



**CENTRAL TEXAS**  
**Regional Mobility Authority**

# Welcome and opening remarks by the Chairman and members of the Board of Directors

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## Agenda Item #1

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority

# Opportunity for Public Comment

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## Agenda Item #2

September 7, 2016



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Regional Mobility Authority



# Consent Agenda

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## Agenda Items #3-7

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority



# Authorize execution of a contract and initial work authorization with Jacobs Engineering Group, Inc. for Construction Engineering and Inspection services for the SH 45 Southwest Project.

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## Agenda Item #3

Justin Word, P.E., Director of Engineering

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority

# Approve execution of a contract and initial work authorization with Hicks & Company for Independent Environmental Compliance Management Services for the 45 Southwest Project.

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## Agenda Item #4

Justin Word, P.E., Director of Engineering

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority



# Approve Work Authorization No. 1 with Parsons Brinckerhoff, Inc. for general engineering consultant services related to the MoPac South Project.

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## Agenda Item #5

Justin Word, P.E., Director of Engineering

September 7, 2016



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Regional Mobility Authority



# Approve Work Authorization No. 2 with Parsons Brinckerhoff, Inc. for general engineering consultant services related to the 183 North Project.

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## Agenda Item #6

Justin Word, P.E., Director of Engineering

September 7, 2016



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Regional Mobility Authority

# Approve Work Authorization No. 3 with Parsons Brinckerhoff, Inc. for general engineering consultant services related to the SH 45 Southwest Project.

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## Agenda Item #7

Justin Word, P.E., Director of Engineering

September 7, 2016



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# Regular Items

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## Agenda Items #8-10

September 7, 2016



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# Approve the minutes for the July 27, 2016, Regular Board Meeting.

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## Agenda Item #8

Geoff Petrov

September 7, 2016



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Regional Mobility Authority

# Accept the financial statements for July 2016.

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## Agenda Item #9

Mary Temple

September 7, 2016



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Regional Mobility Authority

**Exercise the option of the  
Mobility Authority under state  
law to develop, finance,  
construct, and operate the Manor  
Expressway (290E) Phase III  
Project as a toll project.**

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## **Agenda Item #10**

Justin Word, P.E., Director of Engineering

September 7, 2016



**CENTRAL TEXAS  
Regional Mobility Authority**



# Executive Session

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## Agenda Items #11-14

September 7, 2016



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# Reconvene in Open Session

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September 7, 2016



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# Regular Items

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## Agenda Items #15-16

September 7, 2016



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Regional Mobility Authority



Authorize negotiation and execution of a contract to purchase each of the following described land parcels or property interests for the 183 South (Bergstrom Expressway) Project and for the 290E (Manor Expressway) Project:

- A. Parcel 147AC of the 183 South (Bergstrom Expressway) Project, in whole as a 379+/- feet denial of access from a 1.159 acre parcel of real estate, owned by KAF Development, and located at 609 S. Hwy 183, in Austin, TX 78741.
- B. Parcel 114E of the 183 South (Bergstrom Expressway) Project, a 0.055 acre parcel of real estate, owned by Dr. Masoud Arami, Majid Kamalipour and Mohammed Arami, and located at 6111 FM 969, Austin, TX 78725, in the 4000 Block of Ed Bluestein.
- C. Parcel 48 of the 290E (Manor Expressway) Project, a 0.747 acre acquisition from a 8.716 acre parcel of real estate, owned by Sovran Acquisition, LP, and located at 9717 Hwy 290E, Austin, TX 78724.

## Agenda Item #15

Geoff Petrov

September 7, 2016



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Regional Mobility Authority

## **Consideration of the use of eminent domain to condemn property:**

Declare a public necessity to acquire the following described parcels of land, or interests therein, for the 183 South (Bergstrom Expressway) Project; and with respect to each such parcel or interest therein, authorize any of the following actions: (i) acquisition through negotiation or by the use of eminent domain to condemn the parcel or interest therein; (ii) execution of a contract to purchase, and (ii) execution of a possession and use agreement:

- A. Parcel E15 of the 183 South (Bergstrom Expressway) Project, a 0.242 acre parcel of real estate, **owned by Church of Christ at East Side**, and located at 5701 E. Martin Luther King, Jr. Blvd. in Austin, TX 78723.

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# Agenda Item #16

Geoff Petrov

September 7, 2016



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# Briefings and Reports

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## Agenda Items #17-20

September 7, 2016



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Regional Mobility Authority



# Monthly Update on transportation projects.

## A. Briefing on the MoPac Improvement Project.

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### Agenda Item #17

Steve Pustelnyk, Director of Community Relations

September 7, 2016



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Regional Mobility Authority



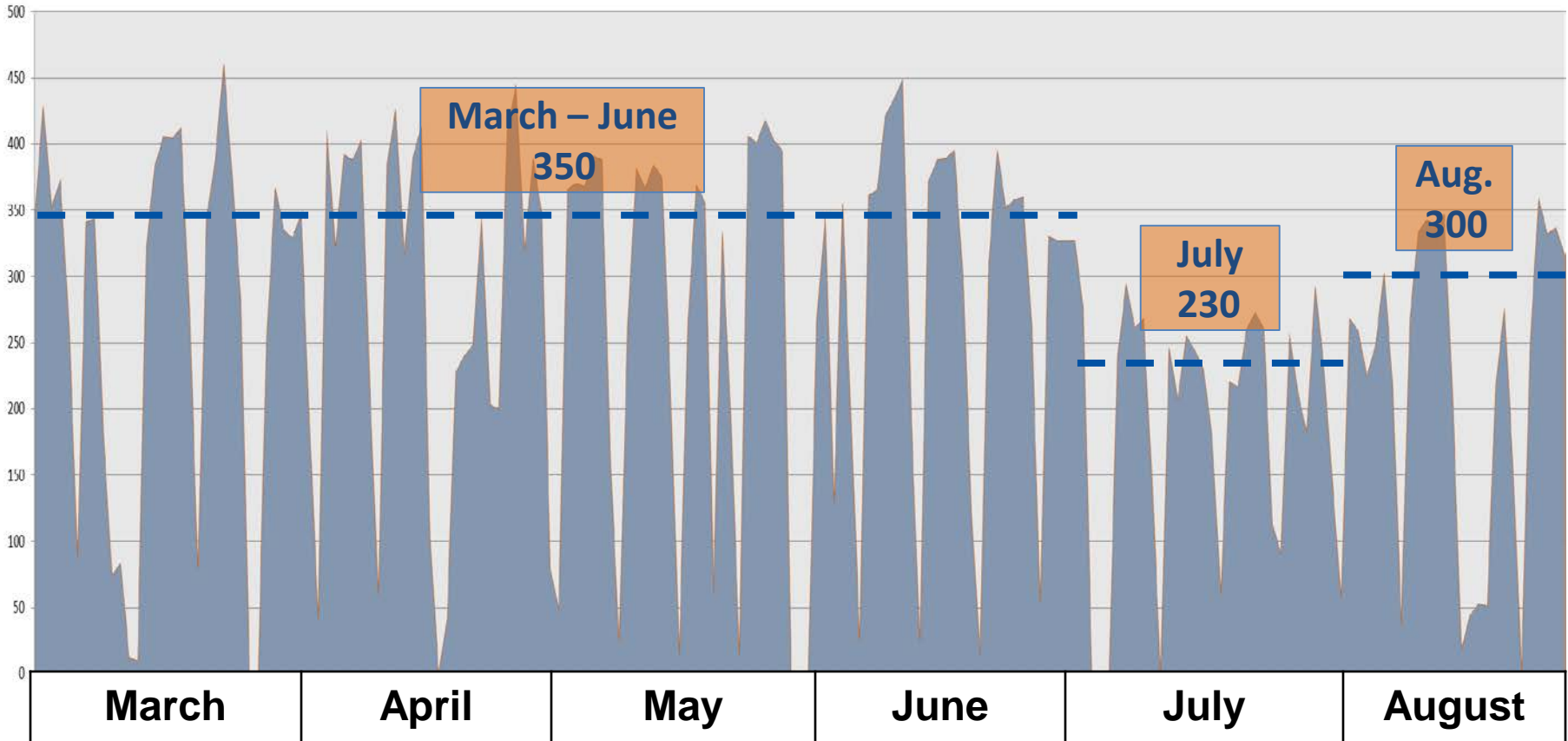
## Overall Project – 75% Complete

- **North End (6.5 miles )**
  - RM 2222 to US 183 – 85% complete
  - US 183 to Parmer Lane – substantially complete
- **South End (5 miles )**
  - Enfield to RM 2222 (3.5 miles) - 50% complete
  - Cesar Chavez to Enfield (<1 mile) - 65% complete
    - Under crossings – 70% complete
- **Soundwalls – 50% complete**

## Opening Milestones

- **North End (Northbound RM 2222 to Parmer Lane)**
  - Near on the horizon, several weeks away
- **All Express Lanes**

# Progress Metrics: Labor (March – August)



- In recent weeks, average work force numbers have been trending upwards of 330 except for rain periods



# Construction Progress

◀ MOPAC  
IMPROVEMENT  
PROJECT ▶▶



# Section 1 & 2 – RM 2222 to Parmer Lane

Parmer Ln.

Braker Ln.



Steck Ave.

Spicewood  
Springs Rd.

Far West Blvd.

RM 2222



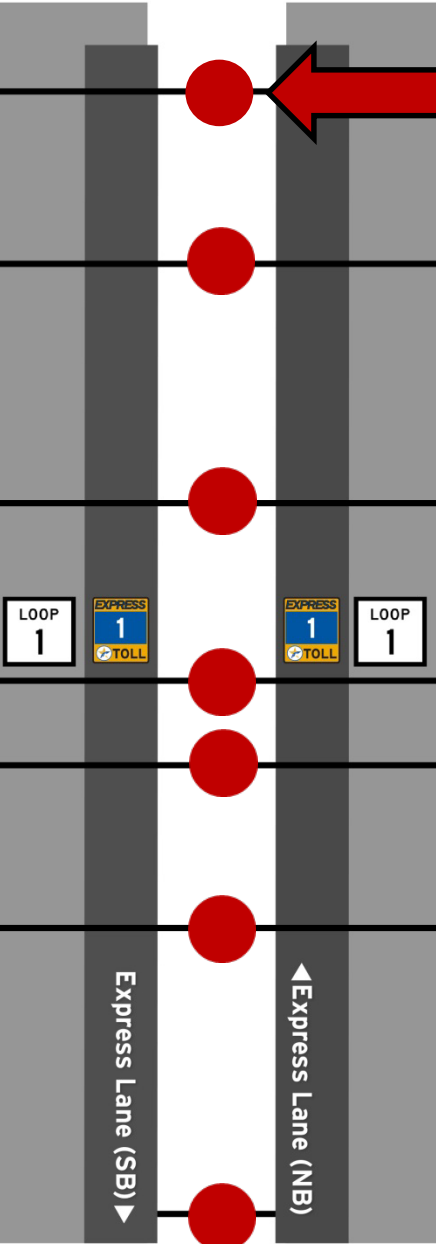
**Bridge  
Painting  
and  
Lettering**



Steck Ave.

Anderson Ln.

RM 2222





# Bridge Painting





# Section 1 & 2 – RM 2222 to Parmer Lane

Parmer Ln.

Parmer Ln.

Braker Ln.

Steck  
Bypass



Steck Ave.  
Spicewood  
Springs Rd.



Anderson Ln.

Far West Blvd.

Express Lane (SB) ↓

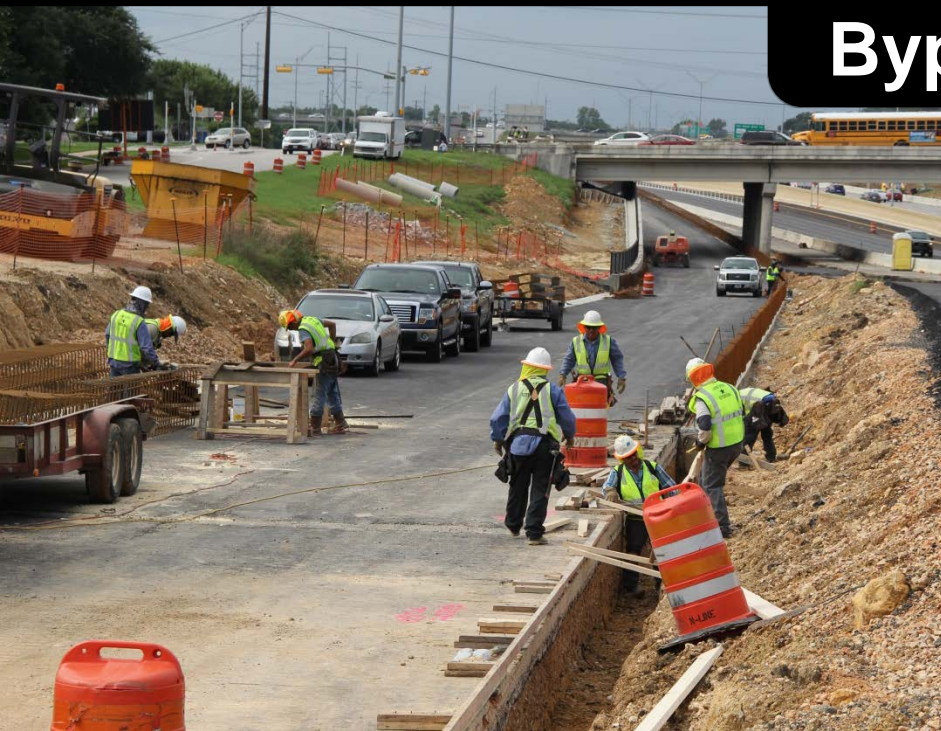
↑ Express Lane (NB)

RM 2222

RM 2222



# Steck Bypass





# Section 1 & 2 – RM 2222 to Parmer Lane

Parmer Ln.

Parmer Ln.

Braker Ln.

Braker Ln.



Steck Ave.

Steck Ave.

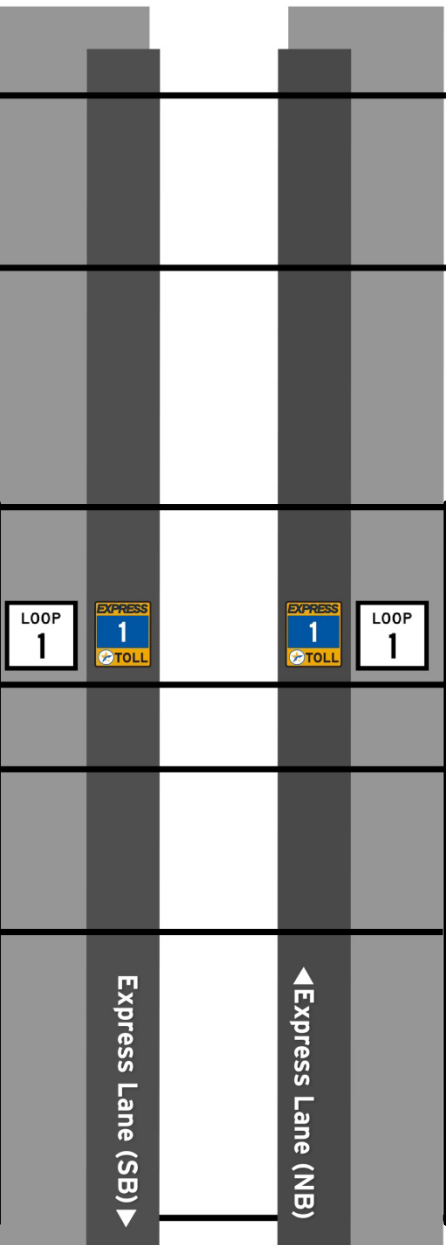
Spicewood  
Springs Rd.

Anderson Ln.

Far West Blvd.

RM 2222

RM 2222



**Roadway  
Widening**

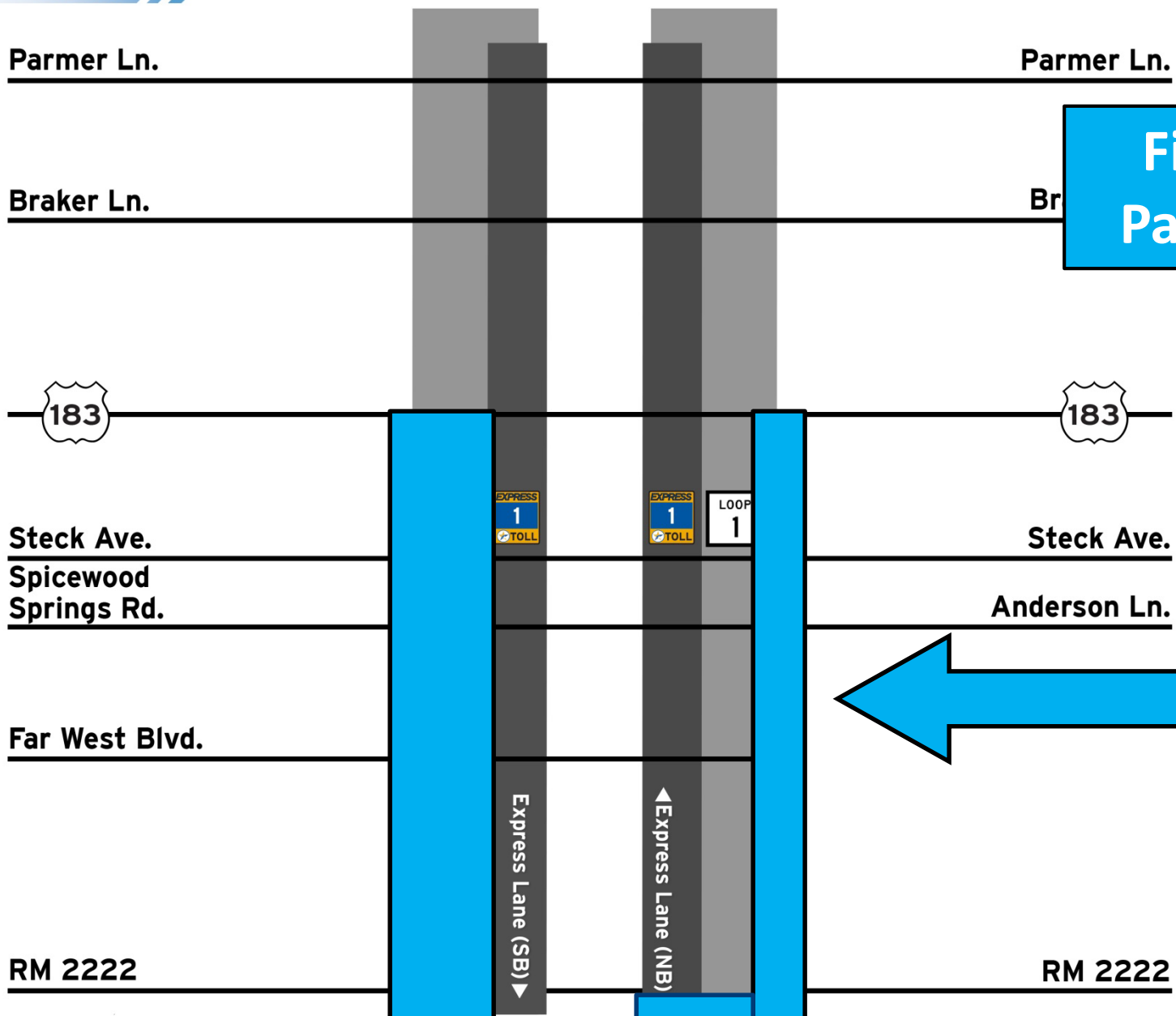




# Roadway Widening



# Section 1 & 2 – RM 2222 to Parmer Lane



**Final Paving**





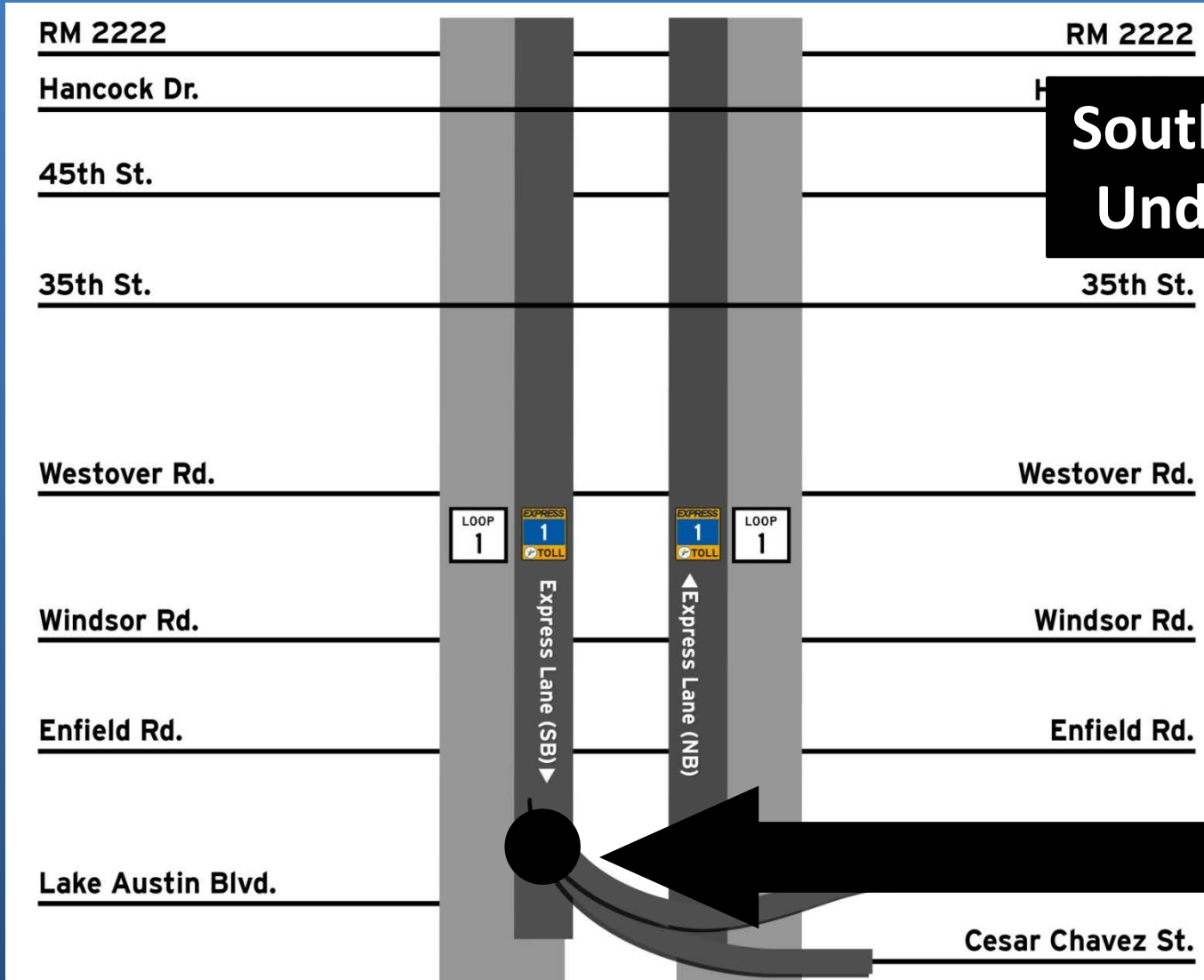
# Final Paving



183 3/4  
Capital of Tx Hwy  
Braker Ln 1  
1325 SOUTH 3



# Section 3 & 4 – Cesar Chavez to RM 2222



**Southbound Underpass**



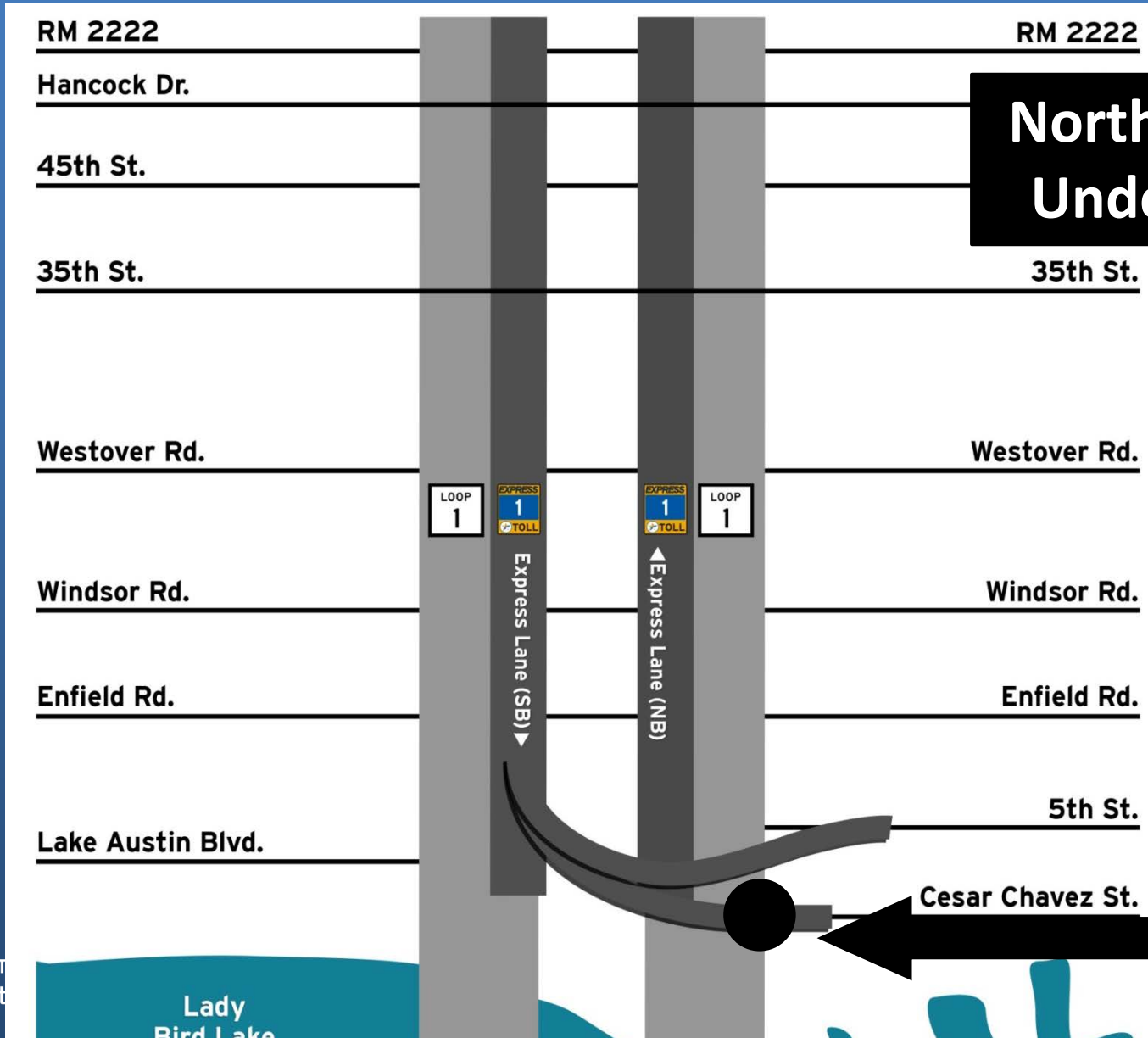


# Southbound Underpass





# Section 3 & 4 – Cesar Chavez to RM 2222



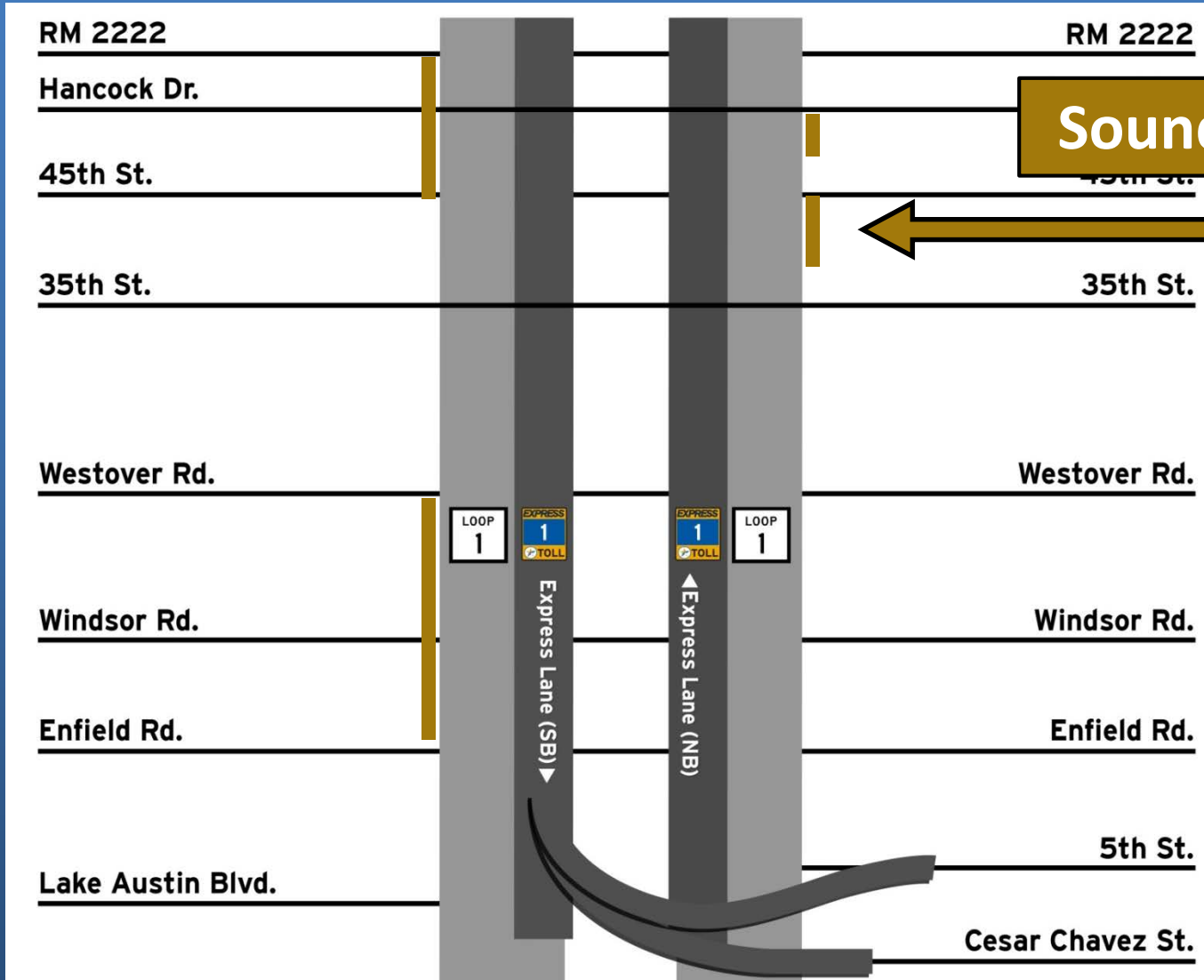
**Northbound  
Underpass**

# Northbound Underpass



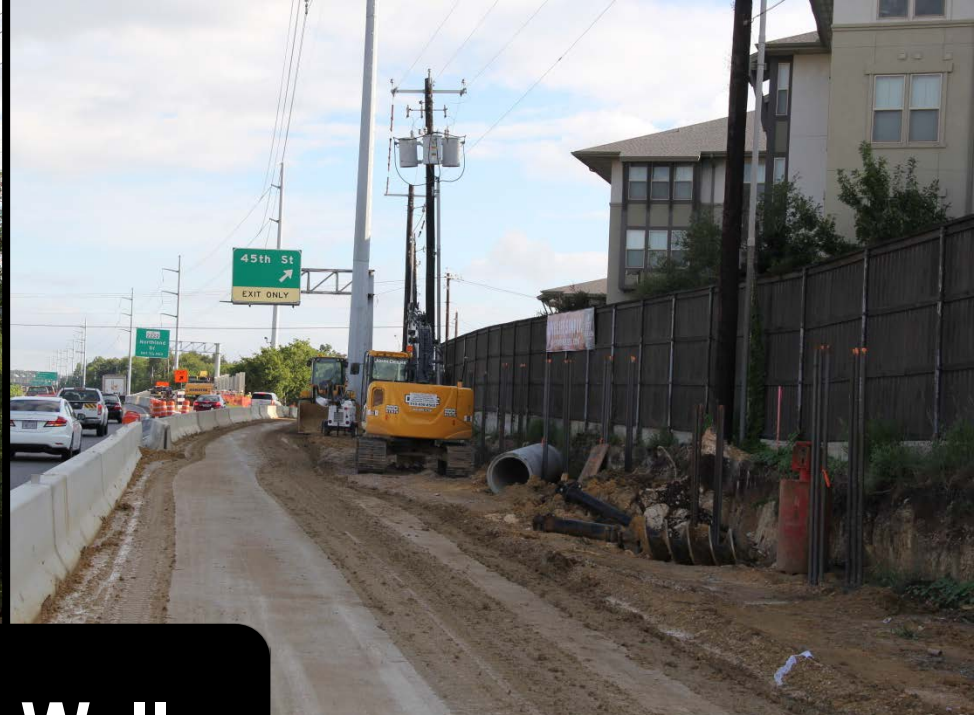
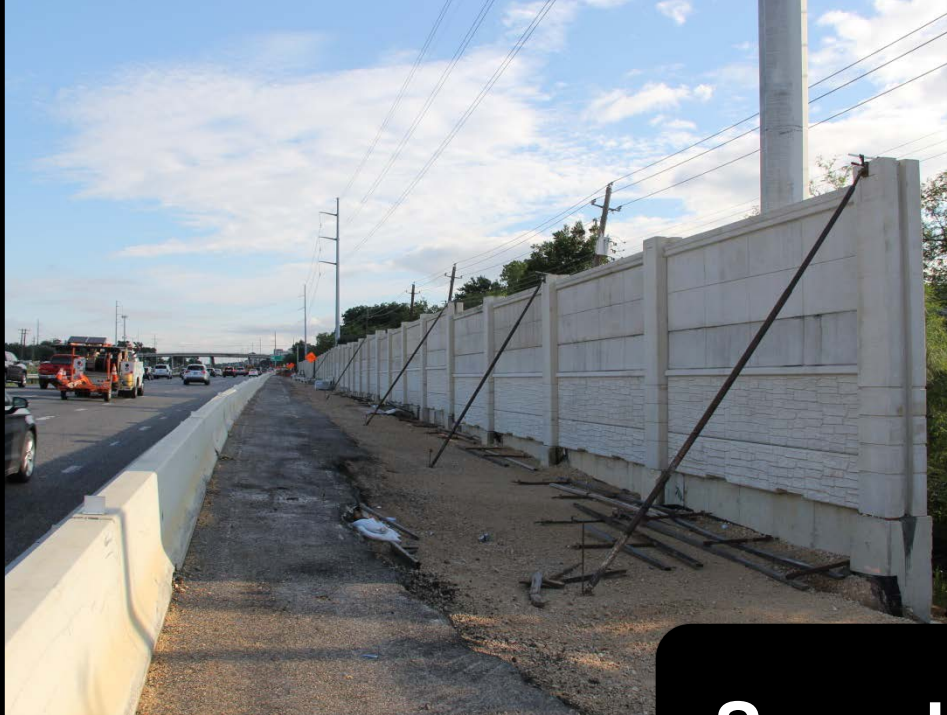


# Section 3 & 4 – Cesar Chavez to RM 2222

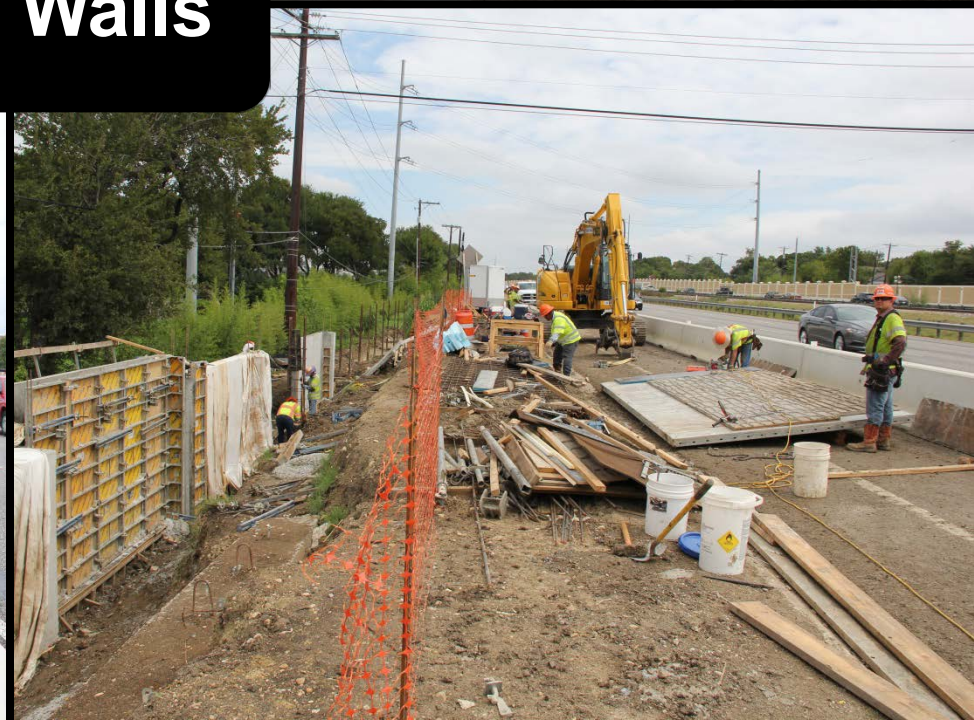


Sound Walls



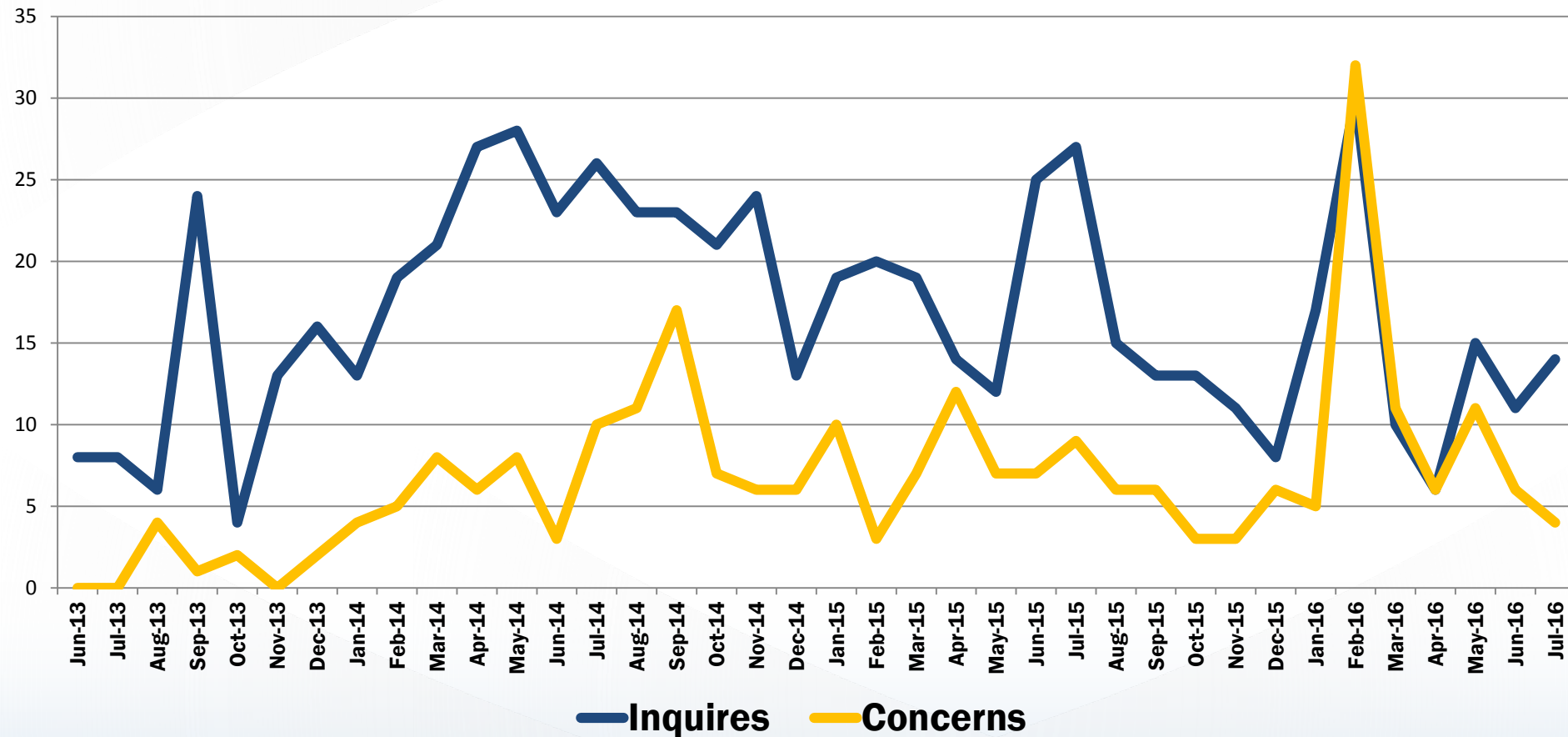


# Sound Walls





# Customer Contact Trends





- **Northbound express lane opening**
- **Northbound traffic switch**
- **Southbound traffic switch**



# Monthly Update on transportation projects. B. Briefing on the 183 South Project.

## Agenda Item #17

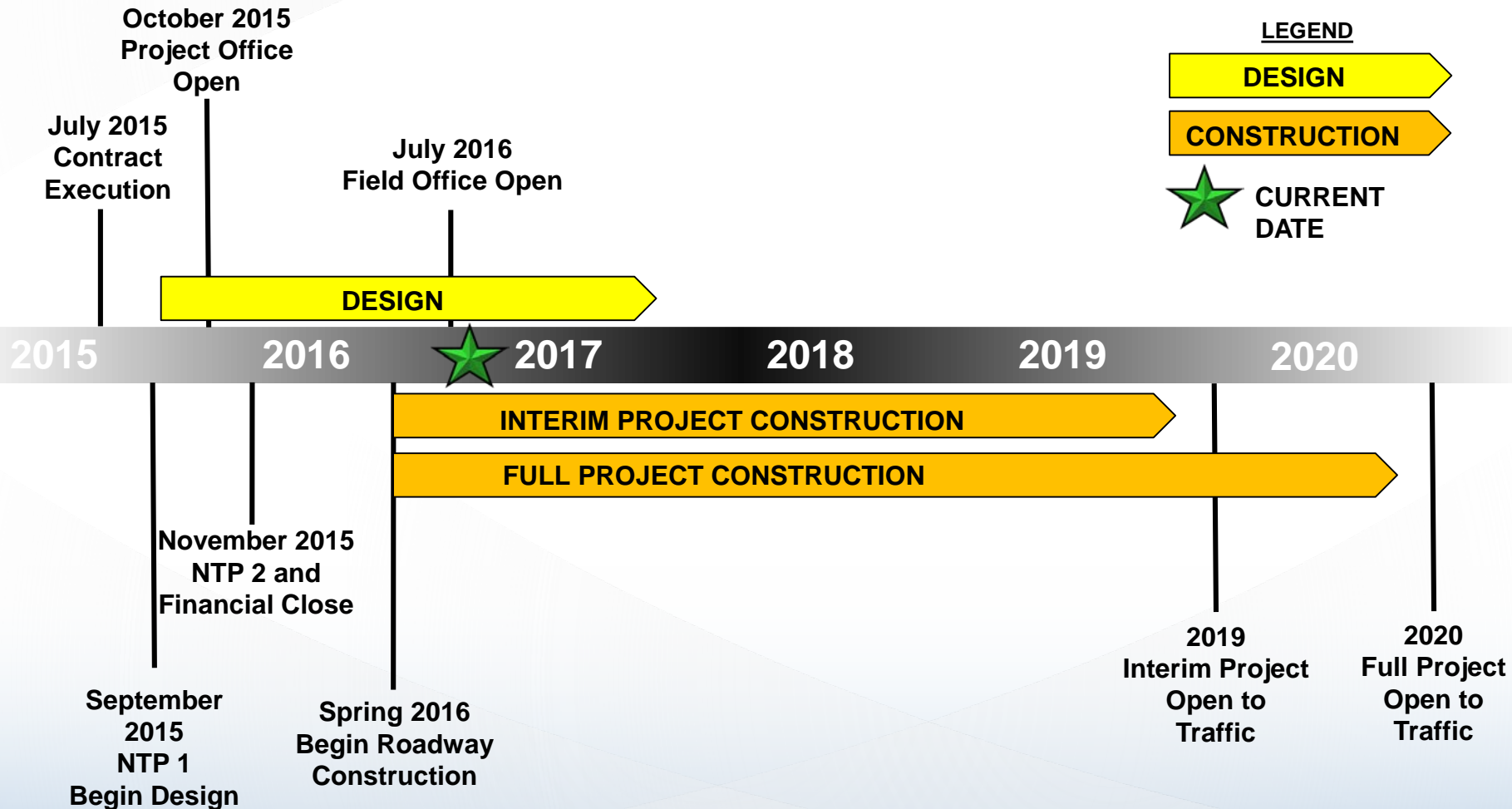
Steve Pustelnyk, Director of Community Relations  
Aaron Autry, P.E.

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority

# 183 South Project Schedule

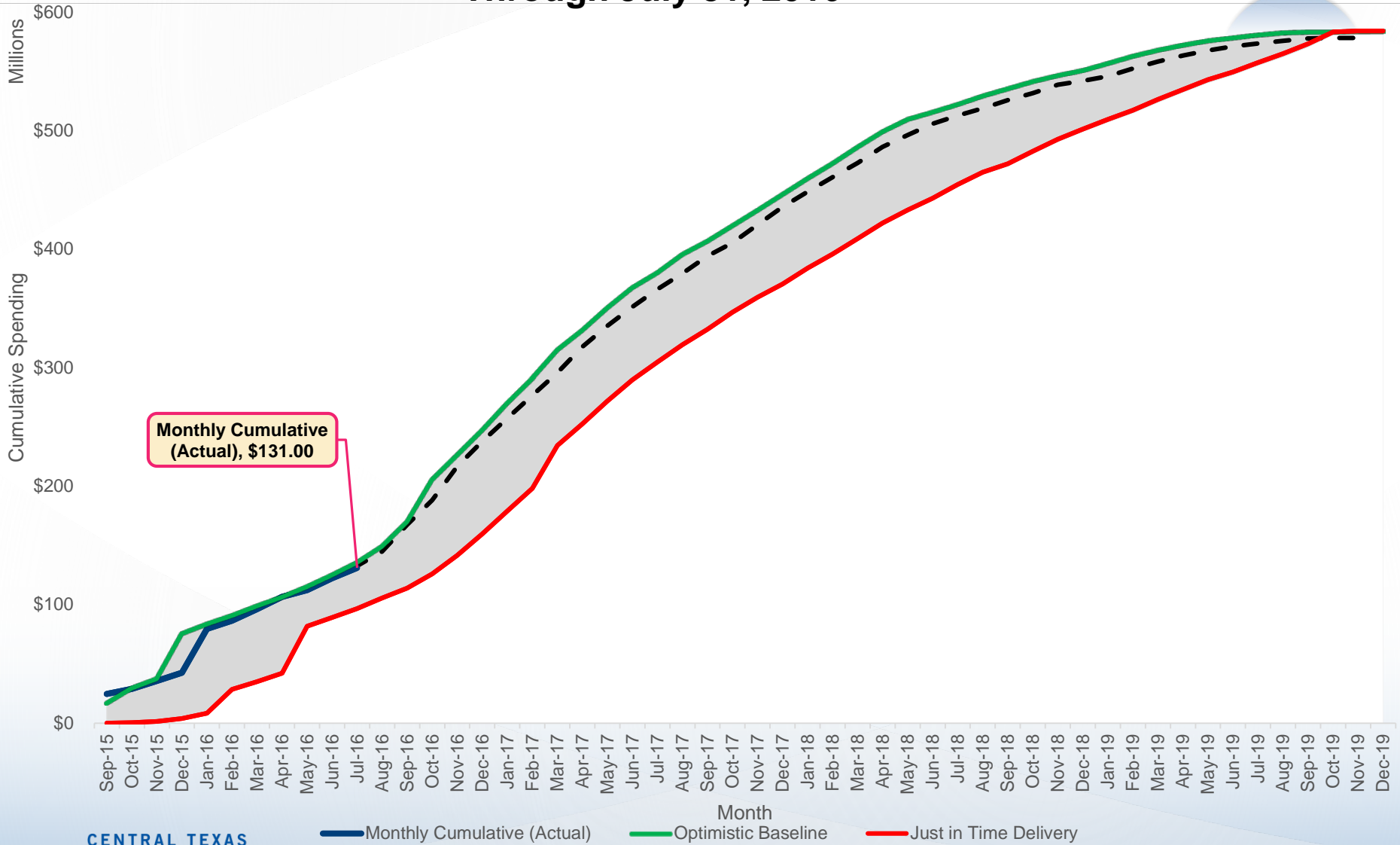




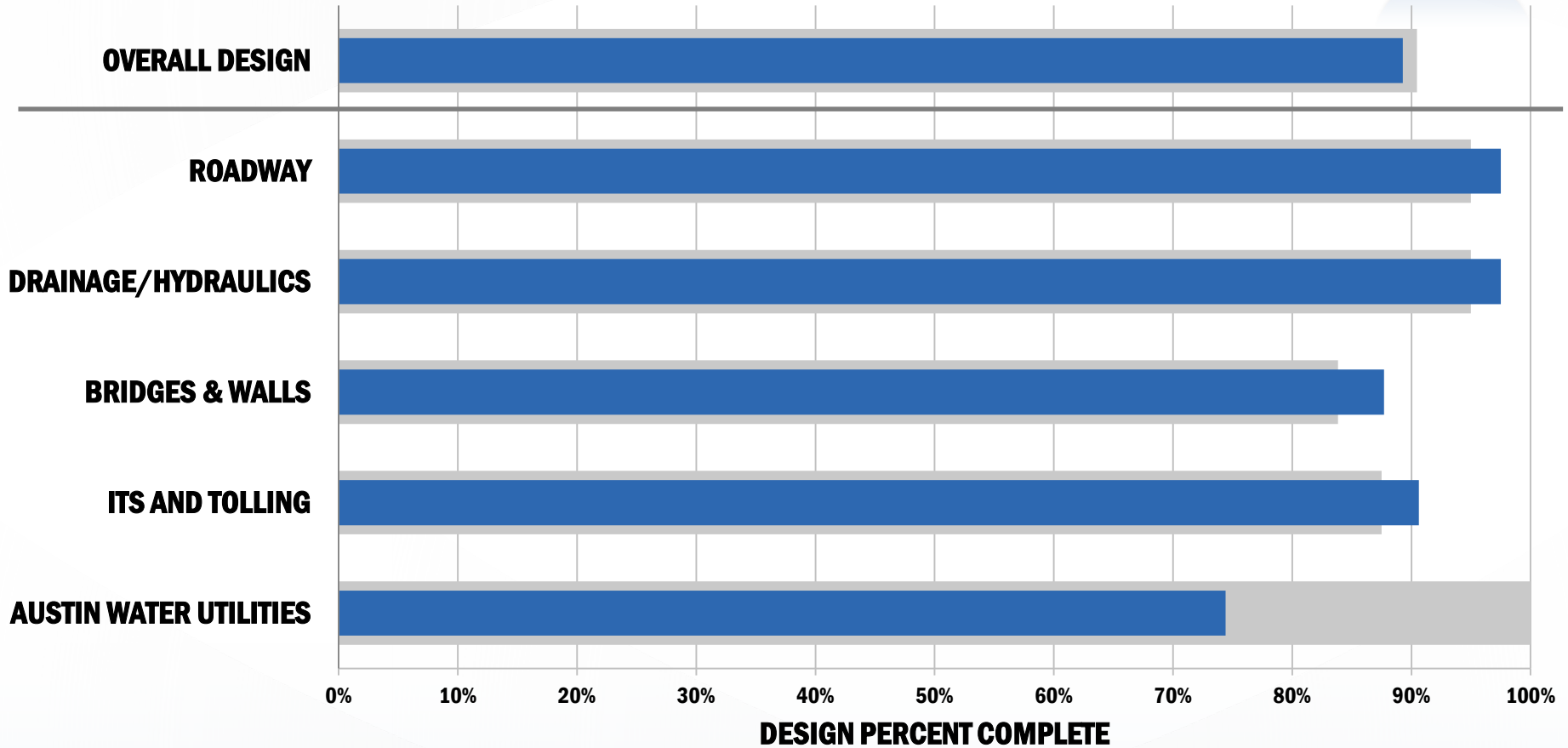
# Cash Flow Diagram – Without Mobilization



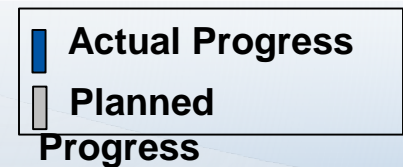
## Through July 31, 2016



# Design Status

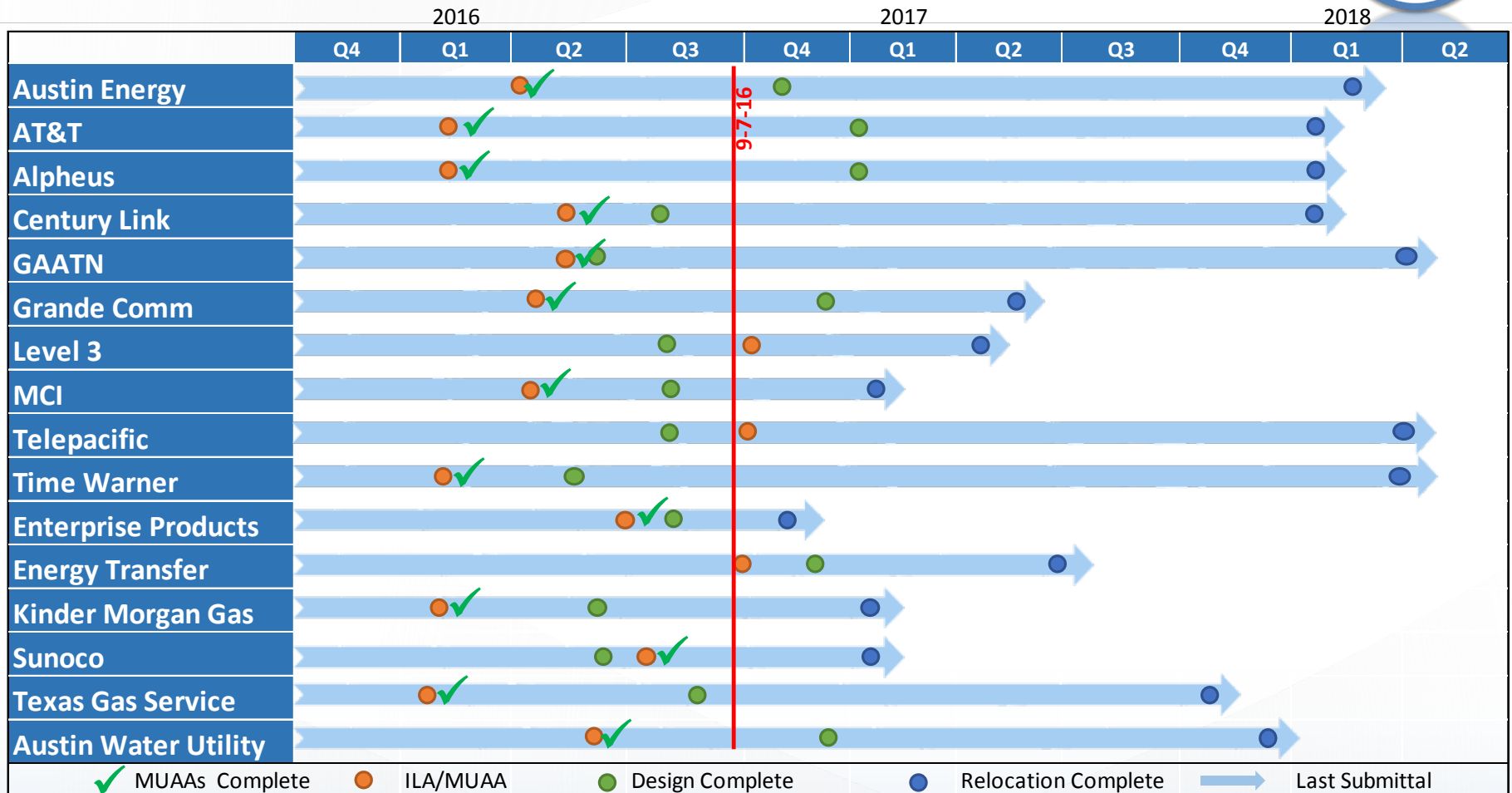


- Design efforts are on schedule





# Utility Relocation Status



9-7-16

- **13 of 16 MUAAs Complete**
- **MUAAs are Responsibility of Contractor**

# City of Austin Water and Wastewater Construction



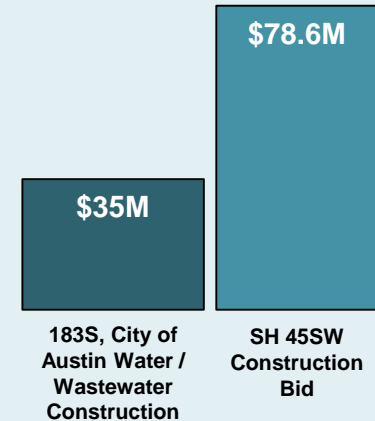
**Waterline Pipe –  
74,000 Feet**



**Wastewater Pipe –  
20,000 Feet**



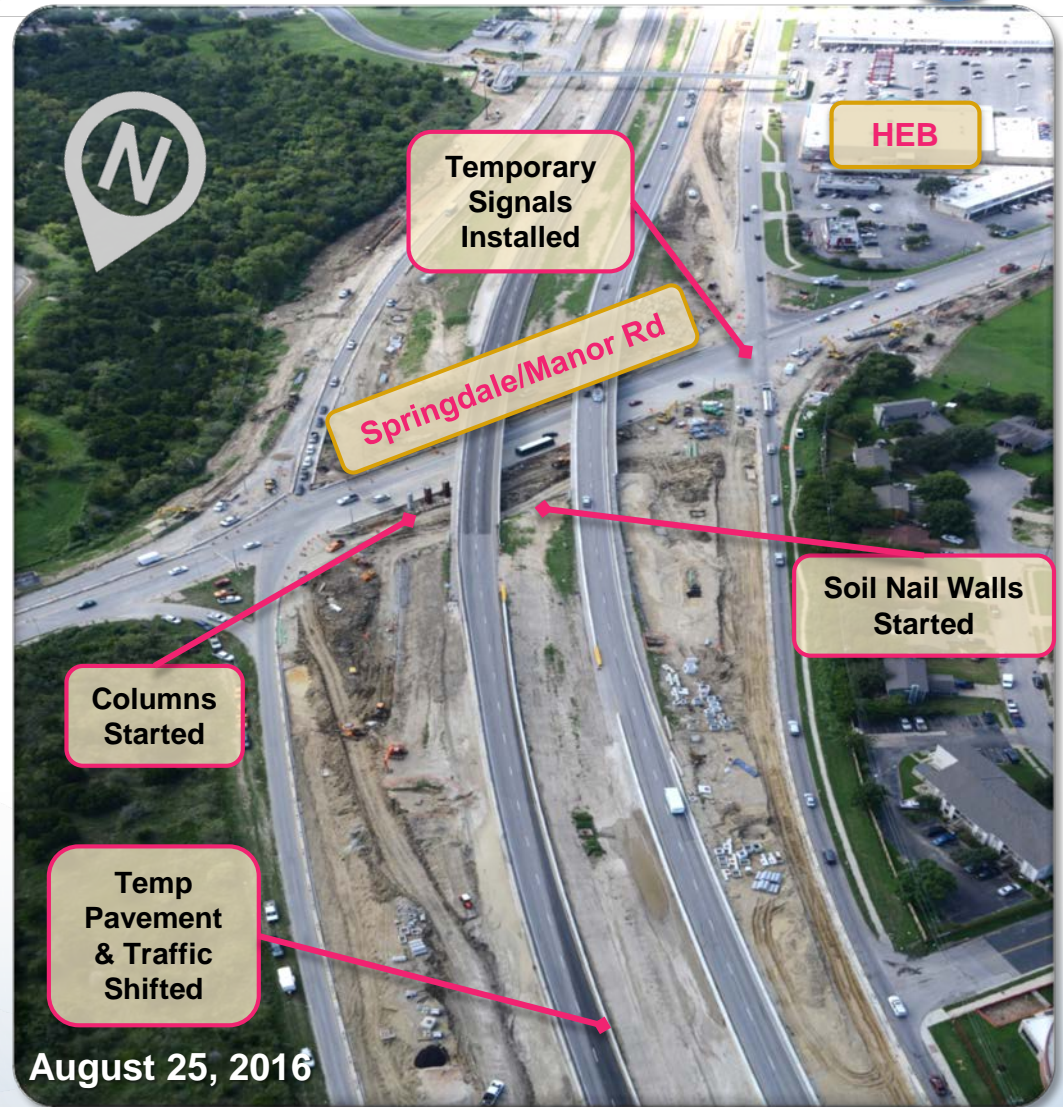
**COMPARISON:  
183 South Water Relocations  
vs. SH 45SW Construction Bid**



**Total Pipe –  
94,000 Feet**



# Project Progress - Springdale/Manor Interchange





# Project Photos



**Construction Worksite – Northbound General Purpose Lane  
at Northbound Main Lanes – Walnut Creek (Facing North)**





**Excavation Work between Little Walnut Creek and Loyola Lane**



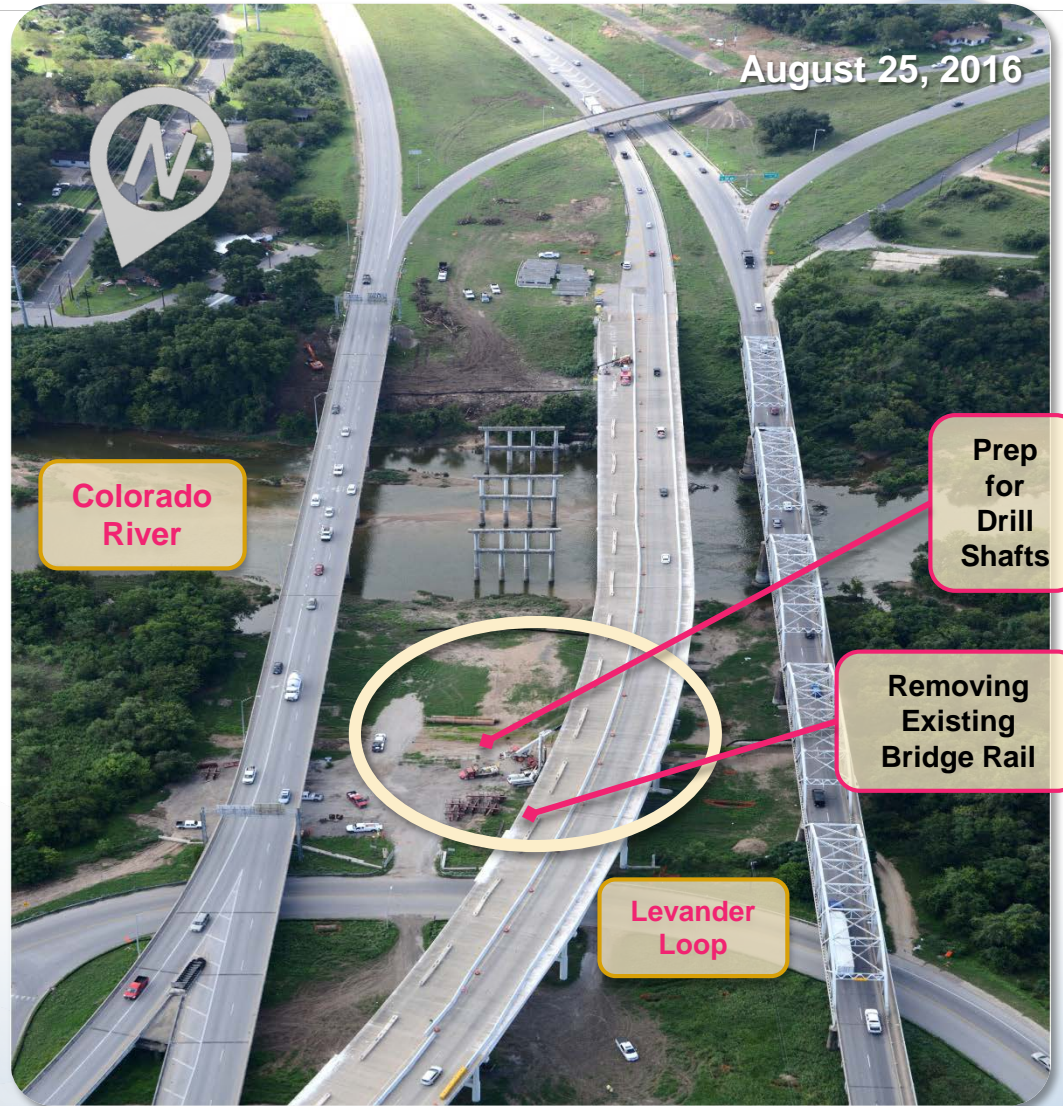
**Setting Forms and Columns at Little Walnut Creek**



# Project Progress - Colorado River Bridge



May 2016



August 25, 2016

Colorado River

Prep for Drill Shafts

Removing Existing Bridge Rail

Levander Loop





# Public Outreach Status

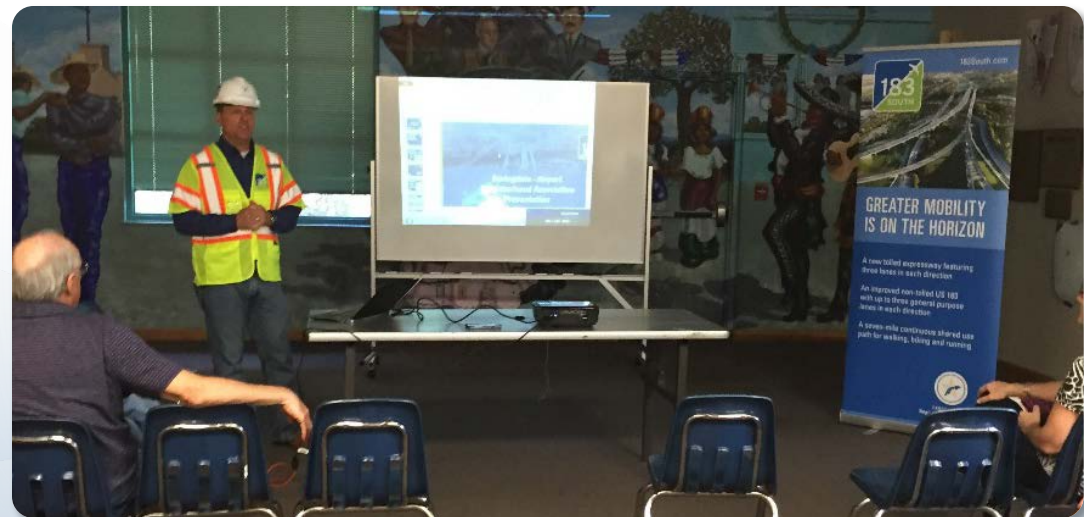


## Events and Meetings

- 9 stakeholder meetings
- 5 “Meet the Contractor” events
- 2 Sponsored Ice Cream Socials
- 1 neighborhood meeting
- SH 71 Turnaround Neighborhood Meeting (8/3/16)



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# Public Outreach Status



## Proactive Outreach

- Project e-newsletter sent August 18
- Construction impacts outreach via Twitter, e-mail alerts, website updates
- Outreach to AISD Transportation and CapMetro RE: bus routes

## Upcoming Activities

- Informational Booth at HEB BBQ and Cakewalk and NXP Semiconductors
- Neighborhood Meeting with Travis Station Apartments
- Austin Chamber of Commerce Mobility & Transportation Committee Presentation



183 South @183South · Aug 12

DETOUR TONITE 6p-10a: US183 northbound frontage CLOSED btwn Springdale & US290. Take Springdale, left on US290 frontage to US183 #abtraffic



183 South @183South · Jul 7

We're designing brand new bridges on 183S. Read how CRC's Structures Engineer Brendan McGrath rises to the challenge [eepurl.com/b7GB2D](http://eepurl.com/b7GB2D)



183 South @183South · Aug 13

Our project team is at the @HEB on Springdale/Manor Rd & US183 until 1:30 today. Visit us & learn about the project



183 SOUTH

HOME | 1-855-245-4272 | GOOGLE TRANSLATE

Project Overview Construction Information Multimedia Stay Involved Contact Us

View construction legend

TOGGLE TRAFFIC

CENTRAL TEXAS Regional Mobility Authority

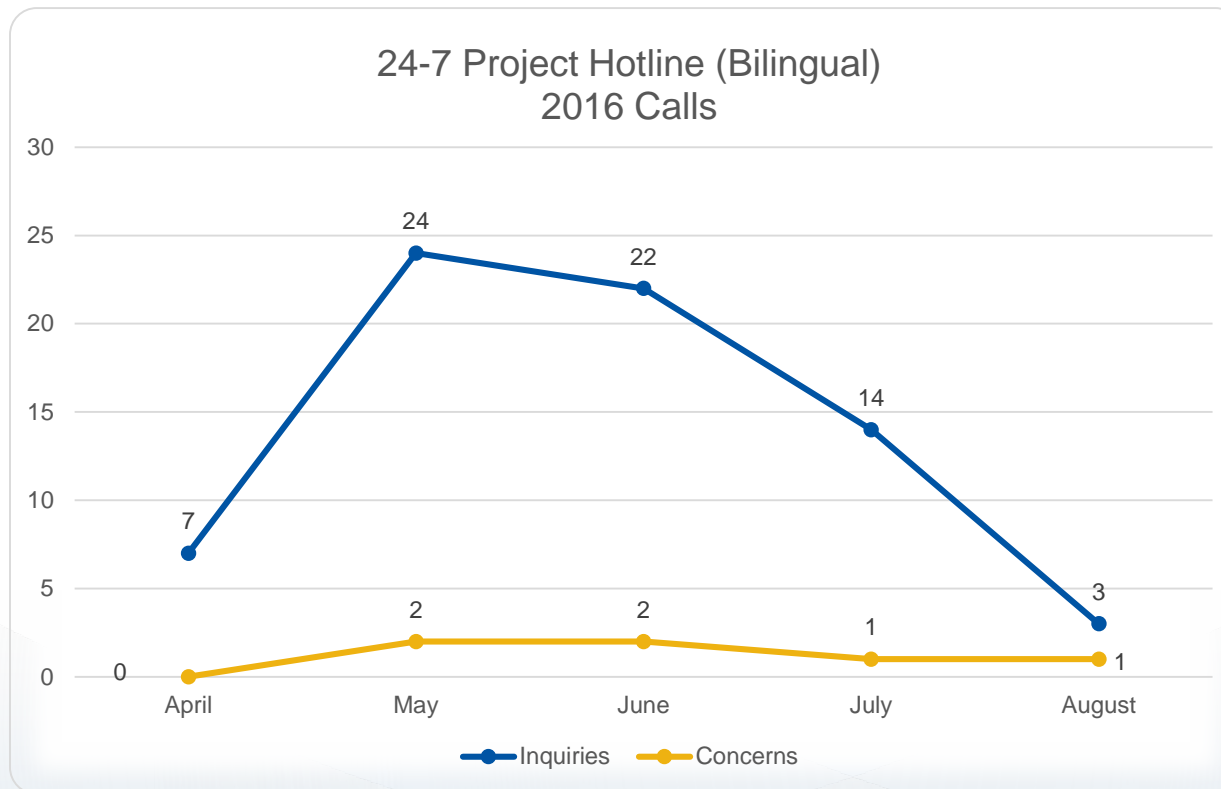
The Central Texas Regional Mobility Authority is building a new tolled expressway with three lanes in each direction on an eight-mile section of US 183 between US 290 and SH 71. In addition, the Mobility Authority will be reconstructing and improving the non-tolled US 183 general purpose lanes and adding \$25 million worth of pedestrian and bicyclist facilities. The project will open in phases between 2019 and 2020, offering greater mobility for all users of the corridor.

SIGN UP FOR CONSTRUCTION ALERTS





**The project team fields calls from the public via our 24/7 project hotline**





# Questions, Comments?



# Executive Director's Report

## A. Reimbursement of the project funds to Travis County for the Kellam Road project.

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### Agenda Item #18

Mike Heiligenstein, Executive Director

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority

# Executive Director's Report B. Texas Transportation Commission Meeting and Luncheon, September 29, 2016.

## Agenda Item #18

Mike Heiligenstein, Executive Director

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority



# Wire One Austin, Presentation by Jared Ficklin as requested by board members David Armbrust and Nikelle Meade.

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## Agenda Item #19

Jared Ficklin, Wire One Austin

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority



# The Opportunity

“What Austin needs is a new north south artery, but where?”

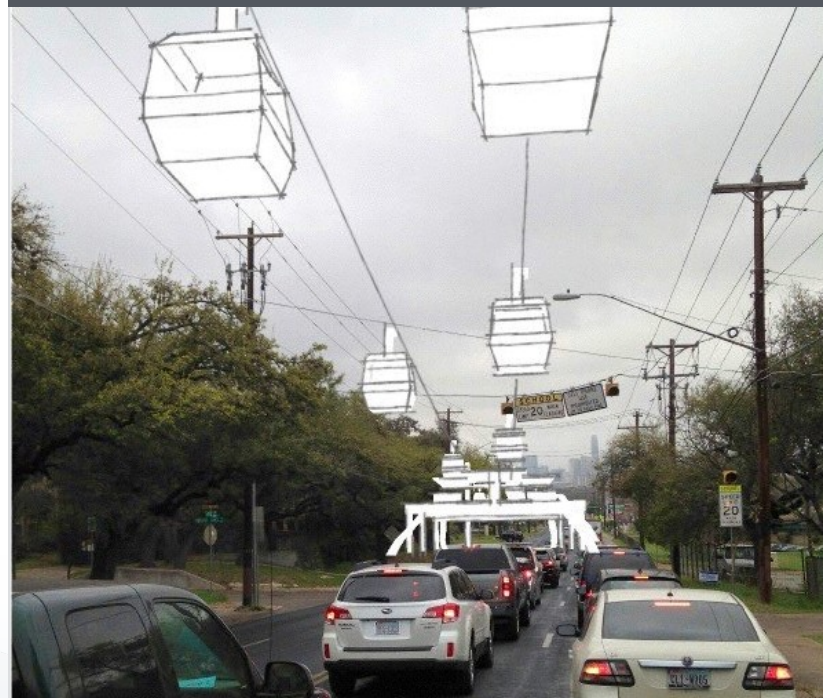
— OpEd in Austin American Statesman

**TAKE A POPULAR  
CONGESTED, CENTRAL ROUTE**



South 1st Street just north of Ben White at 9:00 AM.

**ADD THE CAPACITY OF  
25-50 BUSES AN HOUR OVERHEAD**



Urban Cable operates continuously & can scale from 1,200 to 3,000 persons per hour per direction.





# The Technology Of Urban Cable

“The ride is peaceful & quiet with full access to all 5 senses.”

— New Cities Summit, Montreal



Video from London & Medellin

## AFFORDABLE

Lower Cost Than Rail  
Low O&M & Low Cost Per Rider  
Functions Like Inexpensive  
Subway

## COMPATIBLE

Serves Commuters, Tourists & Locals  
Allows Redeployment Of Bus As  
Feeders Ties Into The 290 Bus  
Interchange Supports Multi-Modal  
Routing  
Easy Access For Mobility  
Impaired Faster Than Bus &  
Congested Traffic

## SUSTAINABLE

Electric Power Train  
Removes Car Trips  
Pedestrian & Bike  
Friendly

## CULTURALLY ADOPTABLE

Serves Commuters, Locals &  
Tourism Predictable Trip Times &  
No Schedule Personal Space  
Climate Controlled  
Proven Safety  
Record



# Capacity

“...as far as I am concerned, these are flying cars”

2,400 - 6,000 per hour, with no displacement (1,200 - 3,000 persons per hour per direction)

TEDxKansasCITY

HIGH CAPACITY CIRCULATOR

CONTINUOUS & MODULAR

MEANINGFUL IMPACT

ACCESIBLE AMPLIFIER



The system operates continuously carrying 1,200 to 3,000 people per hour per direction in climate controlled 10 person cars.



Cars can be added & removed from the line to match demand. Lines can come together at interchanges to form systems.



Residents know how to incorporate South 1st into their travel plans. We can accommodate 50% of the commuter car trips with a downtown destination.



The cars accommodate easy loading of mobility impaired passengers with no service delay. The cars also accommodate bikes. The continuous operation & predictable trip times makes routing with car share, bike share & TNCs very easy.







# Routing

“There is no way to fit new capacity onto south 1st by traditional means”

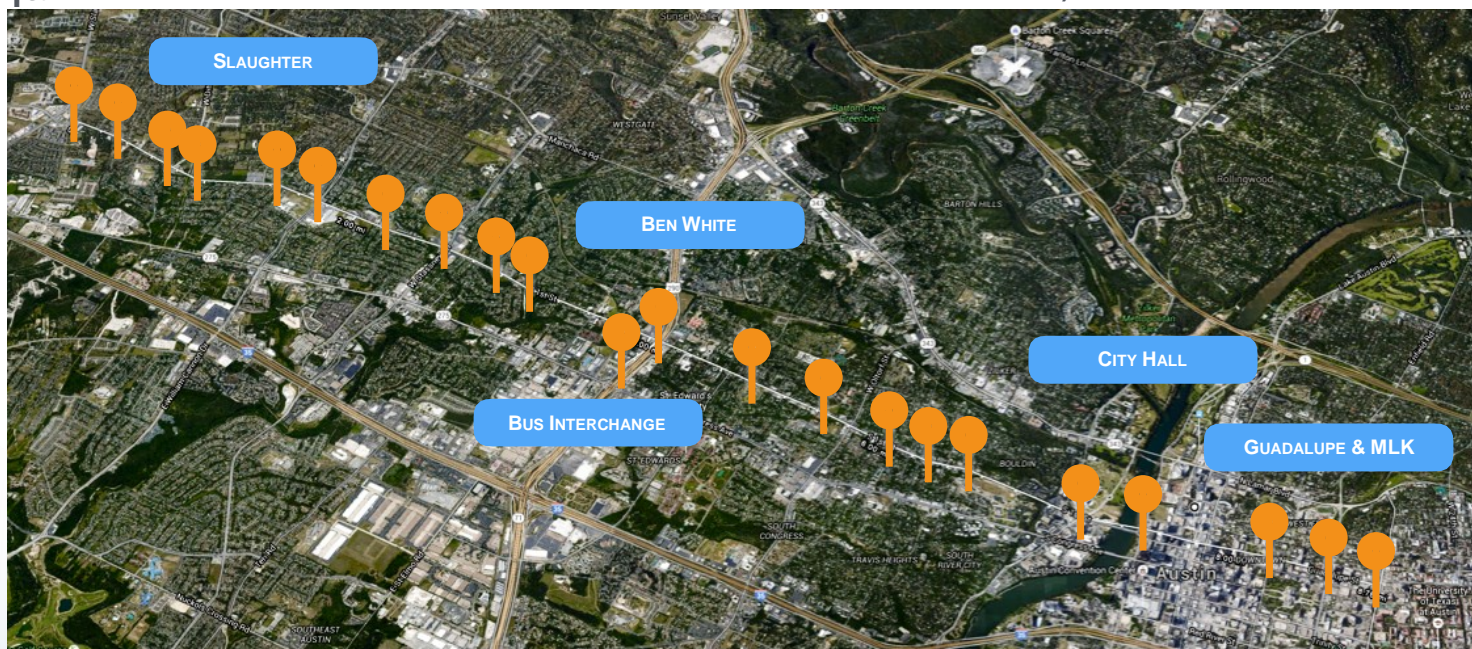
South 1<sup>st</sup> is an established & familiar route

The route is wide enough, straight enough & out of the view corridors

Nearly 15% of Austin lives within 10 minutes of South 1<sup>st</sup>

(census tract data  $\approx$  2 miles radius)

— Meeting, Travis County

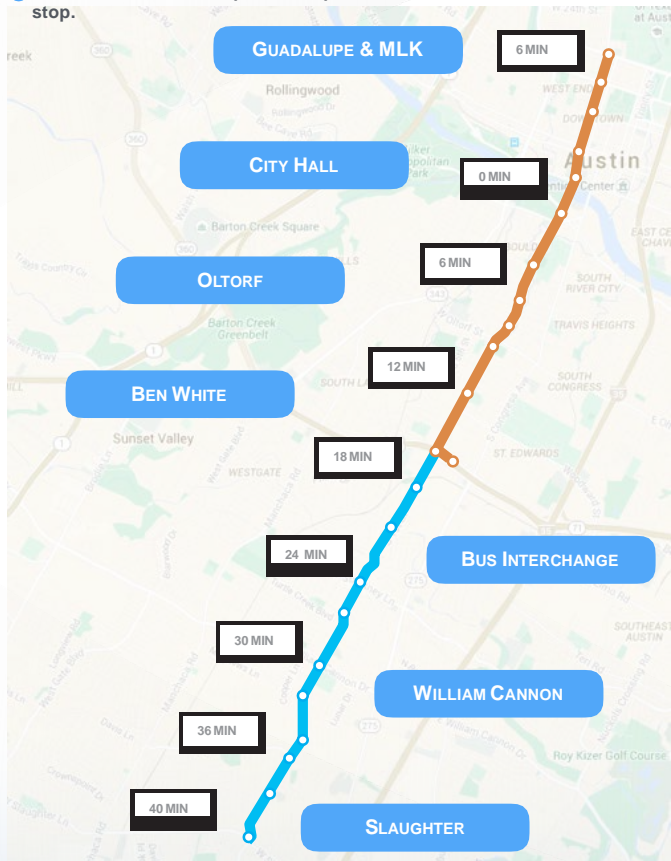






# Routing & General Description

Each circle on the line represents a potential stop.



Wire One could deploy as two lines meeting at an interchange.

“...you can create routes to places people actually need to go.”

Using High Speed Detachable Mono Cable

— Baton Rouge Area Foundation

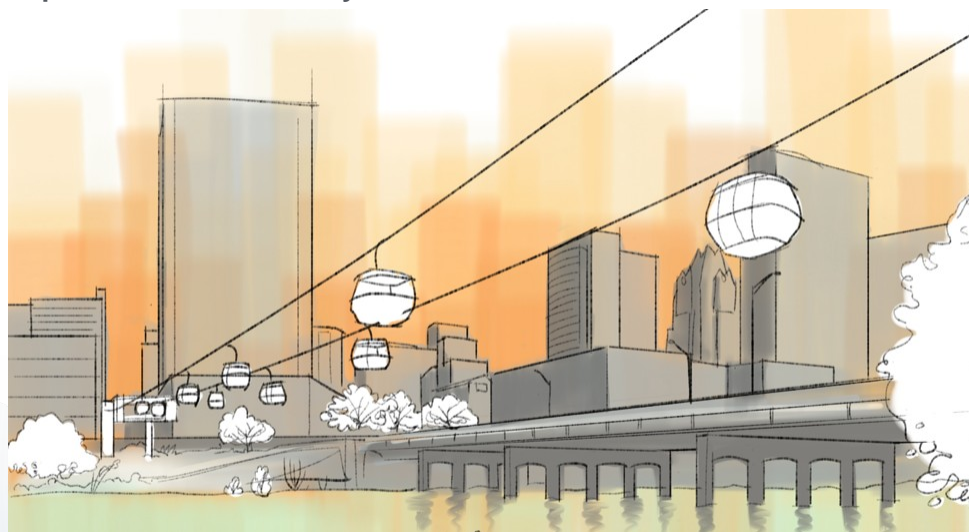
Place 23 stops over South 1<sup>st</sup> in the second story

With a starting capacity of 1,200 Per Hour Per Direction

Using climate controlled 10 person cars

At a speed of 6 minutes per mile

Uptime of 19 hours a day



This is an initial vision of routing & stops. Final location of stops requires deeper study. Some locations will feature stops required for use as turning stations.



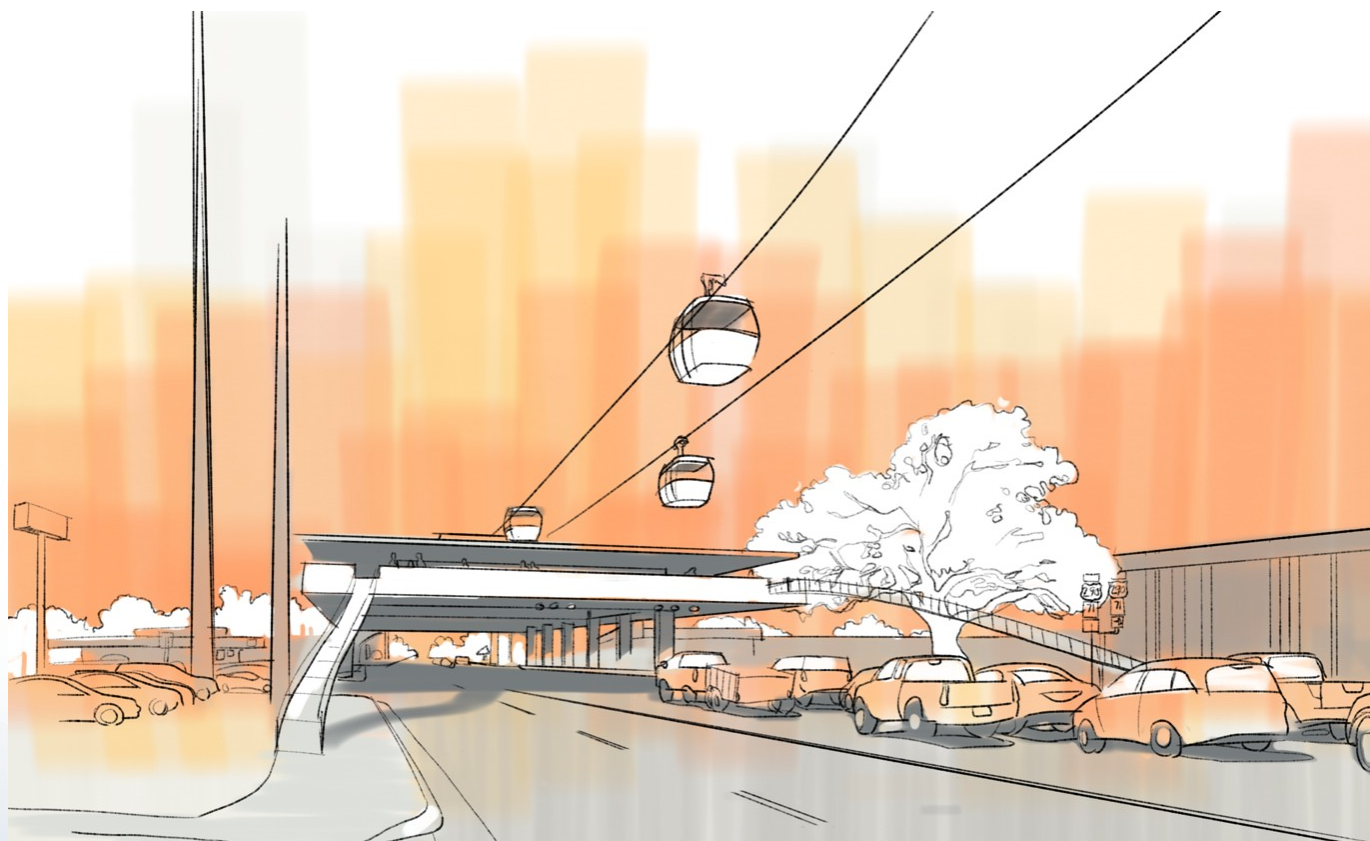


## Deploying Wire One

“Urban Cable is modular without the cost or continuous disruption of other constructing other systems...”

— TEDxAustin

Cars  
Towers  
Stations  
Interchanges





# Deploying Wire One Cars

“Look Up  
Austin”

— Op Ed Austin American  
Statesman



An 8 person car from the London Emirates  
Airline

A 10 person car  
using a 15 person hanger  
supporting Onboard  
Power  
for electricity & robust Climate  
Control



A car yard of 6 person cars in  
Spain



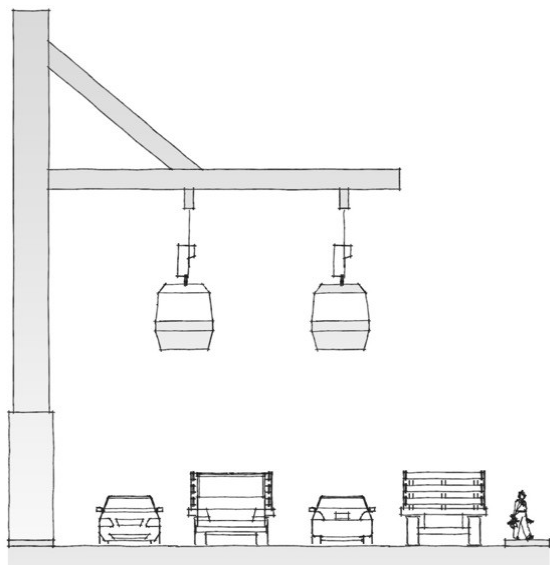




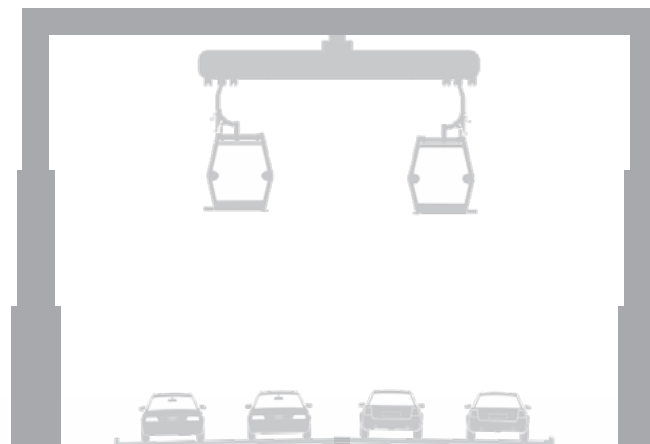
# Deploying Wire One Towers

“These could become as iconic  
as the Austin “Moon  
Towers””

— Comments, Article Austin  
360



**Cantilevered**



**Bridged**



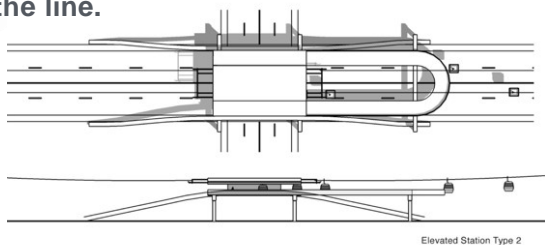


# Deploying Wire One Stations

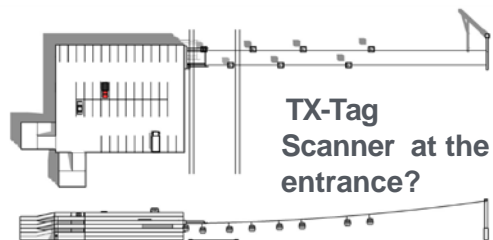
Stations built overtop of the road or intersections accessible by ramps with crossovers for North or South bound travel. There are many sites south of Ben White undeveloped enough to add Park & Fly with bridges to the line.

“Stations have many opportunities for public private partnerships”

— TEDxAustin

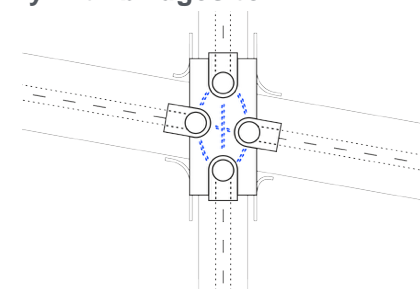


Elevated Station Type 2

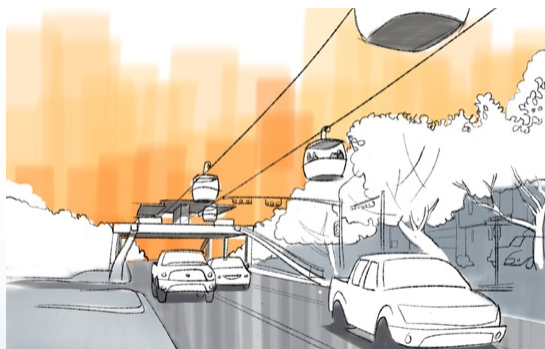


TX-Tag Scanner at the entrance?

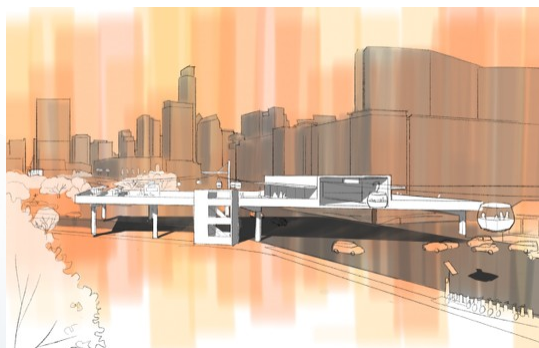
Park & Ride Station



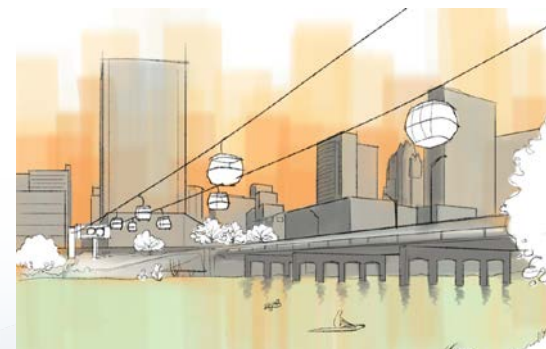
## Local



## Plaza or Park & Fly



## Interchange





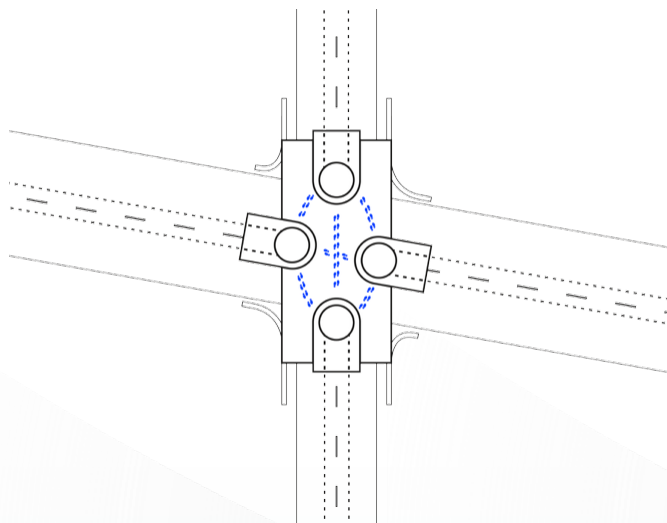


# Deploying Wire One Interchanges

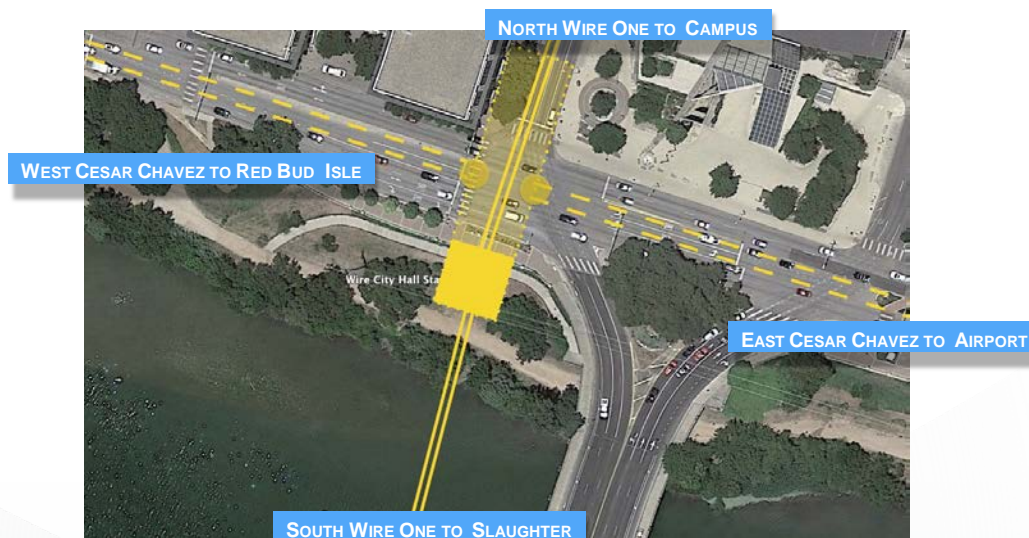
Lines can converge at an interchange allowing travelers to change lines. own, this creates the potential for staging the deployment of multiple lines that can become a central circulator system.

“You can create a system, ...a culture around commuting”

While Wire One can stand on its own, this creates the potential for staging the deployment of multiple lines that can become a central circulator system. —TEDxAustin



Traffic flow on a single elevation



## City Hall Interchange

Ben White, Stassney, Slaughter, Offer other opportunities



## Ridership

“We found in North America people do not adopt Mass Transit because of schedules & personal space”

— The Wire Design Research Project

Commuters  
Transit  
Students  
Locals  
Tourists







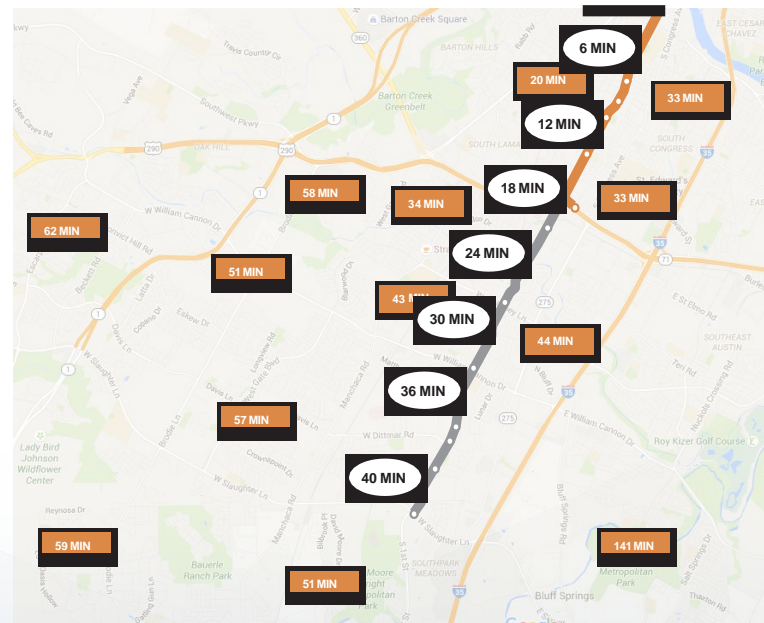
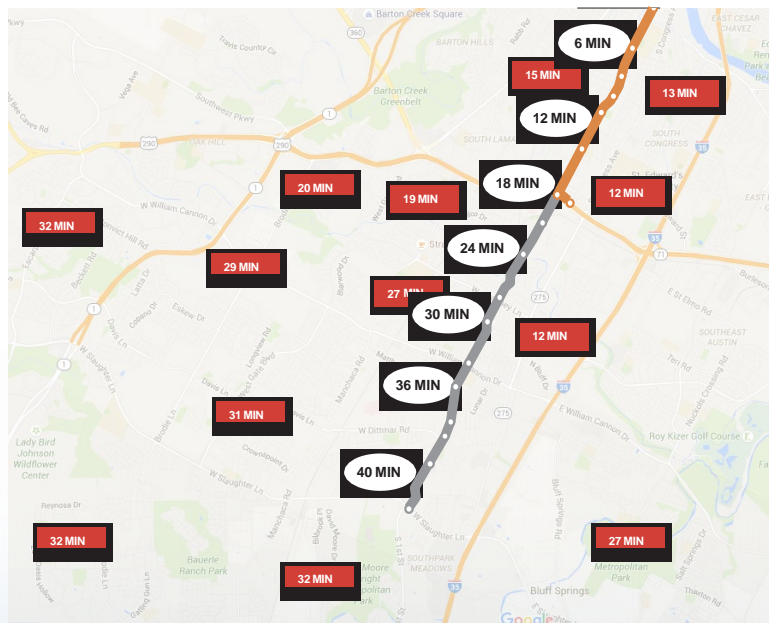
# Ridership

## Commuters

“Capturing 5% of these commuters is about 550,000 trips a year.”

— Meeting at Travis County

10 yrs ago traps on south 1<sup>st</sup> caught  $\approx$  15,000 cars a day north bound to downtown during rush  
In Mobility surveys 5% of residents south of the river report commuting by means other than car  
The average cost of parking downtown is now \$180 a month





# Ridership

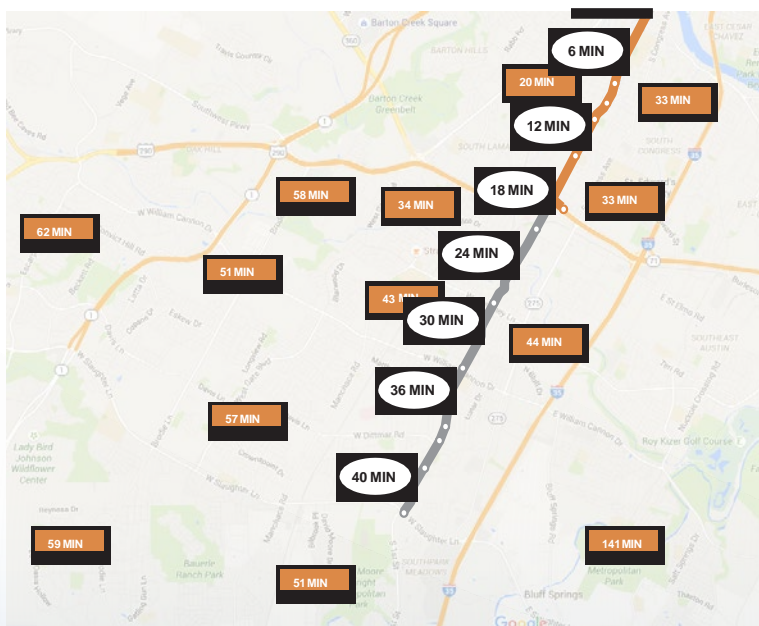
## Transit

Take over the Number 10 Bus

Re-deploy those resources to become east / west feeders

“The number 10 line services about 1.8 million rides annually”

— Cap Metro Ridership History







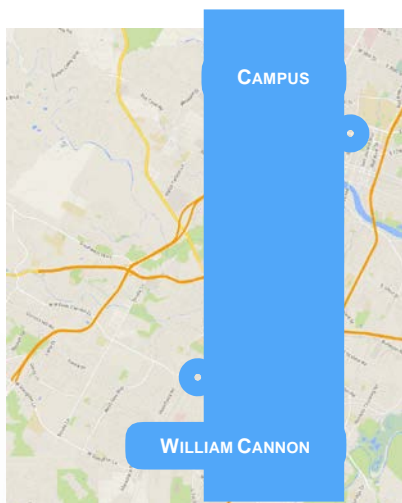
# Ridership

## Students

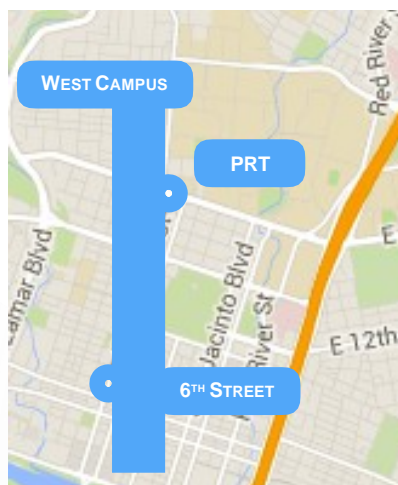
Route from affordable housing in the South directly to campus, bikes are easily loaded We can tie into the proposed PRT at the south west corner of campus  
Take over the Campus to 6<sup>th</sup> street bus routes

“These guys are not headed to work!”

— TEDxKansasCity



Housing Commute



Nightlife Commute

South 1st Street just north of Ben White at 9:00 AM.



19 hour uptime includes bar hours

Manizales, Columbia

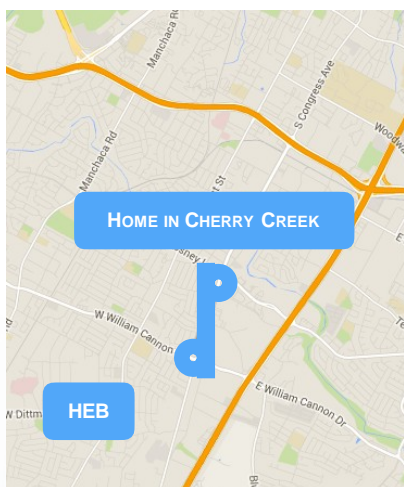


“Their is a greater effect to the quality of life of those in neighborhoods under siege by congestion...”

— New Cities Summit, Montreal

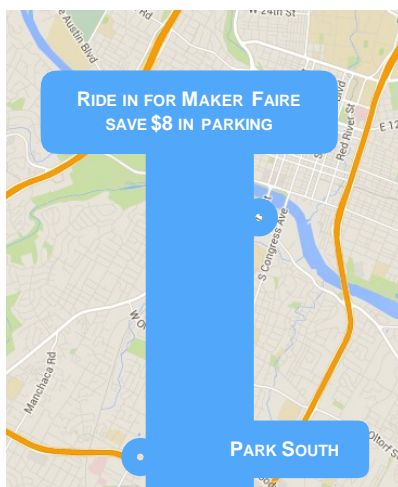
## Ridership Locals & Events

Adjacent neighborhoods may adopt for local or micro-trips  
There is built in Event Support that can run even during road closures



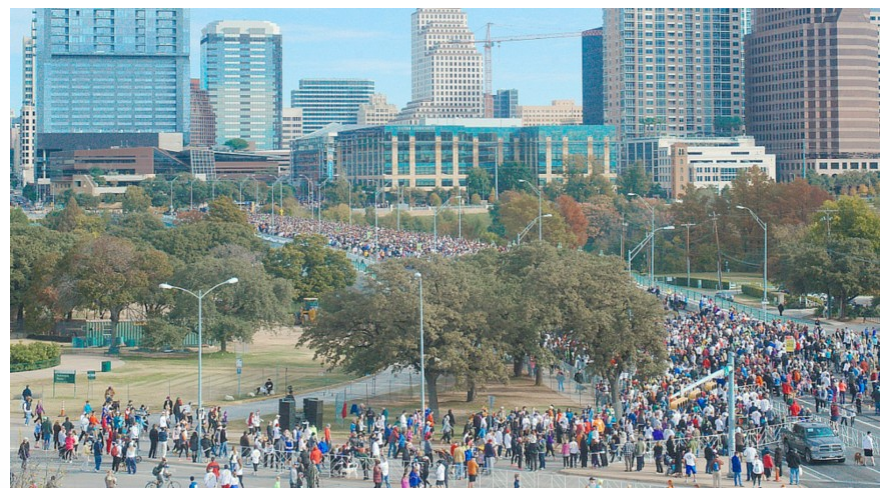
### Micro-trips

Down to HEB and back



### Avoid Parking Search

The parking load can be spread along the line



### Event Support

The Turkey Trot (and other events) can still take place underneath a fully operational Wire One.





# Ridership

## Tourism

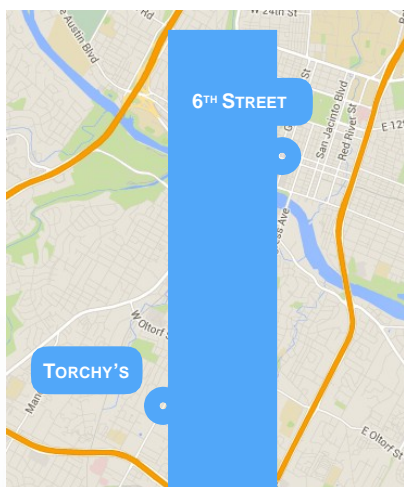
Visitors will want the selfie over the river

They will also just ride the line as a transit option to destinations like the Obama Torchy's Tacos

The line borders neighborhoods with high density short term rentals for festivals

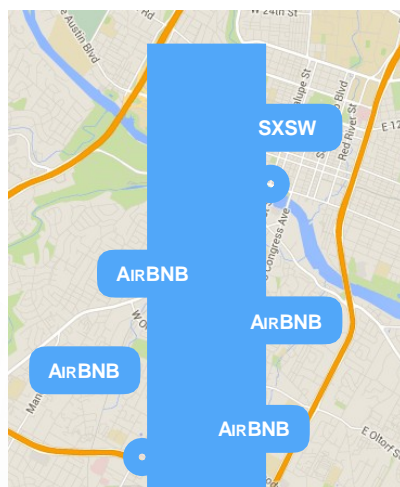
“The city licenses fall short, there are more like 3000 festival rentals...”

— Anonymous source in industry



### Tourism Ride

London sees 5,000 tourism rides a week



### Festival Transit

Plus new sources south of Ben White



### Sightseeing

Tourist in London



# Ridership

“The real number that matters is cost per rider, & that takes riders”

— New Cities Summit, Montreal

**Commuters**  
**Transit**  
**Students**  
**Locals**  
**Tourists**

<b>Commuters</b>	5% of volume, 10 yrs ago	<b>550,000</b>
<b>Number 10 line</b>	2015 ride numbers	<b>1,800,000</b>
<b>Student</b>	Thinking of a heuristic that might yield a number	<b>0</b>
<b>Locals</b>	if 5% of residents within 10 minutes ride 10 times a year	<b>1,350,000</b>
<b>Tourists</b>	5% of 19.8 million annual visitors	<b>990,000</b>
<b>Short Term Rental</b>	3,000 x 2 a day x 6 weeks of major festivals	<b>180,000</b>
<b>TOTALS</b>		<b>4,870,000</b>

Collect \$1 for locals & \$3 from tourism yields:  
\$7,212,000







## Cost

“We love this idea, who can pay for it?”

— Anonymous City Staffer

## Drivers Savers Estimates





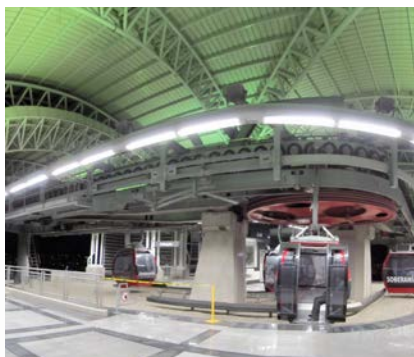
# Cost Drivers

“If you want to make something really expensive, hold a design contest”

— Anonymous Industry Expert

A 4 Stop 4 mile system is only marginally more than a 4 stop 1 mile system Our notable wildcard is we may incur costs moving electric

## NUMBER OF STATIONS



We are looking for a station density that drives adoption. We have a high number of stations to pay for if we would like this to operate with the effectiveness of a subway.

## NUMBER OF CARS (RELATED TO CAPACITY)



We are looking for high capacity. To gain full value from tourism we will want capability to run max capacity. With an 8 mile line this will be a large number of cars.

## DESIGN ELEMENTS (GOING WAY BEYOND “OFF THE SHELF”)



We may be able to avoid high design costs, but we will incur the costs of stations placed onto pylons and plazas. We may be able to defray some of these costs with public private partnership and or creation of new 'real estate' at plazas.

## CLIMATE CONTROL (REQUIRED COST IN AUSTIN)



For safety and any adoption at all we will need to pay for robust climate control.

Image courtesy of [gondolaproject.com](http://gondolaproject.com)





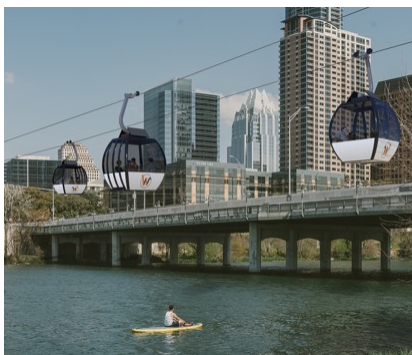
# Cost Savers

“As important as the costs are the costs not incurred”

— Meeting with anonymous private land development company

The modular construction & ability to span obstacles profile is the largest saver

**SPAN**  
(NO \$250 MILLION BRIDGES)



The improvements for the South 1st Street bridge to support surface rail were priced at \$55 million. We can span Ladybird Lake & Ben White for essentially \$0 added.

**EMINENT DOMAIN**  
(DOUBLE USE)



Using Right Of Way the City already owns will help drive savings for Wire One.

Medellin  
Columbia

**O&M**  
(COMPETTIVE)



Station attendants in shifts for each stop. Maintenance crew & a long term scheduled maintenance service contract. Electricity & fuel costs for motors & climate control.

**ROUTING**  
(DRIVES ADOPTION, REDUCED CPR)



Routing allows for conversion of land use, but also since we can achieve central routes we will not have to wait as long for adoption or for the land values to improve.

Central routing will also drive immediate ridership.  
Image courtesy of the Gondola Project

# Adjourn Meeting

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## Agenda Item #20

September 7, 2016



CENTRAL TEXAS  
Regional Mobility Authority





**CENTRAL TEXAS**  
**Regional Mobility Authority**