



SOUTH LAMAR BOULEVARD CORRIDOR IMPROVEMENT PROGRAM

APRIL 2016

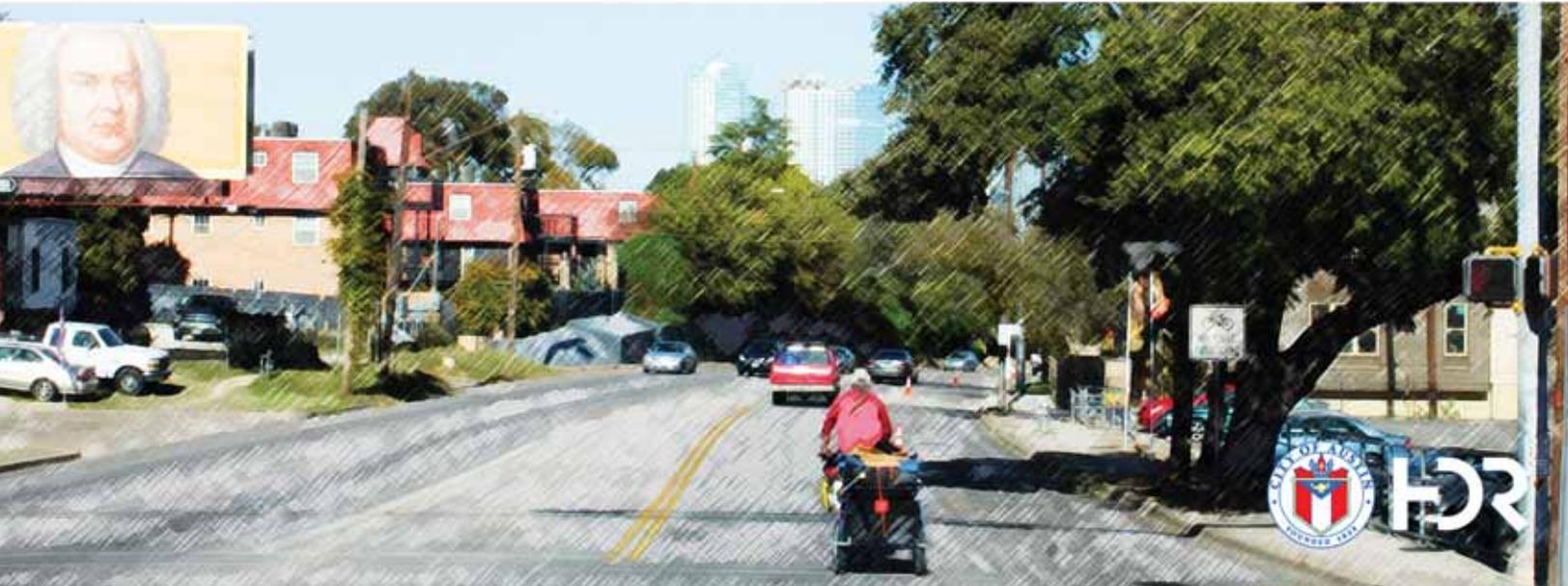


TABLE OF CONTENTS

EXECUTIVE SUMMARY

Program Goals	E-1
Project Process	E-1
Existing Corridor Characteristics	E-1
Project Goals and Design Considerations	E-3
Future Corridor Characteristics and Recommendations	E-6
Cost	E-10
Funding	E-10
Next Steps	E-10

CHAPTER 1 - INTRODUCTION

Project Purpose and Goal	1-2
Project Background	1-2
Project Partners	1-2
Project Process	1-2
Project Area	1-4

CHAPTER 2 - PUBLIC INVOLVEMENT

Stakeholder Activities	2-1
Walk Audit	2-1
Design Workshop	2-2
Public Meetings	2-2

CHAPTER 3 - EXISTING CORRIDOR CONDITIONS

Land Use	3-1
Character Areas	3-1
Roadway Characteristics	3-7
Drainage Characteristics and Issues	3-10
Traffic Operations Analysis	3-11
Crash Analysis	3-16

TABLE OF CONTENTS

CHAPTER 4 - FUTURE CHARACTERISTICS

Neighborhood Plans	4-1
Planned Development	4-4
Planned Multimodal Improvements	4-6
Future Travel Demand	4-8

CHAPTER 5 - IMPROVEMENT TOOLS

Improvement Toolbox	5-1
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CHAPTER 6 - RECOMMENDATIONS

Methodology	6-1
South Lamar Boulevard Corridor Concepts	6-2
Recommended Improvements	6-10
Commuter Solutions	6-28
Health Impact Assessment	6-29
Summary	6-30

CHAPTER 7 - PROJECT IMPLEMENTATION

Cost Estimates	7-1
Funding Sources	7-2

CHAPTER 8 - FUTURE LAND USE MANAGEMENT STRATEGIES

Development Strategies	8-1
Transportation Related Policies and Plans	8-2
Policy Recommendations	8-3
Conclusion	8-6

TABLE OF CONTENTS

APPENDIX A - PUBLIC INVOLVEMENT PLAN

APPENDIX B - DRAINAGE REPORT

APPENDIX C - 2035 TRAVEL DEMAND FORECASTING

APPENDIX D - 2035 TRAFFIC ANALYSIS

APPENDIX E - HEALTH ASSESSMENT IMPACT STUDY

APPENDIX F - RELEVANT PLANS AND POLICIES

APPENDIX G - WALK AUDIT AND WORKSHOP WORKBOOK

APPENDIX H - COST ESTIMATES REPORT

APPENDIX I - RECOMMENDATIONS

EXECUTIVE SUMMARY



PROGRAM GOALS

Rapid growth along South Lamar Boulevard has created safety and mobility concerns along the corridor. The South Lamar Corridor Transportation Improvement Program was created to improve safety and accessibility along the corridor, while also improving mobility for everyone—people who walk, people who bike, those that use transit and those that drive. The program aimed to identify future transportation needs of the corridor and enhancements that could help to create a multimodal transportation system supportive of mixed-use, pedestrian and bicycle friendly development patterns.

PROJECT PROCESS

The City of Austin has initiated a series of corridor improvement programs to ensure Austin roadways are up to today's community standards. A framework has been developed for these corridor programs to allow for a common approach while the specific character and needs of the different roadways and communities are assessed.

The City of Austin and the consultant team began the project by developing a public involvement program and reaching out to community stakeholders and neighborhood associations. Involvement from these groups was a vital component to fully comprehending the South Lamar Boulevard Corridor. Existing corridor conditions data were collected and changes in traffic patterns in recent years were analyzed. Conditions of the existing infrastructure along the corridor were documented, and future area development and planned improvements were considered along with the vision and goals of the Imagine Austin Comprehensive Plan.

EXISTING CORRIDOR CHARACTERISTICS

The character of South Lamar Boulevard changes traveling south from Riverside Drive, although this character change is becoming less marked with the rapid development in the project area. Proximity to downtown has contributed to denser growth at the northern end of the corridor.

Multi-family housing adjacent to the corridor along with restaurants and retail have been trickling southward to claim available land further away from downtown. Several different neighborhoods lie along the length of the corridor, and different types of business and attractions are interspersed among them. The south end of the Lamar corridor exits the project area through the large twin shopping centers at Brodie Oaks.

The auto-centric nature of South Lamar Boulevard is in transition, with density increasing and more pedestrian-friendly places moving in due to the proposed land use plan. The corridor is already heavily developed, with little green space abutting the roadway.

Six character zones can describe South Lamar:



- Zone 1: Riverside Drive to Barton Springs Road
- Zone 2: Barton Springs Road to Treadwell Street
- Zone 3: Treadwell Street to Mary/Heather Street
- Zone 4: Mary/Heather Street to Manchaca Road
- Zone 5: Manchaca Road to Panther Trail
- Zone 6: Panther Trail to US 290/Ben White Boulevard

These six zones are further discussed in **Chapter 3**.

ROADWAY

South Lamar Boulevard is largely a four lane facility with a continuous center turn lane utilized to access the many businesses and connecting streets. Dedicated left turn lanes are provided at all signalized intersections. Sections north of Barton Springs Road and at Brodie Oaks Shopping Center have three lanes in each direction with a raised median.

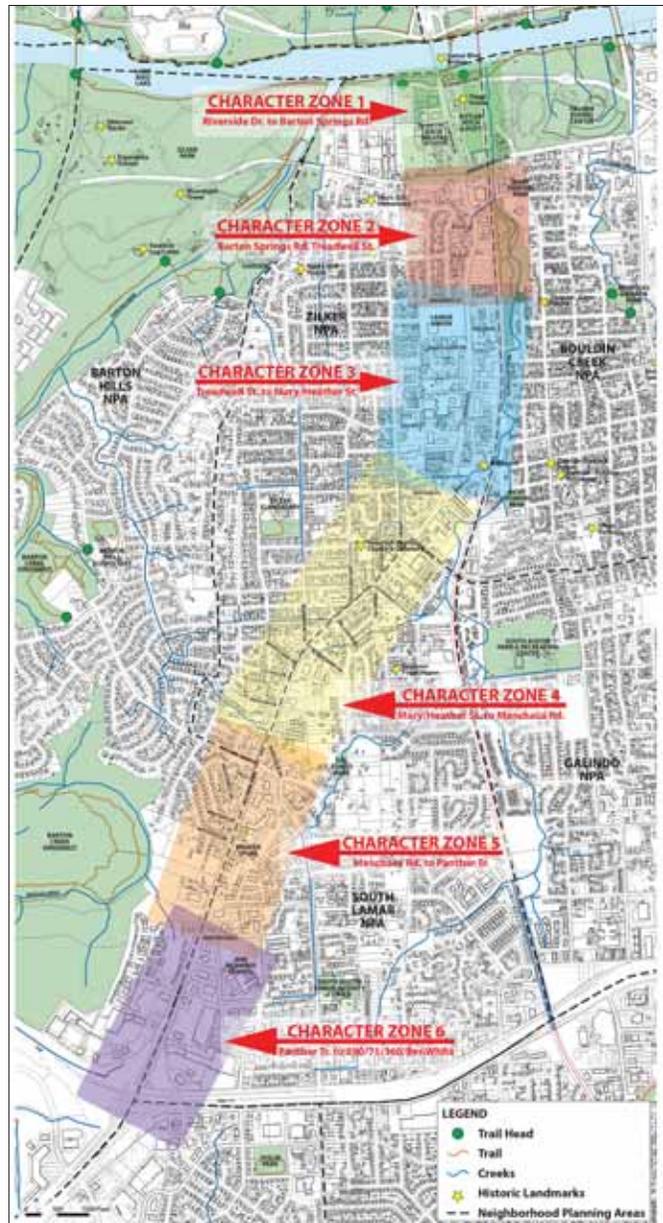
There are 12 signalized intersections along the corridor, and numerous unsignalized intersections, some of which intersect Lamar Boulevard at a significant angle. A large number of commercial driveways provide access to the many businesses, restaurants, and residences that border the corridor.

TRANSIT

Capital Metro operates several bus lines along South Lamar Boulevard. There are four MetroBus routes in operation and one MetroRapid route. Capital Metro’s All Systems Go! transit plan identified the project area segment of South Lamar as a bus rapid transit corridor. The Burnet/South Lamar or Route 803 is one of these routes with five stops (Barton Springs, Lamar Square, Oltorf West, Bluebonnet, Brodie Oaks) along the project corridor. This MetroRapid line is equipped with “high-tech” and higher-capacity buses with signal pre-emption capability and stations equipped with real-time arrival technology.

PEDESTRIAN

Sidewalk conditions along South Lamar Boulevard offer considerable opportunity for improvement. While sidewalks are primarily continuous and of adequate width, there are several sections where



sidewalks are broken or missing. Where sidewalks are present, widths range from 4-feet to 6-feet and are generally directly adjacent to the roadway on the west side and separated by a grassy median on the east side of South Lamar Boulevard. In several locations, utility poles located in the middle of the sidewalk or missing ADA ramps cause accessibility issues. In areas where new development has occurred, sidewalks are even wider and setback from the roadway with a landscaped buffer.

BICYCLE

Current bicycle facilities on South Lamar Boulevard consist of mostly continuous, but narrow, 5-foot bicycle lanes adjacent to the main traffic lanes. Where the bike lanes are not present, cyclists share the road with fast-moving traffic. The facility is generally considered to be unsuitable for regular use by a majority of commuter and recreational users. There are also multiple bus stops along the corridor, and frequent bus service directly conflicts with the bike lane.

The City has recently installed bike lanes on the south end of the corridor, near the Brodie Oaks Shopping Center.

DRAINAGE

Three watersheds are located within the project area of the South Lamar Corridor including the Lady Bird Lake Watershed, Barton Creek Watershed, and the West Bouldin Creek Watershed. Most of the project area lies within the West Bouldin Creek Watershed. Fifteen drainage systems consisting of pipes and culverts were identified in the project area through site visits, City GIS data and hydraulic models and record drawings. The drainage analysis showed that of the fifteen systems, only two meet criteria for the 25 year event level of service. A project to improve the area storm drainage is listed in the Capital Improvement Projects for Fiscal Year 2015 and includes the South Lamar Corridor.

PROJECT GOALS AND DESIGN CONSIDERATIONS

It is the intent of this project that the recommended improvements will improve mobility for nearby residents and commuter through-traffic. Commuter solutions such as advanced technology, and improvements in infrastructure and transit operations can help to improve operations along the corridor. Building enhanced facilities for other modes such as bikes, pedestrians and transit will provide increased options for people to conduct daily activities such as trips to school, work, or to access corridor amenities.

Recommendations developed for South Lamar Boulevard were based on input from the public meetings and stakeholder meetings, the results of land use and traffic analyses, and several related Transportation Demand Management (TDM) strategies. These recommendations will guide the City of Austin in shaping South Lamar Boulevard into a multimodal corridor that supports everyone—people who walk, people who bike, people that use transit, and people that drive. The Imagine Austin vision statement recognizes that Austinites are committed to preserving the best of Austin and changing those things that need to be changed.

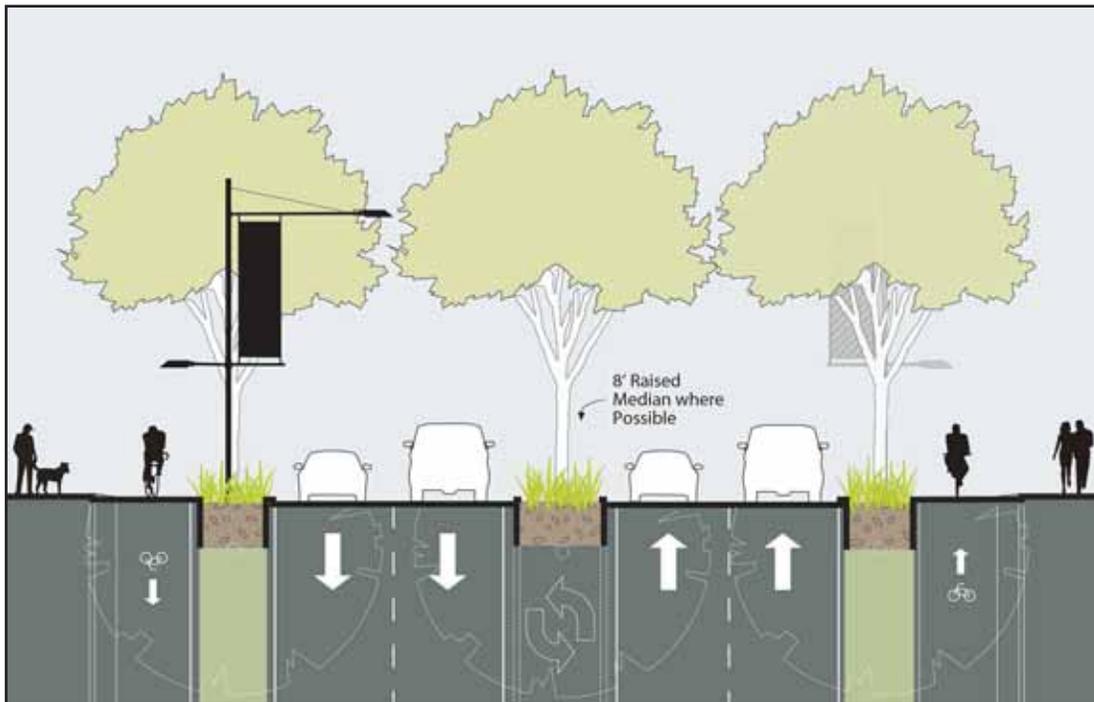
Corridor concepts developed for South Lamar Boulevard envision a smartly planned facility that serves all modes of transportation, encourages active transportation and enhances safety overall. During the public involvement process, many people indicated they would walk or bike more given a safer facility to use to reach their destinations. It is the goal of the City of Austin and project planners that the proposed concepts for South Lamar Boulevard serve both the vehicle demands of the facility, while accommodating and encouraging alternative modes.



In support of the Complete Streets policy, the ultimate cross section proposed for South Lamar would include protected bike facilities and wider, completely connected sidewalks for both northbound and southbound travelers.

The facility will continue to serve four lanes of traffic, as it always has, and will also allow for transit improvements in locations that make sense and where space allows. In place of the existing continuous and unmanaged center turn lane, a raised median will help to reduce conflict and streamline access to businesses. This median can also serve as a pedestrian refuge for people wanting to cross the busy corridor, thereby improving safety for foot traffic and motorists alike.

Recommended Ultimate Cross Section



The growing awareness and understanding of the effects of the built environment on public health has been reflected in several recent Austin and Travis County strategic plans. In order to realize the health-related goals of these plans, this corridor study included a Health Impact Assessment (HIA). The HIA sought to assess potential health impacts of policies, projects or programs that affect the public and to identify opportunities to maximize positive health effects and minimize potential negative outcomes. The HIA was performed in order to obtain two important goals:

- To help the project's lead planning firm (HDR) consider public health impacts during the planning process
- To provide the public and decision-makers with a) information on the potential health impacts of the proposed plan(s); b) prioritization of improvements in terms of health outcomes; and c) approaches to evaluate future health outcomes related to the corridor improvements



Figure ES-1: Future Corridor Concept for South Lamar



Improvements to the South Lamar corridor in the form of pedestrian and bicycle facilities, roadway, and public green spaces have substantial potential to impact health of the neighboring communities. Given the size of the population and interest in active transportation, facilities should offer separated space for people who want to walk and bike. Facilities should also be planned to accommodate a large volume of non-motorized travelers.

FUTURE CORRIDOR CHARACTERISTICS AND RECOMMENDATIONS

South Lamar Boulevard offers many amenities and is a major destination in South Austin. The recent projects that have sprung up in the area along with the many that are in the planning stages will continue to increase density along the corridor. More and more pedestrian-friendly destinations could see an increase in multimodal activity in the future.

Recommended improvements for South Lamar Boulevard are based on the complete streets and corridor concepts. Improvements have been identified as short- (0 – 5 years) or long-term (5 – 20 years) to help the City of Austin prioritize based on need and feasibility and also to allow the City time to raise the needed funds. **Table ES-1** summarizes the recommended improvements that could be implemented in the short-term.

Table ES-1. Short-Term Improvements

Limits (Lamar @)	Project	Mode				Description
						
5th/6th Streets*	Operational				X	Prohibit left-turn movements along Lamar Blvd. during peak periods.
Riverside Dr.	Operational		X			Construct protected bike facility at intersection.
Riverside Dr. & Toomey Rd.	Operational	X			X	Install new traffic signal.
Between Riverside Dr. & Treadwell St.	Raised Median				X	Construct raised landscaped median with select openings at driveways.
Between Riverside Dr. and Barton Springs Rd.	Bicycle Lanes		X			Construct 2-way cycle tracks on both sides of S. Lamar Blvd.
Barton Springs Rd.	Operational		X			Construct protected bike facility at intersection.
	Bus Queue Jump			X		Install NB and SB bus queue jumps (using right-turn lanes).
	Operational				X	Construct dual SB left-turn bays.
	Operational			X	X	Convert NB approach to two through lanes with third receiving lane for bus stop pullout.
Treadwell St.	Network		X			Construct bicycle connection under UPRR tracks to West Bouldin Creek Greenbelt.
Between Riverside Dr. & Treadwell St.	Operational	X	X	X	X	Construct recommended ultimate cross section.

**5th and 6th Streets are beyond the scope of this study; however, due to their impact on corridor operations, recommendations have been provided.*



Limits (Lamar @)	Project	Mode				Description
						
South Lamar and Collier St./ Evergreen Ave.	Operational/ Safety	X			X	<ul style="list-style-type: none"> Install new traffic signal. Prohibit left-turn movement at Mary St. approach. Build roundabout at Mary St. and Evergreen Ave. Close NB "ramp" from South Lamar Blvd. to Mary St.
Oltorf St.	Bus Queue Jump			X		Install NB bus queue jump (using right-turn lane).
	Operational	X			X	Move pedestrian crossing across S. Lamar Blvd. from south side to north side of intersection.
	Safety	X			X	Remove channelization from NB right-turn lane.
South Lamar & Del Curto Rd.	Operational	X			X	<ul style="list-style-type: none"> Install new traffic signal. Prohibit left-turn movement at WB Bluebonnet Ln. approach. Construct roundabout at Del Curto Rd. and Bluebonnet Ln.
Bluebonnet Ln.	Bus Queue Jump			X		Install NB bus queue jump (using right-turn lane).
	Bicycle Lanes		X			Install continuous 2-way cycle track across South Lamar Blvd.
Manchaca Rd.	Bus Queue Jump			X		Install NB bus queue jump (using proposed bus lane).
Between Manchaca Rd. and Barton Skwy.	Bus Lane			X		Construct NB bus lane.
Barton Skwy.	Operational/ Bus Queue Jump			X	X	Construct NB right-turn bay and install bus queue jump (using right-turn lane).



Wider, connected sidewalks, ladder-style crosswalks, and pedestrian hybrid beacons build a better infrastructure for multimodal connectivity and activities.



Limits (Lamar @)	Project	Mode				Description
						
South Lamar Blvd. and West Oak Dr.	Safety	X		X		Install pedestrian hybrid beacon.
South Lamar Blvd. and Brodie Oaks	Operational				X	Prohibit NB left-turn movement from US 290/SH 71 underpass.
Corridor-wide	Policy	X	X		X	Reduce speed limit to 35 mph
	Policy			X		Pass ordinance to assign right-of-way to buses at pullouts.
	Informational/Recreational	X	X	X	X	Install wayfinding signs, especially to/from area green spaces.
	Safety	X				Time leading pedestrian intervals at signalized crosswalks where significant conflict between turning vehicles and pedestrians exists.
	Bicycle Supply		X			Install B-cycle stations where supported by local demand.
	Operational				X	Install adaptive signal system.
	Informational				X	Install dynamic message signs with travel times, alternative, routes, parking info, etc.
	Operational/Safety			X	X	Institute an incident management program.
	Bus Stops			X		Provide covered, enclosed bus stops.
	Bus Stops			X		Install far side bus stops instead of nearside stops.



Two-way cycle tracks, a signal at Toomey Road and pedestrian improvements are recommended for South Lamar Boulevard.



LONG-TERM IMPROVEMENTS

Long-term projects are recommended for implementation within five to twenty years, and may require more funding to implement than short-term projects. To obtain the necessary right-of-way needed to build the full recommended cross section for South Lamar Boulevard, properties along the corridor will have to wait until redevelopment occurs. Long-term recommendations will need time to enact. **Table ES-2** details long-term projects.

Table ES-2: Long-Term Improvements

Limits (Lamar @)	Project	Mode				Description
						
Between Treadwell St. and Brodie Oaks	Operational	X	X	X	X	Construct recommended ultimate cross section.
North Lamar Blvd. and 5th/6th Sts*.	Operational				X	Consider constructing a grade separation to reduce delay.
Between Riverside Dr. and Panther Tr.	Operational/ Safety				X	Consider implementation of variable speed limit.
Between Barton Springs Rd. and Treadwell St.	Safety	X				Install pedestrian crossing (pedestrian hybrid beacon or elevated) near Bluff St., when warranted.
South Lamar Blvd. and Hether St./Mary St.	Operational/ Safety				X	Acquire right-of-way to realign Mary St. approach to remove skew with Hether St.
South Lamar Blvd. and Bluebonnet Ln.	Operational/ Safety				X	Acquire right-of-way to realign Bluebonnet Ln. approach(es) to remove skew at South Lamar Blvd.
Barton Skwy.	Network		X			Construct bicycle connection to (1) Barton Creek Greenbelt and (2) Barton Skwy. and Spyglass Dr.
Corridor-wide	Network	X	X			Install bicycle and pedestrian connections to side streets and adjacent communities.
Corridor-wide	Parking				X	Implement parking district with centralized parking facilities.
Corridor-wide	Bus Lane			X		Implement transit-only lane(s) during peak periods, when supported by ridership.

**5th and 6th Streets are beyond the scope of this study; however, due to their impact on corridor operations, recommendations have been provided.*



COST

The total cost for short-term improvements is \$20.4M, and the total cost for long-term improvements is \$40M. Cost estimates do not include right-of-way acquisition costs but do include engineering, materials, traffic control, construction, and contingency costs.

Table ES-3: South Lamar Boulevard Preliminary Project Cost Summary

	Improvement Type		Ultimate Cost
	Short-Term	Long-Term	
Total	\$20,400,000	\$40,000,000	\$60,400,000

FUNDING

The funding strategies discussed in this report are a combination of guidance from the federal, state, and regional agencies regarding the use of local funds provided by the 2012 General Bond election and the leveraging of grant funding from these sources.

NEXT STEPS

The South Lamar Boulevard Corridor Development Program has helped to identify improvements that can help to enhance safety and mobility for people who walk, bike or use transit, and for people that drive. New developments along the corridor provide facilities for people who walk, and the City has already taken steps to enhance conditions for cyclists and pedestrians. In order to implement the recommended improvements identified by this program, some additional tasks lay ahead. Right-of-way will need to be obtained, and further analysis of costs and benefits may be necessary. Funding will also need to be secured for future improvements.

The next steps toward implementation of these findings include:

- Identify funding sources such as private, local, regional, state and federal programs.
- Prioritize short-term improvements that can be completed with available resources and that build towards long-term improvements.
- Develop detailed design plans for implementation.
- Continue to engage the public and deliver updates regarding implementation status, major milestones and significant information regarding South Lamar Boulevard.
- Follow the Imagine Austin Comprehensive Plan, the CAMPO plan, and other governing policies to determine appropriate development for properties along the corridor.



CHAPTER 1 INTRODUCTION



South Lamar Boulevard, between Riverside Drive and Ben White Boulevard, is a highly traveled roadway and a primary route to and from downtown Austin. It is an important commercial corridor and home to a diverse group of residents living in proximity to the roadway. The landscape of the corridor is rapidly changing, attracting more people to the area looking to experience and be part of the local culture. The rapid growth along the corridor is causing safety and mobility concerns.

South Lamar Boulevard has a heavy car-dominated environment that is typical of many north-south roadways in Austin. However, with the launch of Capital Metro's MetroRapid bus service and the additional mixed-use developments being built throughout the corridor, pedestrian and bike activity along South Lamar Boulevard is on the rise. This increase is expected to continue as many residents will rely on public transportation and walk to and from local services, bus stops, and existing retail establishments. This mode shift from driving will play an important role in the sustainability of the corridor as density continues to rise.

The Imagine Austin Comprehensive Plan lays out a vision for a compact and connected city, with density and transportation infrastructure that encourages walking and biking (active transportation). The increased density on South Lamar Boulevard has greatly outpaced multimodal accessibility. Additionally, public green spaces are largely absent from the land use mix. The growing awareness and understanding of the effects of the built environment on public health has been reflected in several recent Austin and Travis County strategic plans. In order to realize the health-related goals of these plans, this corridor study included a Health Impact Assessment (HIA). An HIA is a process that assesses potential health impacts of policies, projects or programs that affect the public. This process identifies opportunities to maximize positive health effects and minimize potential negative outcomes. The City of Austin requested that an HIA be performed alongside the engineering study of the corridor in order to obtain two important goals:

- To help the project's lead planning firm (HDR) consider public health impacts during the planning process
- To provide the public and decision-makers with a) information on the potential health impacts of the proposed plan(s); b) prioritization of improvements in terms of health outcomes; and c) approaches to evaluate future health outcomes related to the corridor improvements

Improvements to the South Lamar corridor in the form of pedestrian and bicycle facilities, roadway, and public green spaces have substantial potential to impact health of the neighboring communities. Given the size of the population and interest in active transportation, facilities need to be able to accommodate a large volume of non-motorized travelers. They should offer separated space for people who walk and bike wherever possible to avoid conflicts and increase comfort for all users.



PROJECT PURPOSE AND GOAL

The purpose of the South Lamar Boulevard Corridor Development Program is to improve safety and accessibility along the corridor, while also improving mobility for everyone- people who walk, bike or use transit, and people who drive. The program identifies future transportation needs of the corridor and enhancements that can help to create a multimodal transportation system that is supportive of mixed-use, pedestrian and bicycle friendly development patterns. Improvements developed for South Lamar Boulevard should meet the goals of the City's Imagine Austin Comprehensive Plan and the needs of the community. Public outreach initiatives were implemented throughout the duration of the program to help guide the process.

PROJECT BACKGROUND

On November 6, 2012, Austin voters approved \$306.6 million in bond propositions to fund capital improvements. Proposition 12: Transportation and Mobility, provided project funding for the South Lamar Corridor Transportation Improvement Program. The 2012 Bond Program was developed with extensive community input and help from a citizen task force. The bond program supports the rehabilitation and renovation of existing City infrastructure and facilities while also making investments in new initiatives that reflect some of the priority programs of the Imagine Austin Comprehensive Plan. The City's goal was to develop propositions that reflected the public's priorities and would support needed rehabilitation of the City's existing infrastructure and facilities while also making investments in new initiatives outlined in Imagine Austin.

PROJECT PARTNERS

The City of Austin is funding the South Lamar Boulevard Corridor Development Program through funds approved by the community during the 2012 Bond Program. Stakeholders on the project include community members, businesses and neighborhood groups such as the Bouldin Creek Neighborhood Association, the South Lamar Neighborhood Association, the Zilker Neighborhood Association and the Barton Hills Neighborhood Association.

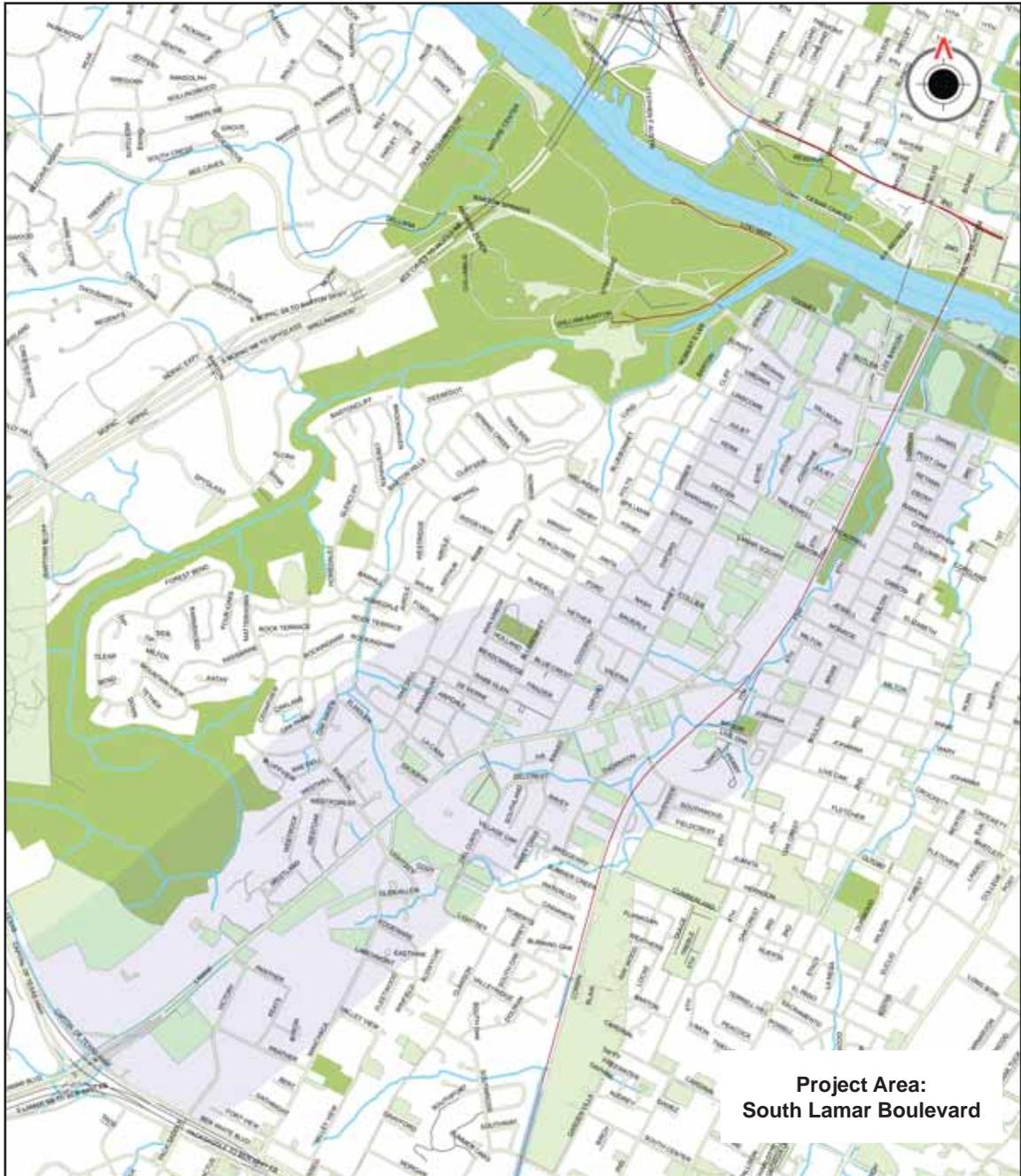
PROJECT PROCESS

The City of Austin has initiated a series of corridor improvement programs to ensure Austin roadways are up to today's community standards. A framework has been developed for these corridor programs to allow for a common approach while the specific character and needs of the different roadways and communities are assessed.

The City of Austin and the consultant team began the project by developing a public involvement program and reaching out to community stakeholders and neighborhood associations. Involvement from these groups was a vital component to better comprehension of the South Lamar Boulevard corridor. Traffic data of existing corridor conditions and changes in traffic patterns in recent years were analyzed. Conditions of the existing infrastructure along the corridor were documented, and future area development and planned improvements were considered along with the vision and goals of the Imagine Austin Comprehensive Plan.



Figure 1-1: Project Area



PROJECT AREA

The project study area includes South Lamar Boulevard from Riverside Drive and extends 3.3 miles south to Ben White Boulevard/US 290. The HIA study included an extended project area with a half-mile buffer on each side of the corridor, as shown in **Figure 1-1 Project Area**.

In the late 1990s Austin began to experience rapid growth, and with its close proximity to downtown, density along South Lamar Boulevard naturally began to increase. Local businesses began to locate along the corridor and residency grew as more and more people looked to the area for its proximity to downtown, Zilker Park, area amenities, and attractive neighborhoods. By the 2000s, the area was well established as one of Austin's most sought after communities.

Most recently, and supported by the Imagine Austin Comprehensive Plan, denser, mixed-use developments have moved to this corridor, bringing pedestrian-friendly destinations – and numerous residences with them. A farmers market opened on the corridor at Bluebonnet Lane in 2014 in a former used car lot, although a new location will likely be needed once the property redevelops. A number of neighborhood and regional parks, four schools, two recreation centers, and a branch library are in the area. Of note, the corridor itself lacks any significant public gateway places or parks.

At the time of this study, the area is in transition. The auto-centric nature of the corridor remains, and increasing demand from alternative transportation modes creates conflict with the heavy traffic the corridor now supports. The nature of South Lamar Boulevard is changing with the increasing number of people who are already walking, biking and using transit services.

The surrounding South Lamar Boulevard is zoned for a variety of land uses, ranging from single and multi-family residences to mixed-use, office, commercial, industrial and civic development. Very few tracts have retained a zoned classification of undeveloped, while open spaces include the Barton Creek Greenbelt on the south end and Butler Shores on the north. A portion of Bouldin Creek and a freight railroad both run parallel to the corridor from Riverside Drive to Oltorf Street. The corridor is served by several Capital Metro transit routes, including the new MetroRapid.

There are four schools in the study area including Ann Richards School for Young Women Leaders, Barton Hills Elementary, Becker Elementary and Zilker Elementary. Twin Oaks Public Library is located just east of Lamar on Mary Street. There are a number of neighborhood and regional parks in addition to two recreation centers and the City of Austin Fire Station #11.



CHAPTER 2 PUBLIC INVOLVEMENT



The City of Austin is responsible for planning for a corridor's changing environment and bringing it up to modern expectations. Public involvement in the transportation planning process is a key component in ensuring that agencies and planners develop recommendations designed to serve the community. The City of Austin is committed to accountability and transparency. It is the City's goal to enable the public to participate in decision-making processes by providing clear information on the issues, the ways to participate, and how their participation contributes to the ultimate decision.

To uphold this commitment, a Public Involvement Plan (PIP) was developed at the beginning of the South Lamar Corridor Transportation Improvement Program. The goals for community engagement for the South Lamar Improvement Program reflect the goals defined in the Master Public Involvement Plan for transportation corridor studies undertaken by the City of Austin Transportation Department. Those four main goals are as follows:

- Goal 1: Provide users, neighbors, property owners, and other direct stakeholders served by the corridor with sufficient opportunity to contribute their input to the City of Austin and its consultants to inform and help shape the results of each Transportation Corridor Study.
- Goal 2: Ensure that traditionally underrepresented and hard-to-reach populations and groups have sufficient opportunity to engage in the Corridor Study process. This goal will involve using targeted and customized outreach strategies to ensure opportunities to participate for populations and groups.
- Goal 3: Maintain communications and outreach between the City and its consultants and other transportation providers, government agencies, and key public and private partners.
- Goal 4: Communicate and enable opportunities for input for interested citizens throughout the City through appropriate engagement and outreach strategies.

The Public Involvement Plan can be viewed in full in **Appendix A**.

The South Lamar Boulevard Corridor by nature is an important and central facility. It serves as a major connection route for area residents, commuters and visitors alike. The project included meetings with stakeholders, outreach activities and two public open house meetings. Public input and feedback were solicited and encouraged during the open houses and after via the City's project website.

STAKEHOLDER ACTIVITIES

WALK AUDIT – FEBRUARY 18, 2015

City staff and the consultant team organized a walk audit to assess mobility and safety conditions along South Lamar Boulevard. The team began the audit at Riverside Drive, and walked the full 3-mile corridor to the Brodie Oaks Shopping Center at US 290. During the audit, the team documented existing conditions along South Lamar Boulevard, including sidewalk conditions, crosswalk



conditions, ramps and accessibility, bus stop conditions and accessibility, bike signage, drainage, and utility conflicts in the walkway. Active use of the corridor was also noted, such as unprotected mid-block crossings, cyclists in the roadway and on the sidewalks, driveway access to businesses, and parking conflicts where parking areas extended into the pedestrian path.

DESIGN TEAM WORKSHOP – FEBRUARY 19, 2015

On February 19, immediately following the walk audit, the City and the consultant team gathered for a design workshop. The purpose of the workshop was to develop improvements for South Lamar Boulevard based on public input from the December 10 open house, and keeping in mind infrastructure conditions observed during the walk audit. Existing traffic conditions on the roadway, land use, and available right-of-way were also components considered during the workshop.



The Walk Audit and Workshop Workbook are included in **Appendix G**.

PUBLIC MEETINGS

FIRST PUBLIC OPEN HOUSE MEETING – DECEMBER 10, 2014

The first public open house meeting was held on December 10, 2014 in the Zilker Elementary School Cafeteria located at 1900 Bluebonnet Lane. Community members were invited to learn about the goals and objectives of the study, review existing corridor data and to participate in surveys about the corridor.

The City of Austin worked with the project team to send an email announcement out and promoted the Open House on the City website. The project team developed a mailing list of businesses, neighborhood association contacts, and property owners along the corridor and sent out a dual-language postcard and fact sheet announcing the upcoming Open House, and encouraging community participation and input. The project team also coordinated with area schools to send home dual-language flyers with school children to share with their parents. Additionally, informative post cards were handed out to area businesses, and ground signs were posted along the corridor the day of the Open House.



City staff members, transportation and health-impact consultants were on-hand from 5:00 pm to 8:00 pm to answer questions, gather input and interact with the public and stakeholders during the open house. Over 130 people were in attendance.



Information and activities at this first Open House included:



- A sign-in sheet was provided to help track attendance and to provide an opportunity for participants to sign up for the project email list and to stay informed.
- A one-page, full-color fact sheet summarized the project need and purpose, process and timeline, with contact information and instructions to get involved and stay informed. The one-page fact sheet was translated into Spanish for Spanish-language households.
- Dual-language comment cards were prepared to capture written feedback regarding the corridor and the corridor study.
- A dual-language user survey was prepared to help capture comprehensive data in regard to how the South Lamar Boulevard facility is used for daily travel, what transportation modes are used most often, problems experienced, and what improvements were preferred.
- A full-color, large scale satellite image of the 3.3 mile corridor was provided at the meeting. Participants were encouraged to write comments and feedback on post-it notes that could be placed directly onto the image near areas of interest or concern.
- A “Priorities Board” was provided for participants to rank their preferred transportation-planning related priorities by placing up to five stickers in categories of their choosing.
- A Health Impact Assessment survey was conducted online via tablets provided by the consultant.



In addition to activities and surveys conducted at the Open House, the City of Austin provided online access to the South Lamar Boulevard Corridor Development Program Survey for several weeks after the Open House, and continued to solicit feedback and public comment via email.

Results and feedback collected from the meeting and online survey following the Open House included:

- 256 comments pertaining to the South Lamar Boulevard Corridor were received and logged
- 260 comments were received for the large-scale satellite image, and geocoded in Google Maps for public view
- 651 User Surveys were received and analyzed
- 238 Health Assessment Surveys were received and analyzed

Over 130 people attended the first Open House, and over 1,000 comments were received. Overall, people who provided feedback at the Open House expressed safety concerns for all modes of transportation in the corridor. Other concerns included increasing congestion, cut-through traffic in neighborhoods, and a desire for improved bike and sidewalk facilities. Results of the meeting were posted online on the City of Austin website.

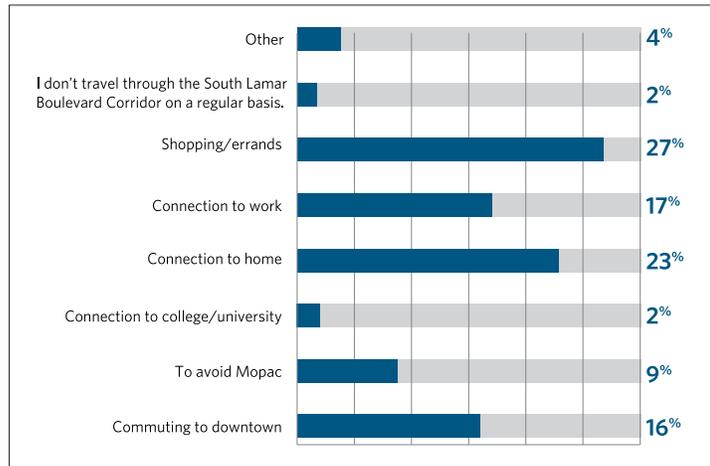


First Open House Public Input Survey Response Summary

How do you use the South Lamar Boulevard Corridor in your daily travel?

The most common responses were:

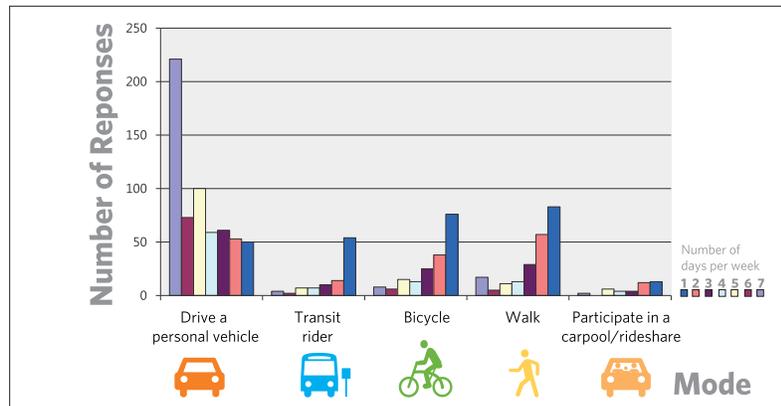
- Shopping
- Connection to home
- Connection to work
- Commuting to downtown



What mode of transportation do you use in this corridor? How many times per week?

The most common responses were:

- Drive a personal vehicle
- Bicycle
- Walk



On a scale of 1-5 with 1 being most important, please rank the following improvements you want to see in the South Lamar Boulevard Corridor.

Responders ranked their preferred type of improvement 1-5 with 1 being most important.



Public spaces



Pedestrian experience



Bicycle access and mobility



Access for autos



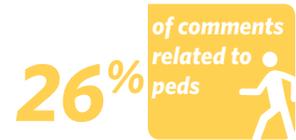
Transit access and options



What would make you choose to take more trips walking, bicycling or using transit in the corridor?

Peds

- Safer, improved, wider or continuous sidewalks with separation from traffic
- Safer pedestrian crossings and more of them
- Better connectivity to neighborhoods



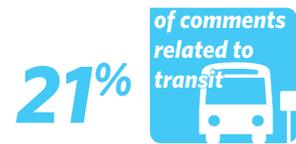
Bikes

- Improved connectivity for biking between homes/businesses
- Continuous separated, wider, and/or protected bike lanes



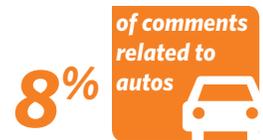
Transit

- Trolley/tram for short trips along corridor
- Light rail or transit option separate from vehicles lanes
- Bus service with more frequency and later hours



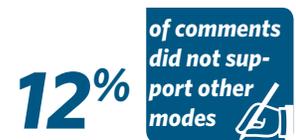
Autos

- Slower speed limits for cars
- Less congestion and traffic
- Traffic calming for drivers
- Safer intersections

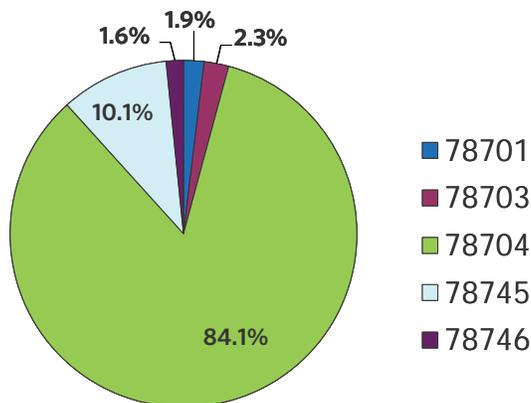


Other modes not a option

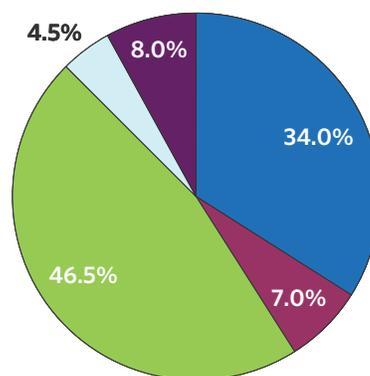
- Alternate modes are not an option
- Transit use is occasional
- Nothing
- Safer conditions over all

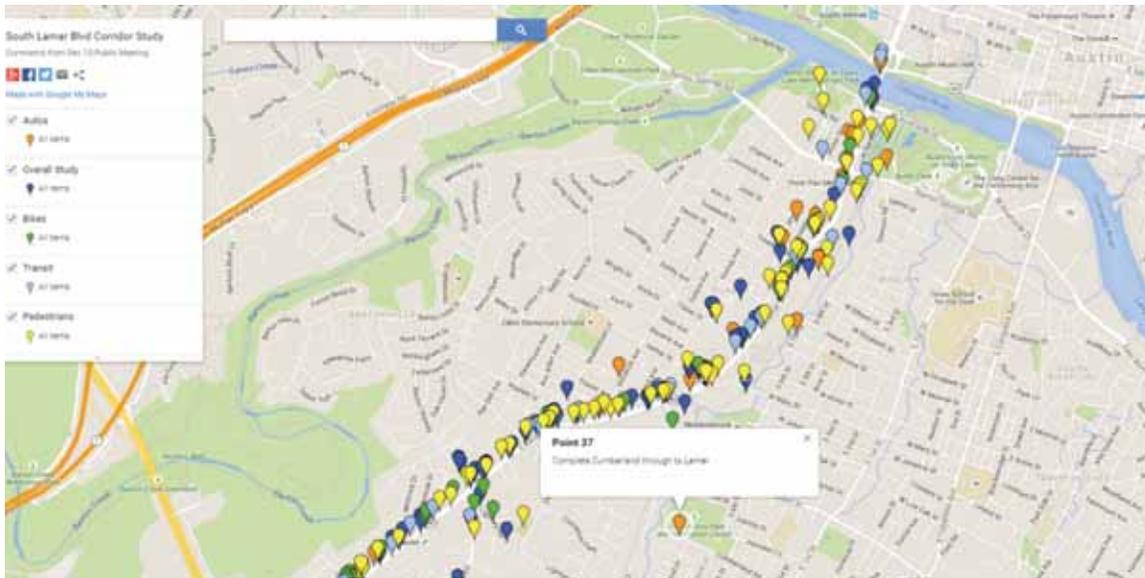


What zip code do you live in?



What zip code do you work in?





Comments captured at the December 10, 2014 Public Meeting were geocoded in Google Maps for public view.

SECOND PUBLIC OPEN HOUSE MEETING - MAY 27, 2015

A second public meeting was held May 27, 2015. Community members, stakeholders, neighborhood association groups, and the general public were invited to review results of public feedback gathered at the first public meeting and to review preliminary transportation improvements based on this feedback.

The following activities were implemented to advertise the second open house:

- An invitation to the Open House was sent out via email, to a list of addresses collected at the first Open House, and through the subscribe list sign-up provided on the City's project website.
- A post card announcement was mailed to physical addresses collected at the first Open House, through the sign-in sheet, user-survey, and through the subscribe list sign-up provided on the City's project website. This list included businesses, neighborhood association contacts, and property owners along the corridor.
- The project team again coordinated with area schools to send home dual-language handouts announcing the Open House for students to share with their parents.



City staff and consultants were at the meeting to answer questions and to help provide information regarding analysis results and proposed improvements for the corridor. The following activities were implemented during the second public meeting:



- A sign-in sheet was provided to help track attendance and to provide an opportunity for participants to sign up for the project email list and to stay informed.
- Boards and exhibits were prepared summarizing feedback collected at the first Open House.
- Boards and exhibits were prepared summarizing future traffic conditions along the corridor, given projected growth rates.
- Proposed future improvements, conceptual renderings and potential cross sections for South Lamar Boulevard were developed and displayed on full color posters for public view and comment.
- Results and summary of the HIA were presented, with staff on hand to answer questions.
- A new, proposed cross-section for the full length of the corridor was provided at the meeting, shown in large detail and in full-color, overlaid on existing satellite imagery. Participants were encouraged to share comments and feedback on post-it notes placed directly onto the image near areas of interest or concern.
- Tablets provided by the City were made available at the meeting to participants who wished to submit feedback or comment electronically. A printed postcard was also made available to participants who preferred to write in comments.



Close to 100 people registered their attendance at the second Open House. Attendees were encouraged to review the proposed cross section for South Lamar and to share their thoughts regarding the improvements. Over 160 comments were posted on the satellite image. These comments were logged and presented online for public view.



Detail of full-length corridor cross section shown at the second Open House and prepared for online public view.



Results and feedback collected from the meeting were posted online for public view. The City also hosted a short survey online following the second public meeting, and emailed subscribers of the project email list, encouraging further public feedback.



Figure 2-1: Recommended Ultimate Cross Section A proposed at the second open house



CHAPTER 3 EXISTING CONDITIONS



This chapter describes the existing land use, character and transportation conditions of the South Lamar Boulevard project area. A thorough evaluation of the existing roadway network, intersection conditions, drainage, transit routes, and bicycle and pedestrian facilities was conducted as part of this project. Analysis and review of these facilities helped to identify operating condition of the corridor for all modes of transportation. An assessment of current conditions helps to identify safety issues, operational deficiencies, gaps in connectivity and accessibility and other opportunities for improvements within the project area. The Health Impact Study also used the existing conditions evaluation to help determine impacts to health.

LAND USE

South Lamar Boulevard was developed in the 1950s as an auto-centric commercial strip, lined with drive-through businesses, auto repair shops, and parking areas fronting the roadway (often with extended curb cuts, making pedestrian travel difficult). Modest, single family homes filled the neighborhoods to the east and west. Built in 1958 on South Lamar at Treadwell Street, the Lamar Plaza held a grocery store and Beall's department store behind a wide expanse of pavement.

Conditions on South Lamar Boulevard remained largely auto-centric for decades to follow and became a primary route for commuters and area residents traveling to and from their homes and places of business, as well as an important connection to other highways and arterials such as Ben White Boulevard/US 290, Oltorf Street, Manchaca Road and other destinations in South Austin and beyond.

Single family homes still fill the neighborhoods to the east and west, along with an increasing number of multi-family housing, and mixed-use residential/retail developments that reflect the desired land use patterns in the City of Austin's Comprehensive Plan. Businesses continue to thrive along the corridor, an ever increasing number of which are restaurant, entertainment venues and retail stores, serving both the growing communities nearby and people from further away. The existing land use map can be seen in **Figure 3-1**.

CHARACTER AREAS

The character of South Lamar Boulevard changes as one travels south from Riverside Drive. This character change is becoming less dramatic with the rapid development in the project area. Proximity to downtown has contributed to denser growth at the northern end of the corridor. Multi-family housing adjacent to the corridor along with restaurants and retail have been trickling southward to fill in available land further away from downtown. Several different neighborhoods lie along the length of the corridor, and different types of business and attractions are interspersed among them. The south end of the Lamar corridor is characterized by the large twin shopping centers at Brodie Oaks.



As such, the South Lamar Boulevard can be categorized into six general character zones. All six zones are shown in **Figure 3-2 Character Zones** and are described below.

- Zone 1: Riverside Drive to Barton Springs Road
- Zone 2: Barton Springs Road to Treadwell Street
- Zone 3: Treadwell Street to Mary/Heather Street
- Zone 4: Mary/Heather Street to Manchaca Road
- Zone 5: Manchaca Road to Panther Trail
- Zone 6: Panther Trail to US 290/Ben White Boulevard

These zones are shown in **Figure 3-2 South Lamar Boulevard Character Zones**.

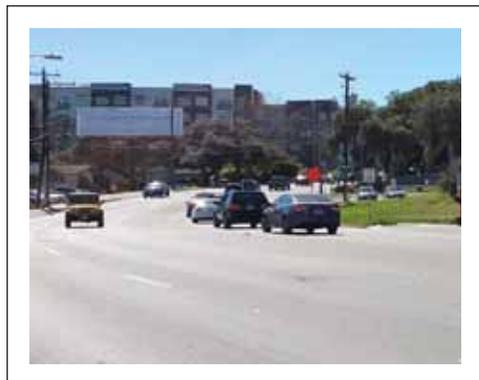
CHARACTER ZONE 1 (RIVERSIDE DRIVE TO BARTON SPRINGS ROAD)

This section of South Lamar Boulevard has become a gateway to many popular Austin destinations, giving access to 6th Street and downtown, Zilker Park, Auditorium Shores, the Palmer Events Center, Ladybird Lake, the Town Lake Trail and the popular Pfluger bike and pedestrian bridge. The Zach Scott Theater anchors the west side of this northern section, while Butler Park anchors the east. Newer mixed-use developments neighbor the small businesses occupying this stretch of the corridor. These businesses are comprised mostly of fast food restaurants, popular watering holes, and a few small retail shops. The intersection of Barton Springs and South Lamar is well-known to residents and visitors alike. It is a crossroads to many popular amenities. Barton Springs Road is a major connector to several Austin-institution restaurants, Barton Springs swimming hole and Zilker Park to the west. Barton Springs Road also carries Mopac traffic across town to popular destinations on South First Street, Congress Avenue, and downtown. Due to this intersection's large role in connectivity, this area experiences a considerable amount of bicycle traffic, foot traffic and transit use in addition to the many vehicles using the facility. The City has already responded to the high travel demand in this zone and has installed bike lanes, well marked cross walks, raised medians and wide sidewalks to increase safety and mobility along this section of South Lamar.



CHARACTER ZONE 2 (BARTON SPRINGS ROAD TO TREADWELL STREET)

Just south of Zone 1, Barton Springs to Treadwell Street provides access to the well-established Zilker neighborhood and a few small businesses on the west, and more businesses, retail shops and a popular restaurant to the east. Zone 2 is less dense until the intersection of Treadwell Street and South Lamar. The Townhollow Apartments now abut the Hanover. Across the street, the large, mixed-use Lamar Union development is



nearing completion. The popular Alamo Drafthouse occupies this section of South Lamar and is a major destination. Existing infrastructure in this section currently provides for two travel lanes both northbound and southbound with a center turn lane allowing access to businesses and the Zilker neighborhood. Bike facilities are inadequate or nonexistent, presenting a significant mobility challenge.

CHARACTER ZONE 3: TREADWELL STREET TO MARY/HETHER STREET

Zone 3 begins just south of Treadwell Street. In this zone, the UP Railroad runs approximately 500 feet behind the businesses on the east side of corridor, creating a barrier to the Bouldin Creek neighborhood and Becker Elementary School. The Zilker and Barton Hills Neighborhoods are located behind businesses and retail establishments on the corridor to the west. Housing adjacent to the corridor includes the Sage apartment complex and recent mixed-use additions including the Gibson Flats, The Post and the Lamar Union.

This section of South Lamar Boulevard has historically been auto-centric over the years and several business catering to people who drive are concentrated here including auto repair shops, car wash and oil changing businesses and used car sales. However, proximity to new development in the area has attracted a crop of retail and restaurants and an increasing amount of foot traffic and cyclists have been competing for travel space.

Major intersections here include Treadwell Street, Lamar Square, and Collier Street and Mary/Hether Streets.

CHARACTER ZONE 4: MARY/HETHER STREET TO MANCHACA ROAD

This section of South Lamar Boulevard between Mary/Hether Streets and Manchaca Road runs between the Zilker and Barton Hills Neighborhoods to the west of the corridor, and the South Lamar Neighborhood Association to the East. Zilker Elementary lies to the west of the corridor off Kinney Avenue. The neighborhoods have become denser in recent years with the addition of large mixed-use housing complexes. Residential housing adjacent to the corridor in this section includes Walden Park Apartments and the Cielo, a mixed-use residential development.

Oltorf Street is major arterial in this section that creates a busy T-intersection, while several other major streets intersect South Lamar Boulevard at a skew, including Kinney Avenue, Oxford Avenue, Kinney Road, Goodrich Avenue and Bluebonnet Street. Most of these streets



carry residential traffic in and out of the neighborhoods. Residential permitted parking has been established along the streets due to popular businesses that lie along the corridor. A pedestrian signal has been recently installed just south of Oltorf Street to accommodate the heavy pedestrian traffic, attracted by the many popular restaurants, eclectic businesses, trendy boutiques and local services. The area is a popular destination for people living close to the corridor as well as from areas further away and patrons arrive as pedestrians, cyclists, motorists and transit users alike.

CHARACTER ZONE 5: MANCHACA ROAD TO PANTHER TRAIL

Manchaca Road is a major arterial in this zone that intersects South Lamar Boulevard east of the corridor at a skew, carrying traffic to and from South Austin. The Barton Hills Neighborhood and Greenbelt continue along the west and the South Lamar Neighborhood Association lies to the east. Residential units adjacent to the corridor include The Patrice, The Woodmoore, and the Retreat at Barton Creek. Newer developments offering residential space above ground floor retail include the 704, the 3101 and the Greenview.

A number of auto-centric businesses exist in this zone along with many popular restaurants and entertainment destinations. Most of these businesses and destinations offer private parking for patrons with parking space varying from a few spots per business to large shared lots able to accommodate a larger number of vehicles.

Major intersections include Manchaca Road and Barton Skyway/Lightsey Road. These two intersections are within close proximity to each other and traffic at these locations sometimes conflicts with traffic turning into and out of driveways of adjacent business. A new signal has recently been installed at the 704 just north of the Broken Spoke.

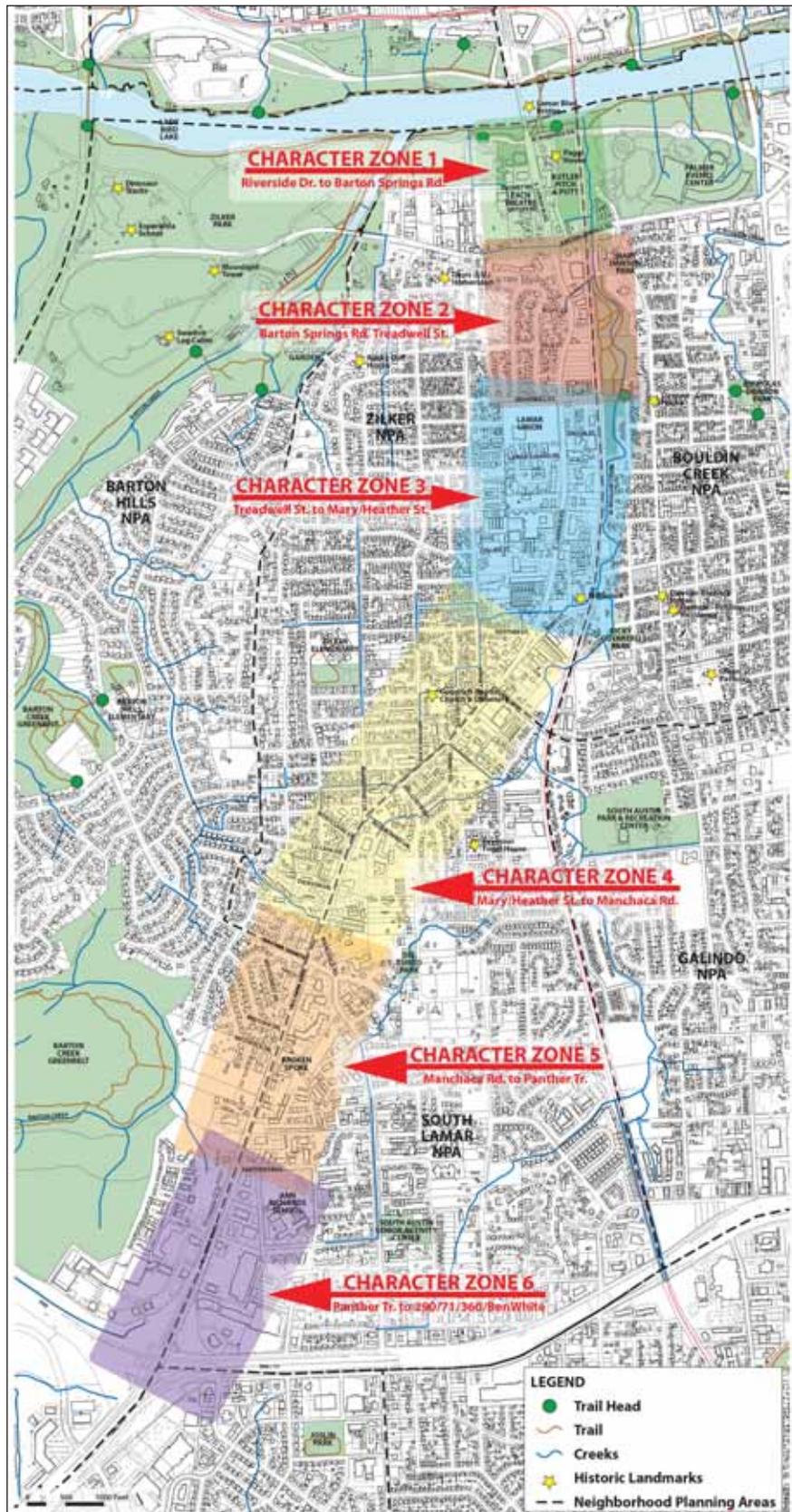


CHARACTER ZONE 6: PANTHER TRAIL TO US 290/BEN WHITE BOULEVARD

In this zone, beginning at Panther Trail, residential density begins to drop off and retail begins to spread out. These larger retail centers, businesses and strip centers are the dominant feature south of the Panther Trail signal and are a major destination point in the corridor. The Barton Hills neighborhood and greenbelt border the west side of corridor with the South Lamar neighborhood to the east. The Retreat at Barton Creek, a 30 acre apartment complex, is adjacent to the corridor on the west and borders the Brodie Oaks Shopping Center to the south. The Ann Richards School for Young Women Leaders is located just east off Panther Trail, a few hundred feet off the corridor. This segment of South Lamar Boulevard is the only zone within the Edwards Aquifer Recharge Zone.



Figure 3-2: South Lamar Boulevard Corridor Character Zones



Housing, retail and amenities are more spread out in this zone, and the area experiences less pedestrian activity than other parts of the corridor. This southern end remains within easy biking distance to central Austin and bike lanes have recently been added along the roadway within this area.

ROADWAY CHARACTERISTICS

Riverside Drive is considered to be the northern boundary of the South Lamar Boulevard Corridor, with the interchange of US 290/Ben White bordering the south. Throughout much of its length, South Lamar Boulevard is a four lane facility with a continuous center turn lane that can be utilized to access the many businesses and unsignalized arterial streets. Dedicated left turn lanes are provided at all signalized intersections. Sections north of Barton Springs Road and at Brodie Oaks Shopping Center have three lanes in each direction with a raised median.



Proximity to downtown adds to the character of South Lamar Boulevard.

A bike lane is present for most of the corridor length, providing cyclists a narrow path adjacent to traffic that also conflicts with transit stops when buses are present. The City is currently improving biking conditions on South Lamar and has plans for future improvements in the coming years.

There are 12 signalized intersections along the corridor, and numerous unsignalized intersections, some of which intersect South Lamar Boulevard at a significant angle. The intersections at both Barton Springs Road and Riverside Drive experience significant delay during the peak hours due to the volume of traffic using these facilities. The speed limit on this highly developed, urban roadway is 45 miles per hour (mph) south of Panther Trail, 40 mph between Panther Trail and Lamar Square, and 35 mph from Lamar Square to Riverside Drive.

A large number of commercial driveways provide access to the many businesses, restaurants, and residences that border the corridor. Drivers often use the center-turn lane as a shelter while waiting to turn into or out of these businesses.

TRANSIT SERVICES

Capital Metro operates several bus lines along South Lamar Boulevard. There are currently four MetroBus routes in operation and one MetroRapid route (**See Figure 3-3**). MetroRapid offers enhanced vehicles, bus stops and amenities along with greater frequency compared to the MetroBus routes.

Capital Metro bus stops are curbside, and stopped buses often block vehicular and bicycle traffic while loading and unloading passengers. People who attempt to pass these stopped buses to access an open lane create hazardous travel conditions due to merging speed differentials along a heavily congested corridor. Constrained right-of-way (ROW) combined with the lack of -capacity of this facility make dedicated transit lanes highly impractical.



Capital Metro's All Systems Go! transit plan identified the project area segment of South Lamar as a bus rapid transit corridor. The Burnet/South Lamar or Route 803 is one of these routes with five stops (Barton Springs, Lamar Square, Oltorf West, Bluebonnet, Brodie Oaks) along the project corridor. The MetroRapid line is equipped with "high-tech" and higher-capacity buses with signal pre-emption capability and stations equipped with real-time arrival technology.



PEDESTRIAN FACILITIES

Due in part to South Lamar Boulevard's history as an auto-centric facility, sidewalk conditions along South Lamar Boulevard offer considerable opportunity for improvement. While sidewalks are primarily continuous and of adequate width, there are several sections where sidewalks are broken or missing. Between Bluff Street and Treadwell Street on the west side of Lamar the sidewalk alternates between a rough dirt track and a thin concrete strip approximately 3 feet wide.



Where sidewalks are present, widths range from 4-feet to 6-feet and are generally directly adjacent to the roadway on the west side and separated by a grassy median on the east side of South Lamar Boulevard. In several locations, utility poles located in the middle of the sidewalk or missing ADA ramps cause accessibility issues. In areas where new development has occurred, sidewalks are even wider and setback from the roadway with a landscaped buffer.



South Lamar Boulevard is primarily lined with businesses, many of which have multiple driveways for vehicle access. People walking must traverse these driveways as part of their existing route. Some businesses have parking that is close to or interfering with the pedestrian walkway, and there is little shade or shelter.



All signalized intersections are equipped with pedestrian signals, push buttons, curb ramps and crosswalks. There are several places along the corridor where long distances between pedestrian crossings result in unsafe midblock crossing maneuvers. A pedestrian beacon has been installed between Oxford Avenue and Kinney Avenue to accommodate the midblock crossings in this location.



BICYCLE FACILITIES

As with other aspects of the South Lamar Corridor, safety is a major concern. Current bicycle facilities on South Lamar Boulevard consist of mostly continuous, but narrow, 5-foot bicycle lanes adjacent to the main traffic lanes. Where the bike lanes are not present, cyclists share the road with fast-moving traffic. The facility is generally considered to be unsuitable for regular use by a majority of commuter and recreational users. There are also multiple bus stops along the corridor, and frequent bus service directly conflicts with the bike lane.

North of Treadwell Street, the northbound bike lane becomes a shared-use lane with automobiles, while the southbound bike lane has been designated as a climbing lane due to the steep grade at this location. Continuing north to Barton Springs Road, the bike lanes disappear completely until Riverside Drive where cyclists transition to the Pfluger Pedestrian Bridge to access downtown Austin and destinations north of Lady Bird Lake.

The City has recently installed bike lanes on the south end of the corridor, near the Brodie Oaks Shopping Center.



DRAINAGE CHARACTERISTICS AND ISSUES

Three watersheds are located within the project area of the South Lamar Corridor including the Lady Bird Lake Watershed, Barton Creek Watershed, and the West Bouldin Creek Watershed. Most of the project area lies within the West Bouldin Creek Watershed. The watersheds generally flow from south to north, discharging into Lady Bird Lake.

To help determine impacts of current conditions and future developments on the drainage systems along South Lamar Boulevard, a drainage survey and analysis was completed. Fifteen drainage systems consisting of pipes and culverts were identified in the project area through site visits, City GIS data and hydraulic models and record drawings. Compliance with city code for the 15 systems was determined by either identifying the level of service in the City-provided StormCAD model, reviewing recent record drawings, or modeling the system with storm sewer analysis software if documentation was unavailable.

Table 3-1 summarizes the locations of each system's major conveyance structure, its watershed, and the type of data source used to identify its level of service or used to model and analyze the system.

The drainage analysis showed that of the fifteen systems, only two meet criteria for the 25 year event level of service. A project to improve the area storm drainage is listed in the Capital Improvement Projects for Fiscal Year 2015 and includes the South Lamar Corridor.



The Drainage Report is included in its entirety in **Appendix B**.

Table 3-1. Identified Drainage Systems Along South Lamar

Drainage System	Location along South Lamar Boulevard	Watershed	Data Source
1	US 290 to Panther Trail – West Side	Barton Creek	COA Development Web Map
2	US 290 to Panther Trail – East Side	Barton Creek	COA Development Web Map
3	Panther Trail to Westforest Dr.	West Bouldin Creek	Record Drawings & COA Dev. Web Map
4	Westforest Dr. to Barton Skyway	Barton Creek	Record Drawings & COA Dev. Web Map
5	Barton Skyway to Bluebonnet Dr.	West Bouldin Creek	COA Development Web Map
6	Bluebonnet Dr. to Kinney Rd.	West Bouldin Creek	Record Drawings & COA Dev. Web Map
7	Kinney Road to Oltorf Street	West Bouldin Creek	COA StormCAD
8	Oltorf Street to Hether Street	West Bouldin Creek	COA StormCAD
9	Collier Street Area	West Bouldin Creek	COA StormCAD
10	Lamar Square to Treadwell	West Bouldin Creek	COA StormCAD
11	Treadwell Street to Bluff Street	West Bouldin Creek	COA StormCAD
12	Bluff Street to Barton Springs Road	West Bouldin Creek	Record Drawings & COA StormCAD
13	Barton Springs Road	West Bouldin Creek	COA StormCAD
14	Barton Springs Road to Toomey Road	West Bouldin Creek	Record Drawings & COA StormCAD
15	Toomey Road to Riverside Dr.	Lady Bird Lake	Record Drawings & COA Dev. Web Map

TRAFFIC OPERATIONS ANALYSIS

An analysis of South Lamar Boulevard’s current overall traffic operations helps to identify improvements (1) to accommodate future growth along the corridor and (2) to improve mobility for people who bike and walk. The next few sections will discuss the peak hour volumes for vehicles, pedestrians, and bicycles as well as intersection and multimodal level of service (LOS). Peak hour volumes identify the level of traffic at the busiest times of the day (typically morning and evening commute times), while LOS measures the roadway’s efficiency and effectiveness of moving traffic at these peak hours. A more detailed discussion of the traffic operations analysis can be reviewed in the 2035 Traffic Analysis report in **Appendix D**.



METHODOLOGY

The South Lamar Corridor traffic operations analysis was performed using VISSIM for existing year (2014) and the planning horizon year of 2035, which was established by the City of Austin at the beginning of the project. VISSIM is a microscopic traffic simulation software tool that models traffic at the individual vehicle level. The user defines every aspect of traffic (e.g., street geometry, signal control, vehicular volumes), and VISSIM outputs measures of effectiveness (MOEs), such as average delay per vehicle, average queue length, and average speed, that can then be used to evaluate operational performance and provide a basis for comparison of alternatives. A key component of the modeling effort is the calibration and validation of the existing conditions AM peak and PM peak hour models, performed as per the methodology in Federal Highway Administration's (FHWA's) Traffic Analysis Toolbox.

TRAFFIC VOLUMES

Extensive data collection was performed to obtain information on existing conditions along the South Lamar Corridor. The following data were collected in the field in September 2014 as part of this study:

- 24-hour bi-directional vehicular traffic volume counts
- AM (7:00-9:00) and PM (4:00-6:00) peak hour intersection turning movements including pedestrian and bicycle crossings
- AM and PM peak hour vehicular travel time runs
- Field observations during the peak hours to document operations
- Existing roadway and intersection geometrics

In addition to this data, the following information was obtained from various agencies:

- Historic daily traffic volume counts from COA and Texas Department of Transportation (TxDOT)
- Daily traffic volume forecasts from Capital Area Metropolitan Planning Organization (CAMPO)
- Crash data provided by TxDOT
- ROW data from City of Austin GIS Maps and collected by the project team
- Land development planning information from City of Austin Development Services Department
- Traffic signal timing information from the City of Austin
- Transit route and ridership information from Capital Metro
- Bicycle route and plans from Austin Bike Plan

The 24-hour bi-directional tube counts were collected at three locations along the corridor to identify the volume of traffic flowing through the corridor at various locations and are shown in **Table 3-2**. Turning movement counts (TMCs) for AM and PM peaks were collected at all 12 signalized intersections along the corridor. A summary of the adjusted peak hour traffic volumes along the South Lamar Corridor can be seen in **Appendix C**.

Table 3-2: Existing 2014 Traffic Volumes

Location	Daily Trips (VPD)	AM Peak ¹ (VPH)	PM Peak ² (VPH)
South of Riverside Drive	38,500	2,940	3,400
Between Oltorf and Bluebonnet	35,810	2,870	3,220
North of Brodie Oaks	31,780	2,030	2,600

¹AM Peak 7:30 AM - 8:30 AM; ²PM Peak 5:00 PM - 6:00 PM



PEDESTRIAN AND BICYCLE VOLUMES

Pedestrian volumes were collected at all signalized intersections within the study area to identify current pedestrian activity along the South Lamar Corridor. Intersections with the highest concentrations of pedestrian activity during the peak periods are summarized in **Table 3-3**.

Table 3-3: Existing Peak Hour Pedestrian and Bicycle Volumes

Intersections	Pedestrians per hour		Bicycles per hour	
	AM Peak	PM Peak	AM Peak	PM Peak
South Lamar and Riverside Drive	36	66	58	97
South Lamar and Barton Springs Rd.	5	13	45	75
South Lamar and Treadwell Street	4	9	6	21
South Lamar and Hether/Mary Street	4	8	2	14

THE HIGHEST PEDESTRIAN AND BICYCLE ACTIVITY RECORDED ON SOUTH LAMAR BOULEVARD IS AT RIVERSIDE DRIVE- DUE IN PART TO THE JAMES D. PFLUGER PEDESTRIAN BRIDGE AT THIS LOCATION.



INTERSECTION LEVEL-OF-SERVICE

Intersection LOS is an important measures of effectiveness (MOE) for evaluating existing conditions on the South Lamar Boulevard Corridor. LOS is a qualitative measure of operating conditions based on the average delay that a driver incurs at a given intersection. LOS is given a letter designation from A to F, where LOS A represents free-flow conditions and LOS F represents heavy congestion. LOS D or better is typically considered acceptable in the City of Austin. Delay criteria for various LOS classifications are shown in **Table 3-4**.

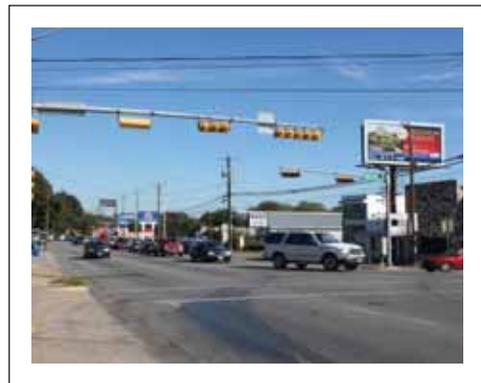


Table 3-4: Level of Service Definition for Signalized Intersections

LOS	Seconds of Delay	Description
A	Less than 10	Very low vehicle delays, free traffic flow, signal progression extremely favorable, most vehicles arrive during given signal phase.
B	10- 20 sec	Good signal progression, more vehicles stop and experience higher delays than for LOS A.
C	20 to 35 sec	Stable traffic flow, fair signal progression, significant number of vehicles stop at signals.
D	35 to 55 sec	Noticeable traffic congestion, longer delays and unfavorable signal progression, many vehicles stop at signals.
E	55 to 80 sec	Limit of acceptable vehicle delay, unstable traffic flow, poor signal progression, traffic near roadway capacity, frequent cycle failures.
F	More than 80.0	Unacceptable delay, extremely unstable flow, heavy congestion, traffic exceeds roadway capacity, stop-and-go conditions.

Source: *Highway Capacity Manual*. Transportation Research Board, 2000.

As shown in **Table 3-5**, many of the intersections along the corridor operate at an acceptable LOS of A, B, C, or D during the AM and PM peak hours. Several intersections, however, currently operate at unacceptable LOS (E or F) during the peak periods.

Table 3-5 Existing Level of Service by Intersection

Intersection	AM Peak		PM Peak	
	Delay/Veh (sec)	LOS	Delay/Veh (sec)	LOS
Riverside Dr.	61.4	E	68.9	E
Barton Springs Rd.	112.1	F	64.6	E
Treadwell St.	48.3	D	14.8	B
Lamar Square Dr.	91.6	F	5.4	A
Hether St./Mary St.	26.5	C	29.7	C
Oltorf St.	44.5	D	30.2	C
Bluebonnet Ln.	24.6	C	62.4	E
Manchaca Rd.	46.7	D	12.8	B
Barton Skwy.	17.6	B	15.4	B
Panther Tr.	10.4	B	13.5	B
Brodie Oaks	42.8	D	76.0	E
US 290 (NW)	8.6	A	12.6	B
US 290 (NE)	26.6	C	37.6	D
US 290 (SW)	15.4	B	22.5	C
US 290 (SE)	33.7	C	19.6	B



MULTIMODAL LEVEL-OF-SERVICE

Like the intersection LOS analysis in the previous section, a multimodal LOS analysis was performed to measure the overall functionality of South Lamar Boulevard’s pedestrian, bicycle, and transit uses. The methodology, outlined in Highway Capacity Manual 2010 (HCM 2010), uses a wide variety of inputs (sidewalk width, bicycle facility type, transit service frequency) to calculate segment-level and corridor-level numerical scores for each mode (transit, bicycle pedestrian). The scores are then converted to LOS. Multimodal LOS was analyzed using HCS Streets software, which implements the HCM 2010 methodology. **Table 3-6** presents the overall facility multimodal LOS scores for each mode under existing conditions for the South Lamar Corridor.

Multimodal LOS was analyzed using HCS Streets software, which implements the HCM 2010 methodology. Table 3-7 presents the segment and overall facility multimodal LOS scores for each mode under existing conditions for the South Lamar Corridor.

Table 3-6: Existing Multimodal Level of Service

	Pedestrian		Bicycle		Transit	
	NB	SB	NB	SB	NB	SB
AM	D	D	F	F	B	A
PM	D	D	F	F	A	B

The existing pedestrian LOS is D in both the AM and PM peak periods. The lack of a significant buffer between the automobile travel lane and the sidewalk, as well as the significant delay encountered in crossing South Lamar Boulevard, degrade the pedestrian LOS.

The existing bicycle LOS is the worst among the three modes mainly due to bicycle lane presence/width and the lack of a buffer between the bicycle lane and relatively high-speed automobile traffic. The poor bicycle LOS is also associated with the presence of numerous driveway conflicts along the corridor.

The existing transit LOS on South Lamar Boulevard is adequate due to the number of routes serving the South Lamar Corridor, the relative frequency of service, and the lack of delay at bus stops.



CRASH ANALYSIS

The main purpose of a crash analysis is to identify crash patterns and develop mitigation measures to prevent similar crashes. The crash analysis for South Lamar Boulevard was based on crash data provided by TxDOT from January 2009 through August 2014. The crash data were reported per the following crash severity categories:

- Fatal
- Incapacitating injury
- Non-incapacitating injury
- Non-injury
- Possible injury
- Unknown

Top accident locations on South Lamar Boulevard are shown in **Table 3-7**.

Table 3-7: Top Accident Locations (2009 - 2014)

Location	Number of Crashes
Butler Road	91
Collier Street/ Evergreen Avenue	63
Oltorf Street	58
Barton Springs Road	57
Barton Skyway	57

The total crashes by severity for the corridor are shown in **Table 3-8**. South Lamar Boulevard experienced the highest total number of crashes in 2009.

Table 3-8: Total Crashes by Severity

Year	Fatal	Incapacitating Injury	Non-Incapacitating Injury	Non-Injury	Possible Injury	Unknown	Total
2009	2	5	34	92	42	4	179
2010	0	7	35	71	28	0	141
2011	1	7	39	84	38	4	173
2012	0	2	57	67	34	0	160
2013	0	4	40	90	41	0	175
2014 (Jan. – Aug.)	1	5	29	50	24	1	110
Total	4	30	234	454	207	9	938



CRASHES BY INTERSECTION

The crash data were sorted by intersection where the crash was reported to occur. **Table 3-9** shows the numbers of crashes, by year, at intersections along the South Lamar Boulevard Corridor. **Table 3-10** shows crashes by type.

Table 3-9: Total Crashes by Intersection

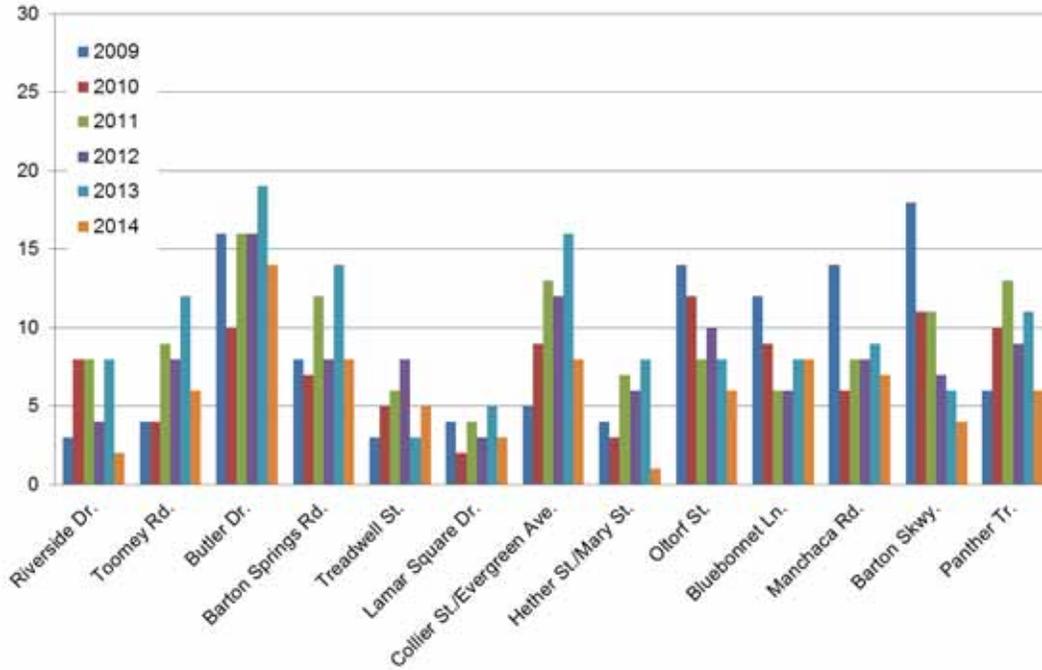
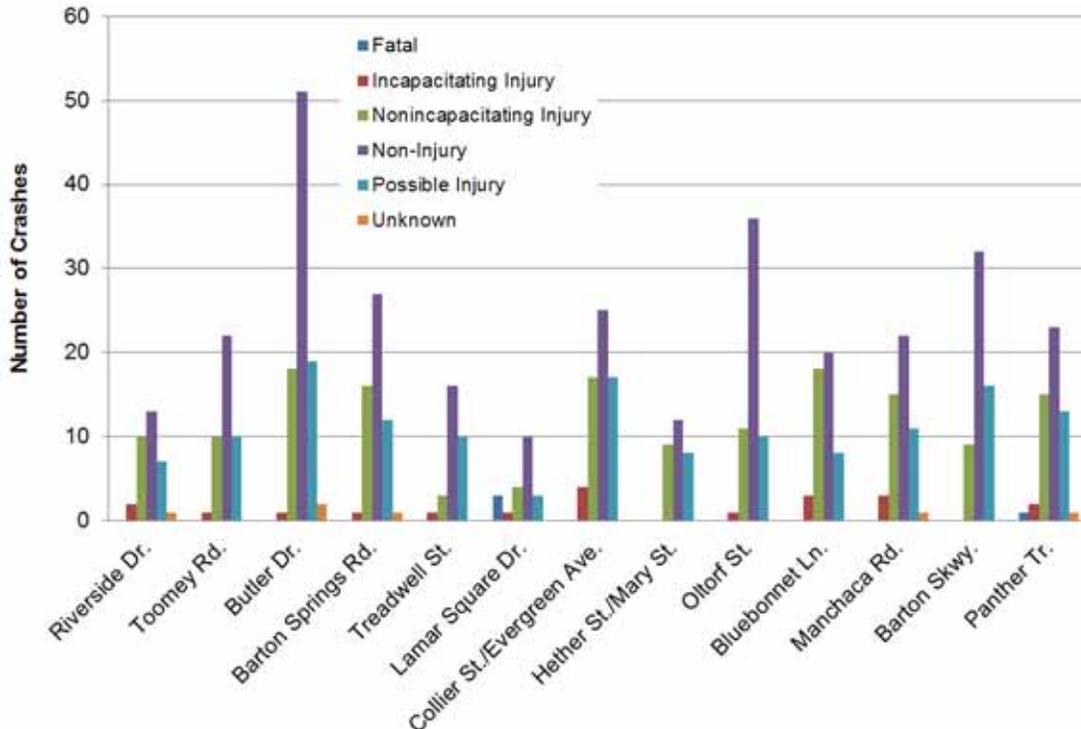


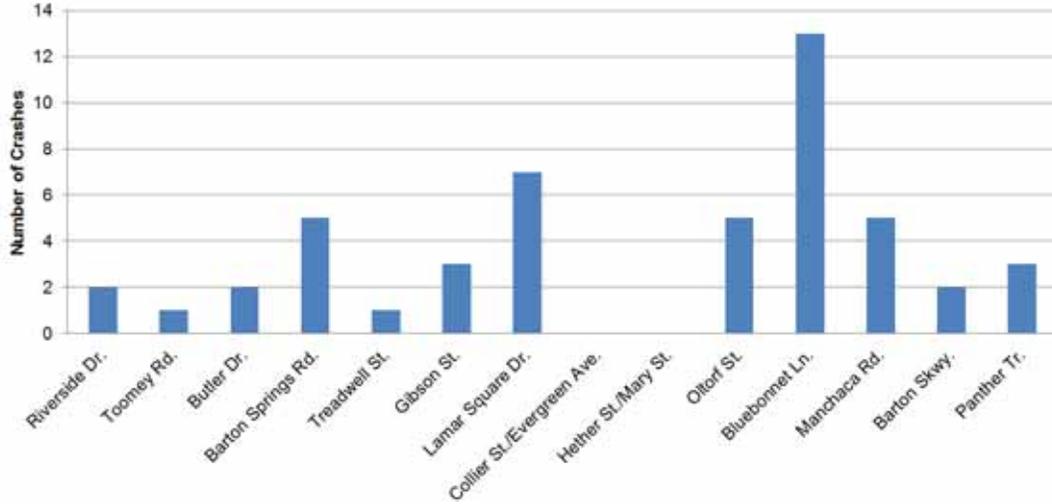
Table 3-10: Crash Types on South Lamar Boulevard by Intersection



PEDESTRIAN/BICYCLE CRASHES

Crashes involving pedestrian and bicycles were isolated and summarized by intersection along the South Lamar Corridor. **Table 3-11** shows the results for all crashes over the past five years.

Table 3-11: Pedestrian and Bicycle Crashes on South Lamar Boulevard by Intersection



CHAPTER 4 FUTURE CHARACTERISTICS



Neighborhood plans are an important factor to be considered during the process of urban planning. These plans provide insight and guidance to the values, visions, goals and objectives of businesses, residents and the community as a whole. Currently, a neighborhood plan that includes the entire project area doesn't exist. The South Lamar Combined Neighborhood Planning Area began the neighborhood planning process led by the City of Austin several years ago. This process was suspended, however, and there is currently no date set to reconvene the process.

The South Lamar Boulevard Corridor is comprised of four defined neighborhoods, described in the following section. Of these four distinct neighborhoods, all but the Galindo Neighborhood Plan area border the South Lamar Corridor Study area segment. The goals and visions of each neighborhood should be considered during the planning process for improvements and development along the corridor.

NEIGHBORHOOD PLANS

KEY GOALS FROM NEIGHBORHOOD PLANS

South Lamar Neighborhood Association

Founded in 2001, the South Lamar Neighborhood Association (SLNA) is the official representative to the City of Austin for the area bounded by Oltorf on the north, the Union-Pacific Railroad on the east, Ben White Boulevard on the south, and South Lamar and Manchaca Roads on the west. The SLNA is comprised of residents and property owners that track an array of quality of life issues, such as new developments, park improvements, CodeNEXT and various City Council initiatives.

The overriding goal of the SLNA is to represent and advance the interest of residents in the neighborhood by keeping them informed of vital issues. The SLNA supports Smart Growth and works to ensure that growth doesn't create harmful impacts to the area neighborhoods.

Key goals include:

- Access to parks, green spaces, and local businesses within walking distance
- Preservation of the quality of water resources and controlling runoff caused by developments
- Protecting heritage oaks in the neighborhood
- Promoting community through involvement with neighbors
- Support locally owned neighborhood businesses
- Encourage the City to continue their efforts to improve mass transportation options, build sidewalk and bicycle lanes, and manage the cut-through traffic on neighborhood streets.

Zilker Neighborhood Association

The Zilker Neighborhood Association (ZNA) was established over thirty years ago with the mission of protecting the character of the neighborhood and enhancing the quality of life for all residents.



Key goals of the ZNA include:

- Ensure appropriate code enforcement
- Resolve traffic safety issues
- Maintain historic and cultural resources
- Protect the environment
- Ensure the neighborhood's interests are heard at City Hall



A two-way cycle track gives safe access to Zilker Elementary.

Barton Hills Neighborhood Association

The Barton Hills Neighborhood Association (BNA) seeks to improve the quality of life in the neighborhood in matters such as land use, traffic control, environmental protection, public services, consumer protection, the protection and enhancement of Barton Creek, and other matters of neighborhood concern.

Key Goals include:

- Represent and advance the interest of residents in the neighborhood.
- Keep all residents informed of issues vital to the neighborhood by appropriate communications and meetings.

Galindo Elementary Neighborhood Association

The Galindo Elementary Neighborhood Association (GENA) is bounded by Oltorf Street on the North, Ben White on the South, the Union Pacific Railway on the West and South First Street on the East. The Galindo has been meeting as a group to write a vision and goals for their neighborhood.

Key Goals Include:

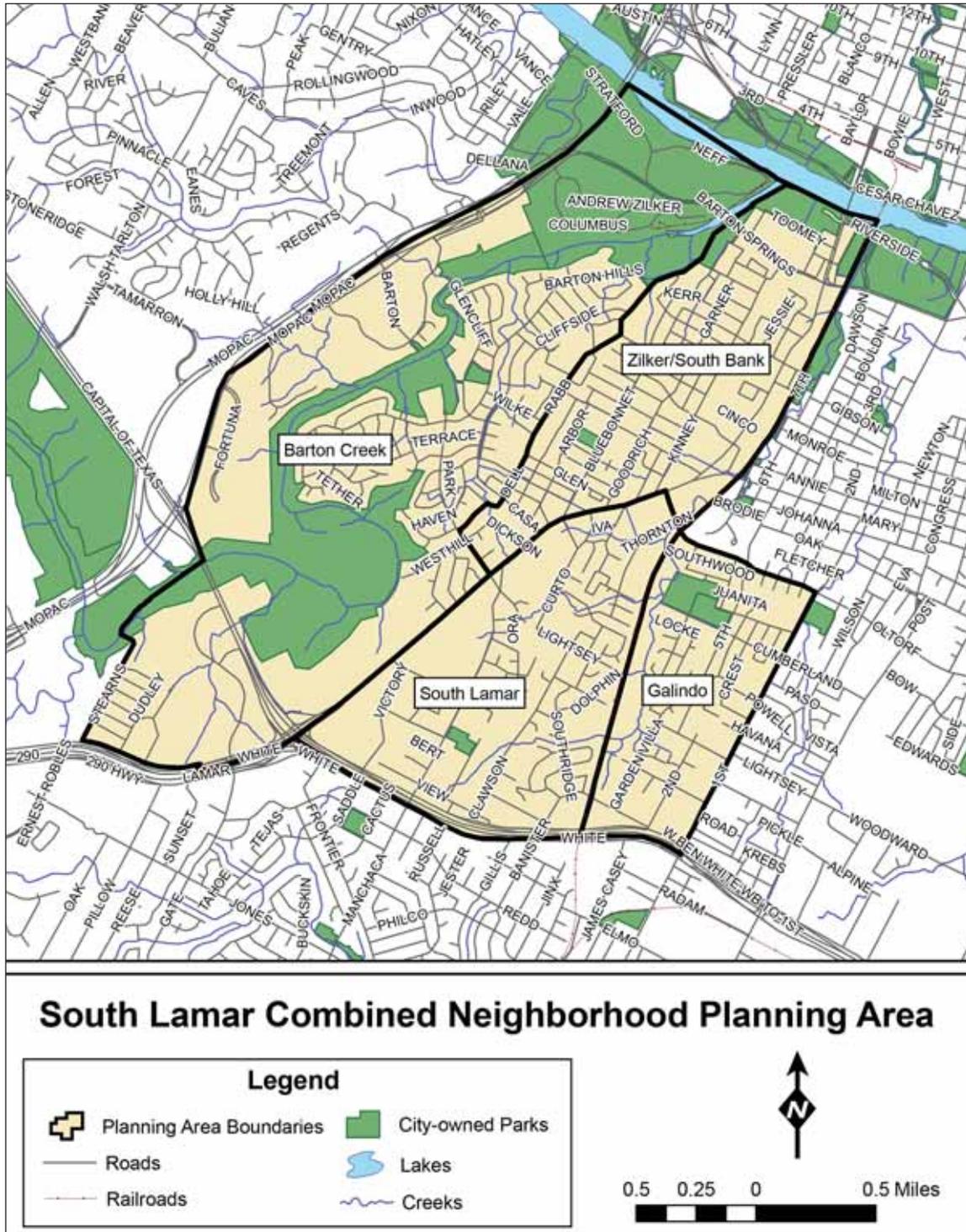
- Maintain neighborhood diversity and preserve single-family housing (infill options) while maintaining housing affordability.
- Provide more parks and open space via trails, greenbelt and recreation areas.
- Sidewalks and bike lane improvements with increased transit options. Speeding traffic and cut-through traffic are also an issue.
- Redevelopment of Oltorf and South First will emphasize neighborhood services and include residential and mixed use residential and commercial development.
- School quality, environmental concerns and flood plain issues will also be included in the neighborhood's goals. We are now working on evaluating the current land use and potential for development and change in the zoning and use of Oltorf, South First, Cardinal Lane and the corner of Ben White and South First.

Of these four distinct neighborhoods, all but the Galindo Neighborhood Plan area border the South Lamar Corridor Study area segment. The South Lamar Combined Neighborhood Planning Area began the neighborhood planning process led by the City of Austin several years ago. This process was suspended, however, and there is currently no date set to reconvene the process. There is an active group called the SLNA comprised of residents and property owners that track an array of quality of life issues, such as new developments, park improvements, CodeNEXT and various City Council initiatives.



Figure 4-1 shows the boundaries of the different neighborhoods within the South Lamar Corridor Transportation Improvement Program.

Figure 4-1: South Lamar Combined Neighborhood Planning Area



Source: City of Austin: www.austintexas.gov/page/future-neighborhood-plans



PLANNED DEVELOPMENT

South Lamar Boulevard offers many amenities and is a major destination in Austin's popular South Austin district. Several land development projects have sprung up that are either newly constructed or currently under review by the City of Austin. The land use types and sizes are those submitted to the City as part of the site plan application and could differ upon build-out.

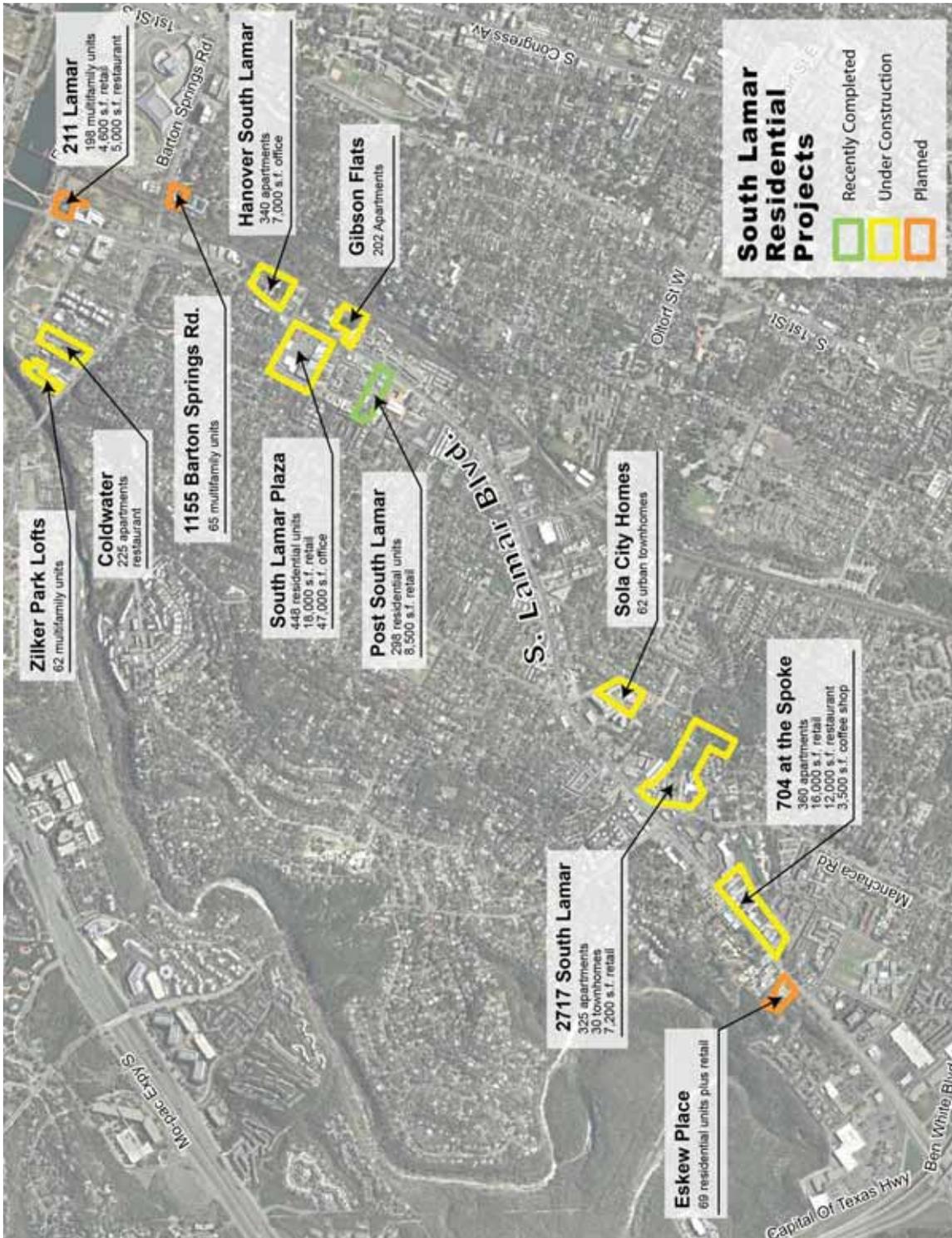
Developments that are new or planned along the corridor are listed in **Table 4-1**. Data were obtained from the City of Austin development website in December 2014.

Table 4-1: South Lamar Corridor Development

Project/Development	Nearest Cross Street	Land Use(s) Type	Size
211 South Lamar	Riverside Dr.	Apartments	198 DU
		Retail	4,657 SF
Zilkr on the Park	Barton Springs Rd.	Multi-family	76 DU
Coldwater	Toomey Rd./ Barton Springs Rd.	Restaurant	4,900 SF
		Multi-family	227 DU
1155 Barton Springs	Barton Springs Rd.	Condominium	50 DU
		Apartments	15 DU
904 Lamar Building	Treadwell St.	Office	7,943 SF
Hanover South Lamar	Juliet Street	Apartments	340 DU
		General Office	7,011 SF
Lamar Union	Treadwell Street	Apartments	448 DU
		Restaurant	47,145 SF
		Retail	18,590 SF
		Movie theater	9 screens
1300 Plaza II	Lamar Square Dr.	Liquor store	2,314 SF
		Bar	2,280 SF
Post South Lamar II	Lamar Square Dr.	Apartments	351 DU
		Restaurant	6,000 SF
Loro Restaurant	Kinney Avenue	Restaurant	9,000 SF
Bluebonnet Studios	Del Curto Rd.	Studio apartments	107 DU
Abel's Rib House	Bluebonnet Ln.	Restaurant	7,993 SF
Cielo South Lamar	Manchaca Rd.	Apartments	325 DU
		Retail	8,375 SF
		Townhouse	42 DU
The 704 Apartments	Westrock Dr.	Apartments	240 DU
		Retail	10,667 SF
		Restaurant	8,000 SF
		Coffee shop	3,500 SF
Eskew Place	Panther Trail	Multi-family	69 DU
		Restaurant	unknown
In-N-Out Burger		Restaurant	3,750 SF



Figure 4-2: South Lamar Planned Residential Projects



PLANNED MULTIMODAL IMPROVEMENTS

PEDESTRIAN AND BICYCLE

The 2035 Priority Bicycle Corridors Map designates the entire South Lamar Project area as either a high or medium priority bicycle corridor. The City of Austin's goals are to increase bicycle use significantly and to improve bicycle safety for cyclists and the community. In the Bicycle Master Plan update, South Lamar is shown to be a corridor plan with "all ages and all abilities" bicycle facilities. This type of facility calls for protected bike lanes or cycle tracks. An excerpt of the City's Bicycle Master Plan map shows the project area in **Figure 4-3**.

The Capital Area Metropolitan Planning Organization (CAMPO) shows the entire South Lamar project area as high priority on their Priority Pedestrian District Map.

THE 2035 REGIONAL TRANSPORTATION PLAN RECOGNIZES THE IMPORTANCE OF DEVELOPING A SAFE AND CONNECTED BICYCLE AND PEDESTRIAN NETWORK THAT SERVES USERS OF ALL AGES AND ABILITIES ACROSS THE REGION. THE PLAN SETS AN OBJECTIVE TO "INCREASE BICYCLE AND PEDESTRIAN MODE SHARE TO AT LEAST 12% OF ALL PEAK PERIOD TRIPS WITHIN THE URBANIZED AREA BY 2035." -CAMPO

TRANSIT

The following improvements are recommended in the CAMPO 2035 Plan and in the Transportation Improvement Program.

- Provide a priority lane for buses or implement other strategies to increase person throughput in the South Lamar Corridor.
- Implement Rapid Bus along South Lamar connecting downtown and Westgate Boulevard.

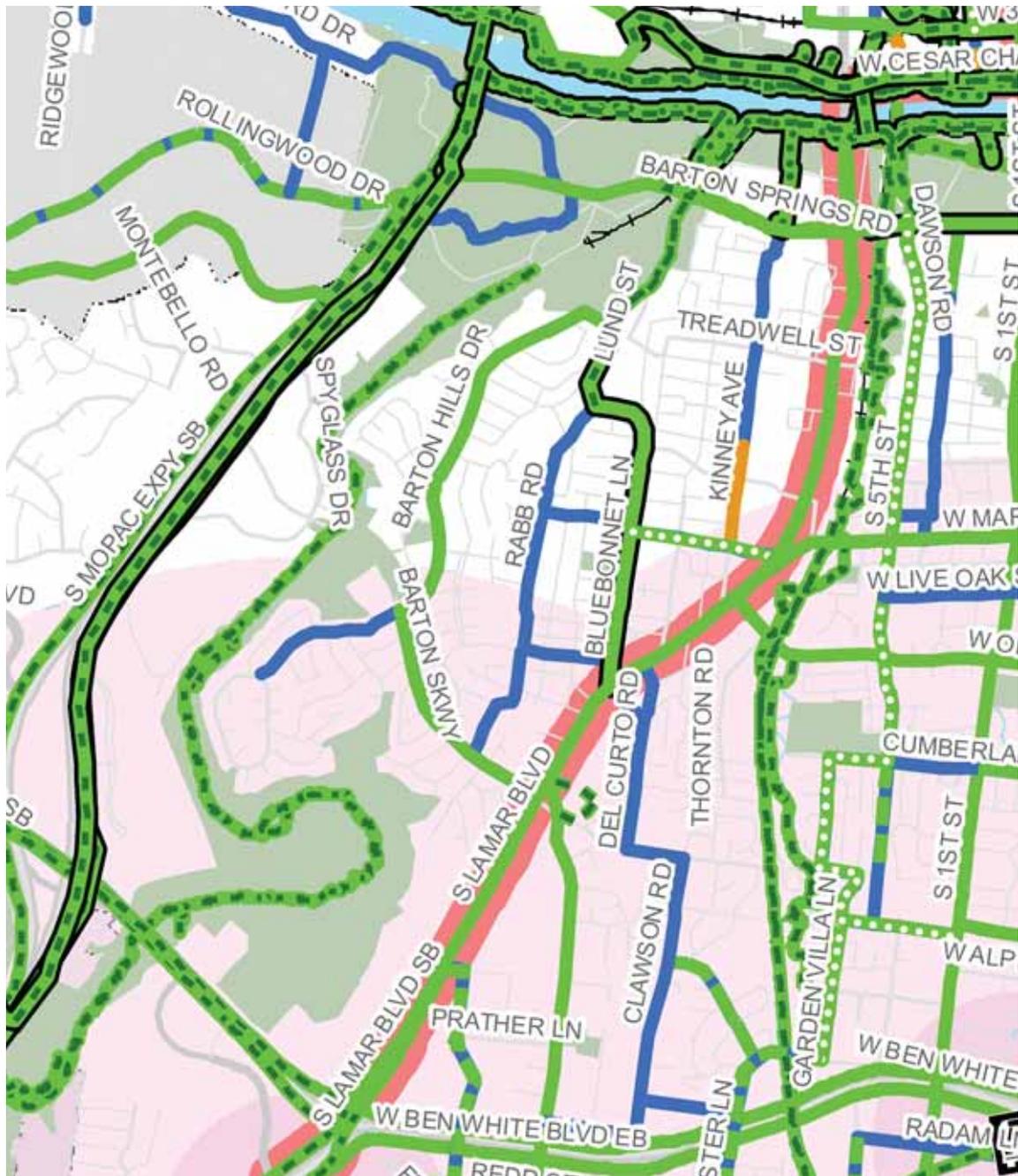
Capital Metro has plans for additional bus rapid transit services along South Lamar Boulevard in the future. A MetroRapid station will be built near the Broken Spoke and the new developments adjacent to the popular Austin dance hall. A transit center has been proposed at Ben White Boulevard between Manchaca Road and Clawson Road. It will serve as a Park and Ride for commuters.



Two new Rapid Bus stations will be added to the existing service in the future.



Figure 4-3: Excerpt of South Lamar Boulevard area from Austin 2014 Bicycle Master Plan



- | | | | |
|--|---|--|--------------------|
| | Protected Bicycle Lane | | Bike Lane |
| | Urban Trail - Tier 1 Recommendations | | Wide Shoulder |
| | Urban Trail - Long Term Recommendations | | Shared Lane |
| | Trail | | Existing or Funded |
| | Quiet Street | | |
| | Buffered Bike Lane | | |

Source: Austin 2014 Bicycle Master Plan



FUTURE TRAVEL DEMAND

METHODOLOGY

Year 2035 AM peak and PM peak hour turning movement counts were developed to forecast future year traffic conditions along the South Lamar Boulevard Corridor. Growth projections analysis was established on the year 2014 as the base year for AM peak and PM peak hour traffic counts.

Traffic volume forecasting drew upon available data about both past traffic conditions and future land development and traffic volumes along the corridor. Background future growth for corridor traffic was calculated based on average annual daily traffic counts conducted by TxDOT and future year daily traffic volume projections by TxDOT and Capital Area Metropolitan Planning Organization. Additionally, land development planning information from the City of Austin's Development Services Department provided the basis for trip generation estimates based on projected land use type and development size.

The projected growth in traffic on South Lamar Boulevard was thus based on a combination of an annual growth rate applied to all existing AM peak and PM peak hour turning movement volumes and trips generated by major future developments along the corridor.

2035 FORECASTED VOLUMES

The forecasted growth was applied to all existing AM peak and PM peak hour turning movement counts at each study area intersection. **Table 4-2** shows the forecasted volumes for the year 2035 AM peak and PM peak hours.

Table 4-2: 2035 Forecasted Traffic Volumes

Location	Daily Counts	
	AM Peak Hour	PM Peak Hour
South of Riverside Drive	3,910	4,500
Between Oltorf and Bluebonnet	3,800	4,280
North of Brodie Oaks	3,700	3,480

2035 ALTERNATIVES

Several alternatives were identified for analysis under Year 2035 AM peak and PM peak hour conditions:

- No-build scenario
- 2035 Build scenario, with and without multi-modal adjustments

These alternatives are explained in further detail below.

2035 No-Build Scenario

The 2035 No-Build scenario incorporates the forecasted 2035 traffic volumes with minimal changes to corridor infrastructure. This scenario incorporates the new signalized intersection at The 704 Apartments and the pedestrian hybrid beacon near Oxford Avenue, both opened after data collection was conducted in September 2014.



2035 Build Scenario

The 2035 Build scenario incorporates the forecasted 2035 traffic volumes with improvements recommended for this project, as listed in Chapter 6. . In addition to the base Build scenario, two additional scenarios were modeled that account for reductions in automobile trip demand of 10 percent and 20 percent, respectively. This reduction is due to multimodal infrastructure proposed for the corridor and in support of the City’s plans. The recommended improvements to multimodal facilities (e.g., a complete sidewalk network, cycle tracks) would result in trip diversions from automobile to other modes due to more desirable conditions and amenities. **Table 4-3** shows the automobile LOS results for the 2035 No-Build and Build scenarios.

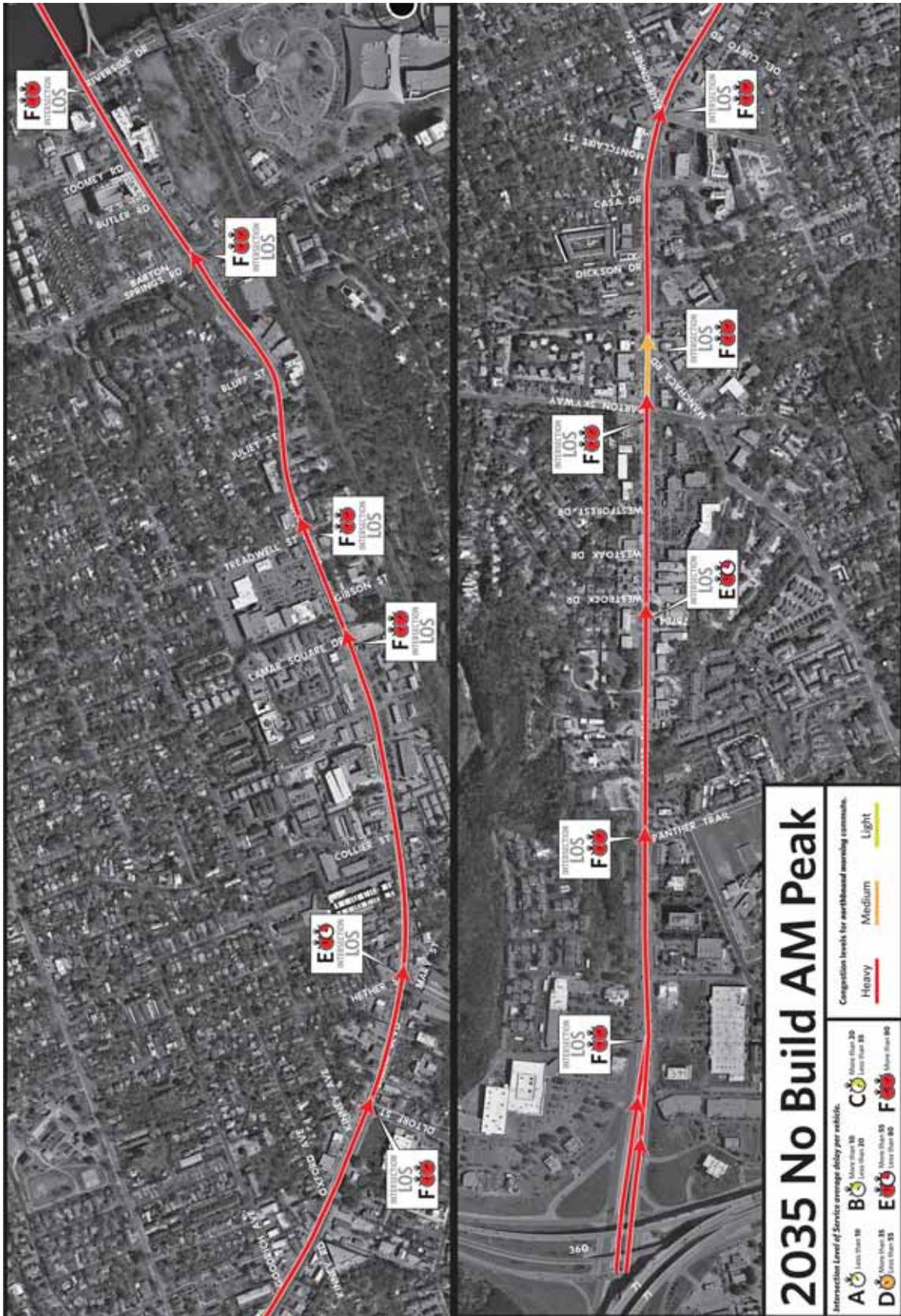
Table 4-3: 2035 No-Build vs. 2035 Build Level of Service by Intersection

Intersection	2035 No-Build				2035 Build*			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay/ Veh (Sec)	LOS	Delay/ Veh (Sec)	LOS	Delay/ Veh (Sec)	LOS	Delay/ Veh (Sec)	LOS
Riverside Dr.	171.6	F	151.5	F	57.2	E	86.9	F
Barton Springs Rd.	202.3	F	163.8	F	111.2	F	72.6	E
Treadwell St.	90.6	F	47.7	D	56.0	E	17.9	B
Lamar Square Dr.	167.9	F	48.5	D	110.2	F	8.5	A
Hether St./Mary St.	69.1	E	60.0	E	36.4	D	25.0	C
Oltorf St.	166.8	F	50.2	D	77.1	E	27.4	C
Bluebonnet Ln.	116.6	F	84.6	F	44.3	D	72.1	E
Manchaca Rd.	183.2	F	19.3	B	76.2	E	15.2	B
Barton Skwy.	159.2	F	28.4	C	32.6	C	16.7	B
The 704	74.1	E	24.6	C	5.2	A	6.3	A
Panther Tr.	111.0	F	30.3	C	9.2	A	10.3	B
Brodie Oaks	137.3	F	94.2	F	42.8	D	52.3	D
US 290 (NW)	11.6	B	12.5	B	8.8	A	13.5	B
US 290 (NE)	191.8	F	120.4	F	25.4	C	34.2	C
US 290 (SW)	17.0	B	72.6	E	15.6	B	23.5	C
US 290 (SE)	64.2	E	29.4	C	33.7	C	23.7	C

**2035 Build conditions results assume 20% auto trip reduction resulting from multimodal capture and travel demand management strategies.*



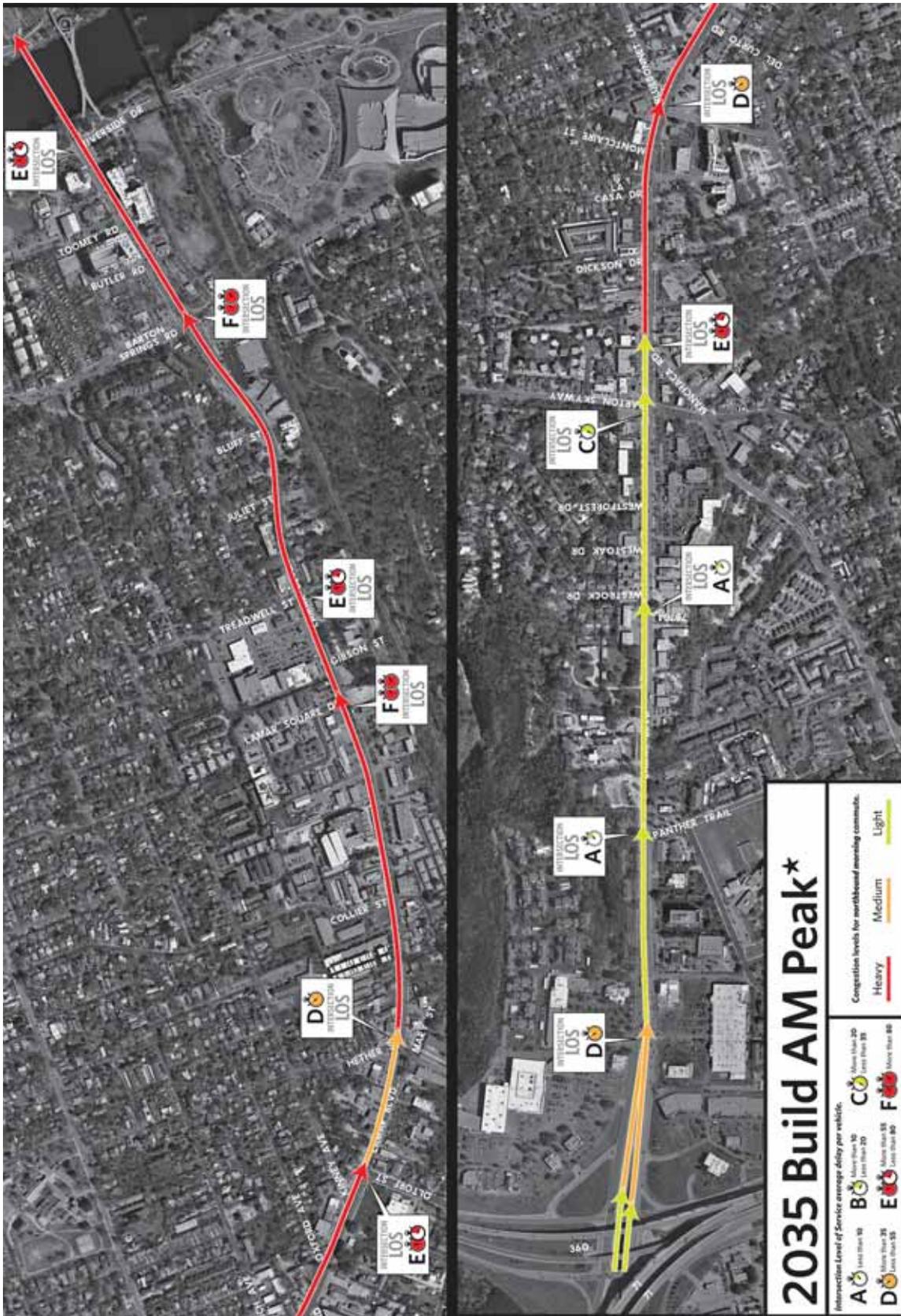
Figure 4-4: Link Level of Service for 2035 No Build Scenario AM Peak



*2035 Build conditions results assume 20% auto trip reduction resulting from multimodal capture and travel demand management strategies.



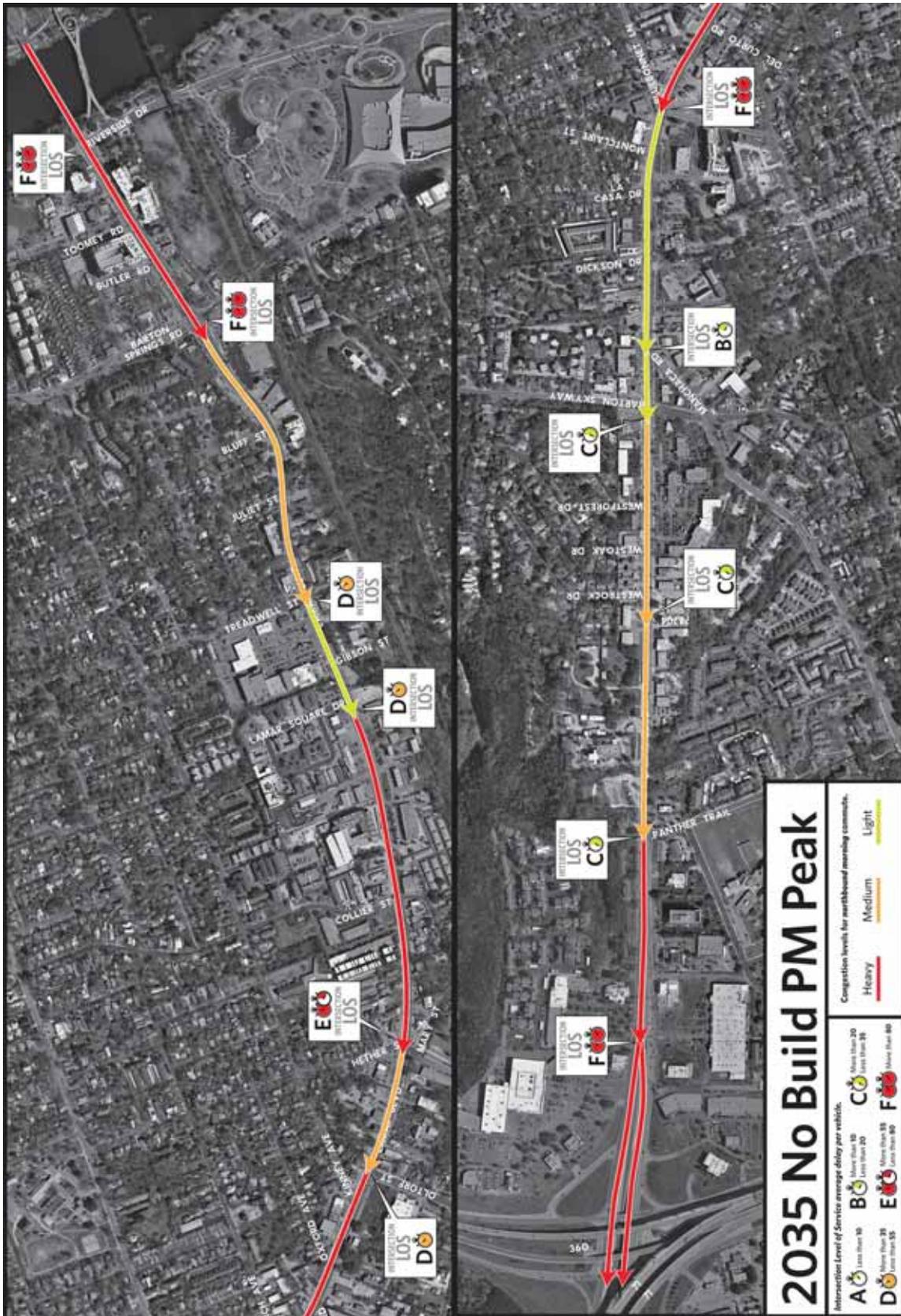
Figure 4-5: Link Level of Service for 2035 Build Scenario AM Peak



*2035 Build conditions results assume 20% auto trip reduction resulting from multimodal capture and travel demand management strategies.



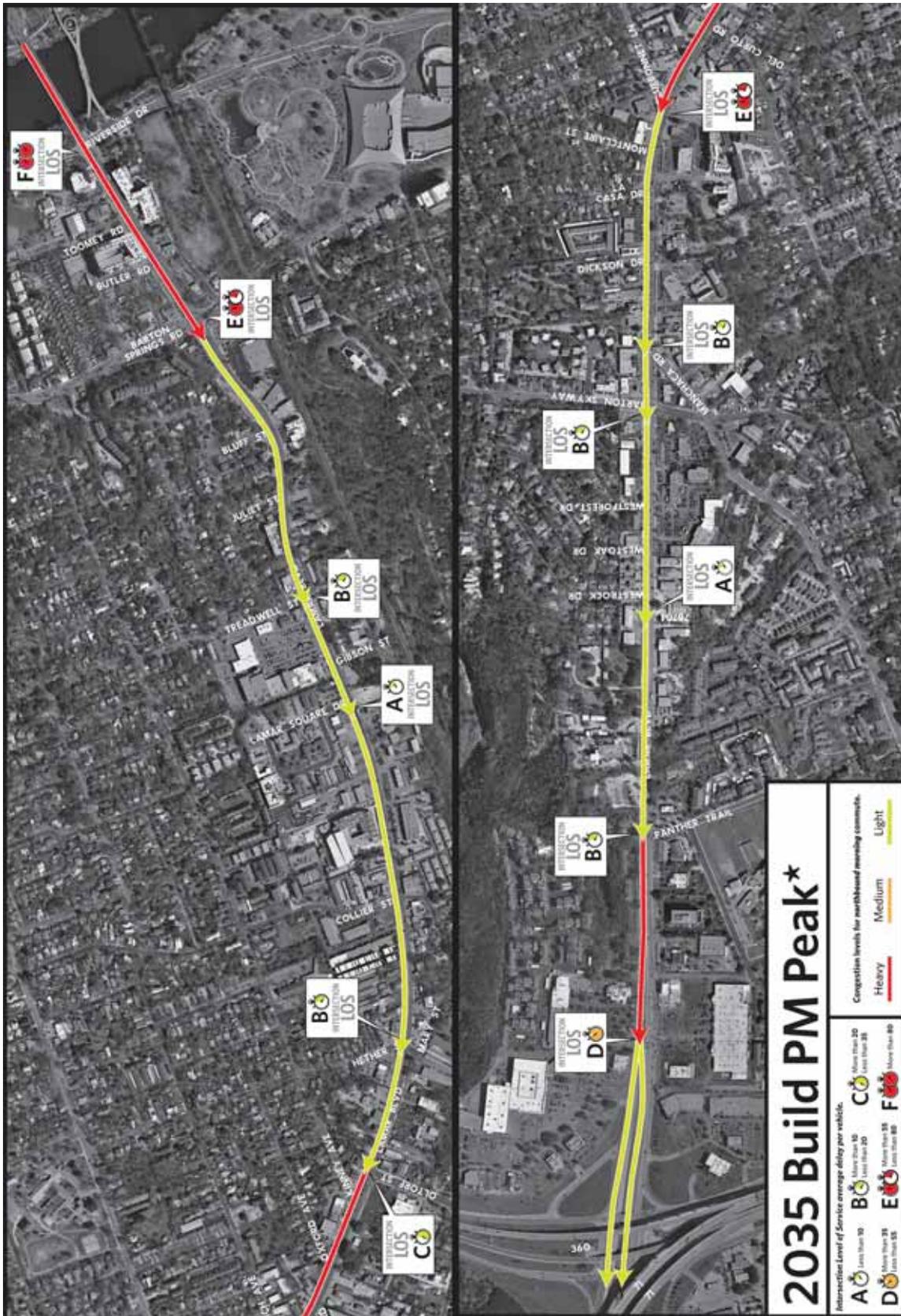
Figure 4-6: Link Level of Service for 2035 No Build Scenario PM Peak



*2035 Build conditions results assume 20% auto trip reduction resulting from multimodal capture and travel demand management strategies.



Figure 4-7: Link Level of Service for 2035 Build Scenario PM Peak



*2035 Build conditions results assume 20% auto trip reduction resulting from multimodal capture and travel demand management strategies.



CHAPTER 5 IMPROVEMENT TOOLS



Growth trends in Austin have not slowed. Residential density along South Lamar will continue to grow, and developers have already begun to respond with an increase in area amenities, many of which are pedestrian-friendly destinations. South Lamar Boulevard also serves as a major connective facility for destinations beyond the corridor, and an increase in traffic for all modes is already evident. The traffic conditions discussed in Chapter 3 highlight and help to define where improvements could help to address mobility and safety issues already present along the corridor.

IMPROVEMENT TOOLBOX

There are a great many improvement tools and guidelines already in place that can help to improve safety and mobility. The City of Austin Comprehensive Plan has adopted Complete Streets as a way to create public roads that are safe and inviting for all users. Complete Streets accommodate and encourage people to use alternate modes of transportation. In addition to following guidelines of Complete Streets, there are many nationally accepted standards that have been created to help improve transportation infrastructure. These standards seek to achieve safety, multi-modal accessibility and operational efficiency. The following improvements toolbox provides a range of solutions that can be used to help improve safety and mobility issues along South Lamar Boulevard.

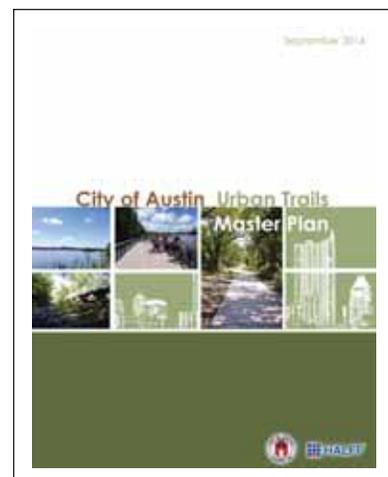
COMPREHENSIVE AND MASTER PLANS

Comprehensive planning is a practice that defines and articulates community vision and goals in terms of community development. Cities and communities engage in comprehensive planning to help create public policies and guidelines for infrastructure and growth. These include transportation, land use, housing, recreation, utilities and more.

The City of Austin, working with planners and members of the community, has developed several master plans to help serve as guides for improvements, and to ensure that community goals and vision remain in focus. City council adopted the Imagine Austin Comprehensive Plan in June 2012. Other plans include the 2014 Bicycle Master Plan and the Sidewalk and Urban Trails Maser Plan.

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management is the use of strategies and policies that help reduce travel demand- specifically that of single-occupancy vehicles, or to redistribute this demand in space and time. Some of these strategies include off-peak travel, telecommuting, and ride-sharing. It is a cost-effective guideline



that focuses on helping people to use alternatives to driving, thus created a better balanced system.

ACCESS MANAGEMENT PLAN

Access management is the methodical and proactive control of vehicle access to land parcels along roadways. Careful management of the location, spacing, design, and operation of driveways and median openings can help to improve safety and efficiency in the transport network. Access management also enhances public safety, supports alternative modes, and improves the appearance and quality of the built environment.

Some of these techniques include:

Driveway Spacing

Fewer driveways spaced further apart allow for more orderly merging of traffic and presents fewer challenges to drivers.

Safe Turning Lanes

Dedicated left- and right-turn and U-turns keep through-traffic flowing by providing space outside of the through lanes for turning vehicles.

Median Treatments

Non-traversable, raised medians are examples of some of the most effective means to regulate access and reduce crashes. Raised medians are typically recommended when daily traffic volumes exceed 20,000 vehicles per day. South Lamar Boulevard currently serves well over 30,000 vehicles per day.

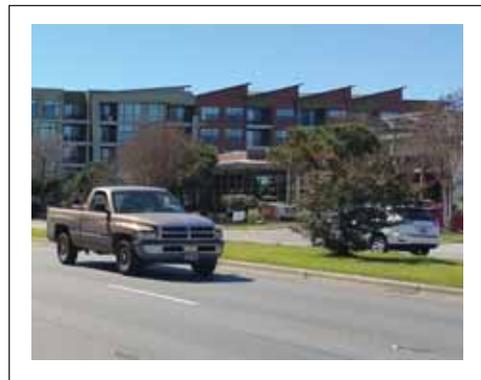
Incident Management

As defined by the Federal Highway Administration, "Traffic Incident Management (TIM) consists of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Effective TIM reduces the duration and impacts of traffic incidents and improves the safety of motorists, crash victims and emergency responders."

TRAFFIC SIGNAL OPERATIONS

Traffic signal operations can be optimized to achieve optimal flow along a facility. Signal timing can be adjusted to maximize green time, and to increase efficiency for left-turns against conflicting traffic. Traffic lights can be interconnected to provide improved coordination of green time, especially where intersection are closely spaced, such as at Manchaca Road and Barton Skyway, and at Lamar Square Drive and Treadwell Street.

Adaptive signal control is another technology that can help to ease congestion. Adaptive signals can use real-time traffic information to adjust to changing traffic patterns.



TRANSIT FACILITIES

Transit facilities are already part of the available transportation network on South Lamar Boulevard. Increased ridership could be encouraged by ensuring the surrounding sidewalk network is connected and accessible to users of all abilities. Improvements in signing, way-finding and connecting routes could also help to boost the role of transit as a viable mode on South Lamar Boulevard. Passenger information systems that provide real-time information regarding arrival times at transit stops could be considered a viable tool to increase ridership on the existing Capital Metro bus service.

A queue jump is another tool known to improve transit operations on a busy street. Often found in bus rapid transit systems, it typically consists of an additional travel lane on the approach to a signalized intersection. The lane is generally restricted to transit vehicles only, although right-turning vehicles can be permitted to use the travel lane. To allow transit vehicles to merge smoothly back into the regular through-lanes, a transit-only signal phase may also be used, giving busses a brief head start ahead of waiting traffic. Queue jumps have been shown to be effective in situations where there is an existing source of delay or congestion. Queue jump lanes require available right-of-way to provide the additional travel lane.



SIDEWALKS

The Imagine Austin Comprehensive Plan promotes designing for people, not just cars. The goal of the Sidewalk Master Plan is to provide an unbiased system to help prioritize sidewalk construction projects to complete a City-wide ADA-compliant sidewalk network. The City of Austin's Pedestrian Master Plan was to "set forth policies that will encourage walking as a viable mode of transportation, improve pedestrian safety and enable people to walk to and from transit stops." Sidewalks should provide continuous connectivity, wide enough to accommodate pedestrians passing each other, and built to ADA standards. Widened sidewalks should be considered whenever new development occurs on South Lamar.

Arterial Sidewalks

ADA compliant, continuous buffered sidewalks can provide shade and reduce conflicts with vehicular traffic.

Commercial Sidewalks

In line with complete street design, wider sidewalks provide seating for restaurants, active ground level uses. Often these sidewalks have buffer from the travel lanes of the adjacent roadway.

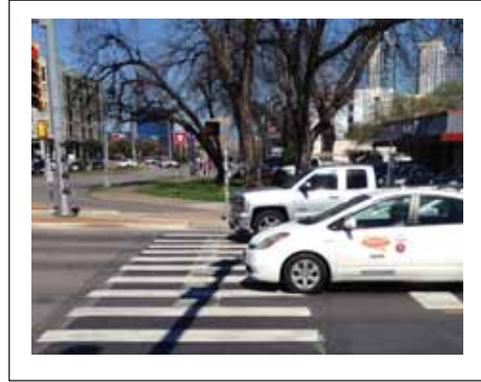


Connectivity

Improved crossings and ‘filling in the gaps’ helps to build connectivity in neighborhoods, and to places such as business, parks and schools. Complete connectivity also upholds ADA standards and provides access to users of all abilities.

CROSSWALKS

Well marked crosswalks are essential for a safe walking environment. Designated crossing areas with highly visible markings, pedestrian signal heads and ADA-compliant safety features attract pedestrians to the most ideal and safest places to cross against the flow of vehicular traffic. Ladder styles are more visible to motorists and ideal for areas with high pedestrian activity. Clearly marked crosswalks with leading pedestrian intervals help to alert motorists to pedestrian presence in the roadway, increasing yield rates, and reducing conflict.



PEDESTRIAN HYBRID BEACONS (PHB)

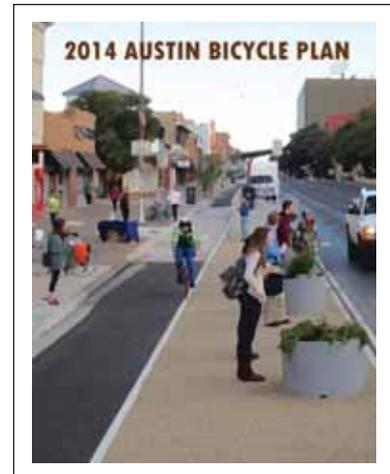
As defined by the U.S. Department of Transportation Federal Highway Administration, a PHB is a pedestrian-activated warning device located over midblock pedestrian crossings. When ready to cross a roadway, a pedestrian can push an easy-to-reach button that activates the beacon. The beacon briefly flashes yellow warning lights to signal to motorists that a pedestrian is about to cross. The device then displays a steady red indication to drivers, indicating they should stop, and a “WALK” indication to pedestrians, allowing them to cross a major roadway while traffic is stopped.



Pedestrian hybrid beacons are especially effective in areas with high pedestrian traffic volumes such as nearby transit stops, schools, neighborhoods or major retail establishments. The Federal Highway Administration reports that installation of the pedestrian hybrid beacon has been shown to provide up to a 69 percent reduction in pedestrian crashes; and up to a 29 percent reduction in total roadway crashes. PHBs provide a safer crossing opportunity for people who walk, with little impact to through traffic, allowing vehicles to proceed once the pedestrian has cleared their side of the travel lane.

BICYCLE FACILITIES

The Austin 2014 Bicycle Plan was created to help frame a bicycle system that serves people of all ages and abilities. Cities and countries where 20% of the community uses bicycles as a prime transportation mode have complete bicycle networks that accommodate people on bikes of all ages and abilities. An essential tool to creating this kind of network is protected bike facilities on streets with high motor vehicle traffic. Studies have shown that providing a safe and comfortable facility where there are high levels of short trips will result in a significant shift in travel mode.



Roger Geller, a bicycle coordinator for the City of Portland, developed a classification system that defined four types of bicyclists in any given population. This system has become a popular tool in helping planners to understand what types of bicycle facilities appeal to and attract cyclists of different abilities and ages.

Based on Portland's bike research and studies, the City of Austin conducted a statistically significant and demographically representative phone survey for Central Austin.

BASED ON RESEARCH CONDUCTED BY THE CITY OF PORTLAND, THERE ARE FOUR TYPES OF TRANSPORTATION CYCLISTS: 1) STRONG AND FEARLESS; 2) ENTHUSED AND CONFIDENT; 3) INTERESTED BUT CONCERNED; AND 4) NO WAY NO HOW.

Results of the phone survey suggested 17% of Austinites would feel safe cycling on busy streets within a network of painted bike lanes. That percentage increased to 60% if an all ages and abilities network were implemented, using protected lanes and urban trails. An all ages approach showed a significant potential increase in cycling when a protected bike lane was provided.

Protected Bicycle Lanes

Protected bicycle lanes provide an exclusive bike facility within the transportation network. These types of facilities are physically separated from motorized traffic. Protected bike lanes are protected from the travel lanes by a curb or raised median, bollards or other physical barriers. They are separate from parking lanes and sidewalks. Different color pavement or texture is typically used to differentiate a protected bike facility from sidewalks.

Protected bike lanes offer a higher level of security overall and appeal to a broader spectrum of the community.

Protected bicycle lanes require more right-of-way than paint-defined lanes. More room is needed to provide capacity for passing within the bicycle lane and for the physical barrier. Protected bicycle lanes should be considered on busy streets where streets or right-of-way can accommodate protected bike lanes and other competing interests.

Bicycle Lane, Buffered Bicycle Lane

A bicycle lane is different from a protected bicycle lane because it does not have the physical barrier separating



Protected bike lane on 3rd Street in downtown Austin.



Protected bike lane in the Mueller neighborhood.



Bike lane on South Lamar Boulevard.



cyclists from motorized traffic. It is an on-road facility designated by striping, signage and pavement markings for the 'preferential or exclusive use of cyclists'. Defined by paint and discernible to motorists, a bike lane allows cyclists to maintain a comfortable speed without interference from traffic. The bike lane also helps to promote predictable behavior and interactions between modes. Bike lanes may be distinguished using color, lane markings, signage, and intersection treatments (NACTO Urban Bikeway Design Guide, 2014). When considering a bike lane, existing traffic volumes on the roadway should be considered, along with driver and motor vehicle behavior. An ideal bike lane should also prohibit encroachment of motorized traffic in the bike lane.

Intersection Treatments

Intersection treatments can be used to maintain a low-stress network on busy streets. Crossings are safer and more comfortable where intersection treatments have been implemented. Bike boxes direct where automobiles should stop and where bicyclists should wait when stopped at intersections. Other tools include bike signals and hybrid beacons with cyclist indications, connections at off-set intersections, wayfinding, and signage.



End of Trip facilities

End of trip facilities offer amenities to cyclists that can help to make cycling a more attractive transportation mode. Secure bicycle parking and/or shelter are tools that should be considered to enhance the bicycle network. In populations where bicycle commuting is an option, city or employer-provided shower facilities could be considered to help increase cycling trips, and to improve the user experience.



TRAFFIC CALMING

Traffic calming devices that encourage drivers to slow down increase the actual safety for roadway users, while adding to the feeling of safety felt by users, especially for those not using motorized transport. On South Lamar Boulevard, center islands and median barriers could be considered to help calm traffic and reduce speeds, creating a safer environment. Median barriers and islands can meet other goals, including access management and improving the built environment through integration of green infrastructure.



CHAPTER 6 RECOMMENDATIONS



The South Lamar Boulevard corridor is changing. More and more people are looking to the area for its central location and access to many area amenities. The growing number of mixed-use developments on South Lamar offer a central location with retail, dining and services options just a few steps away for residents, and within walking or biking distance for many people living nearby in adjacent neighborhoods. These developments contribute to the growing 'completeness' of the corridor through promoting density, connectivity and a higher-quality built environment for people who walk, bike, work and enjoy the available services and recreational activities.

Even as the nature of South Lamar shifts towards a higher level of walkability, population growth in Austin will persist, and vehicular operations on the corridor will continue to feel the impact. Significant improvements in vehicular operations will not be an option for this corridor without considerable mode shift and diligent adherence to travel demand management strategies. Many opportunities already exist for people to choose other modes for shorter trips in their daily activities. Mode shift and travel demand management will be critical to keeping up with growth and sustaining the corridor. It is up to the City to be proactive in planning for a corridor's changing environment and ensuring that it continues to serve the community. The Imagine Austin vision statement recognizes that Austinites are committed to preserving the best of Austin and changing those things that need to be changed.

Recommendations developed for South Lamar Boulevard were based on input from the public meetings and stakeholder focus groups, the results of land use and traffic analyses, and several related Transportation Demand Management (TDM) strategies. These recommendations will guide the City of Austin in shaping South Lamar Boulevard into a multimodal corridor that supports people who choose to walk, bike, ride transit, and drive.

South Lamar Boulevard is a major north-south corridor. It is the intent of this project that the recommended improvements will improve mobility for nearby residents and commuter through-traffic. Building enhanced facilities for other modes such as bikes, pedestrians and transit will provide increased options for people to conduct daily activities such as trips to school, work, or to access corridor amenities. Use of advanced technology will also improve travel for commuters who frequently use the corridor during peak hours.

METHODOLOGY

The City of Austin is committed to accountability and transparency. Public involvement in the planning process is a vital component in helping agencies and planners to understand the values of the surrounding community, how the infrastructure and surrounding land is used, and to design new built environments and roads that best serve the community.

The South Lamar Corridor recommendations incorporated input from the community and from stakeholders. Two public meetings were held to gather feedback from the public regarding their values and vision for the corridor. The City of Austin also solicited input by hosting an online survey and making project information available throughout the planning process.



A thorough analysis of existing conditions along the corridor, as well as recent and planned developments built adjacent to or near the corridor were also taken into consideration while developing proposed improvements. The auto-centric improvements were compiled and incorporated into the future year (2035) VISSIM models to obtain future year intersection LOS. The proposed pedestrian, bicycle, transit improvements were incorporated into the multimodal HCS Streets analysis to obtain future year multimodal LOS along South Lamar Boulevard.

SOUTH LAMAR BOULEVARD CORRIDOR CONCEPTS

Corridor concepts developed for South Lamar Boulevard envision a smartly planned facility that serves all modes of transportation, encourages active transportation and enhances safety overall. According to a 2009 National Household Travel survey, 28% of all trips in the U.S. are less than a mile. During the public involvement process, many people indicated they would walk or bike more given a safer facility to use to reach their destinations. It is the goal of the City of Austin and project planners that the proposed concepts for South Lamar Boulevard serve both the vehicle demands of the facility, while accommodating and encouraging alternative modes.

In support of the Complete Streets policy, the ultimate cross section proposed for South Lamar Boulevard would include protected bike facilities and wider, completely connected sidewalks for both northbound and southbound travelers. These bike lanes and sidewalks should be fully ADA compliant and run the full length of the corridor.

The facility will continue to serve four lanes of traffic, as it always has, and will also allow for transit improvements in locations that meet system needs and where space allows. In place of the existing continuous, but unmanaged center turn lane, a raised median will help to reduce conflict and streamline access to businesses. This median can also serve as a pedestrian refuge for people wanting to cross the busy corridor, thereby improving safety for foot traffic and motorists alike.



Conceptual rendering of the ultimate cross section for South Lamar Boulevard.



Figure 6-1: Future Corridor Concept for South Lamar



Figure 6-2: Future Corridor Concept for South Lamar and Riverside Drive



PROPOSED CROSS SECTIONS

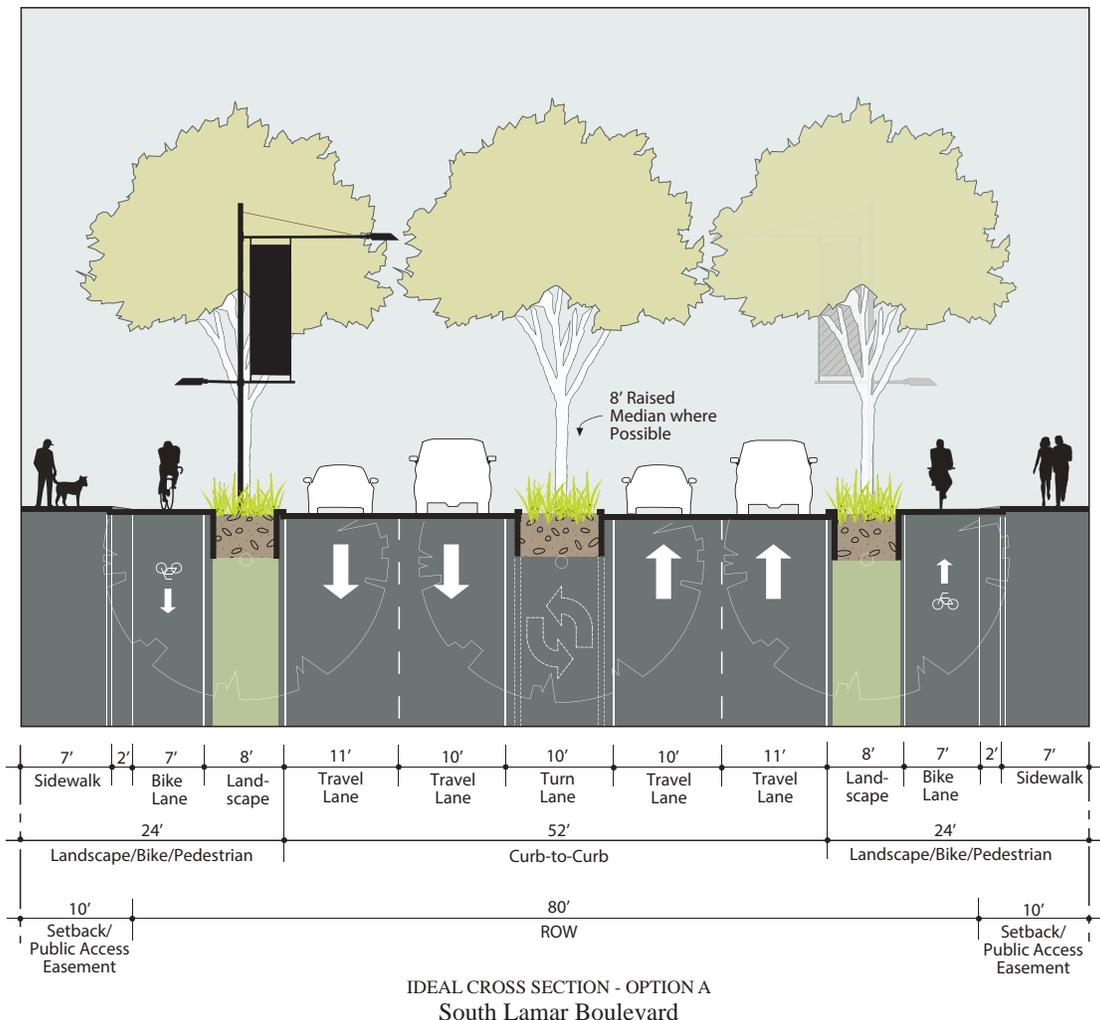
The recommended ultimate cross section for South Lamar follows the complete streets guideline established in Imagine Austin. The ideal facility would serve all modes of transportation, and provide a safe, connected travel way for people who walk and bike, while continuing to carry two lanes of traffic northbound and two lanes southbound.

The ultimate cross section is wider than the existing facility, and would require additional right-of-way. Until new development occurs, there are many locations along the corridor where the new setback area cannot be used to implement a wider cross section. In order to minimize/eliminate the need for additional right-of-way to implement the long-term improvements, three concepts were developed and can be applied to the appropriate sections of the corridor.

Ultimate Cross Section: Option A

In order to maintain vehicular capacity and provide high-quality pedestrian and bicycle facilities, 100 feet of right-of-way is needed. Much of the property along the corridor is zoned “CS” which requires a 10-foot front yard building setback. This Option A shows a possible solution within an 80-foot right-of-way, requiring public access easements in the 10-foot setback zone. The protected bike lane is located behind the curb, adjacent to the sidewalk.

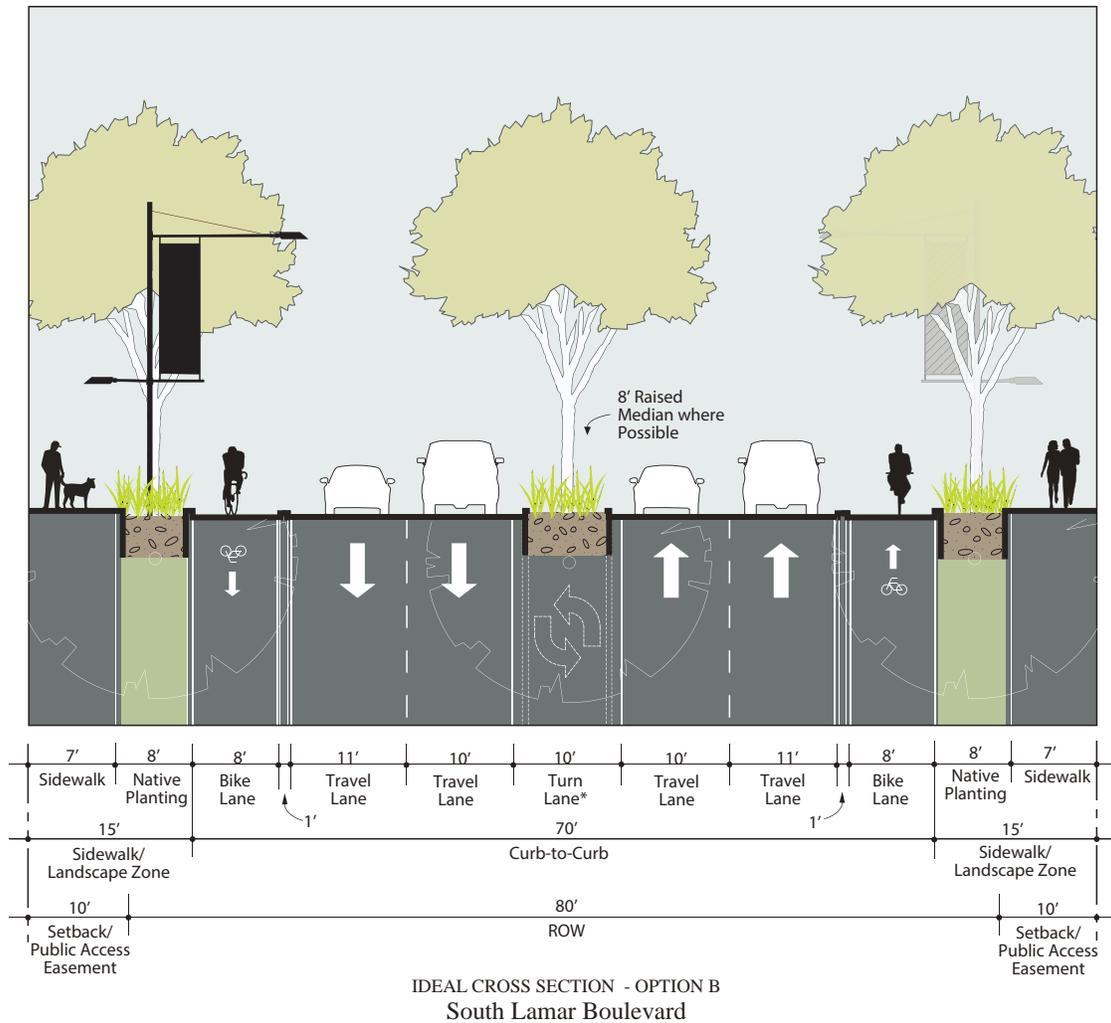
Figure 6-3: Ultimate Cross Section: Option A



Ultimate Cross Section: Option B

This is a variation where the protected bike lane is located within the roadway with a 12-inch barrier separating it from the auto lanes. Like Option A, it would require a building setback and public access easement on the many portions of the corridor with less than 100 feet of right-of-way.

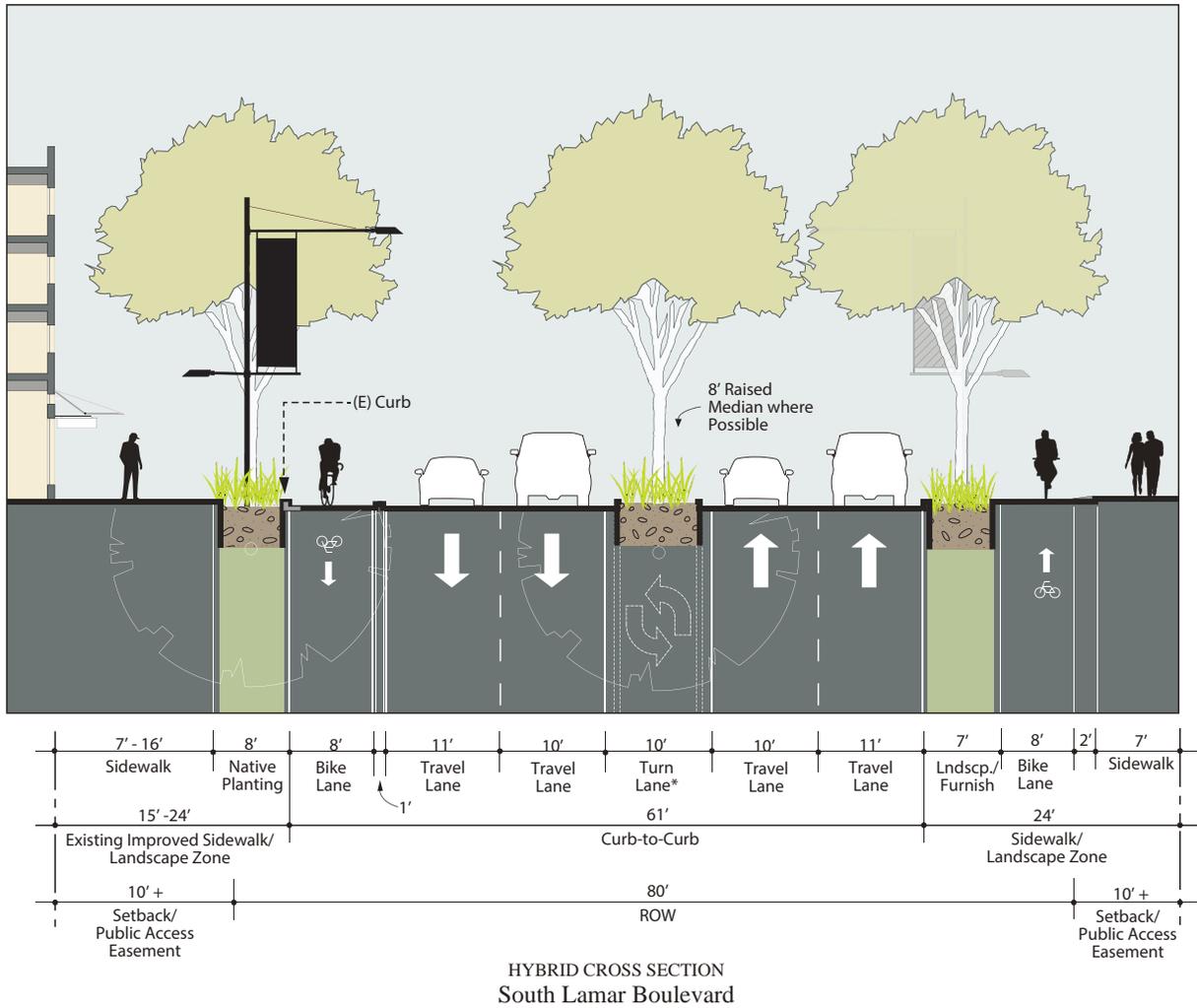
Figure 6-4: Ultimate Cross Section: Option B



Hybrid of Option A & B

This is a hybrid of the ultimate sections A and B that could be employed along recently completed streetscapes like the Post or Gibson. A protected bike lane could be introduced along the completed streetscape with a “behind the curb” protected bike lane on the opposite side.

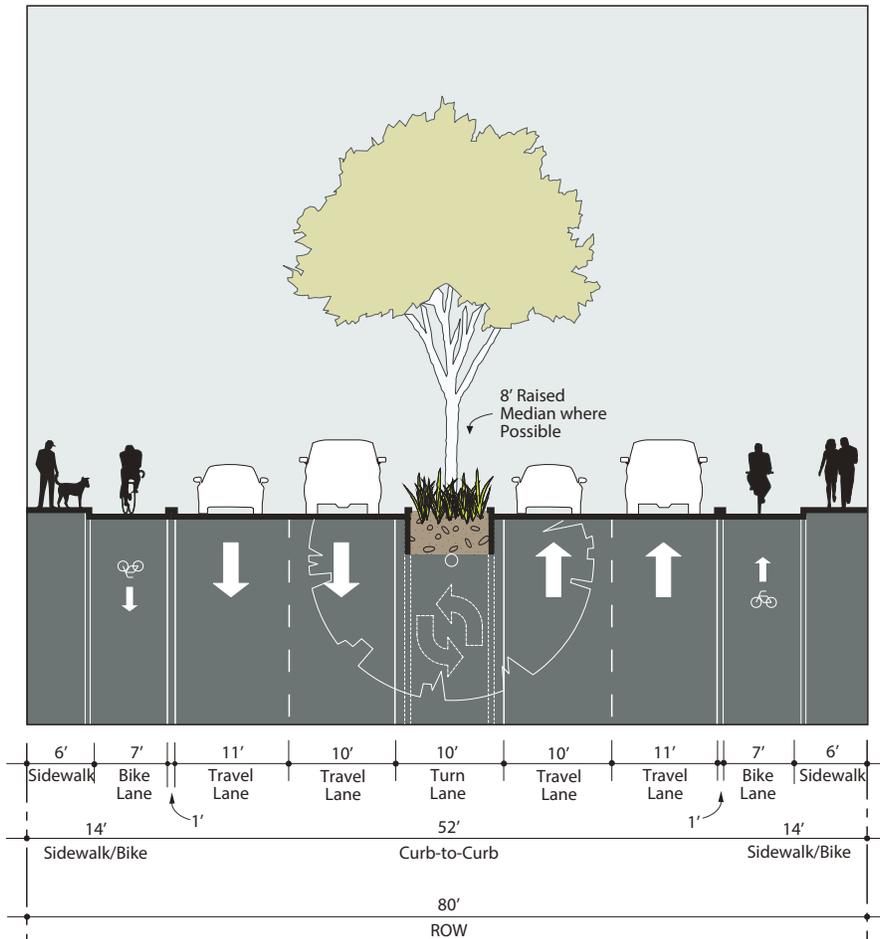
Figure 6-5: Hybrid of Option A & B



Interim Option 1

In many locations, we may not be able to use the setback area until new development occurs. Interim Option 1 establishes the future 52-foot curb-to-curb of the Ultimate Option A section and introduces protected bike lanes and median landscaping in places where the center turn lane could be removed.

Figure 6-6: Interim Option 1



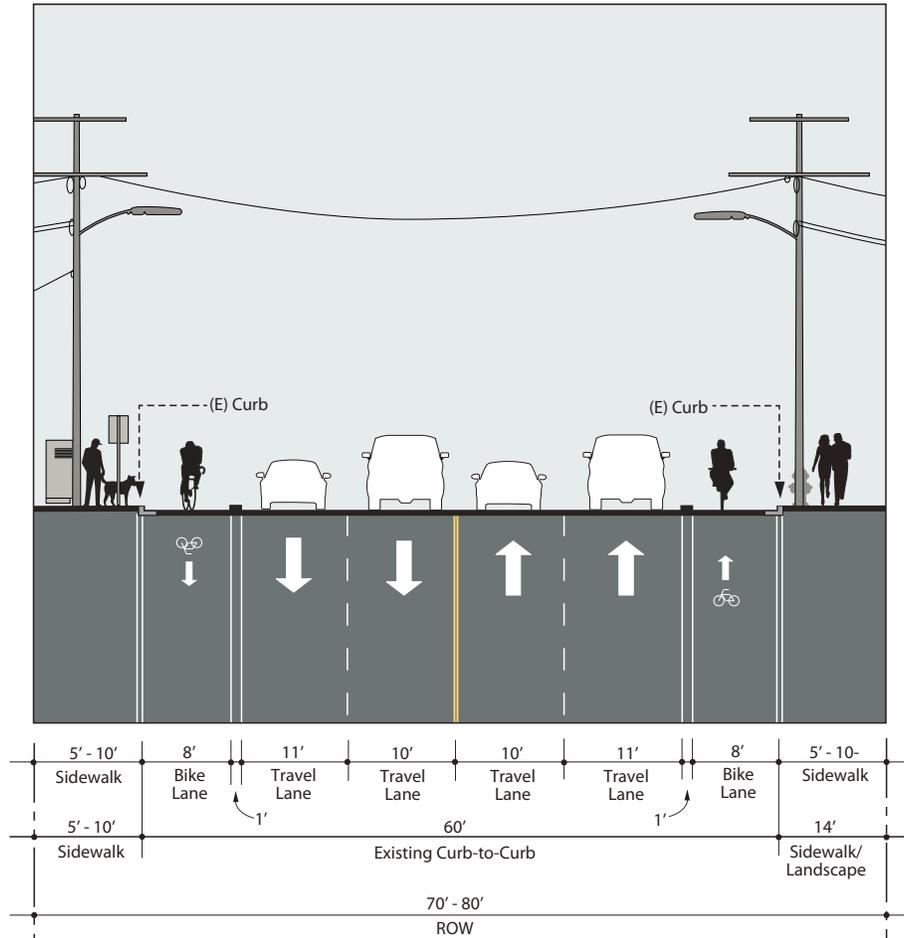
INTERIM CONDITION WITH CENTER TURN LANE
South Lamar Boulevard



Interim Option 2

This is a less intensive intervention, with protected bike lanes within the existing 60-foot roadway. This could occur where the center lane is eliminated.

Figure 6-7: Interim Option 2



INTERIM CONDITION WITHOUT CENTER TURN LANE
South Lamar Boulevard

These interim conditions cross sections establish the future 52-foot curb-to-curb of the ultimate section and improve the sidewalk and streetscape, while maintaining the on-street bike lane. The removal of the center turn lane will be required to implement this plan and where it is not possible to remove the turn lane, Interim Option 1 with the center turn lane could introduce protected bike lanes and median landscaping. Sidewalk and adjacent streetscape improvements in many cases would need to await property redevelopment.



RECOMMENDED IMPROVEMENTS

Recommended improvements for South Lamar Boulevard are based on the complete streets and corridor concepts discussed previously. The improvements are detailed in this section and have been identified as either short- (0 – 5 years) or long-term (5 – 20 years) to help the City of Austin prioritize based on need and feasibility and also to allow the City time to raise the needed funds.

ACCESS AND MEDIAN IMPROVEMENTS

Access management is an important strategy to improve safety and mobility along a major arterial roadway with the volume of traffic and variety of land uses such as those present along the South Lamar Boulevard Corridor. Fewer driveways and opportunities for turns to/from South Lamar Boulevard equate to fewer conflict points and, thus, lower potential for crashes. In addition, fewer conflict points improve mobility by reducing the friction that heavy turning traffic can cause along a major arterial corridor. Reduced conflicts will also minimize road blockage caused by accidents.

As part of the proposed improvements along the South Lamar Boulevard Corridor, a raised median is proposed to replace the existing two-way left-turn lane. Median breaks are proposed at signalized intersections, most unsignalized intersections, and select locations to allow driveway access. Private businesses along the corridor should be incentivized to consolidate driveways and create joint-access among multiple businesses to a single driveway, where possible.



Raised median near Riverside Drive.



Raised median with paved center turn lane at Kinney Avenue.



A raised median on South Lamar Boulevard, like the one between Riverside Drive and Barton Springs Road, will improve safety and reduce conflict along the corridor.



AUTOMOBILE

As discussed in the previous subsection, a raised median and driveway access control along the entire South Lamar Corridor reduces conflict points and lowers friction along South Lamar Boulevard. These improvements will have significant positive impacts to safety and mobility along the corridor.

Several key intersections on South Lamar Boulevard are also recommended for future improvements. Southbound traffic on Lamar Boulevard at Barton Springs can be particularly heavy during peak hours, and often throughout the day and on weekends. An additional left-turn bay is proposed at Barton Springs Road to relieve congestion and shorten queue lengths at that heavy movement, allowing more motorists access to destinations east of the corridor.

Three new traffic signals are recommended to help improve safety on South Lamar. Toomey Road and Butler Road have experienced a large number of crashes over the past few years, and a signal at the intersection of South Lamar Boulevard and Toomey Road will help to improve safety and provide a viable entrance/exit to/from the adjacent neighborhood. New traffic signals are also recommended at Collier Street/Evergreen Avenue and at Del Curto Road. These new signals will be coordinated with the existing signals along the corridor such that impacts to South Lamar Boulevard traffic flow will be minimal.

People driving on South Lamar will also benefit from the proposed multimodal recommendations for the corridor. These recommendations are considered to be multimodal because of their main purpose: to improve conditions for people who walk, bike, and use transit services. These improvements, however, also have positive effects on mobility and safety for drivers. At a high level, the multimodal improvements create a better experience for users of non-automobile modes. The result is a shift from automobile trips to trips via other modes, helping to reduce automobile demand and, thus, congestion along the corridor.



A second left turn lane will ease queuing at Barton Springs Road.



Improvements at Hether and Mary Streets.



Improvements at Bluebonnet Lane.

MULTIMODAL IMPROVEMENTS CAN BENEFIT PEOPLE WHO DRIVE TOO. SAFE AND ATTRACTIVE FACILITIES FOR CYCLISTS AND PEDESTRIANS ENCOURAGES NON-MOTORIZED TRAVEL. AS TRIPS VIA OTHER MODES INCREASE, AUTO DEMAND ON ROADWAYS CAN DECREASE.



TRANSIT

As density on South Lamar Boulevard continues to increase, good urban design is needed to maintain access to high-quality transit. Shorter distances between people's homes and their daily destinations increase opportunities for travel that doesn't require driving. When more people live near transit stops, transit service can run more often and to more places.

South Lamar Boulevard is already well-served by Capital Metro's MetroBus and MetroRapid. This existing service can be improved along the South Lamar Corridor in two ways: (1) mobility and (2) quality of service and experience.

To improve mobility, bus queue jumps are recommended for implementation at all right-turn-only lanes along the corridor. This will provide faster and more reliable service to transit users. Northbound travel at Oltorf Street and at Barton Springs Road are two such locations.

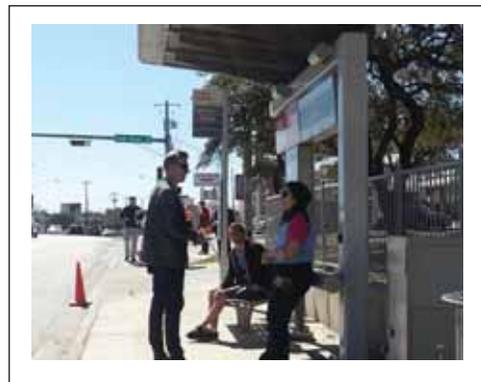
At a queue jump, a Capital Metro bus headed straight through the intersection can use the right-turn-only lane to bypass a standing queue at a red light. The bus, equipped with a transponder, communicates its approach in the queue jump lane and receives its own green light after service of conflicting movements. The green light allows the bus to "jump" ahead of the standing queue of vehicles, and these vehicles receive a green light immediately following the bus queue jump green light.

Other mobility improvements include farside (instead of nearside) bus stops and bus pullouts to reduce delay. City of Austin should consider adopting an ordinance that provides buses the right-of-way when exiting a bus pullout.

In addition to improving transit vehicle mobility, quality of service can be improved to enhance the user experience and to encourage ridership. People are more likely to use public transportation when facilities are attractive, safe, and functional. Covered and/or enclosed bus stops provide shade and protect transit users during inclement weather. Benches, bicycle parking, and route information are other elements that can be added to improve quality of service. The transit network on South Lamar will also benefit from the recommended improvements to pedestrian and bicycle facilities. Improvements to these facilities improve ease-of-use by helping users connect to transit.



Bus queue jump at Oltorf Street.



Amenities at transit stops encourages ridership.

IN RESPONSE TO A SURVEY REGARDING IMPROVEMENTS ON SOUTH LAMAR, 22% OF RESPONDENTS SELECTED TRANSIT AS BEING MOST IMPORTANT.



PEDESTRIANS

There are many amenities on South Lamar within walking distance of neighboring amenities and within walking distances of neighborhoods and residences adjacent to the corridor. People who live or work within short distances of these services and who prefer to walk to reach them should have a well connected, continuous and accessible facility to do so. Visitors to the area may also choose to leave their car at home if other options were available to access amenities along the corridor.



Amenities are plentiful on South Lamar while safe crossing opportunities are not.

To improve connectivity and enhance the pedestrian mode of travel, continuous sidewalks are recommended to be built along both sides of South Lamar Boulevard for its entire length. Cross sections developed for the corridor propose sidewalks to be a minimum width of 7-feet, ADA-compliant, and separated from faster moving traffic by a planted buffer or median. Sidewalks on adjacent neighborhood streets should also be continuous.



Pedestrian infrastructure should serve the needs of all users.

ADA-compliant curb ramps will improve accessibility for all users and are recommended at all intersections. Additional traffic signals and pedestrian hybrid beacons will increase crossing opportunities and help to cut down on unsafe mid-block crossings. Ladder-style crosswalks and pedestrian signals at traffic lights will improve pedestrian safety when crossing both the main corridor and neighborhood connector streets, while also improving connectivity to neighborhoods.



Wider, connected sidewalks, ladder-style crosswalks, and pedestrian hybrid beacons build a better infrastructure for people who chose walking as a transportation mode.



BICYCLES

The bicycle improvements recommended as part of this study are intended to improve safety, and to provide connectivity to neighborhoods, adjacent and connecting roadways and other bicycle facilities in the area. In the Bicycle Master Plan Update, South Lamar Boulevard is shown to be a corridor plan with “all ages and all abilities” bicycle facilities. Protected lanes, or “cycle tracks,” meet the criteria for this type of facility that encourages riders of all abilities.

A protected, continuous 7-foot cycle track is recommended for the entire length of the South Lamar Boulevard Corridor. In the recommended Ultimate Cross Section A, this facility will be provided on both sides of the corridor and would be protected from vehicles by an 8-foot landscaped median. Similar to facilities in the Mueller neighborhood and on 3rd Street in downtown Austin, a separated bike route for cyclists on both sides of South Lamar Boulevard will reduce conflict between bicycles and vehicles, and improve connectivity to neighborhoods and other destinations along and beyond the corridor.

In addition to the safety and riding comfort advantages that the proposed one-way cycle tracks provide, two-way cycle tracks are proposed on each side of South Lamar Boulevard between Riverside Drive and Barton Springs Road. These two-way cycle tracks more efficiently connect the future South Lamar Boulevard Corridor bicycle network with the existing surrounding network and, especially, the pedestrian/bicycle-only Pfluger Bridge over Lady Bird Lake. These two-way cycle tracks will greatly improve connections to Zilker Park during and special events, as well as improve access to downtown, nearby trail systems, and other amenities in the area.

The bicycle facilities along streets intersecting South Lamar Boulevard should also be improved to facilitate network and neighborhood connectivity. For example, a connection for bicycles between Treadwell Street and West Bouldin Creek Greenbelt, underneath the Union Pacific railroad tracks, is recommended to provide access to the greenbelt and improve bicycle mobility in the area.

Recommendations for bicycle improvements along South Lamar Boulevard support the City of Austin’s Imagine Austin Comprehensive Plan and the 2014 Bicycle Master Plan Update. The Bicycle Master Plan incorporates elements of the Imagine Austin Comprehensive Plan by proposing the creation of a connected and protected active transportation network that will provide additional transportation options for Austin residents and visitors.



Safety on South Lamar could be greatly improved by providing a protected bicycle facility like those in downtown Austin and in the Mueller neighborhood.



SHORT-TERM IMPROVEMENTS

All of the improvements discussed previously in the chapter have been prioritized for short-term and long-term implementation. Short-term projects are recommended for implementation within a five year term, and address problematic areas along the corridor where safety is more of an issue. Projects have also been categorized as short-term based on feasibility to implement and cost. **Table 6-1** details short-term projects recommended for South Lamar Boulevard.

Table 6-1. Short-Term Improvements

Limits (Lamar @)	Project	Mode				Description
						
5th/6th Streets*	Operational				X	Prohibit left-turn movements along Lamar Blvd. during peak periods.
Riverside Dr.	Operational		X			Construct protected bike facility at intersection.
Riverside Dr. & Toomey Rd.	Operational	X			X	Install new traffic signal.
Between Riverside Dr. & Treadwell St.	Raised Median				X	Construct raised landscaped median with select openings at driveways.
Between Riverside Dr. and Barton Springs Rd.	Bicycle Lanes		X			Construct 2-way cycle tracks on both sides of S. Lamar Blvd.
Barton Springs Rd.	Operational		X			Construct protected bike facility at intersection.
	Bus Queue Jump			X		Install NB and SB bus queue jumps (using right-turn lanes).
	Operational				X	Construct dual SB left-turn bays.
	Operational			X	X	Convert NB approach to two through lanes with third receiving lane for bus stop pullout.
Treadwell St.	Network		X			Construct bicycle connection under UPRR tracks to West Bouldin Creek Greenbelt.
Between Riverside Dr. & Treadwell St.	Operational	X	X	X	X	Construct recommended ultimate cross section.
South Lamar and Collier St./ Evergreen Ave.	Operational/ Safety	X			X	<ul style="list-style-type: none"> Install new traffic signal. Prohibit left-turn movement at Mary St. approach. Build roundabout at Mary St. and Evergreen Ave. Close NB "ramp" from South Lamar Blvd. to Mary St.
Oltorf St.	Bus Queue Jump			X		Install NB bus queue jump (using right-turn lane).
	Operational	X			X	Move pedestrian crossing across S. Lamar Blvd. from south side to north side of intersection.
	Safety	X			X	Remove channelization from NB right-turn lane.

*5th and 6th Streets are beyond the scope of this study; however, due to their impact on corridor operations, recommendations have been provided.



Table 6-1. Short-Term Improvements, continued

Limits (Lamar @)	Project	Mode				Description
						
South Lamar & Del Curto Rd.	Operational	X			X	<ul style="list-style-type: none"> Install new traffic signal. Prohibit left-turn movement at WB Bluebonnet Ln. approach. Construct roundabout at Del Curto Rd. and Bluebonnet Ln.
Bluebonnet Ln.	Bus Queue Jump			X		Install NB bus queue jump (using right-turn lane).
	Bicycle Lanes		X			Install continuous 2-way cycle track across South Lamar Blvd.
Manchaca Rd.	Bus Queue Jump			X		Install NB bus queue jump (using proposed bus lane).
Between Manchaca Rd. and Barton Skwy.	Bus Lane			X		Construct NB bus lane.
Barton Skwy.	Operational/ Bus Queue Jump			X	X	Construct NB right-turn bay and install bus queue jump (using right-turn lane).
South Lamar Blvd. and West Oak Dr.	Safety	X		X		Install pedestrian hybrid beacon.
South Lamar Blvd. and Brodie Oaks	Operational				X	Prohibit NB left-turn movement from US 290/SH 71 underpass.
Corridor-wide	Policy	X	X		X	Reduce speed limit to 35 mph
	Policy			X		Pass ordinance to assign right-of-way to buses at pullouts.
	Informational/Recreational	X	X	X	X	Install wayfinding signs, especially to/from area green spaces.
	Safety	X				Time leading pedestrian intervals at signalized crosswalks where significant conflict between turning vehicles and pedestrians exists.
	Bicycle Supply		X			Install B-cycle stations where supported by local demand.
	Operational				X	Install adaptive signal system.
	Informational				X	Install dynamic message signs with travel times, alternative, routes, parking info, etc.
	Operational/ Safety			X	X	Institute an incident management program.
	Bus Stops			X		Provide covered, enclosed bus stops.
	Bus Stops			X		Install far side bus stops instead of nearside stops.



LONG-TERM IMPROVEMENTS

Long-term projects are recommended for implementation within five to twenty years, and may require more funding to implement than short-term projects. To obtain the necessary right-of-way needed to build the full recommended cross section for Lamar Boulevard, properties along the corridor will have to wait until redevelopment occurs. Long-term recommendations will need time to enact. **Table 6-2** details long-term projects.

Table 6-2: Long-Term Improvements

Limits (Lamar @)	Project	Mode				Description
						
Between Treadwell St. and Brodie Oaks	Operational	X	X	X	X	Construct recommended ultimate cross section.
North Lamar Blvd. and 5th/6th Sts.*	Operational				X	Consider constructing a grade separation to reduce delay.
Between Riverside Dr. and Panther Tr.	Operational/ Safety				X	Consider implementation of variable speed limit.
Between Barton Springs Rd. and Treadwell St.	Safety	X				Install pedestrian crossing (pedestrian hybrid beacon or elevated) near Bluff St., when warranted.
South Lamar Blvd. and Hether St./ Mary St.	Operational/ Safety				X	Acquire right-of-way to realign Mary St. approach to remove skew with Hether St.
South Lamar Blvd. and Bluebonnet Ln.	Operational/ Safety				X	Acquire right-of-way to realign Bluebonnet Ln. approach(es) to remove skew at South Lamar Blvd.
Barton Skwy.	Network		X			Construct bicycle connection to (1) Barton Creek Greenbelt and (2) Barton Skwy. and Spyglass Dr.
Corridor-wide	Network	X	X			Install bicycle and pedestrian connections to side streets and adjacent communities.
Corridor-wide	Parking				X	Implement parking district with centralized parking facilities.
Corridor-wide	Bus Lane			X		Implement transit-only lane(s) during peak periods, when supported by ridership.

**5th and 6th Streets are beyond the scope of this study; however, due to their impact on corridor operations, recommendations have been provided.*

A LONG-RANGE PLAN PROVIDES A STRONG FRAMEWORK TO GUIDE CITY ACTION AT ALL LEVELS. THE VISION AND PRINCIPALS OF THE PLAN NEED TO BE RESPECTED, BUT OVER TIME, THE COMMUNITY SHOULD EXPECT TO REVISIT AND REFINE INDIVIDUAL POLICIES. -IMAGINE AUSTIN



Figure 6-8: Ultimate Cross Section for South Lamar Boulevard 1 of 10



Figure 6-9: Ultimate Cross Section for South Lamar Boulevard 2 of 10



Figure 6-10: Ultimate Cross Section for South Lamar Boulevard 3 of 10



Figure 6-11: Ultimate Cross Section for South Lamar Boulevard 4 of 10

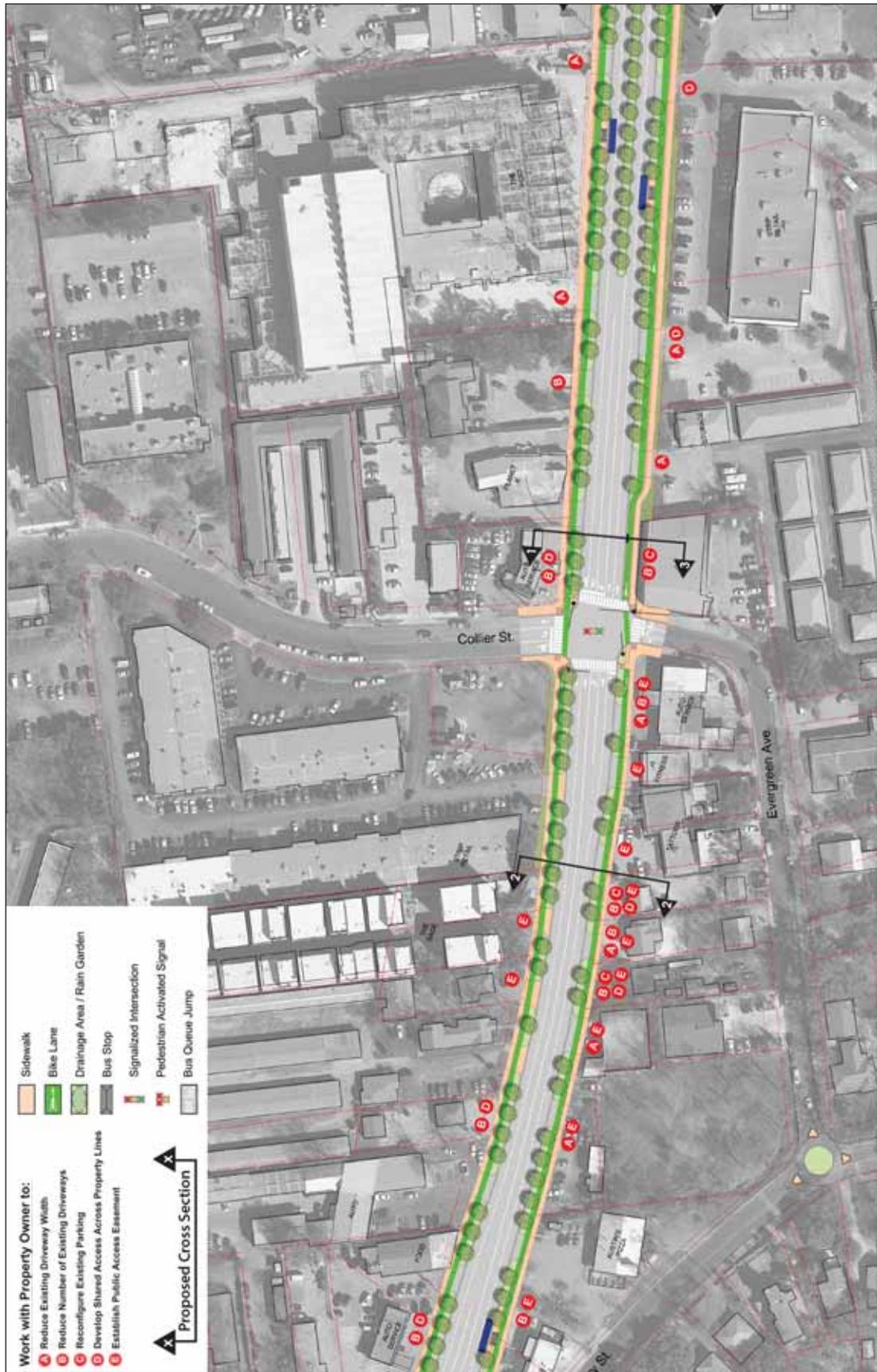


Figure 6-12: Ultimate Cross Section for South Lamar Boulevard 5 of 10



Figure 6-13: Ultimate Cross Section for South Lamar Boulevard 6 of 10



Figure 6-14: Ultimate Cross Section for South Lamar Boulevard 7 of 10



Figure 6-15: Ultimate Cross Section for South Lamar Boulevard 8 of 10



Figure 6-16: Ultimate Cross Section for South Lamar Boulevard 9 of 10



Figure 6-17: Ultimate Cross Section for South Lamar Boulevard 10 of 10



COMMUTER SOLUTIONS

South Lamar Boulevard is a major north-south arterial in Austin, carrying significant commuter traffic between South Austin and downtown/Central Austin as well as local traffic to/from area businesses and neighborhoods. The improvements cited in this chapter provide benefits to commuter traffic in addition to the more localized traffic. The existing two-way center-turn lane configuration along South Lamar Boulevard currently impacts travel time reliability and delay along the corridor due to multiple conflict points along its length. A raised median proposed for South Lamar Boulevard in place of the center turn lane will help to reduce these conflict points and increase traffic flow rates by reducing friction caused by accelerating and decelerating turning vehicles.

Advanced technology provides benefits for commuters along the corridor. Adaptive signal control and continued signal timing optimization and coordination are recommended to maximize the use and efficiency of the existing roadway infrastructure. An increased number of signal timing plans along the corridor, tailored to the travel demands of a specific time of the day or week (e.g., Friday p.m. peak), helps to reduce delay caused by traffic signals and increase progression and throughput along the corridor. Dynamic message signs projecting travel time and other traffic-related information keep drivers aware of traffic conditions and provide them the opportunity to make informed decisions about their travel options, such as routes and travel times. Dynamic message signs placed south of Ben White Boulevard and north of 6th Street could be most effective in terms of providing effective information to travelers for informed decision-making and selecting alternate routes during incidents along the corridor. In addition, the City of Austin should consider efficient incident management to relieve corridor congestion when a crash occurs.

Improvements to transit operations along South Lamar Boulevard also provide benefits to commuters. Capital Metro has proposed a Park and Ride facility along Ben White Boulevard, between Manchaca Road and Clawson Road, with the goal to incentivize commuters traveling between Central and South Austin to use Capital Metro bus service. Bus queue jumps, in combination with transit signal priority technology, proposed along South Lamar Boulevard provide more reliable bus travel times and help buses to adhere to schedules during congested times of the day. Far side bus stops and bus pullouts, in addition to a proposed new ordinance allowing buses with the right-of-way at the pullouts, will increase transit reliability and mobility along the corridor.

Central Texas Regional Mobility Authority is currently planning to construct managed lanes along Mopac South as an extension of the Mopac Improvement project currently under construction north of the river. The Mopac South managed lanes will provide a reliable alternate route for commuters and transit vehicles coming from South Austin to Downtown. Once in place, commuters may find the managed lanes as a potential viable alternate north-south route to South Lamar Boulevard.



HEALTH IMPACT ASSESSMENT

The Health Impact Assessment study was undertaken simultaneously with the development of transportation study recommendations, and had the benefit of providing preliminary information on health considerations at an early stage of project development, and ensuring that health was considered in the proposed transportation study recommendations.

The Health Impact Assessment summarizes that South Lamar Boulevard has a high density of people and destinations, with a reliance on auto transport for within-corridor trips. An interest in active travel indicates substantial unmet opportunity for physical activity.

A significant barrier to public health exists due to inadequate pedestrian and cyclist infrastructure, public green space, and connectivity. Bluebonnet and South Lamar are of particular importance to public health, due to confluence of multiple factors. Over one-quarter of community survey respondents commute less than three miles; only 2% said they ever walk to work, and 4% said they ever bike. Twenty-two percent said they would walk more often, and 49% said they would bike more often under ideal conditions for all travel modes (including motor vehicles).

Although rigorous research on health-related effects of urban green space is limited, a systematic review found generally consistent evidence that urban green spaces are positively associated with physical activity, mental health, and social interactions. The designs proposed by the corridor study team include the addition of trees both within the roadway median and in greenspaces that buffer sidewalks from roadways. In sections with wider ROW, rain gardens are included in the roadway buffers. Proposed improvements for South Lamar Boulevard would have a positive effect on safety, physical activity, and opportunities for social interaction. A review of studies that examined how the attributes of the physical environment affect physical activity behaviors found sidewalk availability to be positively associated with walking for transportation for both adults and children.

The Health Impact Assessment makes the following recommendations for the Built Environment:

- Consider implementing a speed limit of 25-30 mph in specific segments or during specific times where heavy pedestrian/bicyclists activities are expected along South Lamar. Research indicates that for both safety and encouragement of physical activity, a speed limit below the recommended 35 mph would be preferable.



Bluebonnet Lane serves a high volume of pedestrians.



Lower speed limits create safer roadway conditions.

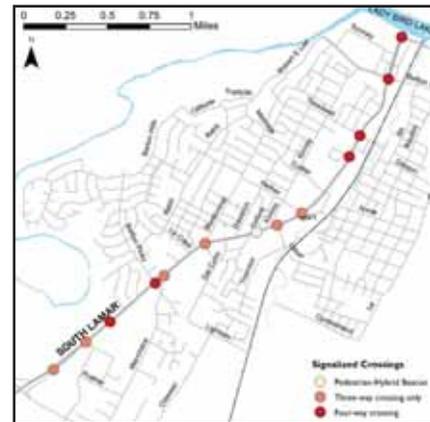


Access to green space is a key factor in improved public health.



- Complete crosswalks/crossing lights for all four sides of existing intersections. Many have crosswalks on only three of four sides. (See Figure 6-16)
- Increase the availability of bicycle parking throughout the corridor through policies targeting private businesses as well as the provision of public bicycle parking (e.g. bike corrals).
- Construct a pedestrian/bicyclist crossing of the railroad tracks at Treadwell. Such a crossing would substantially increase access (via active transportation) to Lamar destinations, including the MetroRapid Lamar Square Station, and increase access to the Bouldin Creek greenbelt/park. For cyclists travelling to or from the neighborhood west of South Lamar, this crossing would provide an off-Lamar route to the protected bicycle facility on Barton Springs east of the South Lamar intersection, and would connect bicyclists to the bicycle facility on Treadwell, west of South Lamar.
- Create pocket parks along South Lamar in areas where existing ROW allows, such as the 2500 block, just south of Bluebonnet Street. Building spaces at transit stops leverages and support existing activity and resources.
- Take steps to preserve and care for existing heritage trees on South Lamar Boulevard, particularly during any infrastructure installations that may affect the tree root zones.
- Develop improvements for southernmost section of the corridor in coordination with TxDOT. The South Lamar/Ben White intersection is a designated Activity Center per Imagine Austin, includes a BRT stop, is a regular destination of many people in the study area (as reported by the HIA survey), provides access to a host of community resources including two full-service grocery stores. Given this significance, greater multimodal access in this area is needed. At minimum, the inclusion of a pedestrian island or other enhancement to facilitate crossing at Brodie Oaks should be included in the overall recommendations.
- Design improvements to facilitate and accommodate high volumes of within-corridor walking and biking
- Create public greenspaces along South Lamar
- Conduct a robust walk audit of the ½ mile South Lamar walkshed
- Prioritize improvements at Bluebonnet/Lamar intersection

Figure 6-18: Protected Crossings on South Lamar



For the full Health Impact Assessment Report, see **Appendix E**.

SUMMARY

The recommended improvements described in this chapter are the results of a comprehensive process that incorporated the input and feedback of neighborhood residents, local business owners, and City of Austin officials representing a wide variety of interests. The recommendations envision the South Lamar Corridor as a safer, more connected multimodal facility, creating a street that is both an anchor for the surrounding neighborhoods and a welcoming place for local residents and businesses.



CHAPTER 7 PROJECT IMPLEMENTATION



This chapter describes the costs of the transportation improvements identified in Chapter 6 and describes several strategies on how they might be implemented.

COST ESTIMATES

The improvements were either organized into segments or isolated for purposes of estimating costs and planning implementation/construction. **Table 7-1** provides estimated costs to construct the proposed improvements. Improvements identified as “short-term” have a projected timeline of up to five years for implementation. “Long-term” improvements have a projected timeline of between five and 20 years for implementation. Cost estimates do not include right-of-way acquisition costs but do include engineering, materials, traffic control, construction, and contingency costs. The cross section construction estimates also include drainage and utility relocation costs. **Appendix H** provides a detailed breakdown of the cost estimate quantities and unit costs. It should be noted that these are planning level estimates. The actual construction costs may vary and will be developed after detailed designs are completed.

Table 7-1: South Lamar Boulevard Preliminary Project Cost Summary

Location/ Limits	Descriptions	Improvement Type		Cost
		Short-Term*	Long-Term*	
Between Riverside Dr. and Barton Springs Rd.	Construct new cross section, protected bike facility, cycle tracks, etc.	\$7,250,000	-	\$7,250,000
Between Barton Springs Rd. and Treadwell St.	Construct new cross section	\$6,100,000	-	\$6,100,000
Treadwell St.	Construct bicycle connection to West Bouldin Creek Greenbelt	\$3,450,000		\$3,450,000
Between Treadwell Rd. and Brodie Oaks	Construct new cross section	-	\$38,700,000	\$38,700,000
Between Evergreen Ave./Collier St. and Hether St./Mary St.	Install traffic signal, construct roundabout at Mary St. and Evergreen Ave., etc.	\$1,150,000	-	\$1,150,000
Oltorf St.	Remove NB right-turn channelization and construct bus queue jump	\$300,000	-	\$300,000
Between Del Curto Rd. and Bluebonnet Ln.	Install traffic signal, construct roundabout at Del Curto Rd. and Bluebonnet Ln., etc.	\$1,450,000	-	\$1,450,000
Bluebonnet Ln.	Construct NB right-turn bay and bus queue jump	\$600,000	-	\$600,000
Between Manchaca Rd. and Barton Skwy.	Construct NB bus lane	-	\$1,000,000	\$1,000,000
Barton Skwy.	Construct NB right-turn bay and bus queue jump	-	\$300,000	\$300,000
West Oak Dr.	Install pedestrian hybrid beacon	\$100,000	-	\$100,000
Total	-	\$20,400,000	\$40,000,000	\$60,400,000

*2015 Dollars Rounded up to the nearest fifty thousand.



In the immediate term, the City could work proactively with private property owners to consolidate driveways and to introduce shared access where possible. Parking that encroaches within the right-of-way should be removed and/or reconfigured as properties develop. The City should work with developers to ensure that sidewalks, street trees and bike ways are implemented consistent with the ultimate cross section, as part of any new project. As an ongoing effort, it is recommended that the City also introduce interim improvements that provide ADA compliant sidewalks.

Implementation of the recommended improvements for South Lamar Boulevard might also be phased with development and/or capital funded projects. For example, improvements from Riverside Drive to Treadwell Street could be a highly viable short-term Capital Improvements Project (CIP) with potential to be funded through a transportation bond. Construction of the ultimate cross section south of Treadwell Street could also be part of one or more CIP projects in the future, as opportunities present themselves.

FUNDING SOURCES

Acquiring funding for infrastructure and transportation improvements can be a significant challenge. The funding strategies listed here are a combination of guidance from the federal, state, and regional agencies regarding the use of local funds provided by the 2012 General Bond election and the leveraging of grant funding from these sources. Not all of these sources will be applicable for the South Lamar Boulevard Corridor. However, these funding sources have been used successfully on other similar projects.

Listed below are some funding sources that could help to pay for improvements on South Lamar Boulevard.

GENERAL OBLIGATION BONDS

General obligation bonds are a common type of municipal bond that is secured by a state or local government utilizing available resources, such as tax revenues, to repay bond holders. These bonds may be used to fund the South Lamar Boulevard Corridor improvements provided that the project is approved by voters. The City could consider a citywide transportation bond to initiate the improvements along South Lamar Boulevard and other major corridors (e.g., East Riverside Drive, Airport Boulevard, Burnet Road/North Lamar Boulevard, MLK Street/FM 969, Guadalupe Street etc.). An initial bond could focus on constructing a first phase of infrastructure improvements aimed at increasing tax revenue and attracting private funds to complete the vision for these major urban corridors.

PUBLIC-PRIVATE PARTNERSHIP (PPP)

A public-private partnership is a governmental (local, state, or federal) service or a private business venture which is funded through the partnership of the government in conjunction with one or more private sector companies. Along the Lamar Corridor, there may be opportunities for the City to partner with property owners and developers to construct portions of the roadway and streetscape infrastructure.

SPECIAL ASSESSMENT DISTRICT (SAD)

This is a defined area within which residents and businesses pay additional taxes in order to fund activities or improvements that benefit their district. The SAD can employ other funding mechanisms (private, philanthropic etc.) to fund services such as providing security, way finding signs, incident



management, centralized parking, making capital improvements etc. beyond those already provided by the City. Public Improvement Districts (PID), Business Improvement Districts (BID) and Local Improvement Districts (LID) work similarly to a SAD as well and must be approved by the residents and businesses within the District. These types of assessment districts can be a one-time or on-going assessment.

DEVELOPMENT IMPACT FEES

Development impact fees are a method to ensure that newly developed and redeveloped properties pay for the cost to improve the transportation elements of the corridor directly or indirectly impacted by the development.

TAX INCREMENT FINANCE DISTRICT (TIF)

TIF is a form of financing used to fund development and redevelopment and allows local municipalities to capture a portion of an increase in tax revenue as surrounding properties increase in value due to a public infrastructure investment. Bonding against the captured increment can be used to fund the initial public infrastructure investment and/or subsequent ones.

STATE INFRASTRUCTURE BANK (SIB)

As stated by the Federal Highway Administration, the SIB program gives states the capacity to increase the efficiency of their transportation investment and significantly leverage Federal resources by attracting non-Federal public and private investment. A SIB, much like a private bank, can offer a range of loans and credit assistance enhancement products to public and private sponsors of Title 23 highway construction projects or Title 49 transit capital projects.



CHAPTER 8 FUTURE LAND USE MANAGEMENT STRATEGIES



This chapter provides a review of existing policies and plans that currently guide transportation improvements, new development, environmental conservation and cultural enrichment within the South Lamar Corridor Study area in Austin, Texas. The intent of the chapter is to summarize relevant policies, plans and recommendations that may influence the vision and implementation of strategies for improving transportation, economic development and quality of life within this corridor. Using these strategies and policies as a guide will help to maintain clear goals and a unified vision for the South Lamar Boulevard Corridor while identifying and implementing improvements.

DEVELOPMENT STRATEGIES

CORRIDOR WIDE DEVELOPMENT PRINCIPALS

Preserve Intersection Functional Area

Functional area is the space beyond the physical intersection within which vehicles are stored and within which drivers make decisions and maneuvers to stop, proceed through the intersection or turn. Additional conflicts are caused by cars entering and exiting driveways and increase safety risk and reduce mobility. As redevelopment occurs driveway permits should be carefully considered with these factors and risks in mind.

Capital Improvements and Maintenance

A sufficient financial investment will need to be made to implement the short- and long-term improvements recommended for South Lamar Boulevard. An appropriate maintenance plan will be necessary to maintain these improvements and preserve the integrity of the infrastructure. The City of Austin should include the maintenance of South Lamar Boulevard in their Transportation Fund to ensure the corridor continues to operate at ideal conditions.

Access Management/Minimize Driveway Access

Promoting and following smart access management can improve safety and mobility along a major arterial roadway like South Lamar Boulevard. Carefully managing the location, spacing, design, and operation of driveways, median openings, and street connection is a valuable strategy in urban planning. Careful access management can increase public safety, encourage alternate modes of travel, extend the life of roadways, reduce traffic congestion, and improve the appearance and character of the built environment.

Accommodate Non-motorized Road Users

City of Austin Land Use and Transportation Policies state that development should be designed to encourage walking and bicycling. Communities should have realistic opportunities for bicycle and walking travel. Planning for improved infrastructure on South Lamar Boulevard that provides continuous, connected, protected and safe conditions for those wishing to travel by non-motorized means will provide an increased sense of space and will meet the goals of the Imagine Austin Comprehensive Plan.

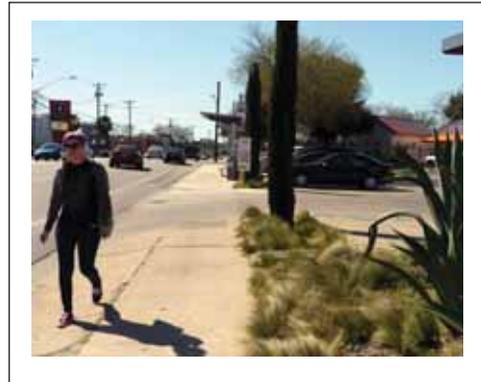


Accommodate Bus and Transit Corridor Users

A system of well-connected sidewalks and bike lanes will also contribute to improving access to transit stops. Transit stops should accommodate people on foot and people on bikes, and should meet guidelines for providing adequate shelter, shade and amenities to transit rider. Amenities at transit stops that increase the usability, convenience, safety and comfort of riders contribute to the overall appeal of public transportation. Waiting pads, shelters, seating, lighting, route information, bike racks and trash bins are some examples of amenities that will help to accommodate bus and transit users.

Promote Sustainable Water and Storm Water Practices

The Imagine Austin Comprehensive Plan promotes environmental awareness to ensure the long-term health and quality of the community. Growth and infrastructure systems should be well-managed to respect the limitations of our natural resources. Integrating stormwater management systems into buildings and site development can help to reduce the threat of flooding to public safety and private property. Stormwater management systems can also help to reduce pollution in creeks from runoff, overflow and other non-point sources. Implementing sustainable landscaping with native plants will reduce water consumption, reduce or prevent pollution and erosion, and maintain ecological balance, as well as enhance the built environment.



Sustainable landscaping reduces water consumption.

TRANSPORTATION RELATED POLICIES AND PLANS

Transportation polices should be reviewed on a regular basis to establish that guidelines continue to meet the needs of the corridor. As the corridor is being developed by parcels, it is critical to evaluate these projects consistently keeping in mind the overall corridor vision. The City of Austin should consider adopting corridor-wide policy recommendations shown in **Table 8-1** as each project is developed.

VEHICULAR/ROADWAY PLANNING

The CAMPO Plan

The Capital Area Metropolitan Planning Organization (CAMPO) is the Metropolitan Planning Organization (MPO) for Bastrop, Burnet, Caldwell, Hays, Travis and Williamson counties. CAMPO coordinates regional transportation planning with counties, cities, Capital Metropolitan Transportation Authority (CMTA), Capital Area Rural Transportation System (CARTS), Central Texas Regional Mobility Authority (CTRMA), and TxDOT. The CAMPO 2035 Long Range Transportation Plan is the active long-range plan for the greater Austin area. It establishes a vision, plan and implementation strategy for developing a comprehensive multi-modal transportation system by 2035. The plan anticipates funding constraints and provides a framework for supporting regional air quality, preserving natural resources and fostering social equity.



Table 8-1 details policy changes recommended for South Lamar Boulevard.

Table 8-1. Policy Recommendations

Limits (Lamar @)	Project	Mode					Description
						Other	
Corridor-wide	Planning/Development	X	X	X	X		Use recommended ultimate cross section as guidance for future developers to site plan and plat.
Corridor-wide	Planning/Development	X					Require compliance with proposed setback.
Corridor-wide	Planning/Development	X	X		X		Require redevelopers to make frontage improvements.
Corridor-wide	Planning/Development					X	Require new developers to bury overhead transmission lines.
Corridor-wide	Driveway access				X		Do not guarantee full-purpose driveway access to businesses.
Corridor-wide	Driveway access				X		<ul style="list-style-type: none"> Permit only 1 primary site driveway if frontage is less than 400 feet. Permit an additional secondary driveway if site has additional frontage.
Corridor-wide	Driveway access				X		<ul style="list-style-type: none"> Set the maximum primary driveway width equal to 30 feet. Set the maximum secondary driveway width equal to 24 feet.
Corridor-wide	Driveway access				X		Do not permit driveways within 100 feet of an intersection.
Corridor-wide	Parking				X		Facilitate cooperation between COA and businesses where private parking extends into public right-of-way.
Corridor-wide	Parking				X		Facilitate accessory parking agreements.
Corridor-wide	Parking				X		Facilitate joint access agreements.
Corridor-wide	Parking				X		Facilitate parking agreements with private developers.
Corridor-wide	Parking				X		Implement parking in-lieu fees to finance centralized parking facilities.
Corridor-wide	Parking				X		Loosen parking space requirements of private businesses.
Corridor-wide	Utilities					X	Move overhead transmission lines underground.
Corridor-wide	Utilities					X	Promote stormwater capture and infiltration over surface runoff to stormwater drains.



Austin’s 2014 Strategic Mobility Plan (ASMP)

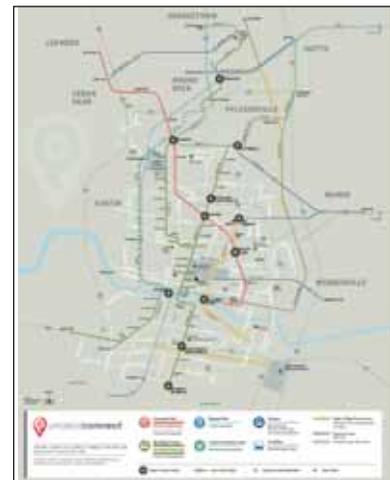
The 2014 Austin Strategic Mobility Plan (ASMP) includes recommendations for funding significant regional roadway projects. The 2014 ASMP highlights the importance of leveraging the City of Austin’s transportation investments by working with regional partners to address large, significant infrastructure projects throughout the region to meet the needs of a growing, highly urbanized Austin. A new Regional Transportation Management Center is included in the ASMP plan to better manage peak hour traffic flow, construction activities, crash and weather related diversions and traveler information systems with state of the art technology.

The study segment of South Lamar is designated as a “project of regional significance” as part of the Regional Safety and Mobility Corridor Development Programs. Additionally, the South Lamar study area segment is identified as part of an alignment for a future phase of Urban Rail.

TRANSIT PLANNING

Project Connect

Project Connect is the proposal for Central Texas’ high-capacity transit system. This multi-agency planning effort began in 2012 to analyze several key regional transportation corridors in order to identify those of highest priority and to recommend alignments and technologies for such high-capacity transit. The North Corridor and the Central Corridor were identified as priorities. The South Lamar study area falls entirely within the Central Corridor and is deemed the “SoLa” sub- corridor. Central Corridor partners include Capital Metro, CAMPO, Lone Star Rail District (LSTAR), the City of Austin and the Central Corridor Advisory Group.



LSTAR: Also part of the Project Connect Plan are plans for a new regional rail line called LSTAR which is being developed by the Lone Star Rail District. Running just east and parallel to the South Lamar corridor is the existing Union Pacific Railroad-owned corridor, where Amtrak runs service and where the LSTAR intercity passenger rail service between Georgetown and San Antonio is proposed. Five of the 16 proposed stations will be in Austin. The closest stop on this line would be at the Seaholm District, located in the southwestern quadrant of Downtown Austin, just north of the study area across from Lady Bird Lake.

Capital Metro’s All Systems Go! and Service Plan 2020

Capital Metro’s 2025 long-range transit plan is called All Systems Go! and seeks to expand premium transit service to address the rapidly growing population and employment of the local transit agency’s service area over the next 20 years. This plan identified the study area segment of South Lamar as a bus rapid transit line, to be equipped with more “high-tech” and higher-capacity buses with signal pre-emption capability, frequent headways, faster service and stations equipped with real-time arrival technology.



Service Plan 2020: In 2009, Capital Metro conducted a comprehensive operations analysis of the existing fixed route bus system and developed the Service Plan 2020, a 10-year plan to improve bus service and implement elements of All Systems Go! Specific goals of Service Plan 2020 included:

- Improving route directness and system connectivity
- Increasing ridership, and
- Increasing cost effectiveness of bus operations

MetroRapid and Frequent Service Corridors: One of the final recommendations in the Service Plan 2020 is to implement a network of frequent bus routes throughout the urbanized area and to improve the MetroRapid Infrastructure, including transit signal priority, stations, shelters, bus lanes and new terminal locations. The Burnet/South Lamar or Route 803 is one of these bus rapid transit routes with five stops within the South Lamar study area.

BICYCLE AND PEDESTRIAN PLANNING

Bicycle Master Plan and Urban Trails Master Plan

The 2014 Bicycle Master Plan Update and the Urban Trails Master Plan were both recently adopted by City Council. The Bicycle Master Plan incorporates elements of the Imagine Austin Comprehensive Plan by proposing the creation of a connected and protected active transportation network that will provide additional transportation options for Austin residents and visitors. The Plan's over-arching goals are to significantly increase bicycle use and improve bicycle safety throughout Austin. These two strategies are projected to have positive impacts not just for people who bike, but for the community at large. These impacts include improved traffic congestion, public health, economic development, affordability, sustainability and quality of life.

The Bicycle Master Plan and Urban Trails Master Plan together set forth a connected and protected, "all ages and all abilities", active transportation network of connected trails and on-street bikeways throughout Austin. Sometimes called "multi-use" or "shared-use" paths, Urban Trails are used by bicyclists, scooter-riders, skateboarders, walkers, joggers and others for both recreation and transportation purposes. The purpose of the Urban Trails Master Plan is to evaluate trail opportunities and policy changes to support a city-wide network of Urban Trails.

City of Austin Sidewalk Master Plan

The Sidewalk Master Plan provides guidance on creating an accessible and walkable city and allows for prioritization and planning of future sidewalk projects and associated funding improving connectivity. It also provides a foundation for associated City initiatives that involve the pedestrian realm.

An important tool in the Sidewalk Master Plan is the "Absent Sidewalk Prioritization Matrix", which defines priorities for implementing needed sidewalks. Additionally, public health data is incorporated into the Matrix, consistent with national trends in city planning that look at the effect of the built environment on public health.

ENVIRONMENTAL-RELATED POLICIES AND PLANS

Parks and Recreation Long Range Plan

The City of Austin Parks and Recreation Department (PARC) Long Range Plan for Land, Facilities, and Programs (LRP) functions as a guide for the future growth and development of Austin's parks and recreation system. The LRP provides recommendations for greenway and parkland acquisition,



park development, park renovations and master planning. The LRP also recommends continued development of existing parks that fall within the City's under-served areas, one of which is the Del Curto Neighborhood Park located a quarter-mile east of the South Lamar Corridor. The PARD Gap Analysis Map (below) shows where the PARD LRP may impact the South Lamar Corridor.

Watershed Protection Master Plan

The Watershed Protection Master Plan is the City of Austin's strategic plan that manages erosion, flood, and water quality problems. One of the most relevant programs to the South Lamar Boulevard Corridor is the Sustainable Stormwater Solutions Program, which designs, implements and evaluates engineered systems that reduce pollution in Austin's creeks, lakes and aquifers. The program seeks to use stormwater as a resource rather than as a waste product. In the early 1980s, due to rising concerns about non-point source pollution associated with urban development, the City of Austin began requiring new development to provide stormwater Best Management Practices (BMPs).

CONCLUSION

The existing policies and plans described here were developed to help guide transportation improvements, development, environmental conservation and cultural enrichment within the South Lamar Boulevard Corridor. These policy documents and comprehensive plans should be looked to as resources as improvements are developed for this rapidly changing corridor. Maintaining clear goals and a unified vision for the South Lamar Boulevard Corridor will help to preserve the character and nature of this corridor as it continues to serve the adjacent neighborhoods, the surrounding community, and those seeking to enjoy and use the facility for years to come.

