TO: Mayor and Council Members

Cc: Marc A. Ott, City Manager

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

DATE: June 16, 2016

SUBJECT: **Responses to City Council questions**

This memorandum provides responses to questions the Mobility Committee and City Council posed to staff during and in follow up to the June 14, 2016 meeting of the Mobility Committee regarding developing and funding transportation projects.

Q1: Which areas of Parmer Lane are being proposed for some bond funds?
TxDOT has yet to begin the Preliminary Engineering Report for Parmer Lane. Preliminary Engineering will identify near-, mid-, and long-term transportation improvements to improve safety as well as increase pedestrian, bicycle, and vehicular mobility and accessibility along the FM 734 (Parmer Lane) corridor from Amberglen Boulevard to FM 1431.

Also refer to Q12 and Q13 for additional information on Parmer Lane.

Q2: Is implementation of the Riverside Drive corridor plan, for any of the packages, dependent on removal of a motor vehicle lane?
While it might be technically feasible to keep existing motor vehicle lanes (three lanes in each direction) and achieve center-running transit and other elements of the Complete Streets sections, the feasibility and cost have not been evaluated. This is a complicated design question that could be considered during program development. But at this time, we do not recommend changing the recommendations developed through the extensive public processes undertaken during the corridor reports. The Riverside Drive Corridor Mobility Development Report and the East Riverside Master Plan are the baselines that we need to use in this very aggressive Bond Program preparation process. We do not recommend committing to a change in cross-section without a thoughtful process that engages the community who participated in the two plans mentioned above. The ultimate cross-section can certainly be explored as we move into design. Additional items that will be coordinated at the design phase include coordination with TxDOT on the IH-35 project (specifically the IH-35 and Riverside Drive bridge/intersection). The recommended improvements support the goals of the Riverside Drive Corridor Mobility Development Report, which include support of existing and future land uses and developing a scaled environment for pedestrians and cyclists.

Q3: How much funding would be required to implement a dedicated transit lane on Riverside Drive as well as the long-term recommendations?

The Riverside Drive Corridor Mobility Development Report recommends a center-running urban rail configuration. A separate estimate for a center-running Bus Rapid Transit (BRT)-dedicated lane on the corridor has not been performed, and, similar to Q2 above, we do not recommend changing the recommendations that were developed though the extensive public process. However, the costs of implementing the two options have many similarities, including cost of utility and sidewalk relocation. Although there are some rail-specific improvements that would be required as opposed to BRT, the cost of these associated improvements are not significant enough to modify the high-level conceptual estimates included in the corridor report or considered prior to program development and implementation phase. The anticipated cost for all long-term corridor improvements recommended in the Riverside Drive Corridor Mobility Development Report, including the anticipated costs to implement either an urban rail or BRT-dedicated lane in a center-running configuration is $398 million. This amount represents an updated cost estimate.

Q4: Staff previously provided estimates for Austin population living within ¼ and ½ mile of the 7 corridors included in the completed or active Corridor Mobility Development Program reports. What percentage of the Austin population lives within 1 to 1.5 miles of these corridors?
Approximately 37%-42% of the City of Austin's population, based on the 2010 U.S. Census Bureau's Decennial Census data, live within 1 mile of the seven corridors for which there are Corridor Mobility Development Program Reports.

Approximately 51%-55% of the City of Austin's population, based on the 2010 U.S. Census Bureau's Decennial Census data, live within 1.5 miles of the seven corridors for which there are Corridor Mobility Development Program Reports.

Q5: Can you confirm that the Enhanced Corridor Program that staff proposed on June 1 only included $40 million for the E MLK Jr. Blvd/FM 969 corridor for improvements within the city limits? Is the expectation that Travis County would partner for the improvements out to Webberville?
The extent of the corridor report for E MLK Jr. Blvd/FM 969 is 10.9 miles from US 183 to Webberville. The corridor improvements between US 183 and Decker Lane/ FM 3177 would be funded at $40M for E MLK Jr. Blvd/FM 969 in the $720M Prioritize Corridors package. This portion of the corridor is within Austin city limits.

Travis County and TxDOT are coordinating on improvements on the remainder of the corridor. Travis County is currently working with TxDOT on a pass-through financing project with two phases. Phase I is 2.2 miles from Decker Lane/FM 3177 east to FM 973. Phase II is 1.9 miles from FM 973 east to Hunters Bend Rd. TxDOT is also currently doing some minor pavement/shoulder widening in this area from Decker Creek Drive to the Travis County/Bastrop County border, which is approximately 7.1 miles. TxDOT anticipates the project to be complete in early 2017. A partnership between the County and the City could be considered in the future as projects are developed and funding is identified.

Q5 exhibit - E MLK Jr. Blvd/FM 969 corridor map.

Q6: Capital Metro suggests some modifications to the Corridor Plans that may further maximize transit efficiency. How much additional estimated cost might these modifications add to Corridor Plan implementation?
See Attachment 1: Capital Metro Suggestions to Maximize Transit Efficiency

Q7: What is the total cost of implementing the corridor plans, excluding elements of MLK/FM 969 in the County?
The $820 million identified need for the existing corridor mobility plans included in staff's March 2016 presentation to the Council Mobility Committee was based on the estimates included in the Corridor Mobility Development Program reports. To build out all the improvements identified in the reports, additional costs for project management and delivery, project contingency, bond issuance fees and inflation costs need to be added. Staff estimates the cost to implement the full improvements within City limits to be approximately $1.5 billion. This is a high-level cost estimate and will vary as projects are further developed and designed.

The total buildout cost estimates are at a conceptual level, based on available information at this point in time. Cost estimates can increase or decrease as further program development and implementation planning occurs. Conceptual level estimates must allow for a sufficient contingency to account for any unknown costs associated with project delivery as well as escalation of project costs to account for increasing market costs for work that occurs in the future. As indicated by staff during the February 3 Mobility Committee presentation, sufficient time is required for needs assessment refinement and cost estimation as part of a robust capital needs assessment process. The total buildout cost estimates presented here were performed over a more condensed timeframe.

As indicated in the June 13 memorandum to Mayor and Council regarding bond implementation, several factors must be considered in the project development and implementation phase. This includes consideration of other capital improvements that may be associated with completion of corridor work, such as drainage and water infrastructure improvements. Such improvements and related costs will be considered and may require additional funding in the future as implementation planning and program delivery progresses.

Q8: The concern of adequate staffing for implementing the program expediently was raised. Do you have a sense of what would need to happen to get a bulk of the enhanced corridor alternative program done within the 8-year timeframe? Could those costs be capitalized (i.e. funded as a part of the bond program)?
Traditionally, additional staff needed at the project delivery, sponsor department and program management levels would be identified during the project implementation planning phase after a successful bond election. Based on the information available to staff, there is an expectation that additional staff would be needed in those areas. A rough estimate based on information already provided by the Austin Transportation and Public Works departments are 20-25 additional staff, accounting for acceleration and all the enhancements to delivery outlined in the June 13, 2016 memo about the Corridor Mobility Development Program. The approximate staffing number provided above would be refined during implementation planning.

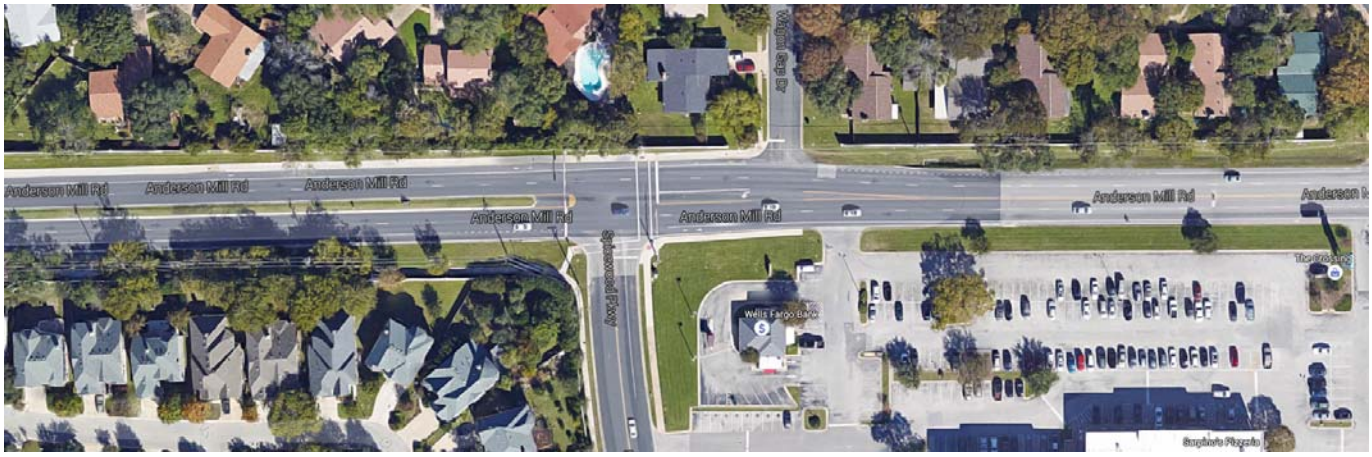
Staffing can be phased over FY17 and FY18, with more staff front-loaded in FY17. Project delivery staff (project managers, inspectors, design consultants, etc.) are included in the project estimates already estimated and would be funded by bonds. Program management staff and sponsor department staffing requirements have traditionally been funded through the Operating Budget.

Q9: In the $720 million Blend option there is $11 million included for the "William Cannon Overpass." Could you please provide an explanation of that project, including the differences between the various funding levels ($1 million in $720 million Prioritize Corridors package and $11 million in $720 million Blend).
This is a capital renewal project. The project would include reconstruction of the supporting mechanically stabilized earthen walls for the bridge on West William Cannon Drive over the Union Pacific Railroad (UPRR), which is between Cannonleague Drive and Woodhue Drive. Currently, the reinforced approach roadway and abutment structures are showing major signs of movement, as evidenced by tension cracks in the roadway pavement extending parallel to the face of the wall as well as tilting and lateral movement of the sidewalks. If the conditions are not addressed, the outside lanes of the bridge may have to be closed until repairs are made.

This project includes the construction of a six-lane bridge that would replace approximately 400 feet of existing mechanically stabilized earthen walls. Construction would also include full-depth roadway construction with asphalt, drainage system improvements, replacement/relocation of wastewater infrastructure, sidewalks on both sides of the roadway, curb and gutter improvements, pavement markings, and retaining walls.

In the $720 million Blend package, $11 million would fund the completion of the design and the construction activities listed above on the west side of the bridge. In the $720 million Prioritize Corridors package, $1 million would fund preliminary engineering and design services for the east side of the bridge.

Q10: Is there a cost estimate for improvements to Anderson Mill Road beyond $500,000 for Preliminary Engineering?
Following the 1/4-cent project development process, the Austin Transportation Department determined that the outcome desired at the intersection of Anderson Mill Road at US 183 could be accomplished for approximately $40,000 which could come from the original allocation of $1.28 million of 1/4-cent funds for the Anderson Mill right-turn lane. The remaining funding, $1.24 million, and the $500,000 that ATD originally designated for Parmer Lane preliminary engineering, which is no longer needed because TxDOT has agreed to fund the Parmer Lane PER, will provide for design the expansion of approximately one mile of Anderson Mill Road. This section of Anderson Mill Road, from Spicewood Parkway to US 183, is currently a 4-lane undivided cross-section and would be expanded to a 4-lane divided arterial and would include sidewalks and bicycle facilities as applicable. The divided arterial design creates space for left turns, adding motor vehicle capacity (increasing vehicles per hour) mainly by reducing left turn conflicts. This recommendation of a 4-lane undivided to a 4-lane divided arterial is included in the Austin Metropolitan Area Transportation Plan, and matches the 4-lane divided cross-section to the west of Spicewood Parkway. The construction estimate to expand Anderson Mill Road is $5.5 million. This is a conceptual cost estimate, and the preliminary engineering and design phases would refine this estimate.



Q10 exhibit. 4-lane divided section west of Spicewood Parkway and 4-lane undivided to the east.

Q11: The total cost to implement the Burnet/North Lamar Corridor Mobility Development Program is $153 million, according to the Preliminary Engineering Report. However, in the Prioritize Corridors funding scenario staff presented June 1, the cost estimate for implementation is $165 million. What is the reason for this discrepancy? Is it due to accelerating implementation?
The $165M estimate includes improvements that would accomplish corridor conversion as outlined below:

- North Lamar: $85M = ~47% of corridor conversion to complete streets section
- Burnet: $80M = ~26% of corridor conversion to complete streets section

This does not include full implementation of all recommendations out of these corridor reports. The following are not included in this amount:

- North Lamar at $85M funding level does not include the complete street section (3.1 miles) from Braker to Howard Ln and a roundabout at Howard Ln.
- Burnet at $80M funding level does not include the complete street section (4.1 miles) from Northcross Dr/St Joseph Blvd to US Hwy 183 (1.5 miles) and the center-running bus rapid transit (BRT) complete streets section from US 183 to MoPac (2.6 miles).

At this time, staff estimates that the full implementation cost for N Lamar/Burnet Corridor Report improvements are approximately:

- North Lamar: $169 million
- Burnet: $185 million

Also refer to Q7 for additional information on overall cost of full implementation.

Q12: What is the scope of the Regional Corridor Projects in the various funding scenarios?
<u>Parmer Lane</u>

- **($17M in all packages):** TxDOT would lead the improvements to Parmer Lane and will fund a PER. The initial response from TxDOT is that the scope of work "at this time includes the addition of a third lane, estimated at $17M." The limits are from FM 1431 to SH 45.
- Also refer to Q1 and Q13 for additional information on Parmer Lane.

<u>Loop 360</u>

- **($5M in $250M package):** TxDOT would lead the improvements to Loop 360. Will fund continuing conceptual design work and potential final design on grade separated interchanges.

- **($40M in $300M package):** With TxDOT matching funds, could fund design and construction for at least one grade separated interchanges.
- **($46M in $500M package):** City can increase participation in funding design and construction for at least one grade separated interchange.
- **($50M in $720M Prioritize Corridors and Blended packages):** City can further increase participation in funding design and construction for at least one grade separated interchange.

620 (at 2222)

- **($25M in $500M and both $720M packages; no allocation in $250M-$300M packages):** TxDOT would lead the improvements to 620. With TxDOT matching funds, could fund design and construction for bypass road.

Oak Hill Parkway/Old Bee Caves Bridge

- **($1.5M in $300M, $500M, and $720M Prioritize Corridors packages; no allocation in $250M package):** Will fund design of bridge Replacement at Old Bee Caves low water crossing.
- **($8M in $720M Blended package):** Will fund design and construction for bridge replacement at Old Bee Caves low water crossing.

Q13: What would the scope of Brodie and Parmer Lane be if funded?

Per the June 13, 2016 Q&A Memo distributed to Mayor and Council, the Texas Department of Transportation would lead the improvements to Parmer Lane. TxDOT has agreed to fund a Preliminary Engineering Report, and the scope of that report as well as the improvements will be determined by TxDOT and its consultant. The initial response from TxDOT is that the scope of work "at this time includes the addition of a third lane, estimated at $17M." The limits are from FM 1431 to SH 45. Parmer Lane is included in the 2040 CAMPO Plan to widen the 4-lane divided roadway to 6-lanes with medians.

Also refer to Q1 and Q12 for additional information on Parmer Lane.

For information on Brodie Lane, see Attachment 2: Memo to Mayor and Council from Transportation Regarding CIUR 1447.

Q14: What is the status of the 620/2222 project? What is the total estimated cost?

According to TxDOT, who is conducting the study for the project, the estimated cost for the improvements to the RM 620/2222 bypass is in the range of $25-$35 million. The project is currently in environmental phase and would include an additional lane northbound on RM 620 from Steiner Ranch Blvd to the bypass location just north of the LCRA transmission lines, the bypass parallel and just north of the power line and an additional lane eastbound on 2222 to McNeil Rd. This is part of a larger effort to evaluate the feasibility of expanding the existing 4 lane roadway to a 6 lane configuration that has a very preliminary cost estimate of $175 million. An additional elevated section is being considered as well at a more significant cost of $600 million. These conceptual cost estimates are subject to change as the project develops and further engineering is conducted.

Q15: Is the estimated cost of implementation of a grade separated intersection of 360 and Westlake $50M?

According to TxDOT, which is conducting the study for the project, the estimated cost for the Westlake interchange Improvement, including a grade separation, is $47.6 million. The project would extend from just north of Waymaker Way to just south of Plaza on the Lake and would require frontage roads through most of this section to provide access to the adjacent driveways and side streets due to the grade separation.

Q16: What would the scope of Spicewood Springs Road be if funded?

Spicewood Springs Road

- **($500,000 in $250M, $300M, and $720M Prioritize Corridors**): Preliminary Engineering from 1,500 feet west of Mesa Drive to Loop 360.

- **($17M in $500M and $720 Blended):** Design, construction, and right-of-way acquisition. Improvements may include expansion from two-lane section to a four-lane divided roadway, signals, medians, sidewalks, bike lanes, and driveway reconstruction.

Q17: What is the criteria for determining Critical Arterials, specifically regarding transit boardings?
ATD has designated 33 of the higher traffic and transit volume streets in Austin as Critical Arterials, prioritizing operational focus to keep traffic moving and safe for all types of travelers along these 200 miles of roadway. Criteria to identify Critical Arterials include the number of vehicles traveling on the roadway per day and number of transit boardings per day combined. Roadways with the highest combined totals are included on the Critical Arterials List. These Critical Arterials serve the network in such a way that if a major incident were to occur, such as a closure of the roadway, it would affect the overall efficiency of the transportation network.

Critical Arterials Include:
- City of Austin roadways that carry higher volumes of vehicular and transit traffic, as measured by data provided by the City of Austin, TxDOT and Capital Metro.
- Roadways that are the jurisdiction of other governmental entities, but where the City of Austin has an agreement to operate the signals along these roadways.
- Other key roadways that provide connectivity to the Critical Arterial network.

Critical Arterials Do Not Include:
- Freeways (e.g., I-35, MoPac) where the operation of these roadways is controlled by other governmental entities (e.g., TxDOT, CTRMA). It is important to note that ATD typically coordinates with TxDOT during larger freeway incidents where traffic is diverted to frontage roads and ATD operates the signals.

The Critical Arterial list is dynamic and expected to grow over time as Austin grows and roadways become more critical in moving vehicular and transit traffic. As new data becomes available, ATD will compile the latest traffic and transit data, reprioritize roadways and identify roadways to add to the list.

Q18: Is it possible to fund B-Cycle through mobility bond funding, and if so, what would be the estimated cost?
Yes. The estimated cost per B-Cycle station is approximately $50,000-$70,000. The cost range is based on the number of bicycles and bicycle docks provided at the station.

Q19: Would state funding for ROW maintenance be available if we were to acquire responsibility for pertinent corridors?
City Staff has had discussions with TxDOT regarding the turn back of the pertinent corridors. However, there has been no formal agreement or offer by TxDOT to provide funding to the City to maintain these corridors if the City were to assume responsibility. City Staff developed a preliminary review of the pertinent corridors to determine the possible annual maintenance cost for the City to maintain these corridors. The preliminary estimate would be approximately $1.5 to 2 million dollars per year for a 10 year period. The City would need to increase the Transportation User Fee approximately 3 to 4%, which translates to approximately a 30 to 40 cent monthly rate increase per single family home, to cover this annual maintenance cost increase.

Q20: How are capital renewal items addressed in current bond packages being considered or in a future general bond development process?
The capital renewal items are addressed through on-going programs that are managed by the City based on asset assessment processes. Typically, funding is provided at the program level and not to specific projects during the bond process. Project candidates are determined based on a process that considers several technical factors as well as coordination opportunities with departments and agencies to address infrastructure needs.

There are four areas or programs that have been identified as capital renewal items in the funding packages City Council is currently considering and would also be considered in future general bond development: Street

Reconstruction / Rehabilitation, Substandard Streets, Bridges, Culverts and Structures, and Critical Infrastructure. Typically funding for these capital renewal programs are included in City bond programs. Funding for Critical Infrastructure has also been included in the past through bond programs, but are usually identified as standalone projects.

Although Capital Renewal items are included in some of the funding options being considered by City Council, additional funding for capital renewal will need to be factored into a future general bond development process.

Q21: What is feasibility of lowering speed limits according to Vision Zero plan?
Currently state law regulates how speed limits can be set. ATD staff will meet with COA Government Relations staff to discuss the potential of placing Vision Zero items that need legislative intervention on the next COA legislative agenda. However, lowering the speed limits alone will not achieve the desired goal. To achieve lower speeds, we need to fundamentally change the design of the roadway so driver behavior is reduced to 20 or 25 miles per hour.

xc: Assistant City Managers
Elaine Hart, Chief Financial Officer
Greg Canally, Deputy Chief Financial Officer
Ed Van Eenoo, Deputy Chief Financial Officer
Mike Trimble, Capital Planning Officer
Rob Spillar, Director, Austin Transportation Department
Robert Hinojosa, Acting Director, Public Works Department

Attachments:

Attachment 1: Capital Metro Suggestions to Maximize Transit Efficiency
Attachment 2: Memo to Mayor and Council from Transportation Regarding CIUR 1447

Attachment 1: Capital Metro Suggestions to Maximize Transit Efficiency

Staff analyzed each suggestion submitted by the Capital Metro Transit Authority (CMTA) and responses are provided below. While the Corridor Reports vary in their level of detail with regard to transit priority recommendations, the transit signal priority recommendations submitted by CMTA are included in each package of the staff recommendation. These include optimizing transit signal priority and the provision of transit queue jumps and other transit priority treatments at intersections. There are two additional CMTA recommendation that are not included in the staff recommendation. They are related to service improvements to serve the North Lamar Transit Center and the Crestview Station; details on those projects are also provided below.

North Lamar

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.

  RESPONSE: NO, this is not addressed in staff estimates for any of the funding packages. This was not included in the corridor report. A cost estimate has not been developed, however due to the conceptual scope of the project. Staff expects it would have a minor cost impact.

- Optimize the existing transit signal priority in the corridor

  RESPONSE: YES, this is addressed in staff estimate.

- 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)

  RESPONSE: YES, this is addressed in staff estimate. See below for example of Lavaca-MLK Queue Jump.

- Grade separate the roadway from the rail line at Crestview Station

  RESPONSE: NO, this is not addressed in staff estimates for any of the funding packages. This was not included in the corridor report. A cost estimate has not been developed, however due to the conceptual scope of the project, staff expects it would have a major cost impact.

Burnet Road

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

  RESPONSE: NO, this is not addressed in staff estimates for any of the funding packages due to the large price tag, however is addressed as a long-term recommendation in the corridor report.

- Develop queue jumps or other transit priority treatments at intersections where there is significant transit delay

  RESPONSE: YES, this is addressed in staff estimate. See below for example of Lavaca-MLK Queue Jump.

- Optimize the existing transit signal priority in the corridor

  RESPONSE: YES, this is addressed in staff estimate.

- Ensure that all bus pull-outs include traffic signals to allow buses to reenter the through lanes

  RESPONSE: YES, this is addressed in staff estimate.

- Support and facilitate transit-oriented development along the corridor

  RESPONSE: This does not affect the cost estimate for Corridor improvements. This is being addressed through CodeNEXT, staff in multiple departments is coordinating closely to ensure Transit Oriented Development is encouraged in code along transit corridors.

Riverside Drive

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

  RESPONSE: YES, this is addressed in the Corridor Report and included in the cost estimates.

- Include transit signal priority in the entire corridor

  RESPONSE: YES, this is addressed in staff estimate.

- Implement the proposed improvements from the Smart City Challenge application

  RESPONSE: YES, this is addressed in staff estimate.

- Develop queue jumps or other transit priority treatments at the SH-71 and I-35 intersections

  RESPONSE: YES, this is addressed in staff estimate. See below for example of Lavaca-MLK Queue Jump.

- Support and facilitate transit-oriented development along the corridor

  RESPONSE: This does not affect the cost estimate for Corridor improvements. This is being addressed through CodeNEXT, staff in multiple departments is coordinating closely to ensure Transit Oriented Development is encouraged in code along transit corridors.

- In the interim, dedicate curbside transit priority lanes from Grove Blvd. to I-35

  RESPONSE: This concept can be evaluated during initial phases of the project.

Airport Boulevard

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

  RESPONSE: YES, this is addressed in staff estimate.

- Develop queue jumps or other transit priority treatments at intersections where transit is significantly delayed

  RESPONSE: YES, this is addressed in staff estimate.

- Support and facilitate transit-oriented development along the corridor

  RESPONSE: This does not affect the cost estimate for Corridor improvements. This is being addressed through CodeNEXT. Staff in multiple departments is coordinating closely to ensure Transit Oriented Development is encouraged in code along transit corridors.

- Grade separate the roadway from the rail line at Crestview Station

  RESPONSE: NO, this is not addressed in staff estimates for any of the funding packages due to the large price tag and is not in the corridor report. A cost estimate has not been developed,

however due to the conceptual scope of the project, staff expects it would have a major cost impact.

Martin Luther King, Jr Boulevard/FM 969

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

  RESPONSE: YES, this is addressed in staff estimate.

- Design the corridor so that it does not to preclude the potential for dedicated transit lanes in the future

  RESPONSE: YES, this is addressed in staff estimate. Concept will be evaluated during design phase.

- Develop queue jumps or other transit priority treatments at intersections where transit experiences significant delay

  RESPONSE: YES, this is addressed in staff estimate. See below for example of Lavaca-MLK Queue Jump.

- Support and facilitate transit-oriented development along the corridor

  RESPONSE: This does not affect the cost estimate for Corridor improvements. This is being addressed through CodeNEXT, staff in multiple departments is coordinating closely to ensure Transit Oriented Development is encouraged in code along transit corridors.

- Reevaluate the "superstreet" concept and the effect that design will have on biking and walking safety and mode share

  RESPONSE: YES, this is addressed in staff estimates. Concept will be reevaluated during final design phase.

South Lamar Boulevard

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

  RESPONSE: YES, this is addressed in staff estimate.

- Plan and develop the corridor improvements to lay the groundwork for future transit priority lanes

  RESPONSE: YES, this is addressed in staff estimate.

- Support and facilitate transit-oriented development along the corridor

  RESPONSE: This does not affect the cost estimate for Corridor improvements. This is being addressed through CodeNEXT, staff in multiple departments is coordinating closely to ensure Transit Oriented Development is encouraged in code along transit corridors.

Guadalupe

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

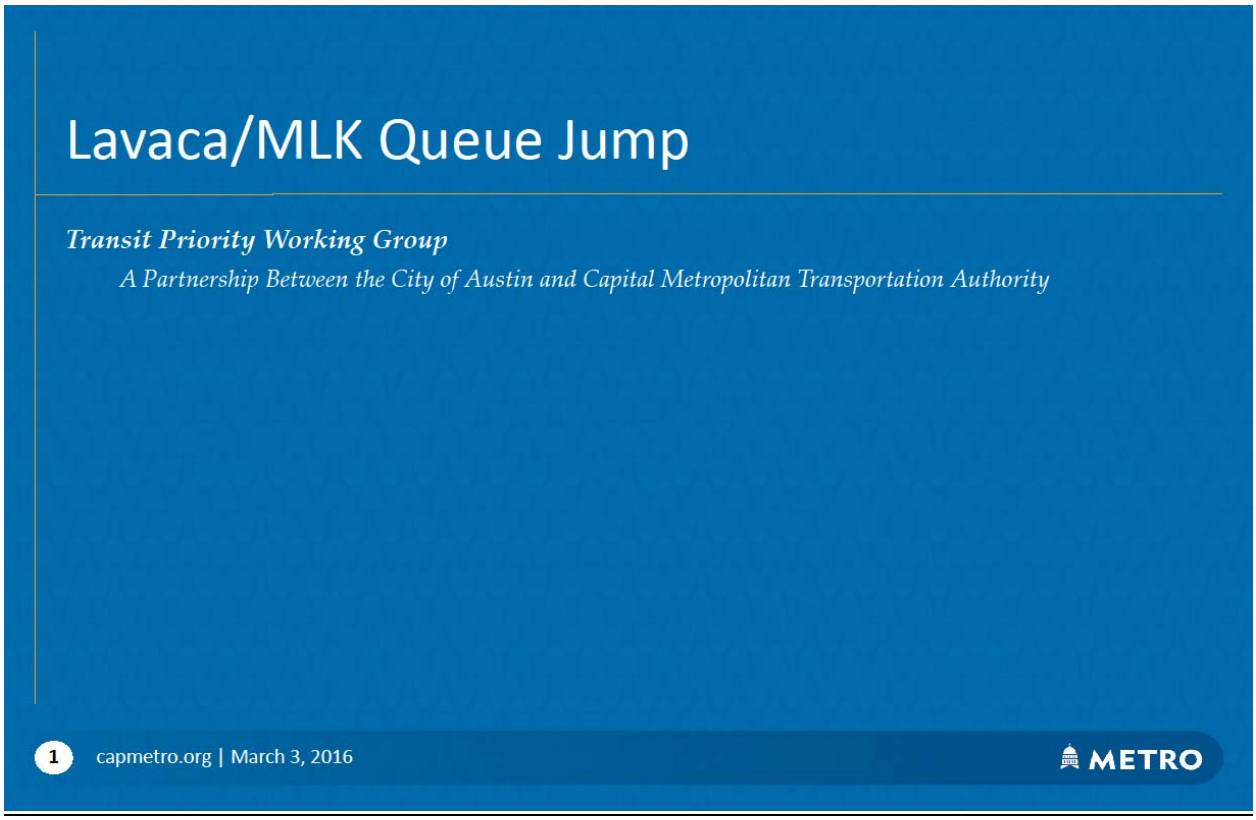
  RESPONSE: We do not have cost estimates at this time; the report has not been completed.

- Optimize transit signal priority in the entire corridor

  RESPONSE: We do not have cost estimates at this time; the report has not been completed.

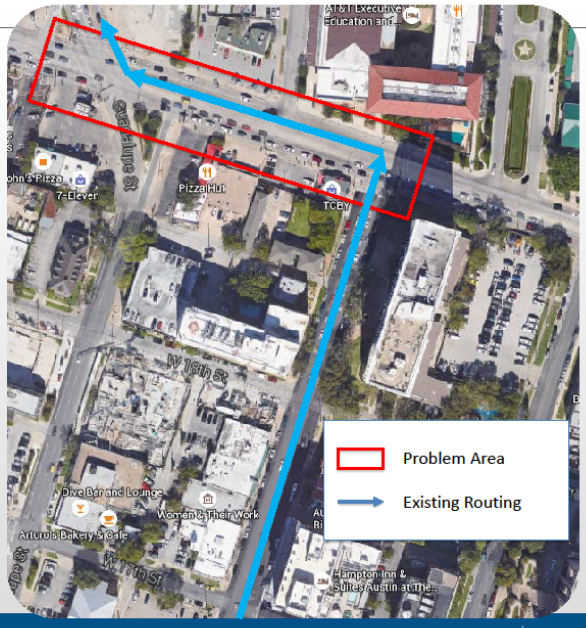
Example Queue Jump

An example of the Lavaca-MLK Queue Jump presentation has been provided by Capital Metro.



MLK – Westbound: Lavaca to Guadalupe

- 11 Northbound routes currently make jog on MLK from Lavaca to reach Guadalupe



Existing Street Section – Lavaca Northbound

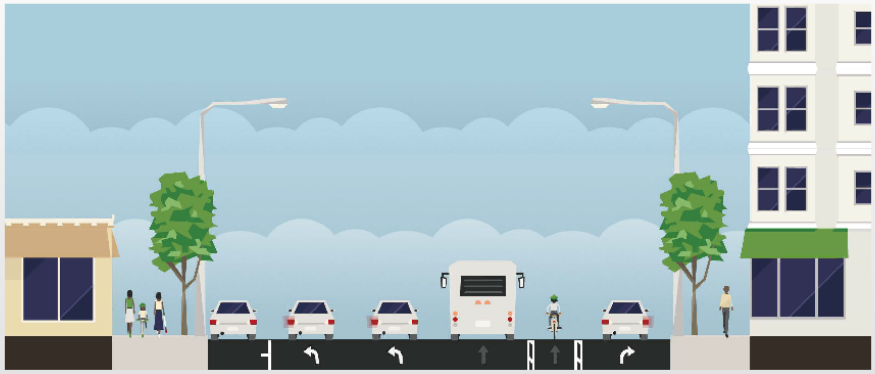
- Currently, only the centermost left-turn lane can be used for vehicular traffic to enter the one northbound lane of Guadalupe after traveling one block down MLK.
- Buses struggle to make it through this intersection as cars will queue in the inside left turn lane and then cut over to make the right turn on Guadalupe in front of our buses and others queueing to make the legal movement

Existing Turning Conditions from Lavaca to MLK

- Currently drivers coming from Northbound Lavaca will sneak through the inside left turn lane and then cut across the bike lane in order to make a right on Guadalupe.

New Transit Queue Jump Street Section

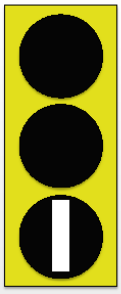
- Buses would be able to bypass traffic lined up in the two left turn lanes using the queue jump transit signal in bus lane
- Early queue jump signal for transit will allow buses to make the left turn ahead of general purpose traffic
- This allows buses to jump the lineup of cars along Lavaca during peak times and gets them into the turn lane for Guadalupe before the green light is given to other vehicles.



New Turning Conditions from Lavaca to MLK

- With the new queue jump signal, buses will be given their own turning cycle before green is given to general purpose traffic.
- Enough signal time will be provided for at least two buses to pass through the intersection before cycle starts for other vehicles.
- Buses that don't make it through will need to wait for next transit signal cycle to turn.

How Does the Signal Work?

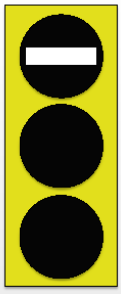


Transit-Only GO!

Acts as Green Light for Transit Vehicles Only

Transit-Only Phase Ending Soon

Acts as Yellow Light for Transit Vehicles Only

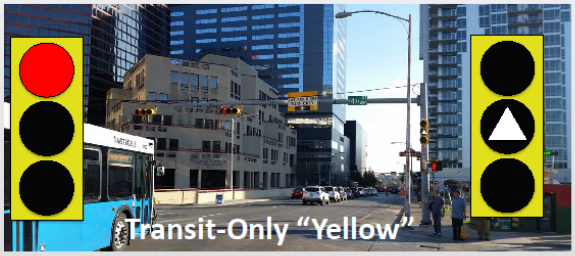


Transit-Only Phase Complete

General Purpose Traffic Given Green Light

Where is the Transit Signal?

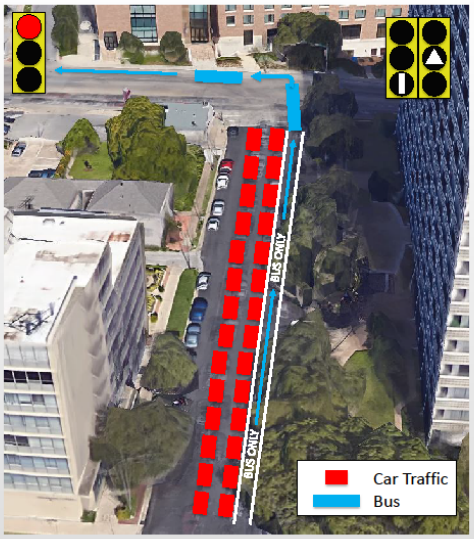
Other Examples in Austin – Republic Square



Notice the 17 bus was able to cross three lanes before other traffic was given the green!

Decision Point: When to Use Queue Jump?

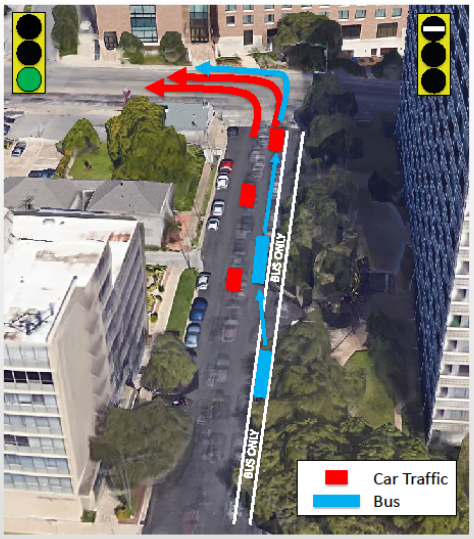
- When traffic is heavy, waiting to turn left (particularly in the afternoon peak) the queue jump will be most useful, allowing buses to pass 1-2 blocks of bumper to bumper traffic along Lavaca.
- If bus in transit lane arrives during green light for other vehicles it CANNOT turn through intersection. It must wait for next cycle.
- At start of next cycle there will be enough time for at least two buses to turn through intersection before green is given to general purpose traffic
- Once transit signal changes to horizontal bar, transit vehicles will need to wait until next cycle to go



Note: Although similar in nature to the Republic Square Queue Jump signal, this one is different, due to the turning movement. At Republic Square, buses can still cross the intersection even when horizontal transit stop bar is showing if the general light is green. This is NOT the case at the Lavaca/MLK location. Buses will need to stop at the stop bar even when the light is green for general traffic if the transit signal is showing the horizontal stop bar.

Decision Point: When to NOT Use Queue Jump?

- When traffic is low (e.g. midday or late night) the queue jump will likely not be as useful as using the general purpose signal.
- In order to use the normal green signal, the bus will need to merge into the general left turn lane ahead of the intersection as shown
- The benefit of the queue jump comes with the ability to pass traffic lined up at the stoplight. Therefore, if traffic is low and freely flowing through the intersection with no backup, the bus can enter the main lanes and make the turn along with normal traffic instead of waiting in the transit lane for the next signal cycle.



Questions

Contact:

Louis Alcorn
Capital Metro Planning
(512) 389.7491
Louis.Alcorn@capmetro.org

Attachment 2:
Memo to Mayor and Council from Transportation Regarding CUIR 1447

M E M O R A N D U M

TO: Mayor and Council

CC: Marc A. Ott, City Manager
Robert Goode, P.E., Assistant City Manager

FROM: Robert Spillar, P.E., Director
Austin Transportation Department

DATE: November 17, 2014

SUBJECT: **CIUR 1447 - Brodie Lane Improvements**

On October 16, 2014, the Austin City Council passed Resolution No. 20141016-30 directing the City Manager to develop a timeline and budget for improvements to Brodie Lane between Slaughter Lane and FM 1626. This memorandum is in response to that resolution.

Background

The City of Austin initiated a planning level study to evaluate the potential for a series of intersection improvements along Brodie Lane. The goal of the preliminary effort was to relieve congestion and improve mobility in the southern segment of Brodie Lane due to operational conflicts observed in the field. The investigation included examining single-lane roundabouts at major collector intersections along Brodie Lane, between Slaughter Lane and FM 1626. The intersections that were analyzed for possible roundabout installations are:

- Aspen Creek Parkway
- Squirrel Hollow and Indian Point Drive (roundabout pairs)
- Sesbania Drive
- Sunland Drive
- Gatling Gun Lane

The initial concept for this section of Brodie Lane maintains the roadway as a two-lane facility that includes roundabouts for improved accessibility from the side streets and better facilitates left turning vehicles, and provides a complete sidewalk and/or shared use path connection between Slaughter Lane and FM 1626.

The evaluation indicated that the single lane roundabouts could be mostly constructed within the existing right-of-way and would only require minor right-of-way acquisition at some of the intersection corners. It is anticipated however, that due to the additional impervious cover necessary for the road improvements and the limited area adjacent to the right of way available for water quality controls, an amendment to the S.O.S. Ordinance may be necessary for project implementation. Staff is looking at options that would provide similar environmental protection such as off-site mitigation and treatment of existing untreated development, but a site specific amendment may still be required. Additional corridor level modeling and detailed design and survey data are necessary to identify the most technically appropriate design for the roundabouts and actual right-of-way needs. At some roundabout locations the construction will occur over the existing open drainage ditches that exist

along the west side of Brodie Lane. These intersection improvements will require significant storm water infrastructure modifications.

Approach

This project will require the City of Austin to hire a consultant to develop a Preliminary Engineer Report which will include a detailed traffic analysis, watershed impact determination and remediation plan, and public involvement process. Once that process has completed and the final scope of the project is determined, the next steps would be detailed engineering/ design, permitting, and construction.

Coordination with Travis County

The intersections of Squirrel Hollow/Indian Point and Sesbania Drive are in Travis County. Although negotiations with the County will be necessary (we would expect that the County would provide funding for the intersections in their jurisdiction), the total cost to develop these intersections is included in the estimate provided below.

Timeline

It is estimated that the Preliminary Engineering Report and Public Involvement process can be completed in 12 months. Design and permitting should require another 24 months, and construction would require 12 months. The resulting total project time estimate is 48 months.

Cost Estimate

A preliminary cost estimate has been developed for this project. The estimate includes engineering, project management, construction costs, drainage modifications, water quality improvements, real estate acquisition, water & wastewater upgrades and modifications, and a 25% construction contingency. Including additional contingency for unknown issues including time and environmental stewardship it is estimated that the total cost for this project could total about $15,000,000.

Item	Cost
Brodie and Aspen Creek Roundabout	$550,000
Brodie and Squirrel Hollow / Indian Point Roundabout	$1,050,000
Brodie and Sesbania Drive Roundabout	$400,000
Brodie and Sunland Drive Roundabout	$450,000
Brodie and Gatling Gun Lane Roundabout	$500,000
Drainage Improvements for Roundabouts	$750,000
Water Quality for Roundabouts	$350,000
Extend SB merge area south of Slaughter - Turn Lane @ 300 LF	$75,000
Frate Barker to Sully Creek Shared Use Path @ 2400 LF	$250,000
Precast Median / Barrier Curb @ 2500 LF	$250,000
Misc. Utility Relocations (minus AWU) @ 5%	$231,250
Sub-Total Construction Estimate	**$4,856,250**
Construction Contingency @ 25%	$1,214,000
Grand Total Construction Estimate	**$6,070,500**
Construction Soft Costs @ 30%	$1,821,000
Preliminary Engineering Report	$350,000
Real Estate Acquisition for Roundabouts	$30,000
Real Estate Acquisition for Water Quality	$1,000,000
AWU Upgrades and Relocations	$3,000,000
Project Contingency @ 22%	$2,725,000
Grand Total	**$15,000,000**