Final Level of Stress	**PLTS 4**	**PLTS 3**	**PLTS 3**

Segment: Residential		Existing	Boulevard	Redevelopment
Sidewalk	Condition	Poor	Good	Good
	Width (ft)	4ft - 5ft	8ft	8ft
Buffer	Width (ft)	None	3ft-9ft	5ft-11ft
	Buffer Type	None	Landscaped	Landscaped
Roadway	# of Lanes	5	4	5
	Speed (mph)	40	40	40
Mid-Block Crossing	Signage	None	PHB	PHB
	Refuge Island	None	Yes	Yes
Land Use	Type	Commercial	Commercial	Commercial

Segment: Urban		Existing	Boulevard	Redevelopment
Sidewalk	Condition	Poor	Good	Good
	Width (ft)	4ft - 5ft	8ft	8ft
Buffer	Width (ft)	None	3ft-9ft	5ft-11ft
	Buffer Type	None	Landscaped	Landscaped
Roadway	# of Lanes	5	4	5
	Speed (mph)	40	30*	40
Mid-Block Crossing	Signage	None	N	RRFB
	Refuge Island	None	Yes	Yes
Land Use	Type	Commercial	Commercial	Commercial

**To achieve median openings as shown in previous exhibits design speed must be reduced in the urban district to allow for shortened deceleration lanes. This would extend the current 30 mph speed limit that starts just south of the project limits.*

Segment: Urban	Existing	Boulevard	Redev
Sidewalk Condition	PLTS 3	PLTS 1	PLTS 1
Physical Buffer Type	PLTS 4	PLTS 2	PLTS 2
Total Buffer Width	PLTS 4	PLTS 3	PLTS 3
Intersection Crossing	PLTS 4	PLTS 3	PLTS 3
Mid-Block Crossing	N/A	N/A	N/A
General Land Use	PLTS 2	PLTS 2	PLTS 2
Final Level of Stress	**PLTS 4**	**PLTS 3**	**PLTS 3**

Both alternatives offer the same level of stress reduction from existing

Chapter 7: Implementation

Cost Analysis

Currently, a reconstruction project is slated to begin design next year as a joint project between TxDOT and ArDOT. This scheduled construction project is considered separate from this corridor study, but any modifications to the travel lanes of Stateline for the purpose of this budget is assumed to be covered in the funding set aside for the Stateline Redevelopment. In all alternatives proposed, the overall pavement width is narrower than existing traffic lanes, so no additional cost should be encountered to implement the designs included in this report.

Items shown are assumed to be outside the scope of work for the DOT project and would require additional funding mechanisms to achieve.

The unit prices shown are based on best available information as it relates to current prices. Due to the instability of current prices, no adjustment has been made for future cost inflation or contingencies. Estimates shown are for rough budgeting purposes only, additional refinement will be necessary based upon actual design plans.

Median Costs

Based on an approximate cost comparison of a Two-Way Left Turn (TWLT) and raised median section, the prices are comparable and thus, the cost to install raised medians is not included in the estimate below. The only additional items included for the Boulevard Concept regarding raised medians are:

- Upgrade to a Colored/ Stamped Material
- Landscape Materials (including Sod)
- Irrigation Systems

If medians are to be installed, they should be incorporated into the 2022 DOT project and should require no additional funding unless median hardscape/landscape is upgraded at the time of installation.

Design Alternative 1: Boulevard Concept

Description	*UNIT*	*QTY*	*UNIT PRICE*	*TOTAL*
Pedestrian/Bike Facilities				
8' Shared Use Path (Both Sides)	LF	14,600	$ 130.00	$ 1,898,000.00
Pedestrian Hybrid Beacon System Crossing	EA	3	$ 65,000.00	$ 195,000.00
Pedestrian Street Lights (2 globe ornamental/18' tall)	EA	150	$ 5,500.00	$ 825,000.00
Street Furniture				
T-Line Bus Shelters & Benchs	EA	15	$ 12,000.00	$ 180,000.00
Trash Receptacle (metal)	EA	60	$ 1,500.00	$ 90,000.00
Bicycle Rack (metal)	EA	10	$ 1,000.00	$ 10,000.00
Pedestrian Bench (metal)	EA	60	$ 3,000.00	$ 180,000.00
Landscaping				
Deciduous Trees (2-3" Cal)	EA	250	$ 1,250.00	$ 312,500.00
Shrubs (5 gal)	EA	2,500	$ 40.00	$ 100,000.00
Sod	SF	53,400	$ 1.25	$ 66,750.00
Bed Prep and Mulch	SF	106,800	$ 5.00	$ 534,000.00
Steel Edger	LF	18,000	$ 2.00	$ 36,000.00
Stamped Concrete (Red Brick Appearance)	SF	46,000	$ 10.00	$ 460,000.00
Shrubs (5 gal, median)	EA	600	$ 40.00	$ 24,000.00
Native Grasses (median)	EA	1,200	$ 40.00	$ 48,000.00
Sod (median)	SF	75,000	$ 1.25	$ 93,750.00
Irrigation Tap and Meter	EA	6	$ 5,000.00	$ 30,000.00
Irrigation	SF	64,000	$ 2.00	$ 128,000.00
Irrigation (median)	SF	80,000	$ 2.00	$ 160,000.00
Backflow Prevention	EA	6	$ 2,500.00	$ 15,000.00
Controller	EA	6	$ 2,500.00	$ 15,000.00
Specialty Features				
Upgraded Stamped Concrete Cross Walks	LF	5,800	$ 125.00	$ 725,000.00
Street Banners & Brackets (heavy vinyl)	EA	450	$ 750.00	$ 337,500.00
Colossal Flag (150' tall)	EA	2	$ 35,000.00	$ 70,000.00
Flag Lighting	EA	2	$ 25,000.00	$ 50,000.00
Columns (16' masonry pair)	EA	2	$ 20,000.00	$ 40,000.00
Twin Parks Concept (Allowance Per Park)	EA	4	$ 45,000.00	$ 180,000.00
Stateline Crossing Experience	EA	1	$ 20,000.00	$ 20,000.00
			Pedestrian/Bike Facilities Total	**$ 2,918,000.00**
			Street Furniture	**$ 460,000.00**
			Landscaping	**$ 2,023,000.00**
			Specialty Features	**$ 1,422,500.00**
			BOULEVARD CONCEPT TOTAL	**$ 6,823,500.00**

Design Alternative 2: Redevelopment Concept

Description	*UNIT*	*QTY*	*UNIT PRICE*	*TOTAL*
Pedestrian/Bike Facilities				
8' Shared Use Path (Both Sides)	LF	14,600	$ 130.00	$ 1,898,000.00
Pedestrian Hybrid Beacon System Crossing W/ Refuge	EA	3	$ 95,000.00	$ 285,000.00
Pedestrian Street Lights (2 globe ornamental/18' tall)	EA	150	$ 5,500.00	$ 825,000.00
Street Furniture				
T-Line Bus Shelters & Benchs	EA	15	$ 12,000.00	$ 180,000.00
Trash Receptacle (metal)	EA	60	$ 1,500.00	$ 90,000.00
Bicycle Rack (metal)	EA	10	$ 1,000.00	$ 10,000.00
Pedestrian Bench (metal)	EA	60	$ 3,000.00	$ 180,000.00
Landscaping				
Deciduous Trees (2-3" Cal)	EA	250	$ 1,250.00	$ 312,500.00
Shrubs (5 gal)	EA	2,500	$ 40.00	$ 100,000.00
Sod	SF	53,400	$ 1.25	$ 66,750.00
Bed Prep and Mulch	SF	106,800	$ 5.00	$ 534,000.00
Steel Edger	LF	18,000	$ 2.00	$ 36,000.00
Irrigation Tap and Meter	EA	6	$ 5,000.00	$ 30,000.00
Irrigation	SF	64,000	$ 2.00	$ 128,000.00
Backflow Prevention	EA	6	$ 2,500.00	$ 15,000.00
Controller	EA	6	$ 2,500.00	$ 15,000.00
Specialty Features				
Upgraded Stamped Concrete Cross Walks	LF	5,800	$ 125.00	$ 725,000.00
Street Banners & Brackets (heavy vinyl)	EA	450	$ 750.00	$ 337,500.00
Colossal Flag (150' tall)	EA	2	$ 35,000.00	$ 70,000.00
Flag Lighting	EA	2	$ 25,000.00	$ 50,000.00
Columns (16' masonry pair)	EA	2	$ 20,000.00	$ 40,000.00
Twin Parks Concept (Allowance Per Park)	EA	4	$ 45,000.00	$ 180,000.00
Stateline Crossing Experience	EA	1	$ 20,000.00	$ 20,000.00
			Pedestrian/Bike Facilities Total	**$ 3,008,000.00**
			Street Furniture	**$ 460,000.00**
			Landscaping	**$ 1,237,250.00**
			Specialty Features	**$ 1,422,500.00**
			BOULEVARD CONCEPT TOTAL	**$ 6,127,750.00**

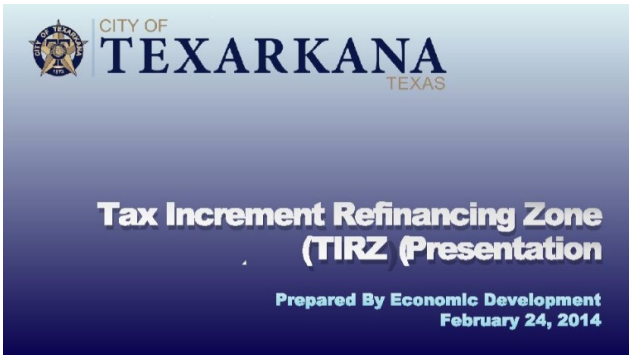
Potential Funding Mechanisms

Public-Private Partnerships

A potential source of funding could be through public-private partnerships with local organizations. Multiple organizations have shown interest in the advancement of Stateline and may be willing to help with funding elements of the design or aiding in the maintenance of landscape improvements.

Tax Increment Financing

Tax Increment Financing (TIF) is a method local governments can use to pay for improvements that will draw private investment to an area. Tax increment financing is not a new tax; instead, it redirects some of the ad valorem tax from properties in a geographic area designated as a Tax Increment Reinvestment Zone (TIRZ) to pay for improvements in the zone.



Grant Funding

Multiple agencies at State and Federal levels have grant funds established for pedestrian improvements and downtown revitalization areas. Portions of the proposed improvements could be funded through the grant process in the coming years.

Action Plan

The table below includes action items required to achieve the design alternatives previously detailed. This includes additional action items that would be required to achieve the desired goals. Additional "soft cost" or fees beyond the included construction estimates may be necessary and are not included in the scope of this report.

Implementation in DOT Project

With the reconstruction project slated in the short term, this has a significant impact to the action plan provided below. With the last major improvements to Stateline having been accomplished over 50 years ago, this would be the most opportune time to incorporate some of the elements of this report.

Time Frame Guideline

Time frames depicted on the implementation plan are detailed as:

Short Term Time Frame

Should begin Development & Coordination Immediately.

0 - 5 years to Completion

Mid Term Time Frame

Does not require immediate action but could be pursued alongside DOT project or immediately after.

5 - 10 years to Completion

Long Term Time Frame

Will require additional planning and coordination with local government and state agencies.

5 – 25+ years to Completion, Or Perpetual

Implementation Plan

Goal	*Action Items*	Time Frame			Approx. Funding	Maintenance Required
		Short Term	Mid Term	Long Term		
Lane Reconfiguration	Coordinate design w/ DOT Additional Studies may be necessary	X			None	None
Median Construction (Alt #1 Only)	Coordinate Design w/ DOT Public Involvement Additional Studies will be necessary Develop Design for median treatment (pavers, landscape, gen. concrete)	X			Varies Depending on Median Treatment	Depends on Landscaping of Medians
Shared Use Path Install	Potentially install as part of DOT Project Develop Design	X			See full cost in Table Above (portions may be covered in DOT Project)	None
Establish Landscape Areas	Coordinate with DOT Project the desire to establish areas for landscape and amenity zones	X			Minimal up to $500,000 depending on install during DOT project	Yes
Pedestrian Lighting	Develop Design based on constructed DOT Project & Pedestrian Facilities in Place Coordinate Improvements with DOTs Maintenance Agreement in place for Cities to Maintain		X		Up to $825,000 Cost could be affected by DOT project	Yes
Street Furniture Installation	Develop Design based on constructed DOT Project & Pedestrian Facilities in Place *Explore funding opportunities (potentially public/private partnerships)*		X		Up to $350,000	Minimal

Implementation Plan

Goal	*Action Items*	Time Frame			Approx. Funding	Maintenance Required
		Short Term	Mid Term	Long Term		
Upgrade Landscape Areas	Determine Funding Source for implementation and maintenance		X		Varies (See Cost Breakdown)	Yes
Colossal Flag Feature	Permit Placement with DOTs Funding Source and lighting/foundation design		X		$120,000	Minimal
Street Banners & Gateway Features	Funding source, coordinate placement with DOT		X		Up to $360,000	Minimal
Crossing Experience	Draft Designs, receive public input Establish funding and DOT Approval			X	$20,000	Minimal
Twin Green Spaces Construction	Draft Designs, receive public input Establish funding and DOT Approval			X	Varies based on Design	Yes
Stateline Overlay District	Draft Overlay District Guidelines Review and Approval Process Begin Implementation for development projects			X	None	No
Driveway Reduction Plan	Draft Driveway reduction guidelines Additional study to determine driveways that could be targeted for removal Coordinate Agreement with Owners (voluntary, exchange for improvements or compensation for loss of drive) Construction phase to remove driveways			X	Unknown (Based on Owner Agreements)	No

Summary

Both alternatives, if implemented per this report, would redefine Stateline as a premiere corridor that promotes all uses and creates a more user-friendly environment that encourages economic development.

Public Input

Of the 270+ participants at the first public meeting 70% agreed that medians could create a safer roadway, based solely on minimal understanding of the design & purpose of a raised median.

At the second public meeting raised medians were depicted for the residential and urban district on large printed medium and traffic impacts among other topics were discussed with the attendees and business owners in breakout groups for each district. Traffic impacts included discussion relating to reroutes onto adjacent side streets. Public input based on 75+ participants showed 87% approved of raised medians in the residential district and 81% wanted the regional commercial concept revised to include raised medians. Questions regarding the Urban and business district were not specifically asked.

At the final public meeting both alternatives outlined in this report were presented to approximately 50 individuals and they selected their preferred option for each of the 4 districts. Based on 28 responses, the Boulevard Alternative was selected in each district with increasing support the closer to downtown the corridor went as the preferred alternative.

MPO Public Meeting #3- Proposed Alternatives Input			
District	Concept	YES	%
Regional Commercial	Boulevard Concept	15	54%
Regional Commercial	Redevelopment Concept	13	46%
Business	Boulevard Concept	16	57%
Business	Redevelopment Concept	12	43%
Residential	Boulevard Concept	17	61%
Residential	Redevelopment Concept	11	39%
Urban	Boulevard Concept	18	64%
Urban	Redevelopment Concept	10	36%

Boulevard Concept Viability

This concept has received some pushback in the form of unofficial petitions from local business owners based on concerns of accessibility to their subject businesses. Based on available information, negative feedback from business owners was the reason medians were not constructed in the 1970's as per original design plans when Stateline was expanded to 5 lanes. While it is agreeable there may be locations that would have an adverse impact from the construction of raised medians, strategically located openings and signage may be able utilized to minimize impacts and provide an easier transition as motorist adjust travel patterns to account for newly constructed raised medians.

It is understood that additional studies and engineering evaluations would be required prior to implementation of the Boulevard or Redevelopment Concepts and the design shown in these plans are conceptual in nature. The goal of establishing these design alternatives is to provide concepts, guidelines, and visions for future improvements to the corridor. This is to be a building block moving forward into true engineering design and evaluation to determine the final viability of these concepts.

Some of the additional studies identified would include:

-Traffic Mobility of Engineered Cross Sections including

    -U-Turn Opportunities: Based on Preliminary Analysis, U-Turns may only be viable at the Texas/Arkansas Intersection

-Median Opening Locations

    -Study Traffic Volumes of Individual business to determine if an opening is warranted

    -Study side Street Traffic Volumes at unsignalized Intersections

-Pedestrian Facilities

    -Pedestrian Counts along Corridor for Crosswalk Placement Determinate and Design

-Additional Public Engagement (Include Findings from Previously Mentioned Studies)

    -To ensure all understand traffic impacts associated with each alternative

Appendix A: Public Meeting #1

MPO Public Meeting #1 Questionaire - Session #1 Responses Project Overview									
Question #	Description	Online Yes	Online No	Yes	No	Other	TOTAL	Yes %	No %
1	Do you feel automobile traffic on Stateline Avenue moves too fast?	103	163	120	179	3	302	40%	59%
2	Do you feel the continuous left-hand turn lane in the center of Stateline Avenue is dangerous?	137	127	159	138	3	300	53%	46%
3	Do you feel the look of Stateline Avenue is appealing to tourist?	5	259	6	293	1	300	2%	98%
4	Is Stateline Avenue a safe environment to walk?	13	252	17	281	3	301	6%	93%
5	From your perspective, is it easy or sometimes challenging to travel in and out of existing parking lots along Stateline Avenue?	41	225	41	225	3	269	15%	84%
6	Is there surface drainage concerns and flooding in Stateline Avenue during heavy rain events?	139	112	149	130	8	287	52%	45%
7	Should bicycles riders also be considered in a new design for Stateline Avenue?	173	92	192	105	4	301	64%	35%
8	From your perspective, should bicycle riders be limited to only riding on pedestrian sidewalks and not a specific bike lane along side the automobile travel lanes?	146	113	166	125	4	295	56%	42%
9	Do you feel there is a greater overall potential for Stateline Avenue?	256	10	290	10	2	302	96%	3%
10	Would you like to see Stateline Avenue return to being a corridor with a higher community status, a more attractive look and supporting more new and appealing development?	261	5	295	6	1	302	98%	2%

MPO Public Meeting #1 Questionaire - Session #2 Responses Traffic Patterns									
Question #	Description	Online Yes	Online No	Yes	No	Other	TOTAL	Yes %	No %
1	Do you think raised medians would create a safer roadway?	166	76	194	82	1	277	70%	30%
2	Do you think right-in right-out intersections would create a safer roadway?	164	68	188	73	6	267	70%	27%
3	Do you find alternate routes to avoid traffic on Stateline?	144	105	158	125	1	284	56%	44%
4	Do you feel there are sections of more congestion on Stateline?	209	36	240	38	1	279	86%	14%
5	Do you feel like there are areas where the number of traffic lanes could be reduced due to lower traffic volumes?	75	167	89	185	3	277	32%	67%
6	Are there signalized intersections where traffic stop lights are not needed?	96	148	104	170	5	279	37%	61%
7	Are there intersections where traffic stop lights are needed that currently are not there?	77	159	86	181	3	270	32%	67%
8	Do you feel that there is too much through truck traffic on Stateline?	84	155	93	180	1	274	34%	66%
9	Should through truck traffic be more restrictive on Stateline?	122	118	140	131	4	275	51%	48%
10a.	Would you be in favor of reducing the number of lanes along Stateline to enhance: a. Pedestrian accommodation/safety	140	103	157	119	2	278	56%	43%
10b.	Would you be in favor of reducing the number of lanes along Stateline to enhance: b. Bicycle accommodation/safety	122	120	135	139	3	277	49%	50%
10c.	Would you be in favor of reducing the number of lanes along Stateline to enhance: c. Transit Bus accommodation/safety	136	108	150	126	3	279	54%	45%

MPO Public Meeting #1 Questionaire - Session #3 Responses Ped/Bike Mobility									
Question #	Description	Online Yes	Online No	Yes	No	Other	TOTAL	Yes %	No %
1	Would you like to see wider sidewalks and pedestrian benches along Stateline Avenue?	189	44	216	49	2	267	81%	18%
2	Do you feel walking along Stateline Avenue should be made safer?	211	22	242	24	1	267	91%	9%
3	Do you feel the primary pedestrian safety issue is located at pedestrian crosswalks?	112	114	126	133	1	260	48%	51%
4	Do you see and or know that people cross Stateline Avenue at mid-block locations?	182	49	210	53	1	264	80%	20%
5	Do you feel that better signage along the corridor would assist drivers that there are pedestrians, and they will be crossing at crosswalks	168	63	196	69	0	265	74%	26%
6	Do you see bicycle safety as a key issue in the redesign of Stateline Avenue?	101	133	116	148	3	267	43%	55%
7	Do you support having safe bicycle mobility as a part of the new redesign of Stateline Avenue?	167	67	186	81	0	267	70%	30%
8	We see the need for additional pedestrian scaled lighting for pedestrian and bicyclists at night. Do you agree?	201	29	229	34	1	264	87%	13%
9	Will additional lighting along the Stateline Avenue corridor also help to reduce potential crime?	201	33	225	39	4	268	84%	15%
10	Is the ability to stand with one foot in each state a unique design opportunity that should be expressed in the upgrade of Stateline Avenue?	198	35	225	40	2	267	84%	15%

MPO Public Meeting #1 Questionaire - Session #4 Responses Beautification									
Question #	Description	Online Yes	Online No	Yes	No	Other	TOTAL	Yes %	No %
1	Some of the beautification for Stateline Avenue could be added landscape including flowering trees in appropriate areas. Do you like this potential?	224	9	255	13	0	268	95%	5%
2	Some of the beautification for Stateline Avenue could include having a median with lawn grass in areas that would be appropriate. Do you like this potential?	185	49	212	57	0	269	79%	21%
3	More in the future from this study, there could be some simple yet quality signage regulations for Stateline Avenue. Do you like this potential?	220	13	251	15	1	267	94%	6%
4	Some beautification for Stateline Avenue could include the uniqueness of the state line and the relationship to pedestrians standing in both states?	195	36	223	41	1	265	84%	15%

5	With this Overlay District there could be special street signs to define the district. Do you like this special street sign potential?	198	30	226	34	2	262	86%	13%
6	Beautification could include special Stateline Avenue benches with special colors to define the bi-state corridor setting.	191	42	218	46	4	268	81%	17%
7	Beautification could include a special painting (white, black, gray, etc.) for the typical Stateline Avenue streetlight standards. Do you like this potential?	206	23	236	26	1	263	90%	10%
8	Pedestrian crosswalks offer the opportunity for enhancement with brick pavers and/or an artistic Stateline painting pattern. Do you like this potential?	206	26	237	29	0	266	89%	11%
9	Shade is an important item for pedestrians as they walk. Do you feel the new redesigned Stateline Avenue should add shade in feasible locations?	208	25	232	33	2	267	87%	12%
10	Do you feel that large billboard scale signs should be allowed along Stateline Avenue?	51	178	57	205	2	264	22%	78%

MPO Public Meeting #1 Questionaire - Session #5 Responses Corridor Districts									
Question #	Description	Online Yes	Online No	Yes	No	Other	TOTAL	Yes %	No %
1	After today's brief break-out session presentation do you see the difference in the three (3) districts?	110	68	142	69	0	211	67%	33%
2	Does it make sense to have a slightly different design for each district along Stateline Avenue?	103	88	131	93	2	226	58%	41%
3	Do you favor one continuous design for the entire Stateline Avenue study area (I-30 to Federal Courthouse)?	145	55	159	72	3	234	68%	31%
4	Would you like the new design for Stateline Avenue to be as a "complete Street"?	167	32	196	37	0	233	84%	16%
5 C	From your perspective do you like the potential of a landscaped median on Stateline Avenue? Commercial	121	16	132	20	19	171	77%	12%
5 R	From your perspective do you like the potential of a landscaped median on Stateline Avenue? Residential	128	9	154	13	5	172	90%	8%
5 U	From your perspective do you like the potential of a landscaped median on Stateline Avenue? Urban	108	29	129	33	9	171	75%	19%
6 C	Is there one of these district areas that you feel requires the greatest design attention? Commercial	140	5	157	2	14	173	91%	1%
6 R	Is there one of these district areas that you feel requires the greatest design attention? Residential	41	94	49	97	23	169	29%	57%
6 U	Is there one of these district areas that you feel requires the greatest design attention? Urban	46	89	55	92	22	169	33%	54%
7 C	From your perspective is one of these district areas more dangerous for pedestrians? Commercial	142	14	166	15	9	190	87%	8%
7 R	From your perspective is one of these district areas more dangerous for pedestrians? Residential	28	100	32	101	28	161	20%	63%
7 U	From your perspective is one of these district areas more dangerous for pedestrians? Urban	28	100	32	101	28	161	20%	63%
8	Do you like this general "road diet" treatment for a redesign of Stateline Avenue?	126	66	156	69	2	227	69%	30%
9	Some would say, narrower travel lanes will make drivers reduce their speed some along Stateline Avenue. This could be viewed as a benefit. Do you like this possible result of narrower travel lanes?	102	96	129	101	3	233	55%	43%
10	Are you concerned that narrower travel lanes could cause more accidents on Stateline?	107	91	120	110	2	232	52%	47%

Open Ended Responses Public Meeting One

What do you view as the most important thing to fix and/or change on Stateline Avenue?

1. Tear down old existing structures and make the entire state line a commercial street with modern businesses.
2. Most of it really needs lines. Especially when raining the lines are impossible to see!
3. The appearance....it looks very unattractive. I had a guest who visited that actually said it looks dirty.
4. getting the homless off the street
5. Implement traffic calming design features in order to reduce driver speeds, improve cyclist and pedestrian safety, and beautify the corridor.
6. Being able to turn left from any given side street/parking lot. Traffic flow. Also, the overall view of safety along this corridor.
7. The road and better entry and exits to businesses as well as beautification.
8. The signage and look of the buildings.
9. Get rid of the beggars, tear down dilapidated buildings,
10. Develop the center lane: trees, plantings, pedestrian safety isles, etc.
11. Spell it correctly. It is three words: State Line Avenue Correct all road signs
12. It's a concrete jungle. Introduce some green. A lot of green.
13. Stateline Avenue would benefit from more curb appeal-we need to make it attractive to newer locations and take some of the load off of the Richmond Road area. Make it a destination location rather than just a passthrough. Update facades, bring in unique shops and add some color through plants, trees, and landscaping. It is just dull, brown and run down at this point. It needs a lot of TLC.
14. A way to tie the two states together whether it be an arch across the roadway or something else distinctive.
15. Get rid of pan handlers
16. Clean up signage; height. Size, appearance.
17. Add trees they cut down on heat- noise-pollution and add beauty that would attract more than the ugly it is now it would make for welcome inviting let's visit this pretty city
18. Dilapidated area of town
19. Overall beautification. Slow down the traffic. Add trees and a median. Perhaps enforce lower profile signage on businesses. State Line should be the best maintained and beautiful street in Texarkana. Currently, our most famous street looks like we take no pride in our city.
20. Quality of the lanes.
21. improve the look of stateline.
22. Eye appearing to tourist and traffic, it creates a tacky look for Texarkana. Think stateline verses Richmond road. Where would you want you business or to spend your time?
23. Get a handle on panhandling and the homeless and prostitutes. Boost small business and make Stateline more appealing for consumers
24. Traffic flow is problematic -- local commuters are competing with high-speed interstate traffic. Heavy vehicles are too abundant for such a narrow corridor
25. Safety, there are too many panhandlers walking/camping along Stateline. I have, on several occasions, had to avoid strangers coming up to me and asking for money or individuals being

high and acting crazy at intersections along Stateline. If I have to go to a business on Stateline (which, unfortunately, I attempt to avoid) I do my best to not take my children with me due to the insecurity.

26. High crime rate, prostitution, panhandling, speeding, traffic accidents
27. All the ugly signs and the overall trashy look
28. More business
29. Fill in the middle of state line with a median and green space. Of course, have periodic turning areas.
30. Eliminate the homeless population/ Move them to the shelters/move them to the next town/ arrest them for panhandling at every corner. Stateline feels scary.
31. A facelift of all the businesses on that street.
32. Making Texarkana more appealing in general.
33. The terrible and cracked up concrete roads that slowly destroy your car.
34. Wider specified bike and pedestrian lanes/sidewalks.
35. Improve the surface and the sidewalks.
36. Develop more appealing community oriented businesses.
37. Getting rid of tacky car lots surrounded by razor wire, planting trees along state line, attractive light poles and sidewalks, bike lanes
38. #9 and #10 address the most important improvements.
39. aesthetics
40. Buy the right of way to widen it and tear Dow the ugly signs and buildings. It our legacy, for crying out loud !
41. The look of the whole road it terribly trashy Awful signage clutter
42. appeal and safety for walkers/bike riders
43. I think walkability is the number one aspect to fix. Lots of pedestrians walking in the street or through parking lots.
44. add landscaping and incentives for businesses to improve exteriors
45. Clean up the old signs. Make them more uniform in design.
46. Bike lanes, Sidewalks and a few places to push a button so you can walk across the street, not at every red light though.
47. Signage for the businesses
48. Nothing
49. Exterior of buildings
50. Demolish old unused buildings and require occupied buildings to do an update if showing signs of age to have curb appeal. Also require parking lots to be repaired and repainted.
51. Creating a greenscrape middle corridor and ask businesses to clean up and improve facades. No bike lanes. Attractive intersections. Address homeless/transient population.
52. fix the appearance...bury utility lines, all business signage at eye level, get rid of bill boards!
53. all the concrete is uneven, has been pathed up for years and fell like I'm going over speed bumps the entire time.
54. Repair the road surface.
55. Take down all the signs
56. The dilapidated buildings & eyesore liquor stores.
57. Beautifying it. Making it a place people want to stop.

58. Some landscaping would be great, medians with trees would be even better. Improved/consistent sidewalks.
59. My office is at west 23rd and Stateline. One of the biggest problems is the homeless people walking around and begging for money. Or actually the people that are strung out on drugs.
60. It's ugly and run down with homeless people. I would find it hard to convince people to invest money in the area with the lack of vision or standard across the area.
61. There are no trees. Adding trees along the roadway would help increase the attractiveness and make it more comfortable for bicyclists and pedestrians on the sidewalk.
62. Too many billboards
63. Doesn't look attractive
64. Road Condition
65. Not sure if it can be done, but obviously from the beginning photo, there are TOO MANY billboards and signs along the entire corridor. There is nothing else to see due to all the signage.
66. The run den hotels, ,drug trafficking, and sex trafficking.
67. We have almost no crosswalks on Stateline even though we have a huge pedestrian population. The sidewalks need improving. Most urgent is the need for wide crosswalks marked with reflective paint. At night when people cross the street, we cant see them when they aren't wearing light or reflective clothing. If they were in well marked crosswalks, we would notice the movement. We have a large elderly population still driving, & it is imperative we make improvements. Last year I experience a sudden retina detachment & long recovery process. I only drove when necessary but was very aware my vision was different, unlike a slow decline I could deny. I became much more concerned about the pedestrians after that experience.
68. Remove the numerous signs and banners
69. The curb appeal on both sides of the line are lacking. Old buildings with faded signage makes the town look old and tired, not quaint. We need some type of standard for signage; and something done about loitering. No one wants to go into a shop where three or four panhandlers are sitting outside harassing them as they get out of their cars.
70. Needs to be fixed as a whole.
71. From the time you leave the Interstate....all you see is homeless camps along the bushes & behind businesses. You can't visit a store or drive thru on Stateline without getting hit up for money from someone. Then we have liquor stores, cash advance stores, and pawn shops to enhance our viewing pleasure as we travel downtown.
72. I don't feel safe to be on Stateline after dark.
73. Vagrancy
74. Old run down building are an eye sore
75. Crosswalks, make it look more appealing, get homeless people help so they stop panhandling
76. Get rid of those ugly, awful signs. Add more landscaping, make it more appealing.
77. The quality of the road itself. Beautification with consistent signage and lighting.
78. Crime
79. new signage/billboard restrictions to 'clean up' the visual appeal of State Line
80. Crime is a huge issue on this road.
81. Ease of entrance/exit to businesses.
82. Landscaping or lack thereof along with cleaning up/demolishing dilapidated buildings.

83. Get the bums off…. Make a tall wall going over i30 so bums can't stand there asking fir handouts!
84. Panhandlers
85. Starbucks jams up traffic
86. When you compare Stateline to other communities with beautiful main streets, you see our road lacks trees, center median beautification such as trees, flowers, landscaping and appealing lights. Furthermore usually power lines are buried to conceal them.
87. Crime rate and gang problems
88. Crackdown on homeless panhandling and open air drug markets at the Magnusson Hotel.
89. The condition of the roadway. New asphalt would help!
90. Safety for citizens and clean it up and offer more shopping
91. The drunks and crime
92. Get rid of the trash and abandoned properties and force the seedy hotels to be stricter
93. Get rid of the panhandling
94. Landscaping, doing away with empty buildings, homeless laying around in parking lots. Too many getting hit by cars lately,pedestrian walkways needed.
95. Add Pedestrian crossovers…. Las Vegas has a nice system in place…. I work in EMS too much foot traffic trying to cross
96. I think from a visitor perspective, they expect it to be some glorious entrance and it's mostly run down/half empty buildings with no continuity in look or cleanliness.
97. Clear out abandoned dilapidated buildings and convert to green space
98. Stateline needs to be updated with a more attractive look and with much more emphasis on the two states which are different depending on which side of the road you are on. This is what makes Texarkana different from other cities.
99. Sidewalks for safe pedestrian traffic
100. Stateline is not pedestrian friendly and is generally unattractive to look at when traveling to the downtown area. These problems need solutions.
101. Safety!!
102. Make it easier to get from a parking lot to the other side of the street. I feel like I am taking my life into my hands every time I try to make it to the middle and then across.
103. Signage...no more billboards
104. NA
105. More trees need to be part of this revitalization plan. Getting rid of the billboards and the overhead power lines would be nice as well.

106. The roadways are horrible and homeless population/trash is ridiculous.
107. sidewalks and road surface
108. Appearance
109. State Line just looks old and run down. Depressing!
110. It should be uniquely recognizable as a meeting of Arkansas and Texas and not just look like any other street in America.

111. Exempt AR side businesses from ridiculous state and city taxes and offer incentives to draw businesses. Many in town see the Texas side as the affluent and well maintained side and the Arkansas side as more impoverished and neglected
112. Abandoned bldgs, trash, beggars, too many overhead lines and pipes sticking out of ground,..NO BIKE LANES!!!
113. Traffic- too much turning in and out of businesses. Sidewalk needed all the way down. Bicycles do not need to be on Stateline. That would be a recipe for more wrecks.
114. Appearance. Changing flow without changing overall appearance will not help the corridor or downtown grow.
115. Old buildings
116. Making easier to turn left onto Stateliness from parking lots
117. Returning State Lane to a corridor of status and beauty. Visitors to downtown exiting I-30 must form a negative opinion as they travel down that sad, neglected, depressing toward way.
118. Clean up the dilapidated buildings. Include crosswalks or walkways over at key intersections. Replace a lot of the turn lane with Trees and plants.
119. Add a center island and only allow turns at signals. This area could be beautified with low maintenance plantings.
120. Things to do. If you want Stateline itself to be tourist appealing instead of a route to touristy downtown, then you will have to work on getting more appealing shopping options on Stateline.
121. Aesthetics
122. It looks very outdated and unwelcoming the closer you get to the downtown
123. More direction to events to take you downtown.
124. speed issues and appearance
125. Stateline Ave would benefit from a street diet and make it pedestrian friendly.

126. Trash and all of the homeless
127. Traffic control
128. Reduce the number of billboards and enforce general guidelines for landscaping and overall esthetics. Consider using the turn lane as a median with trees to make it a more desirable place to drive.
129. There is no streetscaping, no visual appeal, run down businesses and seas of parking lots.
130. Tree planting and other landscaping improvements could easily make the Avenue more appealing.
131. Have some sort of standards for the facade on the businesses. There needs to be an appealing uniform look. Get rid of the panhandlers too.
132. Replace large signs and billboards with monument signs
133. Safety
134. The appearance!!! It's so trashy. Signage is a mess and most businesses look horrible. With State Line being Texarkana's claim to fame, it should be the prettiest corridor in town. Way overdue for a facelift.

135. Appearance. Also get rid of the panhandling it's the first thing you see off I-30.
136. Homeless, grifters and crime
137. State Line needs center road landscaped medians. Too many pedestrians have been killed because of lack of medians. Landscaped mediums will make the street attractive as well as safe. I do not think bicycles are much of an issue but if they are, then they should be outlawed from riding on State Line which is a high traffic area.
138. General upkeep, excessive trash and poor curb appeal of store fronts. Specifically south state line.
139. Blocked views when turning onto state line. Turning lane helps if I'm on Texas side and needing to turn left onto Arkansas side. Need crosswalks because pedestrians cross wherever they can
140. More trees and less wires
141. Cleaning up the environment.
142. Aesthetics. Old billboards, old signs, run down buildings/businesses all contribute to a less than appealing drive down what could be a very attractive thoroughfare that is quite unique by design (two states sharing).
143. Separated sidewalks, trees and a zoning overlay!
144. Clean up businesses that look run down.
145. Stop the constant panhandling, pick up the trash, try to decrease the drug activity

146. Signage. Property upkeep and repair. Many businesses need general repair and maintenance. Old buildings can look nice regardless of the core demographic of the business target market.
147. Medians
148. divided median with intermittent turn lanes.
149. A more appealing look. Flags on poles like some downtown areas have. Make it more esthetically pleasing.
150. Maybe some landscaping to make it more eye appealing.
151. Sidewalks, bike lanes, new construction or face lifts for existing businesses.
152. The overall appearance of it is shabby and is a hangout for homeless and drug traffickers. Safety is my first concern.
153. Speed limit and traffic lights
154. Slower traffic and easy entry from parking lots.
155. Provide more greenery with a center median.
156. The road condition itself
157. A bicycle lane would be a definate plus.
158. Traveling in and out of parking lots. Traffic speed on Stateline
159. Derelict buildings in the corridor.
160. Better roads with better lanes!
161. Power lines and signage as well as run down buildings

162. The appearance of Stateline is crowded, old, and quite frankly ugly.
163. Get rid of the jointed concrete pavement and go with CRCP or a flexible bituminous pavement
164. Demolish dilapidated property and require businesses to uphold facility standards.
165. Appearance
166. Appearance of dilapidated businesses, add green, encourage businesses to improve "curb appeal."
167. The best thing for Stateline and Texarkana is to term limit City Council and P&Z members.
168. Clean it up, it literally looks like the run down ghetto district where you would tell people to avoid.
169. The amount of signs and lack of unison as far as design
170. Get rid of trashy hotels and liquor stores. The center turn lane could be changed to a well landscaped median with turn cutouts every so often.do something

171. Leave it as is and focus on existing growth areas. This is a waste of time and resources.
172. Better management of general traffic flow is a must. Maybe additional traffic lights?
173. Stop the turn lane and install more lights to slow things down. Install cross walks to minimize Jay walking.
174. This needs to be a destination center for the community as well as visitors to the area... This area needs to be an environment where people want to work, shop and play. From I-30 the the Federal Court House.

General Comments on Stateline Avenue Existing Conditions:

1. Overall condition of roadway is bad.
2. Very dirty looking, lower class businesses.
3. Large sections of the corridor could be put on a road diet, with excess road space being apportioned to a dedicated cycling and pedestrian lane and greenbelt. Business signage needs to be reduced and regulated by each city to improve the visual landscape. Blighted and vacant properties need to be brought into service or razed.
4. The road is bad in places and the entries into businesses will tear your car up.
5. Too many eyesores.
6. Eyesore of the community. Certainly doesn't project an image of where people want to set up shop or stop and stay the night
7. It could be safer AND more attractive. I have changed lunch destinations because I couldn't turn left across traffic.
8. Or change the name to United Way Avenue...State Line
9. House the homeless so they aren't on every street corner begging for the public to do the job of the government.
10. Currently the area is dull, lacking in character or color (not much greenery, buildings are all creme or have dull, worn paint colors), and just feels depressing. It is not a place you want to bring guests to visit. The Post Office area for the twin city photos is pretty but getting there is rough.

11. Property owners along Stateline need to take more pride in their property.
12. needs to be re-surfaced, at a minimum.
13. Ugly -nasty -no appeal -too busy- uninviting
14. It's looks trashy.
15. Let's face it: conditions are poor. The surface is rough, drivers are reckless, and it is currently an eye sore from I-30 to the courthouse. This is an important project and am thankful it is getting attention from our city leaders.
16. All Stateline needs is to be re- paved. It does not need to have smaller lanes, bike lanes or J turns / medians
17. road and sidewalk improvement, looks trashy, clean up vacant lots. looks bad to tourist
18. Terrible turning lanes and pull off road, such as the one behind reggies. You basically have to be in the road to see the traffic.
19. Looks trashy and is killing small business
20. Road surface is deteriorating. Through traffic is too heavy for safe local commerce/retail operation.
21. Stateline is not safe and is extremely rundown. It could be a highlight of Texarkana but instead, it is an area I tell others to avoid.
22. Stateline Ave currently resembles a poverty stricken city. The area needs to be cleaned up and restored, the crime/ prostitution/ panhandling issues taken care of, and incentives given to bring good quality businesses in. It needs to be made into a place where people want to open a business and people want to bring their families. As of now, most people avoid Stateline as much as possible
23. Bad condition old and run down
24. TIRED Area!!!!!
25. Unfortunately, we can't make Neumann Marcus type stores join Dirt Cheap businesses on Stateline. When will the nicer boutiques and stores buy up the hookah bars, tobacco stores, auto repair businesses, and pawn shops and fast food joints? NEVER Obviously the businesses on Stateline are low end in low rent, but they are thriving. They aren't going anywhere. So, how do you redesign a street with a bunch of crappy stores in an area that has higher crime and drag racing any night of the week? Leave it alone. Nobody like Stateline, but putting lipstick on a pig is not going to change anything. If you want a better route to downtown, make it Texas Blvd or Jefferson.
26. It look like the Main Street of a dead or dying town. The "good ole boys" in local government have got to go.
27. It looks like shit. We all know that. All the money in the city appears to be funneled to North Richmond. Let's fix Stateline.
28. Traffic drives too fast. High risk of wrecks from vehicles pulling out into traffic from businesses. Shared turn lanes make navigating in and out of businesses very dangerous.
29. It's need curb appeal, sidewalks and crosswalks. The cities needs too jointly dedicate funding to maintain a beautiful landscape. Develop city codes that create an aesthetically pleasing Stateline.
30. State Line is currently an incredibly depressing and embarrassing eyesore that visitors travel every day. It is the gateway to the Southwest and should be attractive! We are leaving so much money on the table !! C'mon Twin Cities!!!

31. See above.
32. It embarrassing to guest and potential residents.
33. As the first look road for many tourists, State Line doesn't serve us. It also doesn't serve our population with easy walking/biking.
34. Traffic is too fast. Not well maintained with street paint, signage, landscaping, etc. Green islands with trees/grass down middle lane might slow traffic and make area more appealing..
35. I love stateline but if you are going to do work on it, lets update it for pedestrians in a few places.
36. mostly trashy
37. Currently Appealing because of eclectic collection of businesses and buildings.
38. Could use more greenery like there is at the Texas Blvd/Arkansas Blvd intersection of Stateline.
39. Some of Stateline is ok but there is a mix of old unattractive places and more well groomed places. I think it would be nice to add some trees/shrubs/flowers to the turning lane in the middle and designate turning lanes every 1/8 mile etc.
40. It is a business corridor so it will be just that - we don't want to impact business owners financially but pockets and sections can take on different persona with time, effort and money. A Stateline business owners forum/consortium could work together to find ways to work together to improve the feel/cleanliness of the "line".
41. It's trashy
42. The way the lanes connect over on I-30 bridge section are the most absurd. Whoever made those plans needs a career change.
43. Could be so much better
44. Generally efficient for automobile traffic, but visually unappealing & borderline unsafe.
45. It's not a pretty place to drive. It feels run down and doesn't make Texarkana look safe or appealing.
46. It's a unique/cool part of our city and we need to treat it that way
47. It could be nice again. It could be prosperous but not with the druggies and panhandlers.
48. Same as above
49. A state line painted down the center of the road would add to its attractiveness as well as opposing AR and TX banners lining the corridor
50. I also feel if the center lane was removed leaving only turning lanes however far apart they would be needed might help (it would definitely help if the U-turn were legal here. I am not sure whether enhancing the corridor for bikers would help - maybe it would (I am not a biker). It would be nice if the roadway felt safe enough to walk/run - but this street has a tremendous amount of foot traffic most visitors may be leery about getting out and walking. I work at a bank on Stateline. We have customers who are leery of the street foot traffic.
51. Needs curb appeal. It is just trashy looking and way too many billboards. Needs to be more inviting
52. I'm unsure.
53. Turning lane is too wide & bike lanes could be created on the sides with just new markings without tearing it all up.
54. I avoid Stateline if at all possible. There are too many speeders running red lights and no one to enforce speed zones. In addition there are folks loitering in business parking lots with all of their worldly possessions in shopping carts.

55. Very sad the whole area has gone down so much. Historic Downtown and the Post Office could be such a tourist draw for Texarkana.
56. I've lived in Texarkana all my life. This is my home. It's embarrassing to direct anyone from out of town to the post office or downtown.
57. The general cosmetic look of Stateline is run down . Gives the impression Texarkana has an economic problem.
58. North state line around the interstate is very sketchy
59. It doesn't feel welcoming or well kept
60. I travel it several times a day, and most folks refer to it as Stateline Speedway. Folks ignore red lights, especially at SL and College. But that's true all over town.
61. Not very appealing to new businesses
62. It is an embarrassment for State Line to be the main corridor to our downtown area. Our community is better than this!
63. concerning bicycles, I don't seem many people riding bikes on Stateline. Is that because it is not safe or is it because we don't have that many people wanting to ride on Stateline? I don't know
64. I believe converting the existing left turn lane to a well landscaped island would vastly improve the look as well as improve safety.
65. Road condition if fine, traffic levels are manageable. However there are several aging businesses that do not have a good look. There are 3 distinct areas, a modern business area, local community and a historic area. I think it would be nice to bring in aesthetic found on a street like Hot Springs Central Ave or Provo Utah's downtown center street.
66. Awful. Unsafe and needs to be cleaned up and offer more retail in that area
67. Run down the road is horrible and the vagrants and trashy hotels and abandoned buildings are ugly and the crack heads are to much
68. To much panhandling , drugs and prostitution.
69. Vagrants need to be at the shelters.
70. Stateline avenue seems to be unkept or old looking with little interest for visitors. Bikes are not the answer, and neither is art on the sides of buildings.
71. I avoid driving down Stateline because of it's current appearance and condition.
72. It looks run down and is just not safe.
73. It looks like a bunch of rundown or empty buildings (even if it’s occupied). Or liquor stores.
74. NA
75. It is much too dangerous to drive, walk, or ride a bike on State Line
76. Need to get homeless people away from Stateline Ave. Also liquor stores that are on Stateline on the Arkansas side are run down and gives that side of roadway a bad image
77. Need to factor in safe and ADA accessible bus stops for T-Line
78. I actually live on State Line. My area stays trashy. I don't think I have ever seen the sidewalks cleaned. The most annoying thing is the noise. The loud pipes, cars racing, and loud thumping obnoxious music at all hours is horrible. When the noise is literally vibrating your walls and windows, guests cover their ears... I think there is a problem. This isn't regular traffic noise, these are violations. I've lived here over 6 years and it has steadily gotten worse.
79. It looks like it is dying a slow death. It needs something interesting to sustain it.

80. The pawn shops, low end motels, and homeless population continue to migrate toward the interstate and are contributing to the overall unsafe and unsightly atmosphere of Stateline.
81. It's embarrassing
82. Crazy traffic
83. it would be GREAT if OUR Stateline Avenue was a beautiful corridor to Downtown Texarkana that helped draw people to downtown and showed people interested in locating their family and/or business to our area that Texarkana really does care about its appearance.
84. Dangerous, trashy.
85. Currently looks like you are driving through a carnival. Not very inviting. But If you make it downtown, it was worth the trip! The journey is very distracting, due to all the signage along the roadway and vehicles entering and exiting driveways, along the street. I typically use the numbered streets to access State Line, get my business done and not travel on State Line.
86. Texas BLVD/ Ark BLVD intersection ,(Walmart, Starbucks and CVS, Albertsons) is a terrible place to try to maneuver in and out of
87. Terrible roads and outdated scenery
88. Stateline is very ghetto. I would love to see some of the older businesses revamped
89. State Line is the perfect candidate for corridor planning: it needs, landscaped medians, parkways, decorative lighting, incentives for private business to invest in facade renovations and landscape/redesign parking lots to include lighting and islands. This corridor should be the gateway into both Texarkana AR & TX and should attract people towards the downtown area. It is in no way inviting and has the opposite effect on the viability and vibrancy of the communities. The current state of the corridor only decreases the property values, rate per square foot for leases and the entire future of Texarkana being anything except big box commercial adjacent to I-30. Investment leads to more pride and confidence for others to invest in improvements as well.
90. The corridor is on track to becoming a wasteland of neglected commercial properties.
91. Not appealing due to panhandling, run down parking lots and businesses, and plus the Racetrack is a disaster for anyone that frequents that place.
92. Convert turn lane to raised planters with center streetlights - the street looks awful as it is- need a serious overhaul
93. Fix the roads, enforce the law!
94. The Current condition is terrible. I moved from Dallas to Texarkana (returned to Texarkana.) In Dallas no need roads are designed or built without center landscaped mediums. Here it seems all our new roads have what we used to call "suicide" lanes....very unattractive. I hope we finally are able to put medians on State Line....with landscaping.
95. Perhaps start a Stateline renovation/rejuvenation fund to get the community involved in beautification of one of our towns most historic roads.
96. The south end close to downtown looks depressing.
97. It's filthy and embarrassing to have this represent Texarkana.
98. With the abundance of concrete, adding trees or shrubs would be a challenge. If it is not possible to add landscaping, is there a creative way to bring curbside appeal?
99. Terrible

100. Stateline stores, parking lots and buildings look shabby and dirty. The homeless hang out and it is unsafe. No way would it attract tourism.
101. Need to update traffic flow and that should be about all !!
102. Current look of State Line Ave. looks run down and not pedestrian friendly.
103. Hazardous for driving and walking
104. It's an unattractive roadway that is dangerous to our community.
105. Embarrassing
106. Limit left hand turns and install signal-protected U turns at traffic lights. Also, move foot traffic and bicycles as far away as possible from the travel lanes. A crosswalk or two is warranted in each section of the project due to the high volume of foot traffic and residential areas adjacent to the corridor.
107. The whole thing looks junky
108. Heavily traveled, unsafe, lacks aesthetics, overpopulated with homeless persons, full of potential!!! Should be approached as the gateway to the exciting things going on downtown.
109. Enforcement of reasonable private property standards is sufficient.
110. Do something about pan handlers and find a way to make it consistently pretty.
111. Like all orders areas, it could use some upkeep
112. Poor at best, not the first impression I want of our city. And it is not a place I seek to spend my money and time.

General Comments on Stateline Avenue Traffic:

1. Make it more attractive and modern
2. I believe all the lanes currently there are needed to get through the traffic faster.
3. Raised medians should be considered in conjunction with planting/greening of the corridor. Large sections of the southern stretch of the corridor near downtown seem to be good candidates for reducing lane numbers and creating dedicated bike lanes on right side of the roadways.
4. In some areas of stateline, it seems the traffic isn't stopped at a light long enough to slow the flow to allow traffic from businesses to navigate into stateline
5. Reducing the number of lanes is the worst idea possible. If you want sidewalks that's fine but don't get them by removing lanes on the busiest road in town. That's just dumb.
6. I don't know that reducing lanes is the solution-perhaps widening is a better solution. Add narrower medians and use some of the extra for bike lanes or shoulders that would accommodate bus traffic.
7. We have a great opportunity to do something nice along Stateline.
8. Too fast too busy
9. Speed limit needs to be lowered. Too much "drag racing" at night.
10. Lots of traffic needs more lanes. Not less.
11. traffic congestion on north end of stateline
12. Stateline Ave needs more, not less capacity
13. Reducing the number of lanes would just cause more congestion and chaos. Regardless of plans, people are still going to use it like they are now.

14. Except near I 30, not bad.
15. To many lanes and not enough marking cause confusion and unsafe driving environment.
16. It is long overdue for a complete and total overhaul. Billboards should also be restricted as well as businesses monument signs.
17. I avoid it because it looks bad
18. Too fast. Not safe for people using the sidewalks to walk.
19. Traffic signals not coordinated.
20. Need new and updated signs
21. I never have a problem with traffic when I am on stateline.
22. If you restrict lanes than when there are utility issues that require lane closure you will completely stop traffic flow.
23. I don't find traffic to be a huge problem, myself. Most of the problems I see are visual. It's also strange around Popeyes/Tractor Supply where the lanes are giant and it feels like it's a 3-lane instead of 2.
24. If we can get the beggars and rift daft off the streets.
25. please do not reduce lanes! we need allum.
26. The north end of Stateline is more congestive and could be up[graded. The south end of Stateline, the traffic flows better because of less traffic
27. Reducing lanes is not the answer. You already have a lot of traffic on the road. You need to expand for a bike lane and or transit bus.
28. Please do not reduce lanes! I remember when SL was just a 2 lane road. SL is a major highway, bicyclist should avoid not be encouraged to ride on SL.
29. I've never experienced heavy traffic on Stateline. The aesthetics of that area are what needs improvement.
30. 4 lanes make it more convenient for cars that are continually turning right into businesses and keep the rest of traffic moving around them.
31. Less lanes on a busy road will be inconvenient for everyone. This is a really bad idea. Are we going backward in time instead of forward? Are we trying to make Stateline just another downtown road? Thirty years ago Stateline Avenue was attracting visitors and tourists, along with the Stateline Post office. We should play up that attraction again instead of trying to turn Stateline into a smaller, less inviting, regular downtown road. I love Texarkana and one reason I moved here, 30 years ago, is because of Stateline Avenue and the fact that both AR and TX meet there. This is what makes Texarkana different.
32. Speed needs to be reduced especially as you get near the court house.
33. It needs more lights to help people get out of parking lots and onto the street. More like Richmond road.
34. NA
35. I hope you are successful with this redesign!
36. Bus stoppage on the roadway needs to come to a stop
37. My main concern are the motorcycles that speed. The people that like to spin out or show how loud their pipes are. There's a lot of childish behavior most of it is just showing out. It's dangerous.

38. The traffic is really only bad North of the Texas/Arkansas Blvd intersection and South of I-30. Everything North of I-30 is alright and everything South of the Texas/Arkansas Blvd intersection is okay as far as the volume of traffic.
39. Sidewalks on either side would solve any pedestrian issues. I feel Richmond Rd traffic is a larger concern than traffic on Stateline
40. Truck parking overnight on public businesses is the biggest complaint I would gave on trucks.
41. Please consider how transit bus would work. Please don't have where it creates more congestion.
42. Restrict traffic and pedestrian use to stop unnecessary deaths.
43. Traffic is heavy at times especially near the interstate. That section should be treated differently than the corridor closer to downtown. There are many effective ways to move traffic safely, provide access to businesses AND provide for other modes of transportation (bus, bike & pedestrian).
44. NO ONE SHOULD BE JAY WALKING ACROSS STATE LINE, ENFORCE THE LAW
45. We do not need fewer lanes....we need raised landscaped mediums.
46. Traffic moves too fast.
47. To fast for the way the road is set up
48. It's very busy. Mainly due to traffic congestion leaving business lots
49. Remove the turn lane, add a narrow median, add a bike lane
50. The traffic count will neither decrease nor increase due to the residential behind commercial nature of its location. Ensure that there are plenty of traffic lanes to accommodate vehicular travel and find avenues for foot traffic. There are no viable NS or SN alternatives for residents in the area to travel. Possibly try to reduce NS and SN foot traffic on the State Line corridor by improving infrastructure along the adjacent NS residential streets (eg Hazel ST).
51. Needs work. Needs to evolve.
52. Richmond far worse.
53. Fine
54. Stop the turn lane. Make more stops to slow things down.

General Comments on Stateline Avenue Pedestrian/ Bike Mobility:

1. There is no reason to design a new feature for standing in both states. This photo-op already exists in front of the courthouse and is very well-known and well-utilized. No additional design feature of this nature is needed.
2. There needs to be a bigger focus on pedestrians rather than bicycles. Bicycles are not a priority for stateline
3. It needs to be more appealing to tourists and better signage to get to the federal building and photo op.
4. Money needs to be spent to enhance life for tax payers not people meandering around without jobs begging. Not interested in making it easier for them to get around and taxpayers footing the bill. Makes no sense!!!
5. As cars become electrified more people will own e-bikes and use them more often/go farther.
6. Both sides of the road need to be equally welcoming-cross the aisle and make the road look uniform regardless of what side you are shopping or driving on.
7. Bike lane lined with trees to separate street from bikers

8. I like the idea of pedestrian scaled lighting. Safety is important but we will need to maintain these changes. Scaled lighting would be nice but not if half the lights are broken or burned out.
9. Nobody that you want walking/riding bikes down Stateline walks/rides down Stateline. Homeless people and crack heads walk down Stateline. I would not want to make it safer and easier for more homeless people and crackheads to walk around all of the businesses on Stateline.
10. should be concerned about pedestrian safety
11. Clean up the ghetto motels abd out in better business lessen the pan handling
12. Get a handle on the homeless
13. Stateline is a jungle and is not safe for the homeless pedestrian traffic along it
14. Pedestrian/Bike Mobility will not improve Stateline is the area is not patrolled better. You have to consider what most of the foot traffic is (panhandlers)
15. 3. The reason I don't feel the biggest issue is at crosswalks is because of the large number of people who cross the street midway. Most of the people you see crossing are not at a crosswalk. Would it be possible to the police to make an example of some of these people by ticketing them? Perhaps that would deter others from crossing in unsafe locations.
16. Look at Cowhorn Creek! They spent all that money on the bridge and near St. Michael, and I seldom see a bike rider and few walkers. Face it, these areas are not attractive to walk or ride bikes. Even in good weather.
17. Stateline is the busiest roadway in Texarkana. The overpass area at I-30 has 4-5 lanes going north. Drivers are leaving bars and restaurants abd liquor stores and have often been drinking. Bicycles and lanes for bicycles through Texarkana should be in less congested areas of the city where riders can still get from downtown to north Texarkana, but where safer traffic patterns are in existence.
18. I have always wanted to ride my bike to work but due to lack of safe routs have been unable too
19. The State Line is such a cool feature. We are not capitalizing on it enough.
20. Making Stateline s complete street woudl be good.
21. Sidewalks too close to lanes of traffic. Not safe for speed of traffic. Need better maintenance and repair.
22. I don't have any comments
23. Pedestrians yes. Bikes not so much but I don't ride a bike. Maybe my perception only.
24. bicyclist can use the pedestrian walkway. There aren't enough people or bicyclist out there anyways, except the huge amount of panhandlers, ant they dont' count.
25. Crossing the street at Stateline and Texas/Arkansas Boulevard right now is a mess and almost impossible.
26. I like the idea of better bike safety but I feel that only the homeless will use it
27. I have always felt the State Line Corridor should stand out and draw people from the Interstate to downtown. As it is now, all you see are massive amounts of signage and advertisement. I work at a bank on Stateline. We have customers who are leery of the current foot traffic - which may keep others from biking/walking/running/utilizing the sidewalks.
28. I think that pedestrians and bikes should have sidewalks to use. They should not be in the flow of traffic.
29. Crosswalks with reflective paint will save lives at night.

30. Pedestrians cross mid street, the crosswalks are not the problem. I have literally seen people walking in the street instead of the sidewalk (intoxication could be the reason). I am not sure that bike mobility on Stateline is as big an issue as the pedestrian traffic.
31. I do not think we should encourage bicyclist to navigate SL.
32. I am not qualified to answer a lot of these questions
33. Bikes and people walking really do not need to be on state line
34. Like the bike lane on Cowhorn creek...it makes up a great portion of the lane and I have yet to see an increased number (if anyone) biking on it. The type of bike traffic on state line is typically not that of someone who bikes for activity/leisure so it seems allowing bikes into the lanes with traffic moving like it does right now is a safety hazard - increase sidewalks for bikes but don't allow them in the driving path especially if you decide to take out a lane or 2!
35. Get rid of the panhandlers. Provide marked crosswalks at intersections and discourage jaywalkers. Bicycles don't belong on roadways with automobiles when speed limits exceed 30mph.
36. Why is biking accomadations being considered on what should be one of our busiest roads? This sounds like a personal interest that someone is pushing. Pedestrian crossing should be addressed as that seems to be an issue on Stateline.
37. If sidewalks were on the "stateline" with trees and grass it could lead right to the court house and the Stateline sign that everyone takes pictures in front of. No thru car traffic, moved to outside lanes and routed around the court house.
38. NA
39. You can keep the Stateline in the middle of the road south of Post Office
40. One foot in each state is already done more safely at the courthouse.
41. I don't know that I have ever seen anyone ride a bicycle on Stateline, except downtown--South of the Courthouse. I just don't see the need for additional bicycle consideration on Stateline (again, except for maybe downtown). Even if the traffic were slowed, it would seem to be dangerous. Concerning the pedestrian traffic--the most dangerous spots of Stateline are near I-30. The pedestrian traffic seems to be comprised of a lot of transients and panhandlers. I have seen lots of people crossing Stateline on foot from the gas stations that are closest to I-30, both North and South of I-30. There are always people on foot crossing I-30, even since the Greyhound station moved.
42. Please keep biking and pedestrians on sidewalks with specific crosswalks or one crossover. Having a "lane" for them would just increase the danger
43. No bike lanes, it's wasteful
44. Bicycles do not need to be added on Stateline. Too much traffic!
45. I don't see much bike traffic and most of the pedestrians seem transients?
46. There really is not enough foot traffic or bike traffic along Stateline for this to be a heavy concern, and from what Ive seen, most of the few pedestrians don't really care to walk to the crosswalk anyways. As far as the lighting, ghere are lights all up and down stateline, they just need to be maintained better. As far as the specialness of the Stateline itself, this can be experienced at the post office once the upgrades there are completed.
47. The State line running down the middle of the avenue is GENIUS!
48. Bikes can use sidewalks. Force pedestrians to use cross walks

49. There is currently no meaningful means of accommodating Ped/Bike traffic on the corridor. This has to become more than just a way to move vehicular traffic if the goal is to be accomplished of creating a welcoming corridor that Texarkana USA can take pride in and use as a means of promoting revitalization to the communities.
50. Enforce current laws and get rid of the grifters, pan handlers and crime first!
51. I travel on State Line daily and although there is quite a lot of pedestrians especially up closer to the Interstate, I do not see much bicycle traffic. Bicycles should be rerouted to another street. Having raised medians will help the safety of pedestrians.
52. No one is trying to ride bikes on Stateline. Also the safety issue on Stateline is because it's become a haven for drug addicts and panhandlers. The vacant building need to be torn down or remodeled and the $29.99 a night motels that house the crackheads need to go. Until that happens any money spent on Stateline is lipstick on a pig.
53. Leave the standing in two states at the courthouse
54. Pedestrian walkways are currently needed
55. Need leas foot traffic and no beggars
56. Encourage pedestrians to use alternative paths. Most pedestrians probably live in the neighborhoods adjacent to Stateline Corridor. Improve infrastructure in these areas to limit local pedestrian traffic on Stateline.
57. Modern lighting would help tremendously with this.
58. Ridiculous in a city where few bike anywhere.
59. You ask about cross walks but there aren't any I know of in the first place
60. No one is worried about riding a bike on Statelibe.

General Comments on Stateline Avenue Beautification:

1. Beautification efforts should be focused on reducing and improving signage, removing billboards, and -- most importantly -- planting trees to create a shaded, comfortable pathway down the center of the avenue. A shaded, verdant greenbelt running the full length of Stateline would transform the corridor from an uninhabitable eyesore into an unparalleled community amenity.
2. I like the idea of trees and shade added to stateline. As long as it doesn't get in the way of viewing traffic. Also, the raised median idea could be beneficial only if there was a way to lay it out where the oncoming left turning lane is not blocking the view when turning
3. Some of these questions should have provided maybe as answers.
4. No reason to spend good money for people wandering up and down state line.
5. Sign toppers for distinct neighborhoods have always appealed to me.
6. Again...spell it correctly on all signage: State Line Avenue
7. Just to reiterate question 10, NO. NOOOOOOOOO. Every city that has gotten rid of their godawful billboard ads looks immensely better.
8. I think all of these are great ideas-but brick pavers are not necessary (cost!), please create an inviting, updated environment with budget friendly materials. At this point, any trees, walk ways, updated bus stops, signage, and crosswalks, will make the space feel new and inviting. Don't break the bank.
9. Billboards only degrade the beauty of nature they block the sky they cause accidents for drivers looking up at them not paying attention to the necessary

10. All of these ideas are wonderful. I addressed some in a previous post. I understand the business signage issues will be a long term goal, but in my view, a necessary change.
11. I like the idea of making Stateline prettier but making (shady areas) for (pedestrians) is a terrible idea. We all know what the (shady area) at the intersections of Stateline and I-30 look like. I do not want to make all of Stateline look like that. More homeless, more trash, and more drugs sounds like a terrible idea.
12. stateline looks trashy. improvements should be maintained at all times.
13. Let's accommodate to people traveling but not accommodate for people to just hang out and pan handle and make it look treashy.
14. The look of Wood Street, Texarkana, TX between W 25th and W 29 streets is a good model to copy for Stateline Ave.
15. Clean up the trash (old signs and all)
16. I would like to see murals that depict Texarkana's history. Pretty trees and benches are nice, and they are much appreciated, but you can find them anywhere. Texarkana needs something that sets it apart, something that tells the country that we are the Twin Cities
17. Buildings and signage looks tired. Have some codes for this area. You will wake up one day and it will look special.
18. Who is paying for all of these beautification plans? Who is going to water the trees and the landscaping? Will the cities be responsible? The chamber? The TaXPAYERS? Trees will shade more of the homeless people with their buggies and their dogs. As will benches. All of these questions are leading questions to get an answer you desire. The asking mechanism has no legitimacy in polling. Sure. Let's decorate the Stateline. Spend a lot of money for trees and benches and sprinklers systems, and paint colors and street lamps and redesigned traffic patterns. Let's tear it all up and make Stateline a nightmare for a few years. Maybe some of the bums and nasty businesses will move out. Then, another chamber boss will come in, new mayors, etc. the fancy new ness will fade and in five years, nobody who put those ideas in place will be in their jobs anymore. And, we have spent a boatload of money for lipstick on a pig. Remember Western Charm with Southern Hospitality. That was the Chambers's last screw up when Twice as Nice was beloved. If you really want to beautify, tear down the drug houses and the empty buildings. Make a ten year plan to phase things in. As for billboards, they are ugly. But for a chamber who should support businesses that are members, look for ways to lose some of the ugly billboards and upgrade to electronic signs. Don't try ro run billboard owners out of business. Unless you can run the liquor stores out and the dollar stores and the pawn shops.
19. Please do no neglect downtown as well.
20. TREES! PLEASE DEAR GOD MORE TREES. Trees help cool temperatures around concrete. It's just basic science. Seriously more trees. Raise my taxes for all the trees you want.
21. Please fix it.
22. Clean it up. More green as suggested above would be good. But, need simple/low maintenance. Improved lighting that is also appealing.
23. The reason it is currently so appealing is its retro look.
24. on #10 I think certain area of Stateline Ave could be more commercial and then other areas could have less commercial signs

25. Lots of greenery, median with trees, grass flowers. Get rid of old signage (too many). Require building updates and parking lot repairs and painted parking spots. Make everything look newer.
26. I like trees. Love trees actually and the beauty they provide. Please involve utility foresters and SWEPcO be involved in the tree selection and planting location. Nothing worse than spending money on planting trees and then we have to trim or cut them from our easements so we can provide safe and reliable power to our customers.
27. Remove the billboards! Business signage eyelevel and bury the utilities!
28. keep it simple and don't spend money on something that will need to be taken care all the time, like grass and trees, and benches and brink roads!!! is our tax dollars, be wise with itl.
29. Sign regulations would absolutely help. That's part of what makes it look trashy and unsafe now. Not opposed to billboards, just huge ones. Smaller ones like you see downtown and on Texas Blvd. aren't as obnoxious and could be a high value for local businesses if the beautified area draws more traffic.
30. Maybe billboards could be limited, if not completely disallowed.
31. State line is ugly and hot and full of traffic. If you fix the ugly then maybe you can attract more people and money to the area. You need required quality landscaping and a cohesive thought along the whole street. Also, the electric poles are an eye sore and probably a hazard. Put the electrical underground.
32. I feel much of what is being asked will not be noticed until the massive amount of signage and billboards are removed or culled. Once that is done, making it beautiful and appealing to visitors will be easy. If you had never been to Texarkana, thought it would be cool to drive down Stateline, you would not make it 1/3 of the way before turning around for the Interstate. The signage is an eye soar.
33. I think that some larger billboards would be appropriate but not a lot. The problem now is that there are too many and it looks tacky.
34. Crosswalks need to include reflective paint so pedestrian movement is visible at night & during rain showers.
35. The more benches you add the more you will have folks loitering. Put the benches in the overlay area where you put the ability to have one foot on each side of the line. You don't need to put elevated medians up and down the street to create U-Turn issues at the stop lights. Clean up the streets first; then worry about making it pretty.
36. I like the ideas for beautification of SL.
37. Billboards need to be removed on state line.
38. Hopefully the beautification won't include gaudy art such as has been added downtown, but perhaps more outdoor park-like settings.
39. I'm not in favor of brick pavers. They seem to expensive to maintain.
40. Use lots of color for benches instead of white, grey or black.
41. NA
42. You are on the right track with these changes
43. Powerline should be moved underground or behind buildings
44. I feel business need billboards/signs. I do think there should be a quality and upkeep standard.
45. I like the ideas in this section of the survey. Stateline definitely needs some qualities that visually demonstrate that it is a State Line--Texas on one side and Arkansas on the other. Colors and

plants (maybe with different colored flowers) should be used to visually demonstrate the meeting of the two states. A person should be able to look at Stateline and know that he or she is looking at the meeting of two States. It should be apparent that there is a consistent difference between t he left side of the street and the right side. It should be a theme that is carried all the way through.

46. Focus on Beautification ... not marketing for businesses.
47. Signs are distracting to an already highly volatile area. For the love of everything holy don't add more distractions with signs. Consider using fruit trees for the street to help feed the homeless. Very unique feature for downtown area.
48. I support trees along the corridor but they do not need to be flowering...I believe that raised medians with raised planters (self watering) or decorative pavers is preferable to grass that requires maintenance/watering & mowing. Signage is an issue currently...monument signs are as effective and more attractive. There should be different sign ordinances for the I-30 corridor portion of Stateline vs south of Texas/Arkansas Blvd intersection. There will be pushback from the business owners but the results are worth the issues.
49. More restrictive zoning could improve the overall appeal and unique attraction of the cities' primary Avenue.
50. There needs to be green zones in all of Texarkana. The place is a concrete jungle. If there is grass in the median, an emphasis needs to be made in making sure grass clippings are not blown in the highway as well as making sure it is trimmed properly. The grass on Fairgrounds parkway gets knee high and then is blown in the road.
51. Remove all billboards; replace all other signs with monuments signs
52. Beautification of State Line is the most important topic here!
53. If landscaping is gonna happen. Make sure you have a budget in place to pay to have it maintained properly or it's just gonna look like crap in a bit.
54. Don't make it easier for the grifters to loiter on state line!
55. Just adding landscaped medians will help a lot. Adding medians will probably make it necessary to add some traffic lights so that cars can reverse directions in order to access businesses on both sides of the street.
56. Shade= homeless hangout
57. The only pedestrians on Stateline are the crackheads walking to their panhandling spot.
58. Add trees to block the billboards
59. The area is full of vagrants and dopeheads wandering around like zombies begging g for money..very unbecoming
60. Consider low maintenance native Texas grasses for medians. Sideoats gramma is the native Texas grass. This would be pretty and make median areas only require a few mowings a year vs. weekly maintenance. Definitely consider native, low water use trees and plants in this design. No cheap Chinese trees
61. Remove much of the billboards, add more lighting to cut down on crime, i like the idea of benches but fear the homeless dwelling on them, need more flowering trees and landscaped design
62. Remove billboards and only allow monument signs.
63. Make it appealing on both sides

64. Remove all billboards; remove all large signage; limit signage and size; add greenery and color where possible
65. Fewer signs/billboards. More trees.
66. Poor planners will execute a poor plan.
67. Get rid of all unused trashy buildings
68. Ridiculous to waste time and money.

General Comments on Stateline Avenue Corridor Districts:

1. With bus traffic and possible re-routes from Interstate, the wider lanes are more safe. Traffic problems I have witnessed have more to do with drivers not paying attention, being careless, and/or under the influence of something.
2. DO NOT MAKE THE ROADS NARROW. THAT IS UNACCEPTABLE AND I WILL VOTE BASED ON THAT SINGLE ISSUE.
3. Make travel safer by any means for vehicles and pedestrians of any type walking or riding
4. I believe you are on the right track! The lanes are way too wide. And way too ugly. Traffic is too fast. Dangerous accessibility to some businesses (Potato Patch) causes some potentially deadly scenarios with cars trying to enter driveways and drive throughs.
5. narrow roads are not safer
6. narrower lanes will cause multiple problems, street needs to be treated as one street and not divided into "zones"
7. Keep Stateline safe to travel. People will avoid it if not.
8. Number of lanes isn't the issue.
9. The road diet plan should not be for the business area but I can see it working for the residential/urban areas. Narrower lanes will make it hard for the 18 wheelers that have to get to the businesses.
10. It is fine as it is.
11. Narrow lanes cause more stress of driver and less room for error. Especially if someone is impaired - texting, cellphone, medical, drug/alcohol
12. Think about this? do 18 wheelers, travel trailers, RV's and big trucks ride on Stateline? the answer is YES!! this is a commercial area. Makes no sense to have narrow lanes!! SMH!!
13. Skipped this part because I didn't attend the meeting/don't understand the questions.
14. yes to this street diet!! this would definitely show off state line for what it is!
15. Narrower travel lanes would be fine to accommodate the need for walking/bicycle lanes. It should also slow traffic in the more needed areas.
16. Narrower lanes and raised medians will cause more accidents. Speed red light disregard needs to be enforced. It is done on a daily basis by many drivers because they can do it and get by with it. There is nothing to deter traffic violations.
17. We need experts to decide if reducing the road lane size is safer than the status quo.
18. Controlled and defined left turn lanes rather than one long “chicken” lane.
19. Those who want to drive fast will avoid narrow streets and choose a different route.
20. NA
21. I think with more narrow lanes a speed reduction may be needed.
22. For God's sake, don't make the road smaller and harder to travel for a stupid bike line no one will hardly use, causing more accidents during and after construction!!!!

23. I do not like the idea of narrower lanes in order to widen sidewalks....I do like the idea of narrower lanes if that is what is needed to provide raised medians.
24. Studies show narrowed lanes reduce speed and accidents
25. Stateline is already unique. This is an opportunity to enhance areas to create a more appealing area for tourists and residents.
26. Focus on other areas.

Appendix B: Public Meeting #2

	MPO Public Meeting #2 Questionnaire- Regional Commercial District							
Question #	Description	Online Yes	Online No	Yes	No	TOTAL	Yes %	No %
1	Do you like the concept of pedestrian refuge islands having design features (signage, benches) that allow a stateline crossing experience?	32	15	54	17	71	76%	24%
2	Regarding pedestrian crosswalks, which of these design styles would you prefer? (paver)	23		45		45	100%	0%
3	Regarding pedestrian crosswalks, which of these design styles would you prefer? (artistic)	19		24		24	100%	0%
4	Regarding pedestrian crosswalks, which of these design styles would you prefer? (basic)	5		5		5	100%	0%
5	Stateline avenue needs to have a gateway design feature, do you agree with this statement?	44	4	65	8	73	89%	11%
6	For the high traffic volume regional commercial district, would you support a raised median?	38	10	61	14	75	81%	19%
7	Do you like the concept of having pedestrian benches and pedestrian lights in this district and throughout the entire stateline corridor?	37	11	58	14	72	81%	19%
8	The corridor right-of-way wil accommodate a multi-use pedestrian path for biking and walking on both sides for the entire length of the corridor. Do you approve of this enhancement?	41	6	63	9	72	88%	13%
9	Regarding pedestrian crossings, which of the following components do you prefer? (pedestrian hybrid beacon)	6		13		13	100%	0%
10	Regarding pedestrian crossings, which of the following components do you prefer? (refuge island)	30		50		50	100%	0%
11	Regarding pedestrian crossings, which of the following components do you prefer? (raised tabletop)	2		4		4	100%	0%
12	Regarding pedestrian crossings, which of the following components do you prefer? (aerial bridge crossing)	7		14		14	100%	0%
13	Does the use of street trees being located in this district appeal to you?	44	4	68	8	76	89%	11%
14	Regional commercial district- 6 lane option			4		4	100%	0%
15	Regional commercial district- 7 lane option			19		19	100%	0%

	MPO Public Meeting #2 Questionnaire- Business District							
Question #	Description	Online Yes	Online No	Yes	No	TOTAL	Yes %	No %
1	Access management in the business district could provide a safer roadway, but would require a management program that may reduce driveways and create cross access between separate parcels. Would you support this?	36	5	57	10	67	85%	15%
2	Would you support an overlay district that would influence future development of driveways, signage, lighting and landscaping?	40	2	62	5	67	93%	7%
3	Do you feel that bus shelters srategically placed along the corridor would be an enhancement?	35	6	61	8	69	88%	12%
4	Do you feel improved pedestrian access along the corridor in this business district can help to increase retail sales for the stores?	30	11	54	14	68	79%	21%

	MPO Public Meeting #2 Questionnaire- Residential District							
Question #	Description	Online Yes	Online No	Yes	No	TOTAL	Yes %	No %
1	To add enhanced landscaping to the corridor, a public/private partnership would be required to fund the installation and provide the maintenance. Do you feel that the additional landscaping warrants the cost and creation of this partnership?	33	7	51	9	60	85%	15%
2	Would you support mid-block crossings with pedestrian refuge islands in this district?	32	9	53	9	62	85%	15%
3	Raised medians are being proposed as an option in this district, do you support this option?	34	7	55	8	62	89%	13%
4	We are proposing to use native plants for the corridor, which requires lower maintenance and less water, is this desirable?	38	3	58	3	61	95%	5%

	MPO Public Meeting #2 Questionnaire- Urban District							
Question #	Description	Online Yes	Online No	Yes	No	TOTAL	Yes %	No %
1	Do you support a landscaped median in this district with maintenance provided by others and funded by a new organization?	34	7	50	11	61	82%	18%
2	This district concept provides small pedestrian parks that will be maintained by others. Do you support this idea?	35	6	51	10	61	84%	16%
3	Would you support mid-block crossings wih pedestrian refuge islands in this district?	33	8	48	13	61	79%	21%
4	The proposed pedestrian mid-block crossing could provide design features (signage/benches) that allow for a stateline crossing experience. Do you support this idea?	34	7	51	10	61	84%	16%

Open Ended Responses Public Meeting Two

Comments:

1. More focus on Stateline after 16th street towards downtown.
2. No billboards please
3. I do not support the island in front of a business especially towards the end towards downtown.
4. In addition to native plants include plants to encourage bees, butterfly, etc.
5. Blocking ingress and egress from burger king State line entry & exit will kill my business. Customers need to enter & exit on State line.

Appendix C: Owner Input Data

	MPO Property Owner Questionnaire							
Question #	Description	**Online Yes**	**Online No**	**Yes**	**No**	**TOTAL**	**Yes %**	**No %**
1	In general, do you have a positive or negative view of the current layout of Stateline Avenue?	8	4	14	13	27	52%	48%
2	Do vehicles have difficulties entering/exiting the driveways on your property?	2	10	5	22	27	19%	81%
3	Do you feel an added bicycle lane within the current ROW would benefit your business/property?	1	11	1	23	24	4%	96%
4	Would you be opposed to additiona pedestrian facilities within the current ROW?	8	4	12	13	25	48%	52%
5	Raised medians provide refuge for pedestrians, aid in managing motor traffic, and allow locations for landscaping. Do you believe adding raised medians would have a positive or negative effect on your business?	5	7	12	12	24	50%	50%
6	Do you believe that having raised medians would improve safety along the corridor?	4	8	11	13	24	46%	54%
7	Do you think that an improved state line corridor could result in a decrease in crime in the area?	4	8	13	12	25	52%	48%
8	Would you support the potential for a future sign ordinance that would restrict large signs and billboards to improve the appearance along the corridor?	4	8	14	12	26	54%	46%
9	Do you think/believe/feel that a safer, more aesthetic Stateline corridor would increase or descrease your property values over time?	7	1	19	4	23	83%	17%
10	Do you think/believe/feel that your property values will increase or decrease over time if no changes are made along the corridor?	7	5	14	12	26	54%	46%

Open Ended Responses Property Owner Input

1. No raised medians. This will bring more homeless people & hinder business.
2. There is a sidewalk already in place. Traffic flow on Stateline is just fine. This project will decrease the number of people going downtown.
3. Do something to address the vagrant & homeless issues would be the greatest thing to increase customer interaction, make things safer & property value increase. Biggest problem on Stateline Avenue.
4. I don't believe the unanswered questions will have any impact on my business - good or bad.

5. Re: Question 3 on adding a bicycle lane, answer is no, but that doesn't mean this shouldn't happen.
6. Re: Question 2, this driveway is not on Stateline. Comment: I think center lane needed for traffic flow - raised median would slow traffic turns.
7. More places for homeless people to find refuge all along the Stateline Corridor will not help any business on Stateline.
8. Post office improvements are very positive. I support David Peavy's idea of the triangle area in 200 block of Stateline. Suggest tiered landscape, water sprinklers at 600 block of Stateline, AR.
9. Very important for State Line to be improved. Landscaping very important.
10. Re: Question 8 - absolutely. Re: Question 9 - x 10. Re: Question 10 - has already happened. This is so important to get right. Stateline is what's unique about Texarkana and is not a positive representation.
11. Restrictions as to what type business can line the corridor would be great. For instance, no salvage or pawn shop storage.
12. Until safety in the area is addressed, and the homeless and loitering issues, no amount of improvements is going to draw pedestrian traffic.
13. There has been so much money used for downtown and it is time to revamp state line. This way, both parties will be pleased and will bring more people to state line.
14. Raised median would hurt our business for sure . All they need is redo entire curbs and completely new road surface . Need more traffic cops for sure. Working cameras at ALL traffic lights would help with reducing crime IMHO.
15. Both cities need to address the panhandling epidemic we have in our city and put a stop to this. If you want to clean up Stateline, stop this immediately, they trash our entire area. They come into our businesses and use our restrooms for showering.
16. Some improvements should be made. But not to hinder traffic or traffic flow. Raised medians or "J" turns are not needed. Street appearance such as maintaining traffic strips and replacing Street Lights would be helpful. Benches on the right-of-way would not help at all. Bicycle lanes have no place on State Line because we do not have people using State Line for that purpose. Slowing traffic will harm the retail trade and cause business to suffer. Putting any vegetation on State Line will ultimately cause the business owners to pay for maintenance because the City Of Texarkana, Texas no longer maintains the ally behind our buildings now and we have to mow the grass. This is City property and it is their obligation to maintain the ally. The local business will be Taxed extra to maintain any type of vegetation in front of our property. This is not acceptable. We all agree some things can be done to make it look better but some this are simply not needed on any level. Crossing walks are not needed on US Highways. State Line is US

Hwy 71 and US Hwy 59. Downtown Texarkana will suffer if too many changes are made to traffic flow and too many distractions. Putting benches down will give homeless people a place to sleep and sitt during the day so they can panhandle for money at the intersections. most of these changes that are proposed are costly and can cause problems in the highly valuable traffic flow. All businesses need more traffic flow not less. Understand improving the appearance is good but cutting down on traffic flow and speed will diminish business and taxes paid.

17. Question 9 is a false premise. If you add these proposed changes to stateline, it will only entice more vagrants to area, making it less safe
18. No. I think raised medians will make it more difficult for customers to drive to a business causing drivers to have to make more U-turns and become more frustrated with traffic. I think it will attract more panhandlers to more areas on State Line making it more dangerous to those pedestrians and probably cause more Jay-walking accidents. It depends, if you put a raised median or other things that hurt visibility or access to my property, no matter how pretty, it will hurt the value of my property and business. If we do something to help the homeless population from sleeping on the street, doing drugs and throwing their needles on the street or committing other crimes then we might help property values. I do not want to deter customers and visitors to the area by making it more difficult to get into the local businesses. Increase. If we don't do anything that reduces the easy flow of our customers to our businesses or give our customers a reason to bypass State Line our future looks bright.
19. This is very important to get done the right way. Landscaping along the street as well as in the medians is extremely needed to be included.

Appendix D: Existing Traffic Conditions and Traffic Operational Analysis Results

Existing Traffic Volumes

Existing Traffic Conditions Summary

Traffic operations along the Stateline Avenue corridor were assessed in a comprehensive manner, consisting of field observations, research of available data, traffic volume counts and intersection traffic operations analysis. Data collected and referenced is included in the attached Traffic Data Appendix.

Field Observations:

Traffic operations in the Stateline Avenue Corridor were observed over a two-week period on multiple weekdays in May, 2021. Comments related to observed traffic operations include the following:

1. The only intersection observed to have considerable traffic operational delays was the intersection of Stateline Avenue and Texas Boulevard / Arkansas Boulevard during the AM and PM peak hours.
2. All the other study intersections were observed to have minimal traffic operational delays during the AM and PM peak hours.
3. It was observed that there was pedestrian activity throughout the Stateline Avenue Corridor study intersection during the AM and PM peak hours.
4. During corridor travel times, no excessive delays along the Stateline Avenue Corridor were noted.

Traffic Count Data:

Peak hour traffic volume count data was conducted and assembled for weekday AM (7:00 – 9:00 AM) and PM (4:00 – 6:00 PM) peak hours. This included intersection turning movement counts along the Stateline Avenue Corridor at the following intersections:

- W. 52nd Street / 49th Street.
- Texas Blvd. / Arkansas Blvd.
- E 37th Street.
- W. 42nd Street / E 36th Street.
- W. 41st Street / E 35th Street.
- College Drive.
- E. 24th Street.
- E. 16th Street.
- W. 19th Street / E. 12th Street.
- W. 12th Street / E. 10th Street.
- Hazel Street / E. 9th Street.
- Dr. MLK Blvd.
- W. 7th Street / E. 7th Street.

Counts were made of pedestrians, bicycles, cars and trucks. Heavy truck volume data indicated that the percentage truck volume in overall traffic counts were found to be fairly low; ranging from 0.5 to 2.0 percent.

It was observed that there was pedestrian activity throughout the Stateline Avenue Corridor study intersections. However, there was minimal bicycles observed.

24-hour traffic volume data was also was researched from both TxDOT and ArDOT sources. Existing two-way, 24-hour traffic volume counts range from 6,000 vehicles per day toward the south end of the Stateline Avenue Corridor to over 27,000 vehicles per day near the north end of the Corridor.

Corridor Travel Time Data was assessed for multiple travel runs for the Corridor for both AM and PM peak travel periods. Travel times during the AM peak period ranged from 3.5 to almost 6.0 minutes, with 2 to 3 stops at traffic signals. Travel times during the PM peak period ranged from 5.5 to almost 8.0 minutes, with 2 to 5 stops at traffic signals.

Traffic Operational Analysis:

The intersection of Stateline Avenue and Texas Boulevard/Arkansas Boulevard was the busiest intersection in the Corridor during both the AM and PM peak hours of traffic operations. For the AM peak hour the Intersection Capacity Utilization was found to be 49.2 percent and average delay of 13.8 seconds per vehicle. During the PM peak hour, this intersection had 82.0 percent Intersection Capacity Utilization and average delay of 31.2 seconds per vehicle.

Existing Capacity and Level-of-Service Summary Table has been prepared.

Historic Safety Data Review:

A Summary of Accidents by Location for years 2016-2020 was assembled from TxDOT's Crash Extract data. The data sows that a total of 315 accidents occurred in the Stateline Avenue Corridor for this time period. These accidents resulted in a total of 565 personal injuries and for fatalities. One fatal accident (at W. 21st Street) was the driver of a motorcycle. There were 3 fatal pedestrian accidents in this time period; those occurring north of I-30. The intersection of Stateline Avenue at Texas Boulevard / Arkansas Boulevard had the highest number of accidents in the period: 82 accidents or 26 percent of the Corridor total.

Stateline Avenue and W. 52nd St. and E. 49th St.
Texarkana TX
Tuesday, April 4, 2021
AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
7:30 AM	0	5	204	31	0	*240*	0	6	3	11	0	*20*	0	7	141	7	0	*155*	0	9	2	15	0	*26*	**441**
7:45 AM	0	9	243	27	0	*279*	0	4	7	17	0	*28*	0	8	163	11	0	*182*	0	15	6	13	0	*34*	**523**
8:00 AM	0	14	215	31	0	*260*	0	9	2	16	0	*27*	0	7	157	13	0	*177*	0	15	4	7	0	*26*	**490**
8:15 AM	0	4	183	9	0	*196*	0	9	1	7	0	*17*	0	7	120	12	0	*139*	0	19	2	7	0	*28*	**380**
Peak Hour Total	0	32	845	98	0	*975*	0	28	13	51	0	*92*	0	29	581	43	0	*653*	0	58	14	42	0	*114*	**1834**
PHF	0.000	0.571	0.869	0.790	0.000	*0.874*	0.000	0.778	0.464	0.750	0.000	*0.821*	0.000	0.906	0.891	0.827	0.000	*0.897*	0.000	0.763	0.583	0.700	0.000	*0.838*	**0.877**

Total Vehicles On Leg			2885		
Vehicles Entering Intersection	1647		Vehicles Exiting Intersection	1238	
Southbound					
Cars	169	1398	56	0	0
Heavy	2	22	0	0	0
Total	**171**	**1420**	**56**	**0**	**0**

Total Vehicles on Leg	Vehicles Entering Intersection	Eastbound	Cars	Heavy	Total
449	202		0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 247		99	0	**99**
			20	0	**20**
			80	3	**83**

Two-Hour Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection	Total Vehicles on Leg
91	2	**93**		150	308
19	0	**19**			
38	0	**38**		Vehicles Exiting Intersection 158	
0	0	**0**			
0	0	**0**			

Cars	2	0	57	1016	80
Heavy	0	0	0	30	2
Total	**2**	**0**	**57**	**1046**	**82**
Northbound					
Vehicles Entering Intersection	1185		Vehicles Exiting Intersection	1541	
Total Vehicles On Leg			2726		

Stateline Avenue and W. 52nd St. and E. 49th St.
Texarkana TX
Tuesday, April 4, 2021
PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
3:45 PM	0	0	0	0	0	*0*	0	0	0	0	0	*0*	0	0	0	0	0	*0*	0	0	0	0	0	*0*	**0**
4:00 PM	0	12	253	21	1	*286*	0	8	0	14	0	*22*	0	19	189	13	2	*221*	0	33	4	10	0	*47*	**576**
4:15 PM	0	5	234	21	0	*260*	0	11	2	13	0	*26*	0	13	200	17	2	*230*	0	21	3	13	0	*37*	**553**
4:30 PM	0	4	143	11	0	*158*	0	6	2	12	0	*20*	0	2	115	9	0	*126*	0	20	3	7	0	*30*	**334**
Peak Hour Total	0	21	630	53	1	*704*	0	25	4	39	0	*68*	0	34	504	39	4	*577*	0	74	10	30	0	*114*	**1463**
PHF	0.000	0.438	0.623	0.631	0.250	*0.615*	0.000	0.568	0.500	0.696	0.000	*0.654*	0.000	0.447	0.630	0.574	0.500	*0.627*	0.000	0.561	0.625	0.577	0.000	*0.606*	**0.635**

Total Vehicles On Leg			1321		
Vehicles Entering Intersection	704		Vehicles Exiting Intersection	617	
Southbound					
Cars	51	627	20	0	1
Heavy	2	3	1	0	0
Total	**53**	**630**	**21**	**0**	**1**

Total Vehicles on Leg	Vehicles Entering Intersection	Eastbound	Cars	Heavy	Total
205	114		0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 91		72	2	**74**
			10	0	**10**
			28	2	**30**

Daily Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection	Total Vehicles on Leg
39	0	**39**		68	138
4	0	**4**			
25	0	**25**		Vehicles Exiting Intersection 70	
0	0	**0**			
0	0	**0**			

Cars	4	0	34	501	39
Heavy	0	0	0	3	0
Total	**4**	**0**	**34**	**504**	**39**
Northbound					
Vehicles Entering Intersection	577		Vehicles Exiting Intersection	685	
Total Vehicles On Leg			1262		

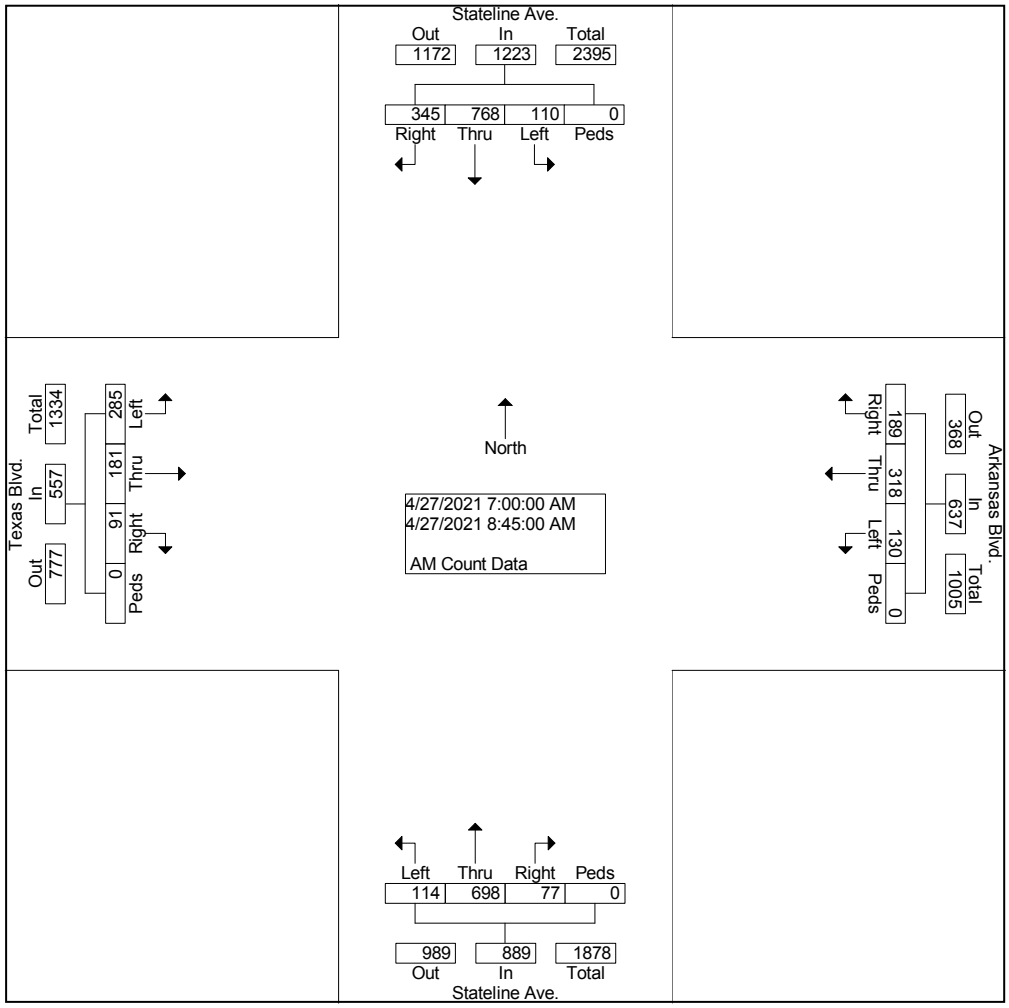
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave & Texas / Arkansas Blvd
Texarkana
P2087

File Name : AM AR TX
Site Code : 00000000
Start Date : 04/27/2021
Page No : 1

Groups Printed- AM Count Data

	Stateline Ave. From North					Arkansas Blvd. From East					Stateline Ave. From South					Texas Blvd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	21	62	10	0	93	18	25	11	0	54	5	57	3	0	65	4	8	31	0	43	255
07:15 AM	48	90	14	0	152	33	36	11	0	80	3	89	8	0	100	10	20	30	0	60	392
07:30 AM	51	130	12	0	193	30	55	12	0	97	7	110	19	0	136	8	26	23	0	57	483
07:45 AM	65	146	16	0	227	33	70	30	0	133	4	127	21	0	152	31	32	84	0	147	659
TOTAL	185	428	52	0	665	114	186	64	0	364	19	383	51	0	453	53	86	168	0	307	1789
08:00 AM	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	2	11	0	0	13	18
08:15 AM	67	119	18	0	204	22	43	24	0	89	17	91	18	0	126	14	30	39	0	83	502
08:30 AM	45	108	24	0	177	24	53	22	0	99	20	102	22	0	144	13	32	34	0	79	499
08:45 AM	48	110	16	0	174	29	34	20	0	83	21	122	23	0	166	9	22	44	0	75	498
TOTAL	160	340	58	0	558	75	132	66	0	273	58	315	63	0	436	38	95	117	0	250	1517
GRAND TOTAL	345	768	110	0	1223	189	318	130	0	637	77	698	114	0	889	91	181	285	0	557	3306
APPRCH %	28.2	62.8	9.0	0.0		29.7	49.9	20.4	0.0		8.7	78.5	12.8	0.0		16.3	32.5	51.2	0.0		
TOTAL %	10.4	23.2	3.3	0.0	37.0	5.7	9.6	3.9	0.0	19.3	2.3	21.1	3.4	0.0	26.9	2.8	5.5	8.6	0.0	16.8	

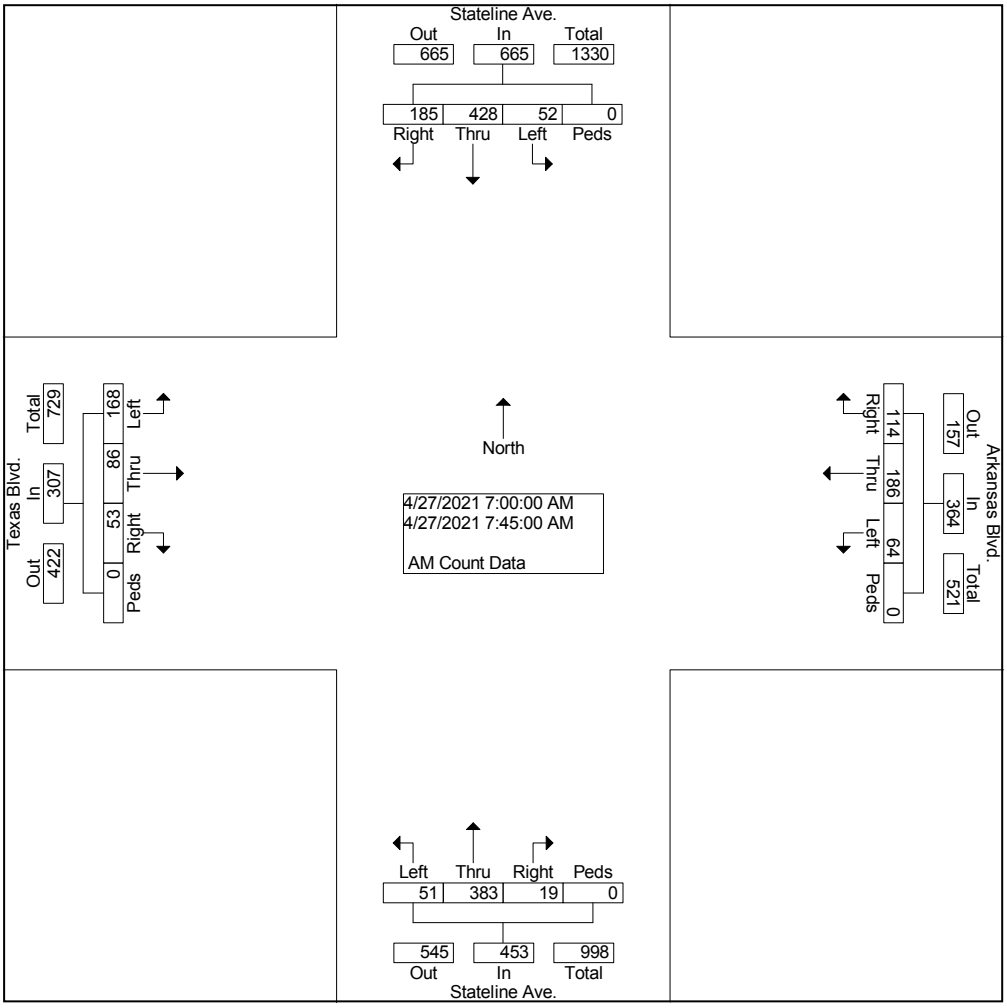


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave & Texas / Arkansas Blvd
Texarkana
P2087

File Name : AM AR TX
Site Code : 00000000
Start Date : 04/27/2021
Page No : 2

	Stateline Ave. From North					Arkansas Blvd. From East					Stateline Ave. From South					Texas Blvd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
INTERSECTION	07:00 AM																				
VOLUME	185	428	52	0	665	114	186	64	0	364	19	383	51	0	453	53	86	168	0	307	1789
PERCENT	27.8	64.4	7.8	0.0		31.3	51.1	17.6	0.0		4.2	84.5	11.3	0.0		17.3	28.0	54.7	0.0		
07:45 VOLUME	65	146	16	0	227	33	70	30	0	133	4	127	21	0	152	31	32	84	0	147	659
PEAK FACTOR																					0.679
HIGH INT.	07:45 AM					07:45 AM					07:45 AM					07:45 AM					
VOLUME	65	146	16	0	227	33	70	30	0	133	4	127	21	0	152	31	32	84	0	147	
PEAK FACTOR					0.732					0.684					0.745					0.522	



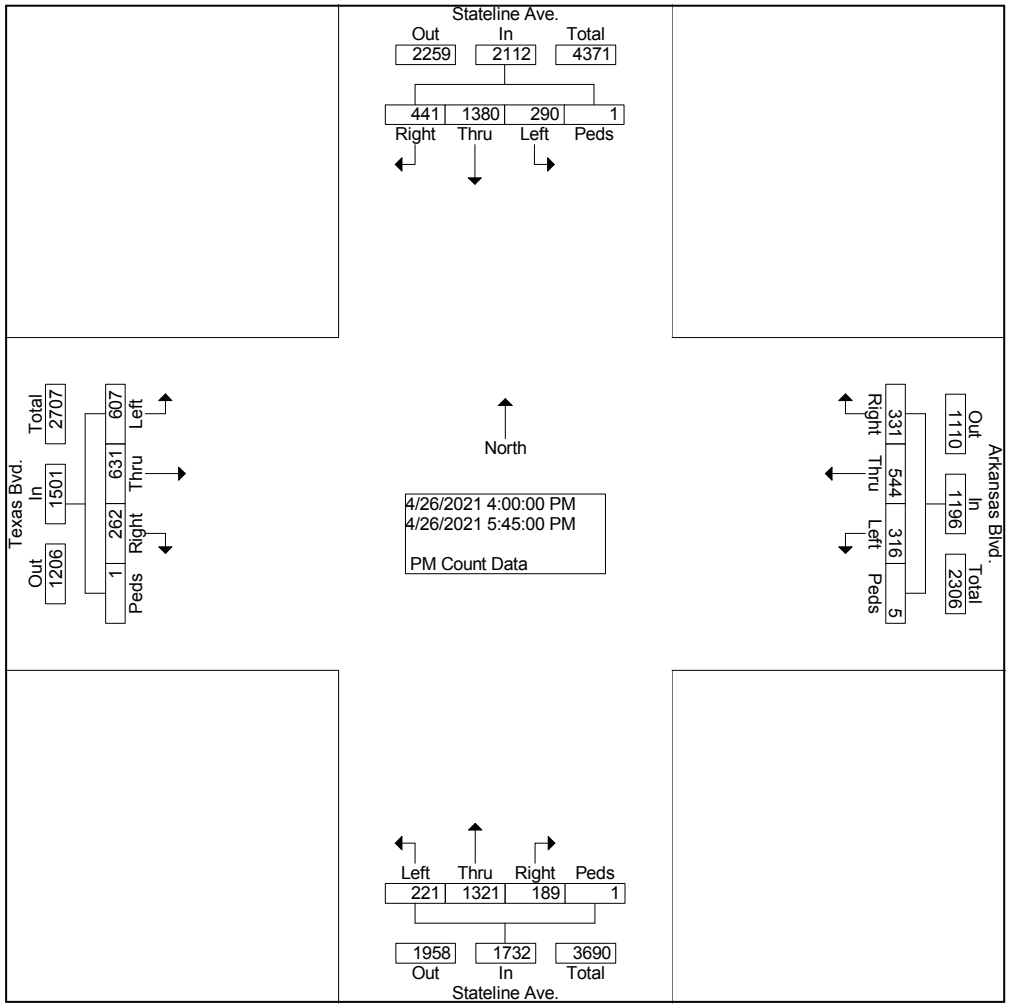
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
Stateline Ave & Texas/Arkansas Blvd
Texarkana
P2087

File Name : PM AR TX
Site Code : 00000000
Start Date : 04/26/2021
Page No : 1

Groups Printed- PM Count Data

	Stateline Ave. From North					Arkansas Blvd. From East					Stateline Ave. From South					Texas Bvd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	38	132	36	0	206	33	50	33	0	116	21	144	22	0	187	25	64	70	0	159	668
04:15 PM	42	140	35	0	217	43	53	35	0	131	28	154	23	0	205	35	68	69	0	172	725
04:30 PM	67	148	40	0	255	33	80	40	0	153	26	184	31	0	241	22	69	85	0	176	825
04:45 PM	69	173	40	0	282	44	93	39	4	180	15	134	20	0	169	32	89	82	0	203	834
TOTAL	216	593	151	0	960	153	276	147	4	580	90	616	96	0	802	114	290	306	0	710	3052
05:00 PM	48	242	38	0	328	49	67	41	0	157	37	201	36	0	274	36	106	89	1	232	991
05:15 PM	60	212	44	0	316	42	70	34	1	147	21	187	32	0	240	45	98	78	0	221	924
05:30 PM	63	171	36	1	271	60	67	50	0	177	24	178	27	0	229	37	77	69	0	183	860
05:45 PM	54	162	21	0	237	27	64	44	0	135	17	139	30	1	187	30	60	65	0	155	714
TOTAL	225	787	139	1	1152	178	268	169	1	616	99	705	125	1	930	148	341	301	1	791	3489
GRAND TOTAL	441	1380	290	1	2112	331	544	316	5	1196	189	1321	221	1	1732	262	631	607	1	1501	6541
APPRCH %	20.9	65.3	13.7	0.0		27.7	45.5	26.4	0.4		10.9	76.3	12.8	0.1		17.5	42.0	40.4	0.1		
TOTAL %	6.7	21.1	4.4	0.0	32.3	5.1	8.3	4.8	0.1	18.3	2.9	20.2	3.4	0.0	26.5	4.0	9.6	9.3	0.0	22.9	

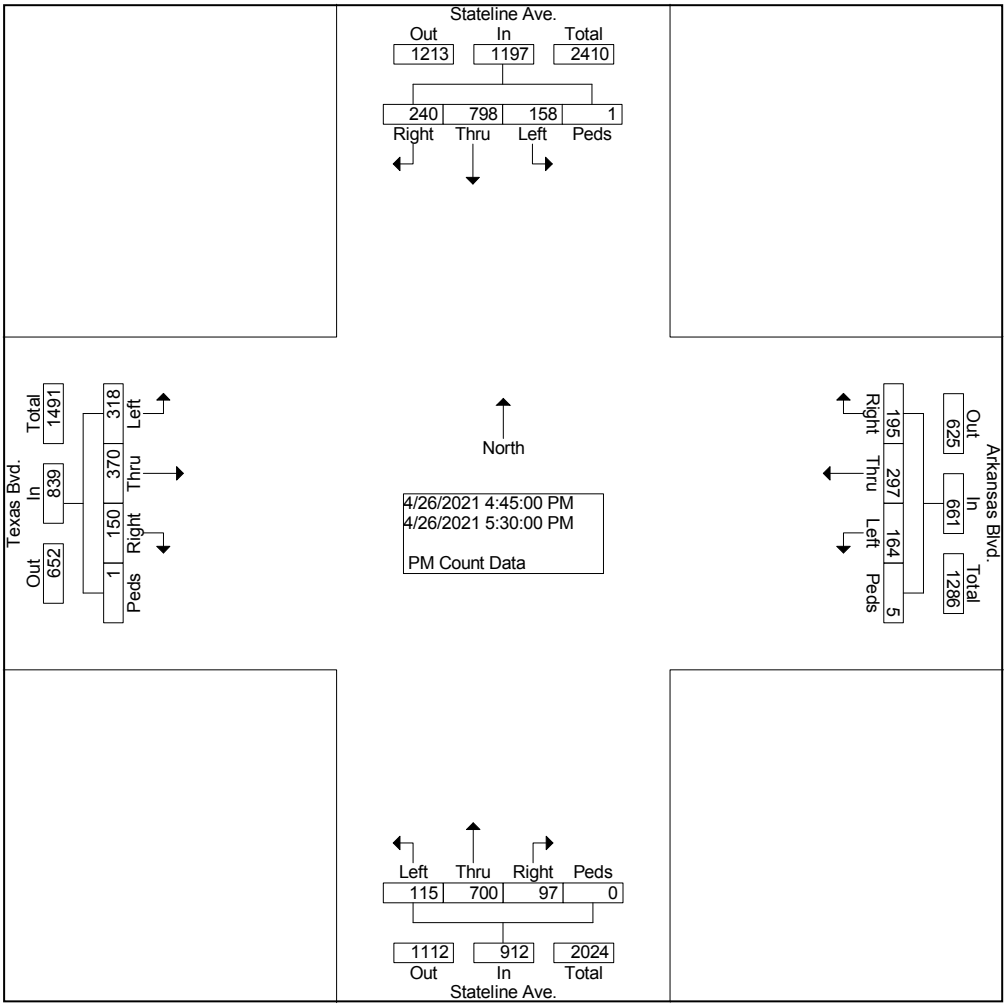


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
Stateline Ave & Texas/Arkansas Blvd
Texarkana
P2087

File Name : PM AR TX
Site Code : 00000000
Start Date : 04/26/2021
Page No : 2

	Stateline Ave. From North					Arkansas Blvd. From East					Stateline Ave. From South					Texas Bvd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
INTERSECTION	04:45 PM																				
VOLUME	240	798	158	1	1197	195	297	164	5	661	97	700	115	0	912	150	370	318	1	839	3609
PERCENT	20.1	66.7	13.2	0.1		29.5	44.9	24.8	0.8		10.6	76.8	12.6	0.0		17.9	44.1	37.9	0.1		
05:00 VOLUME	48	242	38	0	328	49	67	41	0	157	37	201	36	0	274	36	106	89	1	232	991
PEAK FACTOR																					0.910
HIGH INT.	05:00 PM					04:45 PM					05:00 PM					05:00 PM					
VOLUME	48	242	38	0	328	44	93	39	4	180	37	201	36	0	274	36	106	89	1	232	
PEAK FACTOR					0.912					0.918					0.832					0.904	



Stateline Avenue and E. 37th Street
Texarkana AR
Wednesday, April 28, 2021
AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
7:30 AM	0	3	156	0	0	*159*	0	2	0	2	0	*4*	0	0	146	0	0	*146*	0	0	0	0	0	*0*	**309**
7:45 AM	0	1	192	0	0	*193*	0	2	0	4	0	*6*	0	0	157	0	0	*157*	0	0	0	0	0	*0*	**356**
8:00 AM	0	0	153	0	0	*153*	0	0	0	1	0	*1*	0	0	145	0	0	*145*	0	0	0	0	0	*0*	**299**
8:15 AM	0	2	143	0	0	*145*	0	2	0	4	0	*6*	0	0	131	0	0	*131*	0	0	0	0	0	*0*	**282**
Peak Hour Total	0	6	644	0	0	*650*	0	6	0	11	0	*17*	0	0	579	0	0	*579*	0	0	0	0	0	*0*	**1246**
PHF	0.000	0.500	0.839	0.000	0.000	*0.842*	0.000	0.750	0.000	0.688	0.000	*0.708*	0.000	0.000	0.922	0.000	0.000	*0.922*	0.000	0.000	0.000	0.000	0.000	*0.000*	**0.875**

Total Vehicles On Leg			2148		
Vehicles Entering Intersection	1088		Vehicles Exiting Intersection	1060	
Southbound					
Cars	0	1063	9	0	0
Heavy	0	16	0	0	0
Total	**0**	**1079**	**9**	**0**	**0**

Total Vehicles on Leg 0	Vehicles Entering Intersection 0	Vehicles Exiting Intersection 0	**Eastbound**	Cars	Heavy	**Total**
				0	0	**0**
				0	0	**0**
				0	0	**0**
				0	0	**0**
				0	0	**0**

Two-Hour Volumes

Cars	Heavy	**Total**	**Westbound**	Vehicles Entering Intersection 27	Total Vehicles on Leg 39
14	0	**14**			
0	0	**0**			
12	1	**13**		Vehicles Exiting Intersection 12	
0	0	**0**			
0	0	**0**			

Cars	0	0	0	1032	3
Heavy	0	0	0	14	0
Total	**0**	**0**	**0**	**1046**	**3**
Northbound					
Vehicles Entering Intersection	1049		Vehicles Exiting Intersection	1092	
Total Vehicles On Leg			2141		

Stateline Avenue and E. 37th Street
Texarkana TX
Wednesday, April 28, 2021

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
4:45 PM	0	2	236	0	0	*238*	0	7	0	5	0	*12*	0	0	213	2	0	*215*	0	0	0	0	0	*0*	**465**
5:00 PM	0	3	236	0	0	*239*	0	2	0	4	0	*6*	0	0	261	3	0	*264*	0	0	0	0	0	*0*	**509**
5:15 PM	0	6	248	0	0	*254*	0	7	0	7	0	*14*	0	0	231	3	0	*234*	0	0	0	0	0	*0*	**502**
5:30 PM	0	0	248	0	0	*248*	0	2	0	8	0	*10*	0	0	216	3	0	*219*	0	0	0	0	0	*0*	**477**
Peak Hour Total	0	11	968	0	0	*979*	0	18	0	24	0	*42*	0	0	921	11	0	*932*	0	0	0	0	0	*0*	**1953**
PHF	0.000	0.458	0.976	0.000	0.000	*0.964*	0.000	0.643	0.000	0.750	0.000	*0.750*	0.000	0.000	0.882	0.917	0.000	*0.883*	0.000	0.000	0.000	0.000	0.000	*0.000*	**0.959**

Total Vehicles On Leg			3649		
Vehicles Entering Intersection	1842		Vehicles Exiting Intersection	1807	
Southbound					
Cars	0	1810	22	0	0
Heavy	0	10	0	0	0
Total	**0**	**1820**	**22**	**0**	**0**

Total Vehicles on Leg	Vehicles Entering Intersection	Eastbound	Cars	Heavy	Total
0	0		0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 0		0	0	**0**
			0	0	**0**
			0	0	**0**

Two-Hour Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection	Total Vehicles on Leg
34	1	**35**		70	110
0	0	**0**			
35	0	**35**		Vehicles Exiting Intersection 40	
0	0	**0**			
0	0	**0**			

Cars	0	0	0	1766	18
Heavy	0	0	0	6	0
Total	**0**	**0**	**0**	**1772**	**18**
Northbound					
Vehicles Entering Intersection	1790		Vehicles Exiting Intersection	1855	
Total Vehicles On Leg			3645		

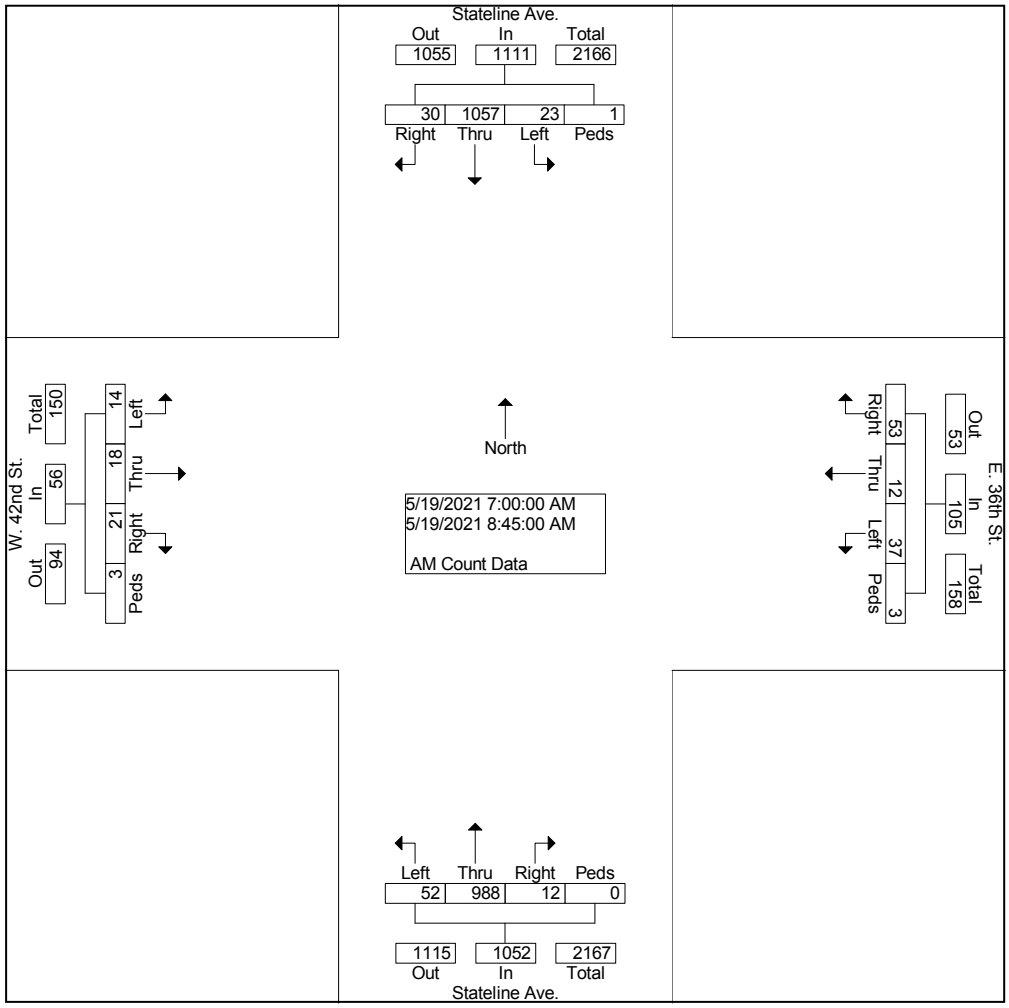
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave & W. 42nd St./E. 36th St
Texarkana
P2087

File Name : AM W42
Site Code : 00000000
Start Date : 05/19/2021
Page No : 1

Groups Printed- AM Count Data

	Stateline Ave. From North					E. 36th St. From East					Stateline Ave. From South					W. 42nd St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	2	91	3	1	97	2	0	1	0	3	1	96	2	0	99	0	1	0	0	1	200
07:15 AM	3	90	1	0	94	3	0	3	0	6	0	99	3	0	102	5	3	1	0	9	211
07:30 AM	4	134	2	0	140	5	2	4	0	11	0	131	6	0	137	1	2	3	0	6	294
07:45 AM	3	210	3	0	216	10	1	6	0	17	1	155	9	0	165	4	2	1	3	10	408
TOTAL	12	525	9	1	547	20	3	14	0	37	2	481	20	0	503	10	8	5	3	26	1113
08:00 AM	3	164	4	0	171	9	3	8	0	20	2	145	8	0	155	3	6	0	0	9	355
08:15 AM	4	117	5	0	126	7	3	5	1	16	1	130	11	0	142	2	3	3	0	8	292
08:30 AM	6	141	3	0	150	10	2	4	2	18	4	111	8	0	123	4	1	2	0	7	298
08:45 AM	5	110	2	0	117	7	1	6	0	14	3	121	5	0	129	2	0	4	0	6	266
TOTAL	18	532	14	0	564	33	9	23	3	68	10	507	32	0	549	11	10	9	0	30	1211
GRAND TOTAL	30	1057	23	1	1111	53	12	37	3	105	12	988	52	0	1052	21	18	14	3	56	2324
APPRCH %	2.7	95.1	2.1	0.1		50.5	11.4	35.2	2.9		1.1	93.9	4.9	0.0		37.5	32.1	25.0	5.4		
TOTAL %	1.3	45.5	1.0	0.0	47.8	2.3	0.5	1.6	0.1	4.5	0.5	42.5	2.2	0.0	45.3	0.9	0.8	0.6	0.1	2.4	

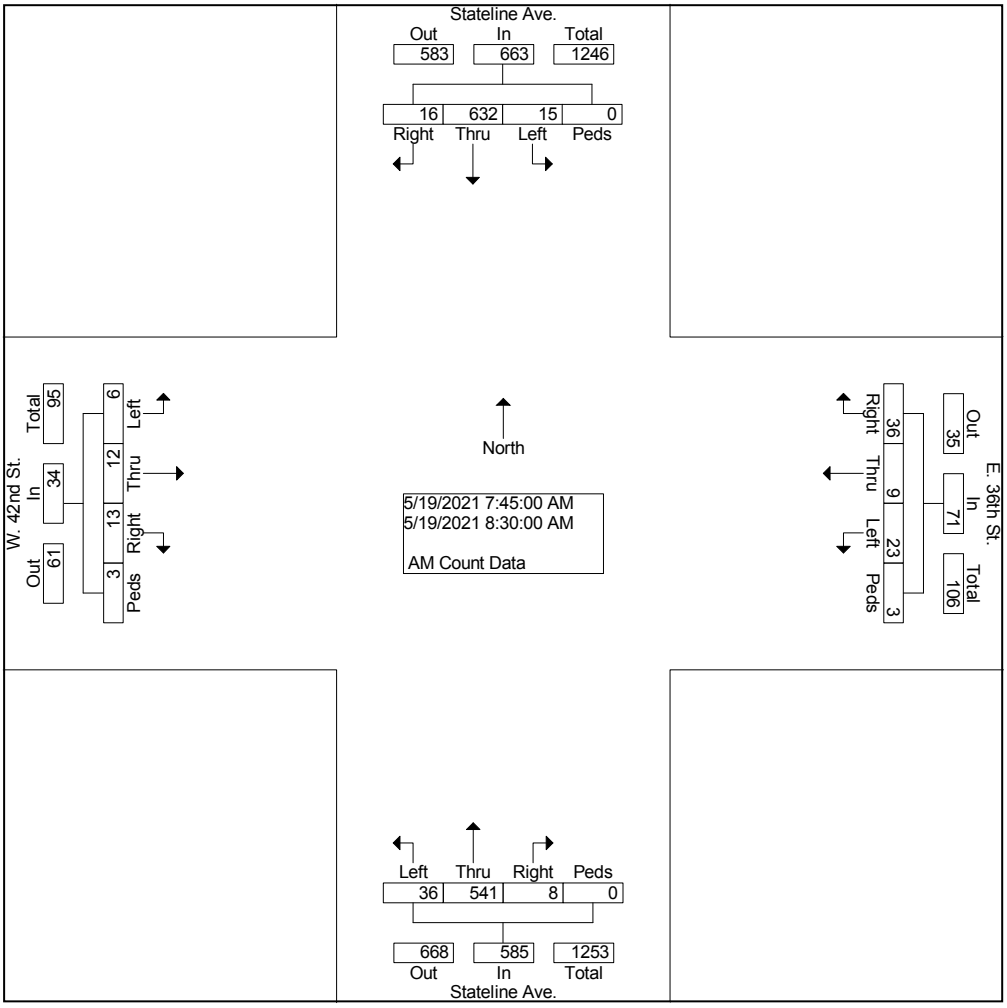


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave & W. 42nd St./E. 36th St
Texarkana
P2087

File Name : AM W42
Site Code : 00000000
Start Date : 05/19/2021
Page No : 2

	Stateline Ave. From North					E. 36th St. From East					Stateline Ave. From South					W. 42nd St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
INTERSECTION	07:45 AM																				
VOLUME	16	632	15	0	663	36	9	23	3	71	8	541	36	0	585	13	12	6	3	34	1353
PERCENT	2.4	95.3	2.3	0.0		50.7	12.7	32.4	4.2		1.4	92.5	6.2	0.0		38.2	35.3	17.6	8.8		
07:45 VOLUME	3	210	3	0	216	10	1	6	0	17	1	155	9	0	165	4	2	1	3	10	408
PEAK FACTOR																					0.829
HIGH INT.	07:45 AM					08:00 AM					07:45 AM					07:45 AM					
VOLUME	3	210	3	0	216	9	3	8	0	20	1	155	9	0	165	4	2	1	3	10	
PEAK FACTOR					0.767					0.888					0.886					0.850	



Stateline Avenue and W 42nd St and E 36th St
Texarkana TX
Thursday, May 20, 2021

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
5:00 PM	0	2	250	3	0	*255*	0	0	0	2	0	*2*	0	0	239	0	0	*239*	0	2	0	5	0	*7*	**503**
5:15 PM	0	6	242	2	0	*250*	0	0	0	3	1	*3*	0	0	221	2	0	*223*	0	3	0	4	1	*7*	**483**
5:30 PM	0	4	203	5	0	*212*	0	1	0	5	1	*6*	0	1	223	0	0	*224*	0	3	0	2	0	*5*	**447**
5:45 PM	0	7	206	2	0	*215*	0	3	0	2	1	*5*	0	0	199	1	0	*200*	0	5	0	3	0	*8*	**428**
Peak Hour Total	0	19	901	12	0	*932*	0	4	0	12	3	*16*	0	1	882	3	0	*886*	0	13	0	14	1	*27*	**1861**
PHF	0.000	0.679	0.901	0.600	0.000	*0.914*	0.000	0.333	0.000	0.600	0.750	*0.667*	0.000	0.250	0.923	0.375	0.000	*0.927*	0.000	0.650	0.000	0.700	0.250	*0.844*	**0.925**

Total Vehicles On Leg			3555		
Vehicles Entering Intersection	1784		Vehicles Exiting Intersection	1771	
Southbound					
Cars	24	1724	28	0	3
Heavy	0	8	0	0	0
Total	**24**	**1732**	**28**	**0**	**3**

Total Vehicles on Leg	Vehicles Entering Intersection	Eastbound	Cars	Heavy	Total
89	59		2	0	**2**
			0	0	**0**
	Vehicles Exiting Intersection 30		24	0	**24**
			1	0	**1**
			34	0	**34**

Two-Hour Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection	Total Vehicles on Leg
19	0	**19**		26	61
0	0	**0**			
7	0	**7**		Vehicles Exiting Intersection 35	
0	0	**0**			
3	1	**4**			

Cars	0	0	6	1724	6
Heavy	0	0	0	4	0
Total	**0**	**0**	**6**	**1728**	**6**
Northbound					
Vehicles Entering Intersection	1740		Vehicles Exiting Intersection	1773	
Total Vehicles On Leg			3513		

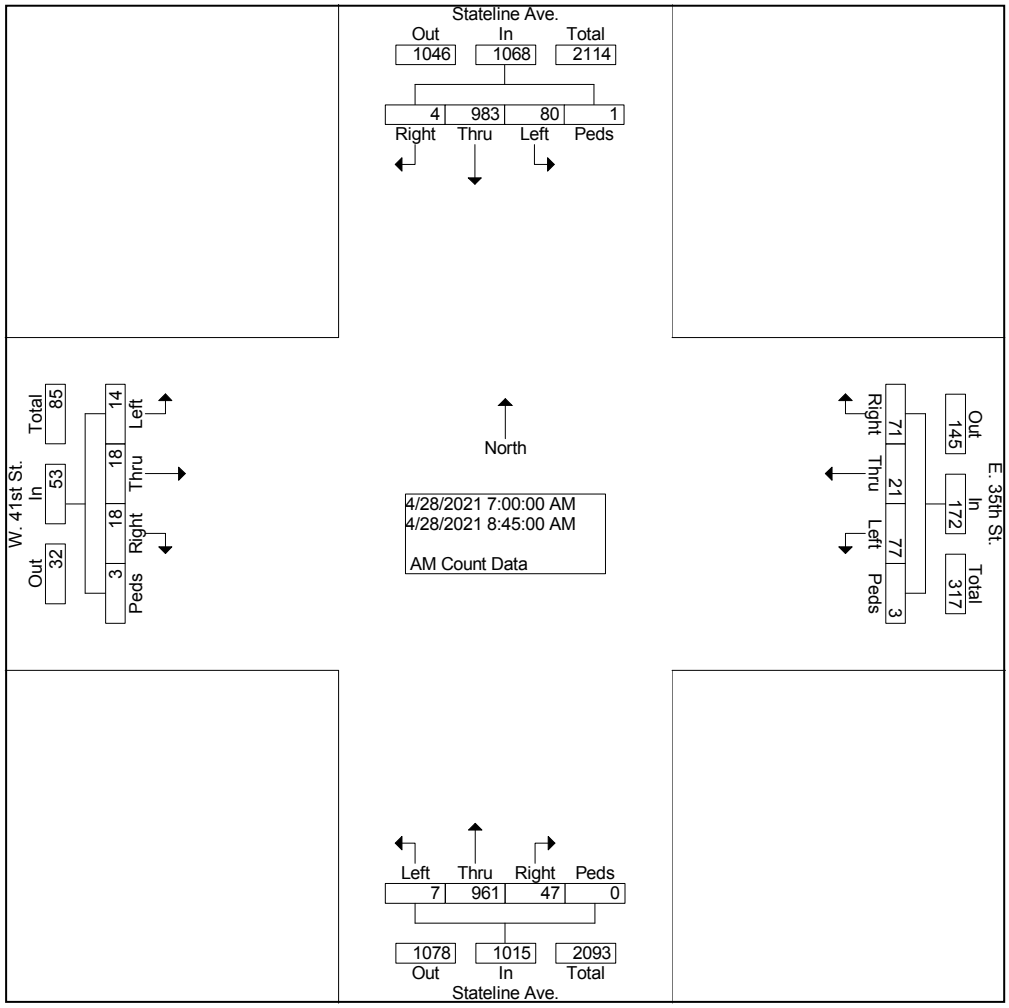
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave & W. 41st St./E. 35th St
Texarkana
P2087

File Name : AM W41
Site Code : 00000000
Start Date : 04/28/2021
Page No : 1

Groups Printed- AM Count Data

	Stateline Ave. From North					E. 35th St. From East					Stateline Ave. From South					W. 41st St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	87	3	1	91	6	2	5	0	13	2	91	2	0	95	0	1	0	0	1	200
07:15 AM	0	82	8	0	90	5	0	8	0	13	6	91	0	0	97	5	3	1	0	9	209
07:30 AM	1	136	11	0	148	11	3	11	0	25	4	124	2	0	130	1	2	3	0	6	309
07:45 AM	1	185	16	0	202	11	2	17	0	30	12	154	1	0	167	0	2	1	3	6	405
TOTAL	2	490	38	1	531	33	7	41	0	81	24	460	5	0	489	6	8	5	3	22	1123
08:00 AM	2	149	17	0	168	6	6	6	0	18	5	149	1	0	155	4	6	0	0	10	351
08:15 AM	0	112	6	0	118	15	6	12	1	34	5	121	1	0	127	2	3	3	0	8	287
08:30 AM	0	125	12	0	137	8	2	13	2	25	4	116	0	0	120	4	1	2	0	7	289
08:45 AM	0	107	7	0	114	9	0	5	0	14	9	115	0	0	124	2	0	4	0	6	258
TOTAL	2	493	42	0	537	38	14	36	3	91	23	501	2	0	526	12	10	9	0	31	1185
GRAND TOTAL	4	983	80	1	1068	71	21	77	3	172	47	961	7	0	1015	18	18	14	3	53	2308
APPRCH %	0.4	92.0	7.5	0.1		41.3	12.2	44.8	1.7		4.6	94.7	0.7	0.0		34.0	34.0	26.4	5.7		
TOTAL %	0.2	42.6	3.5	0.0	46.3	3.1	0.9	3.3	0.1	7.5	2.0	41.6	0.3	0.0	44.0	0.8	0.8	0.6	0.1	2.3	

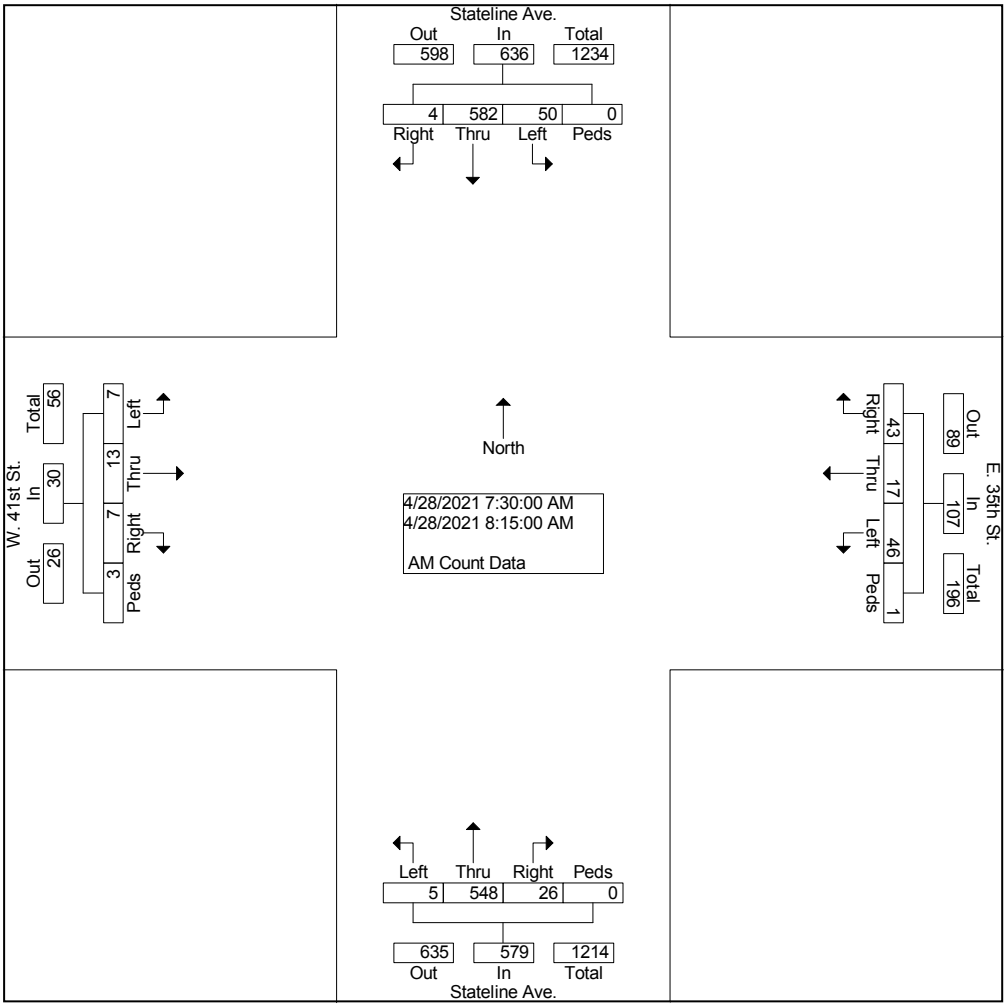


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave & W. 41st St./E. 35th St
Texarkana
P2087

File Name : AM W41
Site Code : 00000000
Start Date : 04/28/2021
Page No : 2

	Stateline Ave. From North					E. 35th St. From East					Stateline Ave. From South					W. 41st St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
INTERSECTION 07:30 AM																					
VOLUME	4	582	50	0	636	43	17	46	1	107	26	548	5	0	579	7	13	7	3	30	1352
PERCENT	0.6	91.5	7.9	0.0		40.2	15.9	43.0	0.9		4.5	94.6	0.9	0.0		23.3	43.3	23.3	10.0		
07:45 VOLUME	1	185	16	0	202	11	2	17	0	30	12	154	1	0	167	0	2	1	3	6	405
PEAK FACTOR																					0.835
HIGH INT.	07:45 AM					08:15 AM					07:45 AM					08:00 AM					
VOLUME	1	185	16	0	202	15	6	12	1	34	12	154	1	0	167	4	6	0	0	10	
PEAK FACTOR					0.787					0.787					0.867					0.750	



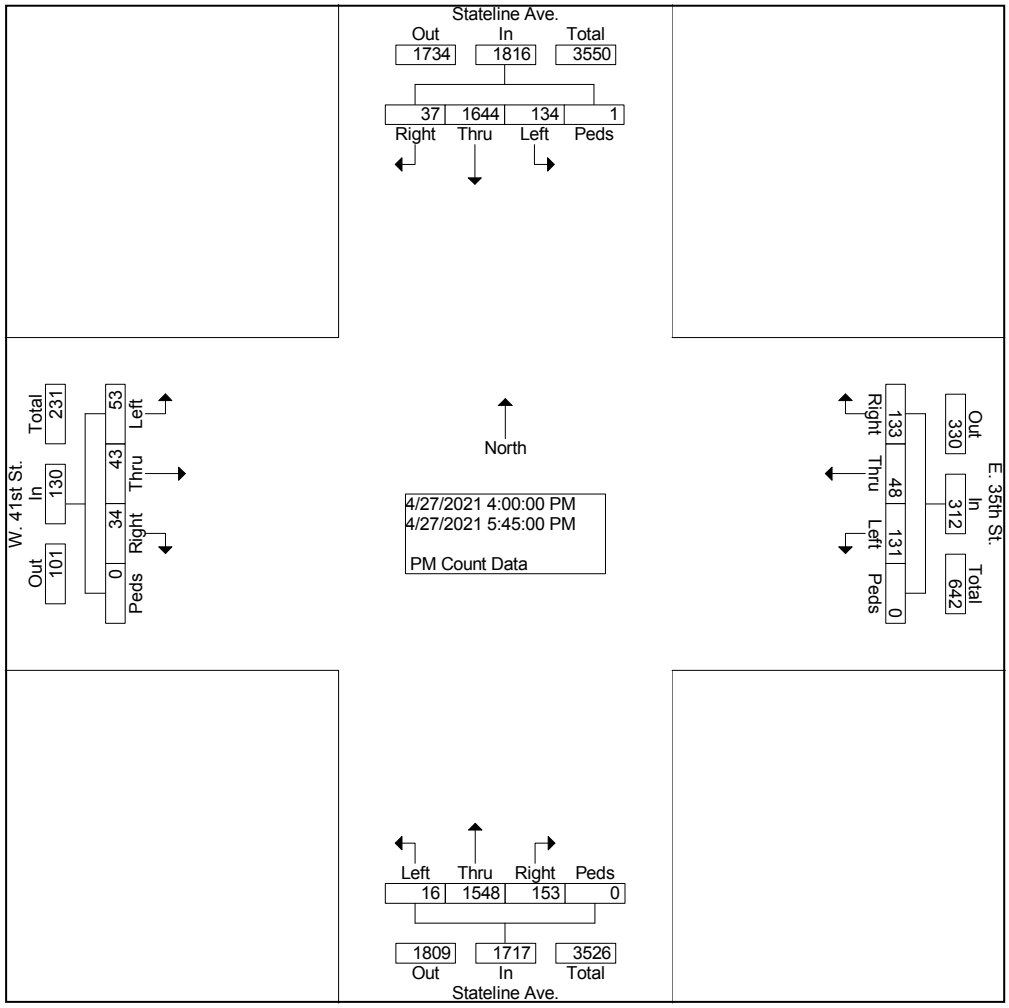
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
Stateline Ave & W. 41st St./E. 35th St
Texarkana
P2087

File Name : PM W41
Site Code : 00000000
Start Date : 04/27/2021
Page No : 1

Groups Printed- PM Count Data

	Stateline Ave. From North					E. 35th St. From East					Stateline Ave. From South					W. 41st St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	5	204	20	0	229	17	6	10	0	33	17	184	1	0	202	4	5	1	0	10	474
04:15 PM	4	189	11	0	204	16	5	18	0	39	32	164	2	0	198	4	6	3	0	13	454
04:30 PM	3	168	16	0	187	9	5	20	0	34	20	165	2	0	187	5	1	5	0	11	419
04:45 PM	5	205	19	0	229	15	3	24	0	42	12	184	1	0	197	6	2	3	0	11	479
TOTAL	17	766	66	0	849	57	19	72	0	148	81	697	6	0	784	19	14	12	0	45	1826
05:00 PM	4	219	15	1	239	10	9	21	0	40	26	233	3	0	262	3	6	9	0	18	559
05:15 PM	6	201	13	0	220	21	4	20	0	45	17	216	2	0	235	3	12	9	0	24	524
05:30 PM	7	242	15	0	264	19	9	9	0	37	16	215	2	0	233	6	6	11	0	23	557
05:45 PM	3	216	25	0	244	26	7	9	0	42	13	187	3	0	203	3	5	12	0	20	509
TOTAL	20	878	68	1	967	76	29	59	0	164	72	851	10	0	933	15	29	41	0	85	2149
GRAND TOTAL	37	1644	134	1	1816	133	48	131	0	312	153	1548	16	0	1717	34	43	53	0	130	3975
APPRCH %	2.0	90.5	7.4	0.1		42.6	15.4	42.0	0.0		8.9	90.2	0.9	0.0		26.2	33.1	40.8	0.0		
TOTAL %	0.9	41.4	3.4	0.0	45.7	3.3	1.2	3.3	0.0	7.8	3.8	38.9	0.4	0.0	43.2	0.9	1.1	1.3	0.0	3.3	

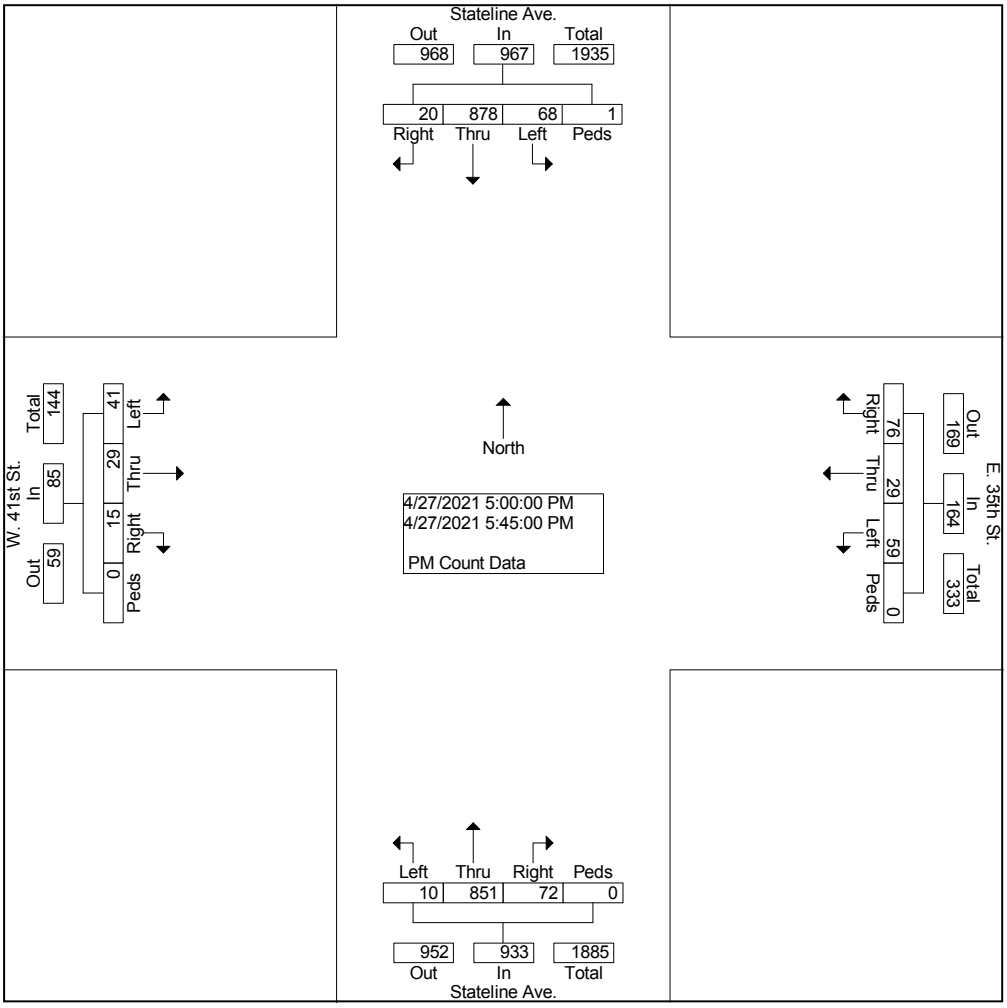


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
Stateline Ave & W. 41st St./E. 35th St
Texarkana
P2087

File Name : PM W41
Site Code : 00000000
Start Date : 04/27/2021
Page No : 2

	Stateline Ave. From North					E. 35th St. From East					Stateline Ave. From South					W. 41st St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
INTERSECTION	05:00 PM																				
VOLUME	20	878	68	1	967	76	29	59	0	164	72	851	10	0	933	15	29	41	0	85	2149
PERCENT	2.1	90.8	7.0	0.1		46.3	17.7	36.0	0.0		7.7	91.2	1.1	0.0		17.6	34.1	48.2	0.0		
05:00 VOLUME	4	219	15	1	239	10	9	21	0	40	26	233	3	0	262	3	6	9	0	18	559
PEAK FACTOR																					0.961
HIGH INT.	05:30 PM					05:15 PM					05:00 PM					05:15 PM					
VOLUME	7	242	15	0	264	21	4	20	0	45	26	233	3	0	262	3	12	9	0	24	
PEAK FACTOR					0.916					0.911					0.890					0.885	



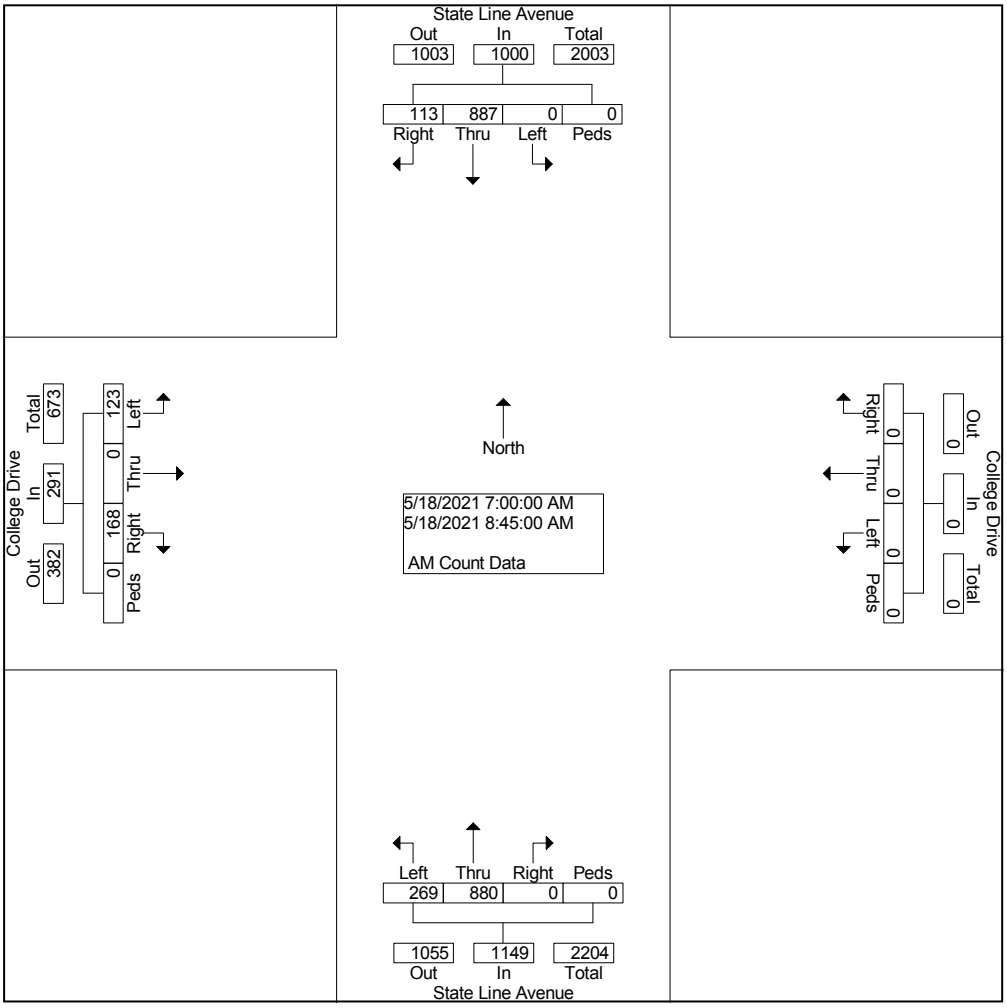
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
College Drive & State Line Avenue
Texarkana
P-2087

File Name : AM Coll
Site Code : 00000000
Start Date : 05/18/2021
Page No : 1

Groups Printed- AM Count Data

	State Line Avenue From North					College Drive From East					State Line Avenue From South					College Drive From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	5	54	0	0	59	0	0	0	0	0	0	48	14	0	62	11	0	6	0	17	138
07:15 AM	17	84	0	0	101	0	0	0	0	0	0	87	38	0	125	20	0	10	0	30	256
07:30 AM	17	124	0	0	141	0	0	0	0	0	0	111	59	0	170	28	0	4	0	32	343
07:45 AM	22	162	0	0	184	0	0	0	0	0	0	152	53	0	205	26	0	19	0	45	434
Total	61	424	0	0	485	0	0	0	0	0	0	398	164	0	562	85	0	39	0	124	1171
08:00 AM	18	122	0	0	140	0	0	0	0	0	0	130	34	0	164	33	0	17	0	50	354
08:15 AM	10	131	0	0	141	0	0	0	0	0	0	118	28	0	146	23	0	20	0	43	330
08:30 AM	12	116	0	0	128	0	0	0	0	0	0	127	27	0	154	16	0	21	0	37	319
08:45 AM	12	94	0	0	106	0	0	0	0	0	0	107	16	0	123	11	0	26	0	37	266
Total	52	463	0	0	515	0	0	0	0	0	0	482	105	0	587	83	0	84	0	167	1269
Grand Total	113	887	0	0	1000	0	0	0	0	0	0	880	269	0	1149	168	0	123	0	291	2440
Apprch %	11.3	88.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	76.6	23.4	0.0		57.7	0.0	42.3	0.0		
Total %	4.6	36.4	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	11.0	0.0	47.1	6.9	0.0	5.0	0.0	11.9	

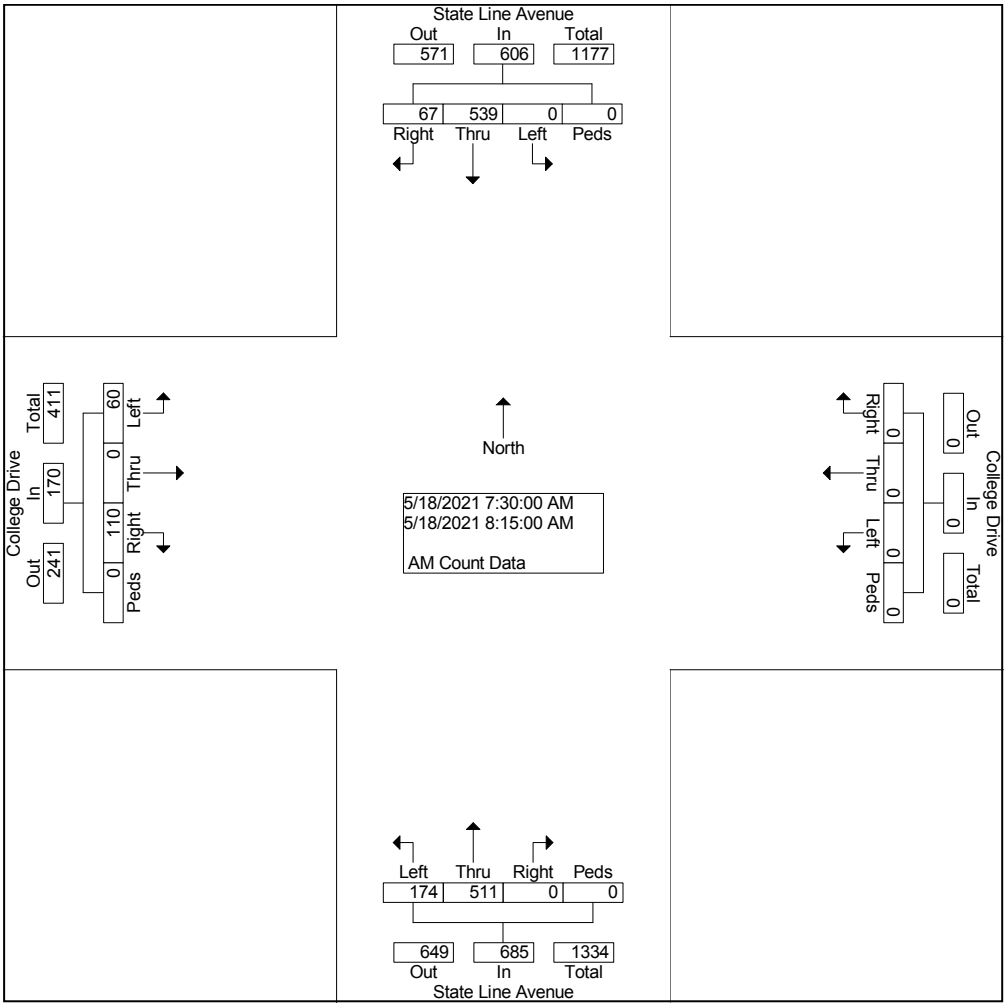


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
College Drive & State Line Avenue
Texarkana
P-2087

File Name : AM Coll
Site Code : 00000000
Start Date : 05/18/2021
Page No : 2

	State Line Avenue From North					College Drive From East					State Line Avenue From South					College Drive From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection 07:30 AM																					
Volume	67	539	0	0	606	0	0	0	0	0	0	511	174	0	685	110	0	60	0	170	1461
Percent	11.1	88.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	74.6	25.4	0.0		64.7	0.0	35.3	0.0		
07:45 Volume	22	162	0	0	184	0	0	0	0	0	0	152	53	0	205	26	0	19	0	45	434
Peak Factor																					0.842
High Int. 07:45 AM						6:45:00 AM					07:45 AM					08:00 AM					
Volume	22	162	0	0	184	0	0	0	0	0	0	152	53	0	205	33	0	17	0	50	
Peak Factor					0.823										0.835					0.850	



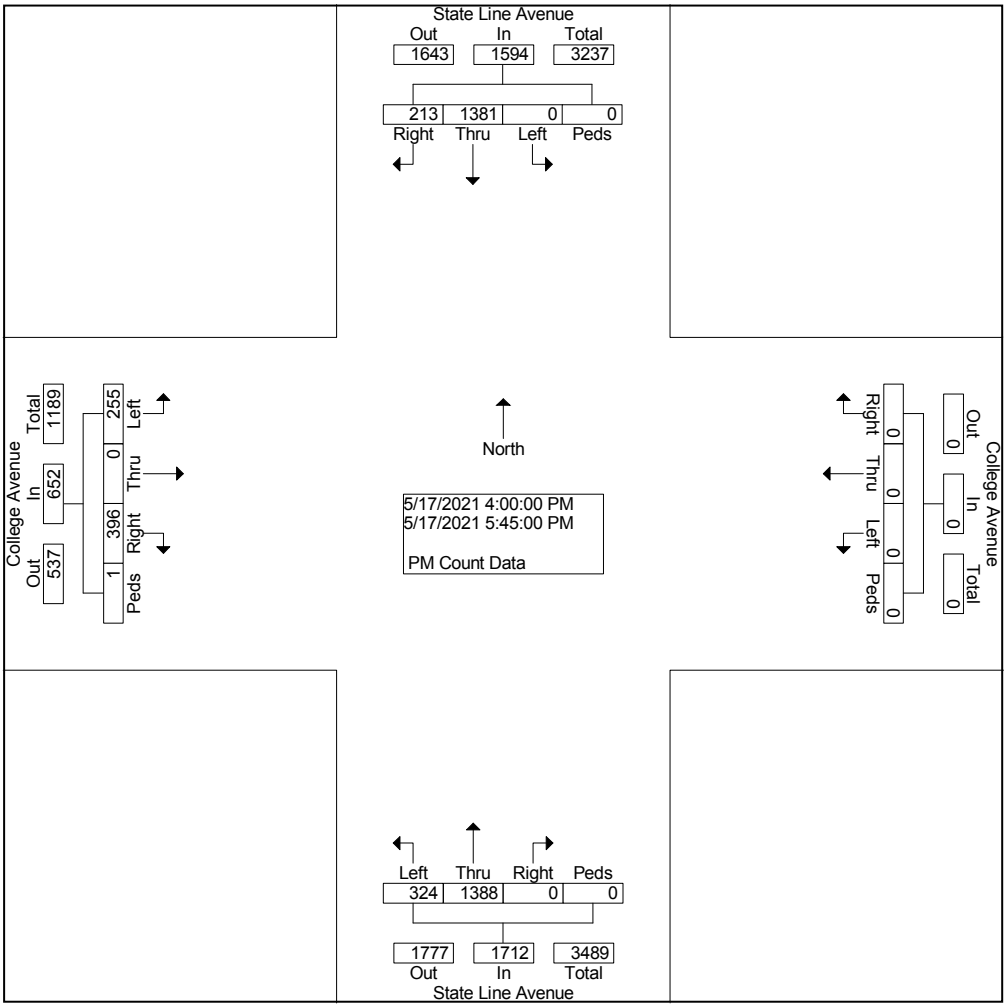
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
College Drive and State Line Avenue
Texarkana
P-2087

File Name : PM Coll
Site Code : 00000000
Start Date : 05/17/2021
Page No : 1

Groups Printed- PM Count Data

	State Line Avenue From North					College Avenue From East					State Line Avenue From South					College Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	22	161	0	0	183	0	0	0	0	0	0	159	34	0	193	43	0	25	0	68	444
04:15 PM	25	172	0	0	197	0	0	0	0	0	0	162	39	0	201	47	0	32	1	80	478
04:30 PM	35	162	0	0	197	0	0	0	0	0	0	186	52	0	238	47	0	26	0	73	508
04:45 PM	25	159	0	0	184	0	0	0	0	0	0	179	45	0	224	45	0	37	0	82	490
Total	107	654	0	0	761	0	0	0	0	0	0	686	170	0	856	182	0	120	1	303	1920
05:00 PM	24	209	0	0	233	0	0	0	0	0	0	248	41	0	289	60	0	50	0	110	632
05:15 PM	25	199	0	0	224	0	0	0	0	0	0	168	42	0	210	64	0	34	0	98	532
05:30 PM	31	166	0	0	197	0	0	0	0	0	0	135	38	0	173	49	0	32	0	81	451
05:45 PM	26	153	0	0	179	0	0	0	0	0	0	151	33	0	184	41	0	19	0	60	423
Total	106	727	0	0	833	0	0	0	0	0	0	702	154	0	856	214	0	135	0	349	2038
Grand Total	213	1381	0	0	1594	0	0	0	0	0	0	1388	324	0	1712	396	0	255	1	652	3958
Apprch %	13.4	86.6	0.0	0.0		0.0	0.0	0.0	0.0		0.0	81.1	18.9	0.0		60.7	0.0	39.1	0.2		
Total %	5.4	34.9	0.0	0.0	40.3	0.0	0.0	0.0	0.0	0.0	0.0	35.1	8.2	0.0	43.3	10.0	0.0	6.4	0.0	16.5	

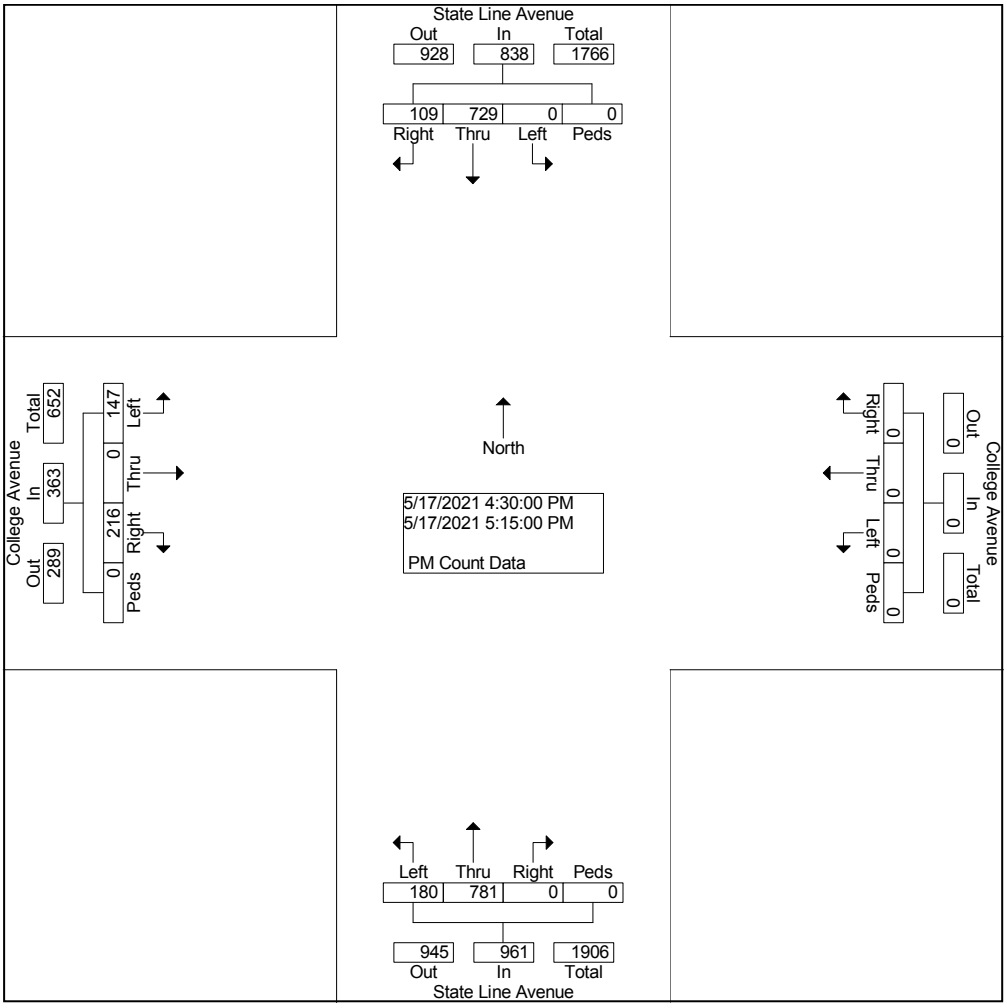


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
College Drive and State Line Avenue
Texarkana
P-2087

File Name : PM Coll
Site Code : 00000000
Start Date : 05/17/2021
Page No : 2

	State Line Avenue From North					College Avenue From East					State Line Avenue From South					College Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	109	729	0	0	838	0	0	0	0	0	0	781	180	0	961	216	0	147	0	363	2162
Percent	13.0	87.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	81.3	18.7	0.0		59.5	0.0	40.5	0.0		
05:00 Volume	24	209	0	0	233	0	0	0	0	0	0	248	41	0	289	60	0	50	0	110	632
Peak Factor																					0.855
High Int.	05:00 PM					3:45:00 PM					05:00 PM					05:00 PM					
Volume	24	209	0	0	233	0	0	0	0	0	0	248	41	0	289	60	0	50	0	110	
Peak Factor					0.899										0.831					0.825	



Stateline Avenue and E. 24th St.
Texarkana TX
Tuesday, May 18, 2021
AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
7:30 AM	0	24	113	0	0	*137*	0	15	0	34	0	*49*	0	0	118	7	0	*125*	0	0	0	0	0	*0*	**311**
7:45 AM	0	19	140	0	0	*159*	0	25	0	38	0	*63*	0	0	142	9	0	*151*	0	0	0	0	0	*0*	**373**
8:00 AM	0	27	100	0	0	*127*	0	12	0	38	0	*50*	0	0	116	14	0	*130*	0	0	0	0	0	*0*	**307**
8:15 AM	0	14	121	0	0	*135*	0	13	0	22	0	*35*	0	0	117	9	0	*126*	0	0	0	0	0	*0*	**296**
Peak Hour Total	0	84	474	0	0	*558*	0	65	0	132	0	*197*	0	0	493	39	0	*532*	0	0	0	0	0	*0*	**1287**
PHF	0.000	0.778	0.846	0.000	0.000	*0.877*	0.000	0.650	0.000	0.868	0.000	*0.782*	0.000	0.000	0.868	0.696	0.000	*0.881*	0.000	0.000	0.000	0.000	0.000	*0.000*	**0.863**

Total Vehicles On Leg			2044		
Vehicles Entering Intersection	971		Vehicles Exiting Intersection	1073	
Southbound					
Cars	0	838	125	0	0
Heavy	0	7	1	0	0
Total	**0**	**845**	**126**	**0**	**0**

Total Vehicles on Leg 0	Vehicles Entering Intersection 0	Vehicles Exiting Intersection 0	**Eastbound**	Cars	Heavy	**Total**
				0	0	**0**
				0	0	**0**
				0	0	**0**
				0	0	**0**
				0	0	**0**

Two-Hour Volumes

Cars	Heavy	**Total**	**Westbound**	Vehicles Entering Intersection 332	Total Vehicles on Leg 520
223	2	**225**			
0	0	**0**			
107	0	**107**		Vehicles Exiting Intersection 188	
0	0	**0**			
1	0	**1**			

Cars	0	0	0	843	62
Heavy	0	0	0	5	0
Total	**0**	**0**	**0**	**848**	**62**
Northbound					
Vehicles Entering Intersection	910		Vehicles Exiting Intersection	952	
Total Vehicles On Leg			1862		

Stateline Avenue and E. 24th Street
Texarkana TX
Tuesday, May 18, 2021

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
4:00 PM	0	48	180	0	0	*228*	0	12	0	43	0	*55*	0	0	195	15	0	*210*	0	0	0	0	0	*0*	**493**
4:15 PM	0	35	159	0	0	*194*	0	11	0	25	0	*36*	0	0	186	11	0	*197*	0	0	0	0	0	*0*	**427**
4:30 PM	0	33	133	0	0	*166*	0	10	0	37	0	*47*	0	0	194	18	0	*212*	0	0	0	0	0	*0*	**425**
4:45 PM	0	43	158	0	0	*201*	0	9	0	33	0	*42*	0	0	195	17	0	*212*	0	0	0	0	0	*0*	**455**
Peak Hour Total	0	159	630	0	0	*789*	0	42	0	138	0	*180*	0	0	770	61	0	*831*	0	0	0	0	0	*0*	**1800**
PHF	0.000	0.828	0.875	0.000	0.000	*0.865*	0.000	0.875	0.000	0.802	0.000	*0.818*	0.000	0.000	0.987	0.847	0.000	*0.980*	0.000	0.000	0.000	0.000	0.000	*0.000*	**0.913**

Total Vehicles On Leg			3257		
Vehicles Entering Intersection	1536		Vehicles Exiting Intersection	1721	
Southbound					
Cars	0	1218	311	0	0
Heavy	0	5	2	0	0
Total	**0**	**1223**	**313**	**0**	**0**

Total Vehicles on Leg 0	Vehicles Entering Intersection 0	**Eastbound**	Cars	Heavy	**Total**
			0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 0		0	0	**0**
			0	0	**0**
			0	0	**0**

Two-Hour Volumes

Cars	Heavy	**Total**	**Westbound**	Vehicles Entering Intersection 371	Total Vehicles on Leg 819
274	4	**278**			
0	0	**0**			
92	1	**93**		Vehicles Exiting Intersection 448	
0	0	**0**			
0	0	**0**			

Cars	0	0	0	1440	134
Heavy	0	0	0	3	1
Total	**0**	**0**	**0**	**1443**	**135**
Northbound					
Vehicles Entering Intersection	1578		Vehicles Exiting Intersection	1316	
Total Vehicles On Leg			2894		

Stateline Avenue and E. 16th Street
Texarkana TX
Thursday, May 20, 2021
AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
7:30 AM	0	4	126	0	0	*130*	0	2	0	6	0	*8*	0	0	97	0	0	*97*	0	0	0	0	0	*0*	**235**
7:45 AM	0	6	141	0	0	*147*	0	6	0	12	0	*18*	0	0	127	3	1	*130*	0	0	0	0	0	*0*	**295**
8:00 AM	0	6	131	0	0	*137*	0	3	0	9	0	*12*	0	0	107	3	0	*110*	0	0	0	0	0	*0*	**259**
8:15 AM	0	1	116	0	0	*117*	0	1	0	4	0	*5*	0	0	87	2	0	*89*	0	0	0	0	0	*0*	**211**
Peak Hour Total	0	17	514	0	0	*531*	0	12	0	31	0	*43*	0	0	418	8	1	*426*	0	0	0	0	0	*0*	**1000**
PHF	0.000	0.708	0.911	0.000	0.000	*0.903*	0.000	0.500	0.000	0.646	0.000	*0.597*	0.000	0.000	0.823	0.667	0.250	*0.819*	0.000	0.000	0.000	0.000	0.000	*0.000*	**0.847**

Total Vehicles On Leg			1669		
Vehicles Entering Intersection	881		Vehicles Exiting Intersection	788	
Southbound					
Cars	0	829	40	0	0
Heavy	0	12	0	0	0
Total	**0**	**841**	**40**	**0**	**0**

Total Vehicles on Leg 0	Vehicles Entering Intersection 0	**Eastbound**	Cars	Heavy	**Total**
			0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 0		0	0	**0**
			0	0	**0**
			0	0	**0**

Two-Hour Volumes

Cars	Heavy	**Total**	**Westbound**	Vehicles Entering Intersection 74	Total Vehicles on Leg 128
50	0	**50**			
0	0	**0**			
24	0	**24**		Vehicles Exiting Intersection 54	
0	0	**0**			
0	0	**0**			

Cars	2	0	0	731	14
Heavy	0	0	0	7	0
Total	**2**	**0**	**0**	**738**	**14**
Northbound					
Vehicles Entering Intersection	752		Vehicles Exiting Intersection	865	
Total Vehicles On Leg			1617		

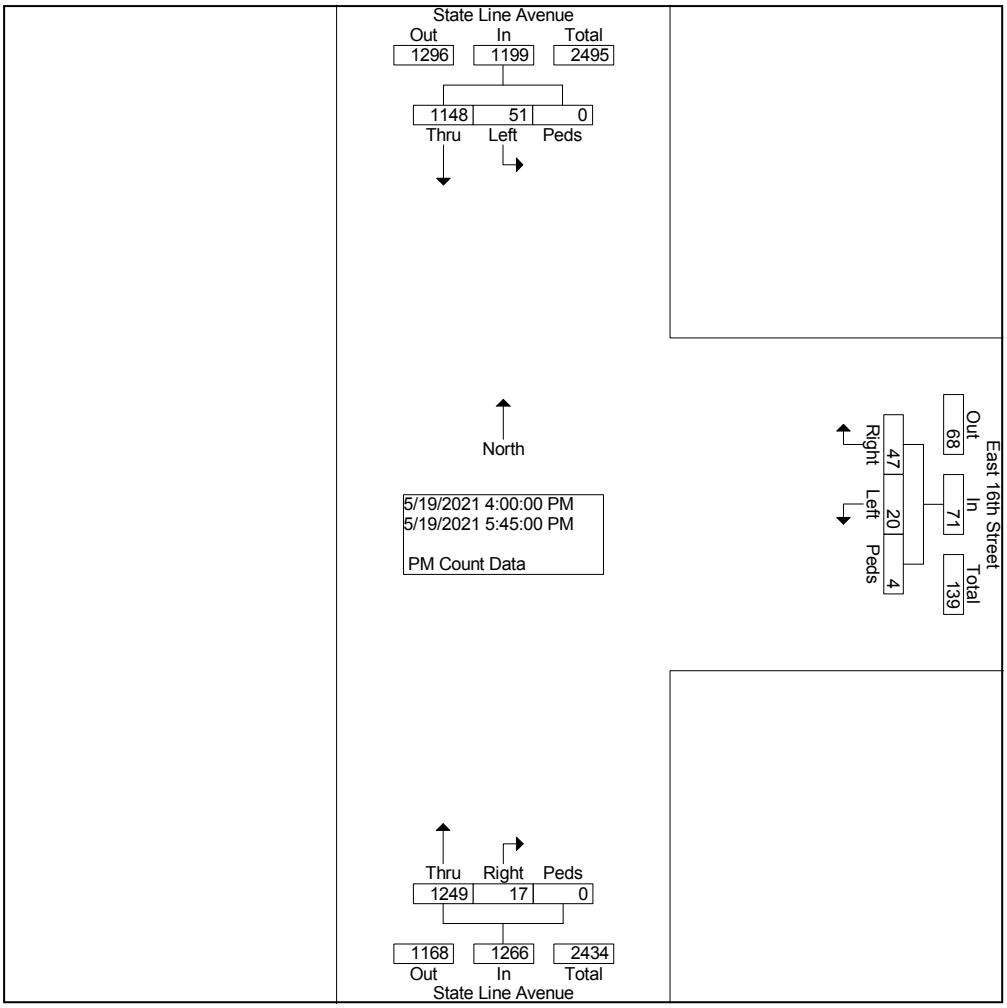
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
E. 16th & State Line Avenue
Texarkana
P-2087

File Name : PM E16
Site Code : 00000000
Start Date : 05/19/2021
Page No : 1

Groups Printed- PM Count Data

	State Line Avenue From North				East 16th Street From East				State Line Avenue From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	125	4	0	129	9	1	0	10	1	182	0	183	322
04:15 PM	136	10	0	146	3	3	0	6	2	139	0	141	293
04:30 PM	151	8	0	159	5	0	0	5	0	227	0	227	391
04:45 PM	161	9	0	170	6	0	4	10	5	144	0	149	329
Total	573	31	0	604	23	4	4	31	8	692	0	700	1335
05:00 PM	181	6	0	187	7	1	0	8	5	270	0	275	470
05:15 PM	134	5	0	139	5	2	0	7	3	152	0	155	301
05:30 PM	131	5	0	136	7	8	0	15	0	135	0	135	286
05:45 PM	129	4	0	133	5	5	0	10	1	0	0	1	144
Total	575	20	0	595	24	16	0	40	9	557	0	566	1201
Grand Total	1148	51	0	1199	47	20	4	71	17	1249	0	1266	2536
Apprch %	95.7	4.3	0.0		66.2	28.2	5.6		1.3	98.7	0.0		
Total %	45.3	2.0	0.0	47.3	1.9	0.8	0.2	2.8	0.7	49.3	0.0	49.9	

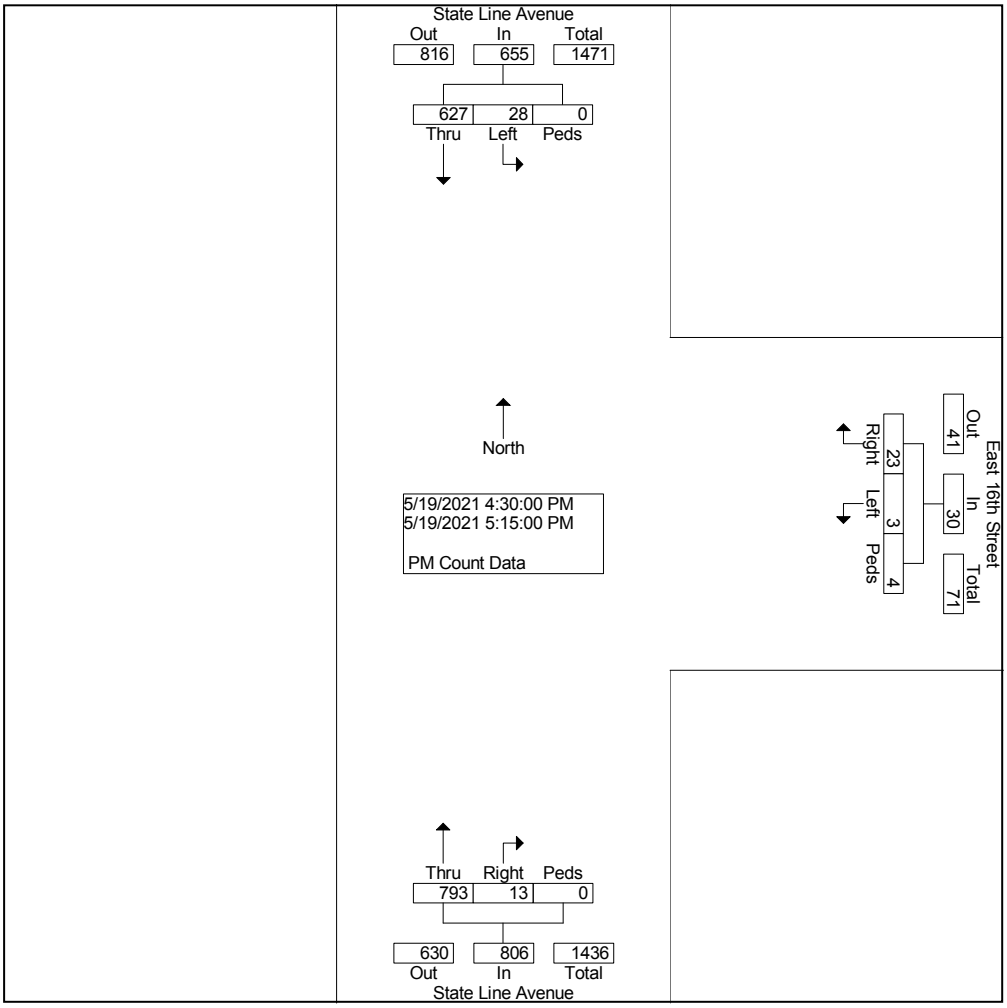


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
E. 16th & State Line Avenue
Texarkana
P-2087

File Name : PM E16
Site Code : 00000000
Start Date : 05/19/2021
Page No : 2

	State Line Avenue From North				East 16th Street From East				State Line Avenue From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1													
Intersection	04:30 PM												
Volume	627	28	0	655	23	3	4	30	13	793	0	806	1491
Percent	95.7	4.3	0.0		76.7	10.0	13.3		1.6	98.4	0.0		
05:00 Volume	181	6	0	187	7	1	0	8	5	270	0	275	470
Peak Factor													0.793
High Int.	05:00 PM				04:45 PM				05:00 PM				
Volume	181	6	0	187	6	0	4	10	5	270	0	275	
Peak Factor				0.876				0.750				0.733	



Stateline Avenue and W 19th and E 12 Streets
Texarkana AR
Friday, April 30, 2021
AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
7:30 AM	0	6	91	12	0	*109*	0	1	17	8	0	*26*	0	1	101	5	0	*107*	0	3	11	1	0	*15*	**257**
7:45 AM	0	9	128	18	0	*155*	0	1	15	12	2	*28*	0	0	99	0	0	*99*	0	6	9	2	0	*17*	**299**
8:00 AM	0	6	105	18	0	*129*	0	2	6	3	0	*11*	0	6	96	3	0	*105*	0	6	10	7	0	*23*	**268**
8:15 AM	0	7	104	8	0	*119*	0	0	9	4	0	*13*	0	4	70	1	0	*75*	0	9	7	2	0	*18*	**225**
Peak Hour Total	0	28	428	56	0	*512*	0	4	47	27	2	*78*	0	11	366	9	0	*386*	0	24	37	12	0	*73*	**1049**
PHF	0.000	0.778	0.836	0.778	0.000	*0.826*	0.000	0.500	0.691	0.563	0.250	*0.696*	0.000	0.458	0.906	0.450	0.000	*0.902*	0.000	0.667	0.841	0.429	0.000	*0.793*	**0.877**

Total Vehicles On Leg			1665		
Vehicles Entering Intersection	891		Vehicles Exiting Intersection	774	
Southbound					
Cars	95	747	38	0	0
Heavy	0	10	1	0	0
Total	**95**	**757**	**39**	**0**	**0**

Total Vehicles on Leg 312	Vehicles Entering Intersection 132	**Eastbound**	Cars	Heavy	**Total**
			0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 180		51	3	**54**
			56	2	**58**
			19	1	**20**

Two-Hour Volumes

Cars	Heavy	**Total**	**Westbound**	Vehicles Entering Intersection 122	Total Vehicles on Leg 231
46	0	**46**			
63	4	**67**			
9	0	**9**		Vehicles Exiting Intersection 109	
0	0	**0**			
2	0	**2**			

Cars	0	0	18	664	12
Heavy	0	0	0	10	0
Total	**0**	**0**	**18**	**674**	**12**
Northbound					
Vehicles Entering Intersection	704		Vehicles Exiting Intersection	786	
Total Vehicles On Leg			1490		

Stateline Ave and W 19th St and E 12th St
Texarkana TX
Monday, May 17, 2021

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
4:15 PM	0	11	122	10	0	*143*	0	2	7	8	0	*17*	0	8	151	4	0	*163*	0	14	23	5	0	*42*	**365**
4:30 PM	0	13	132	10	0	*155*	0	0	15	9	0	*24*	0	4	150	4	2	*158*	0	26	22	3	2	*51*	**388**
4:45 PM	0	11	118	12	0	*141*	0	2	12	9	0	*23*	0	8	138	3	3	*149*	0	15	20	2	0	*37*	**350**
5:00 PM	0	7	154	8	0	*169*	0	2	14	5	0	*21*	0	6	176	5	1	*187*	0	30	25	2	1	*57*	**434**
Peak Hour Total	0	42	526	40	0	*608*	0	6	48	31	0	*85*	0	26	615	16	6	*657*	0	85	90	12	3	*187*	**1537**
PHF	0.000	0.808	0.854	0.833	0.000	*0.899*	0.000	0.750	0.800	0.861	0.000	*0.885*	0.000	0.813	0.874	0.800	0.500	*0.878*	0.000	0.708	0.900	0.600	0.375	*0.820*	**0.885**

Total Vehicles On Leg			2437		
Vehicles Entering Intersection	1159		Vehicles Exiting Intersection	1278	
Southbound					
Cars	83	992	82	0	0
Heavy	0	2	0	0	0
Total	**83**	**994**	**82**	**0**	**0**

Total Vehicles on Leg 539	Vehicles Entering Intersection 322	Vehicles Exiting Intersection 217	Eastbound	Cars	Heavy	Total
				4	0	**4**
				0	0	**0**
				152	2	**154**
				140	2	**142**
				26	0	**26**

Two-Hour Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 141	Vehicles Exiting Intersection 254	Total Vehicles on Leg 395
48	0	**48**				
79	2	**81**				
12	0	**12**				
0	0	**0**				
2	0	**2**				

Cars	6	1	52	1075	30
Heavy	0	0	1	1	0
Total	**6**	**1**	**53**	**1076**	**30**
Northbound					
Vehicles Entering Intersection	1160		Vehicles Exiting Intersection	1033	
Total Vehicles On Leg			2193		

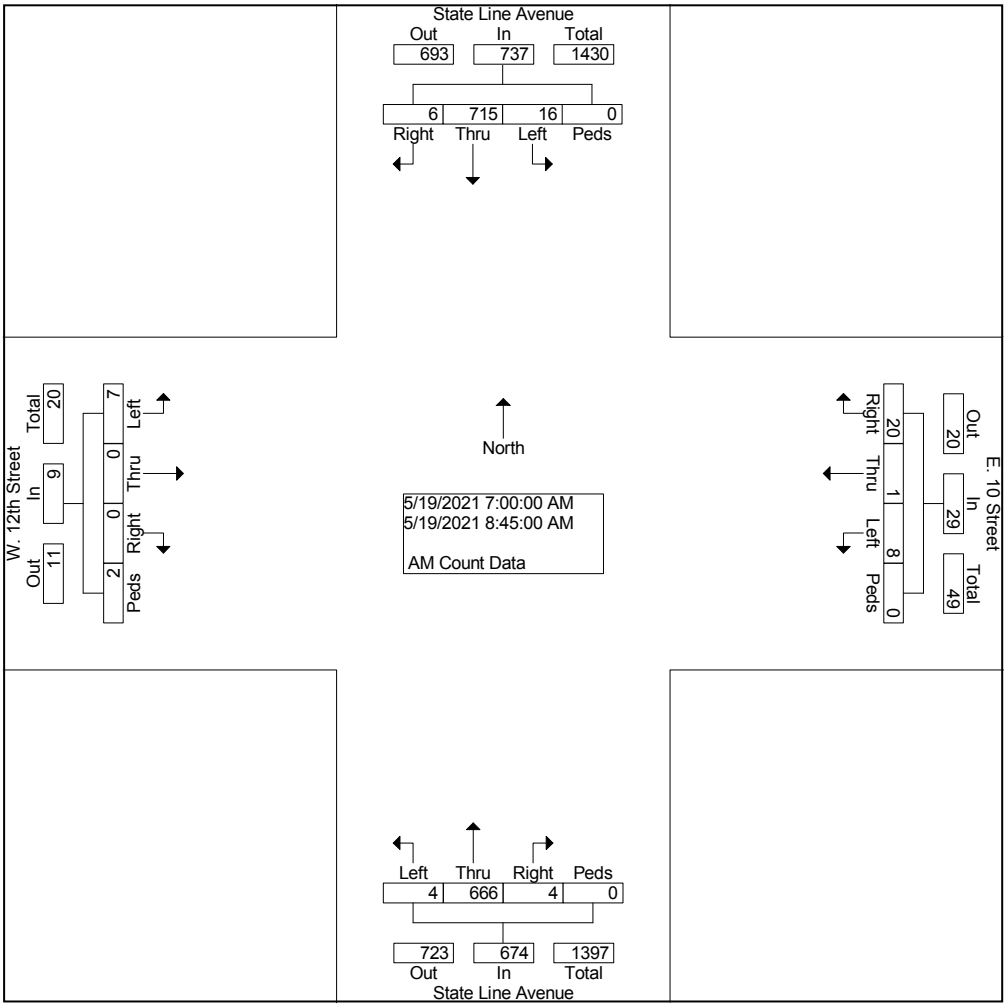
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
W. 12th St./E. 10th St. & State Line Ave
Texarkana
P-2087

File Name : AM W12
Site Code : 00000000
Start Date : 05/19/2021
Page No : 1

Groups Printed- AM Count Data

	State Line Avenue From North					E. 10 Street From East					State Line Avenue From South					W. 12th Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	67	0	0	67	8	0	1	0	9	0	50	0	0	50	0	0	0	0	0	126
07:15 AM	0	81	3	0	84	1	0	0	0	1	0	70	0	0	70	0	0	0	0	0	155
07:30 AM	2	101	1	0	104	2	0	0	0	2	0	88	1	0	89	0	0	0	0	0	195
07:45 AM	0	131	2	0	133	0	0	3	0	3	2	101	0	0	103	0	0	1	2	3	242
Total	2	380	6	0	388	11	0	4	0	15	2	309	1	0	312	0	0	1	2	3	718
08:00 AM	2	100	2	0	104	4	0	2	0	6	0	104	1	0	105	0	0	1	0	1	216
08:15 AM	1	81	3	0	85	1	0	1	0	2	0	90	0	0	90	0	0	1	0	1	178
08:30 AM	1	87	0	0	88	2	0	1	0	3	1	81	0	0	82	0	0	0	0	0	173
08:45 AM	0	67	5	0	72	2	1	0	0	3	1	82	2	0	85	0	0	4	0	4	164
Total	4	335	10	0	349	9	1	4	0	14	2	357	3	0	362	0	0	6	0	6	731
Grand Total	6	715	16	0	737	20	1	8	0	29	4	666	4	0	674	0	0	7	2	9	1449
Apprch %	0.8	97.0	2.2	0.0		69.0	3.4	27.6	0.0		0.6	98.8	0.6	0.0		0.0	0.0	77.8	22.2		
Total %	0.4	49.3	1.1	0.0	50.9	1.4	0.1	0.6	0.0	2.0	0.3	46.0	0.3	0.0	46.5	0.0	0.0	0.5	0.1	0.6	

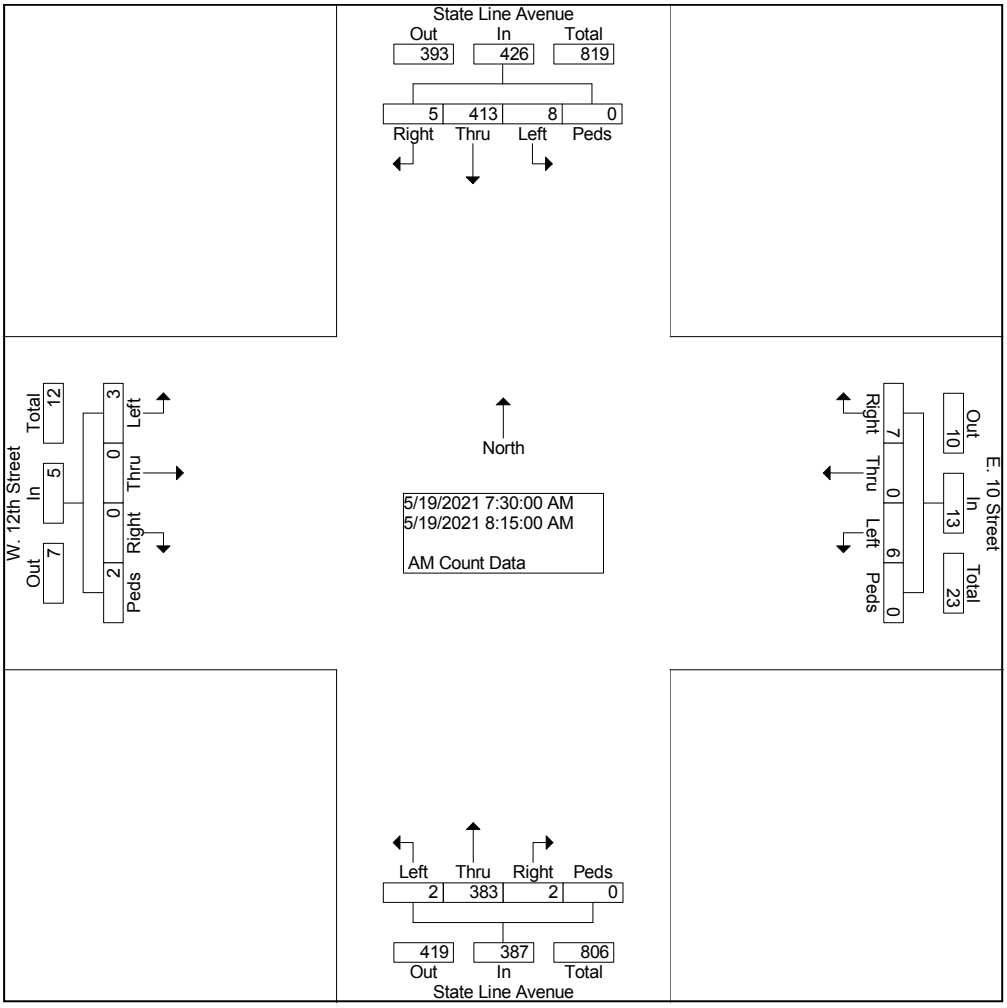


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
W. 12th St./E. 10th St. & State Line Ave
Texarkana
P-2087

File Name : AM W12
Site Code : 00000000
Start Date : 05/19/2021
Page No : 2

	State Line Avenue From North					E. 10 Street From East					State Line Avenue From South					W. 12th Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	5	413	8	0	426	7	0	6	0	13	2	383	2	0	387	0	0	3	2	5	831
Percent	1.2	96.9	1.9	0.0		53.8	0.0	46.2	0.0		0.5	99.0	0.5	0.0		0.0	0.0	60.0	40.0		
07:45 Volume	0	131	2	0	133	0	0	3	0	3	2	101	0	0	103	0	0	1	2	3	242
Peak Factor																					0.858
High Int.	07:45 AM					08:00 AM					08:00 AM					07:45 AM					
Volume	0	131	2	0	133	4	0	2	0	6	0	104	1	0	105	0	0	1	2	3	
Peak Factor					0.801					0.542					0.921					0.417	



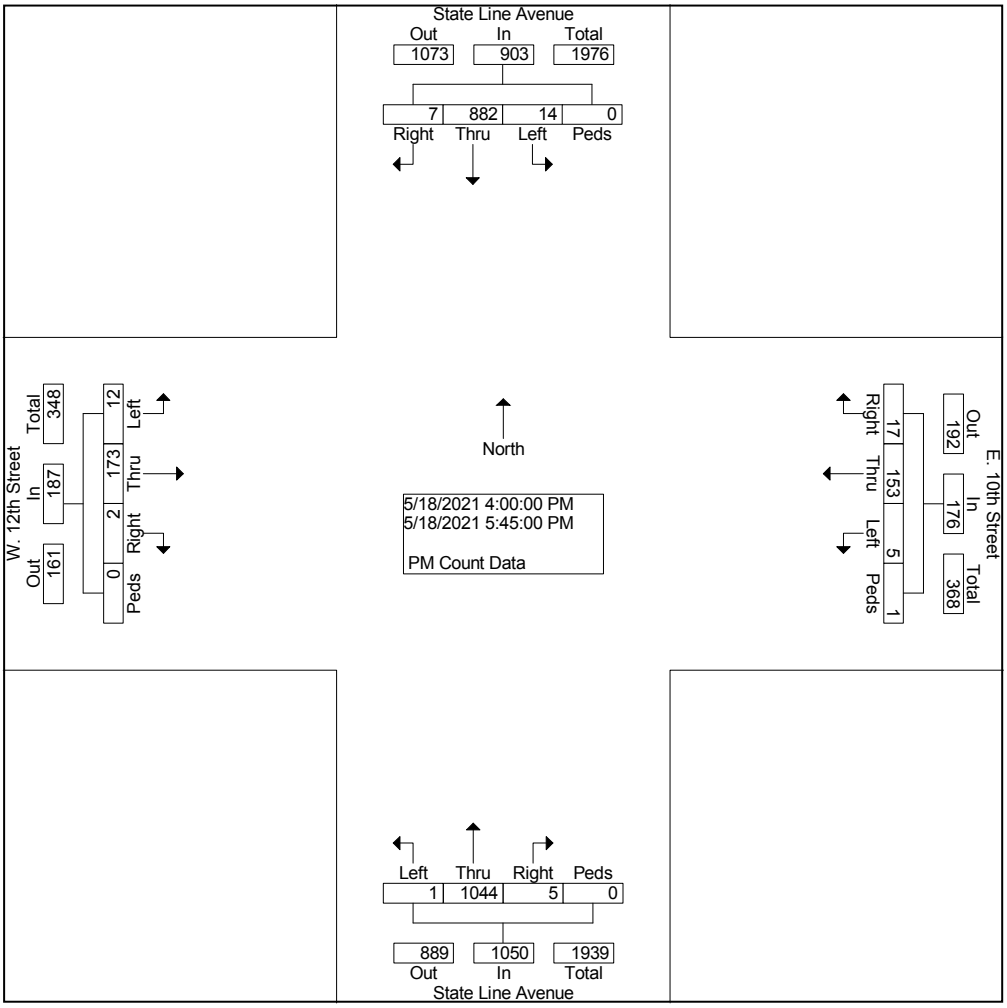
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
W. 12th St./E. 10th St. & State Line Ave
Texarkana
P-2087

File Name : PM W12
Site Code : 00000000
Start Date : 05/18/2021
Page No : 1

Groups Printed- PM Count Data

	State Line Avenue From North					E. 10th Street From East					State Line Avenue From South					W. 12th Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	0	0	0	0	0	139	4	0	143	4	0	1	0	5	2	156	1	0	159	307
04:15 PM	0	114	2	0	116	4	14	0	0	18	1	119	0	0	120	0	17	2	0	19	273
04:30 PM	3	123	3	0	129	4	0	0	1	5	0	156	0	0	156	0	0	1	0	1	291
04:45 PM	1	133	4	0	138	2	0	0	0	2	0	153	0	0	153	0	0	0	0	0	293
Total	4	370	9	0	383	10	153	4	1	168	5	428	1	0	434	2	173	4	0	179	1164
05:00 PM	0	120	2	0	122	2	0	0	0	2	0	207	0	0	207	0	0	2	0	2	333
05:15 PM	0	147	1	0	148	1	0	0	0	1	0	161	0	0	161	0	0	2	0	2	312
05:30 PM	1	123	1	0	125	2	0	1	0	3	0	138	0	0	138	0	0	1	0	1	267
05:45 PM	2	122	1	0	125	2	0	0	0	2	0	110	0	0	110	0	0	3	0	3	240
Total	3	512	5	0	520	7	0	1	0	8	0	616	0	0	616	0	0	8	0	8	1152
Grand Total	7	882	14	0	903	17	153	5	1	176	5	1044	1	0	1050	2	173	12	0	187	2316
Apprch %	0.8	97.7	1.6	0.0		9.7	86.9	2.8	0.6		0.5	99.4	0.1	0.0		1.1	92.5	6.4	0.0		
Total %	0.3	38.1	0.6	0.0	39.0	0.7	6.6	0.2	0.0	7.6	0.2	45.1	0.0	0.0	45.3	0.1	7.5	0.5	0.0	8.1	

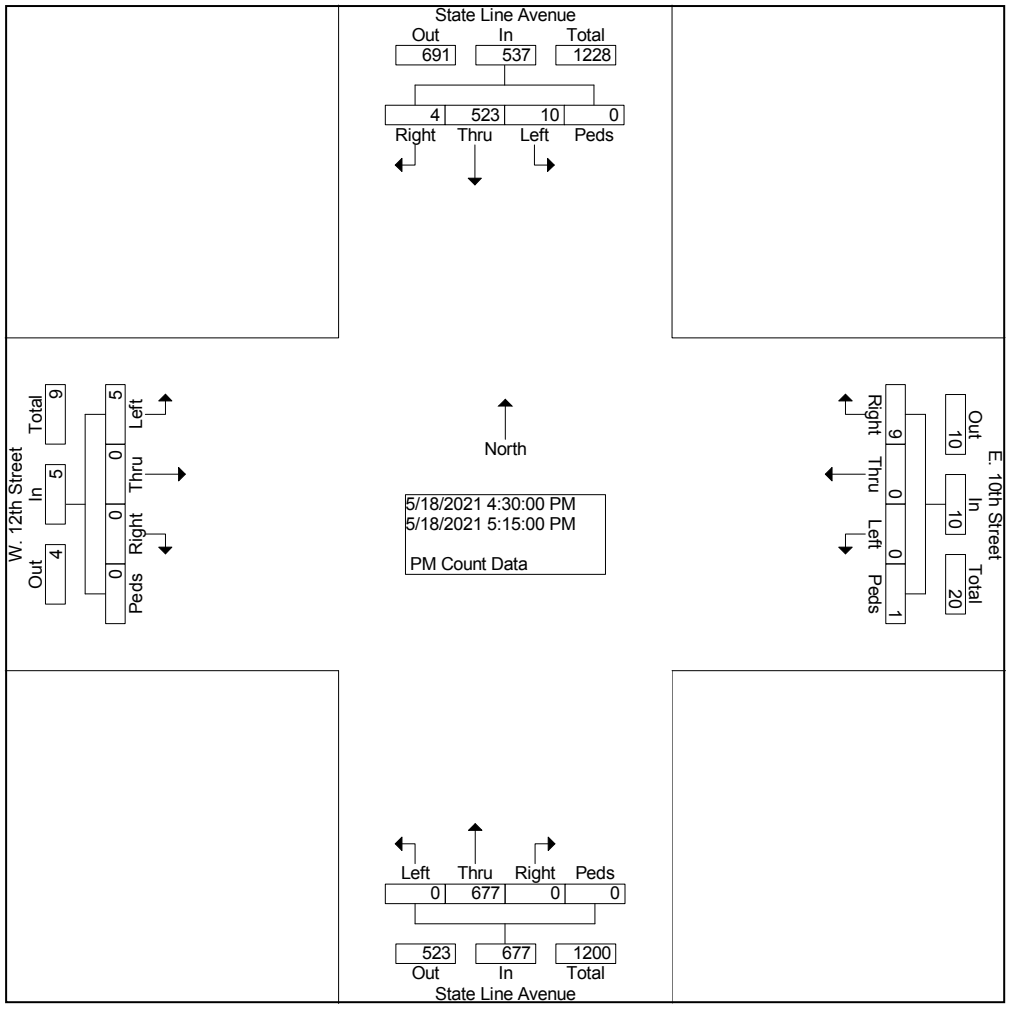


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
W. 12th St./E. 10th St. & State Line Ave
Texarkana
P-2087

File Name : PM W12
Site Code : 00000000
Start Date : 05/18/2021
Page No : 2

	State Line Avenue From North					E. 10th Street From East					State Line Avenue From South					W. 12th Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	4	523	10	0	537	9	0	0	1	10	0	677	0	0	677	0	0	5	0	5	1229
Percent	0.7	97.4	1.9	0.0		90.0	0.0	0.0	10.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
05:00 Volume	0	120	2	0	122	2	0	0	0	2	0	207	0	0	207	0	0	2	0	2	333
Peak Factor																					0.923
High Int.	05:15 PM					04:30 PM					05:00 PM					05:00 PM					
Volume	0	147	1	0	148	4	0	0	1	5	0	207	0	0	207	0	0	2	0	2	
Peak Factor					0.907					0.500					0.818					0.625	



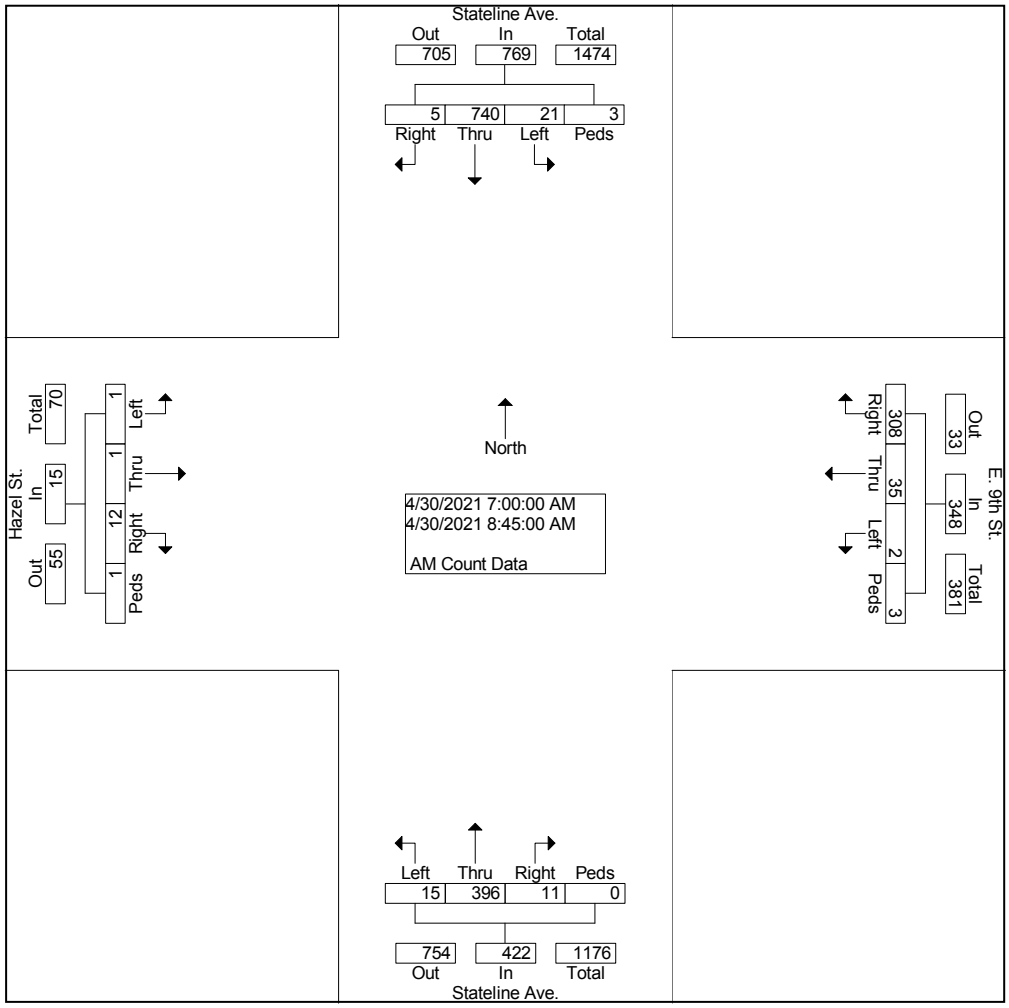
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave & Hazel St./ E. 9th St.
Texarkana
P2087

File Name : AM Haz
Site Code : 00000000
Start Date : 04/30/2021
Page No : 1

Groups Printed- AM Count Data

	Stateline Ave. From North					E. 9th St. From East					Stateline Ave. From South					Hazel St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	54	1	0	55	20	5	1	0	26	0	24	0	0	24	2	0	1	0	3	108
07:15 AM	1	86	1	0	88	34	4	1	0	39	0	33	1	0	34	1	0	0	0	1	162
07:30 AM	1	90	2	1	94	54	8	0	1	63	2	48	0	0	50	3	0	0	0	3	210
07:45 AM	3	122	2	1	128	46	8	0	2	56	0	44	4	0	48	1	1	0	1	3	235
TOTAL	5	352	6	2	365	154	25	2	3	184	2	149	5	0	156	7	1	1	1	10	715
08:00 AM	0	111	7	1	119	56	6	0	0	62	1	59	2	0	62	3	0	0	0	3	246
08:15 AM	0	97	1	0	98	32	4	0	0	36	2	42	4	0	48	2	0	0	0	2	184
08:30 AM	0	92	4	0	96	33	0	0	0	33	4	78	2	0	84	0	0	0	0	0	213
08:45 AM	0	88	3	0	91	33	0	0	0	33	2	68	2	0	72	0	0	0	0	0	196
TOTAL	0	388	15	1	404	154	10	0	0	164	9	247	10	0	266	5	0	0	0	5	839
GRAND TOTAL	5	740	21	3	769	308	35	2	3	348	11	396	15	0	422	12	1	1	1	15	1554
APPRCH %	0.7	96.2	2.7	0.4		88.5	10.1	0.6	0.9		2.6	93.8	3.6	0.0		80.0	6.7	6.7	6.7		
TOTAL %	0.3	47.6	1.4	0.2	49.5	19.8	2.3	0.1	0.2	22.4	0.7	25.5	1.0	0.0	27.2	0.8	0.1	0.1	0.1	1.0	

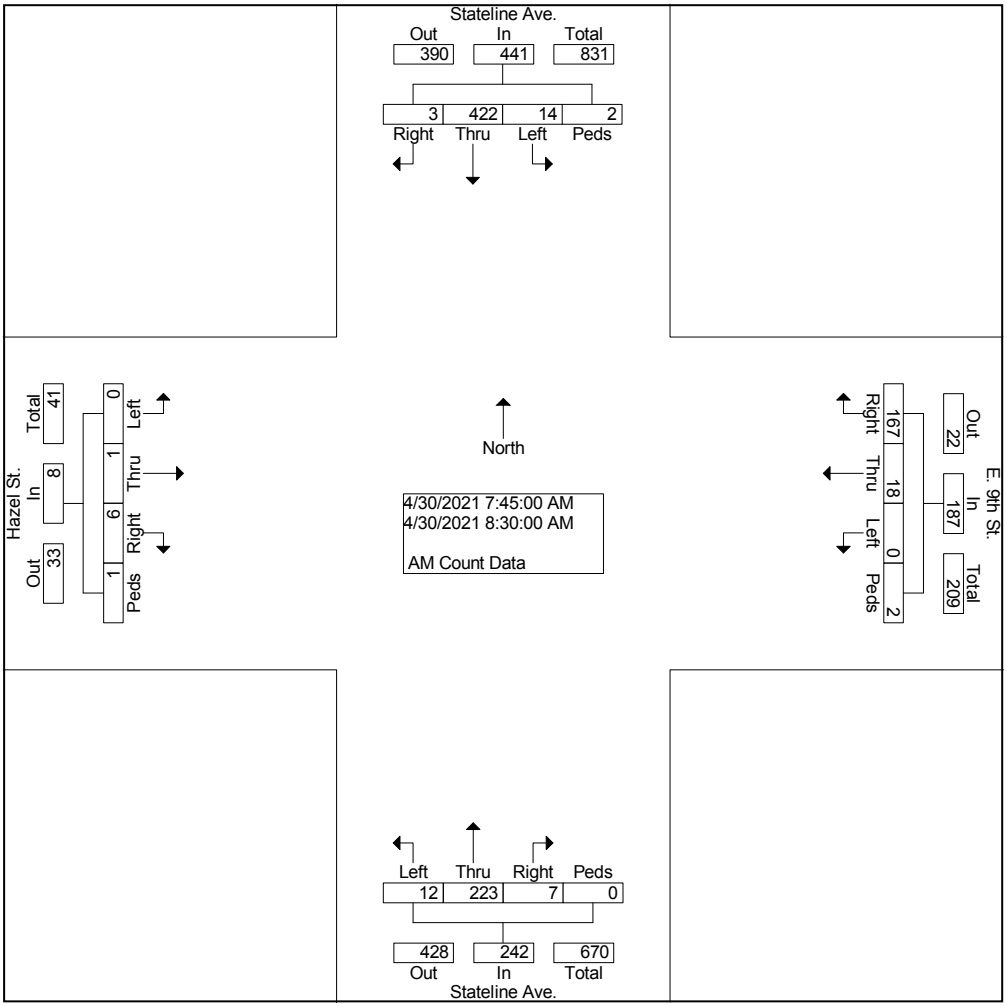


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave & Hazel St./ E. 9th St.
Texarkana
P2087

File Name : AM Haz
Site Code : 00000000
Start Date : 04/30/2021
Page No : 2

	Stateline Ave. From North					E. 9th St. From East					Stateline Ave. From South					Hazel St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:45 AM																				
Volume	3	422	14	2	441	167	18	0	2	187	7	223	12	0	242	6	1	0	1	8	878
Percent	0.7	95.7	3.2	0.5		89.3	9.6	0.0	1.1		2.9	92.1	5.0	0.0		75.0	12.5	0.0	12.5		
08:00 Volume	0	111	7	1	119	56	6	0	0	62	1	59	2	0	62	3	0	0	0	3	246
Peak Factor																					0.892
High Int.	07:45 AM					08:00 AM					08:30 AM					07:45 AM					
Volume	3	122	2	1	128	56	6	0	0	62	4	78	2	0	84	1	1	0	1	3	
Peak Factor					0.861					0.754					0.720					0.667	



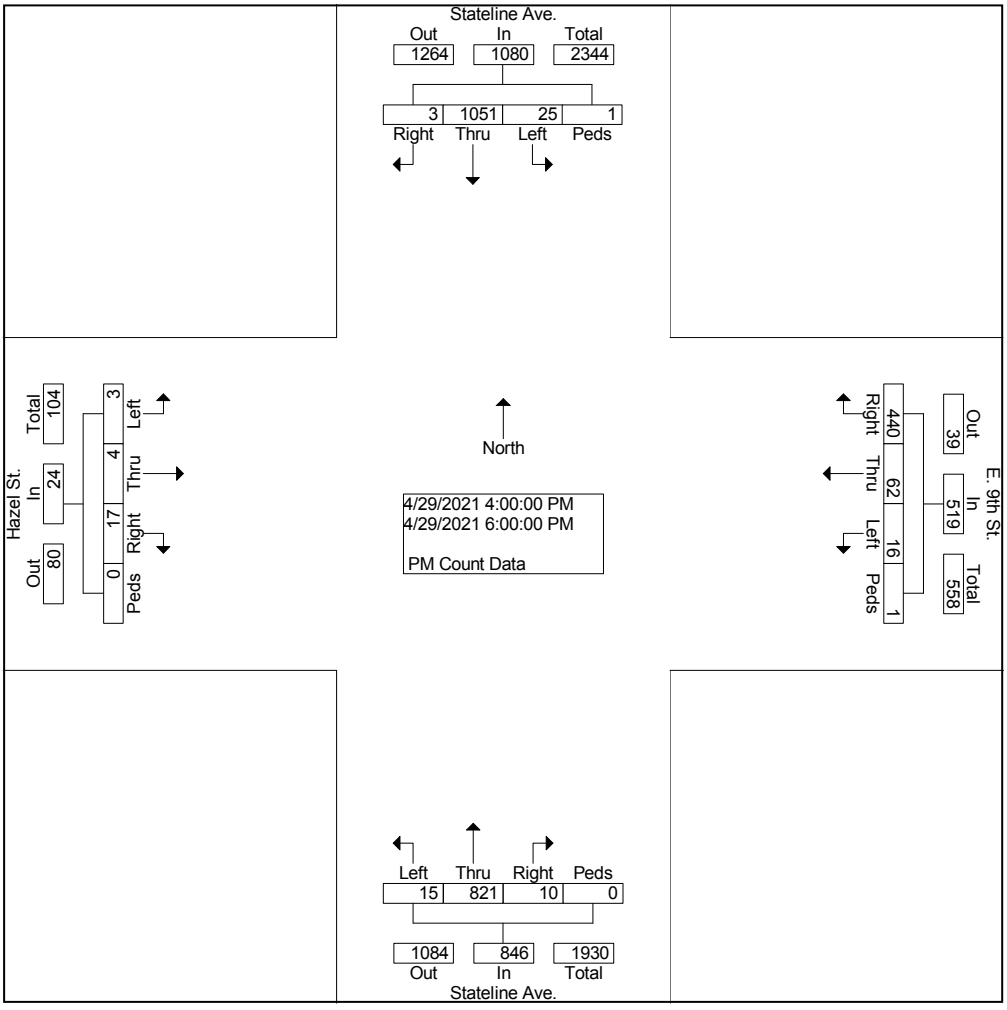
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
Stateline Ave & Hazel St. / E. 9th St.
Texarkana
P2087

File Name : PM Haz
Site Code : 00000000
Start Date : 04/29/2021
Page No : 1

Groups Printed- PM Count Data

	Stateline Ave. From North					E. 9th St. From East					Stateline Ave. From South					Hazel St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	0	93	0	1	94	62	11	2	0	75	0	104	3	0	107	1	0	1	0	2	278
04:15 PM	0	139	5	0	144	59	9	0	0	68	1	86	1	0	88	1	2	1	0	4	304
04:30 PM	1	116	1	0	118	66	8	1	0	75	2	106	4	0	112	5	0	1	0	6	311
04:45 PM	0	132	3	0	135	48	8	4	0	60	2	108	2	0	112	1	0	0	0	1	308
TOTAL	1	480	9	1	491	235	36	7	0	278	5	404	10	0	419	8	2	3	0	13	1201
05:00 PM	1	165	7	0	173	59	5	3	1	68	3	150	1	0	154	5	1	0	0	6	401
05:15 PM	0	133	0	0	133	45	8	4	0	57	0	96	0	0	96	2	0	0	0	2	288
05:30 PM	1	144	3	0	148	56	5	2	0	63	0	92	2	0	94	2	0	0	0	2	307
05:45 PM	0	129	6	0	135	45	8	0	0	53	2	79	2	0	83	0	1	0	0	1	272
TOTAL	2	571	16	0	589	205	26	9	1	241	5	417	5	0	427	9	2	0	0	11	1268
*** BREAK ***																					
GRAND TOTAL	3	1051	25	1	1080	440	62	16	1	519	10	821	15	0	846	17	4	3	0	24	2469
APPRCH %	0.3	97.3	2.3	0.1		84.8	11.9	3.1	0.2		1.2	97.0	1.8	0.0		70.8	16.7	12.5	0.0		
TOTAL %	0.1	42.6	1.0	0.0	43.7	17.8	2.5	0.6	0.0	21.0	0.4	33.3	0.6	0.0	34.3	0.7	0.2	0.1	0.0	1.0	

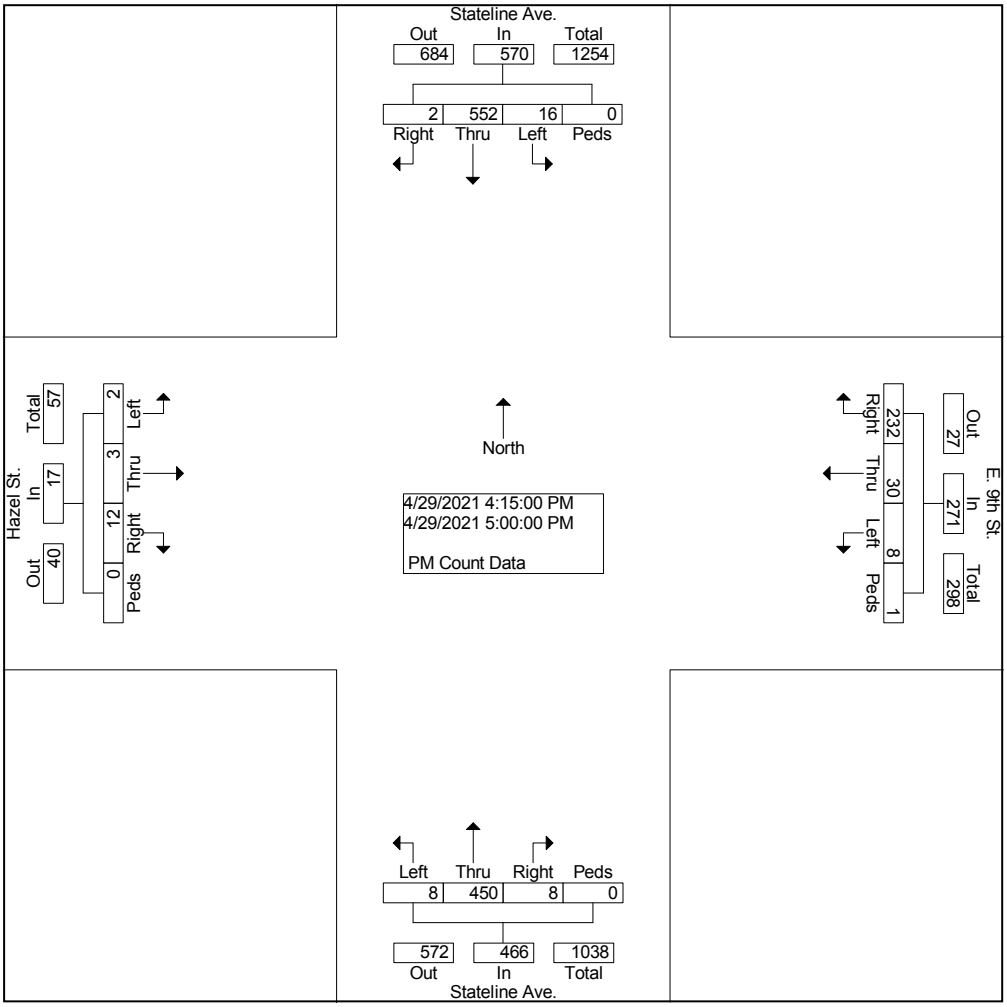


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
Stateline Ave & Hazel St. / E. 9th St.
Texarkana
P2087

File Name : PM Haz
Site Code : 00000000
Start Date : 04/29/2021
Page No : 2

	Stateline Ave. From North					E. 9th St. From East					Stateline Ave. From South					Hazel St. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 06:00 PM - Peak 1 of 1																					
INTERSECTION	04:15 PM																				
VOLUME	2	552	16	0	570	232	30	8	1	271	8	450	8	0	466	12	3	2	0	17	1324
PERCENT	0.4	96.8	2.8	0.0		85.6	11.1	3.0	0.4		1.7	96.6	1.7	0.0		70.6	17.6	11.8	0.0		
05:00 VOLUME	1	165	7	0	173	59	5	3	1	68	3	150	1	0	154	5	1	0	0	6	401
PEAK FACTOR																					0.825
HIGH INT.	05:00 PM					04:30 PM					05:00 PM					04:30 PM					
VOLUME	1	165	7	0	173	66	8	1	0	75	3	150	1	0	154	5	0	1	0	6	
PEAK FACTOR					0.824					0.903					0.756					0.708	



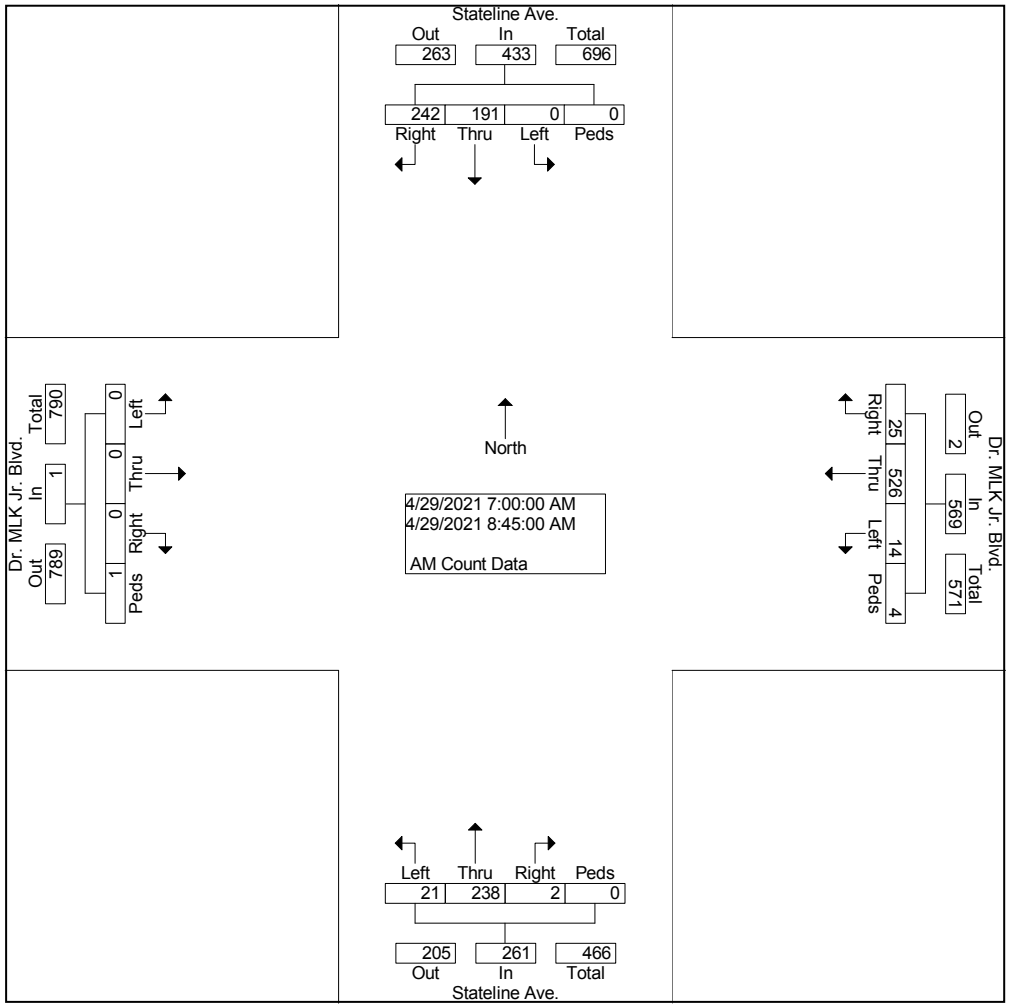
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave. and Dr. MLK Jr. Blvd.
Texarkana
P2087

File Name : AM MLK
Site Code : 00000000
Start Date : 04/29/2021
Page No : 1

Groups Printed- AM Count Data

	Stateline Ave. From North					Dr. MLK Jr. Blvd. From East					Stateline Ave. From South					Dr. MLK Jr. Blvd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	30	11	0	0	41	4	53	3	0	60	1	6	0	0	7	0	0	0	0	0	108
07:15 AM	27	12	0	0	39	3	70	0	0	73	0	20	3	0	23	0	0	0	0	0	135
07:30 AM	45	22	0	0	67	4	64	1	2	71	0	25	5	0	30	0	0	0	0	0	168
07:45 AM	36	45	0	0	81	2	81	3	0	86	0	41	0	0	41	0	0	0	0	0	208
TOTAL	138	90	0	0	228	13	268	7	2	290	1	92	8	0	101	0	0	0	0	0	619
08:00 AM	30	23	0	0	53	6	77	5	0	88	0	39	3	0	42	0	0	0	1	1	184
08:15 AM	24	28	0	0	52	1	82	0	0	83	0	24	1	0	25	0	0	0	0	0	160
08:30 AM	31	28	0	0	59	5	59	0	2	66	1	43	3	0	47	0	0	0	0	0	172
08:45 AM	19	22	0	0	41	0	40	2	0	42	0	40	6	0	46	0	0	0	0	0	129
TOTAL	104	101	0	0	205	12	258	7	2	279	1	146	13	0	160	0	0	0	1	1	645
GRAND TOTAL	242	191	0	0	433	25	526	14	4	569	2	238	21	0	261	0	0	0	1	1	1264
APPRCH %	55.9	44.1	0.0	0.0		4.4	92.4	2.5	0.7		0.8	91.2	8.0	0.0		0.0	0.0	0.0	100.0		
TOTAL %	19.1	15.1	0.0	0.0	34.3	2.0	41.6	1.1	0.3	45.0	0.2	18.8	1.7	0.0	20.6	0.0	0.0	0.0	0.1	0.1	

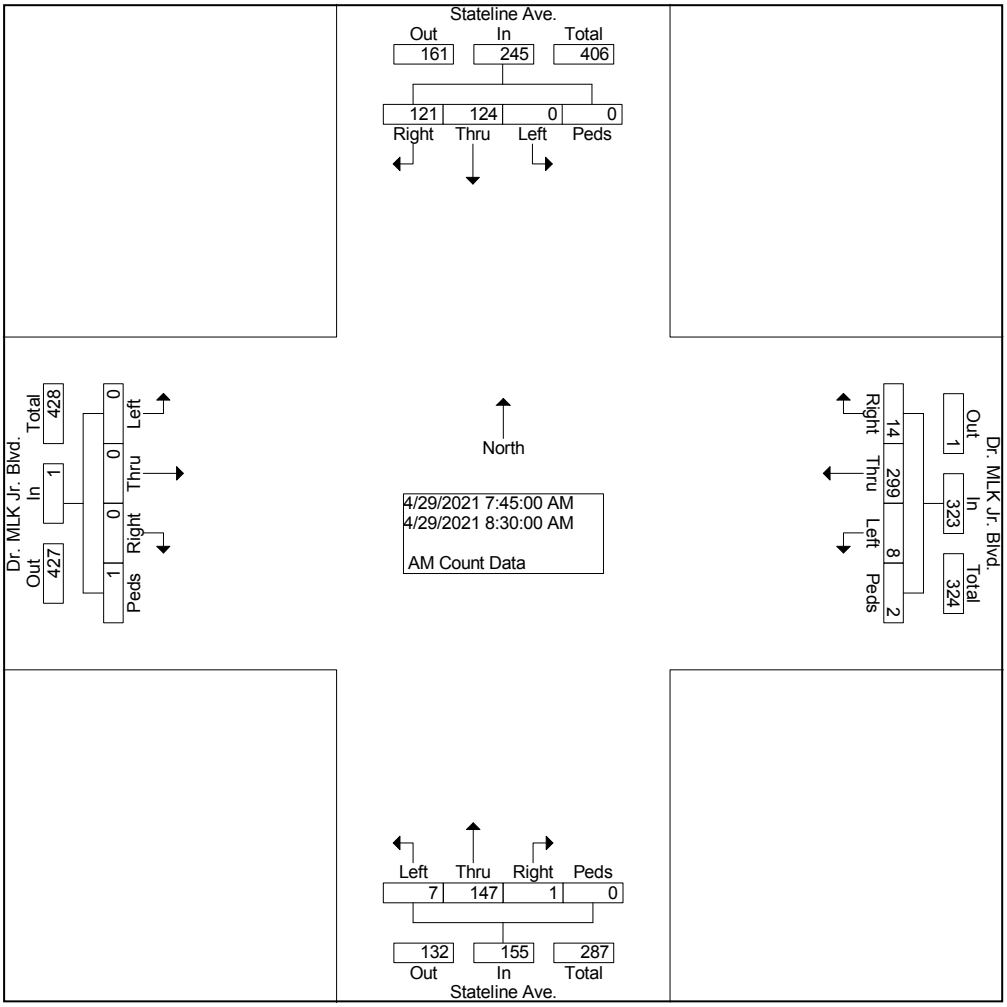


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

AM Hour Turning Movement Count Data
Stateline Ave. and Dr. MLK Jr. Blvd.
Texarkana
P2087

File Name : AM MLK
Site Code : 00000000
Start Date : 04/29/2021
Page No : 2

	Stateline Ave. From North					Dr. MLK Jr. Blvd. From East					Stateline Ave. From South					Dr. MLK Jr. Blvd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:45 AM																				
Volume	121	124	0	0	245	14	299	8	2	323	1	147	7	0	155	0	0	0	1	1	724
Percent	49.4	50.6	0.0	0.0		4.3	92.6	2.5	0.6		0.6	94.8	4.5	0.0		0.0	0.0	0.0	100.0		
07:45 Volume	36	45	0	0	81	2	81	3	0	86	0	41	0	0	41	0	0	0	0	0	208
Peak Factor																					0.870
High Int.	07:45 AM					08:00 AM					08:30 AM					08:00 AM					
Volume	36	45	0	0	81	6	77	5	0	88	1	43	3	0	47	0	0	0	1	1	
Peak Factor					0.756					0.918					0.824					0.250	



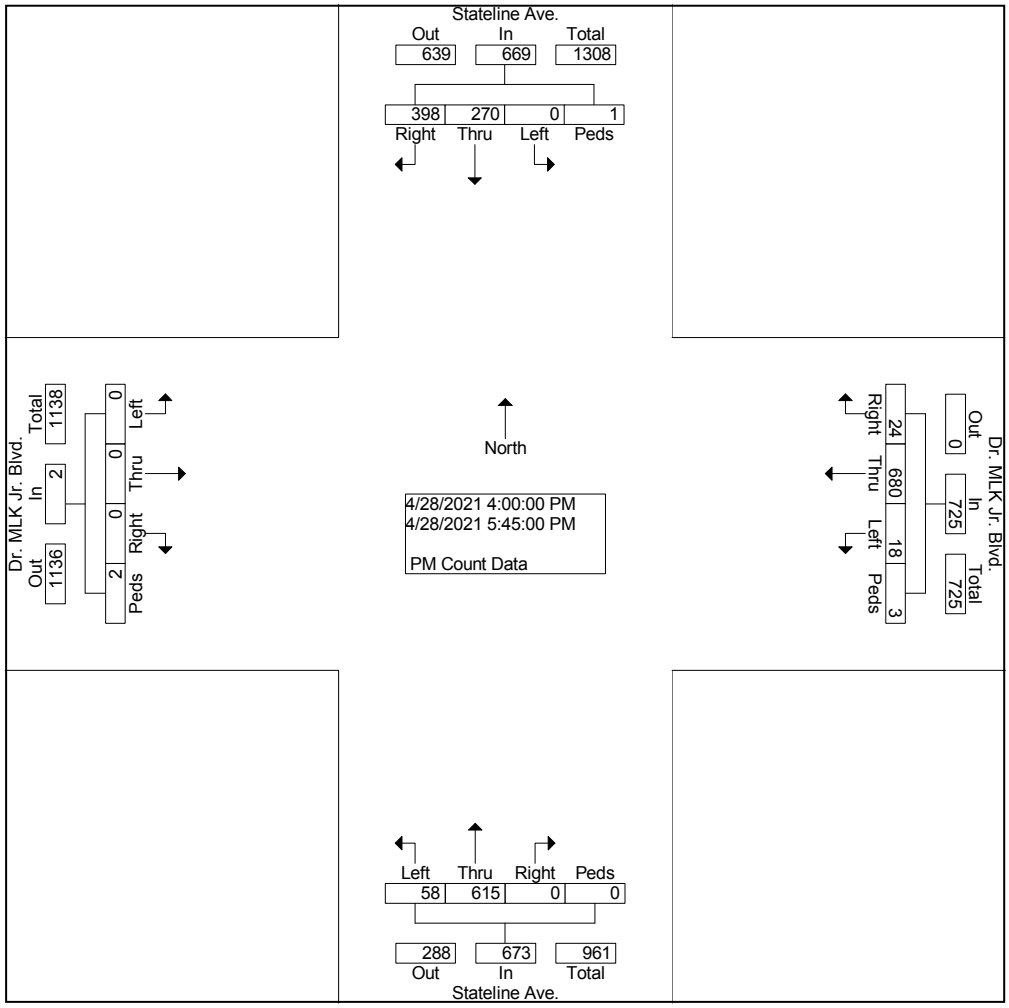
Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
Stateline Ave. and Dr. MLK Jr. Blvd.
Texarkana
P2087

File Name : PM-MLK
Site Code : 00000000
Start Date : 04/28/2021
Page No : 1

Groups Printed- PM Count Data

	Stateline Ave. From North					Dr. MLK Jr. Blvd. From East					Stateline Ave. From South					Dr. MLK Jr. Blvd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	53	49	0	0	102	0	114	1	0	115	0	69	6	0	75	0	0	0	0	0	292
04:15 PM	49	37	0	0	86	1	70	1	1	73	0	66	7	0	73	0	0	0	0	0	232
04:30 PM	50	30	0	0	80	4	88	2	2	96	0	79	14	0	93	0	0	0	1	1	270
04:45 PM	51	36	0	1	88	4	85	2	0	91	0	53	5	0	58	0	0	0	0	0	237
TOTAL	203	152	0	1	356	9	357	6	3	375	0	267	32	0	299	0	0	0	1	1	1031
05:00 PM	57	25	0	0	82	1	100	2	0	103	0	120	15	0	135	0	0	0	1	1	321
05:15 PM	55	38	0	0	93	3	77	3	0	83	0	84	8	0	92	0	0	0	0	0	268
05:30 PM	39	28	0	0	67	7	75	3	0	85	0	59	2	0	61	0	0	0	0	0	213
05:45 PM	44	27	0	0	71	4	71	4	0	79	0	85	1	0	86	0	0	0	0	0	236
TOTAL	195	118	0	0	313	15	323	12	0	350	0	348	26	0	374	0	0	0	1	1	1038
GRAND TOTAL	398	270	0	1	669	24	680	18	3	725	0	615	58	0	673	0	0	0	2	2	2069
APPRCH %	59.5	40.4	0.0	0.1		3.3	93.8	2.5	0.4		0.0	91.4	8.6	0.0		0.0	0.0	0.0	100.0		
TOTAL %	19.2	13.0	0.0	0.0	32.3	1.2	32.9	0.9	0.1	35.0	0.0	29.7	2.8	0.0	32.5	0.0	0.0	0.0	0.1	0.1	

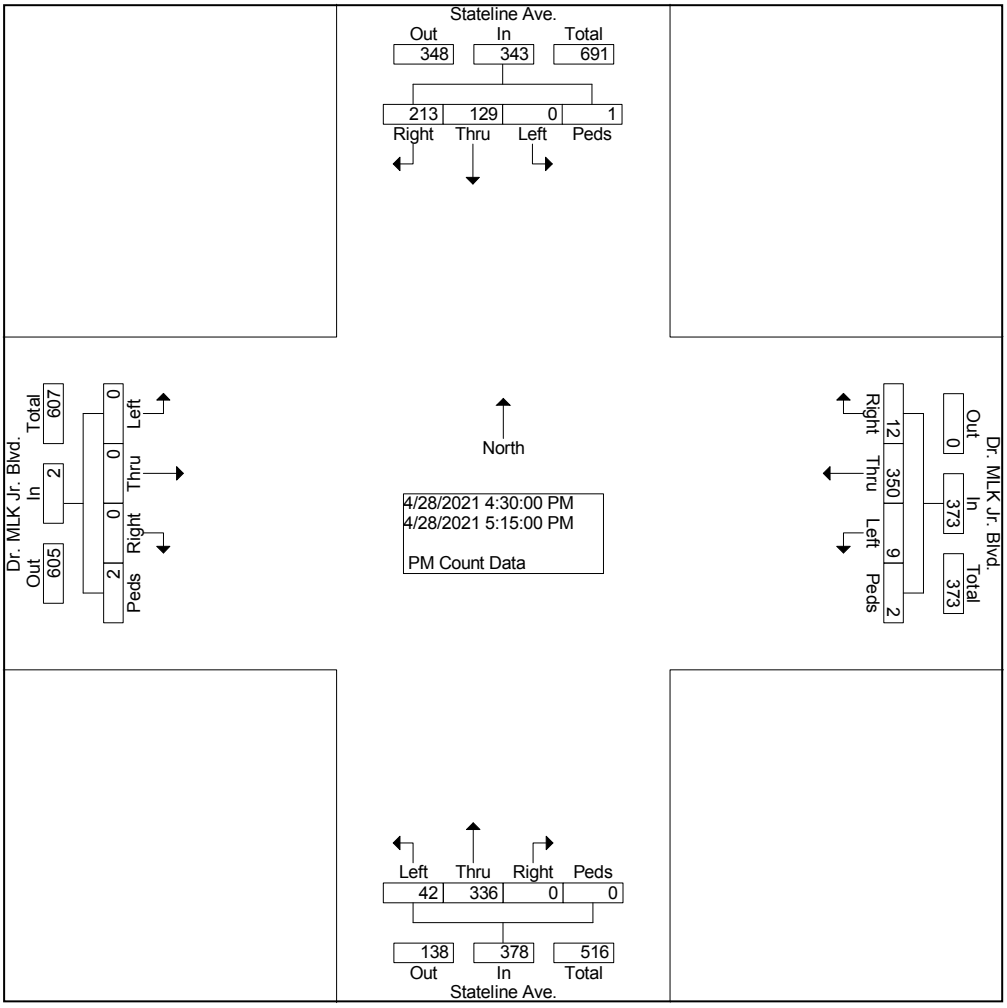


Peters & Assocoieates Engineers, Inc.
Peak Hour Turning Movement Count Data

PM Hour Turning Movement Count Data
Stateline Ave. and Dr. MLK Jr. Blvd.
Texarkana
P2087

File Name : PM-MLK
Site Code : 00000000
Start Date : 04/28/2021
Page No : 2

	Stateline Ave. From North					Dr. MLK Jr. Blvd. From East					Stateline Ave. From South					Dr. MLK Jr. Blvd. From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
INTERSECTION	04:30 PM																				
VOLUME	213	129	0	1	343	12	350	9	2	373	0	336	42	0	378	0	0	0	2	2	1096
PERCENT	62.1	37.6	0.0	0.3		3.2	93.8	2.4	0.5		0.0	88.9	11.1	0.0		0.0	0.0	0.0	100.0		
05:00 VOLUME	57	25	0	0	82	1	100	2	0	103	0	120	15	0	135	0	0	0	1	1	321
PEAK FACTOR																					0.854
HIGH INT.	05:15 PM					05:00 PM					05:00 PM					04:30 PM					
VOLUME	55	38	0	0	93	1	100	2	0	103	0	120	15	0	135	0	0	0	1	1	
PEAK FACTOR					0.922					0.905					0.700					0.500	



Stateline Avenue and 7th Street
Texarkana AR
Thursday, April 29, 2021
AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
7:30 AM	0	10	13	0	0	*23*	0	0	0	0	1	*0*	0	0	3	0	0	*3*	0	25	77	2	0	*104*	**130**
7:45 AM	0	15	19	0	0	*34*	0	0	0	0	0	*0*	0	0	4	0	0	*4*	0	39	106	0	0	*145*	**183**
8:00 AM	0	11	12	0	0	*23*	0	0	0	0	0	*0*	0	0	7	2	0	*9*	0	28	105	1	0	*134*	**166**
8:15 AM	0	13	13	0	0	*26*	0	0	0	0	0	*0*	0	0	6	1	0	*7*	0	19	67	1	0	*87*	**120**
Peak Hour Total	0	49	57	0	0	*106*	0	0	0	0	1	*0*	0	0	20	3	0	*23*	0	111	355	4	0	*470*	**599**
PHF	0.000	0.817	0.750	0.000	0.000	*0.779*	0.000	0.000	0.000	0.000	0.250	*0.000*	0.000	0.000	0.714	0.375	0.000	*0.639*	0.000	0.712	0.837	0.500	0.000	*0.810*	**0.818**

Total Vehicles On Leg			429		
Vehicles Entering Intersection	182		Vehicles Exiting Intersection	247	
Southbound					
Cars	0	102	74	1	0
Heavy	0	4	1	0	0
Total	**0**	**106**	**75**	**1**	**0**

Total Vehicles on Leg 792	Vehicles Entering Intersection 792	**Eastbound**	Cars	Heavy	**Total**
			0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 0		204	2	**206**
			566	12	**578**
			8	0	**8**

Two-Hour Volumes

Cars	Heavy	**Total**	**Westbound**	Vehicles Entering Intersection 0	Total Vehicles on Leg 657
0	0	**0**			
0	0	**0**			
0	0	**0**		Vehicles Exiting Intersection 657	
0	0	**0**			
1	0	**1**			

Cars	0	0	0	39	4
Heavy	0	0	0	1	0
Total	**0**	**0**	**0**	**40**	**4**
Northbound					
Vehicles Entering Intersection	44		Vehicles Exiting Intersection	114	
Total Vehicles On Leg			158		

Stateline Avenue and 7th Street
Texarkana AR
Thursday, April 29, 2021

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
4:15 PM	0	14	18	0	0	*32*	0	0	0	0	1	*0*	0	0	12	2	0	*14*	0	42	108	1	0	*151*	**197**
4:30 PM	0	11	19	0	0	*30*	0	0	0	0	0	*0*	0	0	22	1	0	*23*	0	56	100	1	0	*157*	**210**
4:45 PM	0	5	15	0	0	*20*	0	0	0	0	1	*0*	0	0	11	3	0	*14*	0	46	78	0	0	*124*	**158**
5:00 PM	1	4	19	0	0	*24*	0	0	0	0	0	*0*	0	0	33	5	0	*38*	0	76	139	1	0	*216*	**278**
Peak Hour Total	1	34	71	0	0	*106*	0	0	0	0	2	*0*	0	0	78	11	0	*89*	0	220	425	3	0	*648*	**843**
PHF	0.250	0.607	0.934	0.000	0.000	*0.828*	0.000	0.000	0.000	0.000	0.500	*0.000*	0.000	0.000	0.591	0.550	0.000	*0.586*	0.000	0.724	0.764	0.750	0.000	*0.750*	**0.758**

Total Vehicles On Leg			771		
Vehicles Entering Intersection	202		Vehicles Exiting Intersection	569	
Southbound					
Cars	0	135	66	1	1
Heavy	0	0	0	0	0
Total	**0**	**135**	**66**	**1**	**1**

Total Vehicles on Leg 1243	Vehicles Entering Intersection 1243	Eastbound	Cars	Heavy	Total
			0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 0		422	2	**424**
			810	3	**813**
			6	0	**6**

Two-Hour Volumes

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 0	Total Vehicles on Leg 899
0	0	**0**			
0	0	**0**			
0	0	**0**		Vehicles Exiting Intersection 899	
0	0	**0**			
2	0	**2**			

Cars	0	0	0	143	20
Heavy	0	0	0	1	0
Total	**0**	**0**	**0**	**144**	**20**
Northbound					
Vehicles Entering Intersection	164		Vehicles Exiting Intersection	141	
Total Vehicles On Leg			305		

P2087

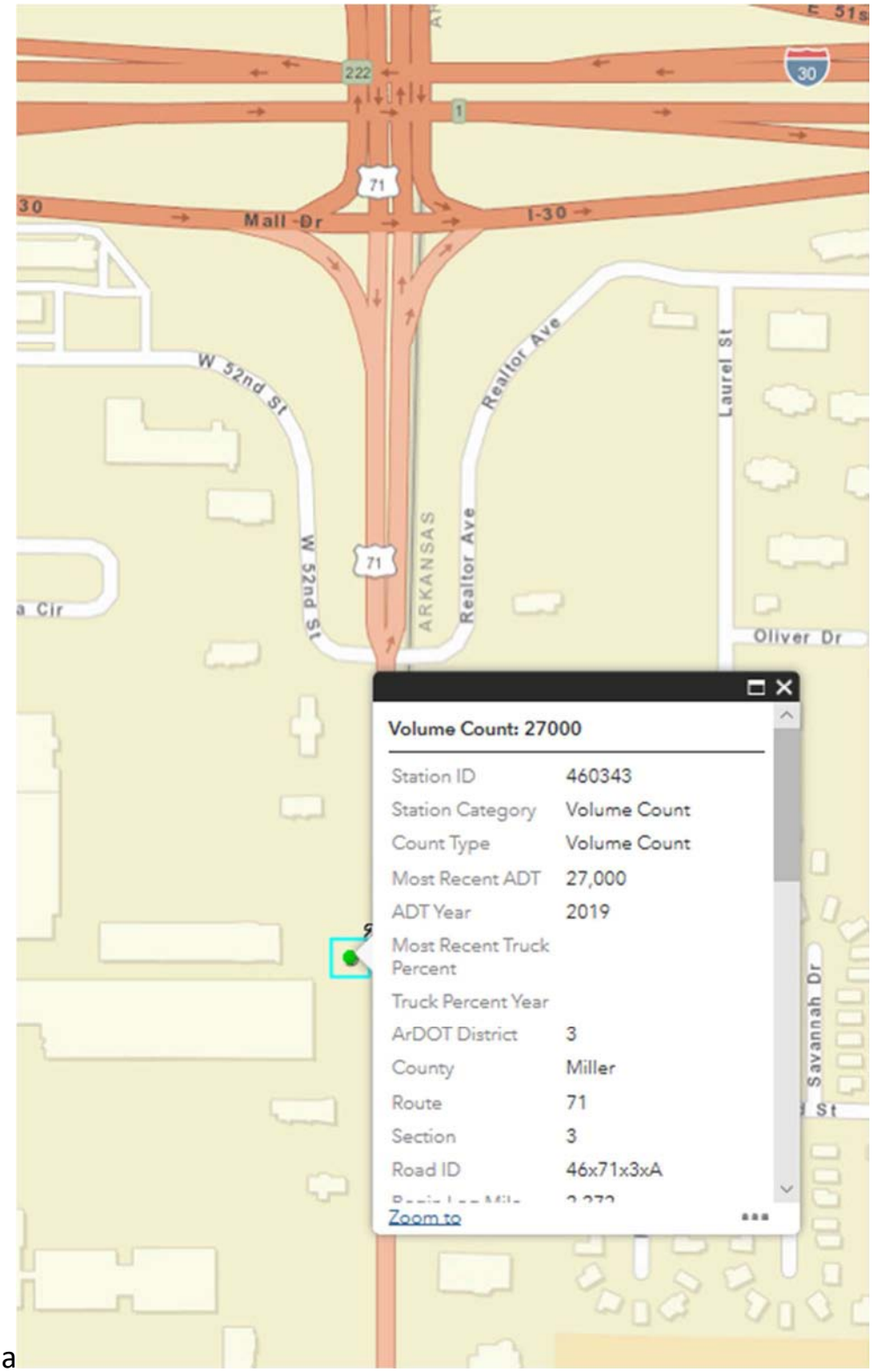
AM and PM Peak Hours Video Counts Heavy Truck Percents

Stateline Corridor Study

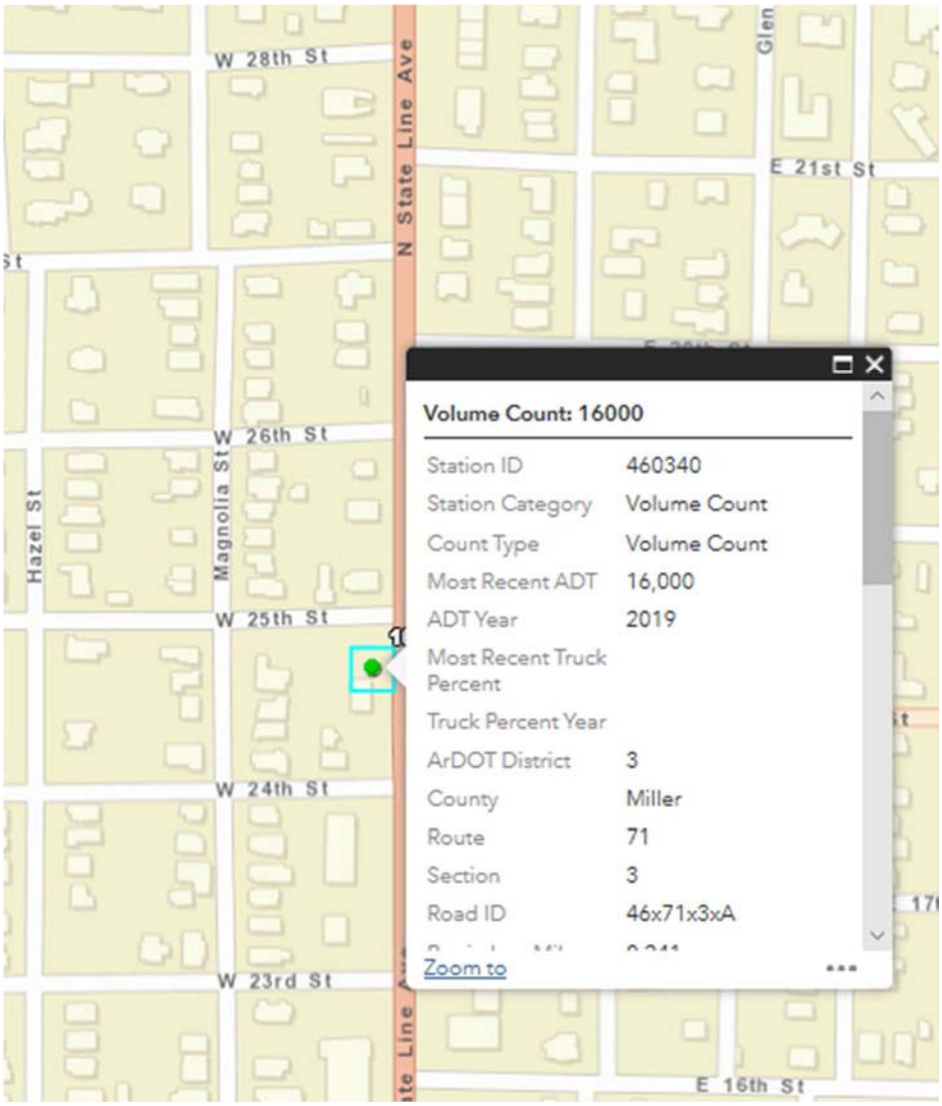
Texarkana

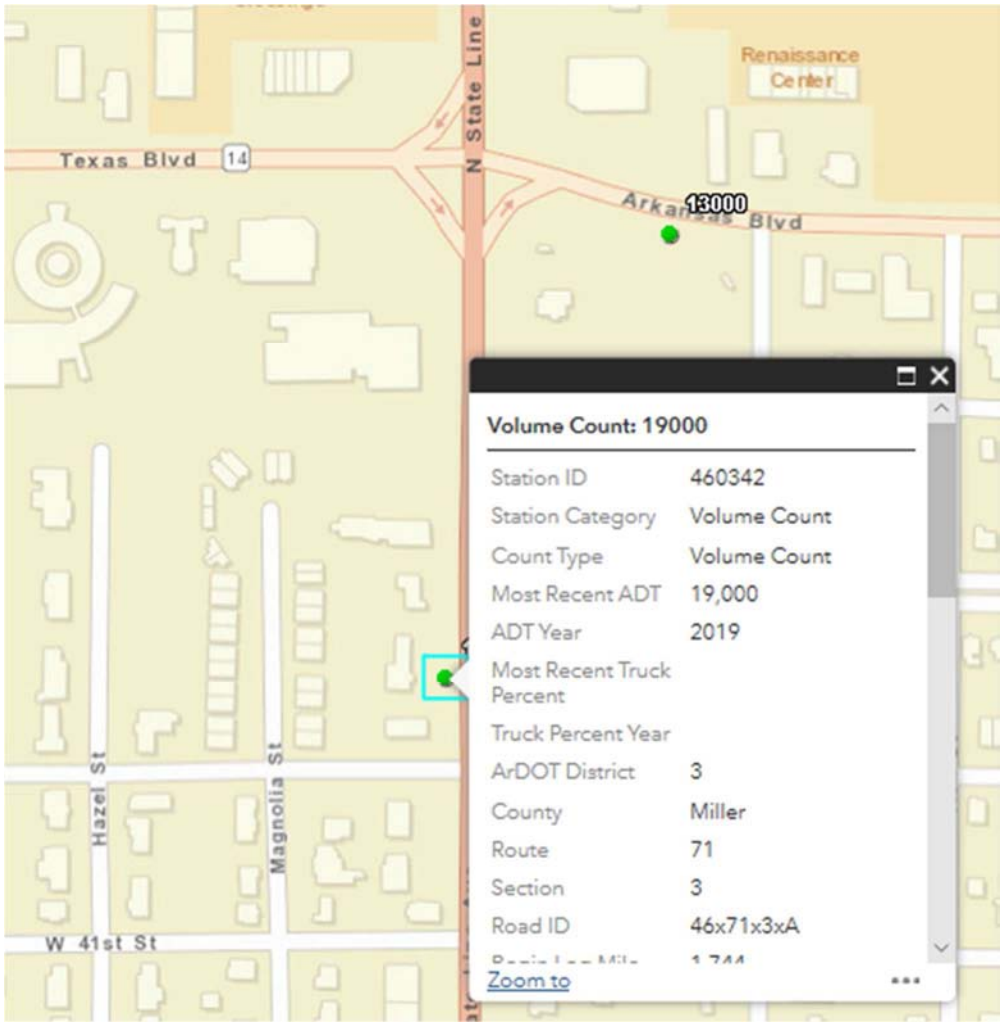
SIGNAL CONTROLLED INTERSECTION	HEAVY TRUCK PERCENT	
	AM	PM
W. 52nd Street / E. 49th Street	1.92%	0.89%
E. 24th Street	1.68%	0.46%
W. 19th Street / E. 12th Street	1.68%	0.36%
W. 7th Street / E. 7th Street	1.96%	0.37%
"STOP" SIGN CONTROLLED INTERSECTION	**HEAVY TRUCK PERCENT**	
	AM	**PM**
E. 37th Street	1.43%	0.46%

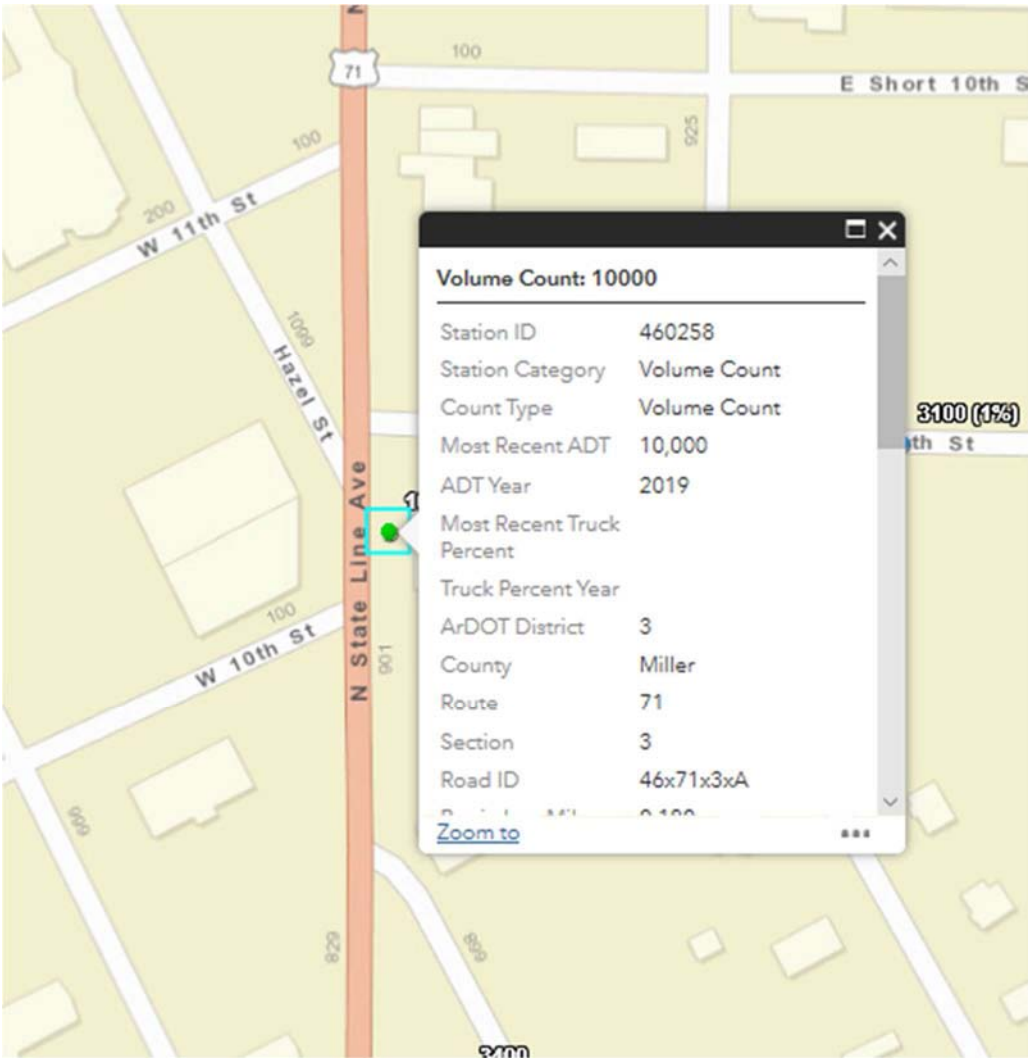
Stateline Corridor – Existing 24-Hour Traffic Volume

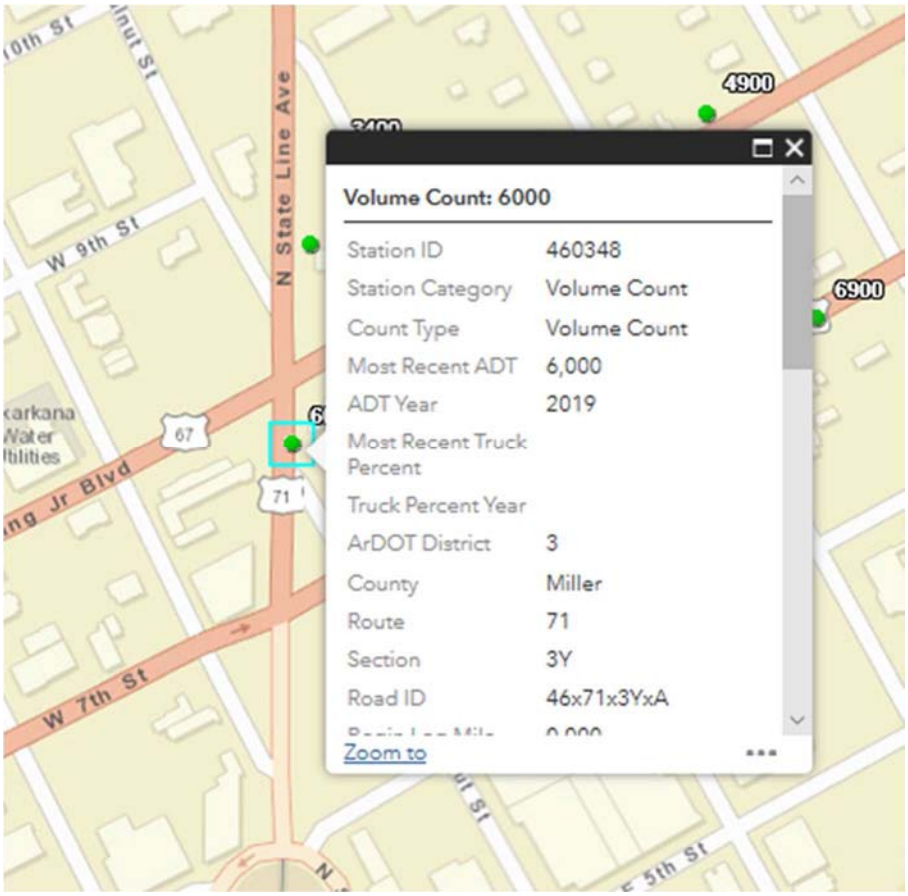

222
30
1
71
Mall Dr
I-30
W 52nd St
Realtor Ave
Laurel St
ARKANSAS
Oliver Dr
Savannah Dr
Volume Count: 27000
Station ID 460343
Station Category Volume Count
Count Type Volume Count
Most Recent ADT 27,000
ADT Year 2019
Most Recent Truck Percent
Truck Percent Year
ArDOT District 3
County Miller
Route 71
Section 3
Road ID 46x71x3xA
Zoom to

Data


W 28th St
N State Line Ave
E 21st St
W 26th St
Hazel St
Magnolia St
W 25th St
W 24th St
W 23rd St
E 16th St
Volume Count: 16000
Station ID 460340
Station Category Volume Count
Count Type Volume Count
Most Recent ADT 16,000
ADT Year 2019
Most Recent Truck Percent
Truck Percent Year
ArDOT District 3
County Miller
Route 71
Section 3
Road ID 46x71x3xA
Zoom to


Renaissance Center
Texas Blvd
14
N State Line
13000
Arkansas Blvd
Volume Count: 19000
Station ID 460342
Station Category Volume Count
Count Type Volume Count
Most Recent ADT 19,000
ADT Year 2019
Most Recent Truck Percent
Truck Percent Year
ArDOT District 3
County Miller
Route 71
Section 3
Road ID 46x71x3xA
Zoom to
Hazel St
Magnolia St
W 41st St

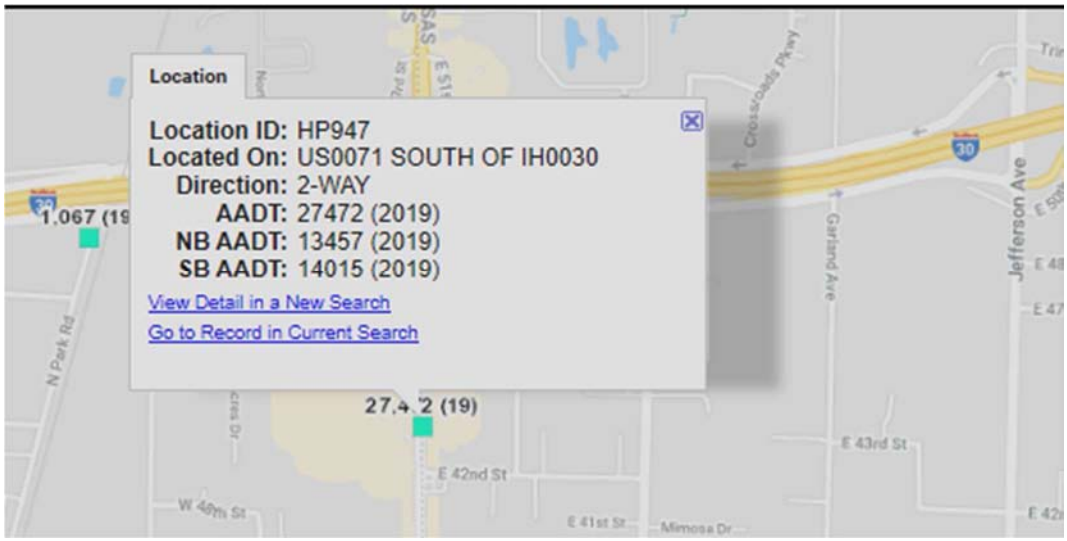

Volume Count: 10000
Station ID 460258
Station Category Volume Count
Count Type Volume Count
Most Recent ADT 10,000
ADT Year 2019
Most Recent Truck Percent
Truck Percent Year
ArDOT District 3
County Miller
Route 71
Section 3
Road ID 46x71x3xA
Zoom to
N State Line Ave
W 11th St
W 10th St
Hazel St
E Short 10th S
3100 (1%)
71



https://ardot.maps.arcgis.com/home/index.html

Frontage Road
Interstate 30 Frontage
30
Laurel St
E 42nd St
E 41st St
Walnut St
Arkansas Blvd
ARKANSAS
TEXAS
Ash St
Beech St
W 42nd St
E 36th St
W 41st St
E 35th St
Hazel St
Magnolia St
E 33rd St
E 32nd St
W 37th St
E 28th St
Bell Ave
E 25th St
E 24th St
E 22nd St
W 28th St
E 21st St
County Ave
W 25th St
W 24th St
W 23rd St
W 22nd St
W 21st St
E 18th St
E 17th St
E 16th St
E 15th St
E 14th St
N State Line Ave
SAND FLA
E 12th St
E 10th St
E Short 10th St
E 9th St
W 10th St
Wood St
E 7th St
W 7th St
DOW

https://txdot.public.ms2soft.com/tcds/tsearch.asp?loc=Txdot&mod=TCDS

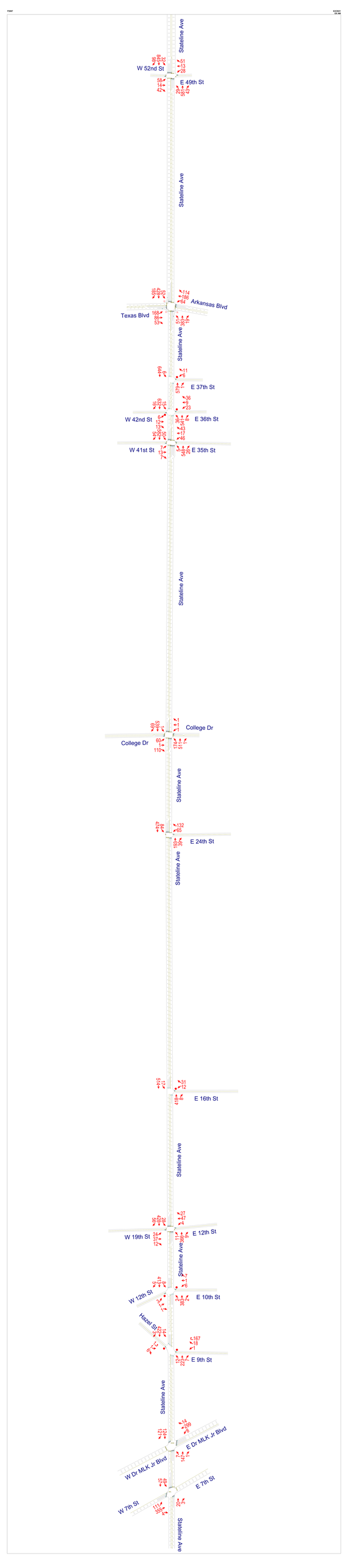


Existing Traffic Operational Analysis Results

Traffic Operational Analysis:

The intersection of Stateline Avenue and Texas Boulevard/Arkansas Boulevard was the busiest intersection in the Corridor during both the AM and PM peak hours of traffic operations. For the AM peak hour the Intersection Capacity Utilization was found to be 49.2 percent and average delay of 13.8 seconds per vehicle. During the PM peak hour, this intersection had 82.0 percent Intersection Capacity Utilization and average delay of 31.2 seconds per vehicle.

EXISTING TRAFFIC CONDITIONS		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	**PEAK HR**		**PEAK HOUR - LEVEL OF SERVICE**														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	C			B			A	A		A	A		**A**	6.3	45.3%
	PM		C			B			A	A		A	A		**B**	10.0	41.9%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	D	B		B	B		A	A		B	B	A	**B**	13.8	49.2%
	PM		D	C		C	C		D	D		D	C	A	**C**	31.2	82.0%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	33.9%
	PM					B		B		A		A	A		**n/a**	0.4	47.5%
Stateline Avenue and W. 42nd Street / E. 36th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	1.4	55.0%
	PM		B			B			A	A		A	A		**n/a**	0.6	53.1%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			C			A	A	A	A	A		**A**	4.8	43.9%
	PM		C			B			A	A	A	A	A		**A**	9.1	52.2%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		A	A		A	A		**A**	5.8	49.3%
	PM		E	B		D	D		A	A		A	B		**B**	13.0	62.0%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		A		A	A		**A**	6.7	34.9%
	PM					B		B		A		A	A		**A**	5.9	56.5%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.9	25.4%
	PM					B		B		A		A	A		**n/a**	0.4	35.3%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	C			C			A	A		A	A		**A**	6.2	39.1%
	PM		C			B			A	A		A	A		**B**	11.0	50.1%
Stateline Avenue and W. 12th Street / E. 10th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	0.4	22.6%
	PM		B			B			A	A		A	A		**n/a**	0.3	30.3%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	3.0	39.2%
	PM		B			C			A	A		A	A		**n/a**	3.4	48.2%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				C			A	A			A		**A**	9.6	20.2%
	PM					C			A	A			A		**A**	7.7	31.0%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	C							A		A	A		**B**	17.6	26.3%
	PM		B							A		B	B		**B**	14.9	31.0%


Stateline Ave
W 52nd St
E 49th St
Stateline Ave
Arkansas Blvd
Texas Blvd
Stateline Ave
E 37th St
W 42nd St
E 36th St
W 41st St
E 35th St
Stateline Ave
College Dr
College Dr
Stateline Ave
E 24th St
Stateline Ave
Stateline Ave
E 16th St
Stateline Ave
W 19th St
E 12th St
Stateline Ave
W 12th St
E 10th St
Hazel St
E 9th St
Stateline Ave
E Dr MLK Jr Blvd
W Dr MLK Jr Blvd
E 7th St
W 7th St
Shelldna Ave

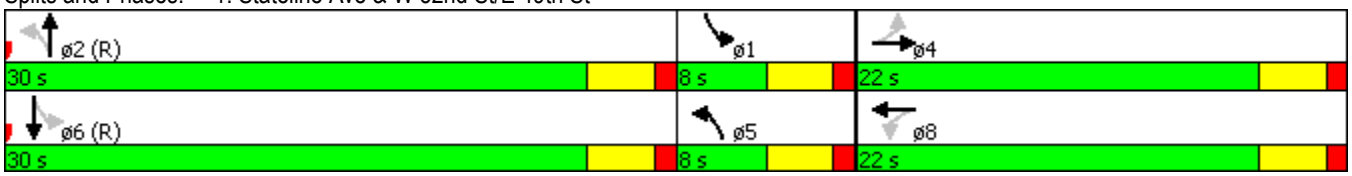
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	14	42	28	13	51	29	581	43	32	845	98
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1589	0	0	1563	0	1630	3227	0	1630	4609	0
Flt Permitted		0.810			0.883		0.236			0.371		
Satd. Flow (perm)	0	1320	0	0	1401	0	405	3227	0	637	4609	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			62			16			42	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		219			214			2398			805	
Travel Time (s)		5.0			4.9			40.9			13.7	
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.90	0.90	0.90	0.87	0.87	0.87
Adj. Flow (vph)	69	17	50	34	16	62	32	646	48	37	971	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	112	0	32	694	0	37	1084	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	22.0	22.0		22.0	22.0		8.0	30.0		8.0	30.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		13.3%	50.0%		13.3%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		4.0	26.0		4.0	26.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.6			9.6		44.3	41.9		44.3	41.9	
Actuated g/C Ratio		0.16			0.16		0.74	0.70		0.74	0.70	
v/c Ratio		0.54			0.41		0.08	0.31		0.07	0.34	
Control Delay		22.7			15.6		2.8	2.5		3.9	5.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		22.7			15.6		2.8	2.5		3.9	5.9	
LOS		C			B		A	A		A	A	
Approach Delay		22.7			15.6			2.5			5.9	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		29			16		0	3		1	38	

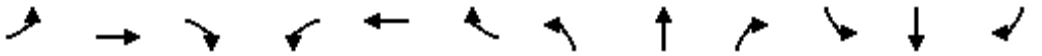
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		61			43		m5	m55		12	109	
Internal Link Dist (ft)		139			134			2318			725	
Turn Bay Length (ft)							120			150		
Base Capacity (vph)		431			463		380	2259		536	3233	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.32			0.24		0.08	0.31		0.07	0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 45 (75%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 6.3		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: 1: Stateline Ave & W 52nd St/E 49th St



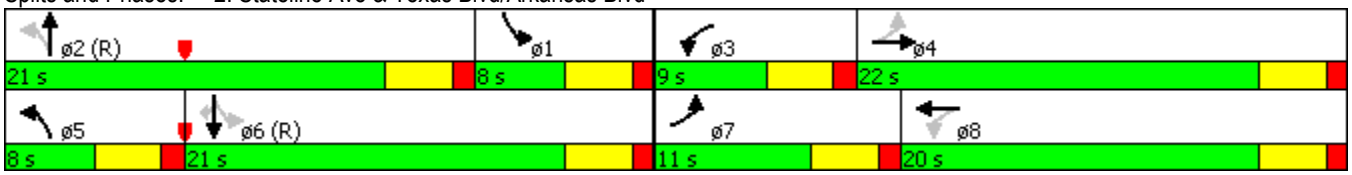


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	86	53	64	186	114	51	383	19	52	428	185
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	200		0	130		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	3074	0	1630	3074	0	1630	3237	0	1630	3260	1458
Flt Permitted	0.290			0.624			0.251			0.449		
Satd. Flow (perm)	498	3074	0	1071	3074	0	431	3237	0	770	3260	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			168			8				253
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		463			387			761			2398	
Travel Time (s)		7.9			6.6			13.0			40.9	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.74	0.74	0.74	0.73	0.73	0.73
Adj. Flow (vph)	247	126	78	94	274	168	69	518	26	71	586	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	204	0	94	442	0	69	544	0	71	586	253
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	11.0	22.0		9.0	20.0		8.0	21.0		8.0	21.0	21.0
Total Split (%)	18.3%	36.7%		15.0%	33.3%		13.3%	35.0%		13.3%	35.0%	35.0%
Maximum Green (s)	7.0	18.0		5.0	16.0		4.0	17.0		4.0	17.0	17.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	20.4	14.8		16.0	11.0		25.2	25.2		23.8	23.8	23.8
Actuated g/C Ratio	0.34	0.25		0.27	0.18		0.42	0.42		0.40	0.40	0.40
v/c Ratio	0.82	0.25		0.28	0.63		0.23	0.40		0.20	0.45	0.35
Control Delay	38.2	12.0		14.2	17.4		8.5	9.0		11.2	11.7	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	38.2	12.0		14.2	17.4		8.5	9.0		11.2	11.7	2.3
LOS	D	B		B	B		A	A		B	B	A
Approach Delay		26.4			16.8			9.0			9.0	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)	65	20		22	47		6	76		18	93	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	71	25		31	48		13	57		14	38	3
Internal Link Dist (ft)		383			307			681			2318	
Turn Bay Length (ft)	200			130			200			200		
Base Capacity (vph)	301	976		332	942		301	1361		363	1294	731
Starvation Cap Reductn	0	0		0	0		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	0.82	0.21		0.28	0.47		0.23	0.40		0.20	0.45	0.35

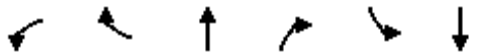
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 23 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Stateline Ave & Texas Blvd/Arkansas Blvd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	6	11	579	1	6	644
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Satd. Flow (prot)	1538	0	3260	0	0	3260
Flt Permitted	0.983					
Satd. Flow (perm)	1538	0	3260	0	0	3260
Link Speed (mph)	30		40			40
Link Distance (ft)	331		343			761
Travel Time (s)	7.5		5.8			13.0
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Adj. Flow (vph)	8	15	629	1	7	767
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	0	630	0	0	774
Sign Control	Stop		Free			Free

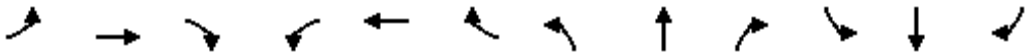
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	6	11	579	1	6	644
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	8	15	629	1	7	767
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			661			761
pX, platoon unblocked	0.90	0.97			0.97	
vC, conflicting volume	1028	315			630	
vC1, stage 1 conf vol	630					
vC2, stage 2 conf vol	398					
vCu, unblocked vol	665	229			555	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	496	749			980	

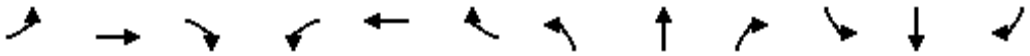
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	24	420	211	263	511
Volume Left	8	0	0	7	0
Volume Right	15	0	1	0	0
cSH	635	1700	1700	980	1700
Volume to Capacity	0.04	0.25	0.12	0.01	0.30
Queue Length 95th (ft)	3	0	0	1	0
Control Delay (s)	10.9	0.0	0.0	0.3	0.0
Lane LOS	B			A	
Approach Delay (s)	10.9	0.0		0.1	
Approach LOS	B				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	12	13	23	9	36	36	541	8	15	632	16
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Satd. Flow (prot)	0	1603	0	0	1565	0	0	3244	0	0	3244	0
Flt Permitted		0.990			0.983			0.997			0.999	
Satd. Flow (perm)	0	1603	0	0	1565	0	0	3244	0	0	3244	0
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		396			372			318			343	
Travel Time (s)		6.8			6.3			5.4			5.8	
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.88	0.88	0.88	0.76	0.76	0.76
Adj. Flow (vph)	7	14	15	26	10	41	41	615	9	20	832	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	77	0	0	665	0	0	873	0
Sign Control		Stop			Stop			Free			Free	

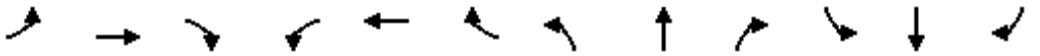
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	12	13	23	9	36	36	541	8	15	632	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.88	0.88	0.88	0.76	0.76	0.76
Hourly flow rate (vph)	7	14	15	26	10	41	41	615	9	20	832	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								318			1104	
pX, platoon unblocked	0.96	0.96	0.92	0.96	0.96	0.92	0.92			0.92		
vC, conflicting volume	1317	1587	426	1179	1593	312	853			624		
vC1, stage 1 conf vol	882	882		701	701							
vC2, stage 2 conf vol	435	706		478	892							
vCu, unblocked vol	857	1140	190	712	1146	73	655			413		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	96	98	94	97	95	95			98		
cM capacity (veh/h)	340	333	751	415	315	894	850			1049		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	36	77	348	316	436	437
Volume Left	7	26	41	0	20	0
Volume Right	15	41	0	9	0	21
cSH	437	547	850	1700	1049	1700
Volume to Capacity	0.08	0.14	0.05	0.19	0.02	0.26
Queue Length 95th (ft)	7	12	4	0	1	0
Control Delay (s)	14.0	12.7	1.6	0.0	0.6	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	14.0	12.7	0.8		0.3	
Approach LOS	B	B				

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	55.0%	ICU Level of Service		A
Analysis Period (min)	15			

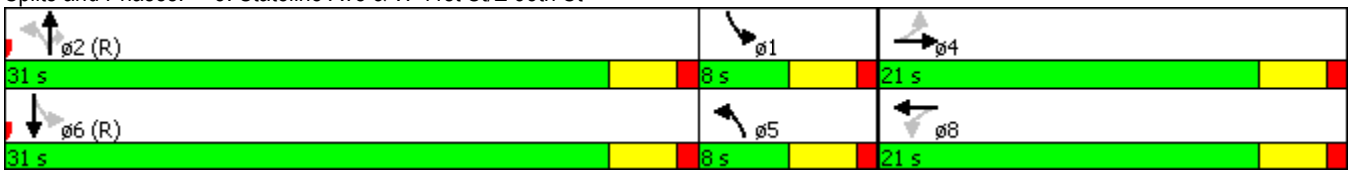


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	13	7	46	17	43	5	548	26	50	582	54
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		110	120		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1628	0	0	1579	0	1630	3260	1458	1630	3217	0
Flt Permitted		0.939			0.843		0.320			0.394		
Satd. Flow (perm)	0	1547	0	0	1359	0	549	3260	1458	676	3217	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			55				91		21	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		557			627			3044			318	
Travel Time (s)		12.7			14.3			51.9			5.4	
Confl. Peds. (#/hr)	3		3	1		1						
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.86	0.86	0.86	0.78	0.78	0.78
Adj. Flow (vph)	9	17	9	59	22	55	6	637	30	64	746	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	136	0	6	637	30	64	815	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	21.0	21.0		21.0	21.0		8.0	31.0	31.0	8.0	31.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		13.3%	51.7%	51.7%	13.3%	51.7%	
Maximum Green (s)	17.0	17.0		17.0	17.0		4.0	27.0	27.0	4.0	27.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
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)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		9.2			9.2		43.1	40.7	40.7	44.7	43.9	
Actuated g/C Ratio		0.15			0.15		0.72	0.68	0.68	0.74	0.73	
v/c Ratio		0.14			0.53		0.01	0.29	0.03	0.11	0.35	
Control Delay		17.5			22.0		2.2	4.3	0.2	1.5	2.3	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		17.5			22.0		2.2	4.3	0.2	1.5	2.3	
LOS		B			C		A	A	A	A	A	
Approach Delay		17.5			22.0			4.1			2.2	
Approach LOS		B			C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		8			27		1	54	1	2	10	
Queue Length 95th (ft)		22			53		m0	13	m0	5	37	
Internal Link Dist (ft)		477			547			2964			238	
Turn Bay Length (ft)							120		110	120		
Base Capacity (vph)		444			424		466	2210	1017	566	2358	
Starvation Cap Reductn		0			0		0	0	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		0.08			0.32		0.01	0.29	0.03	0.11	0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 48 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 4.8		Intersection LOS: A	
Intersection Capacity Utilization 43.9%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: Stateline Ave & W 41st St/E 35th St



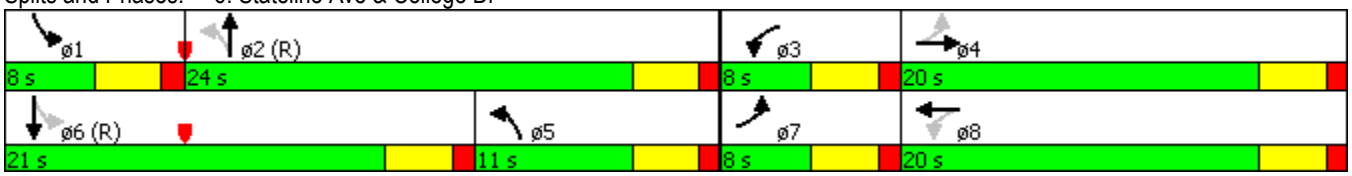
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1	110	1	1	1	174	511	1	1	539	69
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	100		0	100		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	1460	0	1630	1587	0	1630	3260	0	1630	3204	0
Flt Permitted	0.702						0.400			0.366		
Satd. Flow (perm)	1204	1460	0	1716	1587	0	686	3260	0	628	3204	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		120			1						23	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		666			319			1037			3044	
Travel Time (s)		15.1			7.3			17.7			51.9	
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)	65	1	120	1	1	1	189	555	1	1	586	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	121	0	1	2	0	189	556	0	1	661	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	8.0	20.0		8.0	20.0		11.0	24.0		8.0	21.0	
Total Split (%)	13.3%	33.3%		13.3%	33.3%		18.3%	40.0%		13.3%	35.0%	
Maximum Green (s)	4.0	16.0		4.0	16.0		7.0	20.0		4.0	17.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	7.3	6.8		6.3	6.5		43.5	44.3		34.5	34.5	
Actuated g/C Ratio	0.12	0.11		0.10	0.11		0.72	0.74		0.58	0.58	
v/c Ratio	0.36	0.44		0.01	0.01		0.31	0.23		0.00	0.36	
Control Delay	26.7	11.2		19.0	19.5		6.9	3.9		3.0	3.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.7	11.2		19.0	19.5		6.9	3.9		3.0	3.9	
LOS	C	B		B	B		A	A		A	A	
Approach Delay		16.6			19.3			4.7			3.9	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	23	0		0	0		8	12		0	20	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	41	38		3	5		61	80		m0	41	
Internal Link Dist (ft)		586			239			957			2964	
Turn Bay Length (ft)	100			100			120			120		
Base Capacity (vph)	182	477		176	423		607	2409		453	1851	
Starvation Cap Reductn	0	0		0	0		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	0.36	0.25		0.01	0.00		0.31	0.23		0.00	0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 56 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 5.8		Intersection LOS: A	
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

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

Splits and Phases: 6: Stateline Ave & College Dr

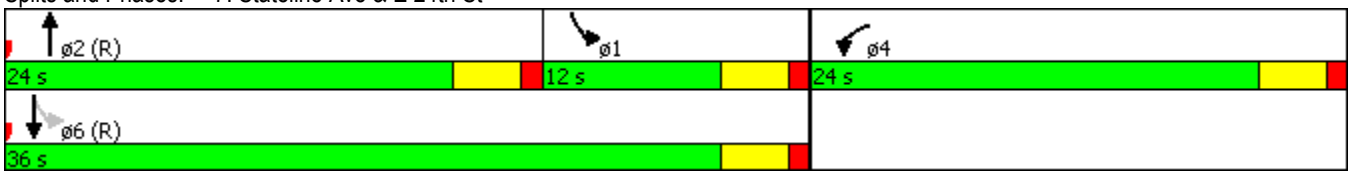


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	65	132	193	39	84	474
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1547	0	3162	0	1630	3260
Flt Permitted	0.981				0.581	
Satd. Flow (perm)	1547	0	3162	0	997	3260
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	137		56			
Link Speed (mph)	30		40			40
Link Distance (ft)	648		2670			1037
Travel Time (s)	14.7		45.5			17.7
Peak Hour Factor	0.65	0.87	0.87	0.70	0.78	0.85
Adj. Flow (vph)	100	152	222	56	108	558
Shared Lane Traffic (%)						
Lane Group Flow (vph)	252	0	278	0	108	558
Turn Type	NA		NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases					6	
Detector Phase	4		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		8.0	20.0
Total Split (s)	24.0		24.0		12.0	36.0
Total Split (%)	40.0%		40.0%		20.0%	60.0%
Maximum Green (s)	20.0		20.0		8.0	32.0
Yellow Time (s)	3.0		3.0		3.0	3.0
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)	4.0		4.0		4.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	10.6		31.8		41.4	41.4
Actuated g/C Ratio	0.18		0.53		0.69	0.69
v/c Ratio	0.65		0.16		0.14	0.25
Control Delay	18.6		9.9		1.0	0.9
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	18.6		9.9		1.0	0.9
LOS	B		A		A	A
Approach Delay	18.6		9.9			0.9
Approach LOS	B		A			A
Queue Length 50th (ft)	38		23		2	5

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 95th (ft)	46		65		3	5
Internal Link Dist (ft)	568		2590			957
Turn Bay Length (ft)					120	
Base Capacity (vph)	607		1704		772	2251
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	0.42		0.16		0.14	0.25

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 52 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 6.7		Intersection LOS: A	
Intersection Capacity Utilization 34.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Stateline Ave & E 24th St



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	31	418	8	17	514
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1526	0	3250	0	1630	3260
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1526	0	3250	0	1630	3260
Link Speed (mph)	30		40			40
Link Distance (ft)	713		1440			2670
Travel Time (s)	16.2		24.5			45.5
Confl. Peds. (#/hr)				1		
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Adj. Flow (vph)	20	52	510	12	24	565
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	522	0	24	565
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	12	31	418	8	17	514
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Hourly flow rate (vph)	20	52	510	12	24	565
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	847	262			523	
vC1, stage 1 conf vol	517					
vC2, stage 2 conf vol	330					
vCu, unblocked vol	847	262			523	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	93			98	
cM capacity (veh/h)	492	736			1039	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	72	340	182	24	282	282
Volume Left	20	0	0	24	0	0
Volume Right	52	0	12	0	0	0
cSH	647	1700	1700	1039	1700	1700
Volume to Capacity	0.11	0.20	0.11	0.02	0.17	0.17
Queue Length 95th (ft)	9	0	0	2	0	0
Control Delay (s)	11.3	0.0	0.0	8.5	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	11.3	0.0		0.3		
Approach LOS	B					

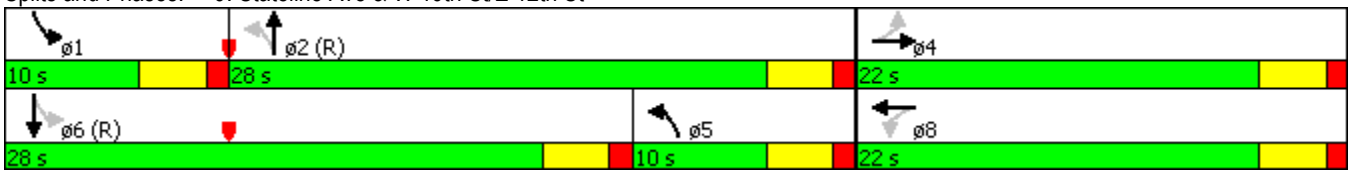
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

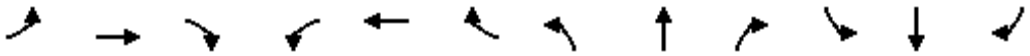
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	37	12	4	47	27	11	366	9	28	428	56
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1651	0	0	1622	0	1630	3247	0	1630	3204	0
Flt Permitted		0.877			0.981		0.432			0.452		
Satd. Flow (perm)	0	1472	0	0	1596	0	741	3247	0	775	3204	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			39			5			28	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		647			490			635			1440	
Travel Time (s)		14.7			11.1			10.8			24.5	
Confl. Peds. (#/hr)				2		2						
Peak Hour Factor	0.79	0.79	0.79	0.70	0.70	0.70	0.90	0.90	0.90	0.83	0.83	0.83
Adj. Flow (vph)	30	47	15	6	67	39	12	407	10	34	516	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	112	0	12	417	0	34	583	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	22.0	22.0		22.0	22.0		10.0	28.0		10.0	28.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		16.7%	46.7%		16.7%	46.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		6.0	24.0		6.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.6			8.6		41.9	41.9		43.3	44.1	
Actuated g/C Ratio		0.14			0.14		0.70	0.70		0.72	0.74	
v/c Ratio		0.41			0.43		0.02	0.18		0.05	0.25	
Control Delay		25.2			21.0		5.8	4.4		2.3	1.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		25.2			21.0		5.8	4.4		2.3	1.9	
LOS		C			C		A	A		A	A	
Approach Delay		25.2			21.0			4.5			1.9	
Approach LOS		C			C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		26			24		1	13		1	10	
Queue Length 95th (ft)		50			43		7	50		m6	22	
Internal Link Dist (ft)		567			410			555			1360	
Turn Bay Length (ft)							120			120		
Base Capacity (vph)		452			506		596	2266		649	2364	
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		0.20			0.22		0.02	0.18		0.05	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 18 (30%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 6.2		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: 9: Stateline Ave & W 19th St/E 12th St





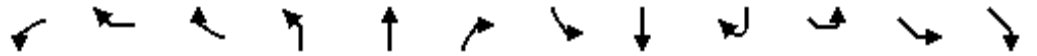
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1	1	6	1	7	2	383	2	8	413	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1621	0	0	1565	0	1630	3257	0	1630	3253	0
Flt Permitted		0.971			0.979		0.950			0.950		
Satd. Flow (perm)	0	1621	0	0	1565	0	1630	3257	0	1630	3253	0
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		392			484			643			635	
Travel Time (s)		8.9			11.0			11.0			10.8	
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)	3	1	1	7	1	8	2	416	2	9	449	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	16	0	2	418	0	9	454	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.6%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	1	1	6	1	7	2	383	2	8	413	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			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
Hourly flow rate (vph)	3	1	1	7	1	8	2	416	2	9	449	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)											635	
pX, platoon unblocked												
vC, conflicting volume	690	892	227	665	893	209	454			418		
vC1, stage 1 conf vol	469	469		422	422							
vC2, stage 2 conf vol	221	423		243	472							
vCu, unblocked vol	690	892	227	665	893	209	454			418		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	99	100	99	100			99		
cM capacity (veh/h)	496	458	776	521	459	797	1103			1137		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	5	15	2	278	141	9	299	155
Volume Left	3	7	2	0	0	9	0	0
Volume Right	1	8	0	0	2	0	0	5
cSH	525	623	1103	1700	1700	1137	1700	1700
Volume to Capacity	0.01	0.02	0.00	0.16	0.08	0.01	0.18	0.09
Queue Length 95th (ft)	1	2	0	0	0	1	0	0
Control Delay (s)	11.9	10.9	8.3	0.0	0.0	8.2	0.0	0.0
Lane LOS	B	B	A			A		
Approach Delay (s)	11.9	10.9	0.0			0.2		
Approach LOS	B	B						

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	22.6%	ICU Level of Service	A	
Analysis Period (min)	15			



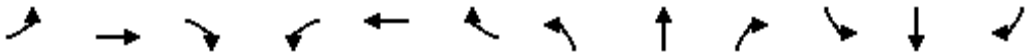
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (vph)	1	18	167	12	223	7	14	422	3	1	1	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		100		0	100		0		0	0
Storage Lanes	1	0		1		0	1		0		1	0
Taper Length (ft)	25			25			25				25	
Satd. Flow (prot)	1486	0	0	1630	3244	0	1630	3257	0	0	1533	0
Flt Permitted				0.950			0.950				0.985	
Satd. Flow (perm)	1486	0	0	1630	3244	0	1630	3257	0	0	1533	0
Link Speed (mph)	30				30			40			40	
Link Distance (ft)	594				1005			643			446	
Travel Time (s)	13.5				22.8			11.0			7.6	
Confl. Peds. (#/hr)	2		2				2		2	1		1
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Adj. Flow (vph)	1	24	223	17	310	10	16	491	3	2	2	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	0	0	17	320	0	16	494	0	0	13	0
Sign Control	Stop				Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (veh/h)	1	18	167	12	223	7	14	422	3	1	1	6
Sign Control	Stop				Free			Free			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Hourly flow rate (vph)	1	24	223	17	310	10	16	491	3	2	2	9
Pedestrians	2				2			2			2	
Lane Width (ft)	12.0				12.0			12.0			12.0	
Walking Speed (ft/s)	4.0				4.0			4.0			4.0	
Percent Blockage	0				0			0			0	
Right turn flare (veh)												
Median type					TWLTL			TWLTL				
Median storage veh)					2			2				
Upstream signal (ft)					1005			1278				
pX, platoon unblocked												
vC, conflicting volume	640	879	164	496			321			952	882	251
vC1, stage 1 conf vol	350	350								527	527	
vC2, stage 2 conf vol	290	529								425	355	
vCu, unblocked vol	640	879	164	496			321			952	882	251
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5	6.9
tC, 2 stage (s)	6.5	5.5								6.5	5.5	
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	100	95	74	98			99			100	100	99
cM capacity (veh/h)	530	444	849	1062			1233			326	449	746

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SE 1
Volume Total	248	17	206	113	16	327	167	12
Volume Left	1	17	0	0	16	0	0	2
Volume Right	223	0	0	10	0	0	3	9
cSH	778	1062	1700	1700	1233	1700	1700	600
Volume to Capacity	0.32	0.02	0.12	0.07	0.01	0.19	0.10	0.02
Queue Length 95th (ft)	34	1	0	0	1	0	0	2
Control Delay (s)	11.8	8.4	0.0	0.0	8.0	0.0	0.0	11.1
Lane LOS	B	A			A			B
Approach Delay (s)	11.8	0.4			0.3			11.1
Approach LOS	B							B

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	39.2%	ICU Level of Service		A
Analysis Period (min)	15			

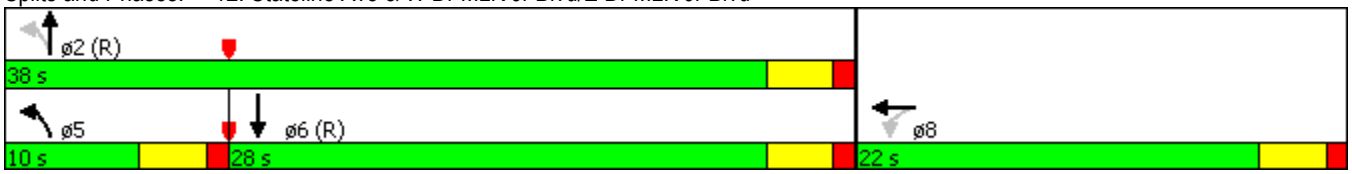


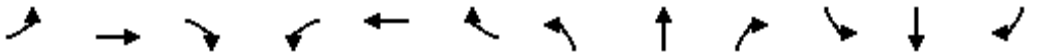
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	8	299	14	7	147	1	0	124	121
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	0	0	0	5857	0	1630	3257	0	0	3019	0
Flt Permitted					0.999		0.502					
Satd. Flow (perm)	0	0	0	0	5857	0	861	3257	0	0	3019	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15			1			161	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		607			553			434			1005	
Travel Time (s)		10.3			9.4			7.4			17.1	
Confl. Peds. (#/hr)				2		2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82	0.75	0.75	0.75
Adj. Flow (vph)	0	0	0	9	325	15	9	179	1	0	165	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	349	0	9	180	0	0	326	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phase				8	8		5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0		8.0	20.0			20.0	
Total Split (s)				22.0	22.0		10.0	38.0			28.0	
Total Split (%)				36.7%	36.7%		16.7%	63.3%			46.7%	
Maximum Green (s)				18.0	18.0		6.0	34.0			24.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
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)					4.0		4.0	4.0			4.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)					8.9		43.1	43.1			41.1	
Actuated g/C Ratio					0.15		0.72	0.72			0.68	
v/c Ratio					0.40		0.01	0.08			0.15	
Control Delay					23.1		1.0	0.9			0.3	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay					23.1		1.0	0.9			0.3	
LOS					C		A	A			A	
Approach Delay					23.1			0.9			0.3	
Approach LOS					C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					32		0	2			1	
Queue Length 95th (ft)					48		m1	4			0	
Internal Link Dist (ft)		527			473			354			925	
Turn Bay Length (ft)							100					
Base Capacity (vph)					1767		695	2338			2118	
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					0.20		0.01	0.08			0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 45 (75%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 20.2%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd



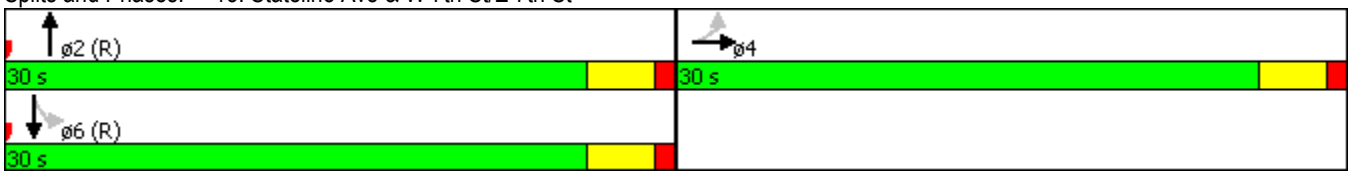


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	355	4	0	0	0	0	20	3	49	57	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	4628	0	0	0	0	0	3191	0	1630	3260	0
Flt Permitted		0.989								0.732		
Satd. Flow (perm)	0	4628	0	0	0	0	0	3191	0	1256	3260	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						5				
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		491			438			609			434	
Travel Time (s)		8.4			7.5			10.4			7.4	
Peak Hour Factor	0.84	0.81	0.81	0.92	0.92	0.92	0.64	0.64	0.64	0.78	0.78	0.78
Adj. Flow (vph)	132	438	5	0	0	0	0	31	5	63	73	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	575	0	0	0	0	0	36	0	63	73	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phase	4	4						2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	30.0	30.0						30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%						50.0%		50.0%	50.0%	
Maximum Green (s)	26.0	26.0						26.0		26.0	26.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
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)		4.0						4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0						5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0						11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)		13.4						38.6		38.6	38.6	
Actuated g/C Ratio		0.22						0.64		0.64	0.64	
v/c Ratio		0.55						0.02		0.08	0.03	
Control Delay		22.2						4.4		2.1	1.8	
Queue Delay		0.0						0.0		0.0	0.0	
Total Delay		22.2						4.4		2.1	1.8	
LOS		C						A		A	A	
Approach Delay		22.2						4.4			1.9	
Approach LOS		C						A			A	
Queue Length 50th (ft)		67						1		3	1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		78						4		5	3	
Internal Link Dist (ft)		411			358			529			354	
Turn Bay Length (ft)										150		
Base Capacity (vph)		2007						2052		807	2095	
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		0.29						0.02		0.08	0.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 58 (97%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 26.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: Stateline Ave & W 7th St/E 7th St



1: Stateline Ave & W 52nd St/E 49th St

Direction	All
Volume (vph)	1835
Total Delay (hr)	3
Stops (#)	624
Average Speed (mph)	31
Total Travel Time (hr)	15
Distance Traveled (mi)	454
Fuel Consumed (gal)	24
Fuel Economy (mpg)	18.7

2: Stateline Ave & Texas Blvd/Arkansas Blvd

Direction	All
Volume (vph)	1791
Total Delay (hr)	7
Stops (#)	994
Average Speed (mph)	24
Total Travel Time (hr)	17
Distance Traveled (mi)	421
Fuel Consumed (gal)	30
Fuel Economy (mpg)	14.1

3: Stateline Ave & E 37th St

Direction	All
Volume (vph)	1246
Total Delay (hr)	0
Stops (#)	29
Average Speed (mph)	39
Total Travel Time (hr)	3
Distance Traveled (mi)	132
Fuel Consumed (gal)	5
Fuel Economy (mpg)	26.4

4: Stateline Ave & W 42nd St/E 36th St

Direction	All
Volume (vph)	1347
Total Delay (hr)	1
Stops (#)	228
Average Speed (mph)	32
Total Travel Time (hr)	3
Distance Traveled (mi)	85
Fuel Consumed (gal)	6
Fuel Economy (mpg)	15.0

5: Stateline Ave & W 41st St/E 35th St

Direction	All
Volume (vph)	1397
Total Delay (hr)	2
Stops (#)	345
Average Speed (mph)	33
Total Travel Time (hr)	12
Distance Traveled (mi)	390
Fuel Consumed (gal)	18
Fuel Economy (mpg)	21.1

6: Stateline Ave & College Dr

Direction	All
Volume (vph)	1469
Total Delay (hr)	2
Stops (#)	497
Average Speed (mph)	33
Total Travel Time (hr)	15
Distance Traveled (mi)	508
Fuel Consumed (gal)	25
Fuel Economy (mpg)	20.7

7: Stateline Ave & E 24th St

Direction	All
Volume (vph)	987
Total Delay (hr)	2
Stops (#)	253
Average Speed (mph)	30
Total Travel Time (hr)	8
Distance Traveled (mi)	251
Fuel Consumed (gal)	13
Fuel Economy (mpg)	20.0

8: Stateline Ave & E 16th St

Direction	All
Volume (vph)	1000
Total Delay (hr)	0
Stops (#)	72
Average Speed (mph)	39
Total Travel Time (hr)	10
Distance Traveled (mi)	391
Fuel Consumed (gal)	15
Fuel Economy (mpg)	26.6

9: Stateline Ave & W 19th St/E 12th St

Direction	All
Volume (vph)	1049
Total Delay (hr)	2
Stops (#)	295
Average Speed (mph)	29
Total Travel Time (hr)	7
Distance Traveled (mi)	202
Fuel Consumed (gal)	11
Fuel Economy (mpg)	18.3

10: Stateline Ave & W 12th St/E 10th St

Direction	All
Volume (vph)	833
Total Delay (hr)	0
Stops (#)	36
Average Speed (mph)	38
Total Travel Time (hr)	3
Distance Traveled (mi)	100
Fuel Consumed (gal)	4
Fuel Economy (mpg)	25.5

11: Stateline Ave & E 9th St & Hazel St

Direction	All
Volume (vph)	876
Total Delay (hr)	1
Stops (#)	237
Average Speed (mph)	28
Total Travel Time (hr)	4
Distance Traveled (mi)	121
Fuel Consumed (gal)	7
Fuel Economy (mpg)	18.2

12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd

Direction	All
Volume (vph)	720
Total Delay (hr)	2
Stops (#)	276
Average Speed (mph)	21
Total Travel Time (hr)	4
Distance Traveled (mi)	93
Fuel Consumed (gal)	8
Fuel Economy (mpg)	12.2

13: Stateline Ave & W 7th St/E 7th St

Direction	All
Volume (vph)	599
Total Delay (hr)	3
Stops (#)	411
Average Speed (mph)	13
Total Travel Time (hr)	4
Distance Traveled (mi)	55
Fuel Consumed (gal)	8
Fuel Economy (mpg)	6.7

Stateline Ave

Direction	NB	SB	All
Total Delay (hr)	4	5	9
Stops (#)	1164	1270	2434
Average Speed (mph)	35	36	35
Total Travel Time (hr)	37	46	84
Distance Traveled (mi)	1292	1657	2950
Fuel Consumed (gal)	61	75	137
Fuel Economy (mpg)	21.1	22.0	21.6
Performance Index	7.7	8.5	16.2

1: Stateline Ave & W 52nd St/E 49th St

Direction	EB	WB	NB	SB	All
Volume (vph)	114	92	654	975	1835
Control Delay / Veh (s/v)	23	16	3	6	6
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	23	16	3	6	6
Total Delay (hr)	1	0	0	2	3
Stops / Veh	0.60	0.43	0.21	0.39	0.34
Stops (#)	68	40	139	377	624
Average Speed (mph)	5	7	38	28	31
Total Travel Time (hr)	1	1	8	5	15
Distance Traveled (mi)	5	4	297	149	454
Fuel Consumed (gal)	1	1	12	10	24
Fuel Economy (mpg)	4.3	NA	24.1	14.6	18.7
CO Emissions (kg)	0.08	0.05	0.86	0.71	1.70
NOx Emissions (kg)	0.01	0.01	0.17	0.14	0.33
VOC Emissions (kg)	0.02	0.01	0.20	0.17	0.39
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	21	68	89

2: Stateline Ave & Texas Blvd/Arkansas Blvd

Direction	EB	WB	NB	SB	All
Volume (vph)	307	365	454	665	1791
Control Delay / Veh (s/v)	26	17	9	9	14
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	26	17	9	9	14
Total Delay (hr)	2	2	1	2	7
Stops / Veh	0.59	0.56	0.62	0.49	0.55
Stops (#)	180	204	282	328	994
Average Speed (mph)	9	11	24	33	24
Total Travel Time (hr)	3	2	3	9	17
Distance Traveled (mi)	27	27	65	302	421
Fuel Consumed (gal)	4	4	6	15	30
Fuel Economy (mpg)	6.1	6.3	11.0	19.8	14.1
CO Emissions (kg)	0.31	0.29	0.42	1.07	2.08
NOx Emissions (kg)	0.06	0.06	0.08	0.21	0.41
VOC Emissions (kg)	0.07	0.07	0.10	0.25	0.48
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	9	19	16	34	78

3: Stateline Ave & E 37th St

Direction	WB	NB	SB	All
Volume (vph)	16	580	650	1246
Control Delay / Veh (s/v)	11	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	11	0	0	0
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	0.00	0.02	0.02
Stops (#)	16	0	13	29
Average Speed (mph)	12	40	40	39
Total Travel Time (hr)	0	1	2	3
Distance Traveled (mi)	1	38	94	132
Fuel Consumed (gal)	0	1	3	5
Fuel Economy (mpg)	NA	27.9	26.8	26.4
CO Emissions (kg)	0.01	0.09	0.24	0.35
NOx Emissions (kg)	0.00	0.02	0.05	0.07
VOC Emissions (kg)	0.00	0.02	0.06	0.08
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

4: Stateline Ave & W 42nd St/E 36th St

Direction	EB	WB	NB	SB	All
Volume (vph)	31	68	585	663	1347
Control Delay / Veh (s/v)	14	13	1	0	1
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	14	13	1	0	1
Total Delay (hr)	0	0	0	0	1
Stops / Veh	1.00	1.00	0.16	0.06	0.17
Stops (#)	31	68	91	38	228
Average Speed (mph)	13	13	35	38	32
Total Travel Time (hr)	0	0	1	1	3
Distance Traveled (mi)	2	5	35	43	85
Fuel Consumed (gal)	0	1	2	2	6
Fuel Economy (mpg)	NA	4.7	15.7	22.0	15.0
CO Emissions (kg)	0.03	0.07	0.16	0.14	0.40
NOx Emissions (kg)	0.01	0.01	0.03	0.03	0.08
VOC Emissions (kg)	0.01	0.02	0.04	0.03	0.09
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

5: Stateline Ave & W 41st St/E 35th St

Direction	EB	WB	NB	SB	All
Volume (vph)	26	106	579	686	1397
Control Delay / Veh (s/v)	18	22	4	2	5
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	18	22	4	2	5
Total Delay (hr)	0	1	1	0	2
Stops / Veh	0.73	0.57	0.30	0.14	0.25
Stops (#)	19	60	171	95	345
Average Speed (mph)	13	12	37	29	33
Total Travel Time (hr)	0	1	9	1	12
Distance Traveled (mi)	3	13	334	41	390
Fuel Consumed (gal)	0	1	14	3	18
Fuel Economy (mpg)	NA	9.5	23.6	15.2	21.1
CO Emissions (kg)	0.02	0.09	0.99	0.19	1.29
NOx Emissions (kg)	0.00	0.02	0.19	0.04	0.25
VOC Emissions (kg)	0.01	0.02	0.23	0.04	0.30
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	26	18	44

6: Stateline Ave & College Dr

Direction	EB	WB	NB	SB	All
Volume (vph)	171	3	686	609	1469
Control Delay / Veh (s/v)	17	19	5	4	6
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	17	19	5	4	6
Total Delay (hr)	1	0	1	1	2
Stops / Veh	0.46	1.67	0.29	0.36	0.34
Stops (#)	78	5	196	218	497
Average Speed (mph)	14	8	32	37	33
Total Travel Time (hr)	2	0	4	9	15
Distance Traveled (mi)	22	0	135	351	508
Fuel Consumed (gal)	2	0	7	15	25
Fuel Economy (mpg)	11.4	NA	18.2	23.1	20.7
CO Emissions (kg)	0.13	0.00	0.52	1.06	1.72
NOx Emissions (kg)	0.03	0.00	0.10	0.21	0.33
VOC Emissions (kg)	0.03	0.00	0.12	0.25	0.40
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	34	17	51

7: Stateline Ave & E 24th St

Direction	WB	NB	SB	All
Volume (vph)	197	232	558	987
Control Delay / Veh (s/v)	19	10	1	7
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	19	10	1	7
Total Delay (hr)	1	1	0	2
Stops / Veh	0.44	0.56	0.07	0.26
Stops (#)	87	129	37	253
Average Speed (mph)	13	33	38	30
Total Travel Time (hr)	2	4	3	8
Distance Traveled (mi)	24	117	110	251
Fuel Consumed (gal)	2	6	4	13
Fuel Economy (mpg)	10.9	19.8	24.9	20.0
CO Emissions (kg)	0.16	0.41	0.31	0.88
NOx Emissions (kg)	0.03	0.08	0.06	0.17
VOC Emissions (kg)	0.04	0.10	0.07	0.20
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	9	8	17

8: Stateline Ave & E 16th St

Direction	WB	NB	SB	All
Volume (vph)	43	426	531	1000
Control Delay / Veh (s/v)	11	0	0	1
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	11	0	0	1
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	0.00	0.05	0.07
Stops (#)	43	0	29	72
Average Speed (mph)	18	40	40	39
Total Travel Time (hr)	0	3	7	10
Distance Traveled (mi)	6	116	269	391
Fuel Consumed (gal)	1	4	10	15
Fuel Economy (mpg)	NA	27.9	27.0	26.6
CO Emissions (kg)	0.04	0.29	0.69	1.03
NOx Emissions (kg)	0.01	0.06	0.14	0.20
VOC Emissions (kg)	0.01	0.07	0.16	0.24
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

9: Stateline Ave & W 19th St/E 12th St

Direction	EB	WB	NB	SB	All
Volume (vph)	73	78	386	512	1049
Control Delay / Veh (s/v)	25	21	4	2	6
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	25	21	4	2	6
Total Delay (hr)	1	0	0	0	2
Stops / Veh	0.75	0.60	0.29	0.16	0.28
Stops (#)	55	47	112	81	295
Average Speed (mph)	11	10	28	37	29
Total Travel Time (hr)	1	1	2	4	7
Distance Traveled (mi)	9	7	46	140	202
Fuel Consumed (gal)	1	1	3	6	11
Fuel Economy (mpg)	8.5	NA	14.9	23.3	18.3
CO Emissions (kg)	0.07	0.06	0.22	0.42	0.77
NOx Emissions (kg)	0.01	0.01	0.04	0.08	0.15
VOC Emissions (kg)	0.02	0.01	0.05	0.10	0.18
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	24	19	43

10: Stateline Ave & W 12th St/E 10th St

Direction	EB	WB	NB	SB	All
Volume (vph)	5	15	387	426	833
Control Delay / Veh (s/v)	12	11	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	12	11	0	0	0
Total Delay (hr)	0	0	0	0	0
Stops / Veh	1.00	1.00	0.01	0.03	0.04
Stops (#)	5	15	3	13	36
Average Speed (mph)	13	15	40	40	38
Total Travel Time (hr)	0	0	1	1	3
Distance Traveled (mi)	0	1	47	51	100
Fuel Consumed (gal)	0	0	2	2	4
Fuel Economy (mpg)	NA	NA	27.4	25.9	25.5
CO Emissions (kg)	0.00	0.01	0.12	0.14	0.27
NOx Emissions (kg)	0.00	0.00	0.02	0.03	0.05
VOC Emissions (kg)	0.00	0.00	0.03	0.03	0.06
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

11: Stateline Ave & E 9th St & Hazel St

Direction	WB	NB	SB	SE	All
Volume (vph)	186	242	439	9	876
Control Delay / Veh (s/v)	12	0	0	11	3
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	12	0	0	11	3
Total Delay (hr)	1	0	0	0	1
Stops / Veh	1.00	0.08	0.05	1.00	0.27
Stops (#)	186	20	22	9	237
Average Speed (mph)	16	30	39	16	28
Total Travel Time (hr)	1	2	1	0	4
Distance Traveled (mi)	21	46	53	1	121
Fuel Consumed (gal)	2	2	2	0	7
Fuel Economy (mpg)	9.0	22.7	24.8	NA	18.2
CO Emissions (kg)	0.16	0.14	0.15	0.01	0.47
NOx Emissions (kg)	0.03	0.03	0.03	0.00	0.09
VOC Emissions (kg)	0.04	0.03	0.03	0.00	0.11
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd

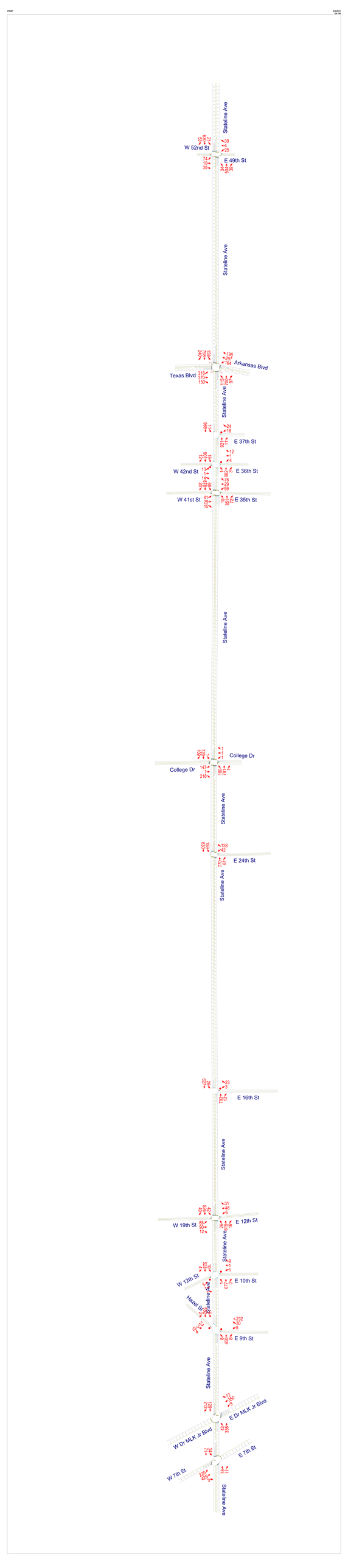
Direction	WB	NB	SB	All
Volume (vph)	321	155	244	720
Control Delay / Veh (s/v)	23	1	0	11
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	23	1	0	11
Total Delay (hr)	2	0	0	2
Stops / Veh	0.81	0.08	0.01	0.38
Stops (#)	260	13	3	276
Average Speed (mph)	12	36	39	21
Total Travel Time (hr)	3	0	1	4
Distance Traveled (mi)	34	13	46	93
Fuel Consumed (gal)	5	1	2	8
Fuel Economy (mpg)	6.4	NA	27.2	12.2
CO Emissions (kg)	0.37	0.04	0.12	0.53
NOx Emissions (kg)	0.07	0.01	0.02	0.10
VOC Emissions (kg)	0.09	0.01	0.03	0.12
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	20	4	17	41

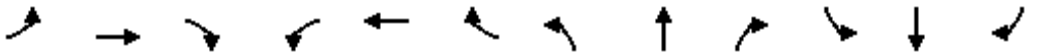
13: Stateline Ave & W 7th St/E 7th St

Direction	EB	NB	SB	All
Volume (vph)	470	23	106	599
Control Delay / Veh (s/v)	22	4	2	18
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	22	4	2	18
Total Delay (hr)	3	0	0	3
Stops / Veh	0.82	0.35	0.15	0.69
Stops (#)	387	8	16	411
Average Speed (mph)	11	28	32	13
Total Travel Time (hr)	4	0	0	4
Distance Traveled (mi)	44	3	9	55
Fuel Consumed (gal)	7	0	1	8
Fuel Economy (mpg)	5.8	NA	NA	6.7
CO Emissions (kg)	0.52	0.01	0.04	0.57
NOx Emissions (kg)	0.10	0.00	0.01	0.11
VOC Emissions (kg)	0.12	0.00	0.01	0.13
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	30	2	3	35

Network Totals

Number of Intersections	13
Control Delay / Veh (s/v)	6
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	6
Total Delay (hr)	24
Stops / Veh	0.28
Stops (#)	4297
Average Speed (mph)	30
Total Travel Time (hr)	106
Distance Traveled (mi)	3204
Fuel Consumed (gal)	172
Fuel Economy (mpg)	18.6
CO Emissions (kg)	12.06
NOx Emissions (kg)	2.35
VOC Emissions (kg)	2.79
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	398
Performance Index	36.2


Stateline Ave
W 52nd St
E 49th St
Stateline Ave
Arkansas Blvd
Texas Blvd
Stateline Ave
E 37th St
W 42nd St
E 36th St
W 41st St
E 35th St
Stateline Ave
College Dr
College Dr
Stateline Ave
E 24th St
Stateline Ave
E 16th St
Stateline Ave
W 19th St
E 12th St
Stateline Ave
W 12th St
E 10th St
Hazel St
Stateline Ave
E 9th St
Stateline Ave
E Dr MLK Jr Blvd
W Dr MLK Jr Blvd
E 7th St
W 7th St
Stateline Ave

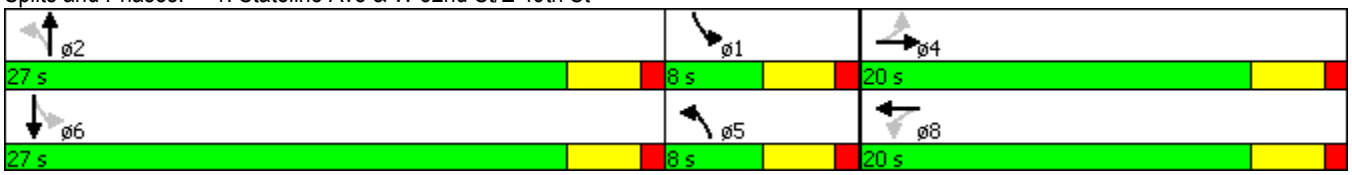


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	10	30	25	4	39	34	504	39	21	630	53
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1601	0	0	1553	0	1630	3218	0	1630	4620	0
Flt Permitted		0.810			0.868		0.221			0.283		
Satd. Flow (perm)	0	1340	0	0	1373	0	379	3218	0	485	4620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			60			18			30	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		219			214			2398			805	
Travel Time (s)		5.0			4.9			40.9			13.7	
Confl. Peds. (#/hr)							4		4	1		1
Peak Hour Factor	0.61	0.61	0.61	0.65	0.65	0.65	0.63	0.63	0.63	0.62	0.62	0.62
Adj. Flow (vph)	121	16	49	38	6	60	54	800	62	34	1016	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	0	0	104	0	54	862	0	34	1101	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	27.0		8.0	27.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		14.5%	49.1%		14.5%	49.1%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	23.0		4.0	23.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		10.7			10.7		30.7	29.2		30.0	27.7	
Actuated g/C Ratio		0.22			0.22		0.64	0.61		0.63	0.58	
v/c Ratio		0.57			0.30		0.15	0.44		0.08	0.41	
Control Delay		21.1			10.6		7.3	9.1		6.0	9.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		21.1			10.6		7.3	9.1		6.0	9.1	
LOS		C			B		A	A		A	A	
Approach Delay		21.1			10.6			9.0			9.0	
Approach LOS		C			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		40			10		5	55		3	75	
Queue Length 95th (ft)		51			24		13	96		9	76	
Internal Link Dist (ft)		139			134			2318			725	
Turn Bay Length (ft)							120			150		
Base Capacity (vph)		477			506		350	1975		401	2691	
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		0.39			0.21		0.15	0.44		0.08	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 47.8			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 10.0		Intersection LOS: B	
Intersection Capacity Utilization 41.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Stateline Ave & W 52nd St/E 49th St

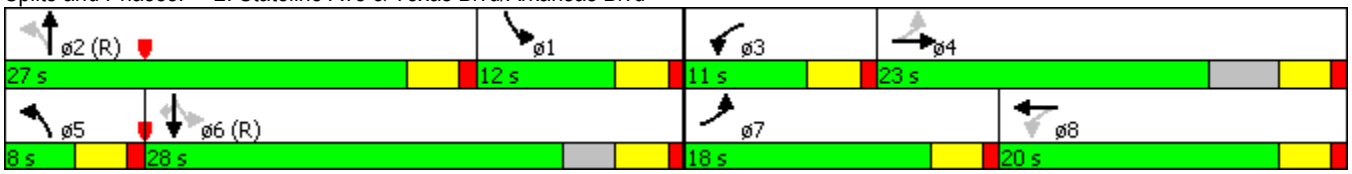


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	318	370	150	164	297	195	115	700	97	158	798	240
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	200		0	130		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	3120	0	1630	3067	0	1630	3201	0	1630	3260	1458
Flt Permitted	0.223			0.422			0.204			0.204		
Satd. Flow (perm)	383	3120	0	724	3067	0	350	3201	0	350	3260	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		81			179			20				264
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		463			387			761			2398	
Travel Time (s)		7.9			6.6			13.0			40.9	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.83	0.83	0.83	0.91	0.91	0.91
Adj. Flow (vph)	353	411	167	178	323	212	139	843	117	174	877	264
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	578	0	178	535	0	139	960	0	174	877	264
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	16.0	20.0		8.0	20.0		8.0	20.0		12.0	20.0	20.0
Total Split (s)	18.0	23.0		11.0	20.0		8.0	27.0		12.0	28.0	28.0
Total Split (%)	23.4%	29.9%		14.3%	26.0%		10.4%	35.1%		15.6%	36.4%	36.4%
Maximum Green (s)	14.0	19.0		7.0	16.0		4.0	23.0		8.0	24.0	24.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	31.9	20.9		20.9	13.9		25.1	25.1		27.6	27.6	27.6
Actuated g/C Ratio	0.41	0.27		0.27	0.18		0.33	0.33		0.36	0.36	0.36
v/c Ratio	0.92	0.64		0.64	0.77		0.67	0.91		0.67	0.75	0.38
Control Delay	49.3	24.3		27.5	27.3		42.1	39.6		41.9	26.8	4.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	49.3	24.3		27.5	27.3		42.1	39.6		41.9	26.8	4.3
LOS	D	C		C	C		D	D		D	C	A
Approach Delay		33.8			27.3			39.9			24.3	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	117	106		52	82		50	232		60	193	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	#265	156		93	135		#118	#318		#127	263	47
Internal Link Dist (ft)		383			307			681			2318	
Turn Bay Length (ft)	200			130			200			200		
Base Capacity (vph)	385	988		278	779		206	1057		258	1167	691
Starvation Cap Reductn	0	0		0	0		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	0.92	0.59		0.64	0.69		0.67	0.91		0.67	0.75	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 77			
Actuated Cycle Length: 77			
Offset: 42 (55%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 31.2		Intersection LOS: C	
Intersection Capacity Utilization 82.0%		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: 2: Stateline Ave & Texas Blvd/Arkansas Blvd



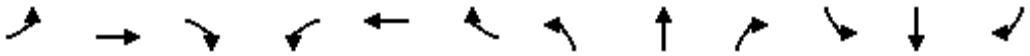
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	18	24	921	11	11	968
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Satd. Flow (prot)	1550	0	3253	0	0	3257
Flt Permitted	0.979					0.999
Satd. Flow (perm)	1550	0	3253	0	0	3257
Link Speed (mph)	30		40			40
Link Distance (ft)	331		343			761
Travel Time (s)	7.5		5.8			13.0
Peak Hour Factor	0.75	0.75	0.88	0.88	0.96	0.96
Adj. Flow (vph)	24	32	1047	13	11	1008
Shared Lane Traffic (%)						
Lane Group Flow (vph)	56	0	1059	0	0	1019
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	24	921	11	11	968
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.88	0.88	0.96	0.96
Hourly flow rate (vph)	24	32	1047	12	11	1008
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			661			761
pX, platoon unblocked	0.88	0.86			0.86	
vC, conflicting volume	1580	530			1059	
vC1, stage 1 conf vol	1053					
vC2, stage 2 conf vol	527					
vCu, unblocked vol	654	116			734	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	96			98	
cM capacity (veh/h)	367	783			742	

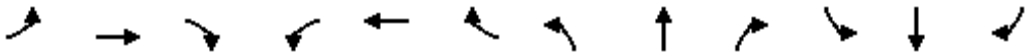
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	56	698	361	348	672
Volume Left	24	0	0	11	0
Volume Right	32	0	12	0	0
cSH	527	1700	1700	742	1700
Volume to Capacity	0.11	0.41	0.21	0.02	0.40
Queue Length 95th (ft)	9	0	0	1	0
Control Delay (s)	12.6	0.0	0.0	0.5	0.0
Lane LOS	B			A	
Approach Delay (s)	12.6	0.0		0.2	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	1	14	4	1	12	1	882	3	19	901	12
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Satd. Flow (prot)	0	1560	0	0	1531	0	0	3260	0	0	3247	0
Flt Permitted		0.978			0.988						0.999	
Satd. Flow (perm)	0	1560	0	0	1531	0	0	3260	0	0	3247	0
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		396			372			318			343	
Travel Time (s)		6.8			6.3			5.4			5.8	
Confl. Peds. (#/hr)	1		1	3		3						
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.67	0.92	0.92	0.92	0.68	0.90	0.60
Adj. Flow (vph)	15	1	17	6	1	18	1	959	3	28	1001	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	25	0	0	963	0	0	1049	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	1	14	4	1	12	1	882	3	19	901	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.67	0.92	0.92	0.92	0.68	0.90	0.60
Hourly flow rate (vph)	15	1	17	6	1	18	1	959	3	28	1001	20
Pedestrians								3			3	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								318			1104	
pX, platoon unblocked	0.91	0.91	0.83	0.91	0.91	0.83	0.83			0.83		
vC, conflicting volume	1570	2031	514	1539	2039	484	1021			962		
vC1, stage 1 conf vol	1067	1067		962	962							
vC2, stage 2 conf vol	503	964		577	1077							
vCu, unblocked vol	622	1126	11	588	1135	0	621			557		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	98	98	100	98	100			97		
cM capacity (veh/h)	321	304	885	390	307	902	795			842		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	33	25	480	483	528	521
Volume Left	15	6	1	0	28	0
Volume Right	17	18	0	3	0	20
cSH	470	634	795	1700	842	1700
Volume to Capacity	0.07	0.04	0.00	0.28	0.03	0.31
Queue Length 95th (ft)	6	3	0	0	3	0
Control Delay (s)	13.2	10.9	0.0	0.0	0.9	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	13.2	10.9	0.0		0.5	
Approach LOS	B	B				

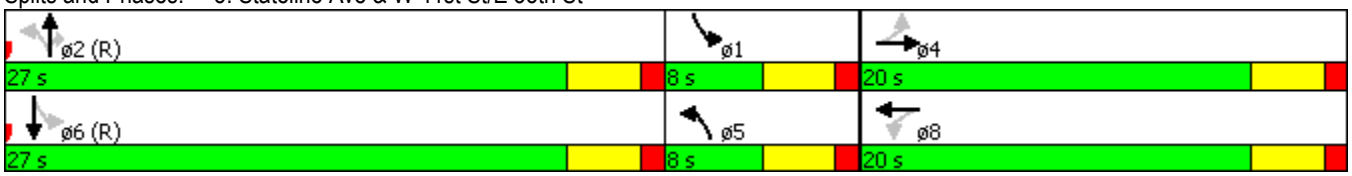
Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	53.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	29	15	59	29	76	10	851	72	68	878	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		110	120		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1634	0	0	1579	0	1630	3260	1458	1630	3248	0
Flt Permitted		0.748			0.881		0.249			0.250		
Satd. Flow (perm)	0	1253	0	0	1416	0	427	3260	1458	429	3248	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			80				99		5	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		557			627			3044			318	
Travel Time (s)		12.7			14.3			51.9			5.4	
Confl. Peds. (#/hr)										1		1
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	47	33	17	65	32	84	11	956	81	74	954	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	181	0	11	956	81	74	976	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	27.0	27.0	8.0	27.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		14.5%	49.1%	49.1%	14.5%	49.1%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	23.0	23.0	4.0	23.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
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)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		9.8			9.8		37.5	35.1	35.1	39.1	38.3	
Actuated g/C Ratio		0.18			0.18		0.68	0.64	0.64	0.71	0.70	
v/c Ratio		0.41			0.57		0.03	0.46	0.08	0.19	0.43	
Control Delay		21.1			18.6		4.8	9.1	2.2	6.5	7.0	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		21.1			18.6		4.8	9.1	2.2	6.5	7.0	
LOS		C			B		A	A	A	A	A	
Approach Delay		21.1			18.6			8.5			6.9	
Approach LOS		C			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		23			30		1	96	0	6	58	
Queue Length 95th (ft)		51			70		6	177	15	22	185	
Internal Link Dist (ft)		477			547			2964			238	
Turn Bay Length (ft)							120		110	120		
Base Capacity (vph)		376			468		378	2080	966	392	2263	
Starvation Cap Reductn		0			0		0	0	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			0.39		0.03	0.46	0.08	0.19	0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 19 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 9.1		Intersection LOS: A	
Intersection Capacity Utilization 52.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Stateline Ave & W 41st St/E 35th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	1	216	1	1	1	180	781	1	1	729	109
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	100		0	100		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	1460	0	1630	1587	0	1630	3260	0	1630	3198	0
Flt Permitted	0.755						0.253			0.333		
Satd. Flow (perm)	1295	1460	0	1716	1587	0	434	3260	0	571	3198	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		235			1						15	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		666			319			1037			3044	
Travel Time (s)		15.1			7.3			17.7			51.9	
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)	160	1	235	1	1	1	196	849	1	1	792	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	236	0	1	2	0	196	850	0	1	910	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.0	28.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	30.0	28.0		8.0	20.0		22.0	67.0		8.0	53.0	
Total Split (%)	24.0%	22.4%		6.4%	16.0%		17.6%	53.6%		6.4%	42.4%	
Maximum Green (s)	26.0	24.0		4.0	16.0		18.0	63.0		4.0	49.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	19.7	18.1		5.3	5.7		97.3	95.4		88.8	83.3	
Actuated g/C Ratio	0.16	0.14		0.04	0.05		0.78	0.76		0.71	0.67	
v/c Ratio	0.64	0.57		0.01	0.03		0.45	0.34		0.00	0.43	
Control Delay	59.3	11.3		45.0	49.0		8.0	6.8		6.0	12.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.3	11.3		45.0	49.0		8.0	6.8		6.0	12.2	
LOS	E	B		D	D		A	A		A	B	
Approach Delay		30.7			47.7			7.0			12.2	
Approach LOS		C			D			A			B	
Queue Length 50th (ft)	125	1		1	1		31	83		0	149	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	171	71		5	9		87	239		2	320	
Internal Link Dist (ft)		586			239			957			2964	
Turn Bay Length (ft)	100			100			120			120		
Base Capacity (vph)	355	607		69	204		510	2487		452	2135	
Starvation Cap Reductn	0	0		0	0		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	0.45	0.39		0.01	0.01		0.38	0.34		0.00	0.43	

Intersection Summary	
Area Type:	Other
Cycle Length: 125	
Actuated Cycle Length: 125	
Offset: 42 (34%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 13.0	Intersection LOS: B
Intersection Capacity Utilization 62.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Stateline Ave & College Dr

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	42	138	770	61	159	630
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1517	0	3217	0	1630	3260
Flt Permitted	0.989				0.240	
Satd. Flow (perm)	1517	0	3217	0	412	3260
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	172		19			
Link Speed (mph)	30		40			40
Link Distance (ft)	648		2670			1037
Travel Time (s)	14.7		45.5			17.7
Peak Hour Factor	0.88	0.80	0.99	0.85	0.83	0.88
Adj. Flow (vph)	48	172	778	72	192	716
Shared Lane Traffic (%)						
Lane Group Flow (vph)	220	0	850	0	192	716
Turn Type	NA		NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases					6	
Detector Phase	4		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		8.0	20.0
Total Split (s)	20.0		23.0		12.0	35.0
Total Split (%)	36.4%		41.8%		21.8%	63.6%
Maximum Green (s)	16.0		19.0		8.0	31.0
Yellow Time (s)	3.0		3.0		3.0	3.0
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)	4.0		4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	8.3		28.8		38.7	38.7
Actuated g/C Ratio	0.15		0.52		0.70	0.70
v/c Ratio	0.59		0.50		0.41	0.31
Control Delay	13.0		5.5		6.2	4.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	13.0		5.5		6.2	4.0
LOS	B		A		A	A
Approach Delay	13.0		5.5			4.5
Approach LOS	B		A			A
Queue Length 50th (ft)	14		30		14	31

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 95th (ft)	55		62		41	74
Internal Link Dist (ft)	568		2590			957
Turn Bay Length (ft)					120	
Base Capacity (vph)	563		1694		482	2294
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	0.39		0.50		0.40	0.31

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 54 (98%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Stateline Ave & E 24th St

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	3	23	793	13	28	627
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1501	0	3253	0	1630	3260
Flt Permitted	0.995				0.950	
Satd. Flow (perm)	1501	0	3253	0	1630	3260
Link Speed (mph)	30		40			40
Link Distance (ft)	713		1440			2670
Travel Time (s)	16.2		24.5			45.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	862	14	30	682
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	876	0	30	682
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	23	793	13	28	627
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	25	862	14	30	682
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1271	438			876	
vC1, stage 1 conf vol	869					
vC2, stage 2 conf vol	402					
vCu, unblocked vol	1271	438			876	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	96			96	
cM capacity (veh/h)	334	566			766	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	575	301	30	341	341
Volume Left	3	0	0	30	0	0
Volume Right	25	0	14	0	0	0
cSH	525	1700	1700	766	1700	1700
Volume to Capacity	0.05	0.34	0.18	0.04	0.20	0.20
Queue Length 95th (ft)	4	0	0	3	0	0
Control Delay (s)	12.3	0.0	0.0	9.9	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	12.3	0.0		0.4		
Approach LOS	B					

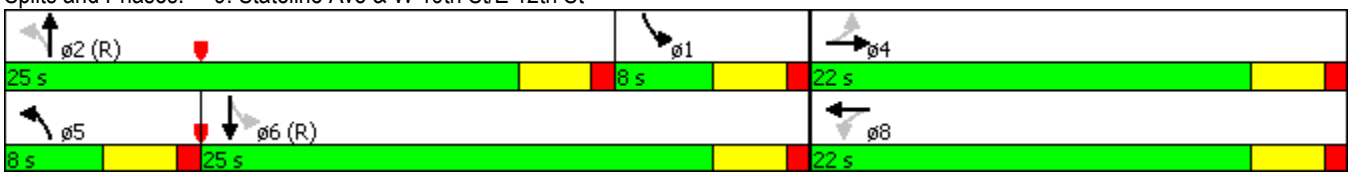
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.3%	ICU Level of Service	A
Analysis Period (min)	15		

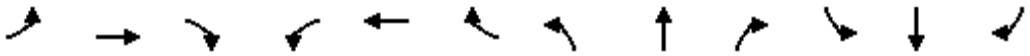
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	90	12	6	48	31	26	615	16	42	526	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1654	0	0	1629	0	1630	3244	0	1630	3224	0
Flt Permitted		0.828			0.972		0.287			0.375		
Satd. Flow (perm)	0	1401	0	0	1589	0	491	3244	0	643	3224	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			36			6			17	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		647			490			635			1440	
Travel Time (s)		14.7			11.1			10.8			24.5	
Confl. Peds. (#/hr)	3		3				6		6			
Peak Hour Factor	0.71	0.90	0.60	0.75	0.80	0.86	0.81	0.87	0.80	0.81	0.85	0.83
Adj. Flow (vph)	120	100	20	8	60	36	32	707	20	52	619	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	240	0	0	104	0	32	727	0	52	667	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	22.0	22.0		22.0	22.0		8.0	25.0		8.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		14.5%	45.5%		14.5%	45.5%	
Maximum Green (s)	18.0	18.0		18.0	18.0		4.0	21.0		4.0	21.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		13.9			13.9		28.3	28.3		29.7	29.7	
Actuated g/C Ratio		0.25			0.25		0.51	0.51		0.54	0.54	
v/c Ratio		0.66			0.24		0.09	0.44		0.12	0.38	
Control Delay		26.4			11.9		7.9	9.3		8.1	7.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		26.4			11.9		7.9	9.3		8.1	7.5	
LOS		C			B		A	A		A	A	
Approach Delay		26.4			11.9			9.2			7.5	
Approach LOS		C			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		66			17		4	77		6	38	
Queue Length 95th (ft)		118			37		15	140		15	56	
Internal Link Dist (ft)		567			410			555			1360	
Turn Bay Length (ft)							120			120		
Base Capacity (vph)		464			544		360	1671		418	1747	
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		0.52			0.19		0.09	0.44		0.12	0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 51 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 50.1%		ICU Level of Service A	
Analysis Period (min) 15			

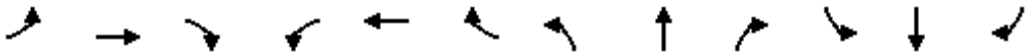
Splits and Phases: 9: Stateline Ave & W 19th St/E 12th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	1	1	1	1	9	1	677	0	10	523	4
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1626	0	0	1516	0	1630	3260	0	1630	3257	0
Flt Permitted		0.966			0.996		0.950			0.950		
Satd. Flow (perm)	0	1626	0	0	1516	0	1630	3260	0	1630	3257	0
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		392			484			643			635	
Travel Time (s)		8.9			11.0			11.0			10.8	
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)	5	1	1	1	1	10	1	736	0	11	568	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	0	0	12	0	1	736	0	11	572	0
Sign Control		Stop			Stop			Free			Free	

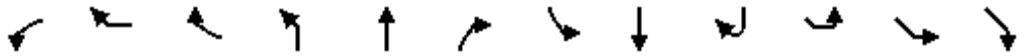
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	1	1	1	1	9	1	677	0	10	523	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			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
Hourly flow rate (vph)	5	1	1	1	1	10	1	736	0	11	568	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)											635	
pX, platoon unblocked	0.94	0.94	0.94	0.94	0.94		0.94					
vC, conflicting volume	973	1330	286	1046	1333	368	573			736		
vC1, stage 1 conf vol	592	592		738	738							
vC2, stage 2 conf vol	380	738		308	595							
vCu, unblocked vol	843	1223	112	920	1226	368	417			736		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	100	100	98	100			99		
cM capacity (veh/h)	437	351	864	357	356	629	1070			865		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	8	12	1	491	245	11	379	194
Volume Left	5	1	1	0	0	11	0	0
Volume Right	1	10	0	0	0	0	0	4
cSH	453	552	1070	1700	1700	865	1700	1700
Volume to Capacity	0.02	0.02	0.00	0.29	0.14	0.01	0.22	0.11
Queue Length 95th (ft)	1	2	0	0	0	1	0	0
Control Delay (s)	13.1	11.7	8.4	0.0	0.0	9.2	0.0	0.0
Lane LOS	B	B	A			A		
Approach Delay (s)	13.1	11.7	0.0			0.2		
Approach LOS	B	B						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	30.3%	ICU Level of Service		A
Analysis Period (min)	15			



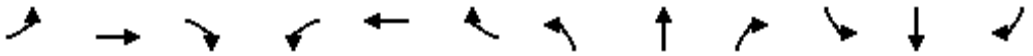
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (vph)	8	30	232	8	450	8	16	552	2	2	3	12
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		100		0	100		0		0	0
Storage Lanes	1	0		1		0	1		0		1	0
Taper Length (ft)	25			25			25				25	
Satd. Flow (prot)	1489	0	0	1630	3250	0	1630	3260	0	0	1529	0
Flt Permitted	0.999			0.950			0.950				0.986	
Satd. Flow (perm)	1489	0	0	1630	3250	0	1630	3260	0	0	1529	0
Link Speed (mph)	30				30			40			40	
Link Distance (ft)	594				1005			643			446	
Travel Time (s)	13.5				22.8			11.0			7.6	
Confl. Peds. (#/hr)	1		1									
Peak Hour Factor	0.90	0.90	0.90	0.75	0.75	0.75	0.82	0.82	0.82	0.70	0.70	0.70
Adj. Flow (vph)	9	33	258	11	600	11	20	673	2	3	4	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	300	0	0	11	611	0	20	675	0	0	24	0
Sign Control	Stop				Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (veh/h)	8	30	232	8	450	8	16	552	2	2	3	12
Sign Control	Stop				Free			Free			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.75	0.75	0.75	0.82	0.82	0.82	0.70	0.70	0.70
Hourly flow rate (vph)	9	33	258	11	600	11	20	673	2	3	4	17
Pedestrians					1			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type					TWLTL			TWLTL				
Median storage veh)					2			2				
Upstream signal (ft)					1005			1278				
pX, platoon unblocked												
vC, conflicting volume	1023	1341	306	676			611			1310	1345	339
vC1, stage 1 conf vol	627	627								713	713	
vC2, stage 2 conf vol	396	715								597	632	
vCu, unblocked vol	1023	1341	306	676			611			1310	1345	339
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5	6.9
tC, 2 stage (s)	6.5	5.5								6.5	5.5	
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	98	90	63	99			98			99	99	97
cM capacity (veh/h)	370	332	689	912			964			208	331	656

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SE 1
Volume Total	300	11	400	211	20	449	227	24
Volume Left	9	11	0	0	20	0	0	3
Volume Right	258	0	0	11	0	0	2	17
cSH	602	912	1700	1700	964	1700	1700	460
Volume to Capacity	0.50	0.01	0.24	0.12	0.02	0.26	0.13	0.05
Queue Length 95th (ft)	69	1	0	0	2	0	0	4
Control Delay (s)	16.8	9.0	0.0	0.0	8.8	0.0	0.0	13.3
Lane LOS	C	A			A			B
Approach Delay (s)	16.8	0.2			0.2			13.3
Approach LOS	C							B

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	48.2%	ICU Level of Service		A
Analysis Period (min)	15			

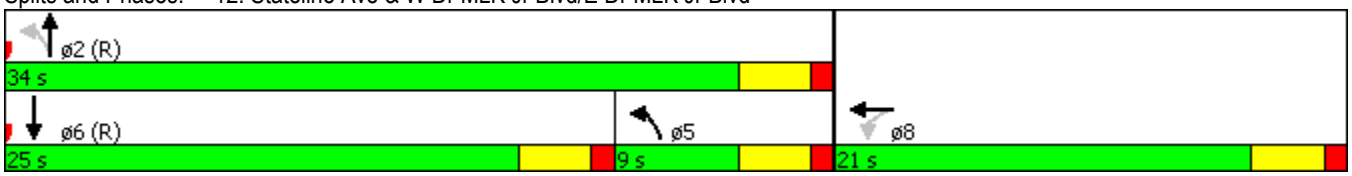


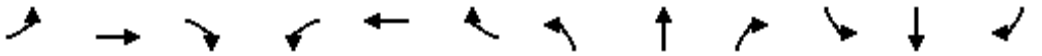
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	9	350	12	42	336	0	0	129	213
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	0	0	0	5864	0	1630	3260	0	0	2953	0
Flt Permitted					0.999		0.531					
Satd. Flow (perm)	0	0	0	0	5864	0	911	3260	0	0	2953	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12						232	
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		607			553			434			1005	
Travel Time (s)		10.3			9.4			7.4			17.1	
Confl. Peds. (#/hr)				2		2						
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.70	0.70	0.70	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	10	389	13	60	480	0	0	140	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	412	0	60	480	0	0	372	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phase				8	8		5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0		8.0	20.0			20.0	
Total Split (s)				21.0	21.0		9.0	34.0			25.0	
Total Split (%)				38.2%	38.2%		16.4%	61.8%			45.5%	
Maximum Green (s)				17.0	17.0		5.0	30.0			21.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
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)					4.0		4.0	4.0			4.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)					9.2		37.8	37.8			32.4	
Actuated g/C Ratio					0.17		0.69	0.69			0.59	
v/c Ratio					0.41		0.09	0.21			0.20	
Control Delay					20.8		2.1	1.9			1.6	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay					20.8		2.1	1.9			1.6	
LOS					C		A	A			A	
Approach Delay					20.8			1.9			1.6	
Approach LOS					C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					34		2	10			0	
Queue Length 95th (ft)					50		7	17			0	
Internal Link Dist (ft)		527			473			354			925	
Turn Bay Length (ft)							100					
Base Capacity (vph)					1820		691	2239			1833	
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					0.23		0.09	0.21			0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 44 (80%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 7.7		Intersection LOS: A	
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd



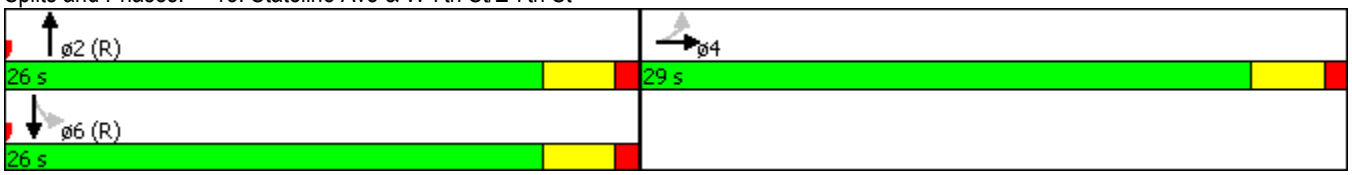


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	425	3	0	0	0	0	78	11	34	71	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	4600	0	0	0	0	0	3201	0	1630	3260	0
Flt Permitted		0.983								0.658		
Satd. Flow (perm)	0	4600	0	0	0	0	0	3201	0	1129	3260	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						18				
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		491			438			609			434	
Travel Time (s)		8.4			7.5			10.4			7.4	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.60	0.60	0.60	0.83	0.83	0.83
Adj. Flow (vph)	293	567	4	0	0	0	0	130	18	41	86	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	864	0	0	0	0	0	148	0	41	86	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phase	4	4						2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	29.0	29.0						26.0		26.0	26.0	
Total Split (%)	52.7%	52.7%						47.3%		47.3%	47.3%	
Maximum Green (s)	25.0	25.0						22.0		22.0	22.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
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)		4.0						4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0						5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0						11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)		17.6						29.4		29.4	29.4	
Actuated g/C Ratio		0.32						0.53		0.53	0.53	
v/c Ratio		0.59						0.09		0.07	0.05	
Control Delay		16.9						6.7		12.2	11.2	
Queue Delay		0.0						0.0		0.0	0.0	
Total Delay		16.9						6.7		12.2	11.2	
LOS		B						A		B	B	
Approach Delay		16.9						6.7			11.6	
Approach LOS		B						A			B	
Queue Length 50th (ft)		85						9		10	11	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		79						16		33	27	
Internal Link Dist (ft)		411			358			529			354	
Turn Bay Length (ft)										150		
Base Capacity (vph)		2092						1718		602	1741	
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		0.41						0.09		0.07	0.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 12 (22%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			

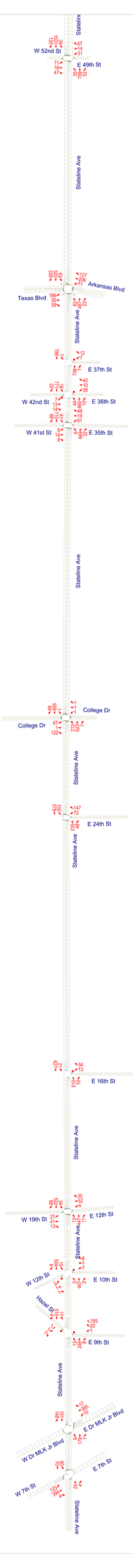
Splits and Phases: 13: Stateline Ave & W 7th St/E 7th St

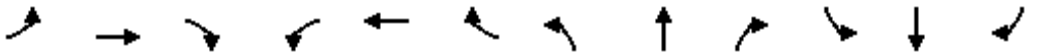


Appendix E: "Do Nothing" with Growth

- Traffic Operational Analysis Results

PROJECTED TRAFFIC CONDITIONS DO NOTHING WITH BACKGROUND GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	**PEAK HR**		**PEAK HOUR - LEVEL OF SERVICE**														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.6	51.1%
	PM		C			B			B	B		A	B		**B**	11.7	49.9%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	E	B		B	B		B	B		C	C	A	**C**	20.3	54.6%
	PM		F	D		D	E		E	E		F	D	A	**D**	52.1	97.1%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	39.2%
	PM					B		B		A		A	A		**n/a**	0.4	55.7%
Stateline Avenue and W. 42nd Street / E. 36th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	1.5	64.1%
	PM		B			B			A	A		A	A		**n/a**	0.7	62.4%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A	A		**A**	8.2	49.3%
	PM		C			C			A	B	A	B	A		**B**	11.4	59.4%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		B	A		A	A		**A**	9.5	56.1%
	PM		D	A		C	D		B	A		A	C		**B**	16.8	71.0%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		A		A	A		**A**	8.4	39.0%
	PM					B		B		B		B	A		**B**	10.5	65.5%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.9	28.8%
	PM					B		B		A		B	A		**n/a**	0.4	40.8%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.1	42.9%
	PM		C			B			B	B		B	B		**B**	14.0	55.5%
Stateline Avenue and W. 12th Street / E. 10th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	0.4	25.3%
	PM		B			B			A	A		A	A		**n/a**	0.3	34.8%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	3.1	43.3%
	PM		C			C			A	A		A	A		**n/a**	4.2	53.8%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.6	23.0%
	PM					B			A	A			A		**A**	8.5	34.7%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	10.6	28.0%
	PM		B							A		A	A		**B**	10.7	34.7%


Stateline Ave
W 52nd St
E 49th St
Stateline Ave
Arkansas Blvd
Texas Blvd
Stateline Ave
E 37th St
W 42nd St
E 36th St
W 41st St
E 35th St
Stateline Ave
College Dr
College Dr
Stateline Ave
E 24th St
Stateline Ave
E 16th St
Stateline Ave
W 19th St
E 12th St
Stateline Ave
W 12th St
E 10th St
Hazel St
E 9th St
Stateline Ave
E Dr MLK Jr Blvd
W Dr MLK Jr Blvd
E 7th St
W 7th St
Stateline Ave

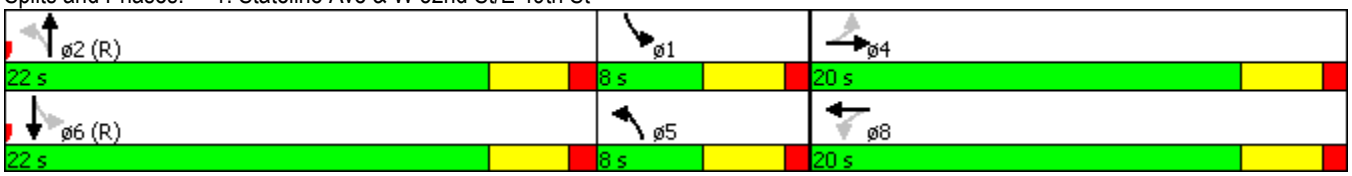


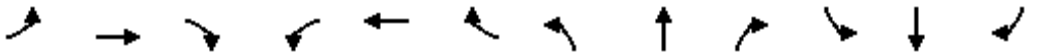
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	14	42	28	13	51	29	581	43	32	845	98
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1589	0	0	1563	0	1630	3227	0	1630	4609	0
Flt Permitted		0.824			0.888		0.168			0.296		
Satd. Flow (perm)	0	1343	0	0	1409	0	288	3227	0	508	4609	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			69			17			44	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		219			214			2398			805	
Travel Time (s)		5.0			4.9			40.9			13.7	
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.90	0.90	0.90	0.87	0.87	0.87
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	77	18	56	38	18	69	39	788	58	45	1185	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	125	0	39	846	0	45	1322	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	22.0		8.0	22.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	44.0%		16.0%	44.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	18.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.3			9.3		34.6	32.2		34.6	32.2	
Actuated g/C Ratio		0.19			0.19		0.69	0.64		0.69	0.64	
v/c Ratio		0.51			0.39		0.13	0.41		0.10	0.44	
Control Delay		17.6			12.3		6.3	8.0		5.1	7.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.6			12.3		6.3	8.0		5.1	7.7	
LOS		B			B		A	A		A	A	
Approach Delay		17.6			12.3			7.9			7.6	
Approach LOS		B			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		25			14		1	45		1	49	
Queue Length 95th (ft)		53			38		14	150		15	144	
Internal Link Dist (ft)		139			134			2318			725	
Turn Bay Length (ft)							120			150		
Base Capacity (vph)		467			497		306	2081		441	2980	
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		0.32			0.25		0.13	0.41		0.10	0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 8.6		Intersection LOS: A	
Intersection Capacity Utilization 51.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Stateline Ave & W 52nd St/E 49th St



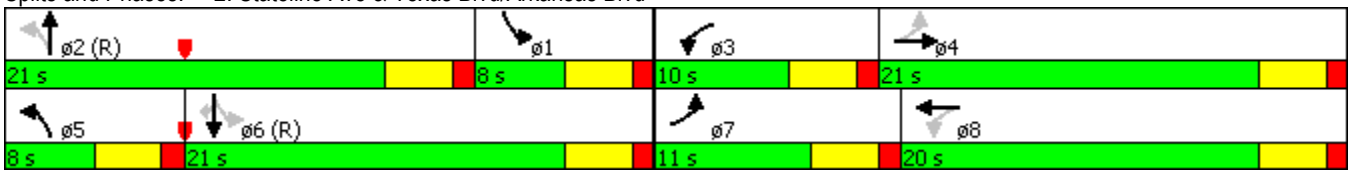


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	86	53	64	186	114	51	383	19	52	428	185
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	200		0	130		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	3074	0	1630	3074	0	1630	3237	0	1630	3260	1458
Flt Permitted	0.275			0.610			0.242			0.400		
Satd. Flow (perm)	472	3074	0	1047	3074	0	415	3237	0	686	3260	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			186			8				309
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		463			387			761			2398	
Travel Time (s)		7.9			6.6			13.0			40.9	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.74	0.74	0.74	0.73	0.73	0.73
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	274	140	87	104	304	186	84	631	31	87	715	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	274	227	0	104	490	0	84	662	0	87	715	309
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	11.0	21.0		10.0	20.0		8.0	21.0		8.0	21.0	21.0
Total Split (%)	18.3%	35.0%		16.7%	33.3%		13.3%	35.0%		13.3%	35.0%	35.0%
Maximum Green (s)	7.0	17.0		6.0	16.0		4.0	17.0		4.0	17.0	17.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	20.3	14.7		17.6	11.7		22.9	22.9		21.3	21.3	21.3
Actuated g/C Ratio	0.34	0.24		0.29	0.20		0.38	0.38		0.36	0.36	0.36
v/c Ratio	0.93	0.28		0.29	0.66		0.30	0.53		0.28	0.62	0.43
Control Delay	56.6	12.3		13.6	17.5		18.2	17.8		21.0	21.0	4.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	56.6	12.3		13.6	17.5		18.2	17.8		21.0	21.0	4.7
LOS	E	B		B	B		B	B		C	C	A
Approach Delay		36.5			16.8			17.9			16.5	
Approach LOS		D			B			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	72	22		24	52		20	97		23	120	0
Queue Length 95th (ft)	#80	28		33	53		42	126		42	136	22
Internal Link Dist (ft)		383			307			681			2318	
Turn Bay Length (ft)	200			130			200			200		
Base Capacity (vph)	294	944		366	956		277	1241		306	1159	717
Starvation Cap Reductn	0	0		0	0		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	0.93	0.24		0.28	0.51		0.30	0.53		0.28	0.62	0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 23 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 54.6%		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: 2: Stateline Ave & Texas Blvd/Arkansas Blvd



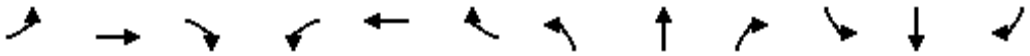
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	6	11	579	1	6	644
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Satd. Flow (prot)	1538	0	3260	0	0	3260
Flt Permitted	0.983					
Satd. Flow (perm)	1538	0	3260	0	0	3260
Link Speed (mph)	30		40			40
Link Distance (ft)	331		343			761
Travel Time (s)	7.5		5.8			13.0
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	9	17	768	1	9	935
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	769	0	0	944
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	6	11	579	1	6	644
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	9	17	768	1	9	935
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			661			761
pX, platoon unblocked	0.87	0.92			0.92	
vC, conflicting volume	1254	385			769	
vC1, stage 1 conf vol	768					
vC2, stage 2 conf vol	485					
vCu, unblocked vol	581	152			571	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	471	796			916	

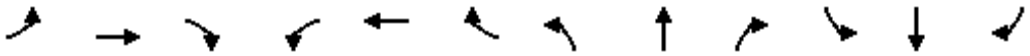
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	27	512	257	320	624
Volume Left	9	0	0	9	0
Volume Right	17	0	1	0	0
cSH	640	1700	1700	916	1700
Volume to Capacity	0.04	0.30	0.15	0.01	0.37
Queue Length 95th (ft)	3	0	0	1	0
Control Delay (s)	10.9	0.0	0.0	0.3	0.0
Lane LOS	B			A	
Approach Delay (s)	10.9	0.0		0.1	
Approach LOS	B				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	12	13	23	9	36	36	541	8	15	632	16
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Satd. Flow (prot)	0	1603	0	0	1567	0	0	3244	0	0	3244	0
Flt Permitted		0.990			0.983			0.997			0.999	
Satd. Flow (perm)	0	1603	0	0	1567	0	0	3244	0	0	3244	0
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		396			372			318			343	
Travel Time (s)		9.0			8.5			5.4			5.8	
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.88	0.88	0.88	0.76	0.76	0.76
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	8	16	17	29	11	45	50	750	11	24	1015	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	85	0	0	811	0	0	1065	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.1%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	12	13	23	9	36	36	541	8	15	632	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.88	0.88	0.88	0.76	0.76	0.76
Hourly flow rate (vph)	8	16	17	29	11	45	50	750	11	24	1015	26
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								318			1104	
pX, platoon unblocked	0.92	0.92	0.85	0.92	0.92	0.87	0.85			0.87		
vC, conflicting volume	1601	1936	520	1436	1944	381	1040			761		
vC1, stage 1 conf vol	1076	1076		855	855							
vC2, stage 2 conf vol	526	861		580	1088							
vCu, unblocked vol	826	1190	92	645	1198	0	702			416		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	95	98	92	96	95	93			98		
cM capacity (veh/h)	298	292	807	386	267	939	760			987		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	40	86	425	386	531	533
Volume Left	8	29	50	0	24	0
Volume Right	17	45	0	11	0	26
cSH	401	517	760	1700	987	1700
Volume to Capacity	0.10	0.17	0.07	0.23	0.02	0.31
Queue Length 95th (ft)	8	15	5	0	2	0
Control Delay (s)	15.0	13.3	1.9	0.0	0.7	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	15.0	13.3	1.0		0.3	
Approach LOS	B	B				

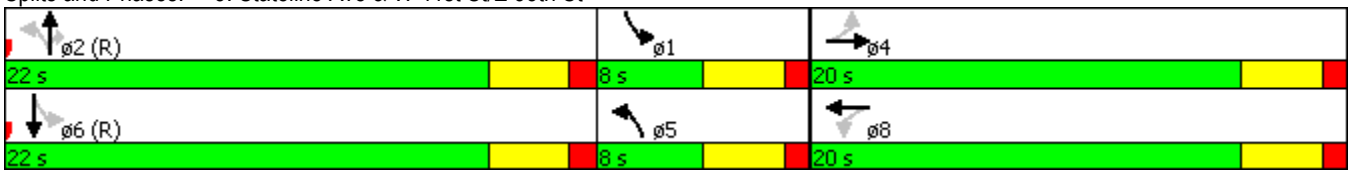
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	64.1%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	13	7	46	17	43	5	548	26	50	582	54
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		110	120		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1628	0	0	1579	0	1630	3260	1458	1630	3217	0
Flt Permitted		0.935			0.842		0.239			0.321		
Satd. Flow (perm)	0	1541	0	0	1357	0	410	3260	1458	551	3217	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			61				109		22	
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		557			627			3044			318	
Travel Time (s)		12.7			14.3			59.3			5.4	
Confl. Peds. (#/hr)	3		3	1		1						
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.86	0.86	0.86	0.78	0.78	0.78
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	10	19	10	65	24	61	7	777	37	78	910	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	150	0	7	777	37	78	994	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	22.0	22.0	8.0	22.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	44.0%	44.0%	16.0%	44.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	18.0	18.0	4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
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)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		8.9			8.9		33.4	31.0	31.0	35.0	34.2	
Actuated g/C Ratio		0.18			0.18		0.67	0.62	0.62	0.70	0.68	
v/c Ratio		0.14			0.51		0.02	0.38	0.04	0.17	0.45	
Control Delay		13.7			17.6		4.5	8.4	0.1	5.6	7.0	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		13.7			17.6		4.5	8.4	0.1	5.6	7.0	
LOS		B			B		A	A	A	A	A	
Approach Delay		13.7			17.6			8.0			6.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		7			23		1	69	0	6	54	
Queue Length 95th (ft)		19			47		4	123	0	19	142	
Internal Link Dist (ft)		477			547			2964			238	
Turn Bay Length (ft)							120		110	120		
Base Capacity (vph)		499			475		371	2020	945	471	2206	
Starvation Cap Reductn		0			0		0	0	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		0.08			0.32		0.02	0.38	0.04	0.17	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Stateline Ave & W 41st St/E 35th St

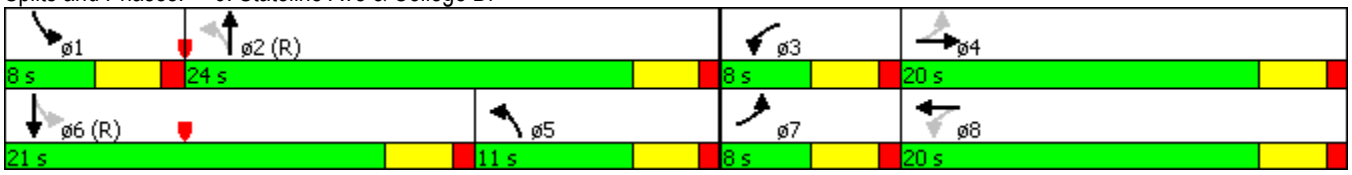


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1	110	1	1	1	174	511	1	1	539	69
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	100		0	100		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	1460	0	1630	1587	0	1630	3260	0	1630	3204	0
Flt Permitted	0.690						0.333			0.305		
Satd. Flow (perm)	1184	1460	0	1716	1587	0	571	3260	0	523	3204	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		133			1						23	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		666			319			1037			3044	
Travel Time (s)		15.1			7.3			20.2			59.3	
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
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	72	1	133	1	1	1	231	678	1	1	715	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	134	0	1	2	0	231	679	0	1	807	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	8.0	20.0		8.0	20.0		11.0	24.0		8.0	21.0	
Total Split (%)	13.3%	33.3%		13.3%	33.3%		18.3%	40.0%		13.3%	35.0%	
Maximum Green (s)	4.0	16.0		4.0	16.0		7.0	20.0		4.0	17.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	7.4	6.9		6.4	6.5		43.5	44.3		34.4	34.4	
Actuated g/C Ratio	0.12	0.12		0.11	0.11		0.72	0.74		0.57	0.57	
v/c Ratio	0.39	0.47		0.01	0.01		0.43	0.28		0.00	0.44	
Control Delay	27.7	11.1		19.0	19.5		12.4	5.8		10.0	9.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.7	11.1		19.0	19.5		12.4	5.8		10.0	9.8	
LOS	C	B		B	B		B	A		A	A	
Approach Delay		16.9			19.3			7.5			9.8	
Approach LOS		B			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	25	0		0	0		14	23		0	70	
Queue Length 95th (ft)	44	40		3	5		#120	139		3	175	
Internal Link Dist (ft)		586			239			957			2964	
Turn Bay Length (ft)	100			100			120			120		
Base Capacity (vph)	183	486		178	423		537	2404		401	1846	
Starvation Cap Reductn	0	0		0	0		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	0.39	0.28		0.01	0.00		0.43	0.28		0.00	0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 56 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 56.1%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Stateline Ave & College Dr

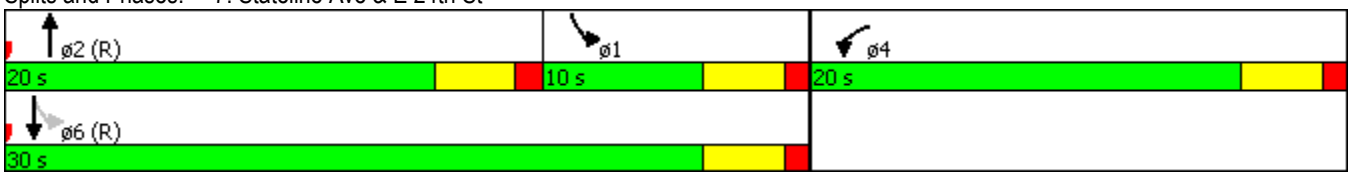


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	65	132	193	39	84	474
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1545	0	3162	0	1630	3260
Flt Permitted	0.980				0.548	
Satd. Flow (perm)	1545	0	3162	0	940	3260
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	160		65			
Link Speed (mph)	30		35			35
Link Distance (ft)	648		2670			1037
Travel Time (s)	14.7		52.0			20.2
Peak Hour Factor	0.65	0.87	0.87	0.70	0.78	0.85
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	111	168	271	68	131	680
Shared Lane Traffic (%)						
Lane Group Flow (vph)	279	0	339	0	131	680
Turn Type	NA		NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases					6	
Detector Phase	4		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		8.0	20.0
Total Split (s)	20.0		20.0		10.0	30.0
Total Split (%)	40.0%		40.0%		20.0%	60.0%
Maximum Green (s)	16.0		16.0		6.0	26.0
Yellow Time (s)	3.0		3.0		3.0	3.0
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)	4.0		4.0		4.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	10.0		24.0		32.0	32.0
Actuated g/C Ratio	0.20		0.48		0.64	0.64
v/c Ratio	0.64		0.22		0.19	0.33
Control Delay	14.8		10.2		6.0	5.4
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	14.8		10.2		6.0	5.4
LOS	B		B		A	A
Approach Delay	14.8		10.2			5.5
Approach LOS	B		B			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	31		28		11	36
Queue Length 95th (ft)	38		71		33	78
Internal Link Dist (ft)	568		2590			957
Turn Bay Length (ft)					120	
Base Capacity (vph)	603		1553		685	2089
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	0.46		0.22		0.19	0.33

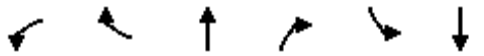
Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 8.4		Intersection LOS: A	
Intersection Capacity Utilization 39.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Stateline Ave & E 24th St



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	31	418	8	17	514
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1528	0	3247	0	1630	3260
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1528	0	3247	0	1630	3260
Link Speed (mph)	30		35			35
Link Distance (ft)	713		1440			2670
Travel Time (s)	16.2		28.1			52.0
Confl. Peds. (#/hr)				1		
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	22	57	622	15	29	689
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	637	0	29	689
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	12	31	418	8	17	514
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Hourly flow rate (vph)	22	57	622	15	29	689
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1033	319			637	
vC1, stage 1 conf vol	630					
vC2, stage 2 conf vol	403					
vCu, unblocked vol	1033	319			637	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	92			97	
cM capacity (veh/h)	424	676			941	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	80	415	222	29	345	345
Volume Left	22	0	0	29	0	0
Volume Right	57	0	15	0	0	0
cSH	580	1700	1700	941	1700	1700
Volume to Capacity	0.14	0.24	0.13	0.03	0.20	0.20
Queue Length 95th (ft)	12	0	0	2	0	0
Control Delay (s)	12.2	0.0	0.0	8.9	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	12.2	0.0		0.4		
Approach LOS	B					

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

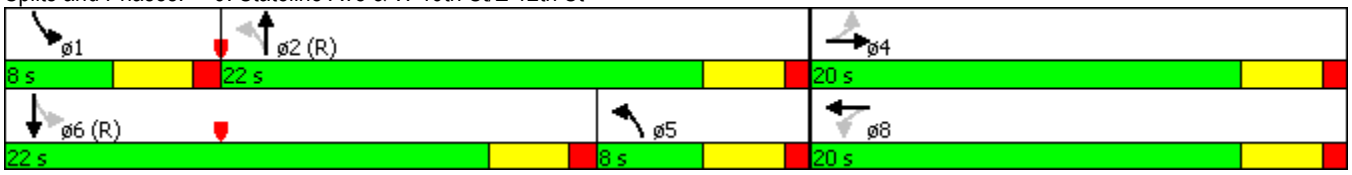
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	37	12	4	47	27	11	366	9	28	428	56
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1651	0	0	1624	0	1630	3247	0	1630	3204	0
Flt Permitted		0.890			0.982		0.381			0.397		
Satd. Flow (perm)	0	1493	0	0	1598	0	654	3247	0	681	3204	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			43			5			32	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		647			490			635			1440	
Travel Time (s)		14.7			11.1			12.4			28.1	
Confl. Peds. (#/hr)				2		2						
Peak Hour Factor	0.79	0.79	0.79	0.70	0.70	0.70	0.90	0.90	0.90	0.83	0.83	0.83
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	34	52	17	6	75	43	15	496	12	41	629	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	124	0	15	508	0	41	711	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	22.0		8.0	22.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	44.0%		16.0%	44.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	18.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.4			8.4		31.2	32.0		33.9	34.7	
Actuated g/C Ratio		0.17			0.17		0.62	0.64		0.68	0.69	
v/c Ratio		0.39			0.41		0.03	0.24		0.07	0.32	
Control Delay		19.6			16.6		8.6	7.0		4.7	5.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.6			16.6		8.6	7.0		4.7	5.9	
LOS		B			B		A	A		A	A	
Approach Delay		19.6			16.6			7.1			5.8	

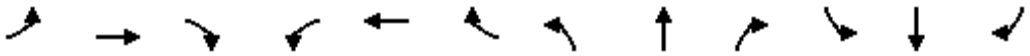
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		23			21		1	16		6	61	
Queue Length 95th (ft)		45			38		12	92		m11	116	
Internal Link Dist (ft)		567			410			555			1360	
Turn Bay Length (ft)							120			120		
Base Capacity (vph)		489			540		485	2077		578	2233	
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		0.21			0.23		0.03	0.24		0.07	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 42.9%		ICU Level of Service A	
Analysis Period (min) 15			

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

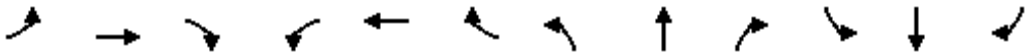
Splits and Phases: 9: Stateline Ave & W 19th St/E 12th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1	1	6	1	7	2	383	2	8	413	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1623	0	0	1565	0	1630	3257	0	1630	3253	0
Flt Permitted		0.968			0.979		0.950			0.950		
Satd. Flow (perm)	0	1623	0	0	1565	0	1630	3257	0	1630	3253	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		392			484			643			635	
Travel Time (s)		8.9			11.0			12.5			12.4	
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
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	4	1	1	7	1	8	3	508	3	11	548	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	16	0	3	511	0	11	555	0
Sign Control		Stop			Stop			Free			Free	

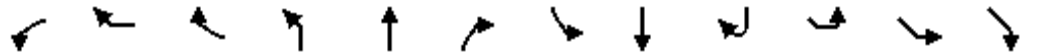
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	1	1	6	1	7	2	383	2	8	413	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			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
Hourly flow rate (vph)	4	1	1	7	1	8	3	508	3	11	548	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)											635	
pX, platoon unblocked												
vC, conflicting volume	841	1088	277	811	1090	255	554			511		
vC1, stage 1 conf vol	572	572		515	515							
vC2, stage 2 conf vol	268	516		297	576							
vCu, unblocked vol	841	1088	277	811	1090	255	554			511		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	98	100	99	100			99		
cM capacity (veh/h)	427	400	720	455	401	744	1012			1051		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	17	3	339	172	11	365	189
Volume Left	4	7	3	0	0	11	0	0
Volume Right	1	8	0	0	3	0	0	7
cSH	458	558	1012	1700	1700	1051	1700	1700
Volume to Capacity	0.01	0.03	0.00	0.20	0.10	0.01	0.21	0.11
Queue Length 95th (ft)	1	2	0	0	0	1	0	0
Control Delay (s)	13.0	11.7	8.6	0.0	0.0	8.5	0.0	0.0
Lane LOS	B	B	A			A		
Approach Delay (s)	13.0	11.7	0.0			0.2		
Approach LOS	B	B						

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	25.3%	ICU Level of Service	A	
Analysis Period (min)	15			



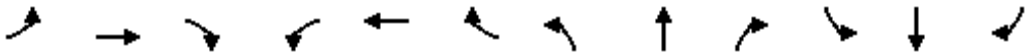
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (vph)	1	18	167	12	223	7	14	422	3	1	1	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		100		0	100		0		0	0
Storage Lanes	1	0		1		0	1		0		1	0
Taper Length (ft)	25			25			25				25	
Satd. Flow (prot)	1484	0	0	1630	3244	0	1630	3257	0	0	1526	0
Flt Permitted				0.950			0.950				0.987	
Satd. Flow (perm)	1484	0	0	1630	3244	0	1630	3257	0	0	1526	0
Link Speed (mph)	30				30			35			35	
Link Distance (ft)	594				1005			643			446	
Travel Time (s)	13.5				22.8			12.5			8.7	
Confl. Peds. (#/hr)	2		2				2		2	1		1
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	1	27	247	19	344	11	20	599	4	2	2	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	275	0	0	18	355	0	20	603	0	0	15	0
Sign Control	Stop				Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (veh/h)	1	18	167	12	223	7	14	422	3	1	1	6
Sign Control	Stop				Free			Free			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Hourly flow rate (vph)	1	27	247	18	344	11	20	599	4	2	2	11
Pedestrians	2				2			2			2	
Lane Width (ft)	12.0				12.0			12.0			12.0	
Walking Speed (ft/s)	4.0				4.0			4.0			4.0	
Percent Blockage	0				0			0			0	
Right turn flare (veh)												
Median type					TWLTL			TWLTL				
Median storage veh)					2			2				
Upstream signal (ft)					1005			1278				
pX, platoon unblocked												
vC, conflicting volume	741	1033	181	605			357			1114	1036	305
vC1, stage 1 conf vol	388	388								642	642	
vC2, stage 2 conf vol	353	645								471	394	
vCu, unblocked vol	741	1033	181	605			357			1114	1036	305
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5	6.9
tC, 2 stage (s)	6.5	5.5								6.5	5.5	
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	100	93	70	98			98			99	100	98
cM capacity (veh/h)	481	391	827	967			1197			275	398	688

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SE 1
Volume Total	275	18	229	125	20	399	204	15
Volume Left	1	18	0	0	20	0	0	2
Volume Right	247	0	0	11	0	0	4	11
cSH	744	967	1700	1700	1197	1700	1700	538
Volume to Capacity	0.37	0.02	0.13	0.07	0.02	0.23	0.12	0.03
Queue Length 95th (ft)	43	1	0	0	1	0	0	2
Control Delay (s)	12.6	8.8	0.0	0.0	8.1	0.0	0.0	11.9
Lane LOS	B	A			A			B
Approach Delay (s)	12.6	0.4			0.3			11.9
Approach LOS	B							B

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	43.3%	ICU Level of Service		A
Analysis Period (min)	15			

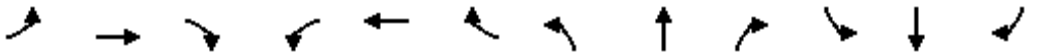


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	8	299	14	7	147	1	0	124	121
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	0	0	0	5851	0	1630	3257	0	0	3019	0
Flt Permitted					0.999		0.452					
Satd. Flow (perm)	0	0	0	0	5851	0	775	3257	0	0	3019	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					19			1			197	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		607			553			434			1005	
Travel Time (s)		11.8			10.8			8.5			19.6	
Confl. Peds. (#/hr)				2		2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82	0.75	0.75	0.75
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	0	0	0	11	396	19	10	219	1	0	202	197
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	426	0	10	220	0	0	399	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phase				8	8		5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0		8.0	20.0			20.0	
Total Split (s)				20.0	20.0		8.0	30.0			22.0	
Total Split (%)				40.0%	40.0%		16.0%	60.0%			44.0%	
Maximum Green (s)				16.0	16.0		4.0	26.0			18.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
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)					4.0		4.0	4.0			4.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)					9.1		32.9	32.9			30.9	
Actuated g/C Ratio					0.18		0.66	0.66			0.62	
v/c Ratio					0.39		0.02	0.10			0.21	
Control Delay					17.9		3.6	3.6			4.2	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay					17.9		3.6	3.6			4.2	
LOS					B		A	A			A	
Approach Delay					17.9			3.6			4.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					B			A			A	
Queue Length 50th (ft)					31		1	9			1	
Queue Length 95th (ft)					45		4	19			63	
Internal Link Dist (ft)		527			473			354			925	
Turn Bay Length (ft)							100					
Base Capacity (vph)					1885		606	2142			1939	
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					0.23		0.02	0.10			0.21	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 23.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd

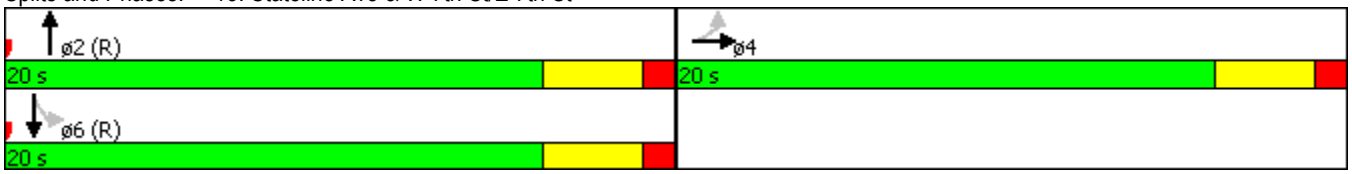


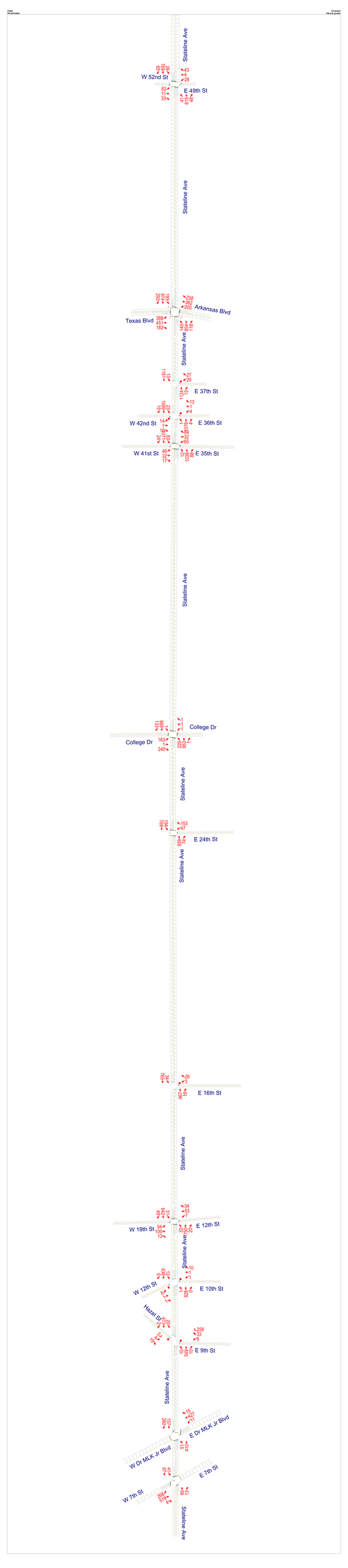
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	355	4	0	0	0	0	20	3	49	57	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	4628	0	0	0	0	0	3195	0	1630	3260	0
Flt Permitted		0.989								0.727		
Satd. Flow (perm)	0	4628	0	0	0	0	0	3195	0	1247	3260	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						6				
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		491			438			609			434	
Travel Time (s)		11.2			10.0			11.9			8.5	
Peak Hour Factor	0.84	0.81	0.81	0.92	0.92	0.92	0.64	0.64	0.64	0.78	0.78	0.78
Growth Factor	111%	111%	111%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	147	486	5	0	0	0	0	38	6	77	89	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	638	0	0	0	0	0	44	0	77	89	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phase	4	4						2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%						50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0						16.0		16.0	16.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
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)		4.0						4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0						5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0						11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)		12.1						19.9		19.9	19.9	
Actuated g/C Ratio		0.30						0.50		0.50	0.50	
v/c Ratio		0.46						0.03		0.12	0.05	
Control Delay		11.8						5.9		7.4	6.5	
Queue Delay		0.0						0.0		0.0	0.0	
Total Delay		11.8						5.9		7.4	6.5	
LOS		B						A		A	A	
Approach Delay		11.8						5.9			6.9	
Approach LOS		B						A			A	

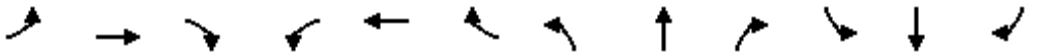
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		40						2		8	4	
Queue Length 95th (ft)		46						5		24	13	
Internal Link Dist (ft)		411			358			529			354	
Turn Bay Length (ft)										150		
Base Capacity (vph)		1853						1595		621	1625	
Starvation Cap Reductn		0						0		0	0	
Spillback Cap Reductn		0						0		0	0	
Storage Cap Reductn		0						0		0	0	
Reduced v/c Ratio		0.34						0.03		0.12	0.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 28.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: Stateline Ave & W 7th St/E 7th St




Stateline Ave
W 52nd St
E 49th St
Stateline Ave
Arkansas Blvd
Texas Blvd
Stateline Ave
E 37th St
W 42nd St
E 36th St
W 41st St
E 35th St
Stateline Ave
College Dr
College Dr
Stateline Ave
E 24th St
Stateline Ave
E 16th St
Stateline Ave
W 19th St
E 12th St
Stateline Ave
W 12th St
E 10th St
Hazel St
E 9th St
Stateline Ave
E Dr MLK Jr Blvd
W Dr MLK Jr Blvd
E 7th St
W 7th St
Stateline Ave

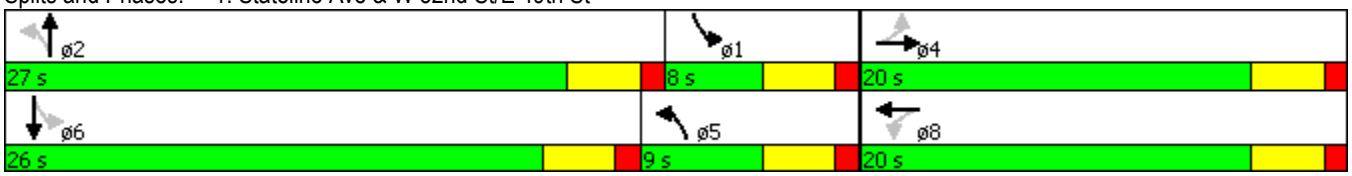


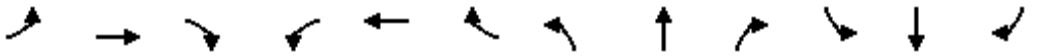
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	10	30	25	4	39	34	504	39	21	630	53
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1603	0	0	1555	0	1630	3218	0	1630	4620	0
Flt Permitted		0.791			0.857		0.154			0.206		
Satd. Flow (perm)	0	1308	0	0	1357	0	264	3218	0	353	4620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			67			18			29	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		219			214			2398			805	
Travel Time (s)		5.0			4.9			40.9			13.7	
Confl. Peds. (#/hr)							4		4	1		1
Peak Hour Factor	0.61	0.61	0.61	0.65	0.65	0.65	0.63	0.63	0.63	0.62	0.62	0.62
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	135	18	55	43	7	67	66	976	76	41	1240	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	0	0	117	0	66	1052	0	41	1344	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		9.0	27.0		8.0	26.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		16.4%	49.1%		14.5%	47.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		5.0	23.0		4.0	22.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		11.4			11.2		31.6	29.3		29.5	27.2	
Actuated g/C Ratio		0.24			0.23		0.65	0.61		0.61	0.56	
v/c Ratio		0.63			0.32		0.21	0.54		0.13	0.51	
Control Delay		23.0			10.7		10.3	10.7		7.3	10.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		23.0			10.7		10.3	10.7		7.3	10.9	
LOS		C			B		B	B		A	B	
Approach Delay		23.0			10.7			10.7			10.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		46			12		7	79		4	109	
Queue Length 95th (ft)		58			26		15	122		10	100	
Internal Link Dist (ft)		139			134			2318			725	
Turn Bay Length (ft)							120			150		
Base Capacity (vph)		461			501		315	1955		322	2613	
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		0.45			0.23		0.21	0.54		0.13	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 48.4			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 46.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Stateline Ave & W 52nd St/E 49th St



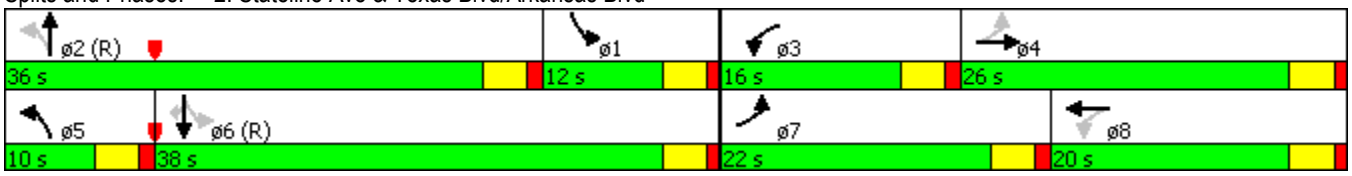


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	318	370	150	164	297	195	115	700	97	158	798	240
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	200		0	130		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	3120	0	1630	3067	0	1630	3201	0	1630	3260	1458
Flt Permitted	0.200			0.250			0.154			0.154		
Satd. Flow (perm)	343	3120	0	429	3067	0	264	3201	0	264	3260	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			148			19				322
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		463			387			761			2398	
Travel Time (s)		7.9			6.6			13.0			40.9	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.83	0.83	0.83	0.91	0.91	0.91
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	431	502	203	217	394	259	169	1029	143	212	1070	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	431	705	0	217	653	0	169	1172	0	212	1070	322
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	16.0	20.0		8.0	20.0		8.0	20.0		12.0	20.0	20.0
Total Split (s)	22.0	26.0		16.0	20.0		10.0	36.0		12.0	38.0	38.0
Total Split (%)	24.4%	28.9%		17.8%	22.2%		11.1%	40.0%		13.3%	42.2%	42.2%
Maximum Green (s)	18.0	22.0		12.0	16.0		6.0	32.0		8.0	34.0	34.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	38.0	22.5		27.5	16.0		32.0	32.0		34.0	34.0	34.0
Actuated g/C Ratio	0.42	0.25		0.31	0.18		0.36	0.36		0.38	0.38	0.38
v/c Ratio	1.07	0.85		0.76	0.98		0.92	1.02		0.96	0.87	0.43
Control Delay	90.8	40.9		38.7	60.4		74.7	61.1		88.2	35.2	4.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	90.8	40.9		38.7	60.4		74.7	61.1		88.2	35.2	4.3
LOS	F	D		D	E		E	E		F	D	A
Approach Delay		59.8			55.0			62.8			36.0	
Approach LOS		E			D			E			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	~228	185		80	155		68	~356		85	291	0
Queue Length 95th (ft)	#413	#285		#174	#272		#142	#433		#214	#411	52
Internal Link Dist (ft)		383			307			681			2318	
Turn Bay Length (ft)	200			130			200			200		
Base Capacity (vph)	402	829		293	666		184	1150		221	1231	751
Starvation Cap Reductn	0	0		0	0		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	1.07	0.85		0.74	0.98		0.92	1.02		0.96	0.87	0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 52.1		Intersection LOS: D	
Intersection Capacity Utilization 97.1%		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: 2: Stateline Ave & Texas Blvd/Arkansas Blvd



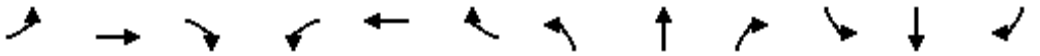
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	18	24	921	11	11	968
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Satd. Flow (prot)	1550	0	3253	0	0	3257
Flt Permitted	0.979					0.999
Satd. Flow (perm)	1550	0	3253	0	0	3257
Link Speed (mph)	30		40			40
Link Distance (ft)	331		343			761
Travel Time (s)	7.5		5.8			13.0
Peak Hour Factor	0.75	0.75	0.88	0.88	0.96	0.96
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	27	36	1277	15	14	1230
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	1292	0	0	1244
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.7%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	24	921	11	11	968
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.88	0.88	0.96	0.96
Hourly flow rate (vph)	27	36	1277	15	14	1230
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			661			761
pX, platoon unblocked	0.85	0.76			0.76	
vC, conflicting volume	1928	646			1292	
vC1, stage 1 conf vol	1284					
vC2, stage 2 conf vol	643					
vCu, unblocked vol	483	0			762	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	96			98	
cM capacity (veh/h)	331	827			646	

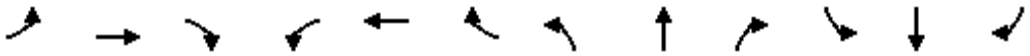
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	62	851	441	424	820
Volume Left	27	0	0	14	0
Volume Right	36	0	15	0	0
cSH	504	1700	1700	646	1700
Volume to Capacity	0.12	0.50	0.26	0.02	0.48
Queue Length 95th (ft)	10	0	0	2	0
Control Delay (s)	13.1	0.0	0.0	0.6	0.0
Lane LOS	B			A	
Approach Delay (s)	13.1	0.0		0.2	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	1	14	4	1	12	1	882	3	19	901	12
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Satd. Flow (prot)	0	1562	0	0	1537	0	0	3257	0	0	3247	0
Flt Permitted		0.977			0.988						0.999	
Satd. Flow (perm)	0	1562	0	0	1537	0	0	3257	0	0	3247	0
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		396			372			318			343	
Travel Time (s)		6.8			6.3			5.4			5.8	
Confl. Peds. (#/hr)	1		1	3		3						
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.67	0.92	0.92	0.92	0.68	0.90	0.60
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	17	1	19	7	2	20	1	1170	4	34	1221	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	29	0	0	1175	0	0	1279	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	1	14	4	1	12	1	882	3	19	901	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.67	0.92	0.92	0.92	0.68	0.90	0.60
Hourly flow rate (vph)	17	1	18	7	2	20	1	1170	4	34	1221	24
Pedestrians								3			3	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								318			1104	
pX, platoon unblocked	0.87	0.87	0.75	0.87	0.87	0.75	0.75			0.75		
vC, conflicting volume	1913	2478	626	1875	2488	590	1246			1174		
vC1, stage 1 conf vol	1302	1302		1174	1174							
vC2, stage 2 conf vol	611	1176		701	1314							
vCu, unblocked vol	465	1111	0	422	1123	0	657			562		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	98	98	99	98	100			95		
cM capacity (veh/h)	288	265	810	353	267	810	694			753		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	37	28	586	589	645	635
Volume Left	17	7	1	0	34	0
Volume Right	18	20	0	4	0	24
cSH	423	569	694	1700	753	1700
Volume to Capacity	0.09	0.05	0.00	0.35	0.05	0.37
Queue Length 95th (ft)	7	4	0	0	4	0
Control Delay (s)	14.3	11.7	0.1	0.0	1.2	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	14.3	11.7	0.0		0.6	
Approach LOS	B	B				

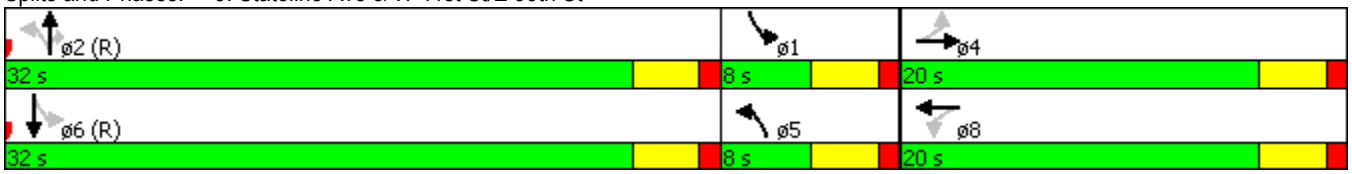
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	62.4%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	29	15	59	29	76	10	851	72	68	878	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		110	120		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1634	0	0	1579	0	1630	3260	1458	1630	3248	0
Flt Permitted		0.753			0.869		0.171			0.168		
Satd. Flow (perm)	0	1261	0	0	1397	0	293	3260	1458	288	3248	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			71				98		5	
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		557			627			3044			318	
Travel Time (s)		12.7			14.3			59.3			5.4	
Confl. Peds. (#/hr)										1		1
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89	0.92	0.92	0.92
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	52	37	19	72	35	93	14	1167	99	90	1164	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	0	200	0	14	1167	99	90	1191	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	32.0	32.0	8.0	32.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		13.3%	53.3%	53.3%	13.3%	53.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	28.0	28.0	4.0	28.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
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)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		11.0			11.0		38.6	34.6	34.6	41.0	39.4	
Actuated g/C Ratio		0.18			0.18		0.64	0.58	0.58	0.68	0.66	
v/c Ratio		0.44			0.64		0.05	0.62	0.11	0.31	0.56	
Control Delay		23.2			23.4		5.4	11.9	2.8	11.4	8.6	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		23.2			23.4		5.4	11.9	2.8	11.4	8.6	
LOS		C			C		A	B	A	B	A	
Approach Delay		23.2			23.4			11.1			8.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			B			A	
Queue Length 50th (ft)		29			42		1	140	0	9	90	
Queue Length 95th (ft)		61			91		7	241	20	27	254	
Internal Link Dist (ft)		477			547			2964			238	
Turn Bay Length (ft)							120		110	120		
Base Capacity (vph)		348			424		277	1881	882	286	2135	
Starvation Cap Reductn		0			0		0	0	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		0.31			0.47		0.05	0.62	0.11	0.31	0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 59.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: Stateline Ave & W 41st St/E 35th St

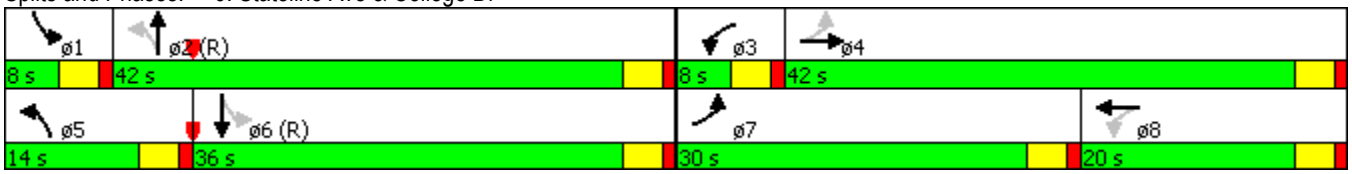


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	1	216	1	1	1	180	781	1	1	729	109
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	100		0	100		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	1460	0	1630	1587	0	1630	3260	0	1630	3195	0
Flt Permitted	0.769						0.138			0.276		
Satd. Flow (perm)	1319	1460	0	1716	1587	0	237	3260	0	474	3195	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		261			1						17	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		666			319			1037			3044	
Travel Time (s)		15.1			7.3			20.2			59.3	
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
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	177	1	261	1	1	1	239	1036	1	1	967	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	262	0	1	2	0	239	1037	0	1	1112	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.0	28.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	30.0	42.0		8.0	20.0		14.0	42.0		8.0	36.0	
Total Split (%)	30.0%	42.0%		8.0%	20.0%		14.0%	42.0%		8.0%	36.0%	
Maximum Green (s)	26.0	38.0		4.0	16.0		10.0	38.0		4.0	32.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	18.2	16.6		5.2	5.7		73.8	71.9		57.9	52.4	
Actuated g/C Ratio	0.18	0.17		0.05	0.06		0.74	0.72		0.58	0.52	
v/c Ratio	0.61	0.57		0.01	0.02		0.57	0.44		0.00	0.66	
Control Delay	45.1	9.6		33.0	38.5		15.4	8.6		8.0	21.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.1	9.6		33.0	38.5		15.4	8.6		8.0	21.9	
LOS	D	A		C	D		B	A		A	C	
Approach Delay		23.9			36.7			9.9			21.9	
Approach LOS		C			D			A			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	107	1		1	1		37	103		0	236	
Queue Length 95th (ft)	145	64		4	8		145	307		2	#512	
Internal Link Dist (ft)		586			239			957			2964	
Turn Bay Length (ft)	100			100			120			120		
Base Capacity (vph)	438	716		86	254		417	2342		338	1682	
Starvation Cap Reductn	0	0		0	0		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	0.40	0.37		0.01	0.01		0.57	0.44		0.00	0.66	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 71.0%		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: 6: Stateline Ave & College Dr



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	42	138	770	61	159	630
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1517	0	3217	0	1630	3260
Flt Permitted	0.989				0.174	
Satd. Flow (perm)	1517	0	3217	0	299	3260
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	191		19			
Link Speed (mph)	30		35			35
Link Distance (ft)	648		2670			1037
Travel Time (s)	14.7		52.0			20.2
Peak Hour Factor	0.88	0.80	0.99	0.85	0.83	0.88
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	53	191	949	88	234	873
Shared Lane Traffic (%)						
Lane Group Flow (vph)	244	0	1037	0	234	873
Turn Type	NA		NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases					6	
Detector Phase	4		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		8.0	20.0
Total Split (s)	20.0		27.0		13.0	40.0
Total Split (%)	33.3%		45.0%		21.7%	66.7%
Maximum Green (s)	16.0		23.0		9.0	36.0
Yellow Time (s)	3.0		3.0		3.0	3.0
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)	4.0		4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	8.7		30.6		43.3	43.3
Actuated g/C Ratio	0.14		0.51		0.72	0.72
v/c Ratio	0.64		0.63		0.57	0.37
Control Delay	14.5		14.6		10.8	4.3
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	14.5		14.6		10.8	4.3
LOS	B		B		B	A
Approach Delay	14.5		14.6			5.7
Approach LOS	B		B			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	18		121		18	42
Queue Length 95th (ft)	63		#276		66	100
Internal Link Dist (ft)	568		2590			957
Turn Bay Length (ft)					120	
Base Capacity (vph)	544		1647		430	2350
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	0.45		0.63		0.54	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		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.			

Splits and Phases: 7: Stateline Ave & E 24th St

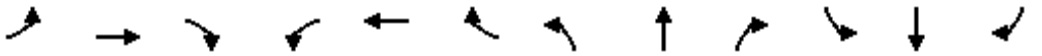
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	3	23	793	13	28	627
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1504	0	3253	0	1630	3260
Flt Permitted	0.994				0.950	
Satd. Flow (perm)	1504	0	3253	0	1630	3260
Link Speed (mph)	30		35			35
Link Distance (ft)	713		1440			2670
Travel Time (s)	16.2		28.1			52.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	4	28	1052	17	37	831
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	1069	0	37	831
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	23	793	13	28	627
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	28	1052	17	37	831
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1550	534			1069	
vC1, stage 1 conf vol	1060					
vC2, stage 2 conf vol	490					
vCu, unblocked vol	1550	534			1069	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	94			94	
cM capacity (veh/h)	265	490			648	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	31	701	368	37	416	416
Volume Left	4	0	0	37	0	0
Volume Right	28	0	17	0	0	0
cSH	446	1700	1700	648	1700	1700
Volume to Capacity	0.07	0.41	0.22	0.06	0.24	0.24
Queue Length 95th (ft)	6	0	0	5	0	0
Control Delay (s)	13.7	0.0	0.0	10.9	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	13.7	0.0		0.5		
Approach LOS	B					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

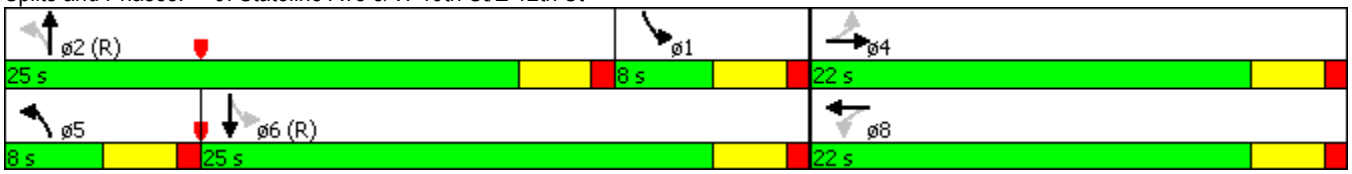


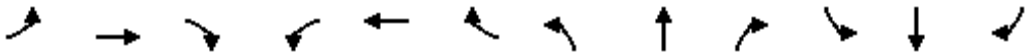
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	90	12	6	48	31	26	615	16	42	526	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1654	0	0	1629	0	1630	3244	0	1630	3224	0
Flt Permitted		0.819			0.971		0.216			0.310		
Satd. Flow (perm)	0	1386	0	0	1588	0	370	3244	0	532	3224	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			40			6			17	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		647			490			635			1440	
Travel Time (s)		14.7			11.1			12.4			28.1	
Confl. Peds. (#/hr)	3		3				6		6			
Peak Hour Factor	0.71	0.90	0.60	0.75	0.80	0.86	0.81	0.87	0.80	0.81	0.85	0.83
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	133	111	22	9	67	40	39	862	24	63	755	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	266	0	0	116	0	39	886	0	63	814	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	22.0	22.0		22.0	22.0		8.0	25.0		8.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		14.5%	45.5%		14.5%	45.5%	
Maximum Green (s)	18.0	18.0		18.0	18.0		4.0	21.0		4.0	21.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		14.6			14.6		27.6	27.6		29.2	29.2	
Actuated g/C Ratio		0.27			0.27		0.50	0.50		0.53	0.53	
v/c Ratio		0.71			0.26		0.13	0.54		0.17	0.47	
Control Delay		28.1			11.6		11.2	12.9		12.5	11.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		28.1			11.6		11.2	12.9		12.5	11.0	
LOS		C			B		B	B		B	B	
Approach Delay		28.1			11.6			12.8			11.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		74			19		7	112		8	67	
Queue Length 95th (ft)		133			40		21	173		29	148	
Internal Link Dist (ft)		567			410			555			1360	
Turn Bay Length (ft)							120			120		
Base Capacity (vph)		459			546		301	1631		361	1718	
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		0.58			0.21		0.13	0.54		0.17	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 51 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 14.0		Intersection LOS: B	
Intersection Capacity Utilization 55.5%		ICU Level of Service B	
Analysis Period (min) 15			

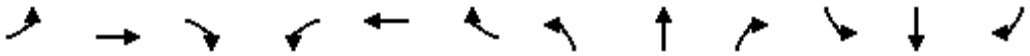
Splits and Phases: 9: Stateline Ave & W 19th St/E 12th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	1	1	1	1	9	1	677	0	10	523	4
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1626	0	0	1514	0	1630	3260	0	1630	3257	0
Flt Permitted		0.964			0.996		0.950			0.950		
Satd. Flow (perm)	0	1626	0	0	1514	0	1630	3260	0	1630	3257	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		392			484			643			635	
Travel Time (s)		8.9			11.0			12.5			12.4	
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
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	6	1	1	1	1	11	1	898	0	13	694	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	0	13	0	1	898	0	13	699	0
Sign Control		Stop			Stop			Free			Free	

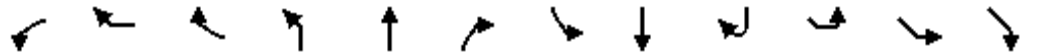
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	1	1	1	1	9	1	677	0	10	523	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			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
Hourly flow rate (vph)	6	1	1	1	1	11	1	898	0	13	694	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)											635	
pX, platoon unblocked	0.90	0.90	0.90	0.90	0.90		0.90					
vC, conflicting volume	1186	1623	349	1276	1626	449	699			898		
vC1, stage 1 conf vol	723	723		900	900							
vC2, stage 2 conf vol	463	900		375	725							
vCu, unblocked vol	985	1471	57	1085	1474	449	445			898		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	100	100	98	100			98		
cM capacity (veh/h)	382	292	898	286	299	557	1001			752		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	8	13	1	599	299	13	462	236
Volume Left	6	1	1	0	0	13	0	0
Volume Right	1	11	0	0	0	0	0	5
cSH	397	478	1001	1700	1700	752	1700	1700
Volume to Capacity	0.02	0.03	0.00	0.35	0.18	0.02	0.27	0.14
Queue Length 95th (ft)	2	2	0	0	0	1	0	0
Control Delay (s)	14.3	12.7	8.6	0.0	0.0	9.9	0.0	0.0
Lane LOS	B	B	A			A		
Approach Delay (s)	14.3	12.7	0.0			0.2		
Approach LOS	B	B						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	34.8%	ICU Level of Service		A
Analysis Period (min)	15			



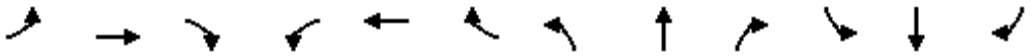
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (vph)	8	30	232	8	450	8	16	552	2	2	3	12
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0		100		0	100		0		0	0
Storage Lanes	1	0		1		0	1		0		1	0
Taper Length (ft)	25			25			25				25	
Satd. Flow (prot)	1489	0	0	1630	3250	0	1630	3257	0	0	1526	0
Flt Permitted	0.999			0.950			0.950				0.986	
Satd. Flow (perm)	1489	0	0	1630	3250	0	1630	3257	0	0	1526	0
Link Speed (mph)	30				30			35			35	
Link Distance (ft)	594				1005			643			446	
Travel Time (s)	13.5				22.8			12.5			8.7	
Confl. Peds. (#/hr)	1		1									
Peak Hour Factor	0.90	0.90	0.90	0.75	0.75	0.75	0.82	0.82	0.82	0.70	0.70	0.70
Growth Factor	111%	111%	111%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	10	37	286	13	732	13	24	821	3	3	5	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	333	0	0	13	745	0	24	824	0	0	29	0
Sign Control	Stop				Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (veh/h)	8	30	232	8	450	8	16	552	2	2	3	12
Sign Control	Stop				Free			Free			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.75	0.75	0.75	0.82	0.82	0.82	0.70	0.70	0.70
Hourly flow rate (vph)	10	37	286	13	732	13	24	821	3	3	5	21
Pedestrians					1			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type					TWLTL			TWLTL				
Median storage veh)					2			2				
Upstream signal (ft)					1005			1278				
pX, platoon unblocked												
vC, conflicting volume	1247	1636	374	824			745			1568	1641	413
vC1, stage 1 conf vol	765	765								870	870	
vC2, stage 2 conf vol	483	872								698	771	
vCu, unblocked vol	1247	1636	374	824			745			1568	1641	413
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5	6.9
tC, 2 stage (s)	6.5	5.5								6.5	5.5	
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	97	86	54	98			97			98	98	96
cM capacity (veh/h)	300	271	623	802			859			146	269	588

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SE 1
Volume Total	333	13	488	257	24	548	277	30
Volume Left	10	13	0	0	24	0	0	3
Volume Right	286	0	0	13	0	0	3	21
cSH	530	802	1700	1700	859	1700	1700	375
Volume to Capacity	0.63	0.02	0.29	0.15	0.03	0.32	0.16	0.08
Queue Length 95th (ft)	108	1	0	0	2	0	0	6
Control Delay (s)	22.6	9.6	0.0	0.0	9.3	0.0	0.0	15.4
Lane LOS	C	A			A			C
Approach Delay (s)	22.6	0.2			0.3			15.4
Approach LOS	C							C

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	53.8%	ICU Level of Service		A
Analysis Period (min)	15			

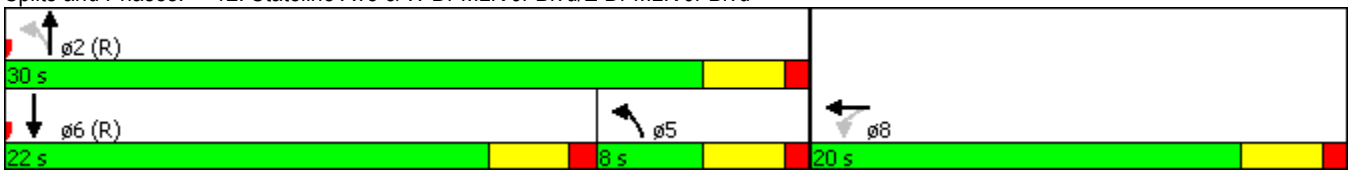


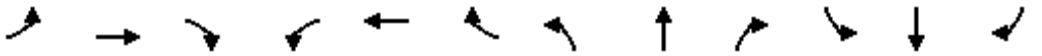
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	9	350	12	42	336	0	0	129	213
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	0	0	0	5864	0	1630	3260	0	0	2957	0
Flt Permitted					0.999		0.491					
Satd. Flow (perm)	0	0	0	0	5864	0	842	3260	0	0	2957	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13						282	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		607			553			434			1005	
Travel Time (s)		11.8			10.8			8.5			19.6	
Confl. Peds. (#/hr)				2		2						
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.70	0.70	0.70	0.92	0.92	0.92
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	0	0	0	12	474	16	73	586	0	0	171	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	502	0	73	586	0	0	453	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phase				8	8		5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0		8.0	20.0			20.0	
Total Split (s)				20.0	20.0		8.0	30.0			22.0	
Total Split (%)				40.0%	40.0%		16.0%	60.0%			44.0%	
Maximum Green (s)				16.0	16.0		4.0	26.0			18.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
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)					4.0		4.0	4.0			4.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)					10.0		32.0	32.0			27.2	
Actuated g/C Ratio					0.20		0.64	0.64			0.54	
v/c Ratio					0.43		0.12	0.28			0.26	
Control Delay					17.8		4.9	4.7			3.7	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay					17.8		4.9	4.7			3.7	
LOS					B		A	A			A	
Approach Delay					17.8			4.8			3.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS					B			A			A	
Queue Length 50th (ft)					37		6	30			13	
Queue Length 95th (ft)					51		15	44			38	
Internal Link Dist (ft)		527			473			354			925	
Turn Bay Length (ft)							100					
Base Capacity (vph)					1885		602	2088			1739	
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					0.27		0.12	0.28			0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 34.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd



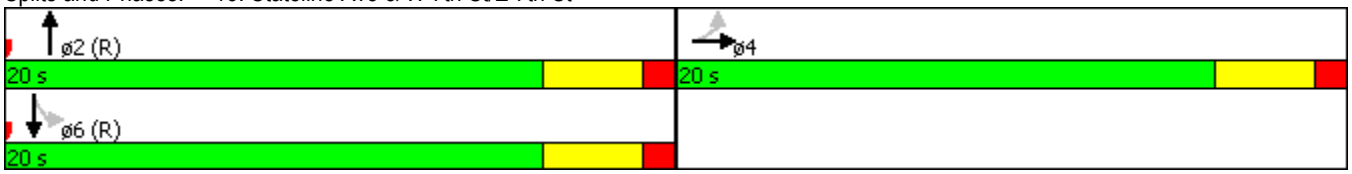


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	425	3	0	0	0	0	78	11	34	71	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	4600	0	0	0	0	0	3201	0	1630	3260	0
Flt Permitted		0.983								0.638		
Satd. Flow (perm)	0	4600	0	0	0	0	0	3201	0	1095	3260	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						22				
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		491			438			609			434	
Travel Time (s)		9.6			10.0			11.9			8.5	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.60	0.60	0.60	0.83	0.83	0.83
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	358	691	5	0	0	0	0	159	22	50	104	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1054	0	0	0	0	0	181	0	50	104	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phase	4	4						2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%						50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0						16.0		16.0	16.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
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)		4.0						4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0						5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0						11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)		15.0						17.0		17.0	17.0	
Actuated g/C Ratio		0.38						0.42		0.42	0.42	
v/c Ratio		0.61						0.13		0.11	0.07	
Control Delay		11.7						7.0		8.4	7.6	
Queue Delay		0.0						0.0		0.0	0.0	
Total Delay		11.7						7.0		8.4	7.6	
LOS		B						A		A	A	
Approach Delay		11.7						7.0			7.9	
Approach LOS		B						A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		62						11		7	6	
Queue Length 95th (ft)		71						15		19	15	
Internal Link Dist (ft)		411			358			529			354	
Turn Bay Length (ft)										150		
Base Capacity (vph)		1841						1376		466	1389	
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		0.57						0.13		0.11	0.07	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 34.7%		ICU Level of Service A	
Analysis Period (min) 15			

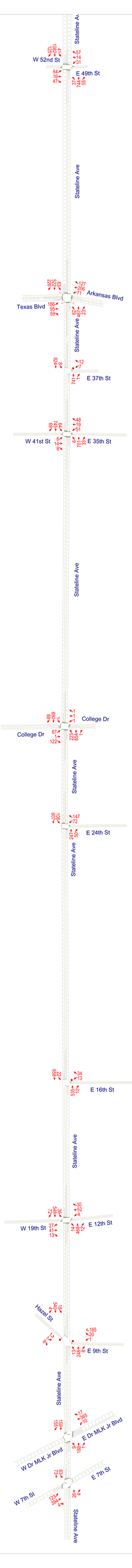
Splits and Phases: 13: Stateline Ave & W 7th St/E 7th St

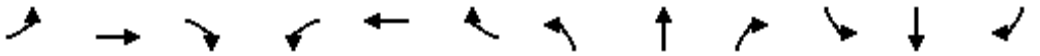


Appendix F: Alternative #1 Raised Median with Growth

- Traffic Operational Analysis Results

PROJECTED TRAFFIC CONDITIONS ALTERNATIVE #1 WITH RAISED MEDIAN AND BACKGROUND GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		B	A		**A**	9.7	53.2%
	PM		B			B			A	A		B	A		**A**	9.1	48.5%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	C	B		C	B		C	C		C	C	A	**C**	20.1	56.3%
	PM		F	F		F	F		F	E		F	D	A	**F**	96.6	94.3%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	39.6%
	PM					B		B		A		A	A		**n/a**	0.3	52.4%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A	A		**A**	8.5	51.5%
	PM		C			C			A	B	A	B	B		**B**	14.6	62.0%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		B	A		A	A		**A**	9.7	59.3%
	PM		D	B		C	C		C	A		A	B		**B**	14.7	75.0%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		B		A	A		**A**	8.6	45.2%
	PM					B		B		B		C	A		**B**	13.6	69.2%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				C		C		A		A	A		**n/a**	1.1	35.2%
	PM					C		C		A		B	A		**n/a**	0.8	47.3%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.2	45.0%
	PM		D			B			B	B		B	A		**B**	16.8	68.3%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	C			C			A	A		A	A		**n/a**	3.9	50.3%
	PM		F			F			A	A		A	A		**n/a**	25.8	61.4%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.6	30.6%
	PM					B			A	A			A		**A**	9.4	42.0%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	10.5	34.1%
	PM		B							A		A	A		**B**	10.2	42.0%


Stateline Ave
W 52nd St
E 49th St
Stateline Ave
Arkansas Blvd
Texas Blvd
Stateline Ave
E 37th St
W 41st St
E 35th St
Stateline Ave
College Dr
College Dr
Stateline Ave
E 24th St
Stateline Ave
E 16th St
Stateline Ave
W 19th St
E 12th St
Hazel St
E 9th St
Stateline Ave
E Dr MLK Jr Blvd
W Dr MLK Jr Blvd
E 7th St
W 7th St
Stateline Ave

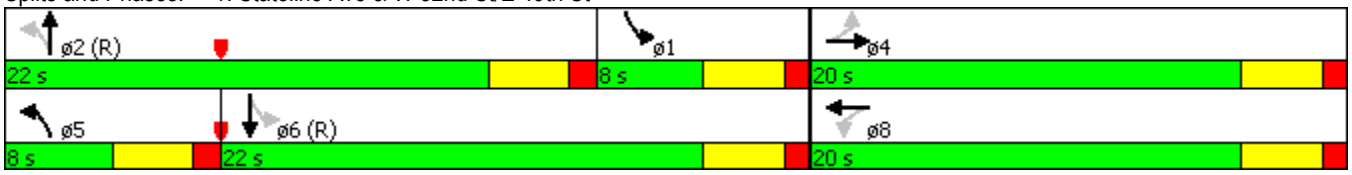


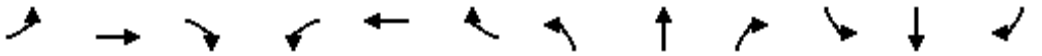
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	14	42	28	13	51	29	581	43	32	845	98
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	14	12	12	13	12	12
Storage Length (ft)	0		0	0		0	350		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1571	0	0	1537	0	1739	3216	0	1684	4585	0
Flt Permitted		0.824			0.889		0.156			0.321		
Satd. Flow (perm)	0	1318	0	0	1381	0	285	3216	0	564	4585	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			69			17			45	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		219			214			2398			805	
Travel Time (s)		5.0			4.9			40.9			13.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.90	0.90	0.90	0.87	0.87	0.87
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	77	18	56	38	18	69	41	826	61	47	1243	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	125	0	41	887	0	47	1387	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	22.0		8.0	22.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	44.0%		16.0%	44.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	18.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.4			9.4		31.3	32.1		30.4	31.2	
Actuated g/C Ratio		0.19			0.19		0.63	0.64		0.61	0.62	
v/c Ratio		0.52			0.40		0.12	0.43		0.11	0.48	
Control Delay		17.8			12.5		8.2	8.3		10.3	9.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.8			12.5		8.2	8.3		10.3	9.5	
LOS		B			B		A	A		B	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		17.8			12.5			8.3			9.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		25			14		3	48		4	53	
Queue Length 95th (ft)		53			38		21	160		24	166	
Internal Link Dist (ft)		139			134			2318			725	
Turn Bay Length (ft)							350			150		
Base Capacity (vph)		459			488		349	2070		432	2880	
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		0.33			0.26		0.12	0.43		0.11	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 53.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Stateline Ave & W 52nd St/E 49th St



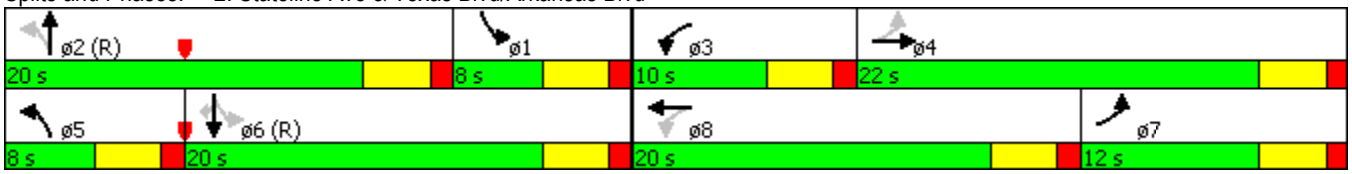


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	86	53	64	186	114	51	383	19	52	428	185
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Storage Length (ft)	200		0	130		0	350		0	350		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	3034	0	1630	3034	0	1630	3232	0	1630	3260	1458
Flt Permitted	0.571			0.571			0.272			0.400		
Satd. Flow (perm)	968	3034	0	966	3034	0	464	3232	0	680	3260	1409
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			186			8				309
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		463			387			761			2398	
Travel Time (s)		7.9			6.6			13.0			40.9	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.74	0.74	0.74	0.73	0.73	0.73
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	274	140	87	104	304	186	84	631	31	87	715	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	274	227	0	104	490	0	84	662	0	87	715	309
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	12.0	22.0		10.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (%)	20.0%	36.7%		16.7%	33.3%		13.3%	33.3%		13.3%	33.3%	33.3%
Maximum Green (s)	8.0	18.0		6.0	16.0		4.0	16.0		4.0	16.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	17.6	17.6		11.8	11.8		20.0	20.0		19.5	19.5	19.5
Actuated g/C Ratio	0.29	0.29		0.20	0.20		0.33	0.33		0.32	0.32	0.32
v/c Ratio	0.70	0.24		0.41	0.66		0.34	0.61		0.31	0.68	0.46
Control Delay	32.0	10.6		24.4	17.5		21.2	21.7		22.8	24.0	5.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	32.0	10.6		24.4	17.5		21.2	21.7		22.8	24.0	5.3
LOS	C	B		C	B		C	C		C	C	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		22.3			18.7			21.7			18.7	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	82	19		33	52		23	114		24	127	0
Queue Length 95th (ft)	104	27		47	53		43	130		44	140	22
Internal Link Dist (ft)		383			307			681			2318	
Turn Bay Length (ft)	200			130			350			350		
Base Capacity (vph)	396	976		255	945		247	1081		284	1059	666
Starvation Cap Reductn	0	0		0	0		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	0.69	0.23		0.41	0.52		0.34	0.61		0.31	0.68	0.46

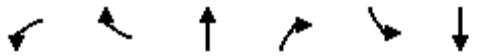
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Stateline Ave & Texas Blvd/Arkansas Blvd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	6	11	579	1	6	644
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	11	11	12	11
Storage Length (ft)	0	0		0	260	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1538	0	3151	0	1630	3151
Flt Permitted	0.983				0.950	
Satd. Flow (perm)	1538	0	3151	0	1630	3151
Link Speed (mph)	30		40			40
Link Distance (ft)	331		661			761
Travel Time (s)	7.5		11.3			13.0
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	9	17	806	1	9	981
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	807	0	9	981
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	6	11	579	1	6	644
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	9	17	806	1	9	981
Pedestrians	20		20			20
Lane Width (ft)	12.0		11.0			11.3
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			661			761
pX, platoon unblocked	0.88	0.89			0.89	
vC, conflicting volume	1355	443			827	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	574	131			561	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	379	772			882	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	27	537	270	9	491	491
Volume Left	9	0	0	9	0	0
Volume Right	17	0	1	0	0	0
cSH	565	1700	1700	882	1700	1700
Volume to Capacity	0.05	0.32	0.16	0.01	0.29	0.29
Queue Length 95th (ft)	4	0	0	1	0	0
Control Delay (s)	11.7	0.0	0.0	9.1	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	11.7	0.0		0.1		
Approach LOS	B					

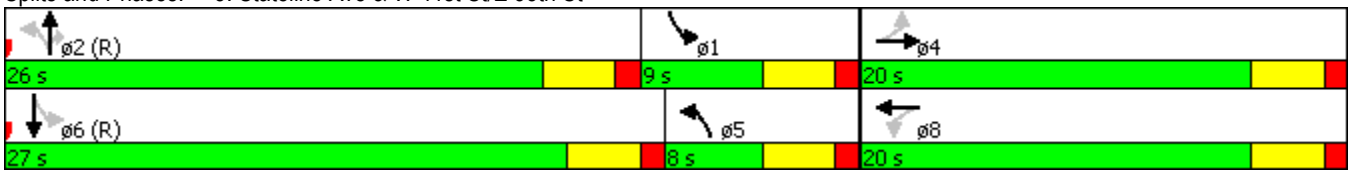
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		

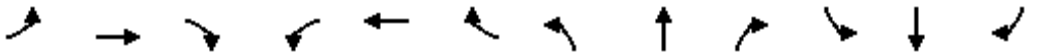
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	13	7	46	17	43	5	548	26	50	582	54
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	330		110	330		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1621	0	0	1566	0	1630	3151	1410	1630	3096	0
Flt Permitted		0.937			0.842		0.227			0.306		
Satd. Flow (perm)	0	1532	0	0	1336	0	387	3151	1334	520	3096	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			61				99		22	
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		557			627			3044			661	
Travel Time (s)		12.7			14.3			59.3			11.3	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.86	0.86	0.86	0.78	0.78	0.78
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	10	19	10	65	24	61	7	816	39	82	955	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	150	0	7	816	39	82	1044	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	26.0	26.0	9.0	27.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		14.5%	47.3%	47.3%	16.4%	49.1%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	22.0	22.0	5.0	23.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
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)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		9.3			9.3		37.4	35.0	35.0	40.2	38.8	
Actuated g/C Ratio		0.17			0.17		0.68	0.64	0.64	0.73	0.71	
v/c Ratio		0.15			0.54		0.02	0.41	0.04	0.17	0.48	
Control Delay		15.4			19.9		4.5	8.8	0.3	5.5	7.0	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		15.4			19.9		4.5	8.8	0.3	5.5	7.0	
LOS		B			B		A	A	A	A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		15.4			19.9			8.3			6.9	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		8			26		1	80	0	7	61	
Queue Length 95th (ft)		21			51		4	140	1	20	157	
Internal Link Dist (ft)		477			547			2964			581	
Turn Bay Length (ft)							330		110	330		
Base Capacity (vph)		452			431		353	2004	884	480	2189	
Starvation Cap Reductn		0			0		0	0	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		0.09			0.35		0.02	0.41	0.04	0.17	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 51.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Stateline Ave & W 41st St/E 35th St



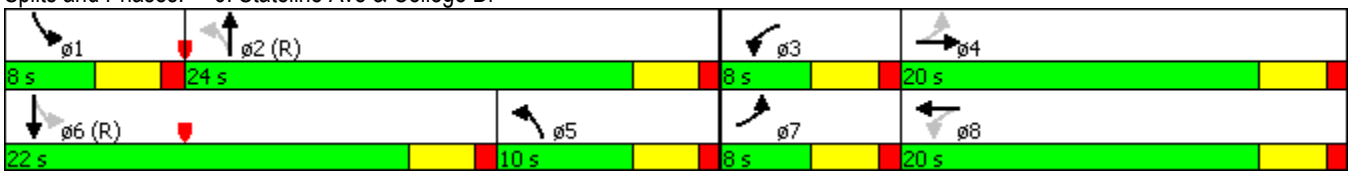


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1	110	1	1	1	174	511	1	1	539	69
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	16	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	100		0	100		0	320		0	320		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1847	1411	0	1630	1560	0	1630	3151	0	1630	3078	0
Flt Permitted	0.678						0.317			0.293		
Satd. Flow (perm)	1289	1411	0	1684	1560	0	538	3151	0	498	3078	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		133			1						24	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		666			319			1037			3044	
Travel Time (s)		15.1			7.3			20.2			59.3	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
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
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	72	1	133	1	1	1	242	711	1	1	750	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	134	0	1	2	0	242	712	0	1	846	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	8.0	20.0		8.0	20.0		10.0	24.0		8.0	22.0	
Total Split (%)	13.3%	33.3%		13.3%	33.3%		16.7%	40.0%		13.3%	36.7%	
Maximum Green (s)	4.0	16.0		4.0	16.0		6.0	20.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	7.5	7.0		6.4	6.6		43.4	44.2		35.3	35.3	
Actuated g/C Ratio	0.12	0.12		0.11	0.11		0.72	0.74		0.59	0.59	
v/c Ratio	0.35	0.48		0.01	0.01		0.49	0.31		0.00	0.46	
Control Delay	25.6	11.3		19.0	19.5		14.8	6.1		9.0	9.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.6	11.3		19.0	19.5		14.8	6.1		9.0	9.7	
LOS	C	B		B	B		B	A		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		16.3			19.3			8.3			9.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	25	0		0	0		15	25		0	72	
Queue Length 95th (ft)	43	40		3	5		#145	150		3	185	
Internal Link Dist (ft)		586			239			957			2964	
Turn Bay Length (ft)	100			100			320			320		
Base Capacity (vph)	207	473		177	416		498	2321		397	1822	
Starvation Cap Reductn	0	0		0	0		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	0.35	0.28		0.01	0.00		0.49	0.31		0.00	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Stateline Ave & College Dr

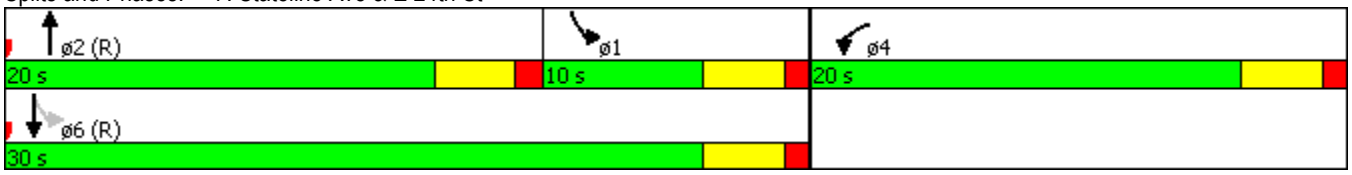


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	65	132	193	39	84	474
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	11	11	12	11
Storage Length (ft)	0	0		0	320	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1517	0	3026	0	1630	3151
Flt Permitted	0.980				0.539	
Satd. Flow (perm)	1506	0	3026	0	907	3151
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	160		65			
Link Speed (mph)	30		35			35
Link Distance (ft)	648		2670			1037
Travel Time (s)	14.7		52.0			20.2
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.65	0.87	0.87	0.70	0.78	0.85
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	111	168	284	71	138	714
Shared Lane Traffic (%)						
Lane Group Flow (vph)	279	0	355	0	138	714
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases					6	
Detector Phase	4		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		8.0	20.0
Total Split (s)	20.0		20.0		10.0	30.0
Total Split (%)	40.0%		40.0%		20.0%	60.0%
Maximum Green (s)	16.0		16.0		6.0	26.0
Yellow Time (s)	3.0		3.0		3.0	3.0
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)	4.0		4.0		4.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	10.0		24.0		32.0	32.0
Actuated g/C Ratio	0.20		0.48		0.64	0.64
v/c Ratio	0.65		0.24		0.21	0.35
Control Delay	14.9		10.6		6.3	5.6
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	14.9		10.6		6.3	5.6
LOS	B		B		A	A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	14.9		10.6			5.8
Approach LOS	B		B			A
Queue Length 50th (ft)	31		31		12	39
Queue Length 95th (ft)	38		75		34	85
Internal Link Dist (ft)	568		2590			957
Turn Bay Length (ft)					320	
Base Capacity (vph)	594		1483		666	2013
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	0.47		0.24		0.21	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 8.6		Intersection LOS: A	
Intersection Capacity Utilization 45.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Stateline Ave & E 24th St



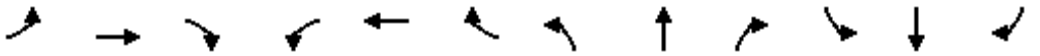
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	31	418	8	17	514
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	11	12	11
Storage Length (ft)	0	0		0	320	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1528	0	3250	0	1630	3151
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1528	0	3250	0	1630	3151
Link Speed (mph)	30		35			35
Link Distance (ft)	713		1440			2670
Travel Time (s)	16.2		28.1			52.0
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	22	57	652	15	31	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	667	0	31	723
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	12	31	418	8	17	514
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Hourly flow rate (vph)	22	57	652	15	31	723
Pedestrians	20		20			20
Lane Width (ft)	12.0		12.0			11.3
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1123	374			688	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1123	374			688	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	90			97	
cM capacity (veh/h)	186	603			887	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	80	435	233	31	361	361
Volume Left	22	0	0	31	0	0
Volume Right	57	0	15	0	0	0
cSH	371	1700	1700	887	1700	1700
Volume to Capacity	0.21	0.26	0.14	0.03	0.21	0.21
Queue Length 95th (ft)	20	0	0	3	0	0
Control Delay (s)	17.3	0.0	0.0	9.2	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	17.3	0.0		0.4		
Approach LOS	C					

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

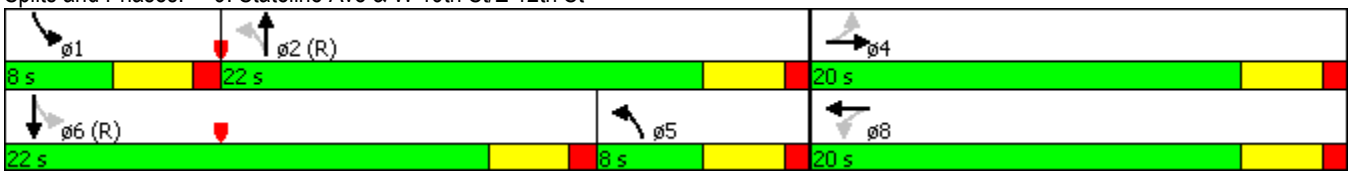


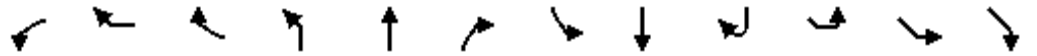
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	37	12	4	47	27	11	366	9	28	428	56
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	210		0	330		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1643	0	0	1615	0	1630	3135	0	1630	3079	0
Flt Permitted		0.890			0.982		0.368			0.385		
Satd. Flow (perm)	0	1478	0	0	1587	0	624	3135	0	653	3079	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			43			5			32	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		647			490			1278			1440	
Travel Time (s)		14.7			11.1			24.9			28.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.79	0.79	0.79	0.70	0.70	0.70	0.90	0.90	0.90	0.83	0.83	0.83
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	34	52	17	6	75	43	16	521	13	43	660	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	124	0	16	534	0	43	746	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	22.0		8.0	22.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	44.0%		16.0%	44.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	18.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.4			8.4		31.1	31.9		33.9	34.7	
Actuated g/C Ratio		0.17			0.17		0.62	0.64		0.68	0.69	
v/c Ratio		0.39			0.41		0.03	0.27		0.08	0.35	
Control Delay		19.8			16.7		8.6	7.2		4.5	6.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.8			16.7		8.6	7.2		4.5	6.0	
LOS		B			B		A	A		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		19.8			16.7			7.3			6.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		23			21		1	16		6	65	
Queue Length 95th (ft)		45			38		13	98		m10	124	
Internal Link Dist (ft)		567			410			1198			1360	
Turn Bay Length (ft)							210			330		
Base Capacity (vph)		484			537		469	2004		563	2146	
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		0.21			0.23		0.03	0.27		0.08	0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 45.0%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 9: Stateline Ave & W 19th St/E 12th St





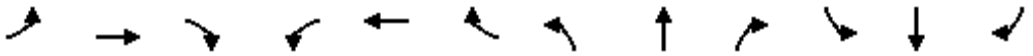
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (vph)	1	18	167	12	223	7	14	422	3	1	1	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0	0		175		0	210		0		0	0
Storage Lanes	1	0		1		0	1		0		1	0
Taper Length (ft)	25			25			25				25	
Satd. Flow (prot)	1484	0	0	1630	3244	0	1630	3148	0	0	1473	0
Flt Permitted				0.950			0.950				0.988	
Satd. Flow (perm)	1484	0	0	1630	3244	0	1630	3148	0	0	1473	0
Link Speed (mph)	30				30			35			35	
Link Distance (ft)	594				1005			1278			446	
Travel Time (s)	13.5				22.8			24.9			8.7	
Confl. Peds. (#/hr)	20	20	20	20		20	20		20	20	20	20
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	1	27	247	19	344	11	21	628	4	2	2	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	275	0	0	18	355	0	21	632	0	0	16	0
Sign Control	Stop				Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (veh/h)	1	18	167	12	223	7	14	422	3	1	1	6
Sign Control	Stop				Free			Free			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Hourly flow rate (vph)	1	27	247	18	344	11	21	628	4	2	2	12
Pedestrians	20				20			20			20	
Lane Width (ft)	12.0				12.0			11.3			11.0	
Walking Speed (ft/s)	4.0				4.0			4.0			4.0	
Percent Blockage	2				2			2			2	
Right turn flare (veh)												
Median type					None			None				
Median storage veh)												
Upstream signal (ft)					1005			1278				
pX, platoon unblocked												
vC, conflicting volume	795	1100	217	653			375			1181	1104	356
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	795	1100	217	653			375			1181	1104	356
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	99	86	68	98			98			98	99	98
cM capacity (veh/h)	249	196	762	916			1161			81	195	620

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SE 1
Volume Total	275	18	229	125	21	419	214	16
Volume Left	1	18	0	0	21	0	0	2
Volume Right	247	0	0	11	0	0	4	12
cSH	591	916	1700	1700	1161	1700	1700	295
Volume to Capacity	0.47	0.02	0.13	0.07	0.02	0.25	0.13	0.05
Queue Length 95th (ft)	62	2	0	0	1	0	0	4
Control Delay (s)	16.3	9.0	0.0	0.0	8.2	0.0	0.0	17.9
Lane LOS	C	A			A			C
Approach Delay (s)	16.3	0.4			0.3			17.9
Approach LOS	C							C

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	50.3%	ICU Level of Service		A
Analysis Period (min)	15			

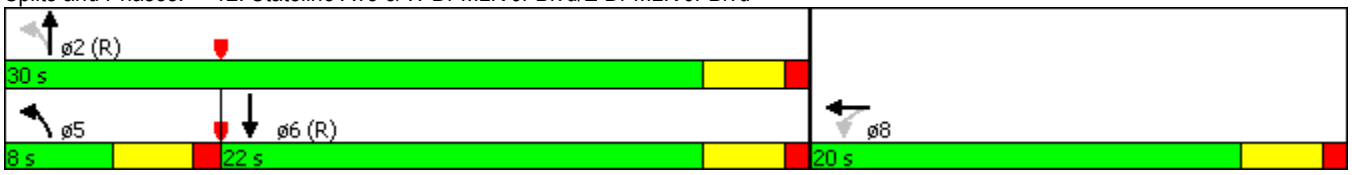


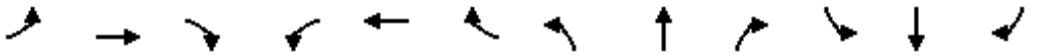
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	8	299	14	7	147	1	0	124	121
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	0	0	0	5847	0	1847	3147	0	0	2874	0
Flt Permitted					0.999		0.443					
Satd. Flow (perm)	0	0	0	0	5844	0	854	3147	0	0	2874	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					19			2			207	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		607			553			434			1005	
Travel Time (s)		11.8			10.8			8.5			19.6	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82	0.75	0.75	0.75
Growth Factor	122%	122%	122%	122%	122%	122%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	0	0	0	11	396	19	11	229	2	0	212	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	426	0	11	231	0	0	419	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phase				8	8		5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0		8.0	20.0			20.0	
Total Split (s)				20.0	20.0		8.0	30.0			22.0	
Total Split (%)				40.0%	40.0%		16.0%	60.0%			44.0%	
Maximum Green (s)				16.0	16.0		4.0	26.0			18.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
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)					4.0		4.0	4.0			4.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)					9.1		32.9	32.9			30.9	
Actuated g/C Ratio					0.18		0.66	0.66			0.62	
v/c Ratio					0.39		0.02	0.11			0.23	
Control Delay					17.9		3.7	3.7			4.7	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay					17.9		3.7	3.7			4.7	
LOS					B		A	A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					17.9			3.7			4.7	
Approach LOS					B			A			A	
Queue Length 50th (ft)					31		1	10			2	
Queue Length 95th (ft)					45		5	20			75	
Internal Link Dist (ft)		527			473			354			925	
Turn Bay Length (ft)							100					
Base Capacity (vph)					1883		673	2070			1854	
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					0.23		0.02	0.11			0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 30.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd



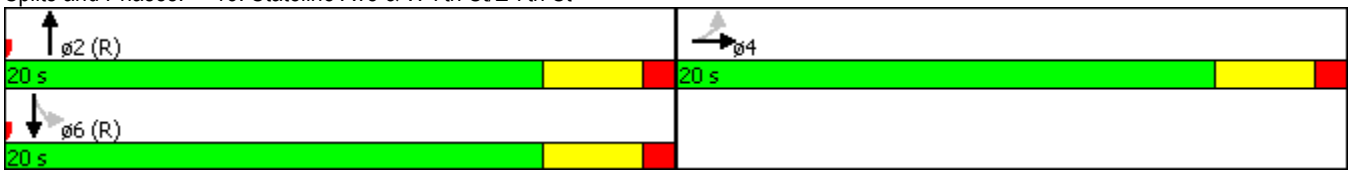


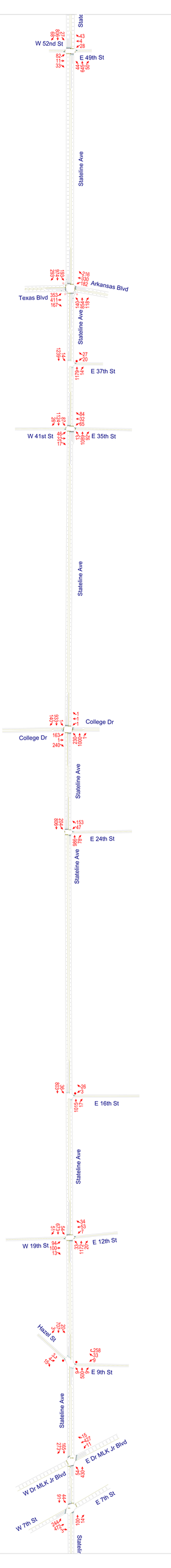
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	355	4	0	0	0	0	20	3	49	57	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	4627	0	0	0	0	0	3077	0	1847	3151	0
Flt Permitted		0.989								0.725		
Satd. Flow (perm)	0	4611	0	0	0	0	0	3077	0	1390	3151	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						6				
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		491			438			609			434	
Travel Time (s)		11.2			10.0			11.9			8.5	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.84	0.81	0.81	0.92	0.92	0.92	0.64	0.64	0.64	0.78	0.78	0.78
Growth Factor	111%	111%	111%	122%	122%	122%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	147	486	5	0	0	0	0	40	6	80	94	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	638	0	0	0	0	0	46	0	80	94	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phase	4	4						2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%						50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0						16.0		16.0	16.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
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)		4.0						4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0						5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0						11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)		12.1						19.9		19.9	19.9	
Actuated g/C Ratio		0.30						0.50		0.50	0.50	
v/c Ratio		0.46						0.03		0.12	0.06	
Control Delay		11.8						6.0		7.2	6.5	
Queue Delay		0.0						0.0		0.0	0.0	
Total Delay		11.8						6.0		7.2	6.5	
LOS		B						A		A	A	

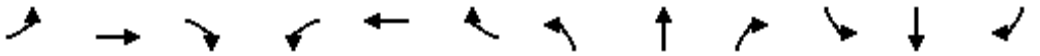
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		11.8						6.0			6.8	
Approach LOS		B						A			A	
Queue Length 50th (ft)		40						2		9	5	
Queue Length 95th (ft)		46						6		25	13	
Internal Link Dist (ft)		411			358			529			354	
Turn Bay Length (ft)										150		
Base Capacity (vph)		1846						1536		693	1570	
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		0.35						0.03		0.12	0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 34.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: Stateline Ave & W 7th St/E 7th St




State
W 52nd St
E 49th St
Stateline Ave
Arkansas Blvd
Texas Blvd
Stateline Ave
E 37th St
W 41st St
E 35th St
Stateline Ave
College Dr
College Dr
Stateline Ave
E 24th St
Stateline Ave
E 16th St
Stateline Ave
W 19th St
E 12th St
Hazel St
E 9th St
Stateline Ave
E Dr MLK Jr Blvd
W Dr MLK Jr Blvd
E 7th St
W 7th St
Stateline

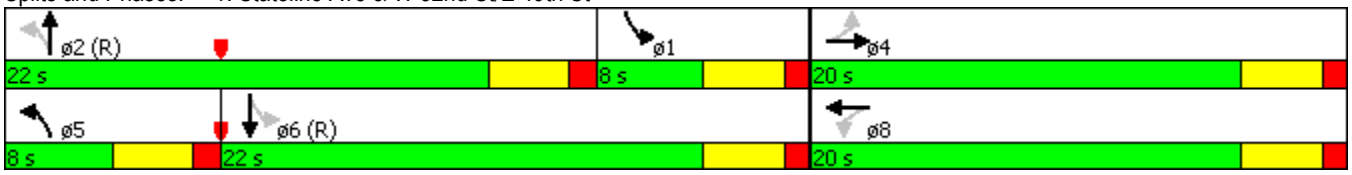


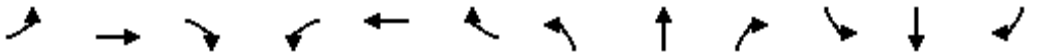
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	10	30	25	4	39	34	504	39	21	630	53
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	14	12	12	13	12	12
Storage Length (ft)	0		0	0		0	350		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1590	0	0	1526	0	1739	3212	0	1684	4609	0
Flt Permitted		0.821			0.882		0.208			0.359		
Satd. Flow (perm)	0	1333	0	0	1364	0	378	3212	0	630	4609	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38			53			18			30	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		219			214			2398			805	
Travel Time (s)		5.0			4.9			40.9			13.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.90	0.90	0.90	0.87	0.87	0.87
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	98	13	40	34	5	53	48	717	55	31	927	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	92	0	48	772	0	31	1005	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	22.0		8.0	22.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	44.0%		16.0%	44.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	18.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		10.0			10.0		30.7	31.5		29.9	30.7	
Actuated g/C Ratio		0.20			0.20		0.61	0.63		0.60	0.61	
v/c Ratio		0.51			0.29		0.12	0.38		0.07	0.35	
Control Delay		18.7			10.5		8.6	8.3		10.0	8.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		18.7			10.5		8.6	8.3		10.0	8.2	
LOS		B			B		A	A		B	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		18.7			10.5			8.3			8.2	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		29			10		4	42		3	37	
Queue Length 95th (ft)		57			29		25	138		18	111	
Internal Link Dist (ft)		139			134			2318			725	
Turn Bay Length (ft)							350			150		
Base Capacity (vph)		452			472		388	2027		461	2843	
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		0.33			0.19		0.12	0.38		0.07	0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.1		Intersection LOS: A	
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Stateline Ave & W 52nd St/E 49th St



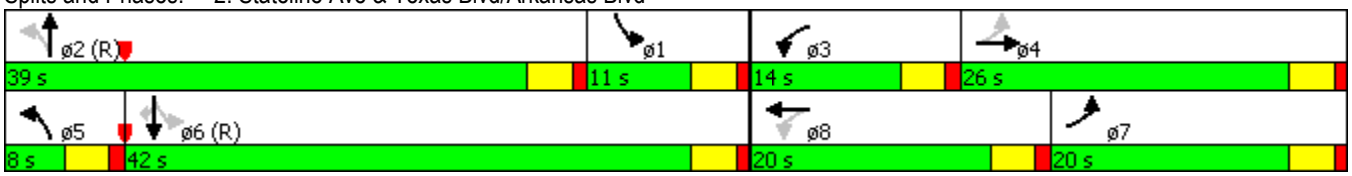


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	318	370	150	164	297	195	115	700	97	158	798	240
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Storage Length (ft)	200		0	130		0	350		0	350		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	3079	0	1630	3013	0	1630	3184	0	1630	3260	1458
Flt Permitted	0.667			0.667			0.129			0.129		
Satd. Flow (perm)	1132	3079	0	1135	3013	0	221	3184	0	221	3260	1393
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			147			20				401
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		463			387			761			2398	
Travel Time (s)		7.9			6.6			13.0			40.9	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.74	0.74	0.74	0.73	0.73	0.73
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	519	604	245	268	485	318	190	1154	160	264	1334	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	519	849	0	268	803	0	190	1314	0	264	1334	401
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	20.0	26.0		14.0	20.0		8.0	39.0		11.0	42.0	42.0
Total Split (%)	22.2%	28.9%		15.6%	22.2%		8.9%	43.3%		12.2%	46.7%	46.7%
Maximum Green (s)	16.0	22.0		10.0	16.0		4.0	35.0		7.0	38.0	38.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	22.0	22.0		16.0	16.0		35.0	35.0		38.0	38.0	38.0
Actuated g/C Ratio	0.24	0.24		0.18	0.18		0.39	0.39		0.42	0.42	0.42
v/c Ratio	1.42	1.06		1.05	1.22		1.28	1.05		1.31	0.97	0.49
Control Delay	235.1	80.9		107.0	142.5		194.3	68.1		200.7	44.6	4.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	235.1	80.9		107.0	142.5		194.3	68.1		200.7	44.6	4.1
LOS	F	F		F	F		F	E		F	D	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		139.4			133.6			84.0			57.1	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~402	~266		~159	~261		~99	~430		~148	380	0
Queue Length 95th (ft)	#396	216		#203	#224		#163	#363		#212	341	15
Internal Link Dist (ft)		383			307			681			2318	
Turn Bay Length (ft)	200			130			350			350		
Base Capacity (vph)	365	801		256	656		148	1250		202	1376	819
Starvation Cap Reductn	0	0		0	0		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	1.42	1.06		1.05	1.22		1.28	1.05		1.31	0.97	0.49

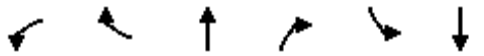
Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 96.6	Intersection LOS: F
Intersection Capacity Utilization 94.3%	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: 2: Stateline Ave & Texas Blvd/Arkansas Blvd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	18	24	921	11	11	968
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	11	11	12	11
Storage Length (ft)	0	0		0	260	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1549	0	3145	0	1630	3151
Flt Permitted	0.979				0.950	
Satd. Flow (perm)	1549	0	3145	0	1630	3151
Link Speed (mph)	30		40			40
Link Distance (ft)	331		661			761
Travel Time (s)	7.5		11.3			13.0
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	28	38	1281	15	17	1475
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	1296	0	17	1475
Sign Control	Stop		Free			Free

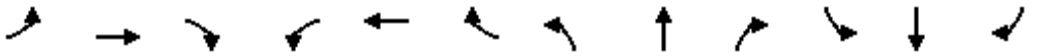
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	24	921	11	11	968
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	28	38	1281	15	17	1475
Pedestrians	20		20			20
Lane Width (ft)	12.0		11.0			11.3
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			661			761
pX, platoon unblocked	0.78	0.72			0.72	
vC, conflicting volume	2100	688			1317	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	217	0			647	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	95			97	
cM capacity (veh/h)	556	751			657	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	66	854	442	17	738	738
Volume Left	28	0	0	17	0	0
Volume Right	38	0	15	0	0	0
cSH	653	1700	1700	657	1700	1700
Volume to Capacity	0.10	0.50	0.26	0.03	0.43	0.43
Queue Length 95th (ft)	8	0	0	2	0	0
Control Delay (s)	11.1	0.0	0.0	10.6	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.1	0.0		0.1		
Approach LOS	B					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

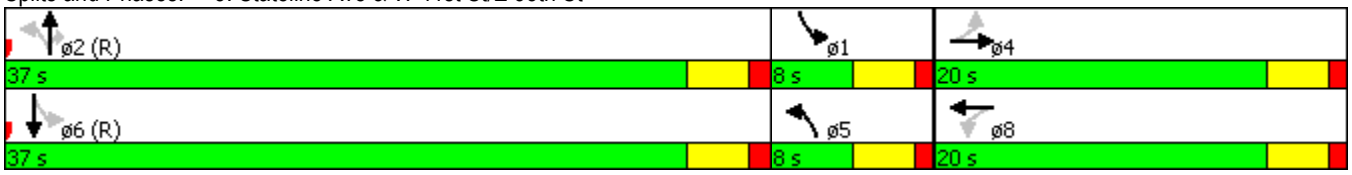


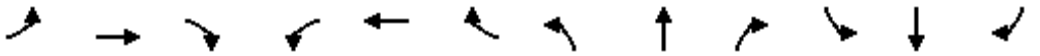
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	29	15	59	29	76	10	851	72	68	878	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	330		110	330		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1624	0	0	1552	0	1630	3151	1410	1630	3137	0
Flt Permitted		0.706			0.845		0.115			0.142		
Satd. Flow (perm)	0	1167	0	0	1327	0	197	3151	1325	243	3137	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			63				97		5	
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		557			627			3044			661	
Travel Time (s)		12.7			14.3			59.3			11.3	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.86	0.86	0.86	0.78	0.78	0.78
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	61	43	22	84	41	108	15	1267	107	112	1441	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	233	0	15	1267	107	112	1474	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	37.0	37.0	8.0	37.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%		12.3%	56.9%	56.9%	12.3%	56.9%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	33.0	33.0	4.0	33.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
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)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		12.6			12.6		42.0	38.0	38.0	44.4	42.8	
Actuated g/C Ratio		0.19			0.19		0.65	0.58	0.58	0.68	0.66	
v/c Ratio		0.53			0.76		0.07	0.69	0.13	0.45	0.71	
Control Delay		27.7			33.4		6.2	13.5	3.0	17.4	12.2	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		27.7			33.4		6.2	13.5	3.0	17.4	12.2	
LOS		C			C		A	B	A	B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		27.7			33.4			12.6			12.5	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		38			62		2	183	2	13	159	
Queue Length 95th (ft)		64			102		7	261	20	27	278	
Internal Link Dist (ft)		477			547			2964			581	
Turn Bay Length (ft)							330		110	330		
Base Capacity (vph)		299			374		215	1841	814	251	2066	
Starvation Cap Reductn		0			0		0	0	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		0.42			0.62		0.07	0.69	0.13	0.45	0.71	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: Stateline Ave & W 41st St/E 35th St



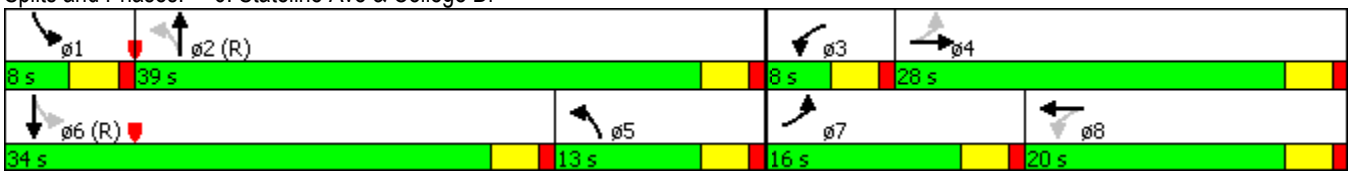


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	1	216	1	1	1	180	781	1	1	729	109
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	16	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	100		0	100		0	320		0	320		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1847	1398	0	1630	1553	0	1630	3151	0	1630	3060	0
Flt Permitted	0.727						0.172			0.174		
Satd. Flow (perm)	1375	1398	0	1679	1553	0	294	3151	0	299	3060	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		261			1						22	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		666			319			1037			3044	
Travel Time (s)		15.1			7.3			20.2			59.3	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
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
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	177	1	261	1	1	1	250	1087	1	1	1014	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	262	0	1	2	0	250	1088	0	1	1166	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	16.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	16.0	28.0		8.0	20.0		13.0	39.0		8.0	34.0	
Total Split (%)	19.3%	33.7%		9.6%	24.1%		15.7%	47.0%		9.6%	41.0%	
Maximum Green (s)	12.0	24.0		4.0	16.0		9.0	35.0		4.0	30.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	13.4	11.8		5.5	5.9		59.7	59.7		48.6	48.6	
Actuated g/C Ratio	0.16	0.14		0.07	0.07		0.72	0.72		0.59	0.59	
v/c Ratio	0.62	0.62		0.01	0.02		0.70	0.48		0.00	0.65	
Control Delay	41.0	11.5		28.0	31.0		29.9	7.7		10.0	14.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.0	11.5		28.0	31.0		29.9	7.7		10.0	14.6	
LOS	D	B		C	C		C	A		A	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		23.4			30.0			11.9			14.6	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	88	0		1	1		29	85		0	181	
Queue Length 95th (ft)	128	64		4	7		#190	283		3	346	
Internal Link Dist (ft)		586			239			957			2964	
Turn Bay Length (ft)	100			100			320			320		
Base Capacity (vph)	304	589		108	300		356	2265		263	1801	
Starvation Cap Reductn	0	0		0	0		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	0.58	0.44		0.01	0.01		0.70	0.48		0.00	0.65	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 83			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 75.0%		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: Stateline Ave & College Dr



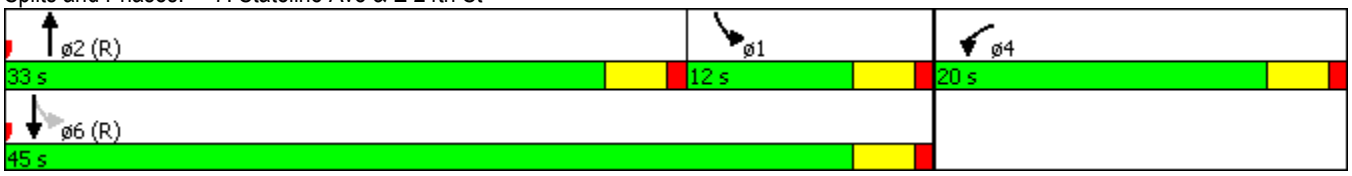
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	42	138	770	61	159	630
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	11	11	12	11
Storage Length (ft)	0	0		0	320	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1490	0	3093	0	1630	3151
Flt Permitted	0.986				0.151	
Satd. Flow (perm)	1480	0	3093	0	259	3151
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	176		21			
Link Speed (mph)	30		35			35
Link Distance (ft)	648		2670			1037
Travel Time (s)	14.7		52.0			20.2
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.65	0.87	0.87	0.70	0.78	0.85
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	72	176	1133	112	261	949
Shared Lane Traffic (%)						
Lane Group Flow (vph)	248	0	1245	0	261	949
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases					6	
Detector Phase	4		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		8.0	20.0
Total Split (s)	20.0		33.0		12.0	45.0
Total Split (%)	30.8%		50.8%		18.5%	69.2%
Maximum Green (s)	16.0		29.0		8.0	41.0
Yellow Time (s)	3.0		3.0		3.0	3.0
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)	4.0		4.0		4.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	9.6		35.4		47.4	47.4
Actuated g/C Ratio	0.15		0.54		0.73	0.73
v/c Ratio	0.67		0.73		0.73	0.41
Control Delay	17.7		16.2		29.6	4.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	17.7		16.2		29.6	4.7
LOS	B		B		C	A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	17.7		16.2			10.1
Approach LOS	B		B			B
Queue Length 50th (ft)	26		171		31	54
Queue Length 95th (ft)	36		#337		#104	115
Internal Link Dist (ft)	568		2590			957
Turn Bay Length (ft)					320	
Base Capacity (vph)	499		1694		357	2297
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	0.50		0.73		0.73	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 69.2%		ICU Level of Service C	
Analysis Period (min) 15			

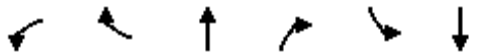
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Stateline Ave & E 24th St



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	3	23	793	13	28	627
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	11	12	11
Storage Length (ft)	0	0		0	320	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1504	0	3250	0	1630	3151
Flt Permitted	0.994				0.950	
Satd. Flow (perm)	1504	0	3250	0	1630	3151
Link Speed (mph)	30		35			35
Link Distance (ft)	713		1440			2670
Travel Time (s)	16.2		28.1			52.0
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	6	43	1238	25	50	882
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	0	1263	0	50	882
Sign Control	Stop		Free			Free

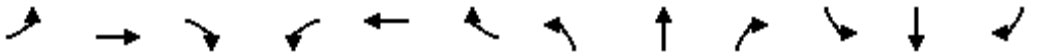
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	23	793	13	28	627
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Hourly flow rate (vph)	6	43	1238	25	50	882
Pedestrians	20		20			20
Lane Width (ft)	12.0		12.0			11.3
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1832	671			1283	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1832	671			1283	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	89			90	
cM capacity (veh/h)	59	386			528	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	48	825	437	50	441	441
Volume Left	6	0	0	50	0	0
Volume Right	43	0	25	0	0	0
cSH	236	1700	1700	528	1700	1700
Volume to Capacity	0.20	0.49	0.26	0.10	0.26	0.26
Queue Length 95th (ft)	19	0	0	8	0	0
Control Delay (s)	24.1	0.0	0.0	12.5	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	24.1	0.0		0.7		
Approach LOS	C					

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

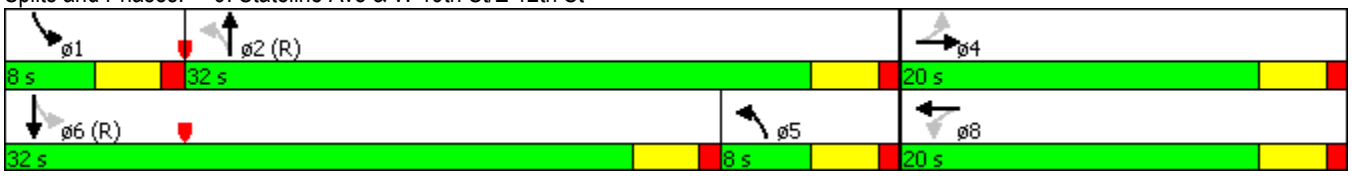


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	90	12	6	48	31	26	916	16	42	526	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	210		0	330		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1659	0	0	1605	0	1630	3139	0	1630	3104	0
Flt Permitted		0.800			0.974		0.325			0.135		
Satd. Flow (perm)	0	1347	0	0	1568	0	551	3139	0	232	3104	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			47			4			18	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		647			490			1278			1440	
Travel Time (s)		14.7			11.1			24.9			28.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.79	0.79	0.79	0.70	0.70	0.70	0.90	0.90	0.90	0.83	0.83	0.83
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	119	126	17	10	76	49	37	1303	23	65	811	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	262	0	0	135	0	37	1326	0	65	873	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	32.0		8.0	32.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		13.3%	53.3%		13.3%	53.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	28.0		4.0	28.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		14.4			14.4		32.8	32.8		34.4	34.4	
Actuated g/C Ratio		0.24			0.24		0.55	0.55		0.57	0.57	
v/c Ratio		0.80			0.33		0.10	0.77		0.27	0.49	
Control Delay		40.8			14.6		10.1	17.2		10.7	9.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		40.8			14.6		10.1	17.2		10.7	9.9	
LOS		D			B		B	B		B	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		40.8			14.6			17.0			10.0	
Approach LOS		D			B			B			A	
Queue Length 50th (ft)		84			25		7	217		9	77	
Queue Length 95th (ft)		#136			44		20	#361		28	144	
Internal Link Dist (ft)		567			410			1198			1360	
Turn Bay Length (ft)							210			330		
Base Capacity (vph)		363			452		373	1718		242	1787	
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		0.72			0.30		0.10	0.77		0.27	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 68.3%		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: 9: Stateline Ave & W 19th St/E 12th St



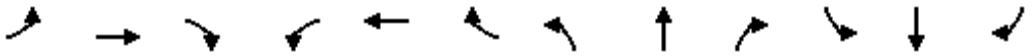
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (vph)	8	30	232	8	450	8	16	552	2	2	3	12
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0	0		175		0	210		0		0	0
Storage Lanes	1	0		1		0	1		0		1	0
Taper Length (ft)	25			25			25				25	
Satd. Flow (prot)	1488	0	0	1630	3250	0	1630	3148	0	0	1480	0
Flt Permitted	0.998			0.950			0.950				0.985	
Satd. Flow (perm)	1488	0	0	1630	3250	0	1630	3148	0	0	1480	0
Link Speed (mph)	30				30			35			35	
Link Distance (ft)	594				1005			1278			446	
Travel Time (s)	13.5				22.8			24.9			8.7	
Confl. Peds. (#/hr)	20	20	20	20		20	20		20	20	20	20
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	12	44	343	12	694	12	24	822	3	4	6	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	399	0	0	12	706	0	24	825	0	0	33	0
Sign Control	Stop				Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (veh/h)	8	30	232	8	450	8	16	552	2	2	3	12
Sign Control	Stop				Free			Free			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Hourly flow rate (vph)	12	44	343	12	694	12	24	822	3	4	6	23
Pedestrians	20				20			20			20	
Lane Width (ft)	12.0				12.0			11.3			11.0	
Walking Speed (ft/s)	4.0				4.0			4.0			4.0	
Percent Blockage	2				2			2			2	
Right turn flare (veh)												
Median type					None			None				
Median storage veh)												
Upstream signal (ft)					1005			1278				
pX, platoon unblocked	0.94	0.94		0.94						0.94	0.94	0.94
vC, conflicting volume	1249	1637	393	845			726			1648	1641	452
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1143	1554	393	713			726			1565	1559	297
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	90	55	41	98			97			78	94	96
cM capacity (veh/h)	123	98	586	819			858			17	97	638

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SE 1
Volume Total	400	12	462	244	24	548	277	33
Volume Left	12	12	0	0	24	0	0	4
Volume Right	343	0	0	12	0	0	3	23
cSH	352	819	1700	1700	858	1700	1700	104
Volume to Capacity	1.13	0.02	0.27	0.14	0.03	0.32	0.16	0.32
Queue Length 95th (ft)	389	1	0	0	2	0	0	31
Control Delay (s)	123.9	9.5	0.0	0.0	9.3	0.0	0.0	55.2
Lane LOS	F	A			A			F
Approach Delay (s)	123.9	0.2			0.3			55.2
Approach LOS	F							F

Intersection Summary				
Average Delay	25.8			
Intersection Capacity Utilization	61.4%	ICU Level of Service		B
Analysis Period (min)	15			

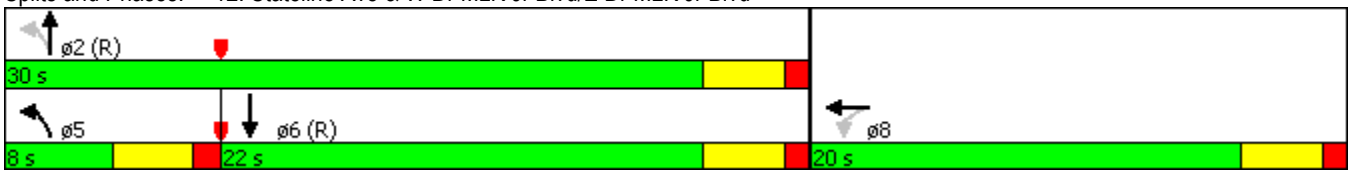


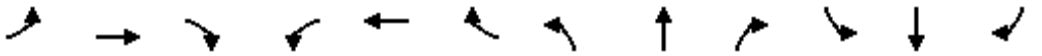
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	9	350	12	42	336	0	0	129	213
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	0	0	0	5861	0	1847	3151	0	0	2804	0
Flt Permitted					0.999		0.350					
Satd. Flow (perm)	0	0	0	0	5858	0	676	3151	0	0	2804	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13						190	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		607			553			434			1005	
Travel Time (s)		11.8			10.8			8.5			19.6	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82	0.75	0.75	0.75
Growth Factor	122%	122%	122%	122%	122%	122%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	0	0	0	12	464	16	66	524	0	0	220	364
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	492	0	66	524	0	0	584	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phase				8	8		5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0		8.0	20.0			20.0	
Total Split (s)				20.0	20.0		8.0	30.0			22.0	
Total Split (%)				40.0%	40.0%		16.0%	60.0%			44.0%	
Maximum Green (s)				16.0	16.0		4.0	26.0			18.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
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)					4.0		4.0	4.0			4.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)					9.9		32.1	32.1			25.8	
Actuated g/C Ratio					0.20		0.64	0.64			0.52	
v/c Ratio					0.42		0.11	0.26			0.38	
Control Delay					17.8		4.5	4.6			7.3	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay					17.8		4.5	4.6			7.3	
LOS					B		A	A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					17.8			4.6			7.3	
Approach LOS					B			A			A	
Queue Length 50th (ft)					36		5	26			36	
Queue Length 95th (ft)					50		17	48			57	
Internal Link Dist (ft)		527			473			354			925	
Turn Bay Length (ft)							100					
Base Capacity (vph)					1883		578	2023			1537	
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					0.26		0.11	0.26			0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 42.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd



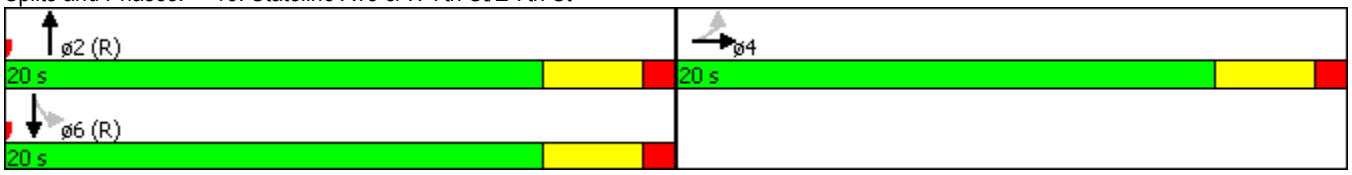


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	425	3	0	0	0	0	78	11	34	71	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	4604	0	0	0	0	0	3081	0	1847	3151	0
Flt Permitted		0.984								0.640		
Satd. Flow (perm)	0	4581	0	0	0	0	0	3081	0	1230	3151	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						22				
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		491			438			609			434	
Travel Time (s)		11.2			10.0			11.9			8.5	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.84	0.81	0.81	0.92	0.92	0.92	0.64	0.64	0.64	0.78	0.78	0.78
Growth Factor	111%	111%	111%	122%	122%	122%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	291	582	4	0	0	0	0	156	22	56	117	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	877	0	0	0	0	0	178	0	56	117	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phase	4	4						2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%						50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0						16.0		16.0	16.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
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)		4.0						4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0						5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0						11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)		14.1						17.9		17.9	17.9	
Actuated g/C Ratio		0.35						0.45		0.45	0.45	
v/c Ratio		0.54						0.13		0.10	0.08	
Control Delay		11.4						6.8		8.0	7.5	
Queue Delay		0.0						0.0		0.0	0.0	
Total Delay		11.4						6.8		8.0	7.5	
LOS		B						A		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		11.4						6.8			7.6	
Approach LOS		B						A			A	
Queue Length 50th (ft)		52						10		7	7	
Queue Length 95th (ft)		65						15		19	15	
Internal Link Dist (ft)		411			358			529			354	
Turn Bay Length (ft)										150		
Base Capacity (vph)		1833						1387		549	1406	
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		0.48						0.13		0.10	0.08	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 42.0%		ICU Level of Service A	
Analysis Period (min) 15			

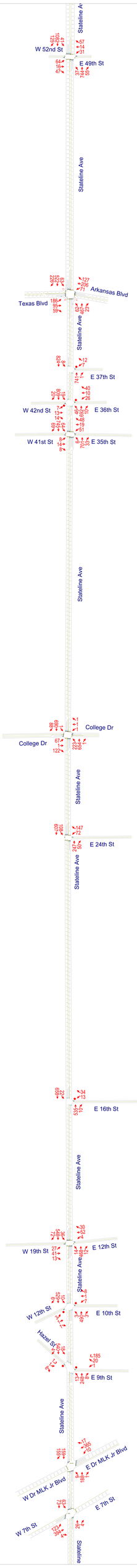
Splits and Phases: 13: Stateline Ave & W 7th St/E 7th St

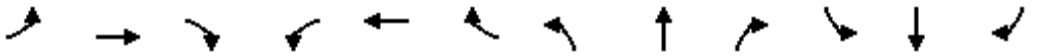


Appendix G: Alternative #2 Two-Way Left Turn Lane with Growth

- Traffic Operational Analysis Results

PROJECTED TRAFFIC CONDITIONS ALTERNATIVE #2 TWLT WITH GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		B	A		**A**	9.7	53.2%
	PM		C			B			A	B		A	B		**B**	11.8	47.5%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	C	B		C	B		C	C		C	C	A	**C**	20.0	56.3%
	PM		F	D		D	E		E	E		E	D	A	**D**	52.0	98.1%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	45.5%
	PM					B		B		A		A	A		**n/a**	0.4	60.9%
Stateline Avenue and W. 42nd Street / E. 36th Street	AM	2-WAY "STOP" SIGN	C			B			A	A		A	A		**n/a**	1.6	69.4%
	PM		C			B			A	A		A	A		**n/a**	0.7	67.0%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A	A		**A**	8.5	51.5%
	PM		C			C			A	B	A	B	A		**B**	12.0	60.4%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		B	A		A	A		**A**	9.7	59.3%
	PM		D	C		C	D		B	A		A	C		**B**	17.3	72.9%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		B		A	A		**A**	8.6	45.2%
	PM					B		B		B		B	A		**B**	10.9	67.1%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.9	35.2%
	PM					B		B		A		B	A		**n/a**	0.4	45.8%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.2	45.0%
	PM		C			B			B	B		B	B		**B**	14.3	55.6%
Stateline Avenue and W. 12th Street / E. 10th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	0.4	31.0%
	PM		B			B			A	A		B	A		**n/a**	0.3	39.7%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	3.3	50.3%
	PM		C			D			A	A		A	A		**n/a**	4.9	60.4%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.4	30.6%
	PM					B			A	A			A		**A**	8.9	43.6%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	10.5	34.1%
	PM		B							A		A	A		**B**	10.6	43.0%


Stateline Ave
W 52nd St
E 49th St
Stateline Ave
Arkansas Blvd
Texas Blvd
Stateline Ave
E 37th St
W 42nd St
E 36th St
W 41st St
E 35th St
Stateline Ave
College Dr
College Dr
Stateline Ave
E 24th St
Stateline Ave
E 16th St
Stateline Ave
W 19th St
E 12th St
Stateline Ave
W 12th St
E 10th St
Hazel St
E 9th St
Stateline Ave
E Dr MLK Jr Blvd
W Dr MLK Jr Blvd
E 7th St
W 7th St
Stateline

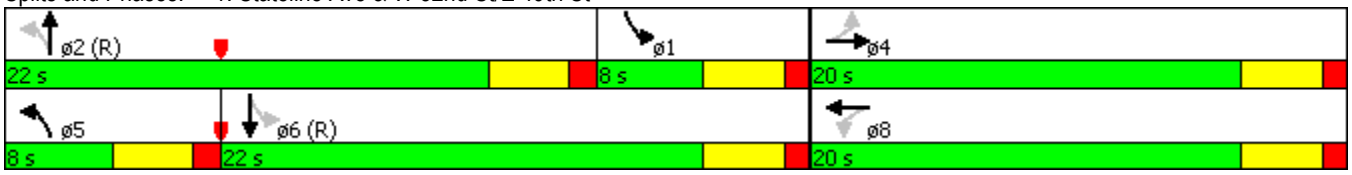


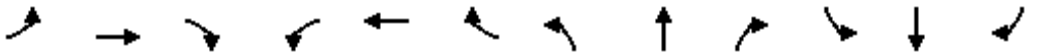
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	14	42	28	13	51	29	581	43	32	845	98
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	14	12	12	13	12	12
Storage Length (ft)	0		0	0		0	120		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1571	0	0	1537	0	1739	3216	0	1684	4585	0
Flt Permitted		0.824			0.889		0.156			0.321		
Satd. Flow (perm)	0	1318	0	0	1381	0	285	3216	0	564	4585	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			69			17			45	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		219			214			2398			805	
Travel Time (s)		5.0			4.9			40.9			13.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.90	0.90	0.90	0.87	0.87	0.87
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	77	18	56	38	18	69	41	826	61	47	1243	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	125	0	41	887	0	47	1387	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	22.0		8.0	22.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	44.0%		16.0%	44.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	18.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.4			9.4		31.3	32.1		30.4	31.2	
Actuated g/C Ratio		0.19			0.19		0.63	0.64		0.61	0.62	
v/c Ratio		0.52			0.40		0.12	0.43		0.11	0.48	
Control Delay		17.8			12.5		8.2	8.3		10.3	9.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.8			12.5		8.2	8.3		10.3	9.5	
LOS		B			B		A	A		B	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		17.8			12.5			8.3			9.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		25			14		3	48		4	53	
Queue Length 95th (ft)		53			38		21	160		24	166	
Internal Link Dist (ft)		139			134			2318			725	
Turn Bay Length (ft)							120			150		
Base Capacity (vph)		459			488		349	2070		432	2880	
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		0.33			0.26		0.12	0.43		0.11	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 53.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Stateline Ave & W 52nd St/E 49th St



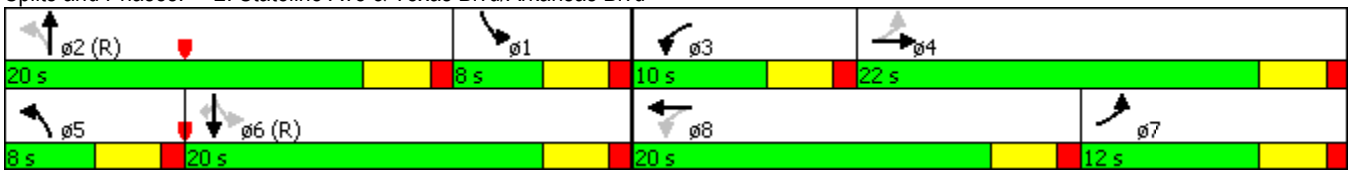


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	86	53	64	186	114	51	383	19	52	428	185
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	14	12	12	14	12	12
Storage Length (ft)	200		0	130		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	3034	0	1630	3034	0	1739	3232	0	1739	3260	1458
Flt Permitted	0.571			0.571			0.272			0.400		
Satd. Flow (perm)	968	3034	0	966	3034	0	495	3232	0	725	3260	1409
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			186			8				309
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		463			387			761			2398	
Travel Time (s)		7.9			6.6			13.0			40.9	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.74	0.74	0.74	0.73	0.73	0.73
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	274	140	87	104	304	186	84	631	31	87	715	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	274	227	0	104	490	0	84	662	0	87	715	309
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (s)	12.0	22.0		10.0	20.0		8.0	20.0		8.0	20.0	20.0
Total Split (%)	20.0%	36.7%		16.7%	33.3%		13.3%	33.3%		13.3%	33.3%	33.3%
Maximum Green (s)	8.0	18.0		6.0	16.0		4.0	16.0		4.0	16.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	17.6	17.6		11.8	11.8		20.0	20.0		19.5	19.5	19.5
Actuated g/C Ratio	0.29	0.29		0.20	0.20		0.33	0.33		0.32	0.32	0.32
v/c Ratio	0.70	0.24		0.41	0.66		0.32	0.61		0.29	0.68	0.46
Control Delay	32.0	10.6		24.4	17.5		20.5	21.7		22.2	24.0	5.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	32.0	10.6		24.4	17.5		20.5	21.7		22.2	24.0	5.3
LOS	C	B		C	B		C	C		C	C	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		22.3			18.7			21.6			18.6	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	82	19		33	52		23	114		24	127	0
Queue Length 95th (ft)	104	27		47	53		43	130		43	140	22
Internal Link Dist (ft)		383			307			681			2318	
Turn Bay Length (ft)	200			130			200			200		
Base Capacity (vph)	396	976		255	945		263	1081		302	1059	666
Starvation Cap Reductn	0	0		0	0		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	0.69	0.23		0.41	0.52		0.32	0.61		0.29	0.68	0.46

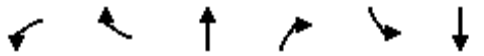
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 20.0		Intersection LOS: C	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Stateline Ave & Texas Blvd/Arkansas Blvd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	6	11	579	1	6	644
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	11	11	12	11
Satd. Flow (prot)	1538	0	3151	0	0	3151
Flt Permitted	0.983					
Satd. Flow (perm)	1538	0	3151	0	0	3151
Link Speed (mph)	30		40			40
Link Distance (ft)	331		343			761
Travel Time (s)	7.5		5.8			13.0
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	9	17	806	1	9	981
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	807	0	0	990
Sign Control	Stop		Free			Free

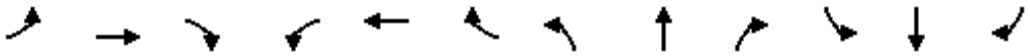
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	6	11	579	1	6	644
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.71	0.71	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	9	17	806	1	9	981
Pedestrians	20		20			20
Lane Width (ft)	12.0		11.0			11.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			661			761
pX, platoon unblocked	0.87	0.91			0.91	
vC, conflicting volume	1355	443			827	
vC1, stage 1 conf vol	826					
vC2, stage 2 conf vol	529					
vCu, unblocked vol	630	182			604	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	439	729			865	

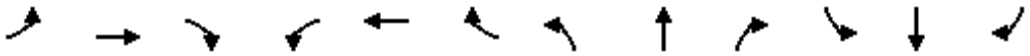
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	27	537	270	336	654
Volume Left	9	0	0	9	0
Volume Right	17	0	1	0	0
cSH	591	1700	1700	865	1700
Volume to Capacity	0.04	0.32	0.16	0.01	0.38
Queue Length 95th (ft)	4	0	0	1	0
Control Delay (s)	11.4	0.0	0.0	0.4	0.0
Lane LOS	B			A	
Approach Delay (s)	11.4	0.0		0.1	
Approach LOS	B				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	12	13	23	9	36	36	541	8	15	632	16
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Satd. Flow (prot)	0	1603	0	0	1567	0	0	3135	0	0	3135	0
Flt Permitted		0.990			0.983			0.997			0.999	
Satd. Flow (perm)	0	1603	0	0	1567	0	0	3135	0	0	3135	0
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		396			372			318			343	
Travel Time (s)		9.0			8.5			5.4			5.8	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.88	0.88	0.88	0.76	0.76	0.76
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	8	16	17	29	11	45	52	787	12	25	1064	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	85	0	0	851	0	0	1116	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	12	13	23	9	36	36	541	8	15	632	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.88	0.88	0.88	0.76	0.76	0.76
Hourly flow rate (vph)	8	16	17	29	11	45	52	787	12	25	1064	27
Pedestrians		20			20			20			20	
Lane Width (ft)		12.0			12.0			11.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								318			1104	
pX, platoon unblocked	0.91	0.91	0.84	0.91	0.91	0.86	0.84			0.86		
vC, conflicting volume	1718	2072	586	1545	2079	439	1111			819		
vC1, stage 1 conf vol	1148	1148		917	917							
vC2, stage 2 conf vol	569	923		628	1162							
vCu, unblocked vol	901	1288	136	712	1297	18	759			460		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	94	98	92	95	95	93			97		
cM capacity (veh/h)	264	262	725	345	235	878	703			927		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	40	86	446	405	557	559
Volume Left	8	29	52	0	25	0
Volume Right	17	45	0	12	0	27
cSH	358	466	703	1700	927	1700
Volume to Capacity	0.11	0.18	0.07	0.24	0.03	0.33
Queue Length 95th (ft)	9	17	6	0	2	0
Control Delay (s)	16.3	14.5	2.1	0.0	0.7	0.0
Lane LOS	C	B	A		A	
Approach Delay (s)	16.3	14.5	1.1		0.4	
Approach LOS	C	B				

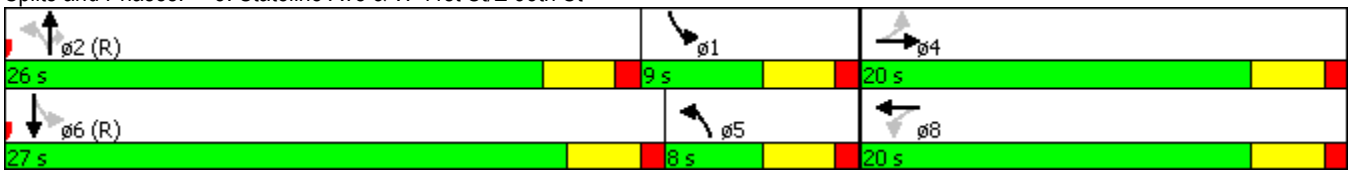
Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	69.4%	ICU Level of Service	C	
Analysis Period (min)	15			

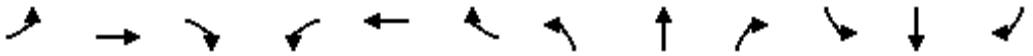
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	13	7	46	17	43	5	548	26	50	582	54
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	120		110	120		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1621	0	0	1566	0	1630	3151	1410	1630	3096	0
Flt Permitted		0.937			0.842		0.227			0.306		
Satd. Flow (perm)	0	1532	0	0	1336	0	387	3151	1334	520	3096	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			61				99		22	
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		557			627			3044			318	
Travel Time (s)		12.7			14.3			59.3			5.4	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.86	0.86	0.86	0.78	0.78	0.78
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	10	19	10	65	24	61	7	816	39	82	955	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	150	0	7	816	39	82	1044	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	26.0	26.0	9.0	27.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		14.5%	47.3%	47.3%	16.4%	49.1%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	22.0	22.0	5.0	23.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
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)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		9.3			9.3		37.4	35.0	35.0	40.2	38.8	
Actuated g/C Ratio		0.17			0.17		0.68	0.64	0.64	0.73	0.71	
v/c Ratio		0.15			0.54		0.02	0.41	0.04	0.17	0.48	
Control Delay		15.4			19.9		4.5	8.8	0.3	5.5	7.0	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		15.4			19.9		4.5	8.8	0.3	5.5	7.0	
LOS		B			B		A	A	A	A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		15.4			19.9			8.3			6.9	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		8			26		1	80	0	7	61	
Queue Length 95th (ft)		21			51		4	140	1	20	157	
Internal Link Dist (ft)		477			547			2964			238	
Turn Bay Length (ft)							120		110	120		
Base Capacity (vph)		452			431		353	2004	884	480	2189	
Starvation Cap Reductn		0			0		0	0	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		0.09			0.35		0.02	0.41	0.04	0.17	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 51.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Stateline Ave & W 41st St/E 35th St



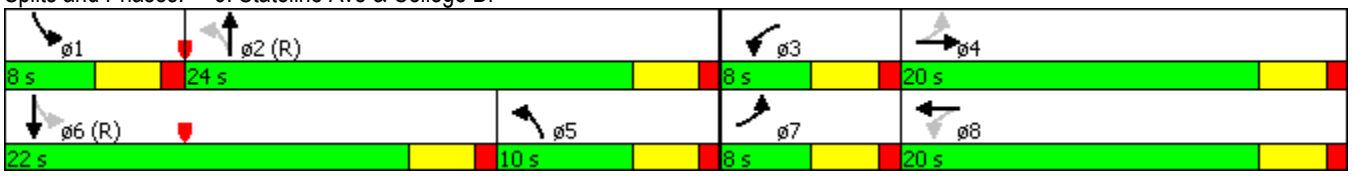


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1	110	1	1	1	174	511	1	1	539	69
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	16	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	100		0	100		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1847	1411	0	1630	1560	0	1630	3151	0	1630	3078	0
Flt Permitted	0.678						0.317			0.293		
Satd. Flow (perm)	1289	1411	0	1684	1560	0	538	3151	0	498	3078	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		133			1						24	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		666			319			1037			3044	
Travel Time (s)		15.1			7.3			20.2			59.3	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
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
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	72	1	133	1	1	1	242	711	1	1	750	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	134	0	1	2	0	242	712	0	1	846	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	8.0	20.0		8.0	20.0		10.0	24.0		8.0	22.0	
Total Split (%)	13.3%	33.3%		13.3%	33.3%		16.7%	40.0%		13.3%	36.7%	
Maximum Green (s)	4.0	16.0		4.0	16.0		6.0	20.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	7.5	7.0		6.4	6.6		43.4	44.2		35.3	35.3	
Actuated g/C Ratio	0.12	0.12		0.11	0.11		0.72	0.74		0.59	0.59	
v/c Ratio	0.35	0.48		0.01	0.01		0.49	0.31		0.00	0.46	
Control Delay	25.6	11.3		19.0	19.5		14.8	6.1		9.0	9.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.6	11.3		19.0	19.5		14.8	6.1		9.0	9.7	
LOS	C	B		B	B		B	A		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		16.3			19.3			8.3			9.7	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	25	0		0	0		15	25		0	72	
Queue Length 95th (ft)	43	40		3	5		#145	150		3	185	
Internal Link Dist (ft)		586			239			957			2964	
Turn Bay Length (ft)	100			100			120			120		
Base Capacity (vph)	207	473		177	416		498	2321		397	1822	
Starvation Cap Reductn	0	0		0	0		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	0.35	0.28		0.01	0.00		0.49	0.31		0.00	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Stateline Ave & College Dr

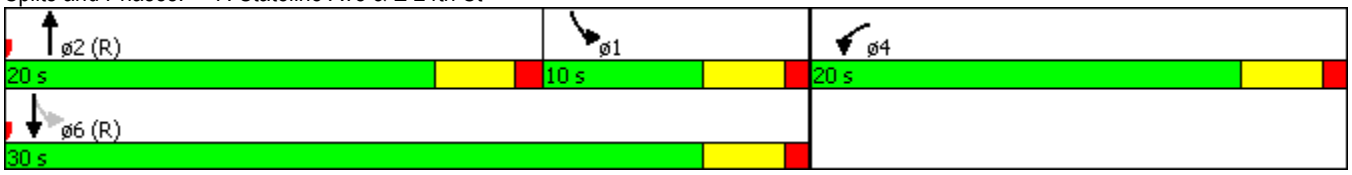


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	65	132	193	39	84	474
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	11	11	12	11
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1517	0	3026	0	1630	3151
Flt Permitted	0.980				0.539	
Satd. Flow (perm)	1506	0	3026	0	907	3151
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	160		65			
Link Speed (mph)	30		35			35
Link Distance (ft)	648		2670			1037
Travel Time (s)	14.7		52.0			20.2
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.65	0.87	0.87	0.70	0.78	0.85
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	111	168	284	71	138	714
Shared Lane Traffic (%)						
Lane Group Flow (vph)	279	0	355	0	138	714
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases					6	
Detector Phase	4		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		8.0	20.0
Total Split (s)	20.0		20.0		10.0	30.0
Total Split (%)	40.0%		40.0%		20.0%	60.0%
Maximum Green (s)	16.0		16.0		6.0	26.0
Yellow Time (s)	3.0		3.0		3.0	3.0
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)	4.0		4.0		4.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	10.0		24.0		32.0	32.0
Actuated g/C Ratio	0.20		0.48		0.64	0.64
v/c Ratio	0.65		0.24		0.21	0.35
Control Delay	14.9		10.6		6.3	5.6
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	14.9		10.6		6.3	5.6
LOS	B		B		A	A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	14.9		10.6			5.8
Approach LOS	B		B			A
Queue Length 50th (ft)	31		31		12	39
Queue Length 95th (ft)	38		75		34	85
Internal Link Dist (ft)	568		2590			957
Turn Bay Length (ft)					120	
Base Capacity (vph)	594		1483		666	2013
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	0.47		0.24		0.21	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 8.6		Intersection LOS: A	
Intersection Capacity Utilization 45.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Stateline Ave & E 24th St



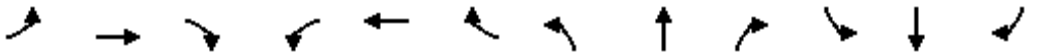
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	31	418	8	17	514
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	11	12	11
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1528	0	3250	0	1630	3151
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1528	0	3250	0	1630	3151
Link Speed (mph)	30		35			35
Link Distance (ft)	713		1440			2670
Travel Time (s)	16.2		28.1			52.0
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Growth Factor	111%	111%	128%	128%	128%	128%
Adj. Flow (vph)	22	57	652	15	31	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	667	0	31	723
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	12	31	418	8	17	514
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.60	0.60	0.82	0.67	0.71	0.91
Hourly flow rate (vph)	22	57	652	15	31	723
Pedestrians	20		20			20
Lane Width (ft)	12.0		12.0			11.3
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1123	374			688	
vC1, stage 1 conf vol	680					
vC2, stage 2 conf vol	443					
vCu, unblocked vol	1123	374			688	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	90			97	
cM capacity (veh/h)	389	603			887	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	80	435	233	31	361	361
Volume Left	22	0	0	31	0	0
Volume Right	57	0	15	0	0	0
cSH	523	1700	1700	887	1700	1700
Volume to Capacity	0.15	0.26	0.14	0.03	0.21	0.21
Queue Length 95th (ft)	13	0	0	3	0	0
Control Delay (s)	13.1	0.0	0.0	9.2	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	13.1	0.0		0.4		
Approach LOS	B					

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

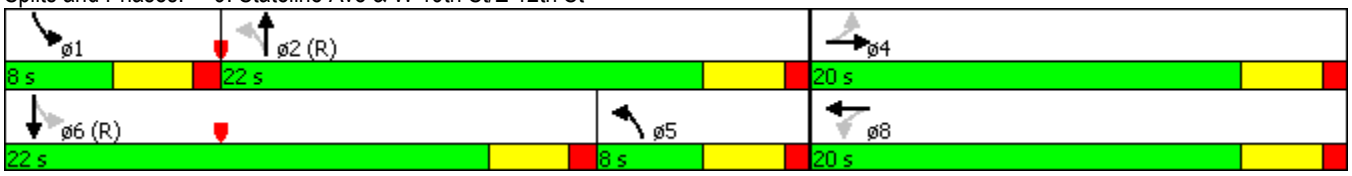


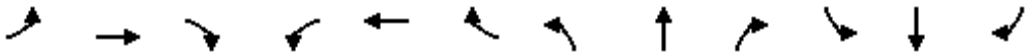
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	37	12	4	47	27	11	366	9	28	428	56
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1643	0	0	1615	0	1630	3135	0	1630	3079	0
Flt Permitted		0.890			0.982		0.368			0.385		
Satd. Flow (perm)	0	1478	0	0	1587	0	624	3135	0	653	3079	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			43			5			32	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		647			490			635			1440	
Travel Time (s)		14.7			11.1			12.4			28.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.79	0.79	0.79	0.70	0.70	0.70	0.90	0.90	0.90	0.83	0.83	0.83
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	34	52	17	6	75	43	16	521	13	43	660	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	124	0	16	534	0	43	746	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	22.0		8.0	22.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.0%	44.0%		16.0%	44.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	18.0		4.0	18.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		8.4			8.4		31.1	31.9		33.9	34.7	
Actuated g/C Ratio		0.17			0.17		0.62	0.64		0.68	0.69	
v/c Ratio		0.39			0.41		0.03	0.27		0.08	0.35	
Control Delay		19.8			16.7		8.6	7.2		4.5	6.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.8			16.7		8.6	7.2		4.5	6.0	
LOS		B			B		A	A		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		19.8			16.7			7.3			6.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		23			21		1	16		6	65	
Queue Length 95th (ft)		45			38		13	98		m10	124	
Internal Link Dist (ft)		567			410			555			1360	
Turn Bay Length (ft)							120			120		
Base Capacity (vph)		484			537		469	2004		563	2146	
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		0.21			0.23		0.03	0.27		0.08	0.35	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 45.0%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

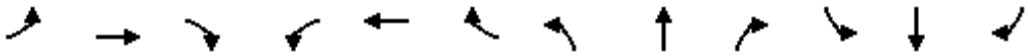
Splits and Phases: 9: Stateline Ave & W 19th St/E 12th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1	1	6	1	7	2	383	2	8	413	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1623	0	0	1565	0	1630	3148	0	1630	3145	0
Flt Permitted		0.968			0.979		0.950			0.950		
Satd. Flow (perm)	0	1623	0	0	1565	0	1630	3148	0	1630	3145	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		392			484			643			635	
Travel Time (s)		8.9			11.0			12.5			12.4	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
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
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	4	1	1	7	1	8	3	533	3	11	575	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	16	0	3	536	0	11	582	0
Sign Control		Stop			Stop			Free			Free	

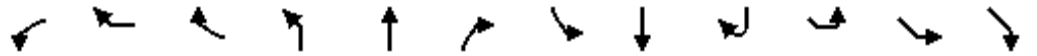
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	1	1	6	1	7	2	383	2	8	413	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			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
Hourly flow rate (vph)	4	1	1	7	1	8	3	533	3	11	575	7
Pedestrians		20			20			20			20	
Lane Width (ft)		12.0			12.0			11.3			11.3	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)											635	
pX, platoon unblocked												
vC, conflicting volume	921	1182	331	891	1184	308	602			556		
vC1, stage 1 conf vol	620	620		560	560							
vC2, stage 2 conf vol	301	561		331	624							
vCu, unblocked vol	921	1182	331	891	1184	308	602			556		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	98	100	99	100			99		
cM capacity (veh/h)	388	368	644	414	369	666	956			994		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	17	3	355	180	11	383	198
Volume Left	4	7	3	0	0	11	0	0
Volume Right	1	8	0	0	3	0	0	7
cSH	417	505	956	1700	1700	994	1700	1700
Volume to Capacity	0.01	0.03	0.00	0.21	0.11	0.01	0.23	0.12
Queue Length 95th (ft)	1	3	0	0	0	1	0	0
Control Delay (s)	13.8	12.4	8.8	0.0	0.0	8.7	0.0	0.0
Lane LOS	B	B	A			A		
Approach Delay (s)	13.8	12.4	0.0			0.2		
Approach LOS	B	B						

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	31.0%	ICU Level of Service		A
Analysis Period (min)	15			



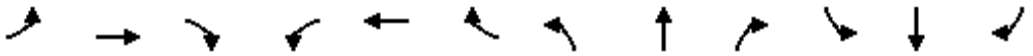
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (vph)	1	18	167	12	223	7	14	422	3	1	1	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0	0		100		0	100		0		0	0
Storage Lanes	1	0		1		0	1		0		1	0
Taper Length (ft)	25			25			25				25	
Satd. Flow (prot)	1484	0	0	1630	3244	0	1847	3148	0	0	1473	0
Flt Permitted				0.950			0.950				0.988	
Satd. Flow (perm)	1484	0	0	1630	3244	0	1847	3148	0	0	1473	0
Link Speed (mph)	30				30			35			35	
Link Distance (ft)	594				1005			643			446	
Travel Time (s)	13.5				22.8			12.5			8.7	
Confl. Peds. (#/hr)	20	20	20	20		20	20		20	20	20	20
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Growth Factor	111%	111%	111%	111%	111%	111%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	1	27	247	19	344	11	21	628	4	2	2	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	275	0	0	18	355	0	21	632	0	0	16	0
Sign Control	Stop				Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (veh/h)	1	18	167	12	223	7	14	422	3	1	1	6
Sign Control	Stop				Free			Free			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.72	0.72	0.72	0.86	0.86	0.86	0.66	0.66	0.66
Hourly flow rate (vph)	1	27	247	18	344	11	21	628	4	2	2	12
Pedestrians	20				20			20			20	
Lane Width (ft)	12.0				12.0			12.7			11.0	
Walking Speed (ft/s)	4.0				4.0			4.0			4.0	
Percent Blockage	2				2			2			2	
Right turn flare (veh)												
Median type					TWLTL			TWLTL				
Median storage veh)					2			2				
Upstream signal (ft)					1005			1278				
pX, platoon unblocked												
vC, conflicting volume	795	1100	217	653			375			1181	1104	356
vC1, stage 1 conf vol	406	406								692	692	
vC2, stage 2 conf vol	388	694								489	412	
vCu, unblocked vol	795	1100	217	653			375			1181	1104	356
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5	6.9
tC, 2 stage (s)	6.5	5.5								6.5	5.5	
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	100	93	67	98			98			99	99	98
cM capacity (veh/h)	447	364	760	916			1161			248	371	620

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SE 1
Volume Total	275	18	229	125	21	419	214	16
Volume Left	1	18	0	0	21	0	0	2
Volume Right	247	0	0	11	0	0	4	12
cSH	686	916	1700	1700	1161	1700	1700	488
Volume to Capacity	0.40	0.02	0.13	0.07	0.02	0.25	0.13	0.03
Queue Length 95th (ft)	48	2	0	0	1	0	0	2
Control Delay (s)	13.7	9.0	0.0	0.0	8.2	0.0	0.0	12.6
Lane LOS	B	A			A			B
Approach Delay (s)	13.7	0.4			0.3			12.6
Approach LOS	B							B

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	50.3%	ICU Level of Service		A
Analysis Period (min)	15			

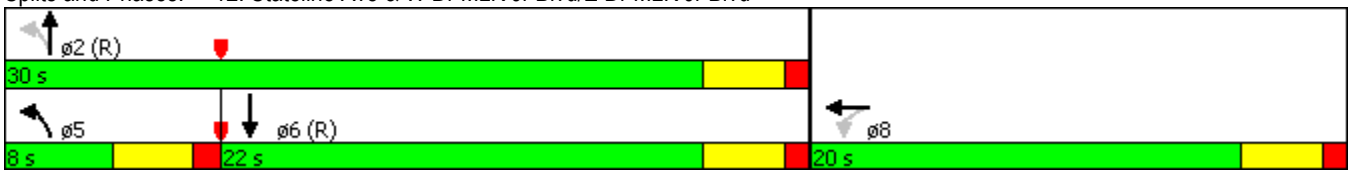


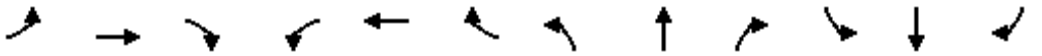
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	8	299	14	7	147	1	0	124	121
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	0	0	0	5847	0	1847	3147	0	0	2874	0
Flt Permitted					0.999		0.443					
Satd. Flow (perm)	0	0	0	0	5844	0	854	3147	0	0	2874	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					19			2			207	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		607			553			434			1005	
Travel Time (s)		11.8			10.8			8.5			19.6	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.82	0.82	0.82	0.75	0.75	0.75
Growth Factor	122%	122%	122%	122%	122%	122%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	0	0	0	11	396	19	11	229	2	0	212	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	426	0	11	231	0	0	419	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phase				8	8		5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0		8.0	20.0			20.0	
Total Split (s)				20.0	20.0		8.0	30.0			22.0	
Total Split (%)				40.0%	40.0%		16.0%	60.0%			44.0%	
Maximum Green (s)				16.0	16.0		4.0	26.0			18.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
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)					4.0		4.0	4.0			4.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)					9.1		32.9	32.9			30.9	
Actuated g/C Ratio					0.18		0.66	0.66			0.62	
v/c Ratio					0.39		0.02	0.11			0.23	
Control Delay					17.9		3.7	3.7			4.1	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay					17.9		3.7	3.7			4.1	
LOS					B		A	A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					17.9			3.7			4.1	
Approach LOS					B			A			A	
Queue Length 50th (ft)					31		1	10			1	
Queue Length 95th (ft)					45		5	20			67	
Internal Link Dist (ft)		527			473			354			925	
Turn Bay Length (ft)							100					
Base Capacity (vph)					1883		673	2070			1854	
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					0.23		0.02	0.11			0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 30.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd



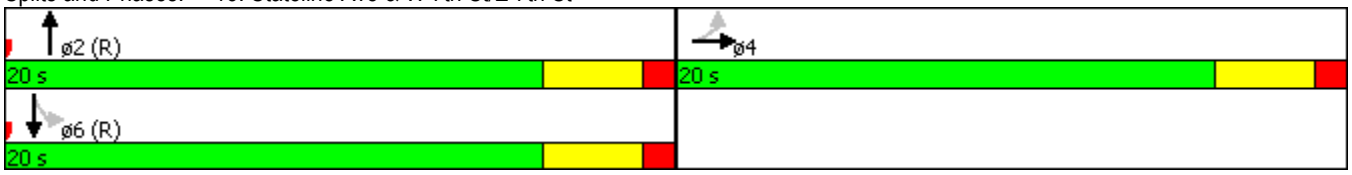


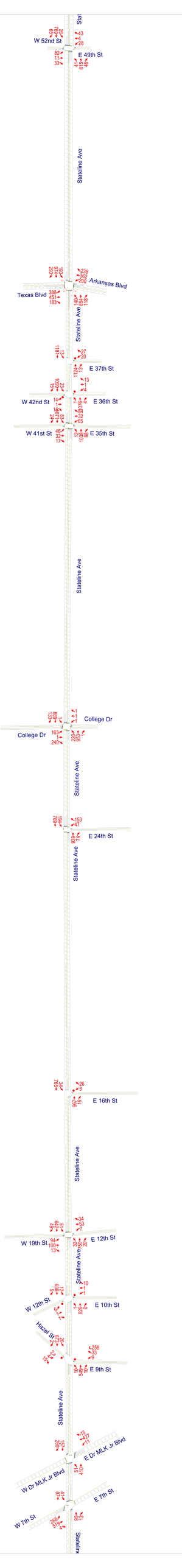
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	355	4	0	0	0	0	20	3	49	57	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	4627	0	0	0	0	0	3077	0	1847	3151	0
Flt Permitted		0.989								0.725		
Satd. Flow (perm)	0	4611	0	0	0	0	0	3077	0	1390	3151	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						6				
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		491			438			609			434	
Travel Time (s)		11.2			10.0			11.9			8.5	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.84	0.81	0.81	0.92	0.92	0.92	0.64	0.64	0.64	0.78	0.78	0.78
Growth Factor	111%	111%	111%	122%	122%	122%	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	147	486	5	0	0	0	0	40	6	80	94	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	638	0	0	0	0	0	46	0	80	94	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phase	4	4						2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%						50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0						16.0		16.0	16.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
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)		4.0						4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0						5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0						11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)		12.1						19.9		19.9	19.9	
Actuated g/C Ratio		0.30						0.50		0.50	0.50	
v/c Ratio		0.46						0.03		0.12	0.06	
Control Delay		11.8						6.0		7.2	6.5	
Queue Delay		0.0						0.0		0.0	0.0	
Total Delay		11.8						6.0		7.2	6.5	
LOS		B						A		A	A	

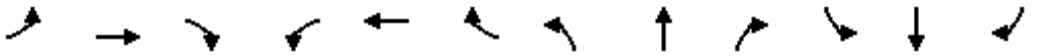
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		11.8						6.0			6.8	
Approach LOS		B						A			A	
Queue Length 50th (ft)		40						2		9	5	
Queue Length 95th (ft)		46						6		25	13	
Internal Link Dist (ft)		411			358			529			354	
Turn Bay Length (ft)										150		
Base Capacity (vph)		1846						1536		693	1570	
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		0.35						0.03		0.12	0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 34.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: Stateline Ave & W 7th St/E 7th St




Stateline Ave
W 52nd St
E 49th St
Stateline Ave
Arkansas Blvd
Texas Blvd
Stateline Ave
E 37th St
W 42nd St
E 36th St
W 41st St
E 35th St
Stateline Ave
College Dr
College Dr
Stateline Ave
E 24th St
Stateline Ave
E 16th St
Stateline Ave
W 19th St
E 12th St
Stateline Ave
W 12th St
E 10th St
Hazel St
E 9th St
Stateline Ave
E Dr MLK Jr Blvd
W Dr MLK Jr Blvd
E 7th St
W 7th St
Stateline

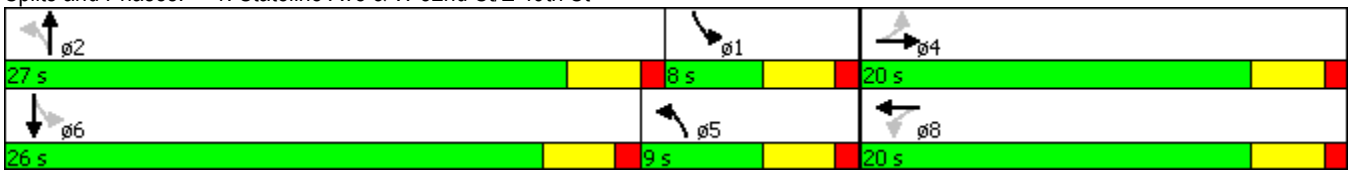


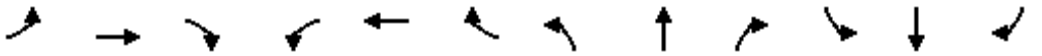
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	10	30	25	4	39	34	504	39	21	630	53
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	14	12	12	13	12	12
Storage Length (ft)	0		0	0		0	120		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1589	0	0	1526	0	1739	3211	0	1684	4608	0
Flt Permitted		0.791			0.857		0.154			0.206		
Satd. Flow (perm)	0	1283	0	0	1326	0	281	3211	0	363	4608	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			67			18			29	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		219			214			2398			805	
Travel Time (s)		5.0			4.9			40.9			13.7	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.61	0.61	0.61	0.65	0.65	0.65	0.63	0.63	0.63	0.62	0.62	0.62
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	135	18	55	43	7	67	66	976	76	41	1240	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	0	0	117	0	66	1052	0	41	1344	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		9.0	27.0		8.0	26.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		16.4%	49.1%		14.5%	47.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		5.0	23.0		4.0	22.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lag	Lead		Lag	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		11.5			11.3		31.6	29.3		29.5	27.3	
Actuated g/C Ratio		0.24			0.23		0.65	0.60		0.61	0.56	
v/c Ratio		0.63			0.32		0.20	0.54		0.12	0.52	
Control Delay		23.5			10.8		9.7	10.8		7.2	11.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		23.5			10.8		9.7	10.8		7.2	11.0	
LOS		C			B		A	B		A	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		23.5			10.8			10.8			10.9	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		46			12		7	80		4	109	
Queue Length 95th (ft)		58			26		15	122		10	100	
Internal Link Dist (ft)		139			134			2318			725	
Turn Bay Length (ft)							120			150		
Base Capacity (vph)		452			489		336	1948		331	2602	
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		0.46			0.24		0.20	0.54		0.12	0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 48.5			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 11.8		Intersection LOS: B	
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Stateline Ave & W 52nd St/E 49th St



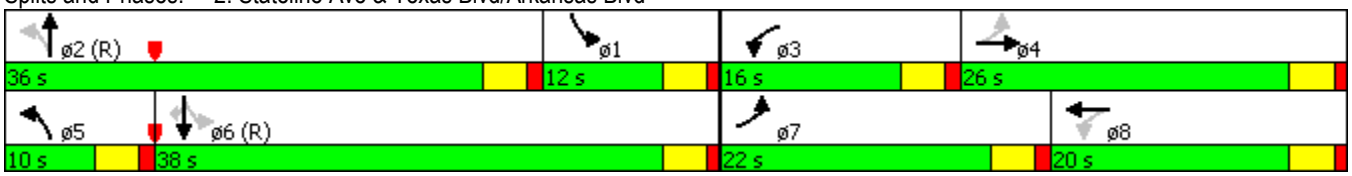


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	318	370	150	164	297	195	115	700	97	158	798	240
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	14	12	12	14	12	12
Storage Length (ft)	200		0	130		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1630	3079	0	1630	3013	0	1739	3184	0	1739	3260	1458
Flt Permitted	0.200			0.250			0.154			0.154		
Satd. Flow (perm)	343	3079	0	425	3013	0	282	3184	0	282	3260	1393
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			148			19				322
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		463			387			761			2398	
Travel Time (s)		7.9			6.6			13.0			40.9	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.83	0.83	0.83	0.91	0.91	0.91
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	431	502	203	217	394	259	169	1029	143	212	1070	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	431	705	0	217	653	0	169	1172	0	212	1070	322
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	16.0	20.0		8.0	20.0		8.0	20.0		12.0	20.0	20.0
Total Split (s)	22.0	26.0		16.0	20.0		10.0	36.0		12.0	38.0	38.0
Total Split (%)	24.4%	28.9%		17.8%	22.2%		11.1%	40.0%		13.3%	42.2%	42.2%
Maximum Green (s)	18.0	22.0		12.0	16.0		6.0	32.0		8.0	34.0	34.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0			5.0			5.0			5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	11.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	38.0	22.5		27.5	16.0		32.0	32.0		34.0	34.0	34.0
Actuated g/C Ratio	0.42	0.25		0.31	0.18		0.36	0.36		0.38	0.38	0.38
v/c Ratio	1.07	0.86		0.77	0.99		0.86	1.02		0.90	0.87	0.44
Control Delay	90.8	41.9		39.1	63.8		61.1	62.6		73.5	35.2	4.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	90.8	41.9		39.1	63.8		61.1	62.6		73.5	35.2	4.5
LOS	F	D		D	E		E	E		E	D	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		60.4			57.6			62.4			34.1	
Approach LOS		E			E			E			C	
Queue Length 50th (ft)	~228	186		80	156		68	~373		84	291	0
Queue Length 95th (ft)	#413	#288		#175	#275		#132	#435		#201	#411	52
Internal Link Dist (ft)		383			307			681			2318	
Turn Bay Length (ft)	200			130			200			200		
Base Capacity (vph)	402	818		292	657		197	1144		236	1231	726
Starvation Cap Reductn	0	0		0	0		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	1.07	0.86		0.74	0.99		0.86	1.02		0.90	0.87	0.44

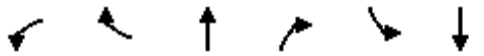
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 52.0		Intersection LOS: D	
Intersection Capacity Utilization 98.1%		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: 2: Stateline Ave & Texas Blvd/Arkansas Blvd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	18	24	921	11	11	968
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	11	11	12	11
Satd. Flow (prot)	1550	0	3145	0	0	3148
Flt Permitted	0.979					0.999
Satd. Flow (perm)	1550	0	3145	0	0	3148
Link Speed (mph)	30		40			40
Link Distance (ft)	331		343			761
Travel Time (s)	7.5		5.8			13.0
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.75	0.75	0.88	0.88	0.96	0.96
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	27	36	1277	15	14	1230
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	1292	0	0	1244
Sign Control	Stop		Free			Free

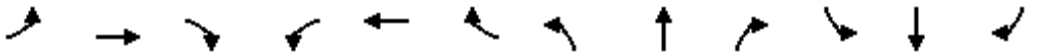
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	24	921	11	11	968
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.88	0.88	0.96	0.96
Hourly flow rate (vph)	27	36	1277	15	14	1230
Pedestrians	20		20			20
Lane Width (ft)	12.0		11.0			11.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			661			761
pX, platoon unblocked	0.85	0.75			0.75	
vC, conflicting volume	1968	686			1312	
vC1, stage 1 conf vol	1304					
vC2, stage 2 conf vol	663					
vCu, unblocked vol	499	0			764	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	96			98	
cM capacity (veh/h)	317	793			627	

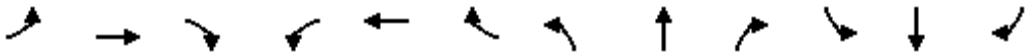
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	62	851	441	424	820
Volume Left	27	0	0	14	0
Volume Right	36	0	15	0	0
cSH	482	1700	1700	627	1700
Volume to Capacity	0.13	0.50	0.26	0.02	0.48
Queue Length 95th (ft)	11	0	0	2	0
Control Delay (s)	13.6	0.0	0.0	0.7	0.0
Lane LOS	B			A	
Approach Delay (s)	13.6	0.0		0.2	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	1	14	4	1	12	1	882	3	19	901	12
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Satd. Flow (prot)	0	1562	0	0	1537	0	0	3148	0	0	3139	0
Flt Permitted		0.977			0.988						0.999	
Satd. Flow (perm)	0	1562	0	0	1537	0	0	3148	0	0	3139	0
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		396			372			318			343	
Travel Time (s)		9.0			8.5			5.4			5.8	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.67	0.92	0.92	0.92	0.68	0.90	0.60
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	17	1	19	7	2	20	1	1170	4	34	1221	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	29	0	0	1175	0	0	1279	0
Sign Control		Stop			Stop			Free			Free	

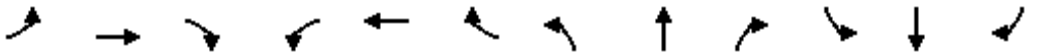
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	1	14	4	1	12	1	882	3	19	901	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.67	0.92	0.92	0.92	0.68	0.90	0.60
Hourly flow rate (vph)	17	1	18	7	2	20	1	1170	4	34	1221	24
Pedestrians		20			20			20			20	
Lane Width (ft)		12.0			12.0			11.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								318			1104	
pX, platoon unblocked	0.86	0.86	0.75	0.86	0.86	0.74	0.75			0.74		
vC, conflicting volume	1950	2518	663	1912	2528	627	1266			1194		
vC1, stage 1 conf vol	1322	1322		1194	1194							
vC2, stage 2 conf vol	628	1196		718	1334							
vCu, unblocked vol	474	1132	0	430	1144	0	684			551		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	99	98	98	99	97	100			95		
cM capacity (veh/h)	264	253	786	344	255	774	666			736		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	37	28	586	589	645	635
Volume Left	17	7	1	0	34	0
Volume Right	18	20	0	4	0	24
cSH	394	547	666	1700	736	1700
Volume to Capacity	0.09	0.05	0.00	0.35	0.05	0.37
Queue Length 95th (ft)	8	4	0	0	4	0
Control Delay (s)	15.1	11.9	0.1	0.0	1.2	0.0
Lane LOS	C	B	A		A	
Approach Delay (s)	15.1	11.9	0.0		0.6	
Approach LOS	C	B				

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	67.0%	ICU Level of Service	C	
Analysis Period (min)	15			

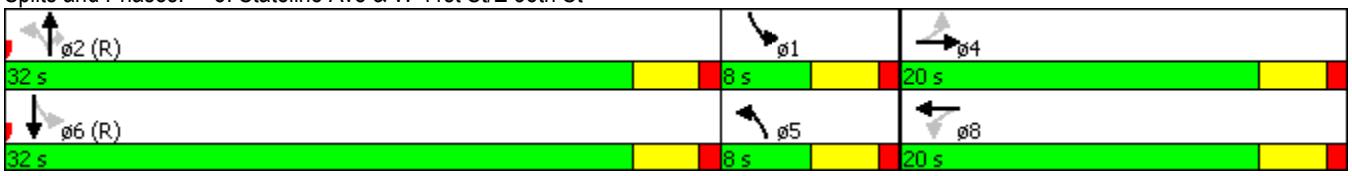


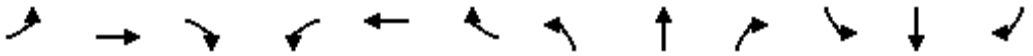
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	29	15	59	29	76	10	851	72	68	878	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	120		110	120		0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1625	0	0	1554	0	1630	3151	1410	1630	3138	0
Flt Permitted		0.756			0.869		0.170			0.168		
Satd. Flow (perm)	0	1250	0	0	1366	0	290	3151	1330	287	3138	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			71				98		5	
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		557			627			3044			318	
Travel Time (s)		12.7			14.3			59.3			5.4	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89	0.92	0.92	0.92
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	52	37	19	72	35	93	14	1167	99	90	1164	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	0	200	0	14	1167	99	90	1191	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0	32.0	32.0	8.0	32.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		13.3%	53.3%	53.3%	13.3%	53.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		4.0	28.0	28.0	4.0	28.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
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)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		11.1			11.1		38.5	34.5	34.5	40.9	39.3	
Actuated g/C Ratio		0.18			0.18		0.64	0.58	0.58	0.68	0.66	
v/c Ratio		0.44			0.65		0.05	0.64	0.12	0.32	0.58	
Control Delay		23.2			23.8		5.5	12.6	2.8	11.5	9.2	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		23.2			23.8		5.5	12.6	2.8	11.5	9.2	
LOS		C			C		A	B	A	B	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		23.2			23.8			11.8			9.4	
Approach LOS		C			C			B			A	
Queue Length 50th (ft)		29			42		1	144	0	9	93	
Queue Length 95th (ft)		61			92		7	247	20	27	#262	
Internal Link Dist (ft)		477			547			2964			238	
Turn Bay Length (ft)							120		110	120		
Base Capacity (vph)		345			416		275	1814	807	285	2059	
Starvation Cap Reductn		0			0		0	0	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		0.31			0.48		0.05	0.64	0.12	0.32	0.58	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Stateline Ave & W 41st St/E 35th St





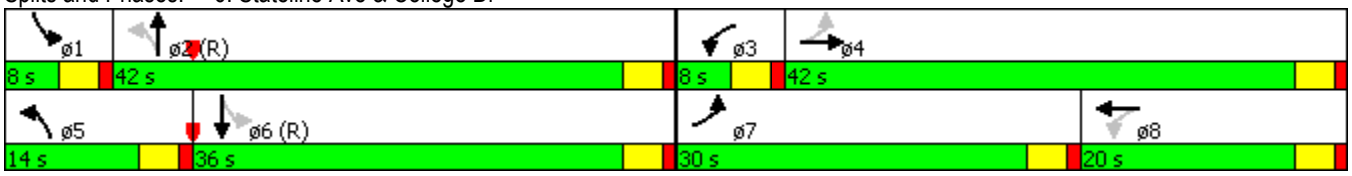
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	1	216	1	1	1	180	781	1	1	729	109
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	16	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	100		0	100		0	120		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1847	1389	0	1630	1548	0	1630	3151	0	1630	3055	0
Flt Permitted	0.727						0.146			0.276		
Satd. Flow (perm)	1367	1389	0	1671	1548	0	250	3151	0	474	3055	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		195			1						17	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		666			319			1037			3044	
Travel Time (s)		15.1			7.3			20.2			59.3	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
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
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	177	1	261	1	1	1	239	1036	1	1	967	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	262	0	1	2	0	239	1037	0	1	1112	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.0	28.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	30.0	42.0		8.0	20.0		14.0	42.0		8.0	36.0	
Total Split (%)	30.0%	42.0%		8.0%	20.0%		14.0%	42.0%		8.0%	36.0%	
Maximum Green (s)	26.0	38.0		4.0	16.0		10.0	38.0		4.0	32.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	16.7	15.1		5.5	6.0		75.3	73.3		59.6	54.1	
Actuated g/C Ratio	0.17	0.15		0.06	0.06		0.75	0.73		0.60	0.54	
v/c Ratio	0.60	0.70		0.01	0.02		0.56	0.45		0.00	0.67	
Control Delay	45.3	21.6		34.0	37.5		13.8	8.0		7.0	21.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.3	21.6		34.0	37.5		13.8	8.0		7.0	21.2	
LOS	D	C		C	D		B	A		A	C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		31.1			36.3			9.1			21.1	
Approach LOS		C			D			A			C	
Queue Length 50th (ft)	108	39		1	1		33	95		0	231	
Queue Length 95th (ft)	146	117		5	8		137	301		2	#507	
Internal Link Dist (ft)		586			239			957			2964	
Turn Bay Length (ft)	100			100			120			120		
Base Capacity (vph)	490	648		91	248		425	2310		346	1659	
Starvation Cap Reductn	0	0		0	0		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	0.36	0.40		0.01	0.01		0.56	0.45		0.00	0.67	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 72.9%	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: 6: Stateline Ave & College Dr



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	42	138	770	61	159	630
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	11	11	12	11
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1477	0	3095	0	1630	3151
Flt Permitted	0.989				0.173	
Satd. Flow (perm)	1469	0	3095	0	297	3151
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	191		19			
Link Speed (mph)	30		35			35
Link Distance (ft)	648		2670			1037
Travel Time (s)	14.7		52.0			20.2
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.88	0.80	0.99	0.85	0.83	0.88
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	53	191	949	88	234	873
Shared Lane Traffic (%)						
Lane Group Flow (vph)	244	0	1037	0	234	873
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases					6	
Detector Phase	4		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		8.0	20.0
Total Split (s)	20.0		27.0		13.0	40.0
Total Split (%)	33.3%		45.0%		21.7%	66.7%
Maximum Green (s)	16.0		23.0		9.0	36.0
Yellow Time (s)	3.0		3.0		3.0	3.0
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)	4.0		4.0		4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	8.8		30.5		43.2	43.2
Actuated g/C Ratio	0.15		0.51		0.72	0.72
v/c Ratio	0.64		0.66		0.58	0.39
Control Delay	14.7		15.5		11.0	4.4
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	14.7		15.5		11.0	4.4
LOS	B		B		B	A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	14.7		15.5			5.8
Approach LOS	B		B			A
Queue Length 50th (ft)	18		123		19	43
Queue Length 95th (ft)	63		#286		67	103
Internal Link Dist (ft)	568		2590			957
Turn Bay Length (ft)					120	
Base Capacity (vph)	533		1581		428	2266
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	0.46		0.66		0.55	0.39

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 67.1%		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: 7: Stateline Ave & E 24th St

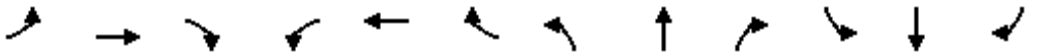
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	3	23	793	13	28	627
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	11	12	11
Storage Length (ft)	0	0		0	120	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1504	0	3253	0	1630	3151
Flt Permitted	0.994				0.950	
Satd. Flow (perm)	1504	0	3253	0	1630	3151
Link Speed (mph)	30		35			35
Link Distance (ft)	713		1440			2670
Travel Time (s)	16.2		28.1			52.0
Confl. Peds. (#/hr)	20	20		20	20	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	111%	111%	122%	122%	122%	122%
Adj. Flow (vph)	4	28	1052	17	37	831
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	1069	0	37	831
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	23	793	13	28	627
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	28	1052	17	37	831
Pedestrians	20		20			20
Lane Width (ft)	12.0		12.0			11.3
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1590	574			1089	
vC1, stage 1 conf vol	1080					
vC2, stage 2 conf vol	510					
vCu, unblocked vol	1590	574			1089	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	94			94	
cM capacity (veh/h)	253	447			626	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	31	701	368	37	416	416
Volume Left	4	0	0	37	0	0
Volume Right	28	0	17	0	0	0
cSH	410	1700	1700	626	1700	1700
Volume to Capacity	0.08	0.41	0.22	0.06	0.24	0.24
Queue Length 95th (ft)	6	0	0	5	0	0
Control Delay (s)	14.5	0.0	0.0	11.1	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	14.5	0.0		0.5		
Approach LOS	B					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

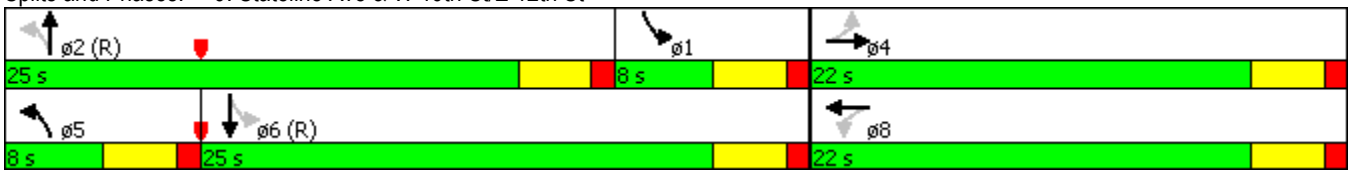


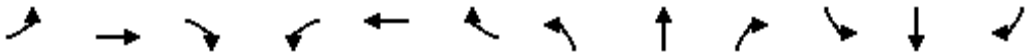
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	90	12	6	48	31	26	615	16	42	526	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	120		0	120		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1652	0	0	1610	0	1630	3134	0	1630	3104	0
Flt Permitted		0.819			0.971		0.216			0.310		
Satd. Flow (perm)	0	1374	0	0	1569	0	368	3134	0	527	3104	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			40			6			17	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		647			490			635			1440	
Travel Time (s)		14.7			11.1			12.4			28.1	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.71	0.90	0.60	0.75	0.80	0.86	0.81	0.87	0.80	0.81	0.85	0.83
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	133	111	22	9	67	40	39	862	24	63	755	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	266	0	0	116	0	39	886	0	63	814	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	22.0	22.0		22.0	22.0		8.0	25.0		8.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		14.5%	45.5%		14.5%	45.5%	
Maximum Green (s)	18.0	18.0		18.0	18.0		4.0	21.0		4.0	21.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		14.6			14.6		27.6	27.6		29.2	29.2	
Actuated g/C Ratio		0.27			0.27		0.50	0.50		0.53	0.53	
v/c Ratio		0.72			0.26		0.13	0.56		0.18	0.49	
Control Delay		28.4			11.7		11.3	13.3		12.5	11.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		28.4			11.7		11.3	13.3		12.5	11.3	
LOS		C			B		B	B		B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		28.4			11.7			13.2			11.4	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		74			19		7	114		8	68	
Queue Length 95th (ft)		134			40		21	175		29	151	
Internal Link Dist (ft)		567			410			555			1360	
Turn Bay Length (ft)							120			120		
Base Capacity (vph)		455			540		300	1573		359	1653	
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		0.58			0.21		0.13	0.56		0.18	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 51 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

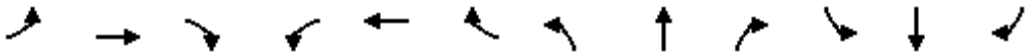
Splits and Phases: 9: Stateline Ave & W 19th St/E 12th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	1	1	1	1	9	1	677	0	10	523	4
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	11	11	12	11	11
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1626	0	0	1514	0	1630	3151	0	1630	3148	0
Flt Permitted		0.964			0.996		0.950			0.950		
Satd. Flow (perm)	0	1626	0	0	1514	0	1630	3151	0	1630	3148	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		392			484			643			635	
Travel Time (s)		8.9			11.0			12.5			12.4	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
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
Growth Factor	111%	111%	111%	111%	111%	111%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	6	1	1	1	1	11	1	898	0	13	694	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	0	13	0	1	898	0	13	699	0
Sign Control		Stop			Stop			Free			Free	

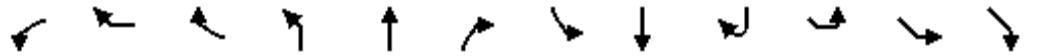
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	1	1	1	1	9	1	677	0	10	523	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			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
Hourly flow rate (vph)	6	1	1	1	1	11	1	898	0	13	694	5
Pedestrians		20			20			20			20	
Lane Width (ft)		12.0			12.0			11.3			11.3	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)											635	
pX, platoon unblocked	0.90	0.90	0.90	0.90	0.90		0.90					
vC, conflicting volume	1226	1663	389	1316	1666	489	719			918		
vC1, stage 1 conf vol	743	743		920	920							
vC2, stage 2 conf vol	483	920		395	745							
vCu, unblocked vol	1034	1519	107	1133	1522	489	472			918		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	100	100	98	100			98		
cM capacity (veh/h)	359	279	809	272	285	508	964			727		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	8	13	1	599	299	13	462	236
Volume Left	6	1	1	0	0	13	0	0
Volume Right	1	11	0	0	0	0	0	5
cSH	373	442	964	1700	1700	727	1700	1700
Volume to Capacity	0.02	0.03	0.00	0.35	0.18	0.02	0.27	0.14
Queue Length 95th (ft)	2	2	0	0	0	1	0	0
Control Delay (s)	14.9	13.4	8.7	0.0	0.0	10.0	0.0	0.0
Lane LOS	B	B	A			B		
Approach Delay (s)	14.9	13.4	0.0			0.2		
Approach LOS	B	B						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	39.7%	ICU Level of Service		A
Analysis Period (min)	15			



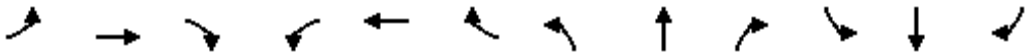
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (vph)	8	30	232	8	450	8	16	552	2	2	3	12
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0	0		100		0	100		0		0	0
Storage Lanes	1	0		1		0	1		0		1	0
Taper Length (ft)	25			25			25				25	
Satd. Flow (prot)	1489	0	0	1630	3250	0	1847	3148	0	0	1475	0
Flt Permitted	0.999			0.950			0.950				0.986	
Satd. Flow (perm)	1489	0	0	1630	3250	0	1847	3148	0	0	1475	0
Link Speed (mph)	30				30			35			35	
Link Distance (ft)	594				1005			643			446	
Travel Time (s)	13.5				22.8			12.5			8.7	
Confl. Peds. (#/hr)	20	20	20	20		20	20		20	20	20	20
Peak Hour Factor	0.90	0.90	0.90	0.75	0.75	0.75	0.82	0.82	0.82	0.70	0.70	0.70
Growth Factor	111%	111%	111%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	10	37	286	13	732	13	24	821	3	3	5	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	333	0	0	13	745	0	24	824	0	0	29	0
Sign Control	Stop				Free			Free			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Volume (veh/h)	8	30	232	8	450	8	16	552	2	2	3	12
Sign Control	Stop				Free			Free			Stop	
Grade	0%				0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.75	0.75	0.75	0.82	0.82	0.82	0.70	0.70	0.70
Hourly flow rate (vph)	10	37	286	13	732	13	24	821	3	3	5	21
Pedestrians	20				20			20			20	
Lane Width (ft)	12.0				12.0			12.7			11.0	
Walking Speed (ft/s)	4.0				4.0			4.0			4.0	
Percent Blockage	2				2			2			2	
Right turn flare (veh)												
Median type					TWLTL			TWLTL				
Median storage veh)					2			2				
Upstream signal (ft)					1005			1278				
pX, platoon unblocked												
vC, conflicting volume	1286	1676	413	844			765			1607	1681	452
vC1, stage 1 conf vol	785	785								890	890	
vC2, stage 2 conf vol	502	892								717	791	
vCu, unblocked vol	1286	1676	413	844			765			1607	1681	452
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5	6.9
tC, 2 stage (s)	6.5	5.5								6.5	5.5	
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0	3.3
p0 queue free %	97	86	50	98			97			97	98	96
cM capacity (veh/h)	284	259	569	776			830			127	257	537

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SE 1
Volume Total	333	13	488	257	24	548	277	30
Volume Left	10	13	0	0	24	0	0	3
Volume Right	286	0	0	13	0	0	3	21
cSH	489	776	1700	1700	830	1700	1700	342
Volume to Capacity	0.68	0.02	0.29	0.15	0.03	0.32	0.16	0.09
Queue Length 95th (ft)	127	1	0	0	2	0	0	7
Control Delay (s)	26.6	9.7	0.0	0.0	9.5	0.0	0.0	16.5
Lane LOS	D	A			A			C
Approach Delay (s)	26.6	0.2			0.3			16.5
Approach LOS	D							C

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	60.4%	ICU Level of Service		B
Analysis Period (min)	15			

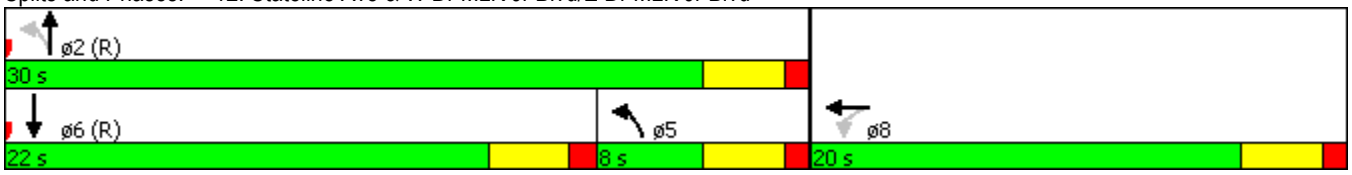


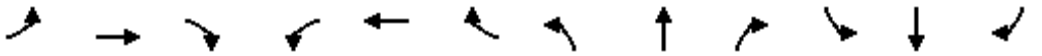
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	9	350	12	42	336	0	0	129	213
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0		0	0		0	100		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	0	0	0	5861	0	1847	3151	0	0	2804	0
Flt Permitted					0.999		0.491					
Satd. Flow (perm)	0	0	0	0	5858	0	945	3151	0	0	2804	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13						189	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		607			553			434			1005	
Travel Time (s)		11.8			10.8			8.5			19.6	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.70	0.70	0.70	0.92	0.92	0.92
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	0	0	0	12	474	16	73	586	0	0	171	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	502	0	73	586	0	0	453	0
Turn Type				Perm	NA		pm+pt	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2					
Detector Phase				8	8		5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0		4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0		8.0	20.0			20.0	
Total Split (s)				20.0	20.0		8.0	30.0			22.0	
Total Split (%)				40.0%	40.0%		16.0%	60.0%			44.0%	
Maximum Green (s)				16.0	16.0		4.0	26.0			18.0	
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	
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)					4.0		4.0	4.0			4.0	
Lead/Lag							Lag				Lead	
Lead-Lag Optimize?							Yes				Yes	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		None	C-Max			C-Max	
Walk Time (s)				5.0	5.0			5.0			5.0	
Flash Dont Walk (s)				11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)					10.0		32.0	32.0			27.2	
Actuated g/C Ratio					0.20		0.64	0.64			0.54	
v/c Ratio					0.43		0.11	0.29			0.28	
Control Delay					17.8		4.7	4.8			5.2	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay					17.8		4.7	4.8			5.2	
LOS					B		A	A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					17.8			4.8			5.2	
Approach LOS					B			A			A	
Queue Length 50th (ft)					37		6	30			20	
Queue Length 95th (ft)					51		15	45			50	
Internal Link Dist (ft)		527			473			354			925	
Turn Bay Length (ft)							100					
Base Capacity (vph)					1883		677	2019			1613	
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					0.27		0.11	0.29			0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 43.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: Stateline Ave & W Dr MLK Jr Blvd/E Dr MLK Jr Blvd



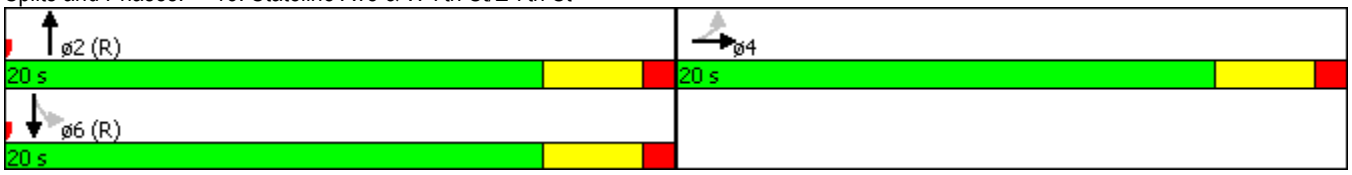


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	425	3	0	0	0	0	78	11	34	71	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	16	11	11	16	11	11
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	4599	0	0	0	0	0	3084	0	1847	3151	0
Flt Permitted		0.983								0.638		
Satd. Flow (perm)	0	4576	0	0	0	0	0	3084	0	1226	3151	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						22				
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		491			438			609			434	
Travel Time (s)		11.2			10.0			11.9			8.5	
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.60	0.60	0.60	0.83	0.83	0.83
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	358	691	5	0	0	0	0	159	22	50	104	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1054	0	0	0	0	0	181	0	50	104	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Detector Phase	4	4						2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (s)	20.0	20.0						20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%						50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0						16.0		16.0	16.0	
Yellow Time (s)	3.0	3.0						3.0		3.0	3.0	
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)		4.0						4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Recall Mode	None	None						C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0						5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0						11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)		15.1						16.9		16.9	16.9	
Actuated g/C Ratio		0.38						0.42		0.42	0.42	
v/c Ratio		0.61						0.14		0.10	0.08	
Control Delay		11.6						7.1		8.2	7.7	
Queue Delay		0.0						0.0		0.0	0.0	
Total Delay		11.6						7.1		8.2	7.7	
LOS		B						A		A	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		11.6						7.1			7.8	
Approach LOS		B						A			A	
Queue Length 50th (ft)		62						11		7	7	
Queue Length 95th (ft)		72						15		19	15	
Internal Link Dist (ft)		411			358			529			354	
Turn Bay Length (ft)										150		
Base Capacity (vph)		1831						1312		516	1328	
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		0.58						0.14		0.10	0.08	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 43.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: Stateline Ave & W 7th St/E 7th St



Appendix H: Report Comments & Responses

Executive Summary

Connecting two separate municipalities and two different states, the Stateline Corridor is a unique roadway. This corridor study directs the Texarkana Metropolitan Planning Organization to future improvements and advancements for Stateline Avenue. Throughout this study, the main emphasis has been centered on safety and efficiency for the proposed multimodal 2.75-mile corridor.

Aesthetic and economic decline along Stateline have contributed to the need for revitalization. This corridor plan will be a guide to future development on Stateline and will serve as a starting point for vital improvements. This plan will outline two potential alternatives that, if implemented along the Stateline Corridor, could greatly improve safety, promote redevelopment, and encourage individuals to utilize this area more frequently.

The first alternative, named the Boulevard Concept, utilizes raised medians, while the second alternative, named the Redevelopment Concept, would focus on an Overlay District that promotes a driveway consolidation plan. Both options would address the primary safety issues experienced on Stateline today, which include pedestrian safety and access management. Similar strategies are included for each alternative to address pedestrian safety. These strategies are centered around an 8-foot-wide mixed-use path on both sides of the corridor and improved connectivity to promote safer roadway crossings.

The addition of softening elements (landscaping, street furniture, etc.) in the Right of Way would provide a more inviting corridor and promote use. Due to limited space, segmentation of landscape areas caused by driveways/side streets, sight visibility for traffic movements, and Department of Transportation (DOT) requirements, some features, such as trees, must be minimized.

Implementation of aspects outlined in this report range from short term, or immediate, to long term redevelopment goals. Since Stateline Avenue is classified as US Highway 71 and is a vital connection between Interstate 30, US Highway 67, and US Highway 82, this corridor is owned and constructed by the Texas Department of Transportation and the Arkansas Department of Transportation. In order to implement many aspects of this plan, approval from these agencies will be required. Additionally, with a roadway reconstruction project slated to begin in the year 2022, this is a prime opportunity for any roadway reconfiguration necessary to accommodate the changes outlined in this plan.

Due to the limited time and scope of this project, further studies will be necessary prior to detailed design. The improvements outlined in this report are general considerations and may not reflect the final design. Additionally, some elements recommended will require further traffic studies and have been noted as such in the plan.

Summary of Comments on Final corridor plan

Page: 1

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:46:27 PM

At the last public meeting, I thought it was presented as though the driveway consolidation plan would be recommended as part of both alternatives. Wouldn't the second alternative just be a flush median section with reduced lane widths?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:55:25 AM

To best identify the constraints and challenges associated with drive consolidation, we are separating the consolidation plan into alternative #2. Moving forward this could be implemented into either alternative, but to keep the report clear, we will show this as an aspect of alternative #2.

Number: 2 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 11:45:05 AM

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:07:28 AM

Corrected

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:47:21 PM

Recommend rearranging to have ArDOT listed first as they come first alphabetically

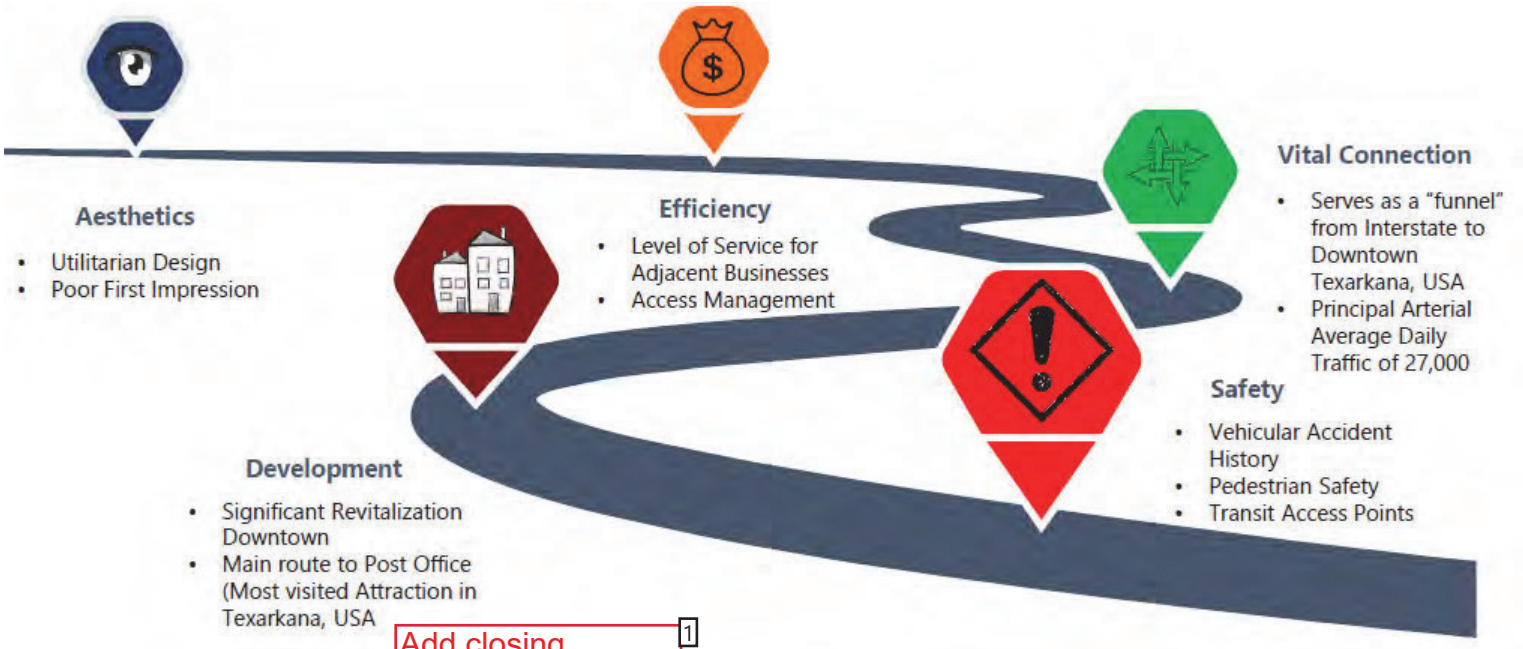
Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:07:33 AM

Corrected

Chapter 1: Overview and Report Objectives

Stateline Corridor Study Objectives

The Stateline Corridor Study was authorized by the Texarkana Metropolitan Planning Organization (MPO) to be completed by MTG Engineers and Surveyors (MTG) and the associated design team consisting of Norris Design (Norris) and Peters and Associates (Peters). The planning team will evaluate the need for improvements to enhance the safety and efficiency of the Stateline Corridor from W 52nd Street to 7th Street. The improvements outlined in this report should be viewed as a guideline and be continuously updated and expanded based on further studies and future development along the corridor.



Add closing parenthesis) 1

Page: 2

Number: 1 Author: DSIMMO1 Subject: Text Box Date: 12/6/2021 11:50:34 AM

Add closing parenthesis)

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:07:37 AM

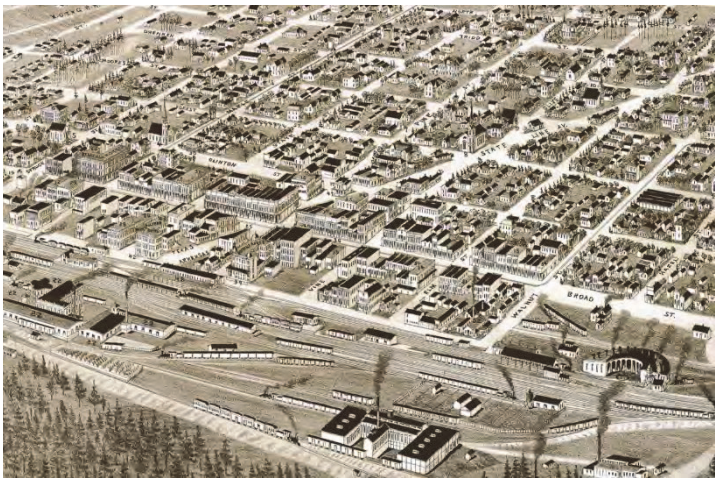
Corrected

General Characteristics

US Highway 71 is a multi-lane highway classified as a principal arterial corridor. The limits of this study are bound by major roadway intersections; Interstate 30 on the north end and US Highway 82 and US Highway 67 on the south. This is a unique corridor as it sits atop the Stateline between Texas and Arkansas originally established in the 1800s as the boundary between the Republic of Texas and the United States.

The corridor consists of a 5-lane section with two southbound lanes, two northbound lanes, and a continuous two way left turn lane. North of Texas Boulevard there is an additional lane on the Texas side and north of W 52nd Street there are additional lanes on both sides totaling three each direction. While North Stateline Avenue was originally planned to have raised medians installed as part of the 1970's widening project, raised medians were removed as part of a change order and the corridor today is undivided with continuous access to the approximately 210 driveways and 56 side street intersections.

Based on information from the Encyclopedia of Arkansas, the U.S. Highway 71 designation dates back to 1860 where it was used as part of the civil war trail from south of Texarkana to the Missouri Stateline. Stateline is home to multiple sites listed on the National Registry for Historic Places. This includes Union Station, just south of the limits of this study and the Texarkana U.S. Post Office and Courthouse.



Page: 3

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:48:02 PM
Shouldn't state line be two words when referring to the actual geographic line? "Stateline Avenue" is the name of the roadway. This may need to be checked/revised throughout the document to ensure correct use.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:30:39 AM
Revised throughout.

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:48:52 PM
I don't believe an apostrophe is used in this case - consider changing to 1800s.

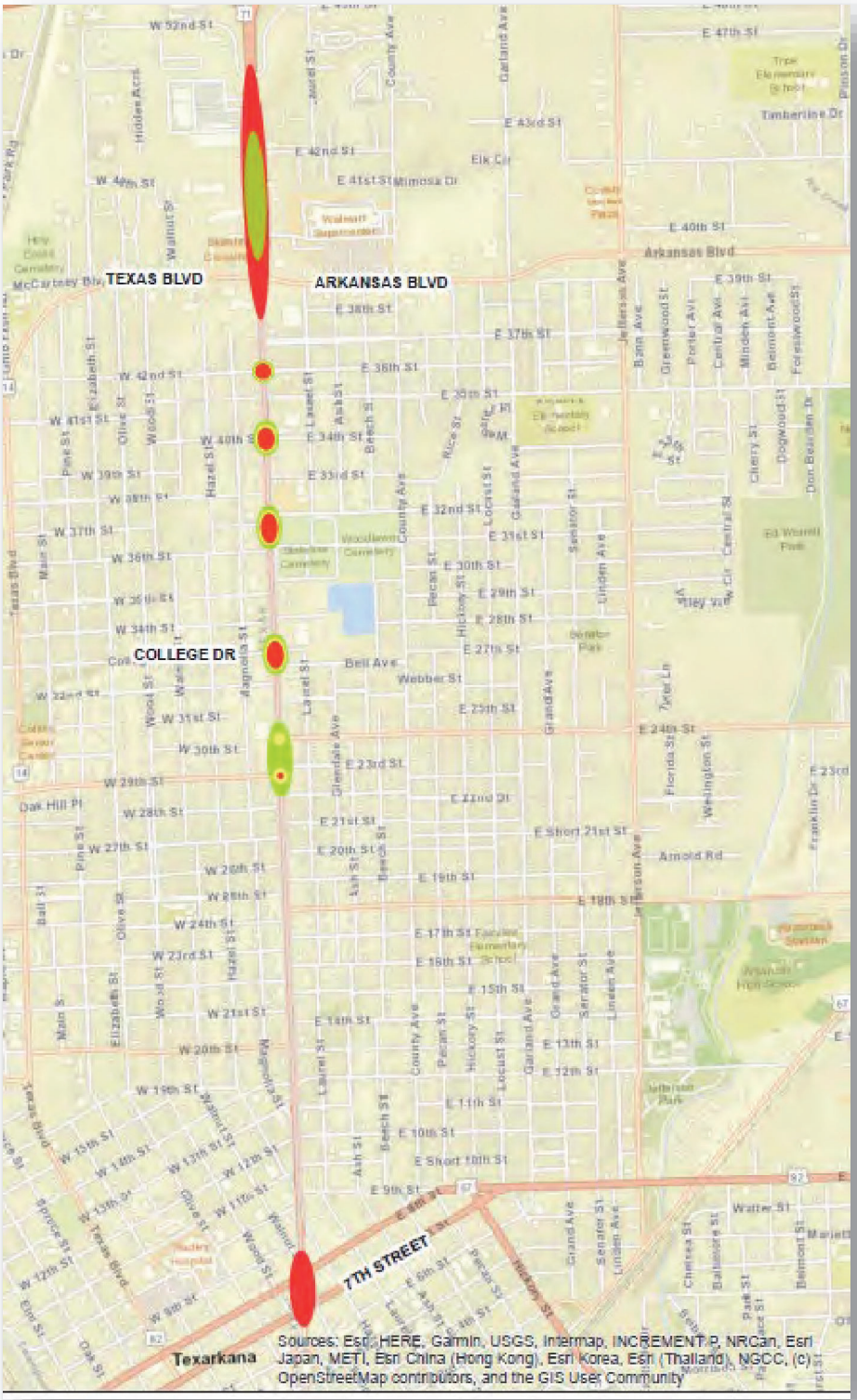
Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:07:43 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 11:58:49 AM
State Line

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:07:49 AM
Corrected

Number: 4 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 11:58:12 AM
Office

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:07:54 AM
Corrected



Historic Safety Review

A Summary of Accidents by Location for years 2016-2021 was assembled from TxDOT's Crash Extract data. During this period, data shows a total of 315 vehicular accidents occurred in the Stateline Avenue Corridor. These accidents resulted in a total of 565 personal injuries and 4 fatalities. One fatal accident (at W. 21st Street) was the driver of a motorcycle. Additionally, there were 5 fatal pedestrian accidents in this time period. The intersection of Stateline Avenue and Texas / Arkansas Boulevard had the highest number of accidents in the period: 82 accidents or 26 percent of the Corridor total.

Can we add a legend to provide information about the map above, specifically what the shades represent? [1]

Page: 4

Number: 1 Author: DSIMMO1 Subject: Text Box Date: 12/16/2021 8:01:00 AM

Can we add a legend to provide information about the map above, specifically what the shades represent?

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:02 AM

Added

Summary of Comments on Final corridor plan

Page: 13

Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 8:01:51 AM

Was crash data requested from ArDOT? Was there effort to verify that the data obtained from TxDOT was comprehensive of all crashes on Stateline?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 9:54:57 AM

Yes, ACAT was utilized, noted in report

Public Involvement

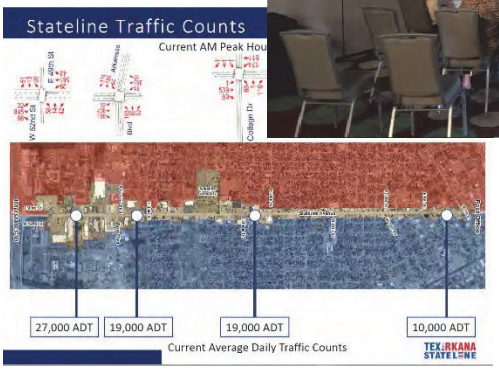
A key component of the Corridor plan was to engage the public and collect vital input. The process utilized is outlined below.

Involvement Strategy

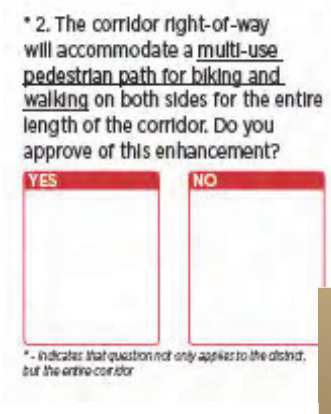
This corridor study has utilized the public's input from the very beginning of the study to discuss future objectives and to identify existing key corridor conditions and issues. To keep the community informed, there have been multiple public workshops to discuss the corridor plans and planning process.

Public Meetings

- Public Meeting #1
  - Public Meeting #1 for the Stateline Avenue Corridor Study was held on Tuesday June 29[1], 2021, from 6:00pm-8:00pm. This public meeting was held at the Texarkana Arkansas Convention Center. During this meeting, the community was given the opportunity to give their general input about Stateline. In this meeting, breakout groups were implemented to introduce Stateline, traffic patterns, pedestrian and bike mobility, beautification, and the introduction of potential districts Stateline could potentially have.



- Public Meeting #2
  - Public Meeting #2 for the Stateline Avenue Corridor Study was held on Thursday September 9th[2]021, from 6:00pm-8:00pm. This public meeting was held at the Texarkana Texas Convention Center. During this meeting, the community was informed of the survey results and public input from Public Meeting #1. This meeting also included plan views and cross sections of the potential plans for Stateline. In this meeting, breakout rooms were implemented to introduce each district to the community. The districts that made up each breakout room included the Regional Commercial District, Business District, Residential District, and the Urban District.



Page: 5

Number: 1 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 12:59:42 PM
Remove "th"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:06 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Inserted Text Date: 12/15/2021 4:50:21 PM
Remove "th"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:10 AM
Corrected

Page: 14

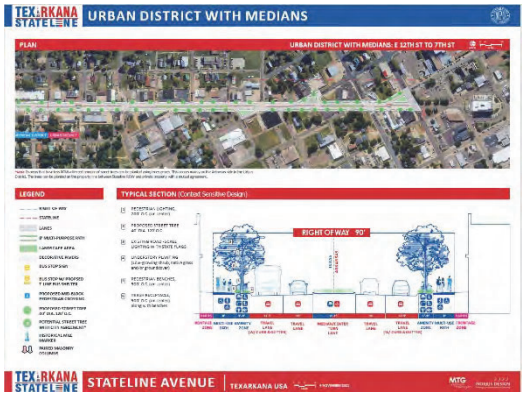
Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 8:12:01 AM

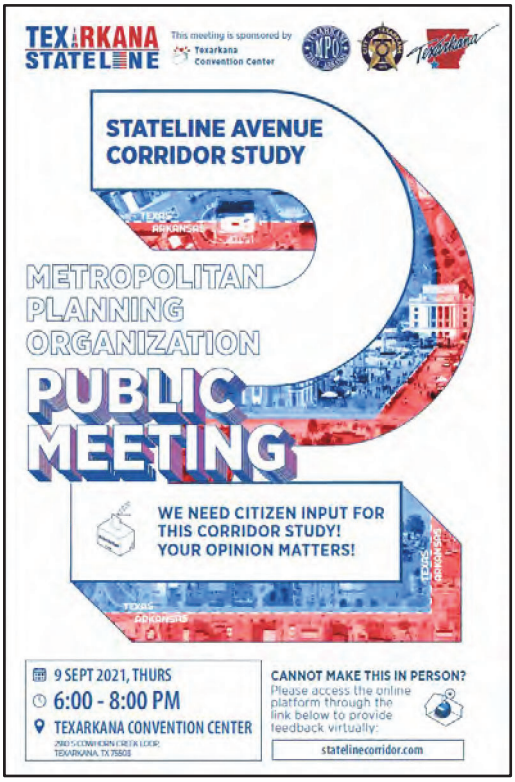
Perhaps include some participation statistics? Otherwise, the reader would need to review the appendices to understand the level of public engagement in the study. Participation in meeting #3 may be of particular interest.

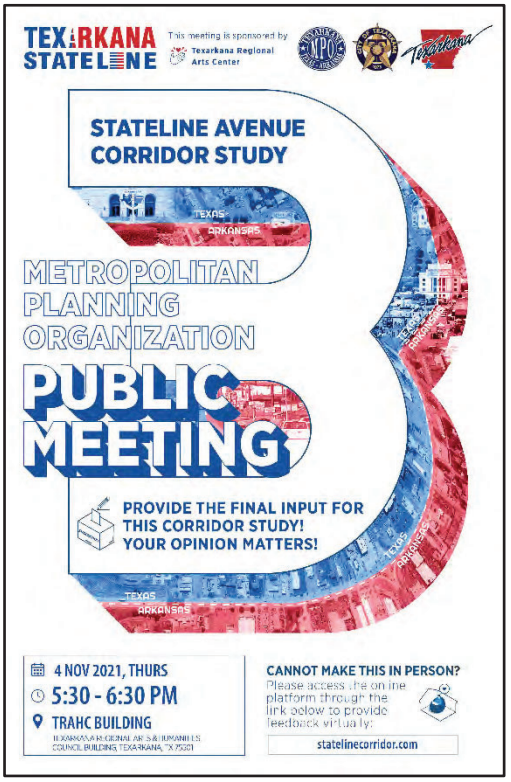
Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:01:20 AM

Information Added

- Public Meeting #2
  - Public Meeting #3 for the Stateline Avenue Corridor Study was held on Thursday November 4, 2021, from 5:00pm-6:30pm. This public meeting was held at the Texarkana Regional Arts Center. During this meeting, the community was informed of the public input from Public Meeting #2 and how the final two alternatives were selected for the Corridor Plan. This meeting also included plan views and cross sections of the potential plan alternatives for Stateline. In this meeting, both the Boulevard Concept and Redevelopment Concept was presented, and the attendees were asked to select their preferred alternative for each district. Additionally, there was an interactive display that allowed attendees to see possible median locations and use dry erase markers to trace alternate routes caused by installation of medians.







Page: 6

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/7/2021 4:47:45 PM

This should be PM #3. It should be noted in this section that it was not made clear at any of the meetings that U-turns could not be made with the raised median design. No turning template was provided to show how this maneuver could/could not be made. It is still not clear that U-turns could even be made at intersections as there doesn't appear to be enough width for even a passenger car (by template) to make a U-turn (except at Texas/Arkansas Blvd intersections). This request was made by TxDOT prior to PM #3, but it was not included.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:38:00 AM

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 5:27:04 PM

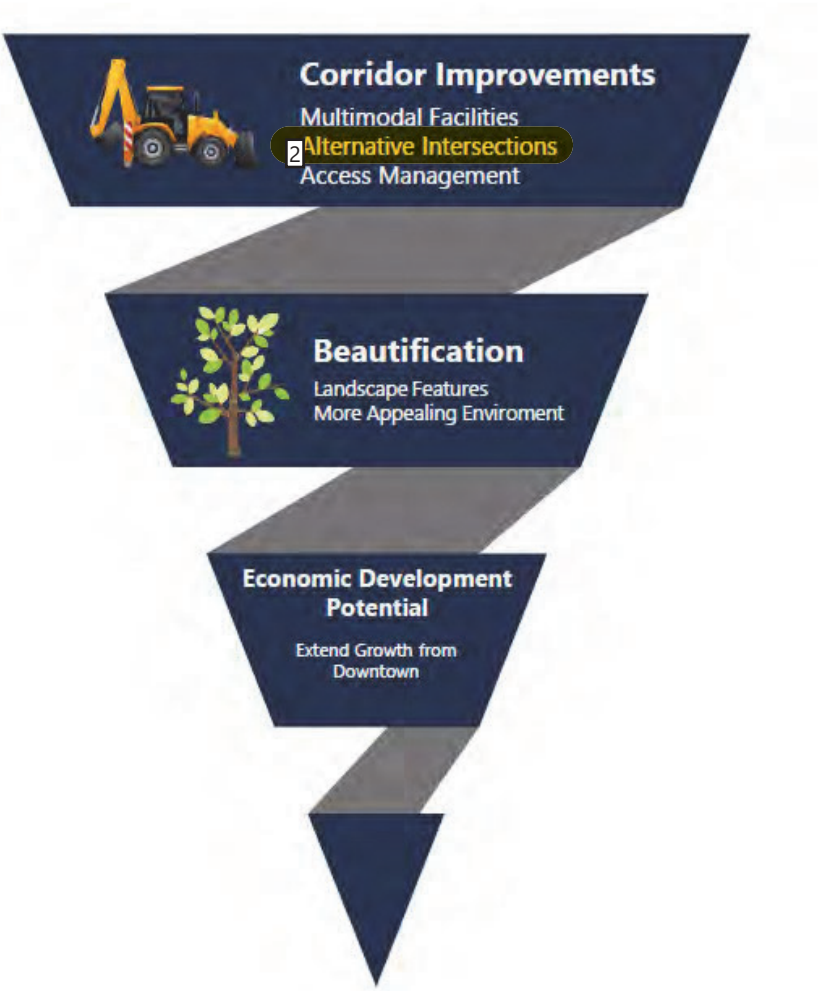
Discussion was included at all meetings regarding traffic impacts caused by raised medians, including the fact that business would no longer have direct access from the off-side of the street as well access to some side streets. Discussions at the PMs included traffic being diverted to side streets and a separate meeting was held with city officials discussing possible impacts to side streets. U-turns were not discussed until later in the process so an interactive map was provided at PM #3 depicting raised medians and utilized to discuss what re-routes may be required. Like the exhibits shown in this report, it was assumed and conveyed that u-turns are not possible and side streets must be utilized.

Chapter 2: Study Vision & Goals

Based on initial input from stakeholders, advisory committees, and the participating public, a vision was cast about what Stateline could become. From this vision, we created a Vision Statement to center our designs and goals around.

Corridor Vision Statement

We believe the Stateline Avenue Corridor will be the premier local corridor in Texarkana, USA. It is our desire that the corridor will function as a complete street for all citizens, providing a safe, efficient, and attractive experience… whether you are driving, walking, enjoying a bike ride, and or taking the bus.



Page: 7

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:05:27 PM
and/or

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:17 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:51:49 PM
Were alternative intersections incorporated or considered somewhere in the plan?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:40:07 AM
Alternative intersections were considered, but due to limited ROW much variation to existing configurations was not possible.

Complete Street

Complete Streets are streets designed and operated to enable safe use and support mobility for all users. The concept of Complete Streets encompasses many approaches to planning, designing, and operating roadways and rights of way with all users in mind to make the transportation network safer and more efficient, according to the U.S. Department of Transportation. The intended use of a Complete Street on Stateline Avenue would be for the safety and mobility of the community, as well as using future design features to make the environment more inclusive to the public.

Bicycle Accommodations

- Bike Lanes
- Bike Parking

Pedestrian Infrastructure

- Sidewalks
- Crosswalks
- ADA Accessible Facilities

Public Transit

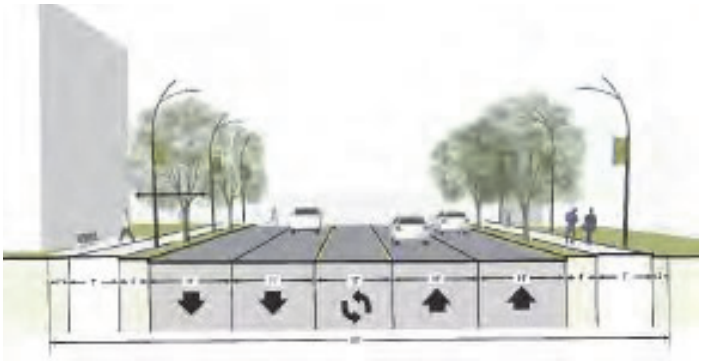
- Bus Shelters
- Bus Lanes

Green Space

- Refuge Areas
- Landscape Zones
- ROW Furniture

Traffic Calming Measures

- Center Medians
- Lower Traffic Speeds
- Narrower Travel Lanes



Page: 8

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:38:11 PM

Are these bullet points specific to Stateline Ave's design as a complete street or just general to the concept of complete streets? If specific to Stateline Ave, bike Lanes are not being proposed as part of the two alternatives? Maybe bicycle accommodations? or are bike lanes what the public said they wanted?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:41:16 AM

Part of the discussion relating to "what is a complete street". Noted in report : "Example aspects of complete streets include:"

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:54:04 PM

Are these recommended? If so, are there particular locations where they fit? or is this just a general statement related to a complete street design?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:41:35 AM

Part of the discussion relating to "what is a complete street". Noted in report : "Example aspects of complete streets include:"

Needs and Deficiencies

Throughout the Stateline corridor, there are many needs and deficiencies that should be addressed to improve multiple aspects of the corridor and the overall function of Stateline Avenue. The three categories identified are based on input from users of the corridor, business owners, community leaders, and data collected.

Safety

- Enhance Existing Street Conditions
- Improve Pedestrian Safety
- Regulate Cross Traffic Movement
  - Drive Reduction
  - Median Additions
- Enhance Lighting
- Accessibility

Pedestrian and Bicycle Mobility

- Consider Pedestrians throughout all Transportation Modes
- Implement Sidewalks throughout Corridor
- Implement Bike Lanes

Beautification

- Enhance Overall Appearance of Stateline
- Landscaping
- Cleanliness
- Vibrancy

Page: 9

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:19:21 PM
Driveway Reduction?

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:24 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:18:16 PM
maybe bike accommodations since bike lanes aren't proposed? Or is this based on what the public said they wanted?

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:28 AM
Corrected

Property Owner Input

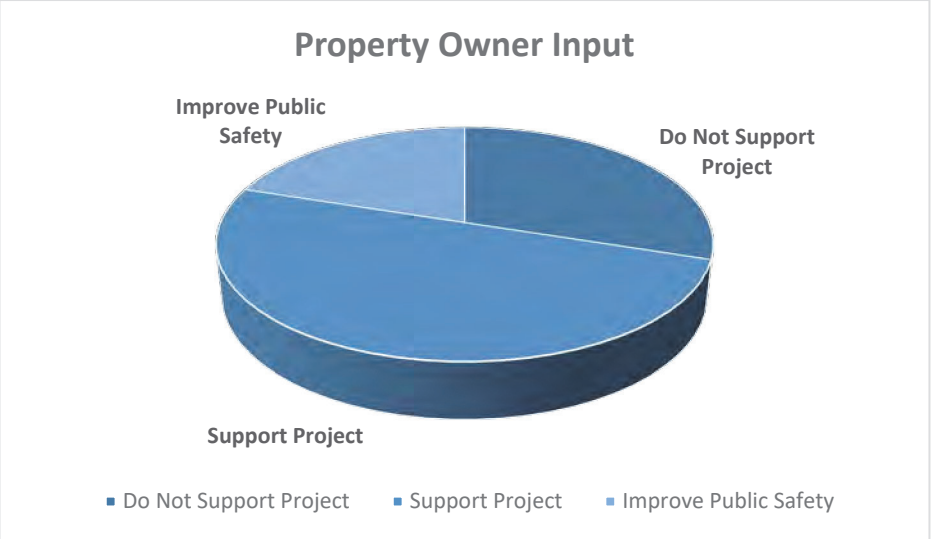
Based on data available from County Records, there are 196 individual parcels along this segment of Stateline Avenue. Of these 196 parcels, there are 168 different Property Owners. These individuals were sent direct invitations to Public Meetings #1 and Public Meeting #2 so we could discuss the proposed improvements directly with these individuals. Additionally, an owner-specific survey was created for the Property Owners along Stateline and was sent to them via US Mail and made available online.

Participation results are as follows (full results are included in the attached Appendices.

Contacted: 168

Returned: 9 (No valid contact information available)

Responded: 27



When asked:

"Raised medians provide refuge for pedestrians, aid in managing motor traffic, and allow locations for landscaping. Do you believe adding raised medians would have a positive or negative effect on your business?"

Results were evenly split 50% Positive & 50% Negative.

Page: 10

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:18:50 PM
Were direct invitations sent for PM #3?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:42:34 AM
Due to time constraints we where unable to get letters mailed out in time. All meetings were posted publicly, shared on social media, and included in the Texarkana Gazette multiple times.

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:22:13 PM
Note- U-turn restrictions associated with raised medians were not conveyed to the public with this question. That should probably be noted as that 50/50 result could have potentially been much different.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:43:12 AM
Text added: "Question as stated above did not include information relating to the possible implications of adding raised medians in front of businesses."

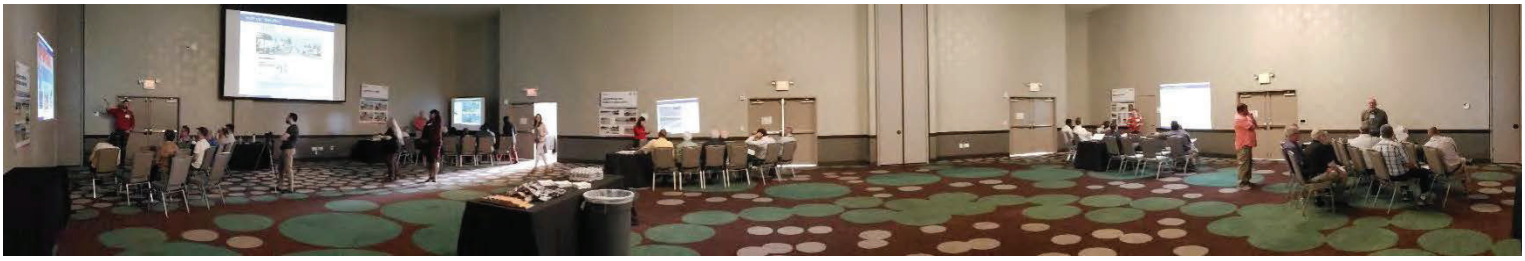
Page: 22

Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 7:26:22 AM

Why not Public Meeting #3 (specifically in relation to stated access concerns)?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:02:46 AM

Due to time constraints we where unable to get letters mailed out in time. All meetings were posted publicly, shared on social media, and included in the Texarkana Gazette multiple time.



General Public and Stakeholder Input Summary

Over the course of this study, multiple Property Owners did attend the public meetings and had personal discussions with City Officials and Team Members to voice their concerns over raised medians and other proposed elements of the designs shown. While there are multiple aspects to the designs included in this plan that are viewed as unfavorable to these individuals, the main concern is the negative effect of the addition of raise medians to the corridor. A petition was started by a local business owner which garnered over 800+ signatures from patrons to their establishment and concerned parties.

Based on the small participation percentage of Property Owners and General Public, additional community engagement should be conducted before a final design is selected. While some conclusions can be drawn from the input garnered for this report, larger sample sizes are necessary to adequately gauge the public and owner opinion of these improvements.

The designs included in this report are conceptual in nature and should be viewed as such. Pursuant to Federal guidelines, additional community engagement will be required by the DOTs, regardless of the alternative selected and additional concerns can be voiced at that time.

Page: 11

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:55:41 PM

and the fact that the U-turn restrictions/traffic operation changes were not disclosed,

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:43:55 AM

Text added: "Additionally, traffic impacts and potential U-turn operations will require detailed design study beyond the limits of this report that could significantly alter the designs and calculations shown in this report. Based on the outcome of these additional studies, Property Owner and Public opinion of the preferred alternative could be altered. "

Chapter 3: Corridor Alternatives and Framework

Design Criteria

Since this corridor is owned and constructed by both ARDOT and TXDOT, main design guidelines utilized for the purposes of this study followed published design standards of both entities. We understand these criteria have been analyzed and are based on best practices, but we also recognize the unique qualities of Stateline and believe that some flexibility should be afforded to this project to create the best product.

Documents Utilized for the basis of these alternatives:

- Arkansas Department of Transportation Roadway Design Manual

  -Lane Widths

  -Pedestrian Facility Criteria

- Texas Department of Transportation Roadway Design Manual

  -Lane Widths

  -Pedestrian Facility Criteria

  -Bicycle Facility Criteria

  -Median Opening Design

- AASHTO Geometric Design of Highway & Streets

Page: 12

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/16/2021 8:02:23 AM

Who is "we"? I think this needs to be restated without any kind of pronoun. Recommend removing all reference to "we" in this technical report, or clearly state who "we" is referring to: MTG, consultant team? "We" has been highlighted throughout the document were it was noticed.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:44:19 AM

Revised throughout.

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:23:52 PM

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:36 AM

Corrected

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:57:02 PM

As a DOT, we are not comfortable with this statement. Any design exceptions would have to be analyzed and vetted through the design exception process. We cannot agree with this "should" statement.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:44:35 AM

Comment Removed

Connectivity Concepts

Traffic

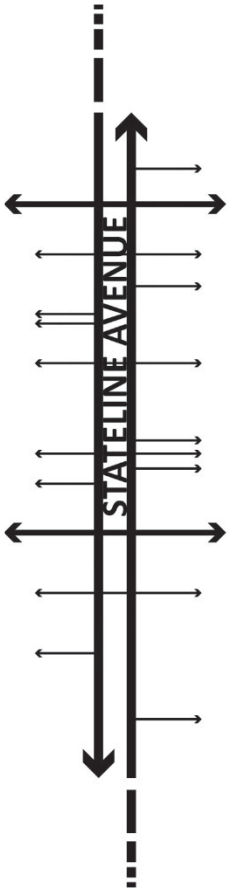
Automobile traffic is impacted by excessive crossroads and drive access along the corridor. These factors cause cross-traffic problems for motorists. High traffic volume and limited intentional pedestrian crossing points also impact existing traffic patterns and connectivity. Improvements, by means of addressing these cross-traffic concerns, will increase connectivity and safety of vehicles traveling along the corridor.

Bus

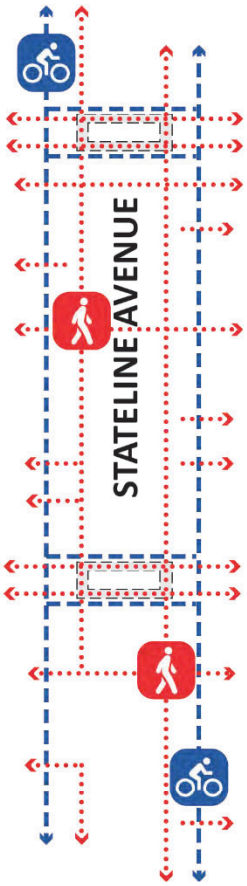
It is not proposed to adjust current bus routes, rather bus connectivity will be enhanced by re-locating and adding stops at identified high intensity pedestrian locations. In addition, improved bus stops and waiting areas will enhance comfort and promote visual representation of bus presence in the corridor.

Pedestrian

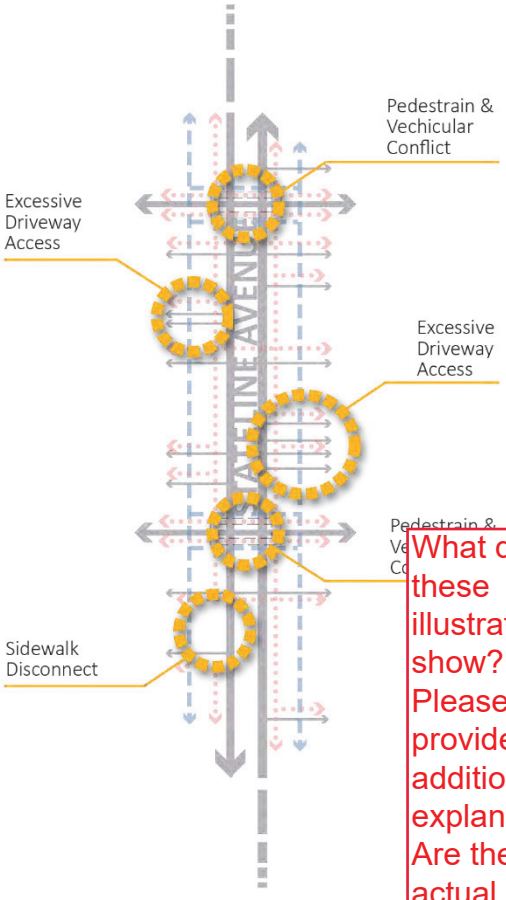
Pedestrian safety is a concern along the corridor in its entirety. Conflict amongst vehicular traffic and pedestrian/bike traffic has been a reoccurring issue, especially as vehicular traffic has increased. Improved visuals such as painted crosswalk and flashing signals will increase pedestrian safety. An increased number of deliberative pedestrian crossings will aid in pedestrian connectivity along Stateline.



Traffic



Pedestrian/Bike



Connectivity Conflict

What do these illustrations show? Please provide additional explanation. Are these actual drives/ crossings/etc somewhere along the corridor?

Page: 13

Number: 1 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 1:32:44 PM

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:41 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 4:59:35 PM
consider use of different word. Maybe planned or specific?

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:45 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Inserted Text Date: 12/6/2021 1:32:39 PM
add "should be considered to aid..."

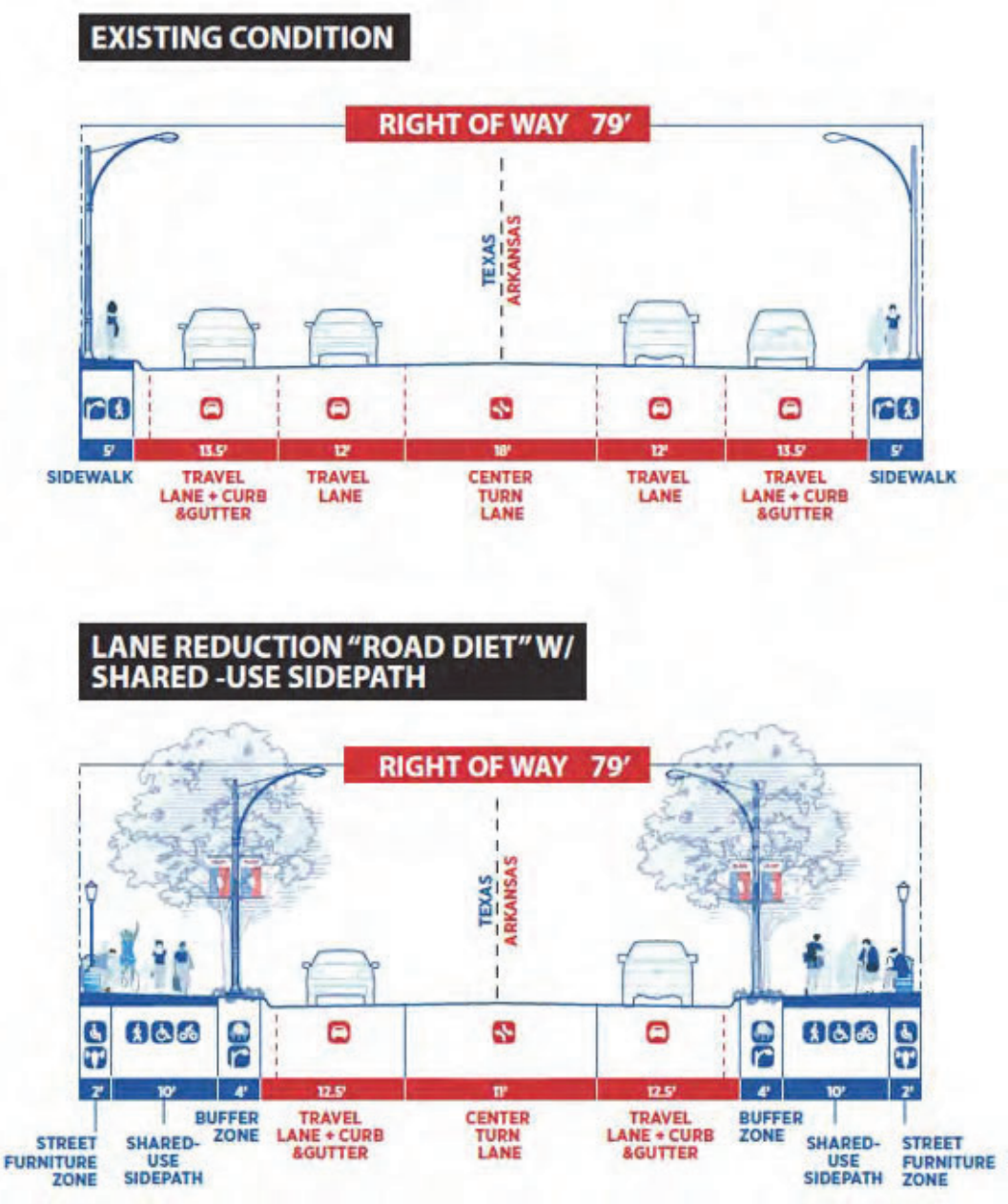
Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:49 AM
Corrected

Number: 4 Author: DSIMMO1 Subject: Text Box Date: 12/15/2021 5:00:14 PM
What do these illustrations show? Please provide additional explanation. Are these actual drives/crossings/etc somewhere along the corridor?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:54:16 AM
These exhibits are based on the actual stateline but are abstract in nature. They have been labeled as conceptual.

Draft Design Concepts Considered

As part of the planning process, a range of multimodal solutions were identified and analyzed for possible application to the corridor. Constraints caused by excessive driveways, limited ROW width, and high traffic volumes limited the applicability of some solutions. The ultimate goal is to provide end concepts that implement design aspects of complete streets to improve multimodal usage along the corridor and promote economic redevelopment and growth.



Road Diet

An initial look was made at the possibility of a Road Diet concept to improve roadway safety and provide additional space for multimodal facilities along the corridor. A road diet is achieved by reducing the total number of travel lanes within the right-of-way. The potential of a road diet would require further studies by ArDOT and TxDOT; however, based on the traffic volumes and business overflow into the outside travel lane, we do not recommend this as a viable option for the corridor.

Page: 14

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:34:56 PM
change the "we"

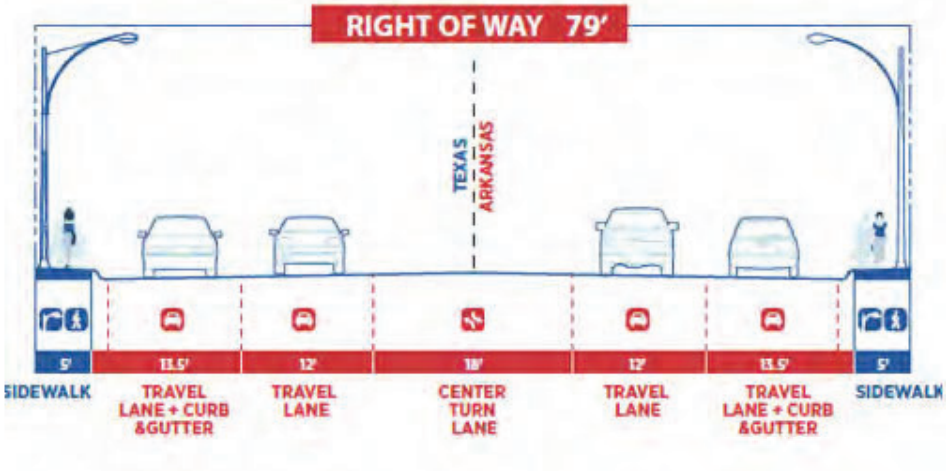
Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:54 AM
Corrected

Raised Medians

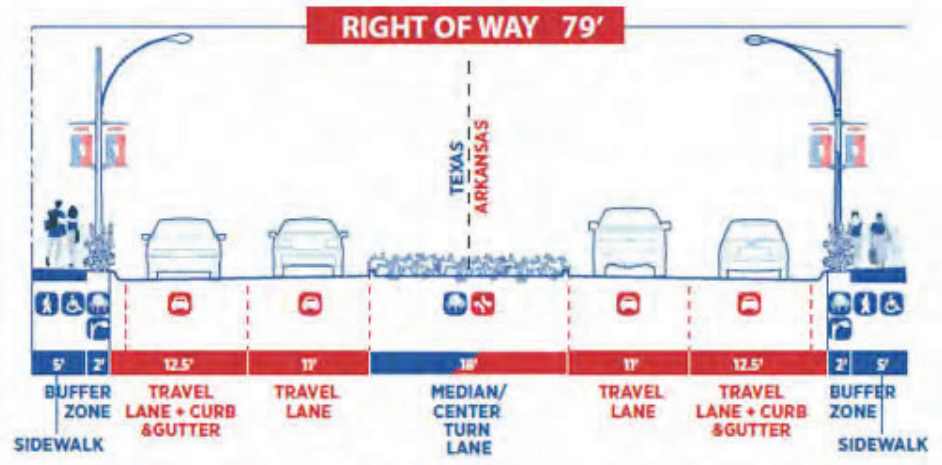
Medians are raised barriers placed in the center of a street that limit left turn movements which in turn improves safety. Based on studies by the Federal Highway Administration, raised medians have shown to reduce vehicular accidents by over 15%. Raised medians also offer pedestrian benefit by providing safe places of refuge while allowing the pedestrian to focus on crossing one direction of traffic at a time. Based on the information gathered during this study and input from the public/stakeholders in the community, we believe raised medians should be further evaluated for implementation along the corridor.

Add note indicating restriction of U-turns was not conveyed to the public.

EXISTING CONDITION



CONTEXTUAL DESIGN STANDARDS W/ RAISED MEDIAN & PED. REFUGE



Page: 15

Number: 1 Author: DSIMMO1 Subject: Sticky Note Date: 12/6/2021 3:43:04 PM
and restrict U-turn movements in this case

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:55:06 AM
Text added: Additionally, due to the current ROW width of Stateline Avenue U-turns would not be allowed at any median openings.

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:35:22 PM

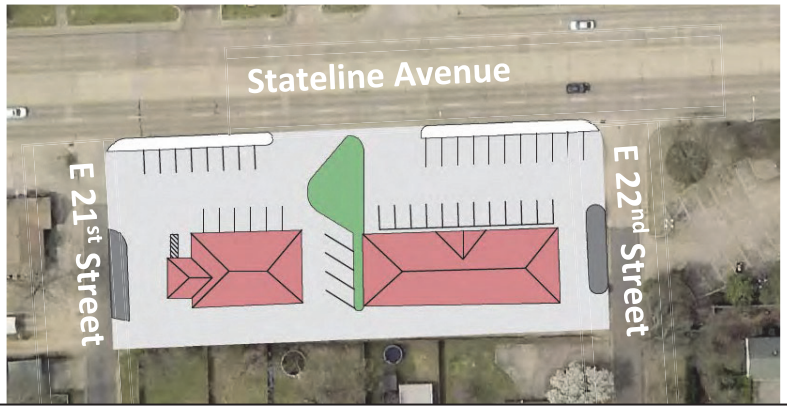
Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:08:58 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Text Box Date: 12/7/2021 4:53:50 PM
Add note indicating restriction of U-turns was not conveyed to the public.

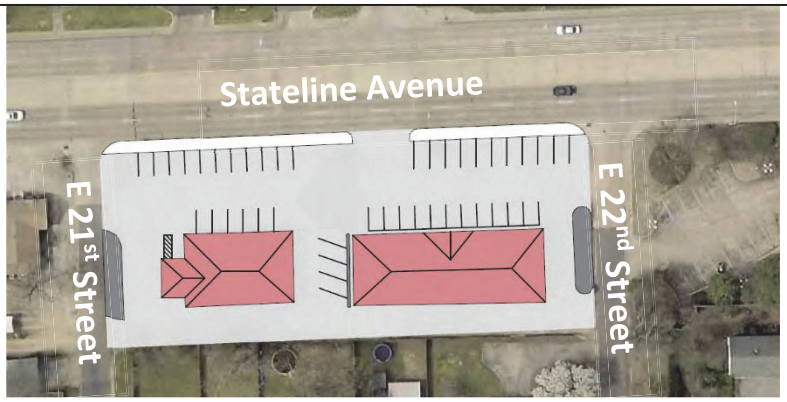
Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 1:17:45 PM
Text Added: "Additionally, due to the current ROW width of Stateline Avenue U-turns would not be allowed at any median openings"

Driveway Consolidation Plan

When Texarkana was originally subdivided, lot widths ranged from 40 to 50 feet. These small and narrow lots created the opportunity for very dense driveway placement. As lots have consolidated into larger parcels, many of the driveways have been grandfathered into compliance. This has resulted in approximately 210 drives along the 2.75 mile stretch of roadway. This, coupled with over 50 side street intersections, creates a hazardous scenario with a nearly continuous possible left turn movement. An alternative to raised medians would be a Driveway Consolidation Plan implemented by the Cities with support from the DOT's. If an overlay district is created, as parcels are redeveloped, the Cities would be able to regulate driveway locations and require cross access between adjoining properties. Additionally, a short-term strategy could be to talk to business and property owners along the corridor regarding driveway elimination in exchange for creating cross access between businesses.



Example Drive Consolidation plan: 2100 Block N. Stateline Ave.
Currently both properties have drives off Stateline with no cross access. With the implementation of a cross access agreement and minimal alterations, one or both driveways from Stateline could be removed



Example Cross Access:
3700 Block N Stateline Ave.
Currently three separate business have sufficient cross access between developments. This is the desired goal, coupled with removal of minimally two of the four Stateline driveways. (These three businesses have a total of ten drives off all available streets.)

Page: 16

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:01:38 PM

Is the driveway consolidation plan only being recommended as an "alternative" to the raised medians? or is it recommended regardless of final design. Also DOT's should be DOTs.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:55:36 AM

To best identify the constraints and challenges associated with drive consolidation, we are separating the consolidation plan into alternative #2. Moving forward this could be implemented into either alternative, but to keep the report clear, we will show this as an aspect of alternative #2.

Page: 28

Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 8:13:36 AM

While driveway management would achieve some of the objectives of a raised median, it would not achieve all of your stated reasons for installing a median (such as reducing pedestrian crossing distances).

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:04:28 AM

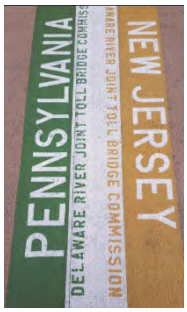
noted: "to improve traffic safety, " in report

Context Sensitive Design Elements

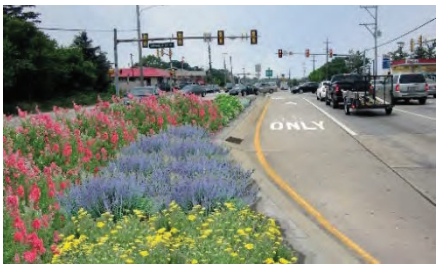
Context Sensitive Design focuses on addressing issues at a localized scale. Context sensitive design outlined by the Institute of Transportation Engineers (ITE), is an integrated design process that looks to improve multimodal conditions for all roadway users, while also preserving aesthetic integrity, historical aspects, community identity during transportation planning. We feel improvements along Stateline Avenue should warrant context sensitive design as a guiding principle.

Raised Medians

1. Stamped Concrete/ Brick Pavers
   This material can consist of traditional red bricks or the more modern stamped and colored concrete. Since the actual Stateline between Texas and Arkansas would be located within the median area, a marker could be included of contrasting color to signify this unique aspect.



2. Shrubs
   Landscape planting on the Stateline corridor could include a design with large simple beds of flowering shrubs. The shrubs would include two to three (2-3) types of species that are native to the area which promote drought tolerance and ease of maintenance. The shrubs would be planted within a curvilinear design pattern.



3. Native grasses
   Landscape planting on the Stateline corridor could include a design with large simple beds of native grasses. The grasses would include three to five (3-5) types of species that are native to the area which promote drought tolerance and ease of maintenance. The grasses would be planted to promote a layered design within an overall curvilinear pattern.

Page: 17

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:39:47 PM
remove "we"

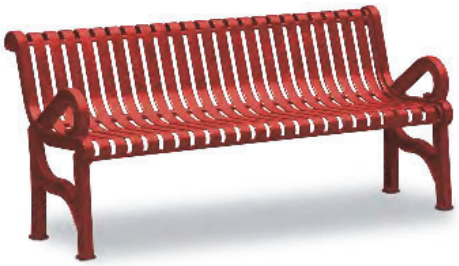
Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:03 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:41:57 PM
We have safety concerns about this recommendation as we do not want to encourage people stopping, picture taking, biking or walking, along the actual state line.

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 12:29:04 PM
Text Added: . "The delineation would not be advertised as a pedestrian feature, but a unique element for motorist along the corridor, especially tourist venturing to Texarkana for the first time."

Right of Way Elements

1. Pedestrian Street Lights
   (2 globe ornamental/18' tall)
   We propose pedestrian scale streetlights to run along the edge of the multi-use path providing illumination and safety for the users. The lights selected would be a dark metal with a historic style two-globe fixture. The light standards would be approximately 18 feet tall and located along both sides of Stateline.



2. Pedestrian Benchs
   We propose pedestrian benches to be located along both sides of Stateline corridor. The dark metal benches will provide seating for the casual walker enjoying the multi-use pedestrian path. We would select metal benches for their quality, durability and low maintenance. All the outdoor pedestrian furniture (benches, trash and bike racks) would be of a compatible design and color.

3. Trash Receptacles
   Trash receptacles and pedestrian benches would be paired together. The trash receptacles made of metal and painted a dark color will help to keep the corridor clean. As with the metal benches, trash receptacles would be selected for their quality, durability, and low maintenance.

Page: 18

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:42:29 PM
remove "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:10 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:43:06 PM
remove "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:13 AM
Corrected

4. Bicycle Racks
   Proposed bicycle racks would be located along the corridor on the multi-use path. This path would be both for pedestrians and bicyclists and should be signed for each user to have a specific side for safe use. The metal bicycle racks would also be selected for their quality, durability and low maintenance.

5. Street Banners & Brackets (heavy vinyl)
   We propose that the existing street light poles be fitted for new vinyl banners and hardware. The poles along both sides of Stateline will then have the same new banners. The banners could be changed out 3 or 4 times a year and would include designs that promote Texarkana USA events and family holidays. These would be designed and paid for by both Texarkana USA cities.

Page: 19

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:02:45 PM
recommend change to "adjacent to" as there would not be room to place in the path itself

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:19 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:03:05 PM
Do not believe there is room as proposed to have a specific side for each user.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:56:16 AM
Statement removed.

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:45:46 PM
Remove "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:23 AM
Corrected

Number: 4 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:53:06 PM
What are "family" holiday?

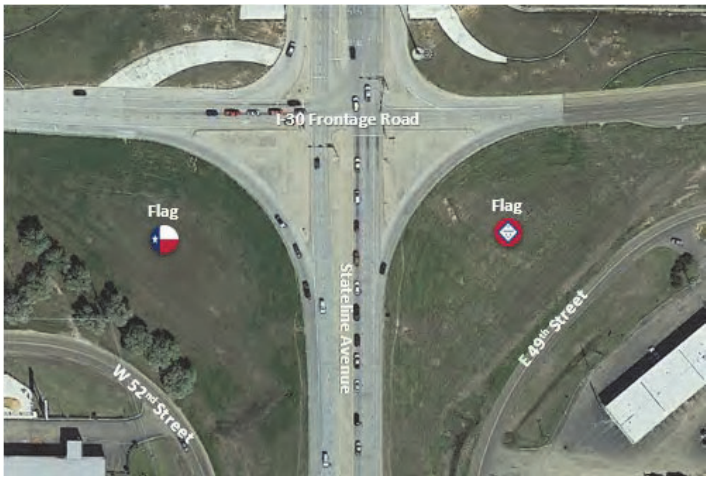
Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:56:45 AM
Family removed.

Gateway Features

- Colossal Flag (150’ tall)

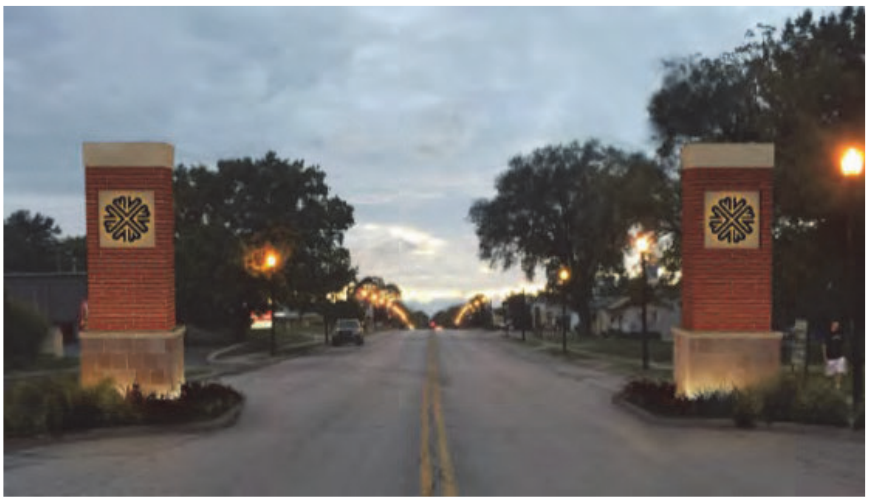
The northern gateway feature near the interchange of Interstate-30 and Stateline Avenue would include a proposed pair of 150’ tall flag poles. The flags of both Texas and Arkansas would serve as a visual gateway, from a far distance, of the location of Stateline Avenue. The pair of State flags would be illuminated at night with a series of shielded flood lights protecting adjacent development.

Potential Flag locations to promote visibility from I-30 and larger portion of Stateline



- Columns

The southern gateway feature located near the US courthouse would include a proposed pair of 16’ masonry columns. The paired columns in both Texas and Arkansas would serve as a visual gateway to the location of Stateline Avenue. The pair would be illuminated at night and include a seal of each of the neighboring cities.



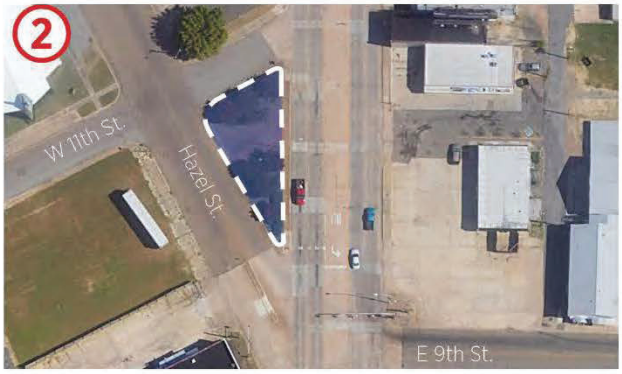
Page: 20

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:07:03 PM
There is some safety concern with how these are shown close to the edge of the roadway.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:57:20 AM
Image replaced .

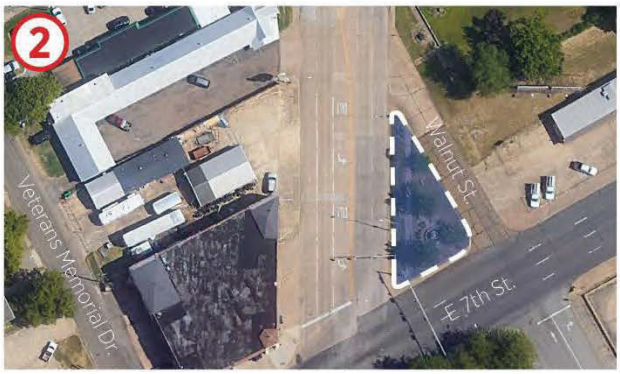
Twin Parks

Site One - Texas

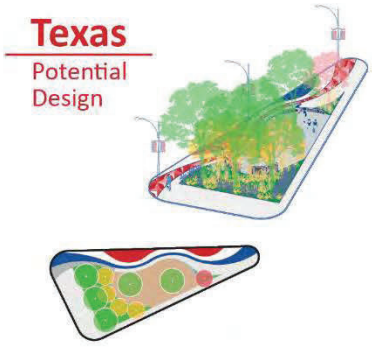


Site Two - Texas

Site One - Arkansas



Site Two - Arkansas



In the Urban District, there are several triangular shaped pieces of open land adjacent to Stateline Avenue ROW. We are proposing simple site designs for these four (4) areas for pedestrian use. The designs include pavement, pedestrian benches and landscape planting. Each state would have 2 proposed parks.

Page: 21

Number: 1 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 1:53:53 PM

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:28 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:53:45 PM
Green Spaces

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:32 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:07:49 PM
Please do not refer to as "parks" but maybe "green spaces" or something like that. Parks have a specific meaning and legal protection within the transportation field. We do not want these "parks" to prevent any future ability to use this area for transportation purposes. In addition, these spaces may lend themselves to providing a better, safer and more desirable intersection design than now exists.

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:35 AM
Corrected

Stateline Pedestrian Crossing Experience

The final design piece for the Stateline corridor would include several locations where an actual stateline and paving feature would be placed to allow pedestrians to enjoy standing in both states at the same time. Specific locations and designs will be created during the next phase of design work.

Historic Markers

As a part of the original 1841 Republic of Texas survey, mile markers located the actual Texas/Arkansas state line. Today those original markers are gone. We are proposing new survey monuments at the same locations to provide a historic link to the uniqueness and importance of Stateline Avenue. The design would include a simple obelisk about three (3) feet tall with both state seals located in the pavement for markers 98, 99 and 100.

Page: 22

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:52:21 PM
TxDOT has concerns about encouraging pedestrian activity in the median area (even if placed within a raised median).

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 12:29:57 PM
Text Revised: "The final design piece for the Stateline corridor could include several locations where pedestrians can enjoy the uniqueness of Stateline. Proposed locations must be located in safe area outside of the limits of the roadway. Specific locations and designs will be created during the next phase of design work."

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 1:51:39 PM
state line

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:40 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:09:51 PM
Are these proposed to be placed in the median? If so, we have concerns about encouraging pedestrian activity, picture-taking in the median.

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 12:30:18 PM
Text Added: "Historical markers could be placed along the shared use path for pedestrians to stop and learn about the markers and take pictures from the safety of the sidewalk."

Value Added for Street Trees

While trees are working hard for air and water quality, they're also increasing property values, improving business performance, and creating jobs. Vibrant Cities Lab (VCL) a national research organization looking at case study information on the value derived from street trees.

Studies during the last 40-years on humans and landscapes generally find that people of all ages and cultural backgrounds prefer natural views to built settings and that urban spaces with trees receive higher ratings for visual quality. Psychologists and sociologists confirm that people gain many benefits from experiencing nature through landscape.

Trees are an important element in a revitalization strategy. Shoppers do not purchase goods and services just to meet needs. They seek positive experiences while shopping; and the appearance of the streetscape is an important part of creating a welcoming, interesting shopping environment.

Page: 23

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:11:34 PM
Three pages of information on trees seems excessive and somewhat of a hard sell for trees. We should also provide the counterpoint of studies/facts related to safety and maintenance issues with trees to provide a balanced view?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:54:54 PM
Information added addressing maintenance concerns

Tree Species Selection

Specific tree species would be selected during the design phase for Stateline. This will be the next step of the corridor effort. This corridor could utilize multiple tree types and each tree will be selected per the location. These future designs should be completed by a registered Landscape Architect with experience in streetscape design.

Below are some images and tree species that could fit the alternatives depicted in this report as a tree for Stateline. Many have tap roots and ~~as you see~~ a columnar up-right shape.

Goldspire Ginko (male only)

Acer platanoides 'Emerald Queen'

Crimson Spire Oak

Princeton Elm

Highrise Live Oak

Acer campestre 'Baronne'

Page: 24

Number: 1 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 1:58:15 PM

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:46 AM
Corrected

When shown images of districts with and without trees, but with the same level of building care and street tidiness, participants gave more positive scores for maintenance to districts with trees over those without. Potential shoppers claim they are willing to travel more often, longer, and over greater distances, and once they arrive there, will spend more time in a retail district that has trees.

Why is patronage behavior important along Stateline Avenue? The study's findings could translate to an expanded trade area radius that adds thousands of people within urban population centers. Once they get to these districts, people report that they will stay longer, which could mean greater sales revenue.

Some notable research finding include the following:

- Trees increase retail sales, attract shoppers from further away and improve employee performance.
- Trees calm traffic, reduce stress and car accidents, encourage walking and extend the life of pavement.
- The presence of trees along streets decreases stress levels while commuting, and in turn, reduces the likelihood of aggressive driving habits.
- By selecting the right tree species for a given area, the pavement damage typically caused by tree roots can be mitigated and spending on infrastructure repair will decrease.
- In Modesto, CA 20% shade on a street improves pavement conditions by 11%, which translates to a savings of 60% over 30-years.
- Initial planting and maintenance costs for trees may be about $750 each. As the tree grows, it generates greater economic benefits every year — increased sales, air quality, property value, and human health.
- Trees positively affect judgments of visual quality, but more signific e consumer responses and behaviors.

the negative consequences of trees - safety and maintenance specifically - should be mentioned here. Otherwise, this whole section seems really biased.

Review these attached items for greater detail and information on the rese alue via suburban and urban environment:

1. Mobility+Impact (help to calm traffic)
https://www.vibrantcitieslab.com/research/transportation/

2. Trees+Grow+Property+Values (grows property values)
https://www.vibrantcitieslab.com/resources/trees-grow-property-values/

3. Reading,+PA:+Best-in-Nation+Complete+Streets+Policy (complete streets assist people in poverty)
https://www.vibrantcitieslab.com/case-studies/best-in-nation-complete-streets-policy-by-midsize-city-with-high-poverty-rate/

4. Business+Impact (increased retail sales)
https://www.vibrantcitieslab.com/research/economic-development-business-impact/

Page: 25

Number: 1 Author: DSIMMO1 Subject: Sticky Note Date: 12/15/2021 5:13:15 PM
Section below should probably be under "Value Added..." rather than species selection

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:09:51 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:15:15 PM
Are you implying trees could bring thousands of more people to Stateline Avenue? or did the VCL Study make this assertion?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 1:01:21 PM
Statement as previously written was incorrect, statement revised : Why is patronage behavior important along Stateline Avenue? The study's findings could translate to an expanded interest along Stateline and increase patronage. Once they get to these districts, people report that they will stay longer, which could mean greater sales revenue.

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:16:58 PM
The shade IMPROVES the pavement condition? that doesn't sound correct. Maybe this is meant to say reduces deterioration of pavement conditions - just guessing at what is really meant by that statement.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:53:06 AM
Statement Removed

Number: 4 Author: DSIMMO1 Subject: Text Box Date: 1/11/2022 12:44:03 PM
the negative consequences of trees - safety and maintenance specifically - should be mentioned here. Otherwise, this whole section seems really biased.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 1:02:15 PM
Section altered including the following statement: "Street trees are not perfect, as they require maintenance and most importantly need a quality design to best ensure success"

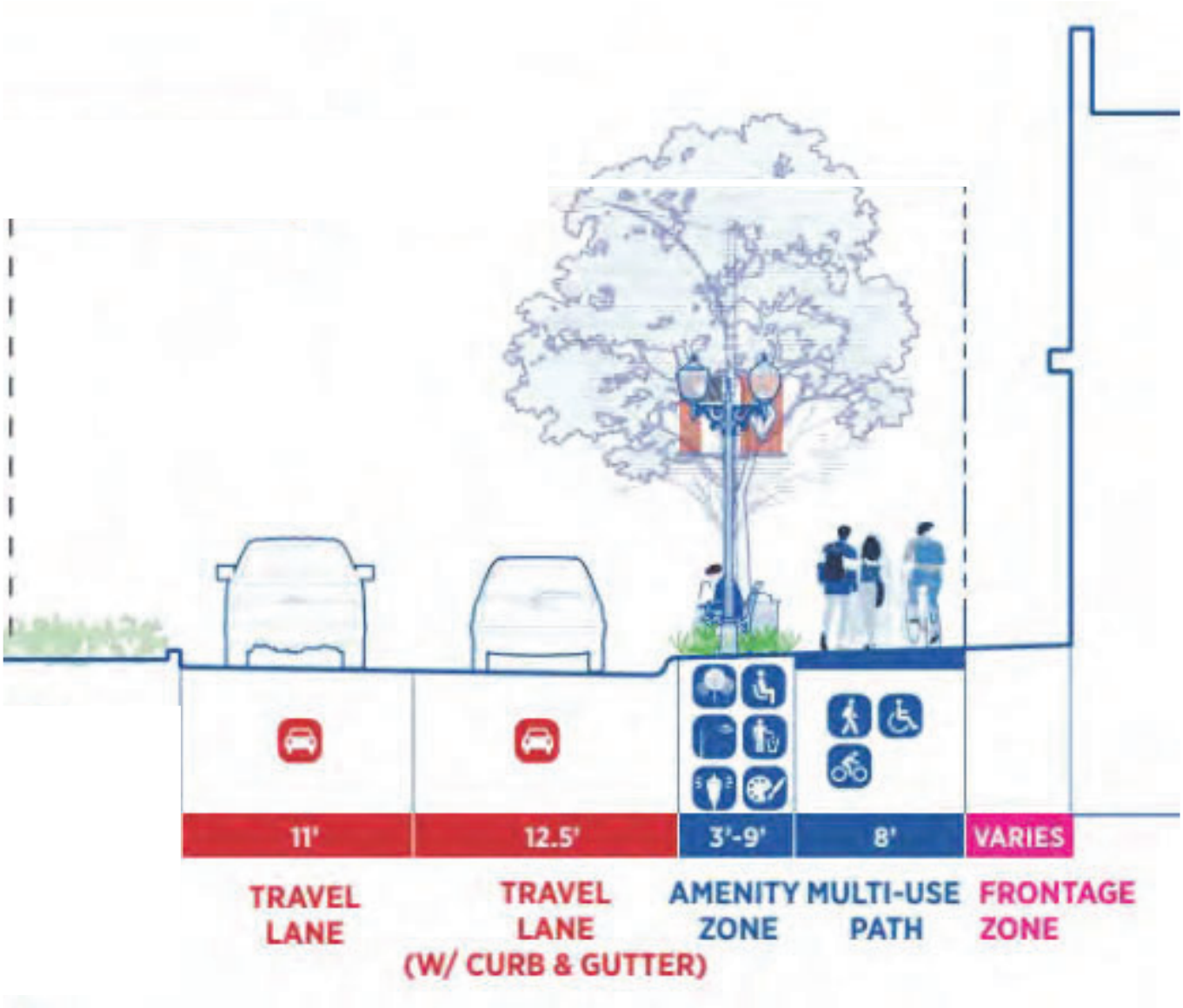
Chapter 4: Design Alternative 1: Boulevard Concept

Overview

This chapter will present the framework for the first design alternative including concepts, general district character, proposed multimodal improvements, and key redevelopment opportunities. This alternative called the Boulevard Concept is a transformation from the traffic centric design of today into a corridor that promotes all uses from vehicles to bicycles. A key component of this alternative is the addition of raised medians. We feel incorporating raised medians would provide greater traffic control by reducing locations of cross traffic turning movements. From a pedestrian safety standpoint, raised medians provide areas of refuge and should reduce the number of incidents along Stateline.

A discussion of U-turns must be provided here [1]

Additionally, providing medians allows for an additional loca ening features to encourage pedestrian use and invite redevelopment along t median landscape and hardscape applications should be utilized to best fit the appropriate district and the desired economic potential.



Page: 26

Number: 1 Author: DSIMMO1 Subject: Text Box Date: 12/6/2021 2:09:48 PM

A discussion of U-turns must be provided here

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:11:21 AM

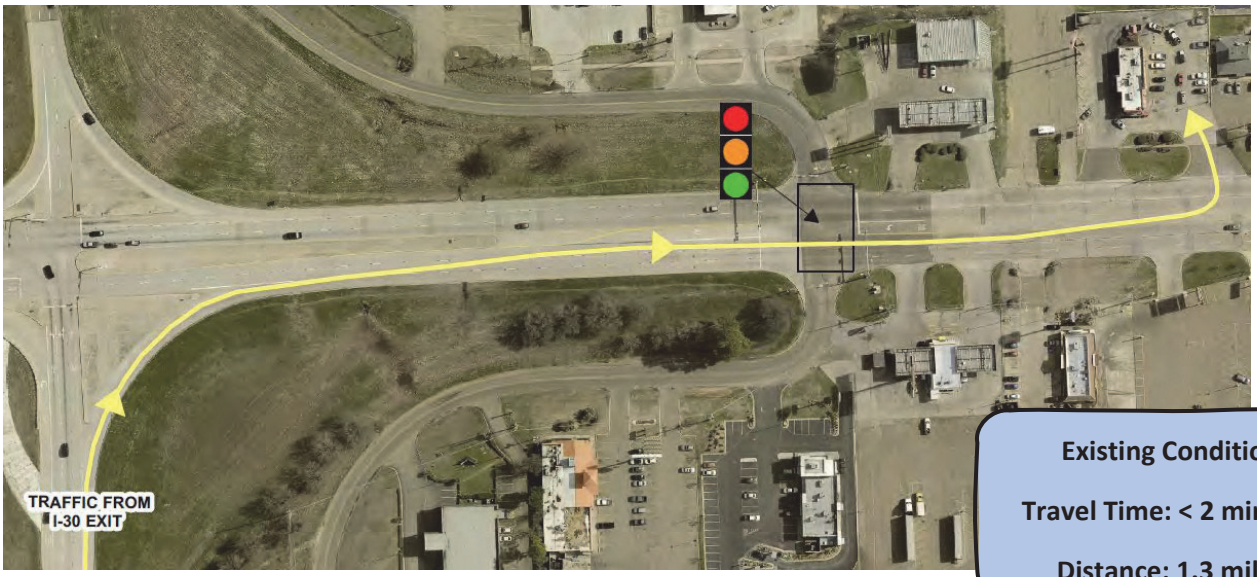
Refer to Page 44

Raised Median Impacts

While much of the public input has been in support of raised medians, the full impact of raised medians effect on travel times and patterns may not be understood. At our last public meeting, it was conveyed as much as possible, how the locations of median opening would affect corridor traffic patterns. As previously mentioned, additional community engagement and awareness should be conducted prior to finalizing a design for the Stateline Reconstruction project. Below are a couple of examples as to the impact caused by installation of raise medians. While U-turns might be possible at intersections for smaller vehicles, the reroutes shown are representative of larger vehicles unable to U-turn on the narrow corridor.

Starting Location: I-30 East Bound Exit Ramp

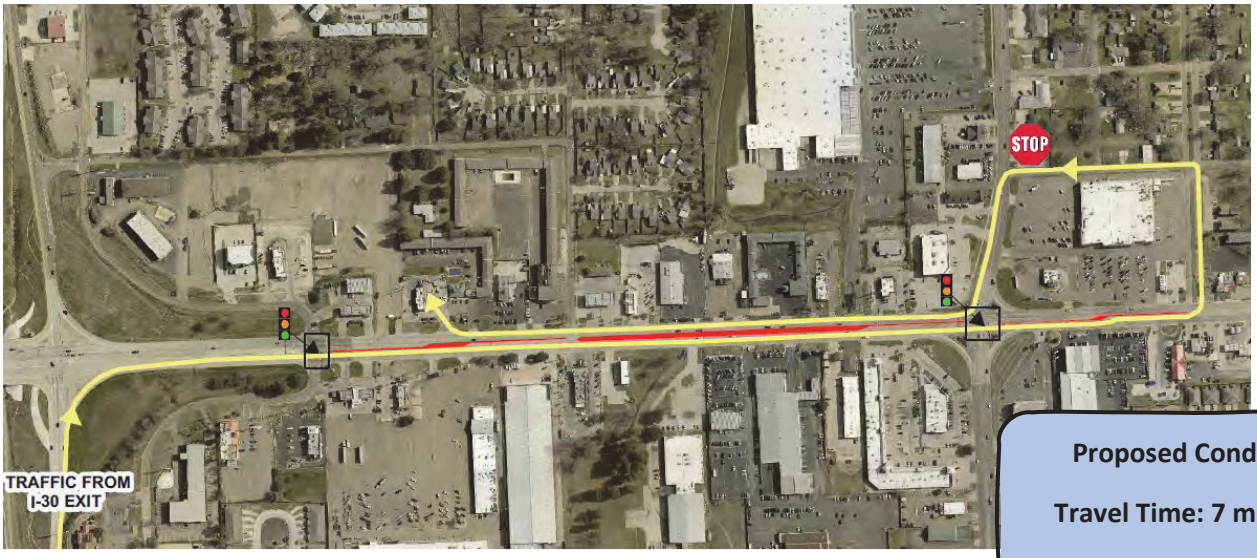
Destination: 4302 N Stateline Avenue Texarkana, AR (Popeyes)



Existing Condition

Travel Time: < 2 minutes

Distance: 1.3 miles



Proposed Condition

Travel Time: 7 minutes

Distance: 2.5 miles

Page: 27

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:20:43 PM

From attending the meeting, this did not seem to be the case. I I thought the only mention of U-turns at PM #3 was when a member of the public asked if U-turns could be made at major intersections - and the answer was "yes". However, turning templates were not provided to confirm this statement. We do not think there is room at intersections other than maybe the Texas/Arkansas Blvd intersection. Unless we missed it, the layouts below were not shown at the public meeting. Most of the public probably assumed U-turns could be made at all openings and intersections.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 5:26:56 PM

Discussion was included at all meetings regarding traffic impacts caused by raised medians, including the fact that business would no longer have direct access from the off-side of the street as well access to some side streets. Discussions at the PMs included traffic being diverted to side streets and a separate meeting was held with city officials discussing possible impacts to side streets. U-turns were not discussed until later in the process so an interactive map was provided at PM #3 depicting raised medians and utilized to discuss what re-routes may be required. Like the exhibits shown in this report, it was assumed and conveyed that u-turns are not possible and side streets must be utilized.

Number: 2 Author: DSIMMO1 Subject: Sticky Note Date: 12/15/2021 5:58:03 PM

We had expected these example traffic pattern examples to be shown at PM #3.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:13:55 AM

An interactive map was provided at PM #3 depicting raised medians and utilized to discuss locations that u-turns may be possible and where re-routes would be required.

Starting Location: W 24th Street

Destination: 1314 N Stateline Avenue Texarkana, AR 71854

Existing Condition

Travel Time: 1-2 minutes

Distance: 0.3 miles

Proposed Condition

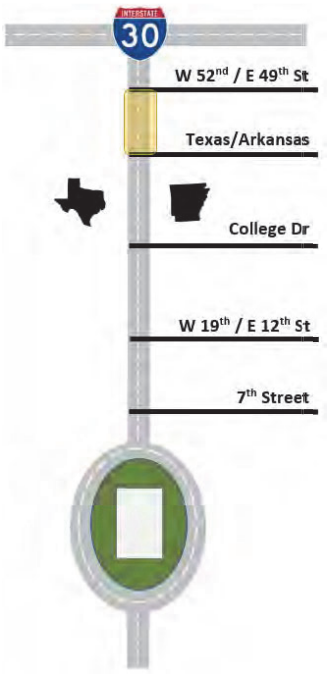
Travel Time: 2 minutes

Distance: 0.7 miles

Boulevard Concept

Corridor Design & Connectivity

Regional Commercial



Travel Lane Configuration

To best accommodate the large volume of traffic, the Boulevard Concept for the Regional Commercial District would have three lanes traveling southbound as exists today and three northbound lanes. A continuous raised median would be installed and have left turn bays minimally at West 52nd Street, East 42nd Street, and Arkansas Boulevard. The six-lane section would transition to a four-lane section at the Texas/Arkansas Boulevard intersection.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Due to limited vehicular cross access, the intent would be to improve walkability in this district and promote parking at one location and visiting all desired surrounding locations by foot rather than by vehicle. Additionally, lighting and some pedestrian furniture could be utilized to encourage users.

To accommodate these users across Stateline, we propose that signalized crosswalks be added at Texas/Arkansas Boulevard and W. 52nd intersections. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 42nd Street. While additional studies and data may be necessary prior to implementation, based strictly on pedestrian safety and the ~~tragic~~ incident history of this segment of Stateline, we would recommend this mid-block crossing be a Hybrid Beacon System.

All existing bus facility locations would be maintained and be replaced with a shelter and bench at each location, totaling one location in this District.

District Character

To best maintain sight visibility at drive connections, ~~short~~, we propose that low maintenance landscaping be utilized. Medians could utilize brick colored stamped concrete to provide a contrasting color and negate the need for hazardous maintenance at the center of this busy corridor.

Aesthetic Features

Specialty features included in this district could include Gateway Flags located at the I-30 intersection that depict each State. Brick Columns could be installed near the north end of Stateline as a gateway feature. Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Medians could be stamped concrete to match cross walks. Trees along ROW would be minimal and landscape beds would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses.

Page: 29

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:16:47 PM
would

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:01 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Cross-Out Date: 12/15/2021 5:21:29 PM
I think we can just refer to it as pedestrian fatalities - that in and of itself explains the seriousness of the issue - no need to use inflammatory language.

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:04 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:16:27 PM
do not use "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:07 AM
Corrected

Number: 4 Author: DSIMMO1 Subject: Highlight Date: 12/7/2021 5:04:00 PM
How is this recommended? The recommendation should be for the installation of such to be further studied. We should not recommend a Hybrid Beacon System without backing up with the supporting analysis.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:27:32 AM
Yes, FHWA guideline were utilized for these recommendations based on design speed, ADT, and travel lane configuration. Pursuant to TXDOT comments mid-block crossing types have been removed.

Number: 5 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 2:18:40 PM
?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:28:19 AM
Grammar corrected

Number: 6 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:18:51 PM
do not use "we"

Page: 47

Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 7:43:28 AM

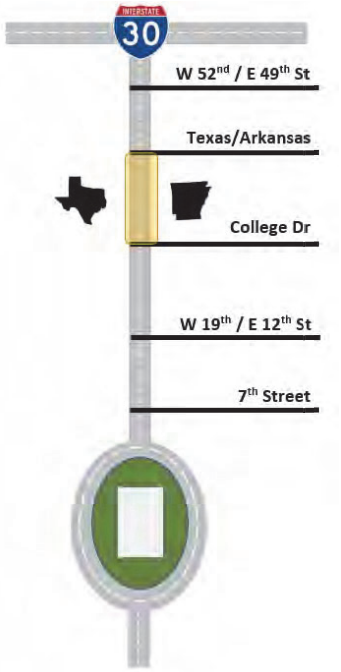
What efforts were made to validate this recommendation? Pedestrian crossing counts? Review of MUTCD guidance on the installation of these devices? Same comment applies elsewhere.

Were the pedestrian crash reports reviewed to understand the circumstances in relation to the proposed improvement recommendations?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:27:22 AM

Yes, FHWA guideline were utilized for these recommendations based on design speed, ADT, and travel lane configuration. Pursuant to TXDOT comments mid-block crossing types have been removed.

Business District



Travel Lane Configuration

We feel the existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with the only modification being a raised median divider rather than the current two-way left turn lane. A preliminary study at possible opening locations includes four south bound left turn bays and four north bound left turn bays evenly distributed at major side streets to allow for adequate traffic flow.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users.

To accommodate these users across Stateline, we propose that signalized crosswalks be located at E. 35th Street and College Drive. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing should be installed near the intersection with E. 32nd Street. While additional studies and data may be necessary prior to implementation, based strictly on pedestrian safety, we would recommend this mid-block crossing minimally be a Rectangular Rapid Flashing Beacon.

All five existing bus facility locations in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

To best maintain sight visibility at drive connections, short, low maintenance landscaping would be utilized similar to that of the Regional Commercial District. Medians would utilize brick colored stamped concrete to provide a contrasting color and negate the need for hazardous maintenance at the center of this busy corridor.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Medians could be stamped concrete to match cross walks. Trees along ROW would be minimal and landscape beds would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses.

Page: 30

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:19:46 PM
Do not use "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:14 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:20:25 PM
Do not use "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:18 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 3:21:59 PM
should

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:22 AM
Corrected

Number: 4 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:21:11 PM
Same comment as above, we should not recommend a certain type of mid-block crossing without backup justification. The recommendation would be to further study such a crossing.

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:38 AM
Recommendation Removed

BUSINESS DISTRICT WITH MEDIANS

PLAN

BUSINESS DISTRICT WITH MEDIANS: TEXAS BLVD TO COLLEGE DR

NORTH

SCALE 0 150 300 600

***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

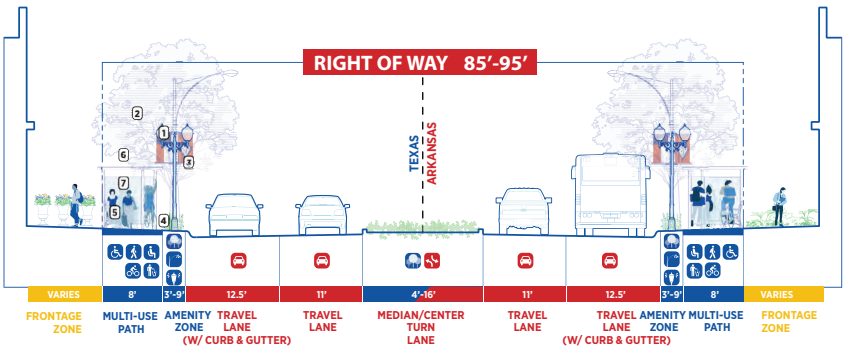
LEGEND

- RIGHT OF WAY
- STATELINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE 40' DIA. 120' O.C.
- POTENTIAL STREET TREE WITH CITY AGREEMENT*
- HISTORICAL MILE MARKER

TYPICAL SECTION (Context Sensitive Design)

SCALE 0 6 12 24

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 40' DIA. 120' O.C.
3. EXISTING ROAD -SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, 500' O.C. (on center)
6. TRASH RECEPTACLE, 500' O.C. (on center) along with benches
7. T-LINE BUS SHELTER (with Pedestrian Bench & Trash Receptacle)



STATELINE AVENUE

TEXARKANA USA

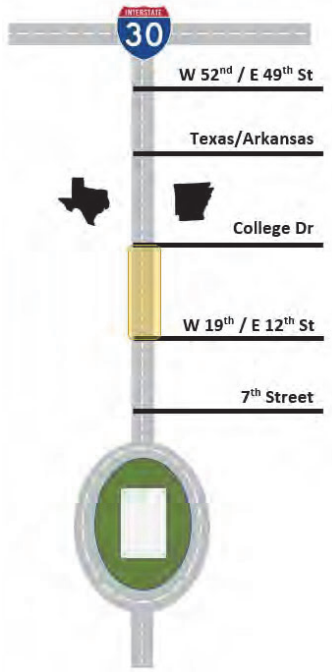
Page: 31

Number: 1 Author: DSIMMO1 Subject: Sticky Note Date: 12/15/2021 7:21:21 PM
40' DIA?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:54:05 AM
Note revised:" PROPOSED STREET TREE 25’-40’ DIA.(depending on specific species), +/- 120’ O.C. "

Boulevard Concept

Residential District



Travel Lane Configuration

We feel the existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a raised median divider. A preliminary study at possible opening locations includes four south bound left turn bays and four north bound left turn bays evenly distributed at major side streets to allow for adequate traffic flow.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users. To accommodate these users across Stateline, signalized crosswalks could be located at E. 24th Street, E. 16th Street, and E. 12th Street. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 20th Street. While additional studies and data may be necessary prior to implementation, based strictly on pedestrian safety, we would recommend this mid-block crossing be a Hybrid Beacon System.

All eight existing bus facility locations in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

To best maintain sight visibility at drive connections, short, low maintenance landscaping should be utilized. A more aggressive planting schedule and additional street furniture could be utilized in comparison to that of the Regional Commercial District. Medians would utilize brick colored stamped concrete to provide a contrasting color and landscape beds with short shrubs and low maintenance vegetation.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Medians could be a combination of stamped concrete and landscaped beds in full width locations. Trees along ROW could be spaced as ROW allows. Landscape beds would include short native shrubs and grasses. The installation of street banners and additional artistic features would be highly encouraged.

Page: 32

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:22:49 PM
Do not use "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:45 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:24:06 PM
Do not use "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:48 AM
Corrected

RESIDENTIAL DISTRICT WITH MEDIANS

PLAN

RESIDENTIAL DISTRICT WITH MEDIANS: COLLEGE SR TO E 12TH ST

NORTH

0 150 300 600

SCALE

***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

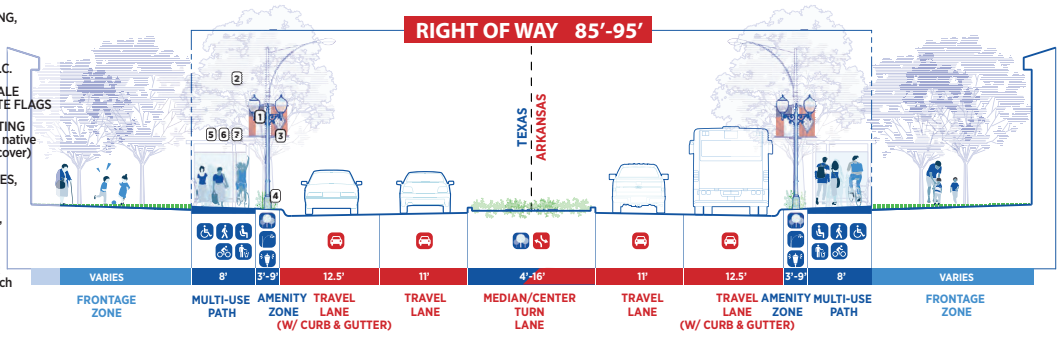
- RIGHT OF WAY
- STATELINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE 40' DIA. 120' O.C.
- HISTORICAL MILE MARKER

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24

SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 40' DIA. 120' O.C.
3. EXISTING ROAD -SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, 500' O.C. (on center)
6. TRASH RECEPTACLE, 500' O.C. (on center) along with benches
7. T-LINE BUS SHELTER (with Pedestrian Bench & Trash Receptacle)



STATELINE AVENUE

TEXARKANA USA

Page: 33

Number: 1 Author: DSIMMO1 Subject: Sticky Note Date: 12/15/2021 7:22:00 PM
40' DIA?

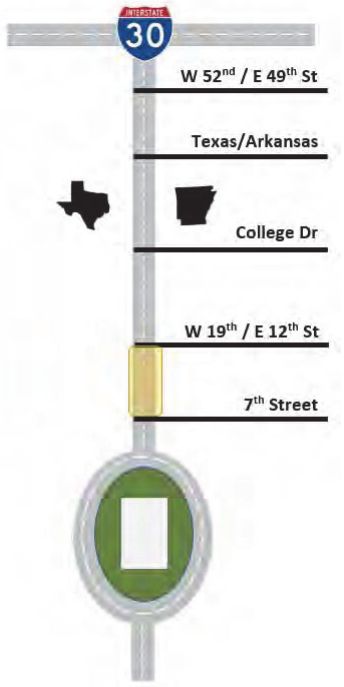
Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:54:18 AM
Note revised:" PROPOSED STREET TREE 25’-40’ DIA.(depending on specific species), +/- 120’ O.C. "

Page: 50

Number: 1 Author: tb40394 Subject: Sticky Note Date: 12/29/2021 7:47:00 AM
Is the study team's recommendation to design the proposed median breaks for U-turns?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:22:32 AM
No, as discussed at previous PAC/TAC meetings, ROW does not allow for such movements.

Urban District



Boulevard Concept

Travel Lane Configuration

We feel the existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a raised median divider. A preliminary study at possible opening locations includes three south bound left turn bays and three north bound left turn bays evenly distributed at major side streets to allow for adequate traffic flow.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users. To accommodate these users across Stateline, signalized crosswalks could be located at W. 7th Street, E. 9th Street, E. 12th Street, and Dr. Martin Luther King Boulevard.

There are currently no bus facilities within this district. Future expansions of the T-Line System would be required for appropriate placement of any bus shelters.

District Character

To maintain sight visibility at drive connections, short, low maintenance landscaping should be utilized, an aggressive planting schedule and additional street furniture could be utilized similar to that of the Residential District. Medians could utilize brick colored stamped concrete to provide a contrasting color and landscape beds with short shrubs and low maintenance vegetation.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Medians could be a combination of stamped concrete and landscape beds in full width locations. Trees along the ROW would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses. The installation of street banners and additional artistic features would be highly encouraged. An additional set of entrance feature columns could be installed to signify entrance to downtown. This district would be the best fit for a Stateline Crossing Experience. Additionally, the twin ~~parks~~ are included in this district for additional pedestrian attraction.

Page: 34

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:24:13 PM
Do not use "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:52 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 2:24:31 PM
refer to as 'green spaces" or something other than "parks"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:10:55 AM
Corrected

URBAN DISTRICT WITH MEDIANS

PLAN

URBAN DISTRICT WITH MEDIANS: E 12TH to 7TH ST

NORTH

0 150 300 600

SCALE

***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

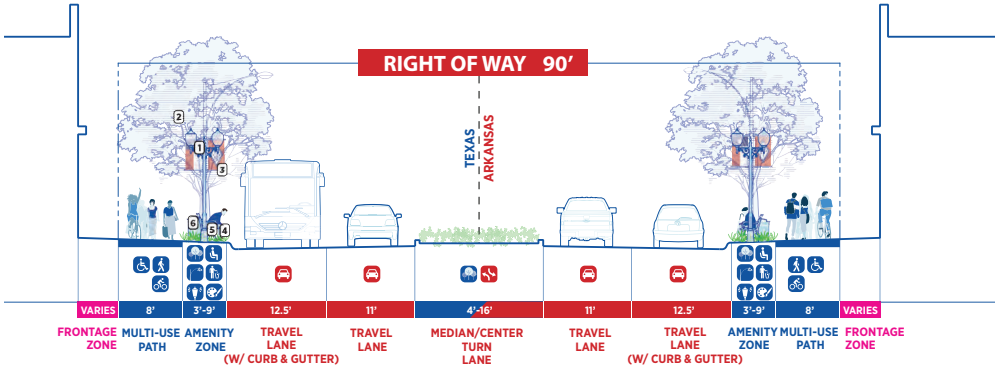
- RIGHT OF WAY
- STATELINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE 40' DIA. 120' O.C.
- HISTORICAL MILE MARKER
- PAIRED MASONRY COLUMNS

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24

SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 40' DIA. 120' O.C.
3. EXISTING ROAD -SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, 500' O.C. (on center)
6. TRASH RECEPTACLE, 500' O.C. (on center) along with benches



STATELINE AVENUE

TEXARKANA USA

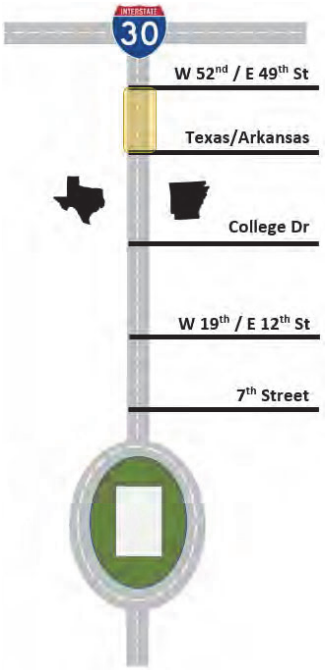
Page: 35

Number: 1 Author: DSIMMO1 Subject: Sticky Note Date: 12/15/2021 7:22:28 PM
40' DIA

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:54:28 AM
Note revised:" PROPOSED STREET TREE 25’-40’ DIA.(depending on specific species), +/- 120’ O.C. "

Corridor Design & Connectivity

Regional Commercial



Travel Lane Configuration

To best accommodate the large volume of traffic, the Boulevard Concept for the Regional Commercial District would have three lanes traveling southbound, as exists today, and three northbound lanes. A continuous two-way left turn lane would be maintained. The six-lane section would transition to a four-lane section at the Texas/Arkansas Boulevard intersection.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Due to limited vehicular cross access, the intent would be to improve walkability in this district and promote parking at one location and visiting all desired surrounding locations by foot rather than by vehicle. Additionally, lighting and some pedestrian furniture could be utilized to encourage users.

To accommodate these users across Stateline, signalized crosswalks could be added at Texas/Arkansas Boulevard and W. 52nd intersections. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 42nd Street. While additional studies and data may be necessary prior to implementation, based strictly on pedestrian safety and the tragic incident history of this segment of Stateline, we would recommend this mid-block crossing be a Hybrid Beacon System.

The single existing bus facility location in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

This district, while adding pedestrian features, will still feel very urban with heavy traffic volumes and larger percentages of impervious ground covering. We feel this district will be the least inviting to pedestrians and cyclists, but will be greatly improved over today's conditions. To best maintain sight visibility at drive connections, short, low maintenance landscaping would be utilized.

Aesthetic Features

Specialty features included in this district could include Gateway Flags located at the I-30 intersection that depict each State. Brick Columns could be installed near north end of Stateline as a gateway feature. Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Trees along the ROW would be minimal and landscape beds would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses.

Page: 36

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:28:31 PM
Same comment- do not "recommend a specific type of mid-block crossing without back up analysis. Can recommend further study...

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:32:02 PM
What is the purpose of this statement?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:29:22 AM
Statement removed

Page: 56

Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 8:14:20 AM

ArDOT standard is to provide a median where three or more travel lanes are provided in one direction. This is a unique location in that three SB lanes are already present on the Texas side. However, if a third NB lane is constructed (Arkansas side), providing a TWLTL may not be acceptable to ArDOT design branch.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:23:10 AM

Noted in report that a median would be required for this configuration or a design exception granted.

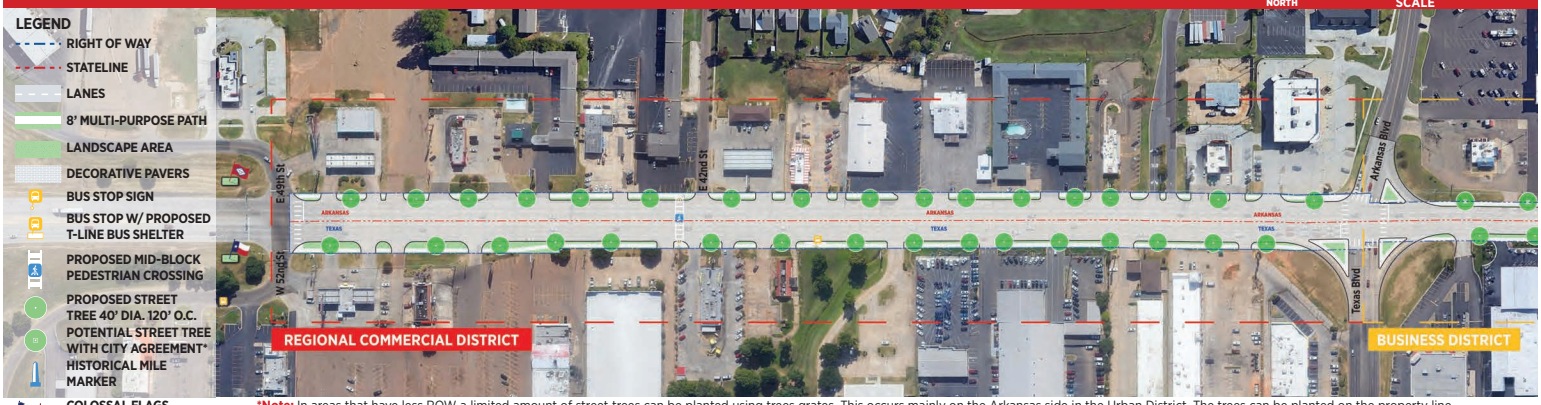
REGIONAL COMMERCIAL DISTRICT WITHOUT MEDIANS

PLAN

REGIONAL COMMERCIAL WITHOUT MEDIANS :I-30 TO TEXAS/ARKANSAS BLVD

NORTH

0 125 250 500
SCALE

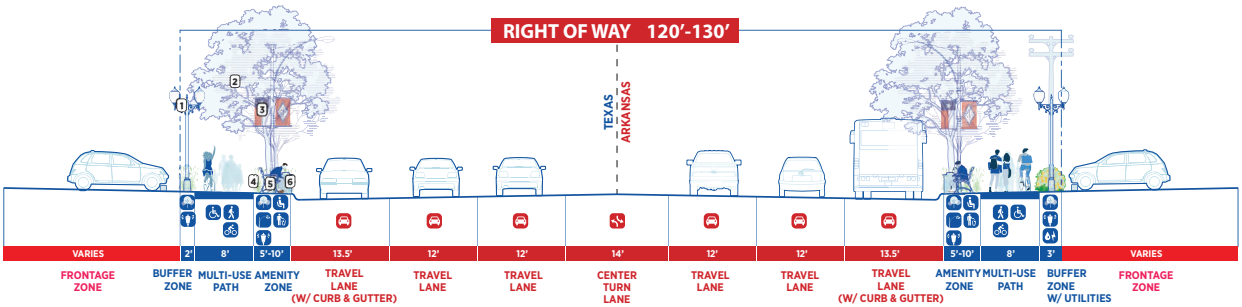


***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24
SCALE

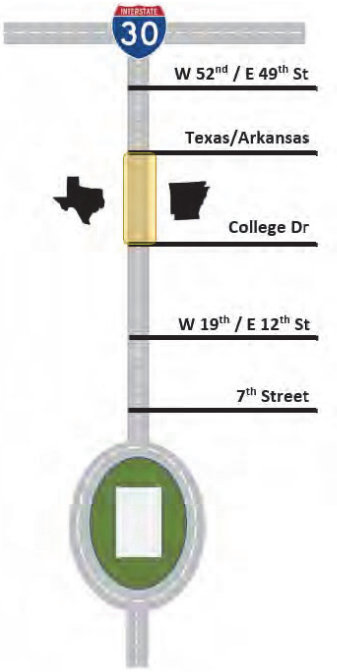
1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 40' DIA. 120' O.C.
3. EXISTING ROAD -SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, 500' O.C. (on center)
6. TRASH RECEPTACLE, 500' O.C. (on center) along with benches



STATELINE AVENUE

TEXARKANA USA

Business District



Travel Lane Configuration

We propose the existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a continuous two-way left turn lane down the center.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users.

To accommodate these users across Stateline, signalized crosswalks could be located at E. 35th Street and College Drive. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 32nd Street. [1] While additional studies and data may be necessary prior to implementation, based strictly on pedestrian safety, we would recommend this mid-block crossing minimally be a Rectangular Rapid Flashing Beacon.

All five existing bus facility locations in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

This district, while adding pedestrian features, will still feel urban with heavy traffic volumes and larger percentages of impervious ground covering. [2] We feel this district will be somewhat inviting to pedestrians and cyclists and be a significant improvement over today's conditions. Landscaping and street furniture could be installed as ROW space allows to soften this district as much as possible. To best maintain sight visibility at drive connections, short, low maintenance landscaping would be utilized like that of the Regional Commercial District.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Landscape beds would include short native shrubs and grasses.

Page: 38

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:29:39 PM
Same comment as previous

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:33:21 PM
Do not use "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:11:07 AM
Corrected

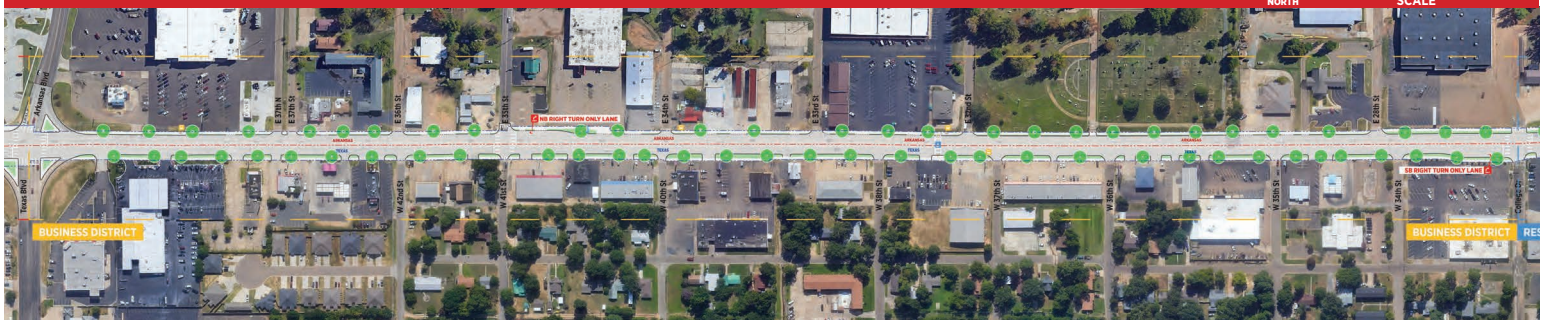
BUSINESS DISTRICT WITHOUT MEDIANS

PLAN

BUSINESS DISTRICT WITHOUT MEDIANS: TEXAS BLVD TO COLLEGE DR

NORTH

0 150 300 600
SCALE



***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

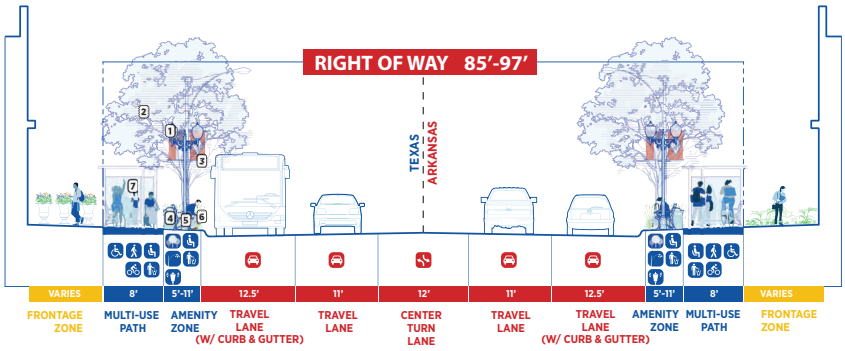
LEGEND

- RIGHT OF WAY
- STATELINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE 40' DIA. 120' O.C.
- POTENTIAL STREET TREE WITH CITY AGREEMENT*
- HISTORICAL MILE MARKER

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24
SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 40' DIA. 120' O.C.
3. EXISTING ROAD -SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, 500' O.C. (on center)
6. TRASH RECEPTACLE, 500' O.C. (on center) along with benches
7. T-LINE BUS SHELTER (with Pedestrian Bench & Trash Receptacle)



STATELINE AVENUE

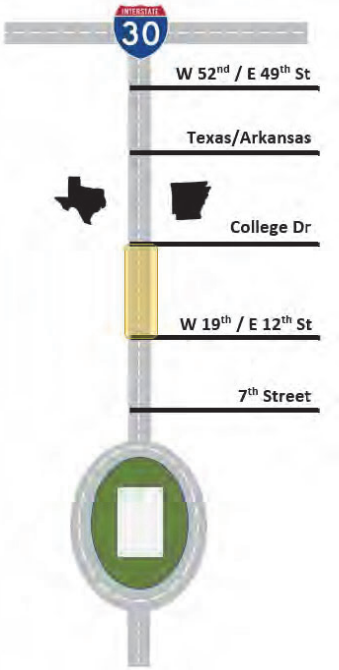
TEXARKANA USA

Page: 39

Number: 1 Author: DSIMMO1 Subject: Sticky Note Date: 12/15/2021 7:23:43 PM
40' DIA?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:54:36 AM
Note revised:" PROPOSED STREET TREE 25’-40’ DIA.(depending on specific species), +/- 120’ O.C. "

Residential District



Travel Lane Configuration

We propose the existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a continuous two-way left turn lane down the center.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users. To accommodate these users across Stateline, signalized crosswalks could be located at E. 24th Street, E. 16th Street, and E. 12th Street. To maintain the desired quarter mile spacing between crossing locations, a mid-block crossing could be installed near the intersection with E. 20th Street. While additional studies and data may be necessary prior to implementation, based strictly on pedestrian safety, we would recommend this mid-block crossing be a Hybrid Beacon System.

All eight existing bus facility locations in this district would be maintained and be replaced with a shelter and bench at each location.

District Character

To best maintain sight visibility at drive connections, we would recommend short, low maintenance landscaping being utilized. A more aggressive planting schedule and additional street furniture could be utilized to compliment that of the Regional Commercial District. This district could have additional softening features as the corridor travels south and is more multimodal friendly.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Trees along the ROW would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses. The installation of street banners and additional artistic features would be highly encouraged.

Page: 40

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:30:45 PM
Same comment as previous

RESIDENTIAL DISTRICT WITHOUT MEDIANS

PLAN

RESIDENTIAL DISTRICT WITHOUT MEDIANS: COLLEGE SR TO E 12TH ST

NORTH

0 150 300 600

SCALE

***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

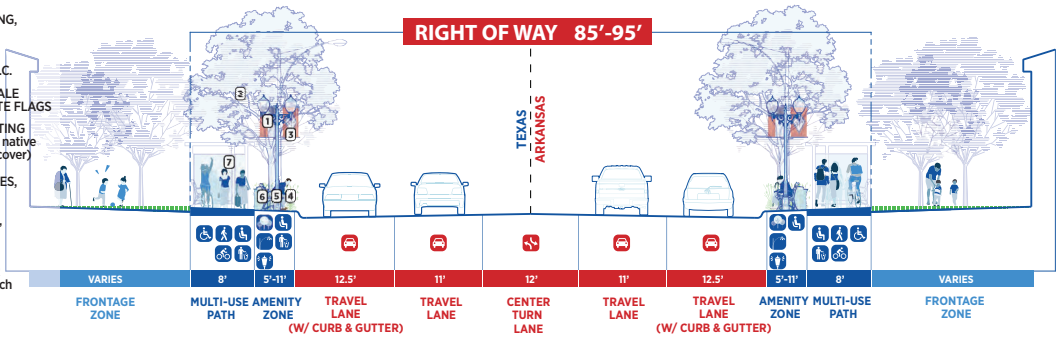
- RIGHT OF WAY
- STATELINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE 40' DIA. 120' O.C.
- HISTORICAL MILE MARKER

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24

SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 40' DIA. 120' O.C.
3. EXISTING ROAD -SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, 500' O.C. (on center)
6. TRASH RECEPTACLE, 500' O.C. (on center) along with benches
7. T-LINE BUS SHELTER (with Pedestrian Bench & Trash Receptacle)



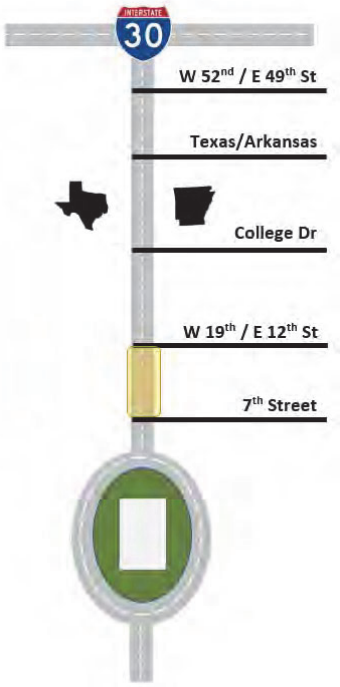
STATELINE AVENUE

TEXARKANA USA

MTG engineers & surveyors

NORRIS DESIGN Planning | Landscape Architecture | Branding

Urban District



Travel Lane Configuration

We feel the existing travel lane configuration should be maintained due to high traffic volumes and potential congestion issues caused by business traffic backing onto Stateline, as experienced today. This would require two lanes maintained in each direction with a continuous two-way left turn lane down the center.

Multimodal Facilities

This concept would provide eight-foot-wide shared use paths along both sides of Stateline to accommodate pedestrians and bicycle traffic. Additionally, lighting and some pedestrian furniture could be utilized to encourage users. To accommodate these users across Stateline, signalized crosswalks could be located at W. 7th Street, E. 9th Street, E. 12th Street, and Dr. Martin Luther King Boulevard.

There are currently no bus facilities within this district. Future expansions of the T-Line System would be required for appropriate placement of any bus shelters.

District Character

To best maintain sight visibility at drive connections, short, we recommend low maintenance landscaping be utilized. An aggressive planting schedule and additional street furniture could be utilized like that of the Residential District. This district would receive the greatest attention outside of the travel lanes and should feel like an extension of downtown, continuing the great work around the Federal Court House moving north.

Aesthetic Features

Crosswalks could be brick stamped concrete to allow tie-in with historic theme and contrast concrete pavement. Trees along the ROW would be spaced as ROW allows. Landscape beds would include short native shrubs and grasses. The installation of street banners and additional artistic features would be highly encouraged. An additional set of entrance feature columns could be installed to signify entrance to downtown. This district would be the best fit for a Stateline Crossing Experience. Additionally, the twin ~~parks~~ are included in this district for additional pedestrian attraction.

Page: 42

Number: 1 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 2:35:01 PM
use something other than "parks"...maybe green space?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:30:16 AM
Revised to Twin Green Spaces

TEXARKANA STATELINE

URBAN DISTRICT WITHOUT MEDIANS

PLAN

URBAN DISTRICT WITHOUT MEDIANS: E 12TH to 7TH ST

NORTH

0 150 300 600

SCALE

***Note:** In areas that have less ROW a limited amount of street trees can be planted using trees grates. This occurs mainly on the Arkansas side in the Urban District. The trees can be planted on the property line between Stateline ROW and private property with a mutual agreement.

LEGEND

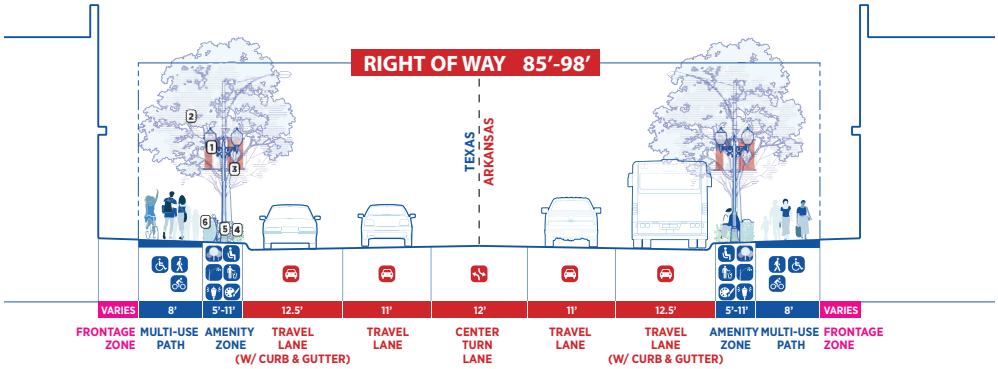
- RIGHT OF WAY
- STATELINE
- LANES
- 8' MULTI-PURPOSE PATH
- LANDSCAPE AREA
- DECORATIVE PAVERS
- BUS STOP SIGN
- BUS STOP W/ PROPOSED T-LINE BUS SHELTER
- PROPOSED MID-BLOCK PEDESTRIAN CROSSING
- PROPOSED STREET TREE 40' DIA. 120' O.C.
- HISTORICAL MILE MARKER
- PAIRED MASONRY COLUMNS

TYPICAL SECTION (Context Sensitive Design)

0 6 12 24

SCALE

1. PEDESTRIAN LIGHTING, 200' O.C. (on center)
2. PROPOSED STREET TREE 40' DIA. 120' O.C.
3. EXISTING ROAD -SCALE LIGHTING WITH STATE FLAGS
4. UNDERSTORY PLANTING (Low-growing shrub, native grass and/or groundcover)
5. PEDESTRIAN BENCHES, 500' O.C. (on center)
6. TRASH RECEPTACLE, 500' O.C. (on center) along with benches



TEXARKANA STATELINE

STATELINE AVENUE

TEXARKANA USA

MTG engineers & surveyors

NORRIS DESIGN Planning | Landscape Architecture | Branding

Capacity and Level of Service

Traffic operational analysis for the study intersections were evaluated based on the methodologies outlined in the Highway Capacity Manual, 2010 Edition, published by the Transportation Research Board. The operating conditions at intersections are graded by the "level of service" experienced by drivers. Level of service (LOS) describes the quality of traffic operating conditions and is rated from "A" to "F". LOS "A" represents the most desirable condition with free-flow movement of traffic with minimal delays. LOS "F" generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in the average delay per stopped vehicle. Delay is measured in seconds per vehicle. The table below shows the upper limit of delay associated with each level of service for signalized and un-signalized intersections.

Intersection Level of Service Delay Thresholds

Level of Service (LOS)	Signalized	Un-Signalized
A	< 10 Seconds	< 10 Seconds
B	< 20 Seconds	< 15 Seconds
C	< 35 Seconds	< 25 Seconds
D	< 55 Seconds	< 35 Seconds
E	< 80 Seconds	< 50 Seconds
F	≥ 80 Seconds	≥ 50 Seconds

For signalized intersections, level of service and average delay relates to all vehicles using the intersection and LOS "D" is the typical desirable standard for signalized intersections. All study intersections were evaluated using the Synchro analysis software package based on Highway Capacity Manual methods. This computer program has been proven to be reliable when used to analyze capacity and levels of traffic service under various operating conditions. Detailed results for all capacity calculations are included in the Appendices. The AM and PM peak traffic periods were used for these calculations.

Page: 44

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:26:55 PM
Shouldn't "typical" be "minimum"? LOS D is not our typical desirable standard. We don't shoot for LOS D. Maybe minimum acceptable standard?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 11:30:35 AM
Revised to minimum

Projected "Do Nothing" Conditions

Capacity and level of service analysis was performed for projected "Do Nothing" traffic conditions. This analysis included increases of existing traffic volumes in the Stateline Avenue corridor consisting of two percent compounded volume growth for 10 years on Stateline Avenue and one percent compounded volume growth on intersection side streets for 10 years. The lane geometry and traffic control for the intersections were assumed to remain unchanged for this analysis condition. Analysis results are summarized below in Table 2.

1 Seems strange that a few of the LOS calculations actually get better with the Do Nothing Scenario.

Table 2 – Level of Service Projected "Do Nothing" Conditions

PROJECTED TRAFFIC CONDITIONS DO NOTHING WITH BACKGROUND GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.6	51.1%
	PM		C			B			B	B		A	B		**B**	11.7	49.9%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	E	B		B	B		B	B		C	C	A	**C**	20.3	54.6%
	PM		F	D		D	E		E	E		F	D	A	**D**	52.1	97.1%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	39.2%
	PM					B		B		A		A	A		**n/a**	0.4	55.7%
Stateline Avenue and W. 42nd Street / E. 36th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	1.5	64.1%
	PM		B			B			A	A		A	A		**n/a**	0.7	62.4%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A	A		**A**	8.2	49.3%
	PM		C			C			A	B	A	B	A		**B**	11.4	59.4%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		B	A		A	A		**A**	9.5	56.1%
	PM		D	A		C	D		B	A		A	C		**B**	16.8	71.0%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		A		A	A		**A**	8.4	39.0%
	PM					B		B		B		B	A		**B**	10.5	65.5%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.9	28.8%
	PM					B		B		A		B	A		**n/a**	0.4	40.8%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.1	42.9%
	PM		C			B			B	B		B	B		**B**	14.0	55.5%
Stateline Avenue and W. 12th Street / E. 10th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	0.4	25.3%
	PM		B			B			A	A		A	A		**n/a**	0.3	34.8%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	3.1	43.3%
	PM		C			C			A	A		A	A		**n/a**	4.2	53.8%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.6	23.0%
	PM					B			A	A			A		**A**	8.5	34.7%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	2 0.6	28.0%
	PM		B							A		A	A		**B**	10.7	34.7%

Page: 46

Number: 1 Author: DSIMMO1 Subject: Text Box Date: 12/6/2021 2:40:16 PM

Seems strange that a few of the LOS calculations actually get better with the Do Nothing Scenario.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:01:36 PM

Text added to explain: " Operational analysis was done without changes to signal phasing but with corridor coordinated signal timing optimized. Some vehicle movements show improved operation compared to “Existing Conditions,” even with background traffic volume growth, as a result of optimized signal timing. It is noted that higher volumes associated with background volume growth result in some vehicle movements at the intersection of Stateline Avenue and Texas Boulevard / Arkansas Boulevard falling below acceptable levels in the PM peak period.

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:39:02 PM

Seems odd this intersection get better in a Do Nothing scenario?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:01:56 PM

Text added to explain: " Operational analysis was done without changes to signal phasing but with corridor coordinated signal timing optimized. Some vehicle movements show improved operation compared to “Existing Conditions,” even with background traffic volume growth, as a result of optimized signal timing. It is noted that higher volumes associated with background volume growth result in some vehicle movements at the intersection of Stateline Avenue and Texas Boulevard / Arkansas Boulevard falling below acceptable levels in the PM peak period.

Projected Alternative #1 -Boulevard Concept Conditions (Raised Medians)

Capacity and level of service analyses were performed for projected Alternative #1 traffic conditions. This analysis included increases of existing traffic volumes in the Stateline Avenue corridor consisting of two percent compounded volume growth for 10 years on Stateline Avenue and one percent compounded volume growth on intersection side streets for 10 years. The lane widths, anticipated driveway closures and median breaks included in analysis for this condition are as described in the previous sections. Traffic controls for the intersections were assumed to be the same as for existing conditions for this analysis condition. Additional pedestrian crossings were conservatively assumed at the rate of 20 conflicting pedestrians per hour at signalized intersections. Analysis results are summarized below in Table 3.

LOS F at Texas Blvd/Arkansas Blvd during PM peak hour with raised medians needs to be referenced as not acceptable. [1]

Table 3 – Level of Service Pro s

PROJECTED TRAFFIC CONDITIONS ALTERNATIVE #1 WITH RAISED MEDIAN AND BACKGROUND GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		B	A		**A**	9.7	53.2%
	PM		B			B			A	A		B	A		**A**	9.1	48.5%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	C	B		C	B		C	C		C	C	A	**C**	20.1	56.3%
	PM		F	F		F	F		F	E		F	D	A	**F**	96.6	94.3%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	39.6%
	PM					B		B		A		A	A		**n/a**	0.3	52.4%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A	A		**A**	8.5	51.5%
	PM		C			C			A	B	A	B	B		**B**	14.6	62.0%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		B	A		A	A		**A**	9.7	59.3%
	PM		D	B		C	C		C	A		A	B		**B**	14.7	75.0%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		B		A	A		**A**	8.6	45.2%
	PM					B		B		B		C	A		**B**	13.6	69.2%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				C		C		A		A	A		**n/a**	1.1	35.2%
	PM					C		C		A		B	A		**n/a**	0.8	47.3%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.2	45.0%
	PM		D			B			B	B		B	A		**B**	16.8	68.3%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	C			C			A	A		A	A		**n/a**	3.9	50.3%
	PM		F			F			A	A		A	A		**n/a**	25.8	61.4%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.6	30.6%
	PM					B			A	A			A		**A**	9.4	42.0%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	10.5	34.1%
	PM		B							A		A	A		**B**	10.2	42.0%

Page: 47

Number: 1 Author: DSIMMO1 Subject: Text Box Date: 12/6/2021 2:41:48 PM

LOS F at Texas Blvd/Arkansas Blvd during PM peak hour with raised medians needs to be referenced as not acceptable.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:03:36 PM

Text added "Operational analysis was done without changes to signal phasing but with corridor coordinated signal timing optimized. Some vehicle movements show improved operation compared to “Existing Conditions” and “Projected Do Nothing Conditions,” even with background traffic volume growth, as a result of optimized signal timing. It is noted that higher volumes associated with background volume growth result in some vehicle movements at the intersection of Stateline Avenue and Texas Boulevard / Arkansas Boulevard falling below acceptable levels in the PM peak period. "

Page: 68

Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 7:55:18 AM

Were U-turns or traffic diversion routes accounted for in this analysis? Was an estimate prepared for the number of impacted trips to support such an analysis?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:27:23 AM

Traffic diversion was included in this analysis.

Projected Alternative #2 Conditions
(Two-Way Left Turn Lanes)

Capacity and level of service analysis was performed for projected Alternative #2 traffic conditions. This analysis included increases of existing traffic volumes in the Stateline Avenue corridor consisting of two percent compounded volume growth for 10 years on Stateline Avenue and one percent compounded volume growth on intersection side streets for 10 years. The analysis conditions include a two-way center left turn lane in the corridor, lane widths and anticipated driveway closures as described in the previous sections. Traffic control for the intersections were assumed to be the same as for existing conditions for this analysis condition. Additional pedestrian crossings were conservatively assumed at the rate of 20 conflicting pedestrians per hour at signalized intersections. Analysis results are summarized below in Table 4.[1]

Table 4 – Level of Service Projected Alternative #2 – Two-Way Left Turn Lanes Conditions

PROJECTED TRAFFIC CONDITIONS ALTERNATIVE #2 TWLT WITH GROWTH		Traffic Control	Eastbound Left-Turn	Eastbound Thru	Eastbound Right-Turn	Westbound Left-Turn	Westbound Thru	Westbound Right-Turn	Northbound Left-Turn	Northbound Thru	Northbound Right-Turn	Southbound Left-Turn	Southbound Thru	Southbound Right-Turn	Overall Intersection	Avg. Control Delay Seconds / Vehicle	Intersection Capacity Utilization (%)
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE														
Stateline Avenue and W. 52nd Street / E. 49th Street	AM	SIGNAL	B			B			A	A		B	A		**A**	9.7	53.2%
	PM		C			B			A	B		A	B		**B**	11.8	47.5%
Stateline Avenue and Texas Blvd. / Arkansas Blvd.	AM	SIGNAL	C	B		C	B		C	C		C	C	A	**C**	20.0	56.3%
	PM		F	D		D	E		E	E		E	D	A	**D**	52.0	98.1%
Stateline Avenue and E. 37th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.2	45.5%
	PM					B		B		A		A	A		**n/a**	0.4	60.9%
Stateline Avenue and W. 42nd Street / E. 36th Street	AM	2-WAY "STOP" SIGN	C			B			A	A		A	A		**n/a**	1.6	69.4%
	PM		C			B			A	A		A	A		**n/a**	0.7	67.0%
Stateline Avenue and W. 41st Street / E. 35th Street	AM	SIGNAL	B			B			A	A	A	A	A		**A**	8.5	51.5%
	PM		C			C			A	B	A	B	A		**B**	12.0	60.4%
Stateline Avenue and College Drive	AM	SIGNAL	C	B		B	B		B	A		A	A		**A**	9.7	59.3%
	PM		D	C		C	D		B	A		A	C		**B**	17.3	72.9%
Stateline Avenue and E. 24th Street	AM	SIGNAL				B		B		B		A	A		**A**	8.6	45.2%
	PM					B		B		B		B	A		**B**	10.9	67.1%
Stateline Avenue and E. 16th Street	AM	1-WAY "STOP" SIGN				B		B		A		A	A		**n/a**	0.9	35.2%
	PM					B		B		A		B	A		**n/a**	0.4	45.8%
Stateline Avenue and W. 19th Street / E. 12th Street	AM	SIGNAL	B			B			A	A		A	A		**A**	8.2	45.0%
	PM		C			B			B	B		B	B		**B**	14.3	55.6%
Stateline Avenue and W. 12th Street / E. 10th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	0.4	31.0%
	PM		B			B			A	A		B	A		**n/a**	0.3	39.7%
Stateline Avenue and Hazel Street / E. 9th Street	AM	2-WAY "STOP" SIGN	B			B			A	A		A	A		**n/a**	3.3	50.3%
	PM		C			D			A	A		A	A		**n/a**	4.9	60.4%
Stateline Avenue and Dr. Martin Luther King Jr. Boulevard	AM	SIGNAL				B			A	A			A		**A**	9.4	30.6%
	PM					B			A	A			A		**A**	8.9	43.6%
Stateline Avenue and W. 7th Street / E. 7th Street	AM	SIGNAL	B							A		A	A		**B**	10.5	34.1%
	PM		B							A		A	A		**B**	10.6	43.0%

Page: 48

Number: 1 Author: DSIMMO1 Subject: Inserted Text Date: 12/6/2021 2:43:22 PM
and are very similar to the "do nothing' scenario?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:05:01 PM
This analysis should be similar to the do nothing approach, driveways would be consolidated to improve safety. This alteration would have minimal impact to intersections.

Capacity and Level of Service Summary

Capacity and level of service analysis results indicate all intersections earning a LOS “C” or better for the existing corridor. Only the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard has intersection capacity utilization greater than 80 percent. That intersection has the highest volume of entering traffic volume of any of the Stateline Avenue corridor intersections.

With traffic volume growth assumed over the next ten years, only the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard shows potential intersection capacity deficiency with intersection capacity utilization projected to be approaching 100 percent for the “Do Nothing” alternative as well as for Alternative #1 and Alternative #2. The analysis results for that intersection indicate that future capacity improvements may become needed as volumes increase. The other study intersections in the Stateline Avenue corridor have projected analysis results of overall intersection LOS “B” or better with projected traffic volume growth for each of the alternatives analyzed.

Both Alternative #1 (Raised Medians) and Alternative #2 (Two-Way Left Turn Lanes), with planned pedestrian improvements, offer acceptable traffic operations while improving safety for pedestrians in the corridor.

Page: 49

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:28:43 PM

LOS F is not acceptable. Alternative #1 doesn't offer acceptable traffic operations at Texas/Arkansas Blvd

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:07:49 PM

Text revised to read: " With traffic volume growth assumed over the next ten years, only the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard shows potential intersection capacity deficiency with intersection capacity utilization projected to be approaching 100 percent for the "Do Nothing" alternative as well as for Alternative #1 and Alternative #2. Higher volumes associated with background volume growth result in some vehicle movements at the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard falling below acceptable levels in the PM peak period for all scenarios. The analysis results for that intersection indicate that future capacity improvements at the intersection may become needed as volumes increase. The other study intersections in the Stateline Avenue corridor have projected analysis results of overall intersection LOS "B" or better with projected traffic volume growth for each of the alternatives analyzed.

Except as noted above for the intersection of Stateline Avenue and Texas Boulevard-Arkansas Boulevard, both Alternative #1 (Raised Medians) and Alternative #2 (Two-Way Left Turn Lanes) with planned pedestrian improvements offer acceptable traffic operations while improving safety for pedestrians in the corridor. "

Safety Improvements

Alternative #1- Boulevard Concept

Design Considerations in the Boulevard Concept to improve safety include:

- Raised Medians
  - Raised medians would create predictable left turn movements for oncoming traffic. Studies have shown raised medians can reduce accidents by over 15%.

Add information related to restriction of U-turn movements. [1]

Alternative #2- Redevelopment Concept

Design Considerations in the Boulevard Concept to improve safety include:

- Driveway Reduction Plan
  - The stretch of Stateline included in this study has 210+ driveway connections which create hazardous conditions for vehicles and pedestrians/cyclists traveling the shared use path. Reducing the quantity of drive connections reduces the quantity of possible conflict points and should improve safety. [2]

Common Safety Improvements to both Alternatives

Design Considerations in the Boulevard Concept to improve safety include:

- Shared Use Paths
  - Current cyclists must either use the 4- to 5-foot-wide sidewalk or travel in the main lanes of Stateline. The shared use path would create a safe environment from vehicular traffic, except at driveway and side street intersections. See Bicycle Level of Stress for Further Analysis.
- Mid-Block Crossings
  - Most pedestrian accidents on Stateline have occurred by individuals attempting to cross travel lanes at unsignalized locations. The addition of these new locations would provide additional signalized opportunities to cross, hopefully eliminating future accidents. [3]
- Pedestrian Facility Extension from Texas Boulevard to W. 52nd Street
  - This section has been the deadliest stretch of Stateline for pedestrians [4] and does not currently have any pedestrian facilities. Adding sidewalks and crosswalks along this section should increase pedestrian awareness for vehicular traffic and provide safer opportunities for pedestrians to reach their desired destinations.
- Narrower Travel Lanes
  - Studies have shown that wider travel lanes induce higher speeds from [5] drivers and increase the potential for accidents. Additionally, accidents at these higher speeds have a higher fatality rate than the same accidents at lower speeds.

Page: 50

Number: 1 Author: DSIMMO1 Subject: Text Box Date: 12/6/2021 2:48:26 PM
Add information related to restriction of U-turn movements.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:09:15 PM
This section outlines potential safety benefits of each aspect, traffic impacts previously discussed.

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:48:45 PM
Can this also be done with Alt #1?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 1:18:27 PM
To best identify the constraints and challenges associated with drive consolidation, we are separating the consolidation plan into alternative #2. Moving forward this could be implemented into either alternative, but to keep the report clear, we will show this as an aspect of alternative #2.

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:51:19 PM
Add something about future studies on mid-block crossings are necessary. It is possible to make a situation worse if the conditions do not allow for a safe mid-block crossing.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 1:21:11 PM
Text added :Additional studies would be required by DOT's to confirm applicability of location.

Number: 4 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:54:36 PM
maybe rephrase as "highest number of pedestrian fatalities"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:11:24 AM
Corrected

Number: 5 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 2:52:20 PM
or is it that narrow lanes induce lower speeds?

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:11:27 AM
Corrected

Bicycle Level of Stress

As developed by the Mineta Transportation Institute, Bicycle Level of Traffic Stress Analysis is regarded as one of the best practices for assessing a bicycle network.

This is a data driven approach to determine the cyclist level of comfort and stress along any given bicycle corridor.

As outlined in the graphic, the results from this analysis are based on a rating system from one to four.

Level of Stress: 1

Comfortable for all ages & abilities

Examples:

- Bike Path
- Separate Bike Lane

Level of Stress: 2

Comfortable for most ages & abilities

Examples:

- Buffered Bike Lane/Calm Street
- Separate Bike Lane/Busy Street

Level of Stress: 3

Comfortable for confident riders

Examples:

- Shoulder Space/ Busy Street
- Narrow Bike Lane/Busy Street

Level of Stress: 4

Uncomfortable for most riders

Examples:

- No Bike Facility/Busy Street

Existing Bicycle Facilities

Currently no bicycle facilities exist along the corridor. Cyclists must either utilize main lanes of traffic or portions of the narrow pedestrian sidewalk. To travel Stateline Avenue as a cyclist requires extreme awareness and would be considered very unsafe.

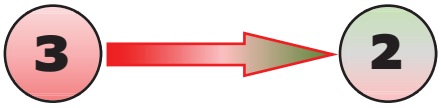
Level of Stress:

Seems like it could be conveyed more clearly that both alternatives result in the same reduction in level of stress for bicyclists. We should draw that conclusion here. 1

Boulevard Concept: Alternative #1

This concept would create shared use paths along both sides of the corridor. The eight-foot width shown is the minimum allowable width for TXDOT and does not meet the ten-foot width required by ARDOT to be considered a full shared use path. Since paths will be proposed down both sides of the roadway and current bicycle counts are very low, the proposed width should be adequate to support current level of usage. If use increases dramatically in the coming years, the elements within the ROW may need to be reconfigured to accommodate increased bicycle usage.

Buffers will be provided between shared use path and vehicular traffic, but numerous conflicts will occur at the 210+ driveway crossings and 50+ stop sign regulated, side street crossings.

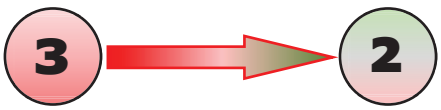
Level of Stress: 

Regional Commercial Urban

Redevelopment Concept: Alternative #2

This concept would create shared use paths along both sides of the corridor. The eight-foot width shown is the minimum allowable width for TXDOT and does not meet the ten-foot width required by ARDOT to be considered a full shared use path. Since paths will be proposed down both sides of the roadway and current bicycle counts are very low, the proposed width should be adequate to support current level of usage. If use increases dramatically in the coming years, the elements within the ROW may need to be reconfigured to accommodate increase bicycle usage.

Buffers will be provided between shared use path and vehicular traffic, but numerous conflicts will occur at the 210+ driveway crossings and 50+ stop sign regulated, side street crossings.

Level of Stress: 

Regional Commercial Urban

Page: 52

Number: 1 Author: DSIMMO1 Subject: Text Box Date: 12/6/2021 2:56:53 PM

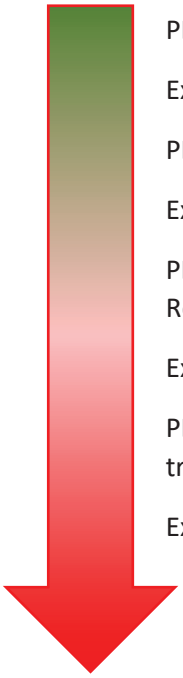
Seems like it could be conveyed more clearly that both alternatives result in the same reduction in level of stress for bicyclists. We should draw that conclusion here.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:10:03 PM

Conclusion expressed in large graphics for each section.

Pedestrian Level of Stress

Like the Bicycle Level of Stress, the pedestrian scale is based on a 1 through 4 rating system:



PLTS 1- Suitable for all users and requires little attention to the traffic situation.

Example: Wooded Trail adjacent to Roadway (large buffer)

PLTS 2- Suitable for teens and adults and requires some attention to the traffic situation.

Example: Lower Speed Roadways with wide sidewalks and buffer zone.

PLTS 3- Able-bodied adults feel uncomfortable but are safe in this environment. Requires moderate attention to traffic situation.

Example: Higher Speed Roadways with smaller buffers zones.

PLTS 4- Only used by confident or trip-purpose users. Requires constant attention to traffic.

Example: High Speed Roadways with narrow sidewalks and little/no buffer.

Segment: Regional Commercial		Existing	Boulevard	Redevelopment
Sidewalk	Condition	Poor	Good	Good
	Width (ft)	4ft	8ft	8ft
Buffer	Width (ft)	None	2ft-9ft	2ft-10ft
	Buffer Type	None	Landscaped	Landscaped
Roadway	# of Lanes	6	6	7
	Speed (mph)	40	40	40
Mid-Block Crossing	Signage	None	PHB	PHB
	Refuge Island	None	Yes	Yes
Land Use	Type	Commercial	Commercial	Commercial

Segment: Regional Commercial	Existing	Boulevard	Redev
Sidewalk Condition	PLTS 4	PLTS 1	PLTS 1
Physical Buffer Type	PLTS 4	PLTS 2	PLTS 2
Total Buffer Width	PLTS 4	PLTS 3	PLTS 3
Intersection Crossing	PLTS 4	PLTS 3	PLTS 3
Mid-Block Crossing	N/A	PLTS 3	PLTS 3
General Land Use	PLTS 3	PLTS 3	PLTS 3
Final Level of Stress	**PLTS 4**	**PLTS 3**	**PLTS 3**

Segment: Business		Existing	Boulevard	Redevelopment
Sidewalk	Condition	Poor	Good	Good
	Width (ft)	4ft - 5ft	8ft	8ft
Buffer	Width (ft)	None	3ft-9ft	5ft-11ft
	Buffer Type	None	Landscaped	Landscaped
Roadway	# of Lanes	5	4	5
	Speed (mph)	40	40	40
Mid-Block Crossing	Signage	None	PHB	PHB
	Refuge Island	None	Yes	Yes
Land Use	Type	Commercial	Commercial	Commercial

Segment: Business	Existing	Boulevard	Redev
Sidewalk Condition	PLTS 3	PLTS 1	PLTS 1
Physical Buffer Type	PLTS 4	PLTS 2	PLTS 2
Total Buffer Width	PLTS 4	PLTS 3	PLTS 3
Intersection Crossing	PLTS 4	PLTS 3	PLTS 3
Mid-Block Crossing	N/A	PLTS 3	PLTS 3
General Land Use	PLTS 3	PLTS 3	PLTS 3
Final Level of Stress	**PLTS 4**	**PLTS 3**	**PLTS 3**

Segment: Residential	Existing	Boulevard	Redev
Sidewalk Condition	PLTS 3	PLTS 1	PLTS 1
Physical Buffer Type	PLTS 4	PLTS 2	PLTS 2
Total Buffer Width	PLTS 4	PLTS 3	PLTS 3
Intersection Crossing	PLTS 4	PLTS 3	PLTS 3
Mid-Block Crossing	N/A	PLTS 3	PLTS 3
General Land Use	PLTS 2	PLTS 2	PLTS 2
Final Level of Stress	**PLTS 4**	**PLTS 3**	**PLTS 3**

Segment: Residential		Existing	Boulevard	Redevelopment
Sidewalk	Condition	Poor	Good	Good
	Width (ft)	4ft - 5ft	8ft	8ft
Buffer	Width (ft)	None	3ft-9ft	5ft-11ft
	Buffer Type	None	Landscaped	Landscaped
Roadway	# of Lanes	5	4	5
	Speed (mph)	40	40	40
Mid-Block Crossing	Signage	None	PHB	PHB
	Refuge Island	None	Yes	Yes
Land Use	Type	Commercial	Commercial	Commercial

Segment: Urban		Existing	Boulevard	Redevelopment
Sidewalk	Condition	Poor	Good	Good
	Width (ft)	4ft - 5ft	8ft	8ft
Buffer	Width (ft)	None	3ft-9ft	5ft-11ft
	Buffer Type	None	Landscaped	Landscaped
Roadway	# of Lanes	5	4	5
	Speed (mph)	40	30	40
Mid-Block Crossing	Signage	None	N	RRFB
	Refuge Island	None	Yes	Yes
Land Use	Type	Commercial	Commercial	Commercial

Segment: Urban	Existing	Boulevard	Redev
Sidewalk Condition	PLTS 3	PLTS 1	PLTS 1
Physical Buffer Type	PLTS 4	PLTS 2	PLTS 2
Total Buffer Width	PLTS 4	PLTS 3	PLTS 3
Intersection Crossing	PLTS 4	PLTS 3	PLTS 3
Mid-Block Crossing	N/A	N/A	N/A
General Land Use	PLTS 2	PLTS 2	PLTS 2
Final Level of Stress	**PLTS 4**	**PLTS 3**	**PLTS 3**

Recommend adding a conclusion indicating results are same for both alternatives as far as improving pedestrian and bicycle level of stress.

Chapter 7: Implementation

Cost Analysis

Currently, a reconstruction project is slated to begin design next year as a joint project between TxDOT and ArDOT. This scheduled construction project is considered separate from this corridor study, but any modifications to the travel lanes of Stateline for the purpose of this budget is assumed to be covered in the funding set aside for the Stateline Redevelopment. In all alternatives proposed, the overall pavement width is narrower than existing traffic lanes, so no additional cost should be encountered to implement the designs included in this report.

Items shown are assumed to be outside the scope of work for the DOT project and would require additional funding mechanisms to achieve.

The unit prices shown are based on best available information as it relates to current prices. Due to the instability of current prices, no adjustment has been made for future cost inflation or contingencies. Estimates shown are for rough budgeting purposes only, additional refinement will be necessary based upon actual design plans.

Median Costs

Based on an approximate cost comparison of a Two-Way Left Turn (TWLT) and raised median section, the prices are comparable and thus, the cost to install raised medians is not included in the estimate below. The only additional items included for the Boulevard Concept regarding raised medians are:

- Upgrade to a Colored/ Stamped Material
- Landscape Materials (including Sod)
- Irrigation Systems

If medians are to be installed, they should be incorporated into the 2022 DOT project and should require no additional funding unless median hardscape/landscape is upgraded at the time of installation.

Page: 78

Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 7:57:11 AM
If the curb-to-curb width is narrowed, would the drainage structures need to be reconstructed?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 10:28:16 AM
Yes Drainage structures would need to be reconstructed.

Page: 55

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:30:56 PM

Why there a speed difference here?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:14:05 PM

*Text added: "*To achieve median openings as shown in previous exhibits design speed must be reduced in the urban district to allow for shortened deceleration lanes. This would extend the current 30 mph speed limit that starts just south of the project limits."*

Number: 2 Author: DSIMMO1 Subject: Text Box Date: 12/6/2021 3:03:15 PM

Recommend adding a conclusion indicating results are same for both alternatives as far as improving pedestrian and bicycle level of stress.

Action Plan

The table below includes action items required to achieve the design alternatives previously detailed. This includes additional action items that would be required to achieve the desired goals. Additional "soft cost" or fees beyond the included construction estimates may be necessary and are not included in the scope of this report.

Implementation in DOT Project

With the reconstruction project slated in the short term, this has a significant impact to the action plan provided below. With the last major improvements to Stateline having been accomplished over 50 years ago, we feel this would be the most opportune time to incorporate some of the elements of this report.

Time Frame Guideline

Time frames depicted on the implementation plan are detailed as:

Short Term Time Frame

Should begin Development & Coordination Immediately.

0 - 5 years to Completion

Mid Term Time Frame

Does not require immediate action but could be pursued alongside DOT project or immediately after.

5 - 10 years to Completion

Long Term Time Frame

Will require additional planning and coordination with local government and state agencies.

5 – 25+ years to Completion, Or Perpetual

Page: 56

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 3:07:01 PM
Do not use "we"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:11:32 AM
Corrected

Implementation Plan

Goal	*Action Items*	Time Frame			Approx. Funding	Maintenance Required
		Short Term	Mid Term	Long Term		
Lane Reconfiguration	Coordinate design w/ DOT Additional Studies may be necessary	X			None	None
Median Construction (Alt #1 Only)	Coordinate Design w/ DOT Develop Design for median treatment (pavers, landscape, gen. concrete)	X			Varies Depending on Median Treatment	Depends on Landscaping of Medians
Shared Use Path Install	Potentially install as part of DOT Project Develop Design	X			See full cost in Table Above (portions may be covered in DOT Project)	None
Establish Landscape Areas	Coordinate with DOT Project the desire to establish areas for landscape and amenity zones	X			Minimal up to $500,000 depending on install during DOT project	Yes
Pedestrian Lighting	Develop Design based on constructed DOT Project & Pedestrian Facilities in Place Coordinate Improvements with DOTs Maintenance Agreement in place for Cities to Maintain		X		Up to $825,000 Cost could be affected by DOT project	Yes
Street Furniture Installation	Develop Design based on constructed DOT Project & Pedestrian Facilities in Place *Explore funding opportunities (potentially public/private partnerships)*		X		Up to $350,000	Minimal

Page: 57

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:31:34 PM

And conduct further public involvement as noted previously and ensure disclosure of U-turn restriction and change in traffic patterns

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:16:21 PM

Public involvement added as an action item

Implementation Plan

Goal	*Action Items*	Time Frame			Approx. Funding	Maintenance Required
		Short Term	Mid Term	Long Term		
Upgrade Landscape Areas	Determine Funding Source for implementation and maintenance		X		Varies (See Cost Breakdown)	Yes
Colossal Flag Feature	Permit Placement with DOTs Funding Source and lighting/foundation design		X		$120,000	Minimal
Street Banners & Gateway Features	Funding source, coordinate placement with DOT		X		Up to $360,000	Minimal
Crossing Experience	Draft Designs, receive public input Establish funding and DOT Approval			X	$20,000	Minimal
Twin ~~Parks~~ Construction	Draft Designs, receive public input Establish funding and DOT Approval			X	Varies based on Design	Yes
Stateline Overlay District	Draft Overlay District Guidelines Review and Approval Process Begin Implementation for development projects			X	None	No
Driveway Reduction Plan	~~D~~raft Driveway reduction guidelines Additional study to determine driveways that could be targeted for removal Coordinate Agreement with Owners (voluntary, exchange for improvements or compensation for loss of drive) Construction phase to remove driveways			X	Unknown (Based on Owner Agreements)	No

Page: 58

Number: 1 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 3:13:40 PM

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:11:36 AM
Corrected

Number: 2 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 3:13:31 PM
Change from parks to green space or something else

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:11:40 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 3:49:53 PM
Wouldn't this need to be done during the DOT project? Ideally anyway.

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:22:46 PM
When discussing previously with PAC/TAC, was discussed this would be impossible to include with DOT project and would have to be implemented by the city and take place in the future as discussed on page 27.

Preferred Alternative

Both alternatives, if implemented per this report, would redefine Stateline as a premiere corridor that promotes all uses and creates a more user-friendly environment that encourages economic development. The Boulevard Concept is the preferred alternative based on the additional safety and aesthetic aspects made possible by the addition of raised medians.

Public Meeting #3

At the final public meeting both alternatives outlined in this report were presented to approximately 50 individuals and they selected their preferred option for each of the 4 districts. Based on 28 votes, the

MPO Public Meeting #3- Proposed Alternatives Input			
District	Concept	YES	%
Regional Commercial	Boulevard Concept	15	54%
Regional Commercial	Redevelopment Concept	13	46%
Business	Boulevard Concept	16	57%
Business	Redevelopment Concept	12	43%
Residential	Boulevard Concept	17	61%
Residential	Redevelopment Concept	11	39%
Urban	Boulevard Concept	18	64%
Urban	Redevelopment Concept	10	36%

The U-turn issue and corresponding travel pattern impacts were not discussed/ disclosed appropriately. We specifically asked for turning templates to be shown, but they were not. In our limited research into it, there would to be room for even a passenger car to make a U-turn within the available 22-23'.

ck from local business owners based on concerns of accessibility to their subject businesses. It seems that negative feedback from business owners was the reason medians where not constructed in the 1970's when Stateline was expanded to 5 lanes. While we agree there may be locations that would have an adverse impact from the construction of raised medians, strategically located openings and signage may be able to avoid any negative impact.

It is understood that additional studies and engineering evaluations would be required p implementation of the Boulevard Concept and the design shown in these plans are conc The goal of this preferred alternative is to provide concepts, guidelines, and visions for f improvements to the corridor.

No discussion on how to mitigate for travel patterns/ operational concerns associated with no U-turns?

Page: 59

Number: 1 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:33:00 PM
TxDOT cannot support this as the preferred alternative since the lack of U-turns was not disclosed/discussed to an appropriate level to gauge public support. This puts the DOTs and city's in a difficult position trying to take a "recommendation" like this to the public as a preferred alternative. We are fine recommending further consideration and analysis.

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 12:33:46 PM
Preferred Alternative Section revised to summary section of Public input and further studies that were identified during this process

Number: 2 Author: DSIMMO1 Subject: Cross-Out Date: 12/15/2021 5:34:09 PM
Maybe more accurate to refer to as "responses" instead of "votes"? I thought we were trying to avoid calling it a "vote"

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:11:48 AM
Corrected

Number: 3 Author: DSIMMO1 Subject: Text Box Date: 12/15/2021 7:43:14 PM
The U-turn issue and corresponding travel pattern impacts were not discussed/disclosed appropriately. We specifically asked for turning templates to be shown, but they were not. In our limited research into it, there would to be room for even a passenger car to make a U-turn within the available 22-23'.

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 12:34:43 PM
Discussion was included at all meetings regarding traffic impacts caused by raised medians, including the fact that business would no longer have direct access from the off-side of the street as well access to some side streets. Discussions at the PMs included traffic being diverted to side streets and a separate meeting was held with city officials discussing possible impacts to side streets. An interactive map was provided at PM #3 depicting raised medians and utilized to discuss what re-routes may be required.

Number: 4 Author: DSIMMO1 Subject: Cross-Out Date: 12/6/2021 3:17:08 PM
were

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 10:11:51 AM
Corrected

Number: 5 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 3:20:15 PM
not sure how this statement can be made

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:24:14 PM
word, ANY removed.

Number: 6 Author: DSIMMO1 Subject: Text Box Date: 12/6/2021 3:53:48 PM
No discussion on how to mitigate for travel patterns/operational concerns associated with no U-turns?

Author: VanceLiles Subject: Sticky Note Date: 1/11/2022 12:25:08 PM
Text added: "It is understood that additional studies and engineering evaluations would be required prior to implementation of the Boulevard Concept and the design shown in these plans are conceptual in nature. The goal of establishing a preferred alternative is to provide concepts, guidelines, and visions for future improvements to the corridor. This is to be a building block moving forward into true engineering design and evaluation to determine the final viability of these concepts. It is understood while this may be shown as the preferred alternative, due to design constraints, and traffic pattern alterations this alternative may not be possible or must be altered as necessary."

Number: 7 Author: DSIMMO1 Subject: Highlight Date: 12/15/2021 5:36:42 PM
Does the preferred alternative have a goal - or do you mean the study had a goal?

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 12:35:12 PM
Preferred Alternative Removed

Number: 8 Author: DSIMMO1 Subject: Highlight Date: 12/6/2021 3:19:19 PM
This sets the DOTs and cities up for a battle trying to explain issues associated with the preferred alternative that were not disclosed to the public during this study.

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 12:35:38 PM
Preferred Alternative Removed

Page: 85

Number: 1 Author: tb40394 Subject: Highlight Date: 12/29/2021 8:29:08 AM

Given all of the "further study is needed" caveats, as well as some potentially negative aspects of the Boulevard Concept that have not been fully explored, is "Preferred" alternative the best choice of language? And who is it claimed this alternative is preferred by? The Public in general? The study team?

Author: VanceLiles Subject: Sticky Note Date: 1/13/2022 1:16:19 PM

Preferred Alternative Removed

TEXARKANA METROPOLITAN PLANNING ORGANIZATION

RESOLUTION # 14-2022

A RESOLUTION BY THE POLICY BOARD OF THE TEXARKANA METROPOLITAN PLANNING ORGANIZATION ADOPTING THE STATELINE AVENUE CORRIDOR PLAN FOR THE STUDY AREA AND AUTHORIZING ITS SUBMISSION TO THE ARKANSAS DEPARTMENT OF TRANSPORTATION (ARDOT), AND TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT).

WHEREAS, the Texarkana Metropolitan Planning Organization (MPO) for the Texarkana metropolitan planning area, is responsible for performing transportation planning activities with the Texarkana Study Area Boundary, and

WHEREAS, Texarkana Metropolitan Planning Organization (MPO), had a corridor study prepared for the Stateline Avenue corridor; and

WHEREAS, the intent of the Corridor Study is to create a framework for equitable future development and define acceptable levels of access and mobility; and

WHEREAS, the study will identify improvements to the corridor consistent with Complete Streets planning concepts, which, when implemented will result in a dynamic and vibrant corridor for use by City residents and visitors.

WHEREAS, the study will assist in determining transportation system needs to support surrounding land uses, consolidate, and control access points, and promote operational efficiency and redevelopment of an underperforming corridor; and

WHEREAS, the Technical Committee recommended submission of the Stateline Corridor Study Plan to the Policy Board.

NOW, THEREFORE, BE IT RESOLVED by the Policy Board of the Texarkana Metropolitan Planning Organization adopts the Stateline Avenue Corridor Plan as a guide:

- That it is understood that additional studies and engineering evaluations would be required prior to implementation of the Boulevard or Redevelopment Concepts.
- The design shown in these plans are conceptual in nature.
- That the goal of establishing these design alternatives is to provide concepts, guidelines, and visions for future improvements to the corridor.
- That this is to be a building block moving forward into true engineering design and evaluation to determine the final viability of these concepts.

SECTION 1: That the Stateline Avenue Corridor Plan for the Texarkana Metropolitan Area is hereby adopted.

SECTION 2: That the Study Director of the Texarkana Metropolitan Planning Organization is hereby authorized to submit the Stateline Avenue Corridor Plan for the Texarkana Metropolitan Study Area to ARDOT and TXDOT.

SECTION 3: That this Resolution shall become effective immediately upon adoption.

ADOPTED in Regular Session on the 26th day of January 2022.

Tom Whitten, Bowie County Commissioner
Policy Board Chairman
Texarkana MPO

Texarkana MPO

Resolution #14 - 2022

I hereby certify the above is a true copy of Resolution #13-2022: Stateline Avenue Corridor Plan.
This resolution was:
Motioned by: Sheryl Collum, Mayor, City of Wake Village, Texas
Seconded by: David Orr, City Manager, City of Texarkana, Texas
Resolution #14 passed unanimously in regular session on January 26, 2022.

JoAnne Gray

for Rea Donna Jones
Director
Texarkana MPO