



MEMORANDUM

TO: Mayor and Council Members

FROM: Robert Goode, P.E., Assistant City Manager

DATE: June 13, 2016

SUBJECT: **Corridor Mobility Development Program**

This memo provides information on the Corridor Mobility Development Program, which is a long-term program to develop and maintain conceptual designs for critical roadways in our transportation network. To meet expectations of the City's adopted comprehensive plan, corridor mobility reports are used to identify short, medium and long-term infrastructure needs to transform roadways that were designed for the automobiles into roadways that provide mobility and safety for all users. To date, five corridor reports have been completed with one close to completion. These reports are the basis for the Corridor Mobility recommendations that staff brought to Council at its Budget Work Session on June 1, 2016.

To supplement the work session briefing, this memo contains additional information on the creation of the Corridor Mobility Development Program, the selection of the initial corridors to be studied, the identified improvements from each of the corridor mobility reports, the anticipated outcomes of those improvements, and the stakeholder engagement processes associated with the program.

Creation of the Corridor Mobility Development Program

In order to focus on mobility within our most used corridors, Austin Transportation staff developed a "Top Critical Arterials in the City" list. This list, consisting of arterials with the highest traffic volumes and transit boardings, evolved into the "Corridor Mobility Development Program". While the "Top Critical Arterials in the City" list is an important consideration for selecting corridors to be studied, other factors are also considered. These factors include leveraging investment in mobility projects by other agencies, such as Travis County and TxDOT, private sector development timing, City Council resolutions, the Austin Metropolitan Area Transportation Plan, as well as imminent mobility and safety information as collected through 311 and other means.

The purpose of the Corridor Mobility Development Program is to develop a set of recommendations to improve safety, mobility, and quality of life along the City's major corridors. Approximately 16% to 19% of the City of Austin population lives within a quarter-mile of the seven corridors included in the completed or active Corridor Mobility Development Program reports. Approximately 26%-29% of the population lived within a half-mile of the corridors, according to a staff analysis using the 2010 U.S. Census data. Each Corridor Mobility Report identifies the needs of the roadway and establishes a plan, as well as an implementation strategy, for the corridor. The implementation strategy includes the identification of short, medium, and long term transportation improvements.

Prioritization of these Corridors evolved through the development of **recent Bond Programs**.

2010 Mobility Bond

On November 2, 2010, Austin voters approved a \$90 million bond package to fund a variety of road, bicycle, pedestrian and transit improvements throughout Austin. In preparation for program development, a project prioritization evaluation method was developed by staff and approved by City Council on April 29, 2010. With that evaluation method in hand, City staff and the consultant team worked with community members, partner agencies and a Council-appointed Citizens Task Force to develop the 2010 Mobility Bond program based on public input. The following corridors were funded by the 2010 Bond Program.

- **North Lamar Boulevard (US 183 to I-35) and Burnet Road (Koenig Lane to MoPac)**
 - The substandard conditions of the North Lamar and Burnet corridors proved to be significant mobility and safety issues for motorists, pedestrians, bicyclists, and transit users along the corridors. Compared to citywide data, a higher proportion of residents living around these corridors do not have access to a vehicle.
- **East Riverside Drive (I-35 to SH 71)**
 - Prior to bond development, the City had adopted the East Riverside Corridor Master Plan and published a Draft East Riverside Corridor Regulating Plan. These plans were used as guidance for the corridor mobility report.
- **Airport Boulevard (North Lamar Boulevard to US 183)**
 - The segment of Airport Boulevard between I-35 and North Lamar Boulevard was also the focus of the Upper Airport Redevelopment Initiative, which was conducted in tandem with the Corridor Mobility Development Program and provided the Airport Boulevard Corridor Report with an additional level of detail.
- **FM 969/E. MLK Jr Blvd (US 183 to Webberville)**
 - The goal of the FM 969 / East MLK Jr Blvd Corridor Development Program is to develop a set of recommendations to improve safety, mobility and quality of life along FM 969 between US 183 and Webberville. An overview of recommendations for the corridor include additional travel lanes, an innovative “Super Street” intersection design for improved traffic operations, safety lighting, and pedestrian and bicycle improvements by way of sidewalks and protected bicycle lanes. Super Streets is a term used for non-traditional intersection treatments designed to improve traffic operations on congested arterials.

2012 Bond, Proposition 12: Transportation and Mobility

On November 6, 2012, Austin voters approved \$306.6 million in bond propositions to fund capital improvements, including \$143.3 million for Proposition 12: Transportation and Mobility. 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 bond proposition provided project funding for two additional Critical Arterials for the Corridor Mobility Development Program

- **South Lamar Blvd (Riverside Drive to Ben White Blvd/US 290)**
 - South Lamar 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.

- **Guadalupe Street (Martin Luther King Jr. Boulevard to West 29th Street)**
 - With some of the highest pedestrian and bicycle volumes in Austin, Guadalupe Street needs safe space for everyone. A relatively new protected bike lane, efficient bus stops and wider sidewalks have helped accommodate the high demand from bicyclists and pedestrians, but additional transportation improvements are necessary to address the needs of one of the highest density corridors in Austin. Identifying short- to long-term transportation improvements to enhance mobility, safety and quality of life along the Guadalupe Street Corridor will provide additional multimodal options and develop opportunities for positive growth along the highly-traveled corridor.
 - *Next Steps:* On June 14, the preferred recommendations will be presented to the Urban Transportation Commission. Over the next few months, the consultant will be working with ATD to finalize the plan and prepare a presentation along with the supporting analysis for review by the City of Austin stakeholders.

Top Crash Location Intersections

Since the completion of the Corridor Mobility Reports, the City identified “Top crash location intersections” (attached). Intersections within this prioritization list that are included in the Corridor Mobility Report recommendations have been noted in descriptions below. These intersections have some of the highest rates of vehicular, pedestrian and bicycle crashes resulting in serious injuries or deaths in the City. The intersections noted below fall within the Top 28 of crash location intersections. Safety improvements to these intersections could include signals, striping, and/or medians. The average cost for these improvements ranges from \$500,000 to \$1.2M. The estimates could change significantly based on the detailed safety studies to be completed.

Complete Streets

In June 2014, the City Council adopted a robust Complete Streets Policy focused on developing corridors within a multi-modal transportation system that will be supportive of mixed-use, pedestrian, transit, and bicycle friendly development patterns. This policy is intended to realize the community’s vision articulated in the Imagine Austin Comprehensive Plan for a healthy, green, vibrant, compact and connected community. The eight Complete Street Principles adopted as City Policy are as follows: Complete Streets 1) serve all users and modes, 2) require a connected travel networks, 3) are beautiful, interesting and comfortable places for people, 4) require best-practice design criteria and context-sensitive approaches, 5) protect Austin’s sustainability and environment, 6) include all roadways and all projects and phases, 7) are the work of all City departments, and 8) require appropriate performance measures.

Improvements in the Corridor Mobility Development Program and Anticipated Outcomes

The following are improvements at various funding levels, based upon the recommendations included in the reports for corridors noted below. The details provided are based on high level estimates from analysis of the corridor reports. The anticipated outcomes for all corridors can be generalized as intersection improvements that enhance level of service for motor vehicles (including transit), intersection safety improvement for all modes per our Top 28 Safety Intersections, and the provision of improved mode choice options to manage traffic demand (Complete Streets). Level of service intersection improvements translate to reductions to AM and PM peak travel time delay. All corridors will have intersection improvements starting at the \$250-300M packages, with more improvements to mode choice options in the larger packages, as well as the opportunity for more intersection safety enhancements. Anticipated outcomes for full corridor implementation are included in each corridor report.

We listed a few of the projected outcomes that are predicted upon completion of all the corridor improvements identified in each Corridor Report. Please refer to each Corridor Report for a complete list of

anticipated outcomes. **At this time it is not possible to determine interim outcomes by package other than the enhanced level of service at interactions starting with the \$250M package.** More refined information on anticipated outcomes will result from program and project development occurring during the implementation process (as described in the separate Bond Implementation and Oversight memo). For example, drainage and other utilities may need to be further considered as part of the project development process and additional funding may be needed.

The *Capital Metro Transit Authority* staff has indicated that the proposed packets described below make progress towards helping transit fulfill its unique ability to move many people in a small amount of space. Please refer to the attached memorandum from the *Capital Metro Transit Authority* for details on included transit improvements per corridor, as well as additional recommendations.

Corridor Improvements per funding level

- **North Lamar Boulevard (US 183 to I-35) – 5.9 mile total length; Facilitate multi-modal throughput without adding lanes; Build upon the current contract for a Complete Streets section under development between Rundberg Ln and W. Longspur Blvd. The report concludes that completion of all corridor improvements will result in a corridor wide average 48% and 49% reduction in AM and PM peak intersection delays respectively resulting in a 7% emissions reduction.**
 - **Funding Level: \$250-300M package (\$18M for corridor)**
 - This package includes short-term operational, safety, transit (bus stop shelters/relocation) and intersection improvements, and design and construction of a 0.3 mile Complete Streets section from W. Longspur Blvd north to Masterson Pass. This would tie into the 0.3 mile Complete Streets section (W. Rundberg Ln to W. Longspur Blvd) to the south.
 - 5% of corridor converted to Complete Streets
 - 0.6 miles of new or improved bicycle facilities
 - 0.6 miles of new or improved sidewalks
 - **Funding Level: \$500M package/\$720M Blended package (\$35M for corridor)**
 - This package includes, in addition to the above, design and construction of a 0.4 mile Complete Streets section from Masterson Pass north to W. Grady Drive.
 - 12% of corridor converted to Complete Streets
 - 1.4 miles of new or improved bicycle facilities
 - 1.4 miles of new or improved sidewalks
 - **Funding Level: \$720M Prioritize Corridors package (\$85M for corridor)**
 - This package includes, in addition to the above, design and construction of a 0.4 mile Complete Streets section from W. Grady Drive north to Braker Lane and a 1.4 mile Complete Streets section from Rundberg Lane south to US 183.
 - 42% of corridor converted to Complete Streets
 - 5.0 miles of new or improved bicycle facilities
 - 5.0 miles of new or improved sidewalks
- **Burnet Road (Koenig Lane/RM 2222 to MoPac) – 5.3 mile total length; Facilitate multi-modal throughput without adding lanes. Develop from the south to the north. The report concludes that completion of all improvements will result in a corridor wide average 11% and 27% reduction in AM and PM peak intersection delays respectively resulting in a 2% emissions reduction.**
 - **Funding Level: \$250-300M package (\$19M for corridor)**
 - This package includes short-term operational, safety, transit (bus stop shelters/relocations) and intersection improvements, and design and construction of a

- 0.3 mile Complete Streets section from Koenig Lane/RM 2222 north to White Horse Trail.
 - 6% of corridor converted to Complete Streets
 - 0.6 miles of new or improved bicycle facilities
 - 0.6 miles of new or improved sidewalks
 - Funding Level: **\$500M package/\$720M Blended package (\$40M for corridor)**
 - This package includes in addition to the above, a 0.4 mile Complete Streets section from White Horse Trail north to Addison Ave.
 - 13% of corridor converted to Complete Streets
 - 1.4 miles of new or improved bicycle facilities
 - 1.4 miles of new or improved sidewalks
 - Funding Level: **\$720M Prioritize Corridors package (\$80M for corridor)**
 - This package includes in addition to the above, a 0.7 mile Complete Streets section from Addison Ave north to Northcross Dr./St Joseph Blvd.
 - 26% of corridor converted to Complete Streets
 - 2.8 miles of new or improved bicycle facilities
 - 2.8 miles of new or improved sidewalks
- **East Riverside Drive (I-35 to US 71) – 3.5 mile total length with additional improvements for select surrounding streets important to the roadway network; Provide transit priority lanes and multi-modal improvements. Develop from the west to the east. Support implementation of Smart City proposal. The report concludes that completion of all improvements will result in a corridor wide mode shift of 3% and average vehicle speeds will increase from 10 mph to 17 mph in the AM peak and 10 mph to 12 mph in the PM peak**
 - Funding Level: **\$250-300M package (\$40M for corridor)**
 - This package includes the design and construction of a 1.3 mile Complete Streets section from IH-35 to Pleasant Valley Rd; driveway consolidation corridor-wide; median improvements corridor-wide; pedestrian improvements corridor-wide; bicycle improvements on Lakeshore Blvd, Grove Blvd, Montopolis Dr, Tinnin Ford Rd, Burton Dr, Elmont Dr, Arena Dr (Shore District Dr) & Parker Ln; and intersection improvements at IH-35, Arena Dr (Shore District Dr)/Parker Ln, Tinnin Ford Rd/Burton Dr, Willow Creek Dr, Pleasant Valley Rd, and Montopolis Dr.
 - 37% of corridor converted to Complete Streets
 - 17.2 miles of new or improved bicycle facilities
 - 2.6 miles of new or improved sidewalks
 - Funding Level: **\$250-500M package/\$720M Blended package (\$60M for corridor)**
 - This package includes, in addition to the above, the design and construction of an additional 1.0 mile Complete Streets section from Pleasant Valley Rd east to Grove Blvd; intersection improvements at E. Riverside & Wickersham Ln; and a connection to the proposed Tier I Urban Country Club Creek Trail.
 - 66% of corridor converted to Complete Streets
 - 19.2 miles of new or improved bicycle facilities
 - 4.6 miles of new or improved sidewalks
 - Funding Level: **\$720M Prioritize Corridors package (\$83M for corridor)**
 - This package includes, in addition to the above, the design and construction of the remaining 1.2 mile Complete Streets section from Grove Blvd east to SH 71.
 - 100% of corridor converted to Complete Streets
 - 21.4 miles of new or improved bicycle facilities
 - 7.0 miles of new or improved sidewalks

- Top Safety Intersections: Riverside Dr @ Willow Creek Dr, Riverside Dr @ Wickersham Ln, Riverside @ Tinnin Ford Rd, Pleasant Valley @ Elmont, Riverside Dr @ Pleasant Valley
- **Airport Boulevard (North Lamar Blvd. to US 183) – 6.5 mile total length; facilitate multi-modal throughput without adding lanes. Create a context of sustainable mixed-use development at key locations (under IH-35 and near ACC Highland). The report concludes that completion of all improvements will result in maintaining a corridor wide intersection level of service C with a few exceptions.**
 - Funding Level: **\$250-300M package (\$20M for corridor)**
 - This package includes short-term pedestrian improvements, mid-block crossings with pedestrian hybrid beacons (PHB), and removal of the elevated pedestrian crossing near Airport Blvd and Goodwin Ave.
 - 0% of corridor converted to Complete Streets
 - 0.0 miles of new or improved bicycle facilities
 - 0.0 miles of new or improved sidewalks
 - Funding Level: **\$500M package/\$720M Blended package (\$40M for corridor)**
 - This package includes, in addition to the above, the design and construction of a 0.5 mile Complete Streets section from Denson Dr. south to Koenig Ln consistent with the Phase II ACC Highland Redevelopment Plan.
 - 8% of corridor converted to Complete Streets
 - 1.0 miles of new or improved bicycle facilities
 - 1.0 mile of new or improved sidewalks
 - Funding Level: **\$720M Prioritize Corridors package (\$75M for corridor)**
 - This package includes, in addition to the above, the design and construction of a 0.7 mile Complete Streets section from 46th St south (under IH-35) to Wilshire Blvd/Aldrich.
 - 18% of corridor converted to Complete Streets
 - 2.4 miles of new or improved bicycle facilities
 - 2.4 miles of new or improved sidewalks
 - Top Safety Intersections: Airport @ MLK, Airport @ 12th St, Airport @ Oak Springs Dr, Airport @ Koenig
- **FM 969/E. MLK Jr Blvd (US 183 to Webberville) – 10.9 mile total length; Get out ahead of future growth and set the conditions for multi-modal throughput. Build upon Travis County/TxDOT PTF projects (FM 3177/Decker Lane to Hunters Bend Rd). The report concludes that completion of all improvements will result in a AM peak delay decreases from 61 to 39 seconds and PM peak delay decreases from 35 to 32 seconds at FM 3177/Decker Lane.**
 - Funding Level: **\$250-300M package (\$16M for corridor)**
 - This package includes short-term operational, safety, transit (improved bus stop access) and intersection improvements and design of a 1.8 mile ultimate 6-lane Superstreet from US 183 east to FM 3177/Decker Ln, where Travis County/TxDOT Pass-Through-Financing (PTF) project Phase I begins.
 - 17% of the corridor designed to be converted to Complete Streets
 - Design of 3.6 miles of new or improved bicycle facilities and/or urban trail
 - 0.1 mi of new or improved sidewalks
 - Funding Level: **\$500M package/\$720M Blended package (\$25M for corridor)**
 - This package includes, in addition to the above, construction of an interim portion of the 1.8 mile ultimate 6-lane street.
 - Funding Level: **\$720M Prioritize Corridors package (\$40M for corridor)**

- This package includes, in addition to the above, construction of additional interim portions of the 1.8 mile ultimate 6-lane street.
 - Approximately 17% of corridor converted to Complete Streets
 - Construction of 3.6 miles of new or improved bicycle facilities and/or urban trail.
- **South Lamar Blvd (Riverside Drive to Ben White Blvd/US 290) – 3.3 mile total length; Provide a first-class multi-modal experience without adding lanes. Develop from the north to the south. The report concludes that completion of all improvements will result in Level of Service intersection improvements, reductions in vehicular delays, and safety/operational improvements for all modes.**
 - Funding Level: **\$250-300M package (\$23M for corridor)**
 - This package includes design and construction of 0.6 mile ultimate cross section from Riverside Dr. south to Treadwell St., including transit bus queue jumps and bus pullouts
 - 18% of corridor converted to Complete Streets
 - 1.2 bicycle miles of new or improved bicycle facilities
 - 1.2 miles of new or improved sidewalks
 - Funding Level: **\$500M package/\$720M Blended package (\$23M for corridor)**
 - This package is the same as above.
 - Funding Level: **\$720M Prioritize Corridors package (\$45M for corridor)**
 - This package includes, in addition to the above, short-term operational, safety and intersection improvements.
 - **Guadalupe Street– The study area is composed of Guadalupe Street near the UT Austin campus, with approximate boundaries of Martin Luther King Jr. Boulevard to the south, West 29th Street to the north, Rio Grande Street to the west, and a block into the UT Austin campus to the east; Recommendations developed through a community stakeholder process include changes that increase pedestrian, bicycle, vehicular and public transit mobility.**
 - Funding Level: **\$250-300M package (\$20M for corridor)**
 - Report not final; cost estimates for recommended improvements still in progress
 - Funding Level: **\$500M package/\$720M Blended package (\$20M for corridor)**
 - Report not final; cost estimates for recommended improvements still in progress
 - Funding Level: **\$720M Prioritize Corridors package (\$40M for corridor)**
 - Report not final; cost estimates for recommended improvements still in progress

Public Engagement

The Corridor Mobility Development Program reports are developed with extensive community input and participation. The public development timeframe typically spans 5-7 months and may include public meetings where participants may take a survey, provide comments on aerial photographs of the corridor to identify specific points of concern or suggestions, and participate in dot exercises and facilitated discussions. The public engagement process typically involves multiple meetings at various stages of the report. Additional feedback opportunities have included focus groups, online surveys, and presentations with Q&A at neighborhood and other organizational meetings.

The number of public participants varies per corridor, ranging from approximately 170 to more than 450 individuals. Some engagement efforts provided specific opportunities aimed at the business community along the corridor or other types of stakeholders besides the general public, such as school districts. Great attention was given to notifying stakeholders of the opportunity to participate in the development of the reports, through dual-language flyers for children to take home and provide to parents, emails, coordination with neighborhood associations and media, mailed postcards, hand-delivered postcards to businesses within the

corridor, and ground signs. An example of the extent of these activities is the East Riverside Corridor report, which was finalized in 2012. In that case, the City of Austin mailed more than 9,000 invitations to an open house to all addresses in the subject area. Invitations were hand-delivered to 300 businesses along East Riverside Drive as well as emailed to businesses.

Measuring Success

A method for the evaluation of implementation of the Corridor Mobility Development Program will be developed upon voter approval of a funding package. Staff will consider the Imagine Austin Comprehensive Plan Complete Community Indicators when developing the evaluation method. These indicators include transportation related metrics such as, Vehicle Miles Traveled, Transit Ridership, Average Transit Headways, Bicycle Miles, and Sidewalk Linear Miles.

Implementation Timeframe

The timeframe for bond program implementation depends upon several factors that staff must assess and consider as part the implementation planning phase after voters approve the bond propositions. Some of the factors that impact program and project implementation include the following:

- Staffing and resource planning for bond program and project delivery;
- Coordination with partner agencies such as Cap Metro and Texas Department of Transportation for work to occur in the corridors;
- Coordination with private development and land use considerations;
- Review of related plans and city priorities that could be positively impacted through implementation of bond programs and projects;
- Internal coordination among City departments with other capital improvements in the corridors, such as water, drainage and other projects that could be needed to accommodate improvements – additional funding may be required at a future date to address these issues.
- Assessment of any existing “on the ground or below the ground” conditions that could impact project and program implementation;
- Public engagement and communications strategy for bond program implementation is in place and carried out at the project and program levels;
- Project phasing and work sequencing so as to minimize potential impacts to traffic and other mobility during the implementation of the program;
- Procurement scheduling that coincides with work planning and sequencing;
- Economic factors such as availability of design consultants, contractors and other external resources needed to deliver bond projects.

If funding is approved, the anticipated timeframe for implementation of corridor improvements, given existing staffing and project delivery resources is approximately 8-10 years for the \$250 million to \$300 million packages, approximately 10-12 years for the \$500 million package, and approximately 12-15 years for the \$720 million package. During those timeframes, some projects would be completed in a shorter period of time and some would take longer to develop, design, and construct. For example, near-term improvements such as sidewalks and on-street bicycle facilities can often be delivered in shorter timeframe than larger scale improvements.

The estimated timeframes for completion could be further accelerated if the following items can be effectively addressed as part of implementation:

- Additional staff resources are made available for efficient project delivery;
- Additional staff resources are made available for effective program management and coordination;

- Procurement process and project delivery methods are explored for most efficient delivery options;
- Additional resources related to program and project implementation and delivery as deemed necessary through implementation planning;
- Consistent and continued focus of multiple City department resources on bond program implementation and delivery throughout the implementation phase.

Next Corridors

Per the June 1 presentation to the City Council, the next corridors for which staff would recommend conducting Preliminary Engineering are: Colony Park Loop Road, FM 1626, Lakeline Boulevard, the middle section of North Lamar Boulevard/Guadalupe Street, RM 1826, and Spicewood Springs Road. In proposed funding packages of \$500 million or more, additional Preliminary Engineering Reports could be conducted for: Barstow Ave. extension, Grove Boulevard, McNeil Drive, MLK Boulevard, South Congress Avenue, South Pleasant Valley Road, Slaughter Lane, and William Cannon Drive.

xc: Marc A. Ott, City Manager
 Robert Spillar, P.E., Director, Austin Transportation Department
 Robert Hinojosa, P.E., Acting Director, Public Works Department
 Mike Trimble, Capital Planning Officer, Capital Planning Office
 Council Executive Assistants

Attachment: Critical Arterials
 Top Crash Location Intersections
 Memo from Capital Metro

Critical Arterials

Critical Arterial		Limits	Length (miles)
1	26th St.	Guadalupe to I-35	0.9
2	Loop 360	MoPac to Lamar Blvd.	15.9
3	Riverside Dr.	Lamar Blvd. to Ben White Blvd.	5.2
4	Parmer Ln./FM 734	Avery Ranch Blvd to Harris Branch Pkwy.	13.8
5	Lamar Blvd.	Parmer Ln. to Panther Trl.	16.0
6	William Cannon Dr.	Southwest Pkwy. to McKinney Falls Pkwy.	11.6
7	FM 620	US 183 to RM 2222	5.8
8	Congress Ave.	11th St. to Slaughter Ln.	7.8
9	Slaughter Ln.	MoPac to I-35	5.7
10	Braker Ln.	US 183 to Dessau Rd.	5.4
11	Airport Blvd.	Lamar Blvd. to US 183	6.6
12	RM 2222	FM 620 to Airport Blvd.	12.3
13	15th St.	MoPac to I-35	2.1
14	Cesar Chavez St.	MoPac to I-35	2.4
15	Rundberg Ln.	Metric Blvd. to Dessau/Cameron Rd.	3.1
16	S First St./Guadalupe St./Lavaca St.	Lamar Blvd. to Slaughter Ln.	12.2
17	Burnet Rd./FM 1325	Loop 1 to 45th St.	6.7
18	Dessau Rd./Cameron Rd.	Parmer Ln. to 51st St.	6.6
19	Manchaca Rd./FM 2304	Lamar Blvd. to Slaughter Ln.	5.5
20	MLK/FM 969	Lamar Blvd. to Decker Ln.	6.9
21	5th St. & 6th St.	MoPac to I-35	4.2
22	Brodie Ln.	US 290 to Slaughter Ln.	3.9
23	Southwest Pkwy.	William Cannon Blvd. to MoPac	2.8
24	Todd Ln/S Pleasant Valley Rd.	Ben White Blvd. to William Cannon Dr.	2.5
25	Barton Springs Rd.	MoPac to Congress Ave.	1.9
26	7th St.	I-35 to Airport Blvd.	3.2
27	Pleasant Valley Rd.	7th St. to Oltorf St.	2.7
28	35th/38th/38th 1/2 St.	MoPac to I-35	2.4
29	Lake Austin Blvd.	Exposition Blvd. to MoPac	2.3
30	McNeil Dr./Howard Ln./Wells Branch Pkwy.	US 183 to Dessau Rd.	9.6
31	Anderson Mill Rd.	FM 620 to Parmer Ln.	4.6
32	45th St.	Burnet Rd. to Lamar Blvd.	0.3
33	Springdale Rd.	US 290 to Cesar Chavez St.	6.0

Top Crash Location Intersection Priorities (June, 2016)

	Intersections	District(s)
1	Airport Blvd / MLK	1
2	Airport Blvd / 12 St	1
3	Airport Blvd. / Oak Springs Dr.	1,3
4	IH 35 SR (NB) / 7 Street	1, 3, 9
5	I-35 Service Rd. (NB) / Braker Ln	1,4,7
6	8th Street/IH35	1,9
7	Slaughter Ln. / Cullen Ln.	2,5
8	Slaughter Ln / South 1st Street	2,5
9	Willow Creek Dr./Riverside Dr.	3
10	Riverside Dr. / Wickersham Ln.	3
11	East Riverside / Tinnin Ford Rd	3
12	Pleasant Valley / Elmont	3
13	EB Riverside Dr. / Pleasant Valley Rd.	3
14	E Oltorf/Parker Ln	3,9
15	S Congress Ave. / Oltorf St	3,9
16	I-35 Service Rd. (NB) / Cesar Chavez St.	3,9
17	I-35 Service Rd. (NB) / Rundberg Ln.	4
18	Lamar Blvd. / Payton Gin Rd.	4
19	Airport Blvd. / RM 2222 (Koenig Ln)	4
20	Lamar Blvd. (Loop 275) / RM 2222 (Koenig Ln.)	4,7
21	N lamar Blvd/W St Johns Ave	4,7
22	S Lamar Blvd / Manchaca Rd	5
23	US 183 SR (NB) / Lakeline Blvd	6
24	Braker Ln. / Stonelake Blvd.	7
25	Red Bud Trail / 3400 Block - W of River Crossing	8,10
26	Slaughter Ln/Brodie Ln	8,5
27	45th St. / Red River St.	9
28	Barton Springs Rd / S 1st St	9



MEMORANDUM

TO: Capital Metro Board of Directors

FROM: Linda Watson, Capital Metro President, CEO

DATE: June 13, 2016

RE: Assessment of City of Austin Corridor Improvement Proposals

The City of Austin is currently evaluating proposals that would implement completed corridor studies including: Riverside Drive, Airport Boulevard, North Lamar & Burnet Corridors, Martin Luther King, Jr Boulevard/FM 969, South Lamar and Guadalupe St. Additionally, a brief summary of proposed investments to transform I-35 with managed lanes is included as an informational item; however, at this time funding has yet to be identified for these improvements. The purpose of this memo and accompanying table is to respond to Board requests to evaluate the impact these improvements would have on transit. This request is particularly relevant now in light of the recent City of Austin outreach project (Mobility Talks) that indicates citizens are expressing strong support for transit improvements. There are proposals from City staff ranging from \$250 million to \$720 million being considered. The \$720M Enhance Corridor Alternative (\$720M ECA) proposal that prioritizes corridors includes \$448M for the aforementioned corridors (not including I-35), \$93.5M for regional mobility projects and \$155M for local mobility projects.

These major corridors are physically constrained while at the same time seeing tremendous growth, and they function both as destinations themselves and pathways for travelers to get to and from the central core. For these reasons, their current auto-orientation cannot be sustained as Austin continues to grow-- there simply is not enough space for more people to drive or to park. ***To manage congestion and provide mobility and access, re-developing these corridors as places that support and enable walking, biking and transit use is critical. Increasing the percentage of trips that occur by these more space-efficient modes is one of the only alternatives available to avoid gridlock and allow for continued growth and economic development as the city matures.***

Capital Metro has and will continue to put an emphasis on high-quality and frequent service within these corridors, providing service that people can use to get to jobs, school and recreation. **For transit to attract more users and maximize its role in mitigating congestion, corridors must be re-developed to help buses get 'unstuck' so they can provide faster travel times and more reliable service.**

Following is a description of the major corridors and the proposed investments that will provide for direct and indirect benefits to public transit.

North Lamar

Overview

Much of North Lamar is currently inhospitable to pedestrians, cyclists and transit users as a result of a decades long emphasis on prioritizing the automobile, and the corridor plan proposes to help address that to create a more vibrant and livable community. Access to and from bus stops and stations along this corridor is difficult at present and the proposed improvements to make it more walkable and bikeable may improve transit ridership and mode share. Capital Metro has plans to increase frequency on bus routes in this area to better serve all riders, especially those that are transit dependent. MetroRapid Route 801 service operates in this corridor and there are plans to upgrade service with additional frequency and new stations in next 12-18 months.

What is in the North Lamar Corridor Plan relating to transit?

The corridor plan includes bus pullouts, which when used in combination with traffic signals to allow buses to re-enter the flow of traffic quickly and efficiently, can improve traffic flow and safety on arterials with higher travel speeds like some segments of North Lamar. However, when not accompanied by traffic signals, bus pullouts typically result in further travel delay as buses experience difficulty reentering the travel lane. **Current best practice from the National Association of City Transportation Officials (NACTO) recommends buses load passengers from the travel lane rather than utilizing a bus pullout lane.** The installation of pedestrian hybrid beacons and crosswalks will improve pedestrian safety and last mile connections to transit. Additionally, the recommendations provided in the North Lamar Corridor Program will improve overall safety and efficiency throughout the corridor, which has a positive impact on transit usage and convenience.

What transit supportive items are included in the mobility proposals for this corridor?

Based on staff's understanding of the proposal (informed by coordination meetings with city staff):

- The \$300M package includes \$18M for the corridor, which includes up to \$123,000 (or up to 0.7% of corridor funding) for the development of 16 bus shelters and the relocation of one bus stop. Indirect benefits include making a 0.3 mile portion of the corridor more walkable and bike-friendly with the potential to increase transit ridership once the entire corridor 'Complete Street' treatment is constructed.
- The \$720M ECA package includes \$85M for a larger 1.8 mile Complete Streets section of North Lamar, of which up to approximately \$873,000 **(or up to 1% of corridor funding)** is directly transit-supportive, primarily for bus pull-outs and pedestrian hybrid beacons.

What changes could be made to maximize transit opportunities?

The following adjustments to the proposal would increase transit's ability to provide access and mobility to travelers in the corridor:

- **Coordinate with TxDOT to implement direct bus access from the North Lamar Transit Center to northbound Lamar at US 183.** Currently, buses are required to take a lengthy and time-consuming pathway through several intersections to continue north after stopping. This project, which uses existing infrastructure with new signals and striping, would give riders faster and more reliable service on MetroRapid and other routes serving the North Lamar Transit Center.
- Optimize the existing transit signal priority in the corridor
- Bus pull-outs can enhance safety and comfort at stops, but must have traffic control to allow buses to reenter the flow of traffic or else they can reduce transit service quality
- Develop queue jumps or other transit priority treatments at intersections where there is significant transit delay (one currently exists at the southbound stop at Crestview Station)
- Grade separate the roadway from the rail line at Crestview Station (discussed in more detail below)

Burnet Road

Overview

The Burnet Road corridor is currently compromised of aging, low density, and auto-oriented development and like North Lamar provides for an inhospitable environment to pedestrians, cyclists and transit users. The corridor plan along with continued redevelopment and addition of mixed-use, transit-supportive land uses along the corridor seek to create a more vibrant and livable community in the area. Capital Metro has plans to increase frequency on bus routes in this area to better serve all riders, especially those that are transit dependent. MetroRapid Route 803 service operates in this corridor and there are plans to upgrade service with additional frequency and new stations in the next 12-18 months.

What is the North Burnet/ Gateway 2035 Master Plan and how does it relate to transit?

The North Burnet/Gateway 2035 Master Plan provides a comprehensive approach to transforming this corridor by reimagining it as a higher density, mixed-use neighborhood, providing pedestrian access and transit-friendly connections. Included in the plan is a makeover of the Burnet Road corridor to include improved pedestrian and bike infrastructure **and center-running, dedicated transit lanes in the long-term.**

What transit supportive items are included in the mobility proposals for this corridor?

Based on staff's understanding of the proposal (informed by coordination meetings with city staff),

- The \$300M package includes \$19M for the Burnet Corridor, of which up to \$20,000 (or up to 0.11% of corridor funding) is allocated to transit for the development of eight bus shelters and four bus stops.
- The \$720M ECA package includes \$80M for the corridor, of which up to \$325,000 (or up to 0.4% of corridor funding) is allocated to transit, including 16 bus pull-outs. Center-running BRT along Burnet Rd. from 183 to MoPac was also proposed as a long term recommendation from the corridor plan; **however, only the 1.4 mile Complete Streets section, which include the bus pull-outs, are included in the mobility proposal at this time.** Estimates at the time the study was conducted reported the BRT portion would cost approximately \$5.7M (not adjusted for inflation).
 - **If the center-running BRT lanes were included, Capital Metro would be able to provide more frequent and reliable service that would enhance access to jobs and other opportunities and result in significant ridership growth.**

What changes could be made to maximize transit opportunities?

The following adjustments to the proposal would increase transit's ability to provide access and mobility to travelers in the corridor:

- Include the full extent of the center-running BRT component in the package as shown in the Burnet/Gateway Master Plan
- Develop queue jumps or other transit priority treatments at intersections where there is significant transit delay
- Optimize the existing transit signal priority in the corridor
- Ensure that all bus pull-outs include traffic signals to allow buses to reenter the through lanes
- Support and facilitate transit-oriented development along the corridor

Riverside Drive

Overview

Capital Metro has plans to roll out its next MetroRapid route in this corridor. It is a significant corridor for Capital Metro because it connects the airport and areas with high transit supportive densities with downtown, the downtown MetroRail station, the state capitol and UT. Riverside Drive was also featured in the recent Smart City Challenge application from the City of Austin, featuring electric-powered Bus Rapid Transit (MetroRapid) operating in dedicated transit priority lanes as a centerpiece, due to the high ridership potential and opportunity for transit to substantially improve equity, access and opportunity for current and future residents in the rapidly developing corridor. Transit priority treatments like signalization, dedicated bus lanes and 10-15 minute frequency will attract new riders by improving service quality and reliability.

What is the East Riverside Corridor Master Plan and how does it relate to transit?

The “complete streets” design proposed in the East Riverside Corridor Master Plan, including the center-running transit priority lanes, has the potential to transform this auto-oriented roadway into a multi-modal corridor that accommodates pedestrians, cyclists, automobiles and transit.

What transit supportive items are included in the mobility proposals for this corridor?

Based on staff’s understanding of the proposal (informed by coordination meetings with city staff):

- The \$300M package does not include any direct transit benefits. Indirect benefits to make the corridor more walkable and bike-friendly along the 1.3 mile Complete Streets section between I-35 and Pleasant Valley Blvd. may increase the potential for transit ridership.
- The \$720M ECA package lays the groundwork for substantial transit benefits with funding for street reconstruction from I-35 to SH 71 to provide for a center-running dedicated transit corridor (this was also a central element of the city’s Smart City Challenge application). **However, while right of way will be preserved for central running high capacity transit, funding of design, construction, station infrastructure, etc. is not included.**

What changes could be made to maximize transit opportunities?

The following adjustments to the proposal would increase transit’s ability to connect people to jobs and opportunity in the corridor:

- Fully fund the center-running dedicated high-capacity transit lanes and associated transit infrastructure as planned in the East Riverside Corridor Master Plan
- Include transit signal priority in the entire corridor
- Implement the proposed improvements from the Smart City Challenge application
- Develop queue jumps or other transit priority treatments at the SH-71 and I-35 intersections
- Support and facilitate transit-oriented development along the corridor
- In the interim, dedicate curbside transit priority lanes from Grove Blvd. to I-35

Airport Boulevard

Overview

Airport Boulevard currently exists as an auto-dominated corridor with difficult pedestrian, bicycle and transit connections. In redeveloping this corridor, the city wishes to re-make an auto-centric corridor into one with higher density, mixed-use neighborhoods, providing pedestrian access and transit-friendly connections. MetroRail parallels a portion of the corridor and it has been designated as a Core Transit Corridor by the City of Austin.

What is the Airport Boulevard Corridor Development Program and how does it relate to transit?

Per the Airport Boulevard Corridor Development Program, completed in June 2014, \$74.4M of improvements, including “Traffic Operations and Congestion Mitigation, Non-Motorized and Transit Travel Improvements, Safety Improvements, Catalyst for Redevelopment, and Regional Water Quality and Drainage” are recommended for this corridor.

What transit supportive items are included in the mobility proposals for this corridor?

Based on staff’s understanding of the proposal (informed by coordination meetings with city staff),

- Neither the \$300M package nor the \$720M ECA package include projects that directly benefit transit. However, both packages do include improvements to the pedestrian and cycling infrastructure that improve transit access. More walkable streetscapes generally lead to increased ridership potential. The \$720 package includes a 1.2 mile Complete Streets section around the ACC Highland redevelopment and from 46th St to the Mueller development, which includes the preservation of right-of-way for future high-capacity transit in the section from I-35 to the entrance of Mueller.

What changes could be made to maximize transit opportunities?

The following adjustments to the proposal would increase transit’s ability to provide access and mobility to travelers in the corridor:

- Include transit signal priority in the entire corridor
- Develop queue jumps or other transit priority treatments at intersections where transit is significantly delayed
- Support and facilitate transit-oriented development along the corridor
- Grade separate the roadway from the rail line at Crestview Station (discussed in more detail below)

Martin Luther King, Jr Boulevard/FM 969

Overview

This corridor, which extends beyond the existing Capital Metro service area, serves a large transit dependent population as well as commuters. Transit connections to the surrounding neighborhoods are significantly lacking due to the Isolation of bus stops with no sidewalk connectivity and the lack of signalized intersections and crosswalks. Additionally, pedestrian and bike connections in this corridor remain underdeveloped and need significant upgrading. Improvements in this corridor will address these issues and improve pedestrian safety and connectivity to transit.

What is the FM 969/East MLK, Jr. Blvd. Corridor Development Program and how does it relate to transit?

The goal of the FM 969/East MLK, Jr. Blvd. Corridor Development Program, completed in February of 2014, was to develop a set of recommendations to improve safety, mobility and

quality of life along FM 969 between US 183 and Webberville. The only mention of corridor multimodality within the plan notes that Capital Metro and Capital Area Rural Transportation System (CARTS) provide a low amount of service on the corridor currently.

What transit supportive items are included in the mobility proposals for this corridor?

Based on staff's understanding of the proposal (informed by coordination meetings with city staff),

- The \$300M package includes \$16M for the FM 969/East MLK, Jr Blvd corridor, of which up to \$563,000 is allocated to new pedestrian access to bus stops between Regency Drive and Craigwood Drive (or up to 3.5% of corridor funding).
- The \$720M ECA package includes \$40M for the corridor, of which up to \$563,000 is allocated to new pedestrian access to bus stops between Regency Drive and Craigwood Drive (or up to 1.4% of corridor funding).
- The ultimate 6-lane "superstreet" design includes bicycle facilities, sidewalks, and intersection improvements. This more walkable streetscape may increase ridership potential, although the "superstreet" concept with high speeds and continuous intersections may create challenges for the walkability and bikeability of this corridor.

What changes could be made to maximize transit opportunities?

The following adjustments to the proposal would increase transit's ability to provide access and mobility to travelers in the corridor:

- Include transit signal priority in the corridor where transit currently operates
- Design the corridor so that it does not preclude the potential for dedicated transit lanes in the future
- Develop queue jumps or other transit priority treatments at intersections where transit experiences significant delay
- Support and facilitate transit-oriented development along the corridor
- Reevaluate the "superstreet" concept and the effect that design will have on biking and walking safety and mode share

South Lamar Boulevard

Overview

The rapid growth of South Lamar Boulevard has led to safety and mobility concerns and lack of multi-modal amenities has made it difficult to access. Transit, pedestrian and bike improvements will allow for safer access to transit and seek to optimize efficient movements of transit vehicles. Queue jumps at signal lights will improve MetroRapid operations, making the service a more attractive choice for travelers. Capital Metro has implemented Route 803 MetroRapid service in this corridor and plans to upgrade that service with additional frequency and new stations in the next 12-18 months.

What is the South Lamar Corridor Transportation Improvement Program and how does it relate to transit?

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 who use transit and those that drive. The program aimed to identify future transportation needs of the corridor and enhancements that could help create a more multimodal transportation system supportive of mixed-use, pedestrian, bicycle and transit-friendly development patterns.

What transit supportive items are included in the mobility proposals for this corridor?

Based on staff's understanding of the proposal (informed by coordination meetings with city staff),

- The \$300M package includes \$23M for the South Lamar Corridor, of which up to \$3,100,000 (or up to 13.5% of corridor funding) is allocated to transit for the development of queue jumps, bus pullouts and bus stop relocations confined between Riverside Drive and Treadwell Street.
- The \$720M package includes \$45M for the corridor. This package entails those transit improvements proposed in the \$300M package, and will also include unspecified funds for operational, safety and intersection improvements at select locations along the corridor. Complete Street buildout from Treadwell Street south to Brodie Oaks Shopping Center, including the development of peak-period bus-only lanes, is not part of any mobility package and would require significantly more funding to complete.

What changes could be made to maximize transit opportunities?

The following adjustments to the proposal would increase transit's ability to provide access and mobility to travelers in the corridor:

- Optimize the existing transit signal priority in the corridor
- Ensure that all bus pull-outs include traffic signals to allow buses to reenter the through lanes
- Plan and develop the corridor improvements to lay the groundwork for future transit priority lanes
- Support and facilitate transit-oriented development along the corridor

Guadalupe (The Drag)

Overview

The section of Guadalupe Street as it passes by the University of Texas campus, or The Drag, has always been one of if not the largest concentration of transit activity in the entire city. Thousands of students, faculty and staff use transit each day to access the campus, and more transit riders traverse the corridor as they travel north and south each day. Analysis completed by Capital Metro several years ago showed that approximately 50% of all travelers on The Drag are on a

Capital Metro vehicle. At the same time, The Drag lives up to its name for transit operations, representing perhaps the most significant choke point in the entire bus network due to congestion. Both Route 801 and 803 MetroRapid services serve this corridor and are being upgraded with additional frequency and new stations in the next 12-18 months. Additional trips on Express routes that currently serve the corridor are also anticipated with the opening of the MoPac Express lanes in January of 2017.

What is the Guadalupe Corridor Study and how does it relate to transit?

Over the past two years, the City of Austin completed a corridor study for this area and the recommendations were released earlier this year. The initial city staff proposal includes implementing transit-only lanes in each direction along the length of the corridor, consolidating and improving bus stops, shifting some vehicular traffic to parallel roadways and developing improved access to The Drag from northbound Lavaca Street at the MLK intersection. As part of its participation in the planning effort for this corridor study, Capital Metro developed an analysis indicating that the travel time savings and increased service made possible as a result is likely to attract more than 500,000 additional transit trips per year in the corridor.

What transit supportive items are included in the mobility proposals for this corridor?

- The Guadalupe corridor proposal does not itemize recommended improvements, so it's unclear whether or not the transit-specific improvements recommended in the corridor study will be funded by any of the mobility packages.

What changes could be made to maximize transit opportunities?

The following adjustments to the proposal would increase transit's ability to provide access and mobility to travelers in the corridor:

- Ensure that the transit-specific improvements recommended in the corridor study are fully funded by the mobility packages
- Optimize transit signal priority in the entire corridor

A Potential Project: Grade Separation of Roadway and Rail at Airport / N. Lamar

While not included in the current mobility proposal, staff believe that this project should be seriously considered for inclusion. As both MetroRapid and MetroRail develop and service levels increase, this point at which these services (along with very substantial volumes of other traffic) cross will become an increasing issue and source of delay. As required by the Federal Rail Administration, each time a MetroRail train passes through the intersection gates come down to hold vehicular traffic. With planned service frequency increases from every 35 minutes to every 15 minutes beginning in 2018, gates will be closing more than twice as often. Freight rail service will also continue to operate in the corridor for the foreseeable future, also causing gates to come down and stop auto and bus traffic.

This possible project has been discussed with City of Austin transportation staff for several years, but does not as of yet have design or environmental work completed. Nonetheless, funding for that work, along with construction of the resulting project, should be considered and the preparation of credible cost estimates for the work should be possible through a coordinated effort.

Regional Mobility Corridor: Interstate-35 Managed Lanes

TxDOT and Capital Metro have been working closely on the managed lane project on I-35 and have made tremendous progress. Buses and vanpools will ride for free and roadway designs will ensure buses can enter and exit the lanes easily. The two agencies have identified access for express buses from the express lanes into downtown. Coming from the south, the busses will exit with other vehicles before Riverside Drive and use a collector distributor to go under or exit Riverside Drive, Holly Street, Cesar Chavez or 6th Street. A bus only exit is being designed at 15th Street to access downtown from the north. And direct access from park and rides to the express lane at Tech Ridge is being designed.

It also appears I-35 can be built to accommodate bus “in-line” access near Rundberg and Slaughter. This means buses will be able to pull out of the express lane without leaving the interstate to drop off and pick up riders and then pull right back into the express lane. This will significantly improve express bus service and avoid disruption to the main lanes that would occur if the bus instead exited and returned to the interstate at those locations.

The ability to transform I-35 from the never-ending parking lot that Austinites loathe to a robust transit spine with frequent, efficient and effective service would have a tremendous positive impact on regional mobility in Central Texas; however, funding for long-term transit improvements to I-35 have yet to be identified.

Summary

The improvements included in the mobility packages are anticipated to have a minor-to-moderate impact on transit system ridership, equity, job access, service quality, service reliability, and safety (Vision Zero). Fundamentally, the emphasis on re-developing auto-centric corridors is critical for citizens as they grapple with the need for mobility and access in the fastest growing city in the country. Walking, biking and transit can support a sustainable, equitable and economically successful future with the right infrastructure and environment in place, providing more options and improved access. Transit’s unique ability to move many people in a small amount of space makes it an essential tool in urban environments. This proposal makes progress towards helping transit fulfill that role, and with the suggested adjustments it has the potential to do significantly more.