



METRO



projectconnect

Riverside Connector Corridor

Enhancements

Short-term improvements to keep Austin moving.



Mobility Hubs



MetroRapid



MetroRail



MetroExpress

Investments

Long-term projects to support our future.



Commuters



Connectors



Circulators

Project Connect

Project Connect is a plan to create a system of high-capacity transit options that will connect people, places, and opportunities in an affordable, efficient, and sustainable way. Two teams have been working closely with residents, workers, and community groups to address our short and long-term needs.

The **Enhancements Team** is working to identify projects that will ensure our existing transit network will operate efficiently as the Austin area grows. The enhancement projects will improve MetroRail, MetroRapid, and MetroExpress services, as well as create Mobility Hubs across the area.

The **Investments Team** is developing plans for a transit system capable of maximizing the amount of people that can move through key corridors. Introducing new transit options will create a more balanced transportation system that benefits all Austinites.

Connectors

The Connector investment corridors are intended to serve multiple trip purposes and connect people with activity centers primarily within Central Austin.

Over 30 corridors were identified by reviewing plans and studies completed by Capital Metro and its partners. Those corridors were narrowed down through a tiered evaluation process that explored each corridor's potential to successfully implement HCT.

The eight Connector corridors advanced to Phase 2 are:

- North Lamar/Guadalupe
- South Congress
- Riverside
- South Lamar
- Manor/Dean Keeton*
- Highland/Trinity/Red River
- 7th/Lake Austin

**The MLK connector corridor was included with Manor/Dean Keeton as an alignment alternative*

Key Terms

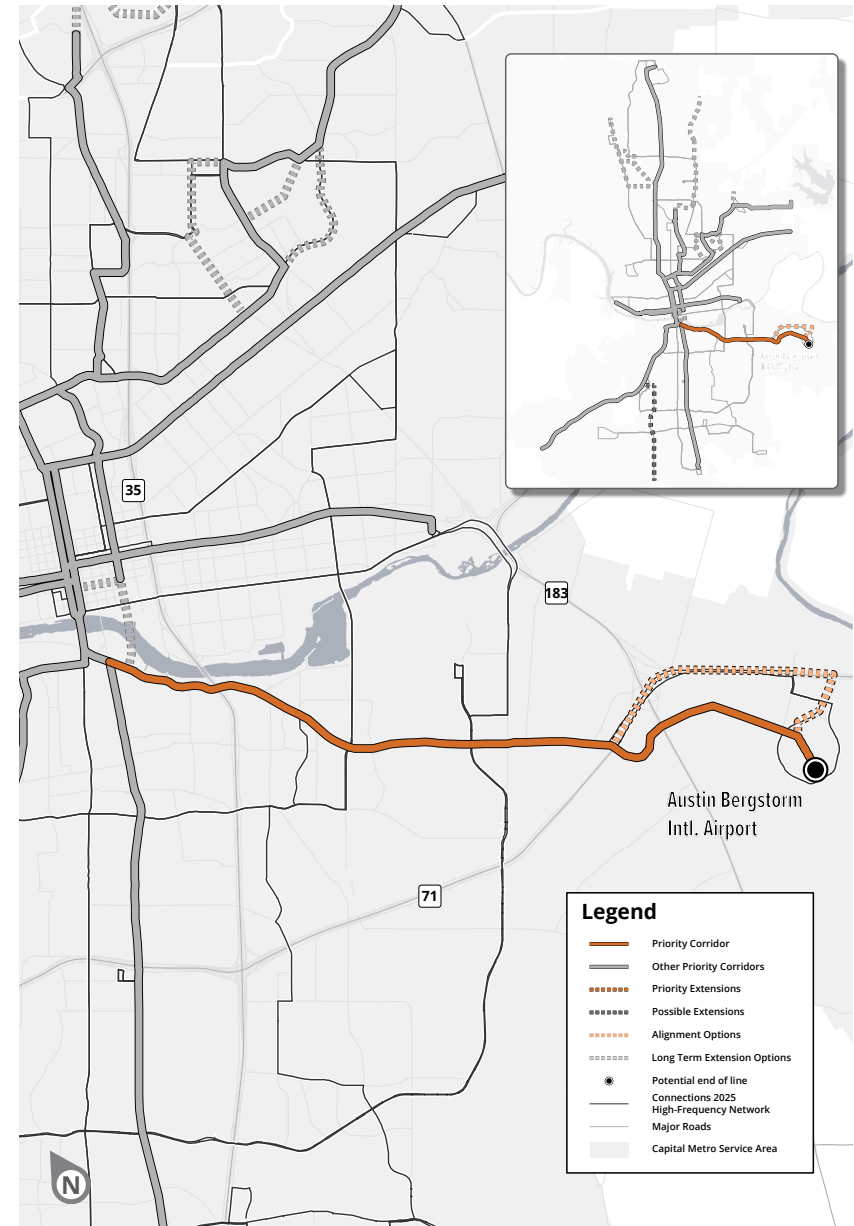
HCT	High Capacity Transit
ROW	Right-of-Way
LRT	Light Rail Transit
BRT	Bus Rapid Transit
CVC	Capitol View Corridor
TOD	Transit Oriented Development
P&R	Park & Ride
TC	Transit Center
PER	Preliminary Engineering Report
UT	University of Texas
ACC	Austin Community College

Corridor Summary

The Riverside Corridor connects Austin’s highest density neighborhoods with the central core. Recent planning efforts from the City of Austin have kick-started large-scale redevelopment of the corridor into a high-density, mixed-use neighborhood guided by the East Riverside Corridor (ERC) Plan. HCT plays a prominent role in placemaking and development patterns as outlined in the ERC Regulating Plan, as reflected in the 2014 Urban Rail proposal. The Riverside Corridor provides an opportunity to serve Austin Bergstrom International Airport with a direct HCT connection to Downtown Austin and points beyond.

Corridor Quick Look

Corridor Start and Endpoints:	Downtown to ABIA
Corridor Length:	6.52 Miles
Existing Transit Services:	7, 20, 100, 271, 670, 671, 672
Current Bus Ridership:	3,259
Jobs (1/2 Mile from Stations):	22,728 Jobs
Residents (1/2 Mile from Stations):	29,962 Residents
Zero-Car Households:	1,694 Households
Households Below Poverty:	3,231 Households
2016 Mobility Bond Eligible?	Yes (35 to 71)
Bike Lanes	None
Sidewalks	Continuous
ROW Constraints	Some (S 1st to Travis Heights); None (Travis Heights to 71)



Corridor Character



Source: Google Earth Street View

Travis Heights

The most constrained part of the Riverside Corridor lies just to the west of a potential station at Travis Heights Blvd, where the corridor crosses Blunn Creek.

Lakeshore Area

Recent developments like the Lakeshore PUD and Oracle's new Austin offices highlight the development potential in this part of the Corridor.



Source: Towers 2017

SC Waterfront

The focus of ongoing planning efforts, the SC Waterfront could eventually see over 3,000 new residences and substantial new office space as it redevelops.

Source: City of Austin 2016



Pleasant Valley

The wide ROW in the center of Riverside and Pleasant Valley could allow for the creation of a transit plaza, as envisioned in the Riverside Corridor PER.



Source: City of Austin, 2013



Grove/Montopolis

This segment of the corridor has seen an increase in new multifamily and mixed-use development, with many more opportunities for transit-supportive infill.



Source: Google Earth Street View



Source: Page Think 2018

ABIA

Austin's international airport has seen tremendous growth in passenger traffic in recent years, and is currently undergoing a \$600M expansion.



HCT Options

Service Assumptions

To better gauge the level of investment warranted along the Riverside corridor, the project team created scenarios that assumed different combinations of transit service and guideway profiles. Transit service profiles were developed that would satisfy a range of potential transit demand depending on the capacity and frequency of the vehicles. Vehicles have a wide range of person carrying capacity, but also have different limitations on the space needed at stations, operating speed, or type of guideway required. The lower investment scenario assumes smaller vehicles operating individually, while the higher investment scenario assumes larger vehicles operating in pairs.



Emerging Technologies

New technologies, such as autonomous or electric transit vehicles, may introduce new efficiencies for transit. Autonomous vehicle (AV) technology could be adapted to both bus and rail vehicles and will be considered as Capital Metro advances each corridor through the project development process and as the technology evolves.

Lower Investment Service Assumptions

Vehicle Assumption	Up to 100 people per vehicle
Peak Frequency	10 Min (6 vehicles/hour)
Off-Peak Frequency	20 Min (3 vehicles/hour)
Peak Capacity	600 passengers/hour/direction

Higher Investment Service Assumptions

Vehicle Assumption	Up to 225 people per vehicle, two vehicles per pair
Peak Frequency	10 Min (12 vehicles/hour)
Off-Peak Frequency	20 Min (6 vehicles/hour)
Peak Capacity	2,700 passengers/hr/direction

HCT Options

Guideway Assumptions

The project team tested three guideway profile scenarios on the Manor Dean Keeton corridor that were combined with the service profiles to generate a range of HCT performance indicators.

The lower investment option assumes 100% of the dedicated guideway is at street level.

The medium investment option introduces grade separation at key locations to overcome physical barriers - in this case, to cross 183, the air cargo apron, and terminal access roads at ABIA.

The higher investment option includes additional grade separation where ROW or roadway operations are constrained - at Blunn Creek and the relatively narrow ROW between S 1st and Travis Heights.

Lower Investment



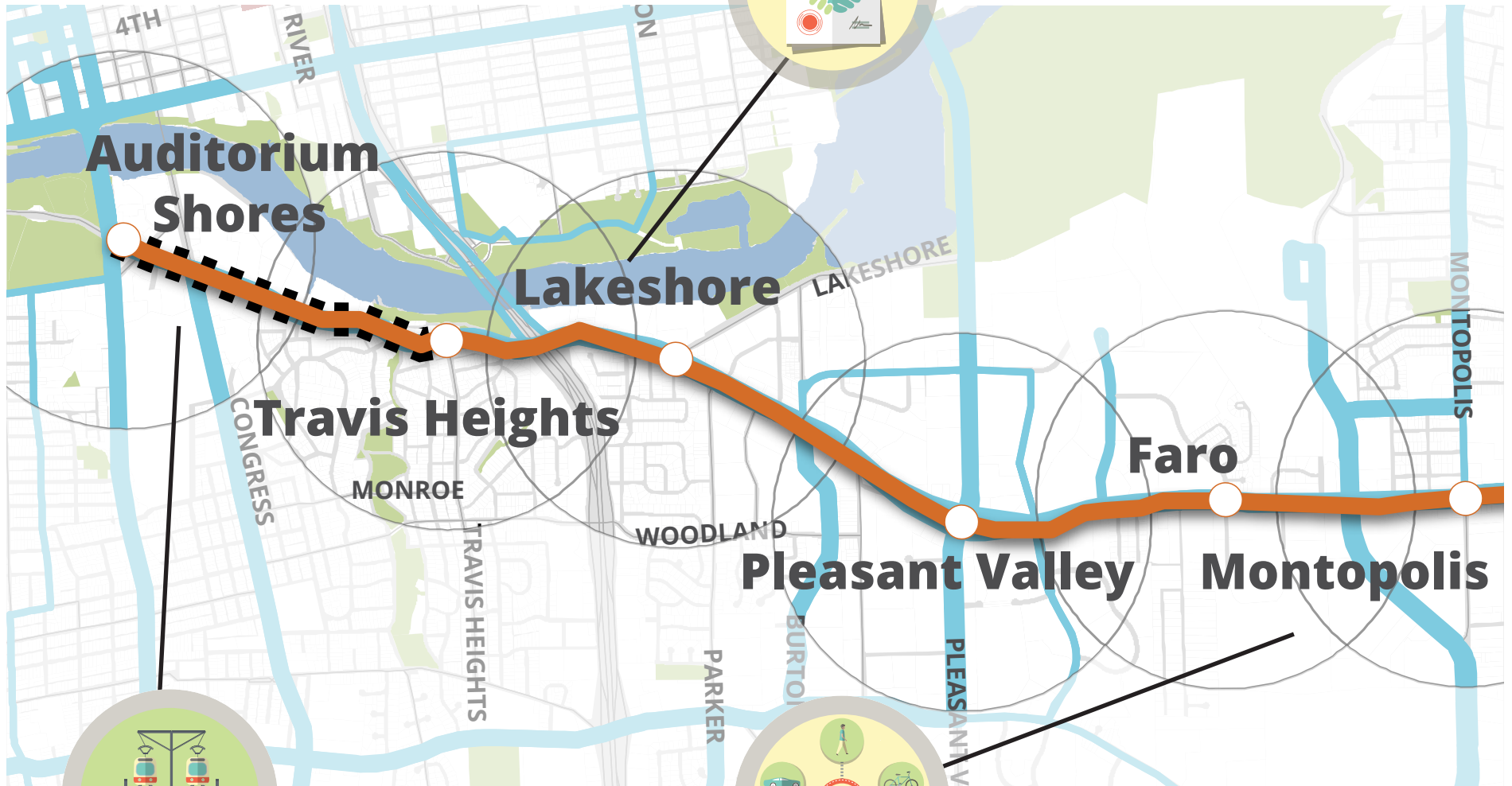
Higher Investment



-  **Street Level Guideway**
-  **Grade-Separated Guideway**



HCT Overview



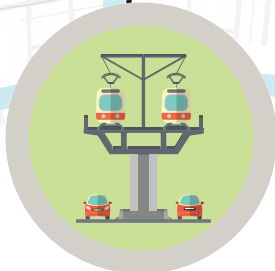
IH 35 Crossing

Close coordination with TxDOT needed to ensure Riverside crossing rebuilt to accommodate HCT.



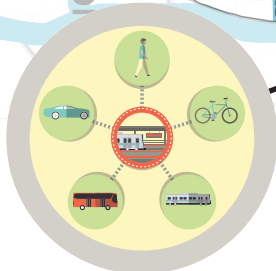
SC Waterfront

Grade separation through this area may minimize ROW impacts and improve operational efficiency.



Neighborhood Connectivity

Enhancements to pedestrian access needed near Montopolis to connect existing residents to HCT.





2016 Mobility Bond Coordination

Promising opportunity to leverage bond funding for HCT implementation.



LEGEND	
	Riverside Corridor
	Potential Station (Exact Location TBD)
	Alignment Option
	Grade Separation Option (See Alternatives Description)
	1/2 Mile (10-Min Walk) Station Area
	Parks
	Existing Red Line & Stations
	Hospitals
	Roads
	Connections 2025 High-Frequency
	Other Connections 2025 Route

Airport Alignment Options

Austin's Bergstrom International Airport (ABIA) has seen growth in passenger traffic in recent years, and is currently developing a long-range master plan that will accommodate more than 20 million passengers per year by 2040. Phase 2 of Project Connect considered two possible alignment options for serving this regional destination with transit from Riverside.

The primary Riverside to ABIA alignment option envisions transit reaching the Barbara Jordan Terminal using the route drafted in the last iteration of ABIA's master plan. Transit would extend from the terminus of East Riverside Drive over US 183, and then under the apron that connects the main runway with the current air cargo facilities. It would then surface and cross Presidential Boulevard on a new structure and either continue above grade or transition to at-grade between the existing long-term parking lots, ending at a station between the existing rental car garage and under-construction short-term garage.

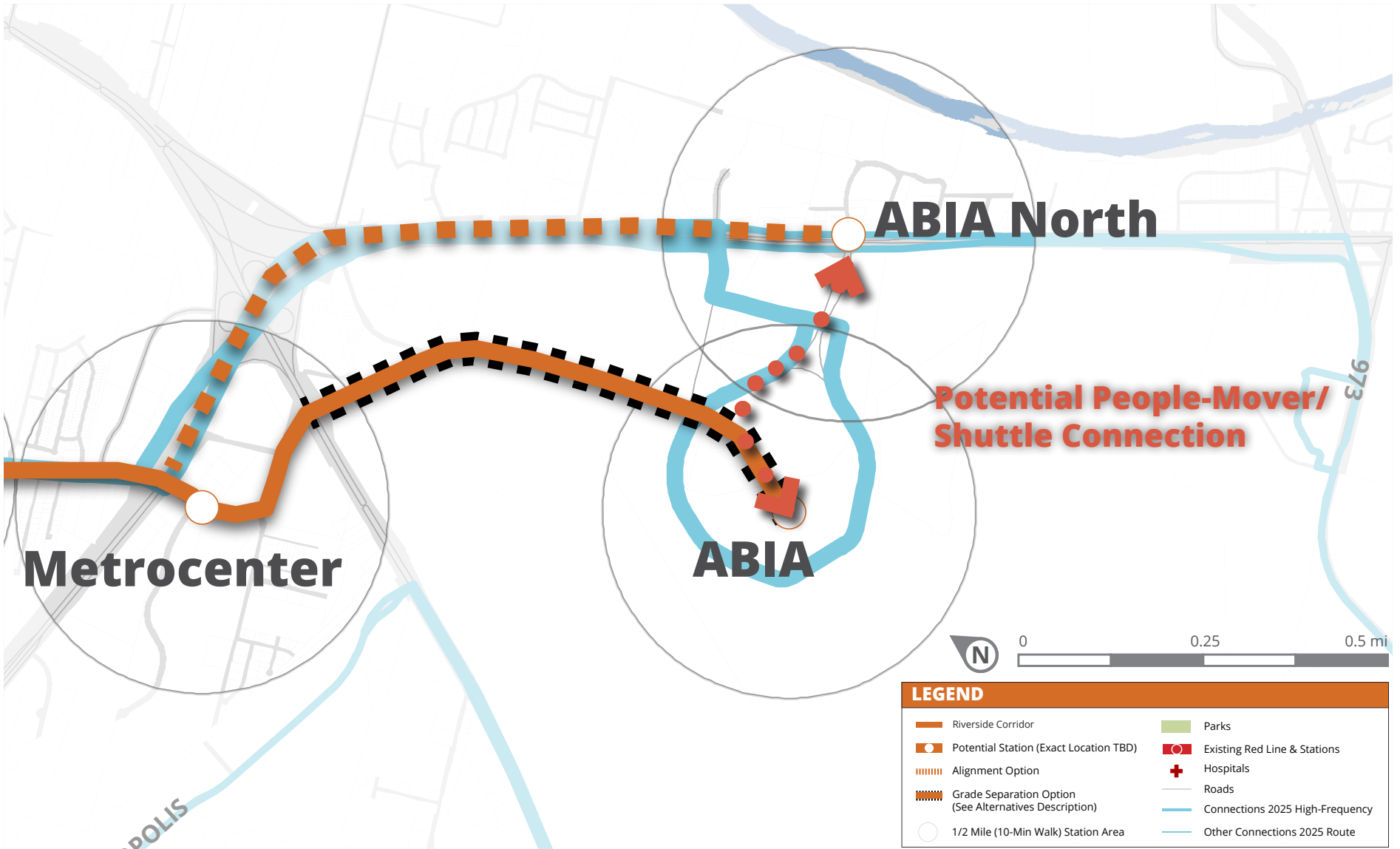
Another approach for accessing ABIA would be to serve the airport indirectly. In this scenario, transit would stay north of SH 71, navigating the 71/183 interchange on new structure and possibly transitioning to the south side of SH 71, and then terminating at a new station at either Spirit of Texas or Presidential Boulevard. This station would connect to a frequent terminal shuttle (like how Boston's MBTA blue line subway connects to Logan International Airport's terminal) or an automated people mover that would connect the terminal to parking garages, lots, the Hilton hotel, and the new transit station (similar to how the Phoenix SkyTrain connects Valley Metro LRT to Sky Harbor's terminals). This option could be significantly less expensive to construct and preserves the opportunity to extend transit further east in the future.



Source: Wikimedia Commons 2017



Source: Wikimedia Commons 2017



Street Sections

The cross sections at the right display potential ways that the Riverside corridor could be reconfigured to accommodate high capacity transit (HCT). The graphics are displayed for three segments of the corridor that share similar ROW widths and roadway profiles.

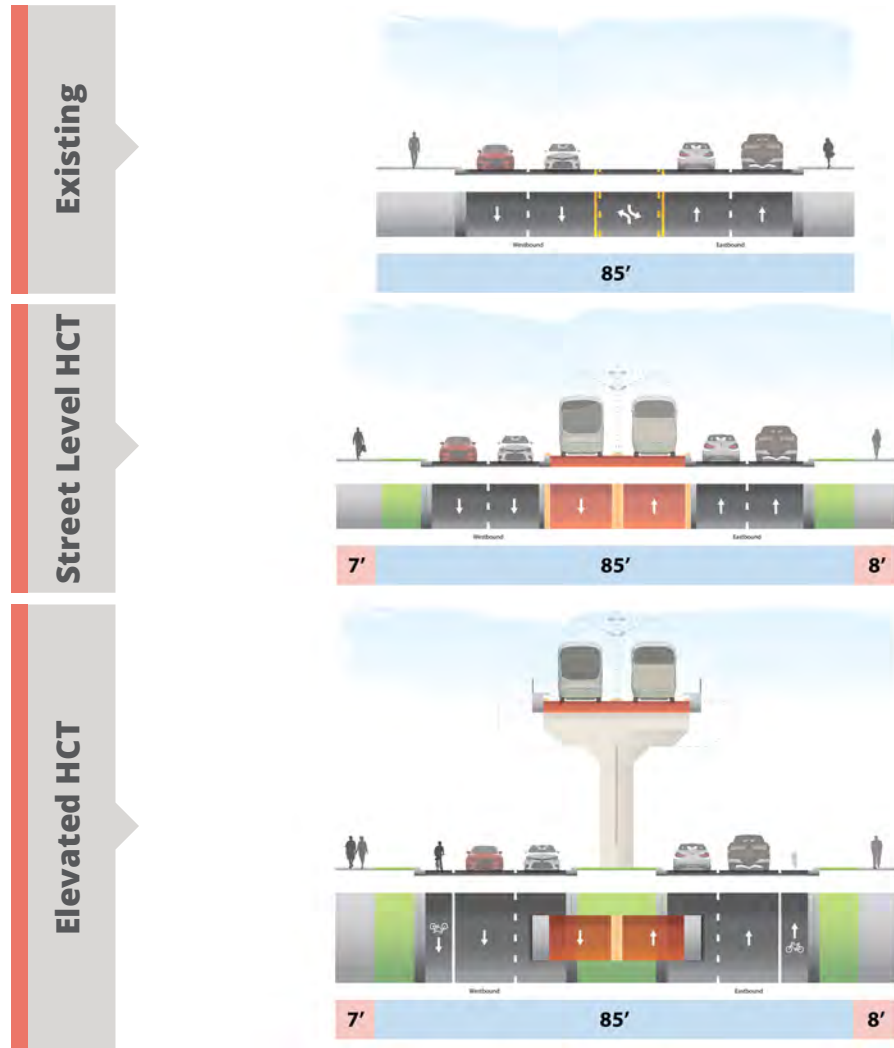
The profile of Riverside Drive through the South Central Waterfront planning area varies between 65' and 85'. The SCW framework plan envisions greater dedication of ROW by properties fronting Riverside as they redevelop, although it does not include provision for dedicated transit guideway at street level. To accommodate transit guideway with minimal ROW impacts, Riverside will likely need to be reduced to one lane of general auto travel in each direction. Given the complexity of turning movements from Congress, Barton Springs, and S 1st, Project Connect also considered an elevated alignment through the SCW, which would minimize ROW and travel lane impacts and would not interfere with the S Congress Capitol View Corridor. Through Travis Heights, transit would likely need to operate on new structure to navigate the grade change and ROW constraints at Blunn Creek, although excess ROW at Travis Heights Blvd would enable a transition back to street level to cross a reconstructed IH 35 bridge.

Along the remainder of Riverside Drive, the City's Corridor PER dedicates 26' along the entire stretch from IH 35 to SH 71 for center-running, street-level transit. Small variations in the ROW availability along the corridor may result in slightly different treatment for pedestrian space and on-street parking, but there is no need to consider grade separation through this portion of the corridor.

Segment 1: S 1st to East Bouldin Creek



Segment 1: S 1st to East Bouldin Creek

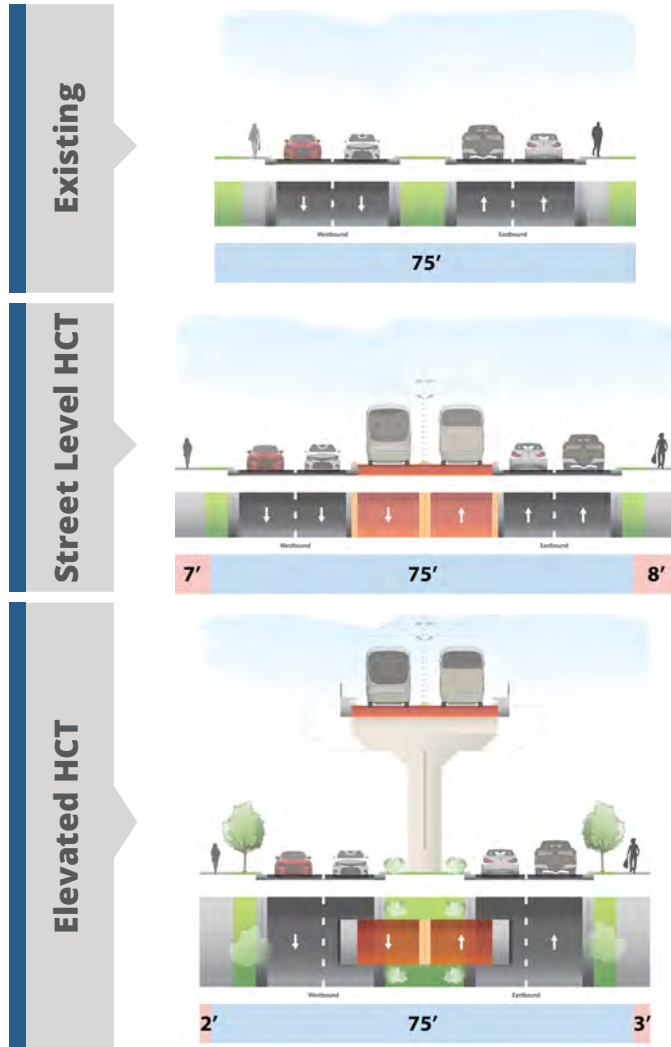


Segment 2: East Bouldin Creek to IH 35

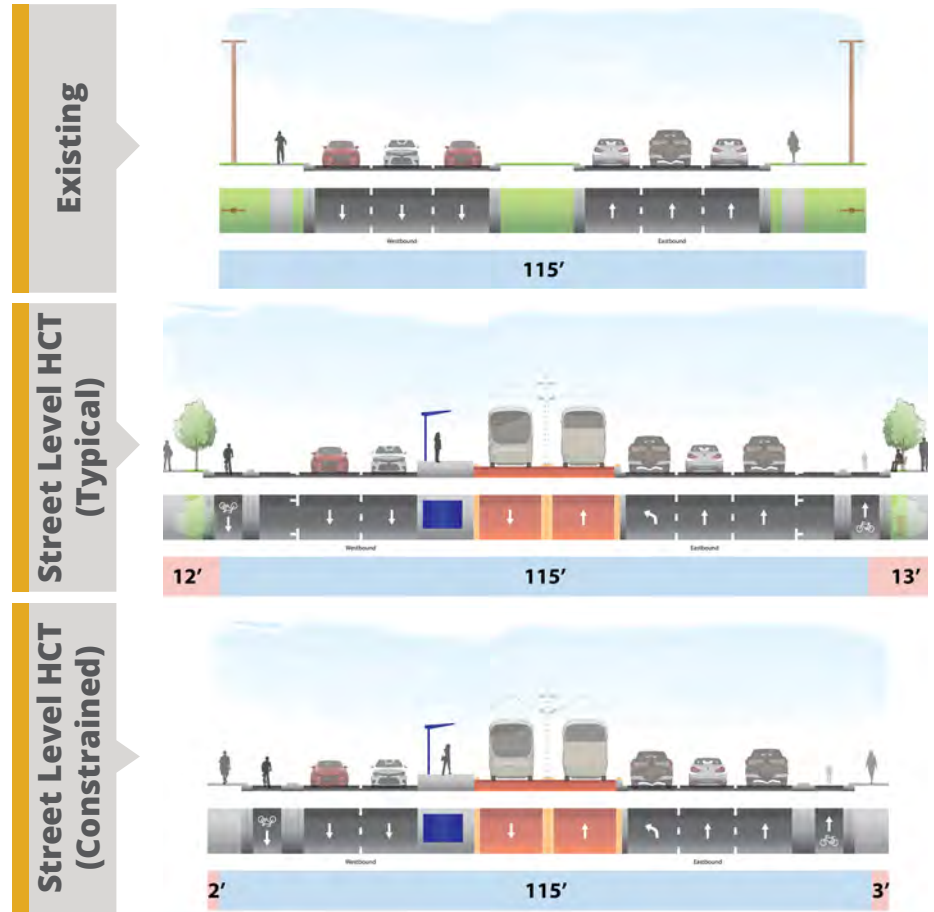
Segment 3: IH 35 to US 71/Ben White



Segment 2: East Bouldin Creek to IH 35



Segment 3: IH 35 to US 71/Ben White



Comparing Corridor Options

Capital Metro evaluated the performance metrics for the considered alternatives to further inform the evaluation process. Estimated costs are based on recent and similar modal and infrastructure investments in other U.S. cities. Anticipated ridership was obtained using FTA’s Simplified Trips-on-Project Software (STOPS) model. Travel time was estimated using assumptions about roadway speed limits vs. grade separated speed limits. Throughput capacities are based on assumed vehicle capacities and service frequencies. ROW and travel lane impacts are based on the street sections analysis and are rated as low, moderate or high.

The results of the comparison of investment options suggest that the Riverside Corridor could support a higher HCT investment. Although the most expensive option, the higher investment option through the South Central Waterfront may provide substantial benefits to HCT travel time and reliability.

The project team will continue to gather feedback on community preference for the mode and guideway combination that can best serve Riverside as the system plan is refined during Spring 2018.

	Lower Investment Option	Higher Investment Option
Average Daily Boardings (2025):	8,000	18,000
Peak Hour Boardings:	284	624
Peak Hour Passenger Capacity:	600	2,700
Annual Trips (2025):	2.5M	5.4M
Capital Construction Cost (2018):	\$404M	\$1.5B
Annual Operations & Maintenance Cost (2018):	\$4.6M	\$15M
Travel Time:	29 min	20 min
ROW Impacts:	MOD	LOW
Travel Lane Impacts:	MOD	MOD

*Preliminary planning-level evaluation results; subject to change during preliminary engineering

Comparing Station Areas

Capital Metro conducted an analysis of possible stations along the Riverside corridor to inform the alternatives evaluation process. Stations were rated as High (3 points), Medium (2 points), or Low (1 point) in transit-supportive character for each of the seven metrics (listed below). The H/M/L point values were aggregated into an Overall Score that describes the transit supportive quality of each station given current conditions.

Despite the transit-supportive master planning efforts along most of Riverside, the station analysis found that most stations along the corridor are not yet fully ready to support HCT. Population and employment density outside of the SCW area tends to be low to moderate, although the data may not be reflecting the latest round of mixed-use developments coming on-line. Improvements to walkability and connectivity are needed along most of the corridor to ensure HCT's success.

	High	Medium	Low		Auditorium Shores	Travis Heights	Lakeshore/Parker	Pleasant Valley	Faro	Montopolis	Metrocenter	ABIA (Terminal)
Overall Score												
Population Density												
Employment Density												
Major Destinations												
Transit Connectivity												
Affordability												
Walkability												
Market Strength												



Led by Capital Metro with support from the City of Austin.



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Cover Image Source: Visit Austin Texas

Want to learn more?

Go to [capmetro.org/projectconnect](https://www.capmetro.org/projectconnect) to read more about the work we're doing through Project Connect.

Tell us what you think, take the Phase 2 Survey!

<https://www.capmetroengage.org/en/provide-input>

Additional Project Connect briefing books:

High Capacity Transit 101 Briefing Book
Long-Term Investment Program Briefing Book and corridor flip books
Short-Term Investment Program Briefing Book and project flip books
Project Connect Funding and Financing Briefing Book