Bergstrom Spur Corridor Planning Study

completed November 2020

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Senior Transportation Engineer

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CAPITAL AREA METROPOLITAN PLANNING ORGANIZATION
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CITY OF AUSTIN
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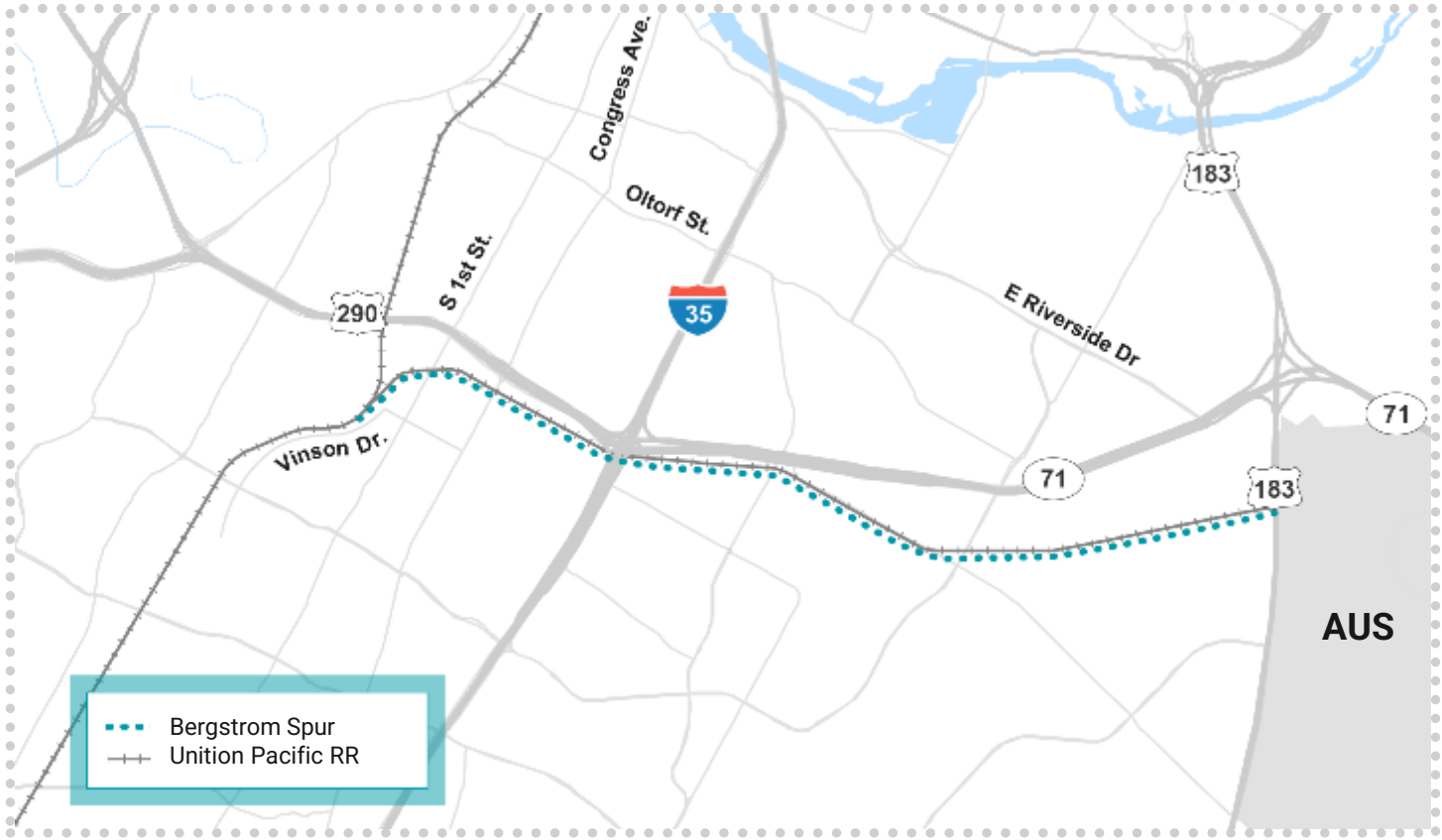
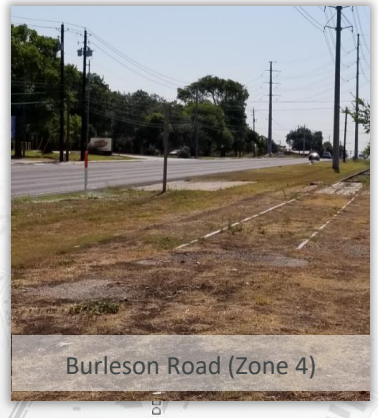
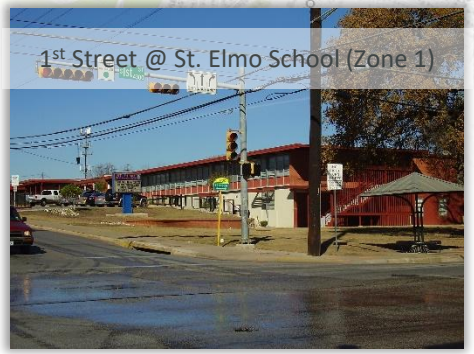
Location: South Austin



The Bergstrom Spur is a historic, abandoned rail corridor which stretches approximately 6 miles long and averages 50 feet in width from Vinson Drive in southwest Austin to US 183 near the Austin-Bergstrom International Airport (AUS).

Corridor Characteristics





Vision for the Corridor

- Vibrant multi-use corridor
- Connected to regional transportation
- Provide safe, functional, equitable options
- Utilitarian and recreational purposes
- Create distinct destination

Goals for the Corridor Improvements

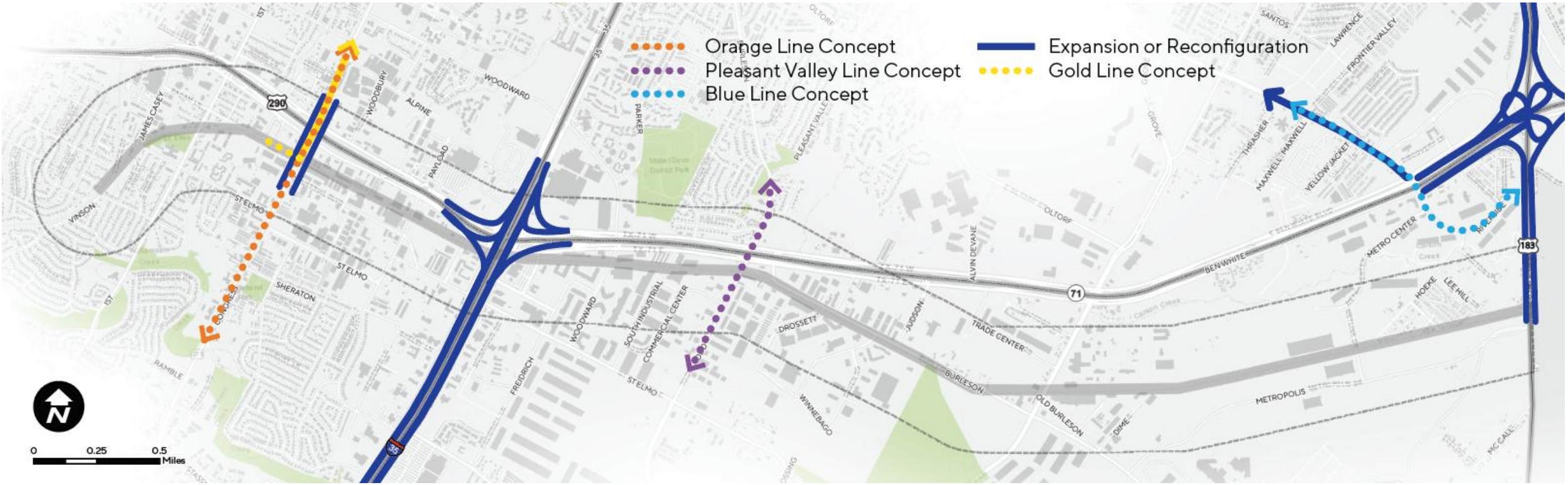
- Enhance Public Health
- Promote Environmental and Social Sustainability
- Celebrate and Value the Corridor’s People & Historical Character
- Improve Connectivity and Mobility
- Catalyze Economic Development and Upward Mobility


290
71
183
Office
Commerical
Residential
Agricultural
Parks & Open Space
Civic
Mixed Use
Industrial
Transportation
Utilities
Undeveloped or ROW
0
0.25
0.5
Miles

Land Uses

Phase 1 Environmental Site Assessment

Transit Accessibility



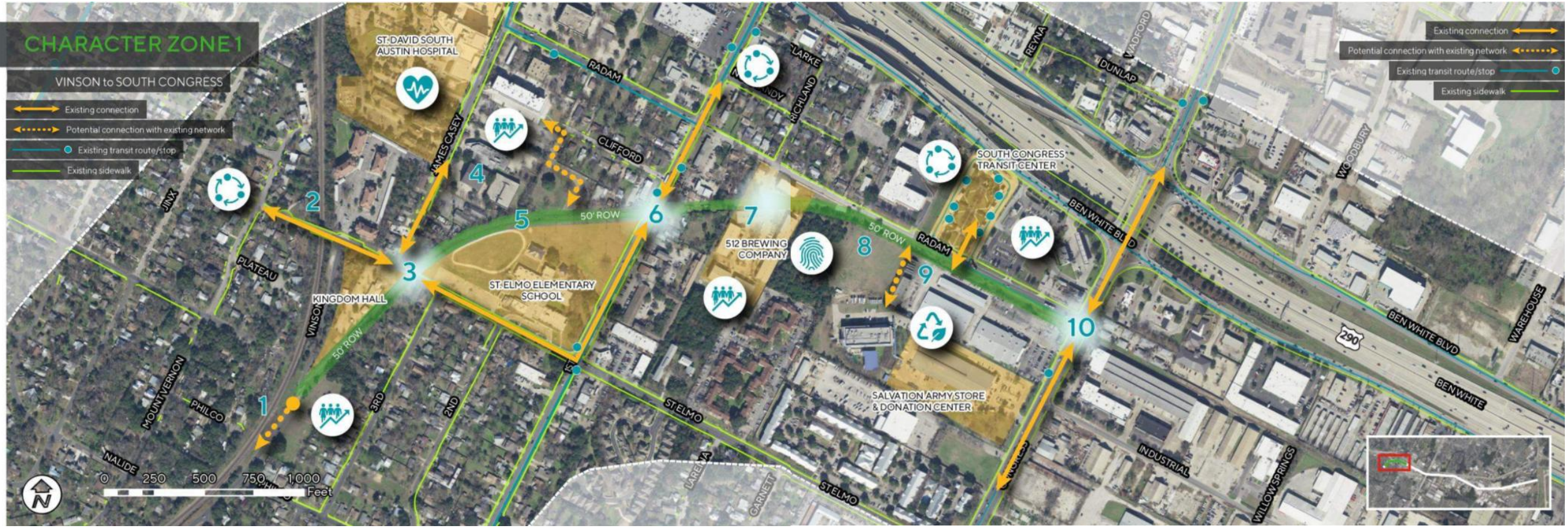
Future Improvements

Public Engagement Goals

- Create public awareness of the Bergstrom Spur Platinum Planning Study and planning efforts to redevelop the corridor.
- Maintain an open and transparent process throughout the engagement effort and provide timely and engaging project updates.
- Engage and collect input from a wide range of stakeholders, including south Austin residents, area businesses, government agencies and officials, and more.
- Use public input and comments in the development and refinement of the study and project proposals.

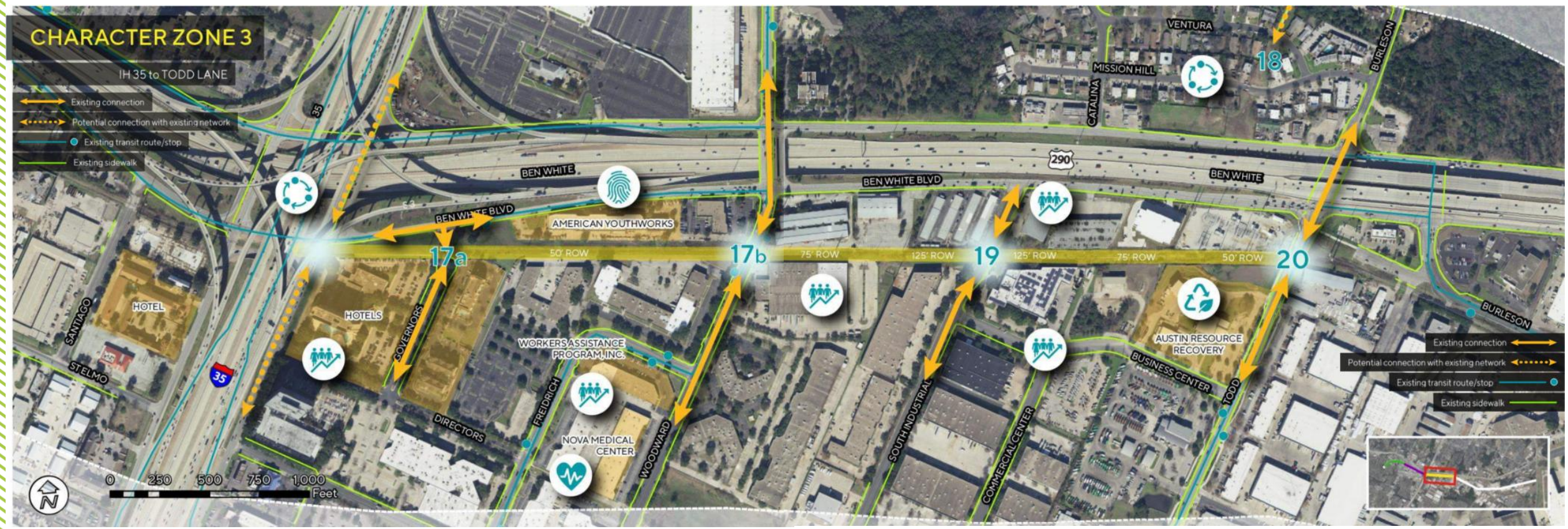
Steering Committee representative agency affiliations

Character Zone 1 Needs & Opportunities

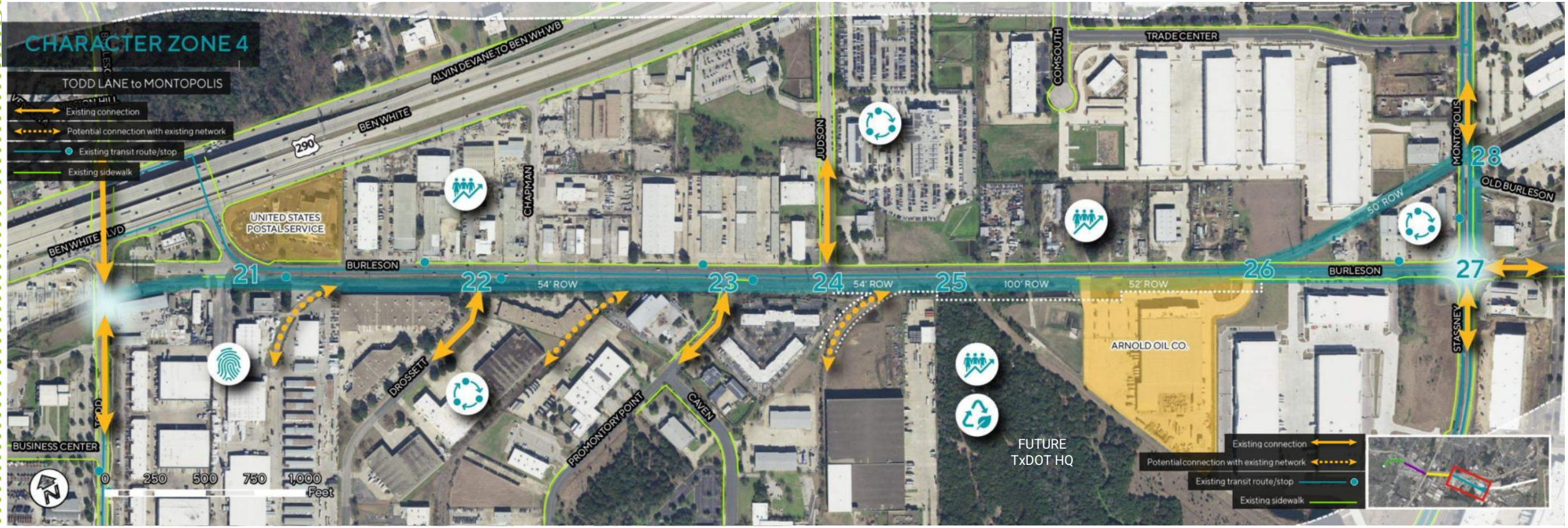


Character Zone 2 Needs & Opportunities

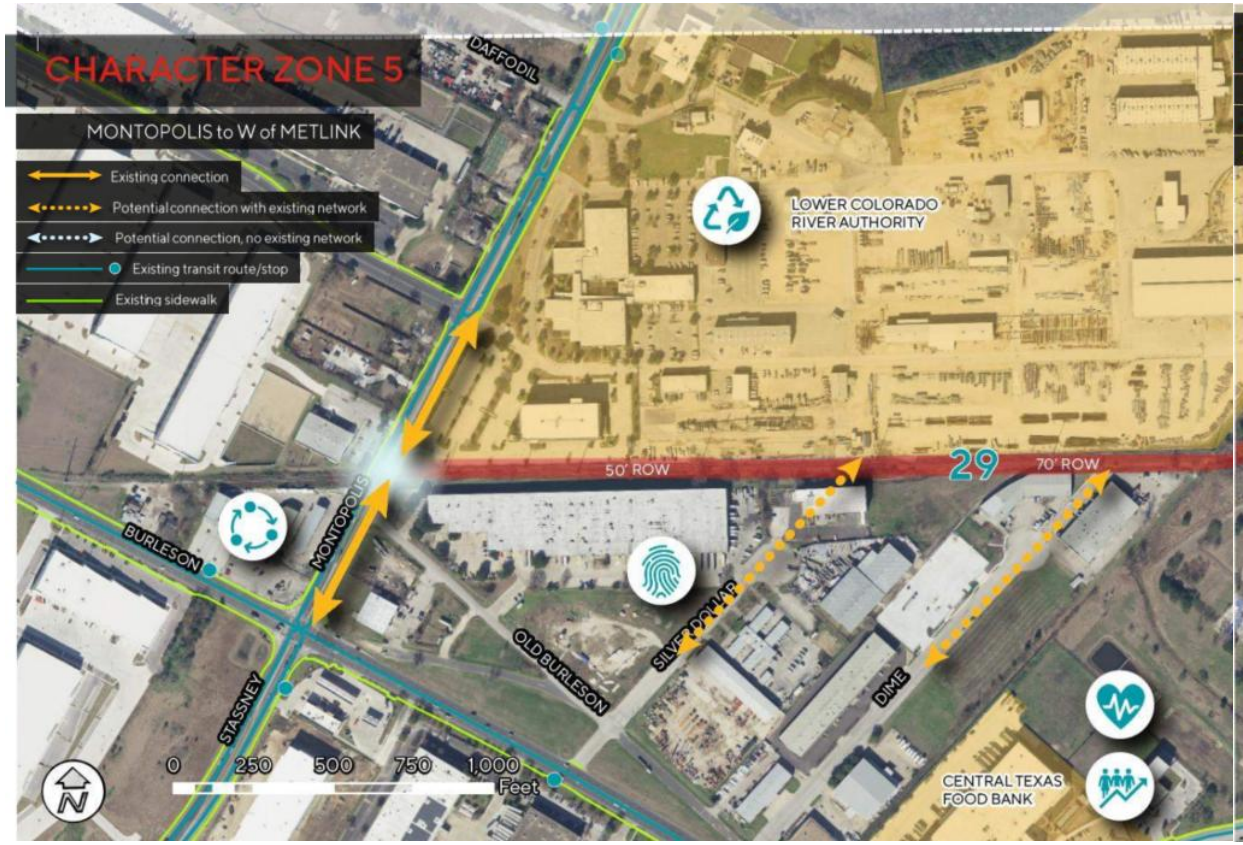
Character Zone 3 Needs & Opportunities



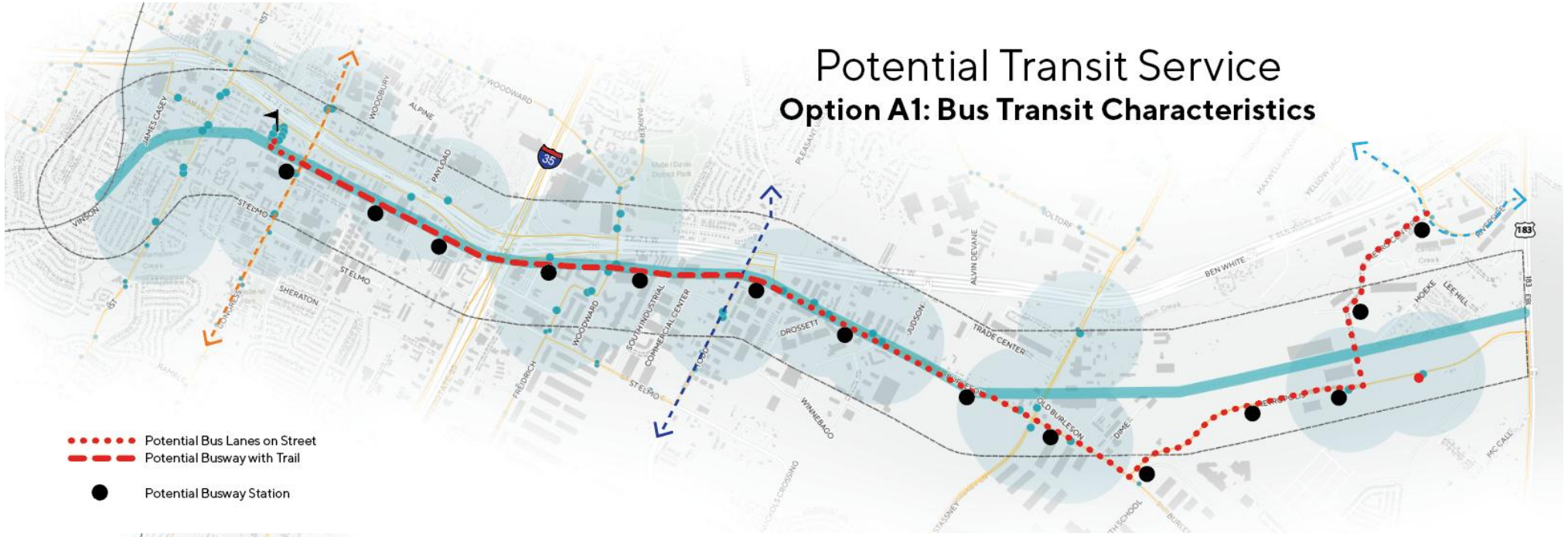
Character Zone 4 Needs & Opportunities

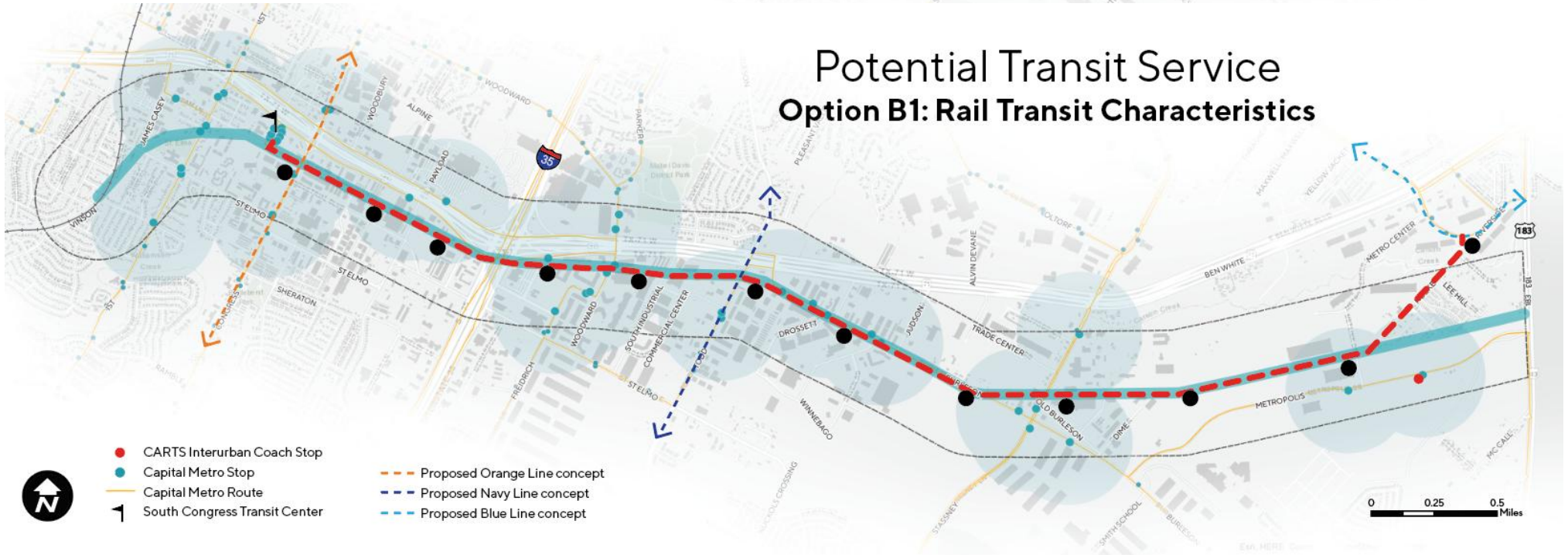


Character Zone 5 Needs & Opportunities



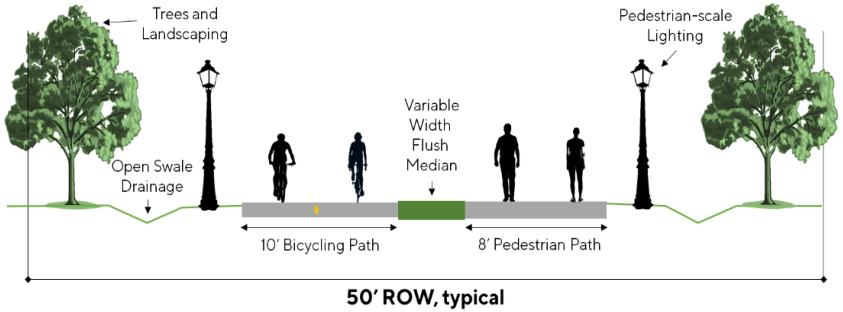
Character Zone 6 Needs & Opportunities


Potential Transit Service
Option A1: Bus Transit Characteristics
Potential Bus Lanes on Street
Potential Busway with Trail
Potential Busway Station

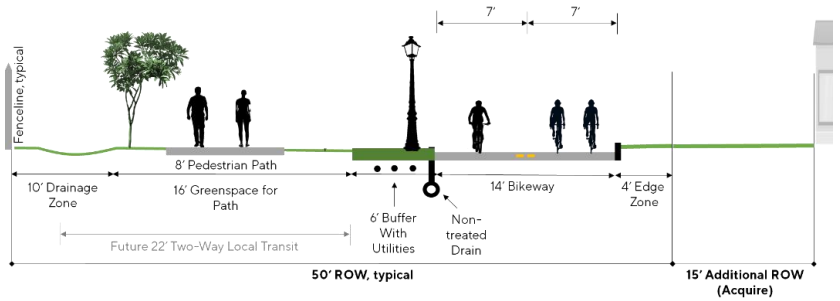

Potential Transit Service
Option B1: Rail Transit Characteristics
CARTS Interurban Coach Stop
Capital Metro Stop
Capital Metro Route
South Congress Transit Center
Proposed Orange Line concept
Proposed Navy Line concept
Proposed Blue Line concept
0
0.25
0.5
Miles

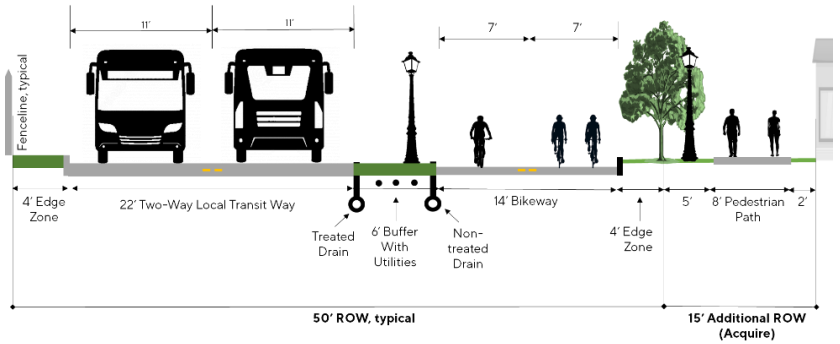
Concept Plan

Western Segment
West of Congress Ave

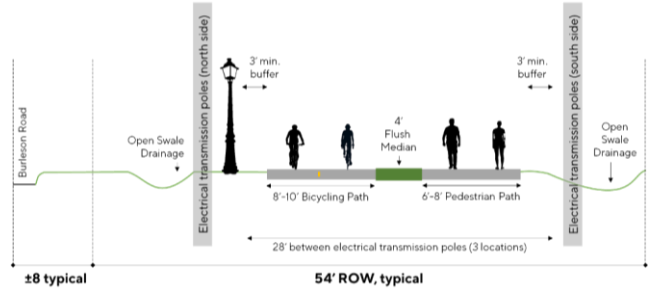


Central Segment
Congress Ave to Todd Lane





Eastern Segment
East of Todd Lane



Concept Plan

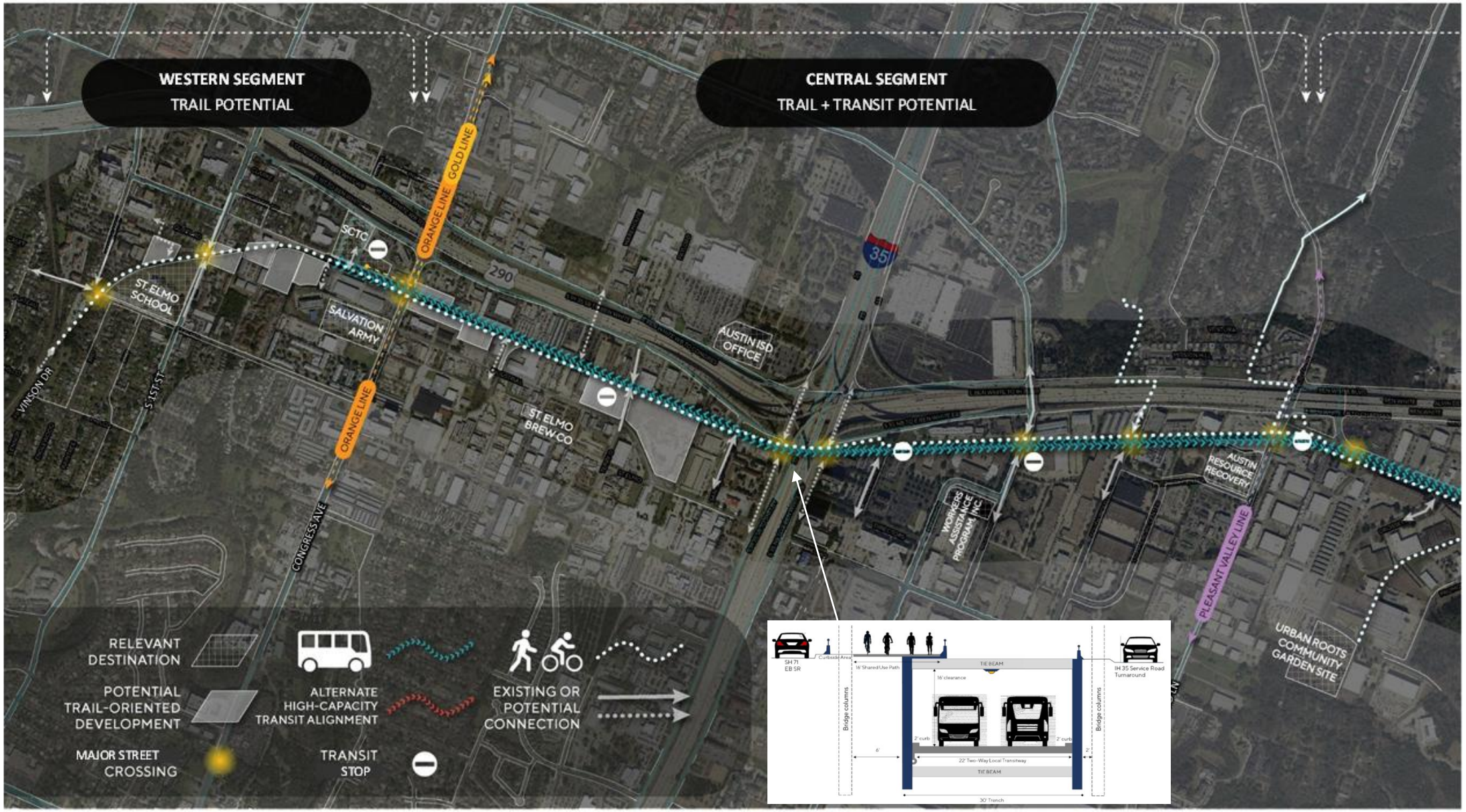
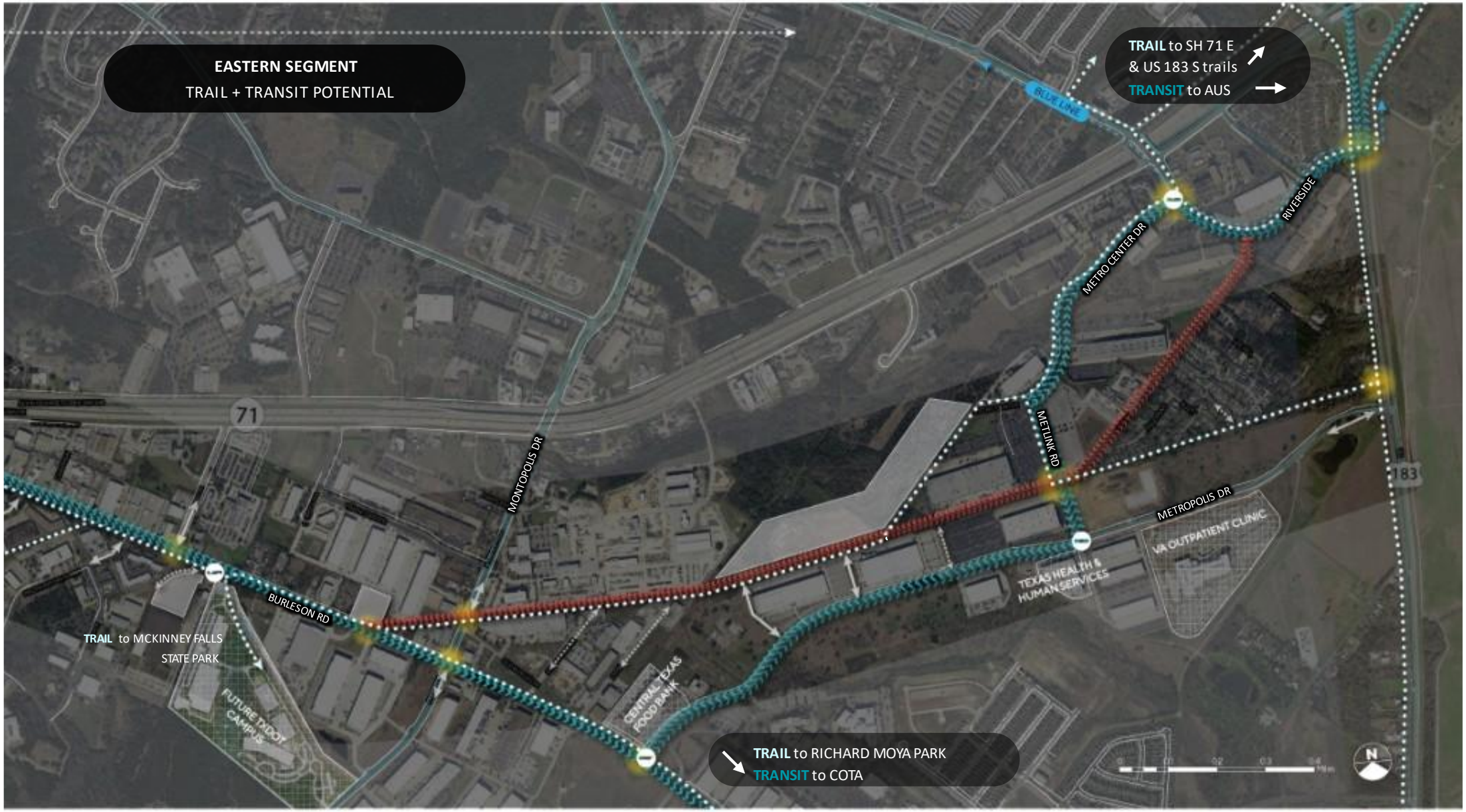
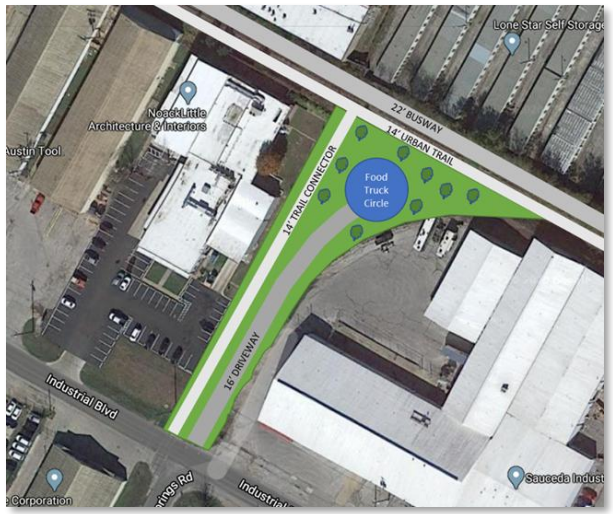


Figure 1: Overall Concept Plan for Western, Central, and Eastern Segments

Concept Plan



Potential Adjacent Land Use Adaptation



Street Crossings

Busway with Bikeway

- CapMetro future consideration
- Constrains bike/ped configuration to hold open the busway space
- City: Use the entire ROW for bike/ped initally
- If transit in ROW, will reconstruct bike/ped

Catalyst Site: Todd Lane Station

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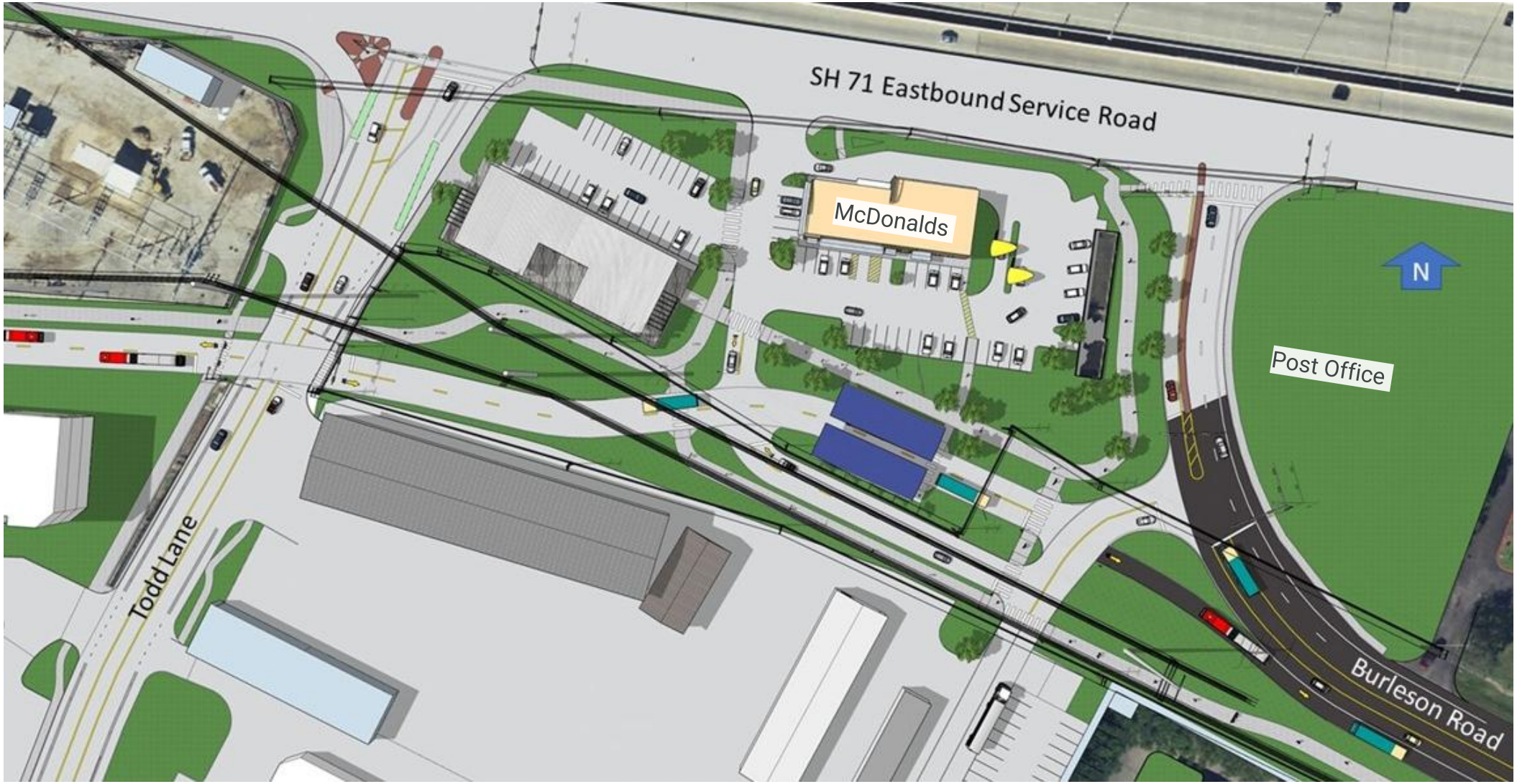

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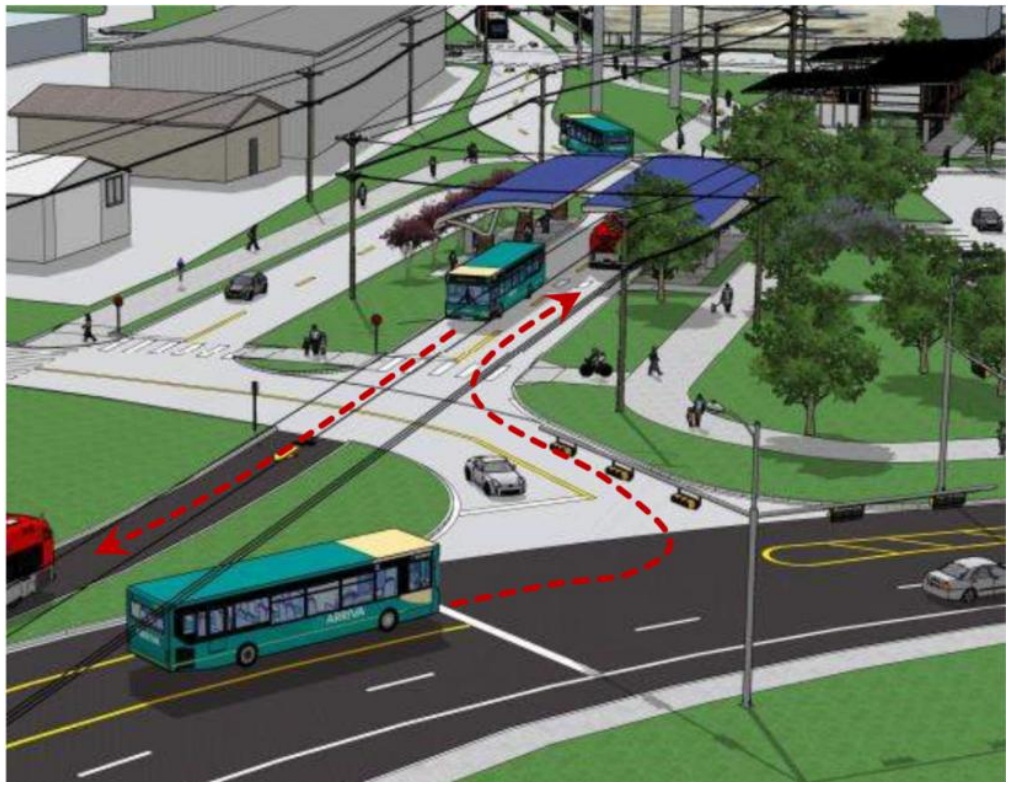
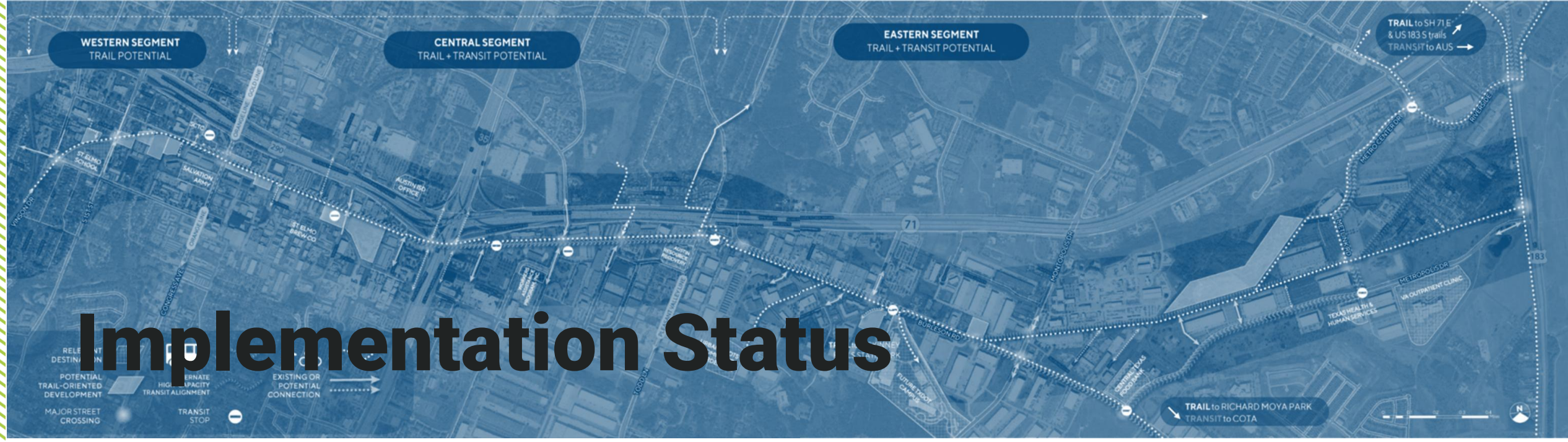
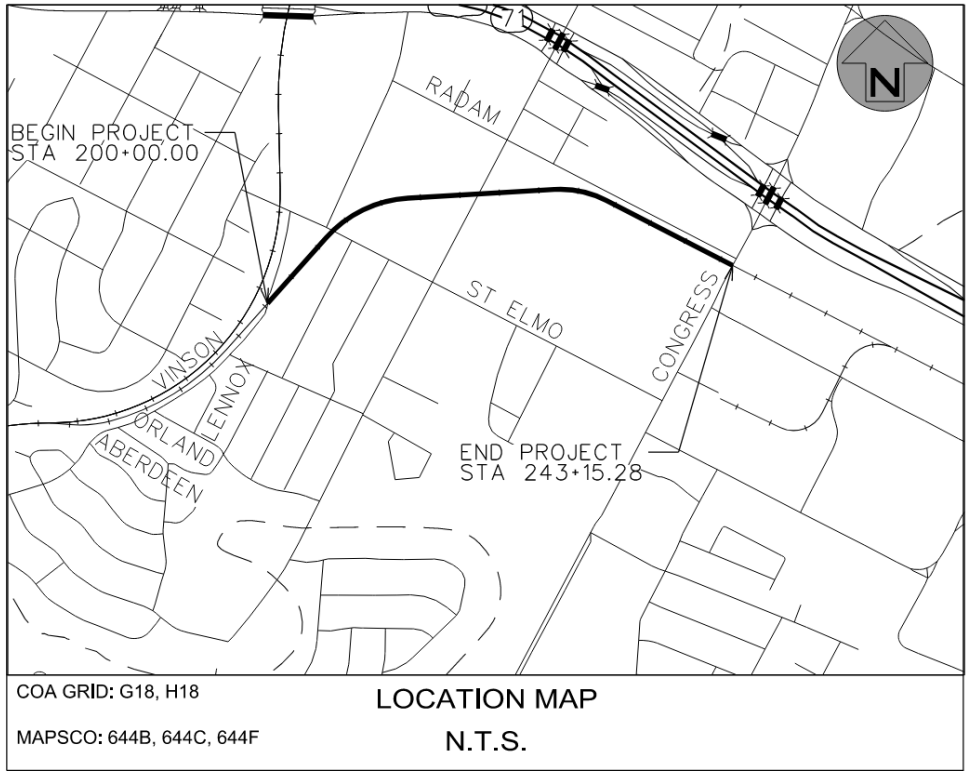


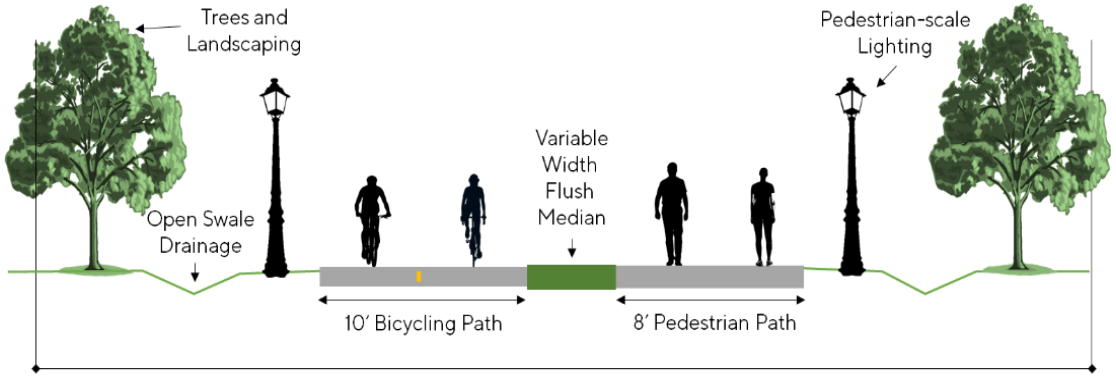


Implementation Status

- Western Segment under design (FNI) @ **90% Design**
  - Received **Federal funding** via Congressional Earmarks for construction
  - Coordination with TxDOT to achieve **NEPA environmental clearance**
  - 100% Design to include developing **zero-net drainage** solutions
  - Going through City of Austin newly established **Public Projects review**
- Central Segment under design (RSP) @ **90% Design**
- Eastern Segment (partial) under design (HDR) @ **90% Design**

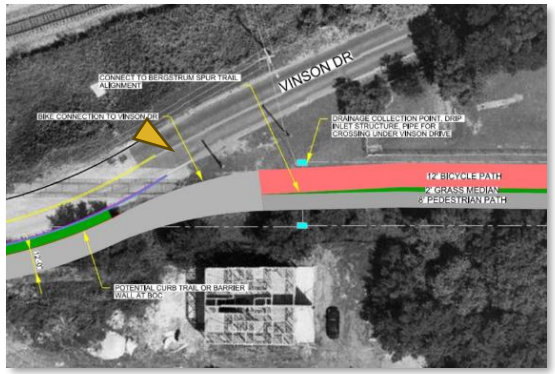
FNI Design Project: Western Segment

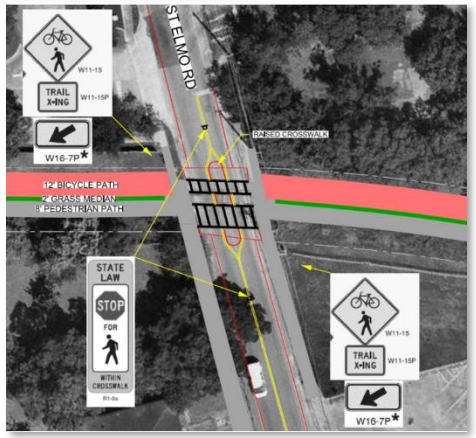


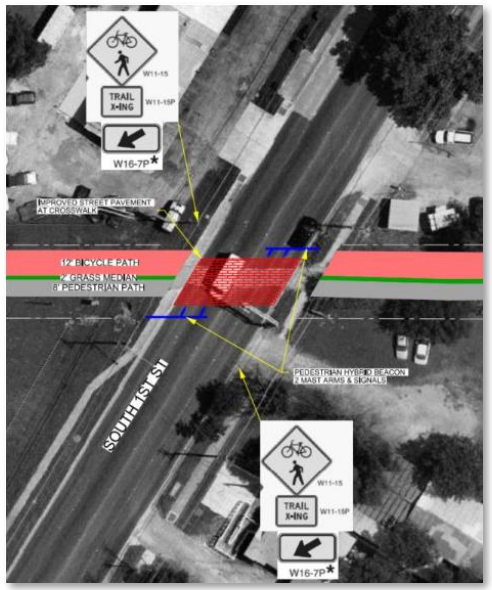


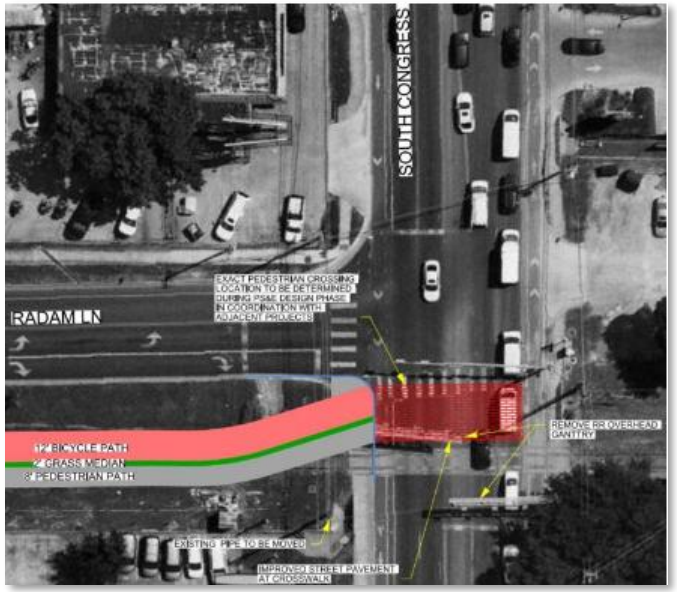
50′ ROW, typical

FNI Design Project: Western Segment

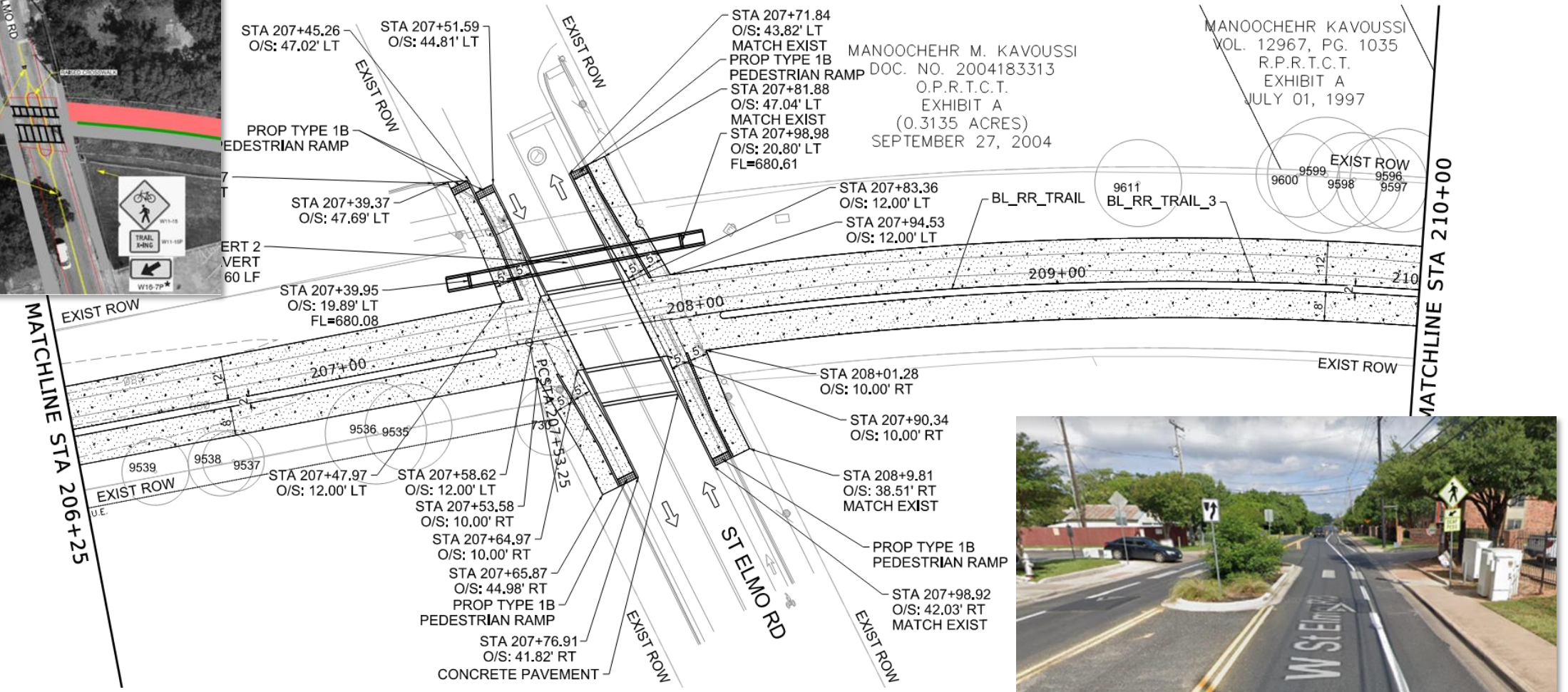




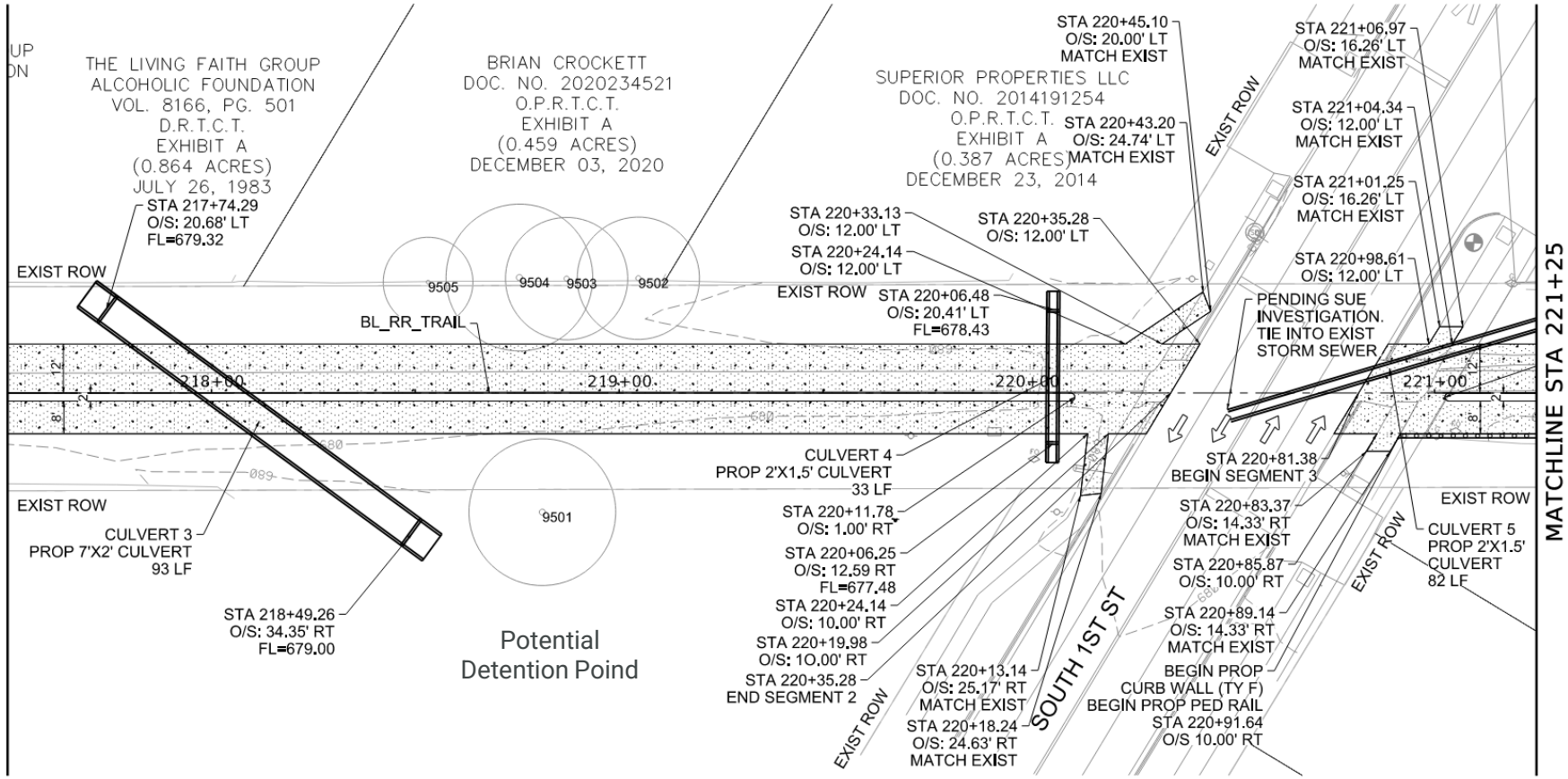


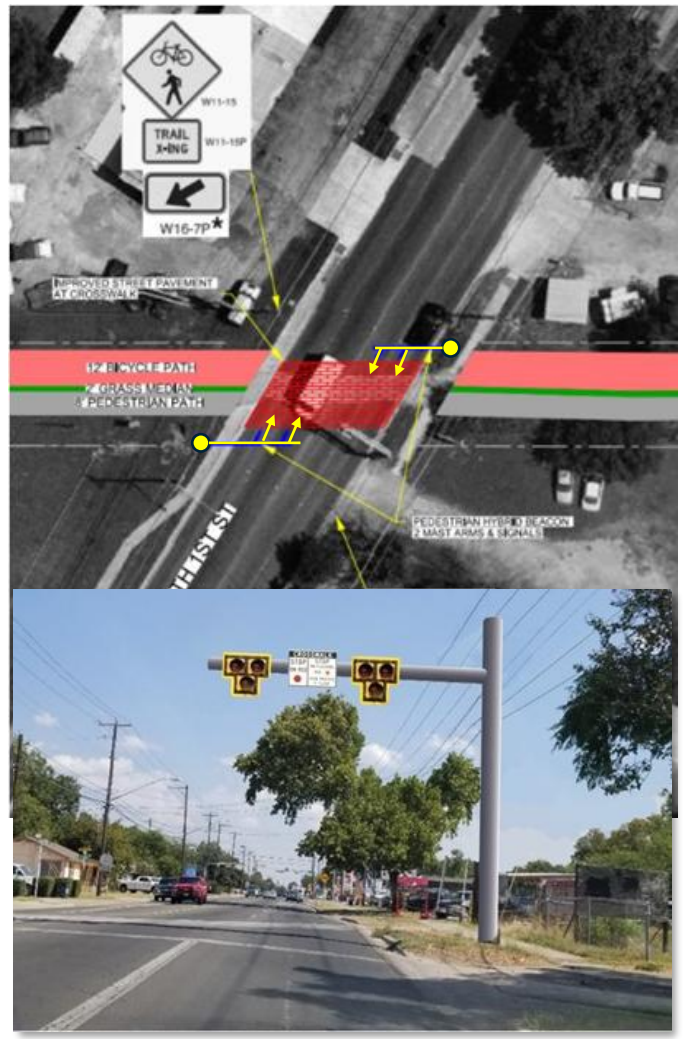


Minor Street Crossing: St. Elmo Road



Major Street Crossing: S. 1st Street





PHB Warrant for S. 1st Street crossing

TECHNICAL MEMORANDUM

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TO:	Javi Gonzalez
FROM:	Kevin St. Jacques, P.E., PTOE
SUBJECT:	PHB Warrant Study for trail crossing at S. 1st Street
PROJECT:	Bergstrom Spur Urban Trail, Western Segment City of Austin CIP Project No. 10796.023
DATE:	October 13, 2021
CC:	Sandip Faldu, David Paine

10-13-2021

ATD Review Engineer Brian W. Craig, P.E.
Concurs / Does Not Concur
with the recommendation provided in this study. Date: 1/6/22
Comments:

1.00 PURPOSE OF THE STUDY

The Bergstrom Spur Urban Trail alignment will cross S. 1st Street mid-block at a location approximately 500 feet south of the signalized intersection of S. 1st Street @ Radam Lane and about 800 feet north of the signalized intersection of S. 1st Street @ W. St. Elmo Road. A Pedestrian Hybrid Beacon (PHB) is proposed for the trail crossing of S. 1st Street. This warrant assessment supports the recommendation to install the PHB.

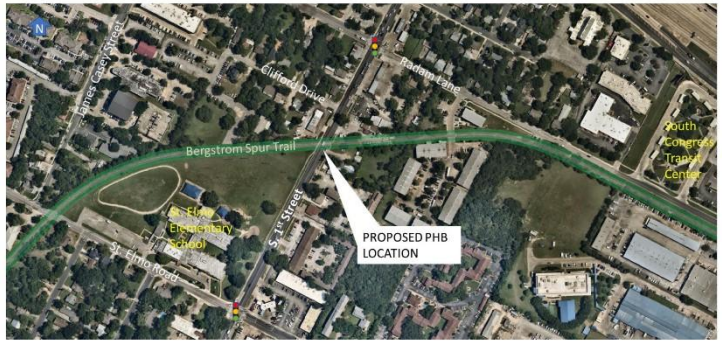


Figure 1. Location Map of Proposed PHB for Bergstrom Spur Urban Trail Crossing of S. 1st Street

2.00 PHB WARRANT IN THE TMUTCD

The Texas Manual on Uniform Traffic Control Devices (TMUTCD) contains warrant thresholds for guidance on when to utilize PHBs as traffic control for pedestrian crossings. The need for a pedestrian hybrid beacon should be considered based on the following criteria:

1. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding total of all pedestrians crossing the major street **for any one hour of an average day** falls above the applicable curve in TMUTCD;
2. For a major street where the posted or statutory speed limit or the 85th-percentile speed is 35 mph or less, as is the case for S. 1st Street, Figure 4F-1 should be used and is shown in Figure 1. Note that in Figure 1, the plotted point of one peak hour on a typical trail usage day is shown as being well above the applicable curve; and
3. The PHB should not be provided within 300 feet of an existing signal-controlled intersection.

Figure 4F-1. Guidelines for the Installation of Pedestrian Hybrid Beacons on Low-Speed Roadways

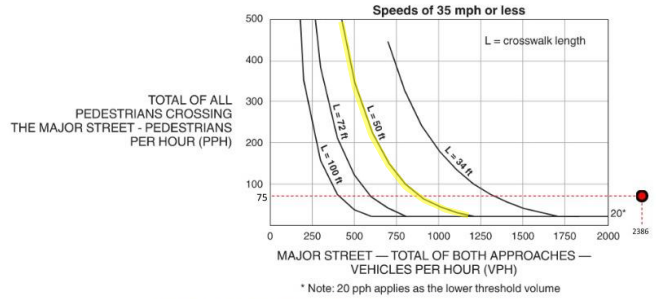


Figure 2. TMUTCD Warrant Threshold for PHB @ S. 1st Street

2.01 PROPOSED PHB LOCATION

The proposed pedestrian crossing is located in between two signalized intersections that are 1,260 feet apart:

- 460 ft south of the signalized intersection of S. 1st Street and Radam Lane,
- 800 ft north of the signalized intersection at S. 1st Street and W. St. Elmo Rd.

Thus, the PHB location meets the TMUTCD criteria of not being within 300 feet of an existing signal-controlled intersection.

Additionally, if a PHB were not to be provided at the Bergstrom Spur Urban Trail crossing of S. 1st Street, a pedestrian or bicyclist utilizing the trail would need to traverse approximately 460 feet along a sidewalk, across auto repair shop driveways, to get to Radam Lane in order to cross S. 1st Street at the controlled crossing.

2.02 TRAFFIC DATA FOR THE WARRANT ANALYSIS

Data for the PHB warrant analysis was derived from data compiled by the City of Austin.

Traffic Speeds

The posted speed limit on S. 1st Street is 35 MPH. During peak hours, traffic was observed to travel at about the posted speed limit. Thus, the guidelines in Figure 4F-1 of the TMUTCD were used for the analysis.

Crosswalk Length

The distance across the four-lane S. 1st Street at the trail crossing is approximately 48 feet, crossing the 40-foot wide roadway at a 30-degree angle.

Motor Vehicle Traffic Volumes

Using traffic count data compiled on the City of Austin website (see Appendix A), the two-way traffic volumes on S. 1st Steet south of Radam Lane in 2015 were over 1,000 vehicles per hour (vph) for 15 hours of the day (6:00 am to 9:00 pm) and over 1,500 vph for 9 hours. As shown in Figure 1, the hourly traffic volumes over 1,250 vph would result in a minimal requirement of at least 20 pedestrian crossings per hour for the width of this crossing. The afternoon peak of 2,386 vph was used in the analysis, as shown in Figure 1, as the afternoon is generally the peak of trail usage.

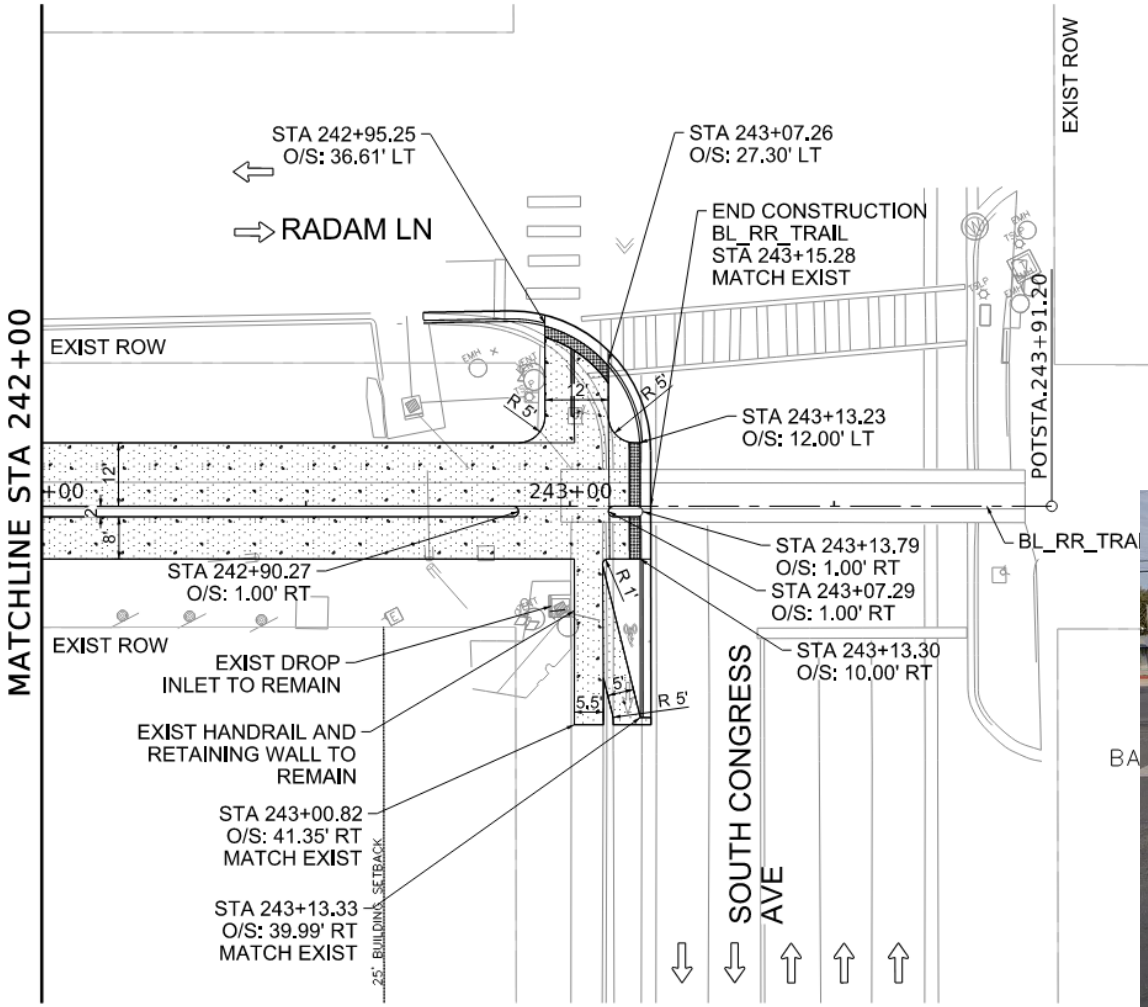
Pedestrian Volumes

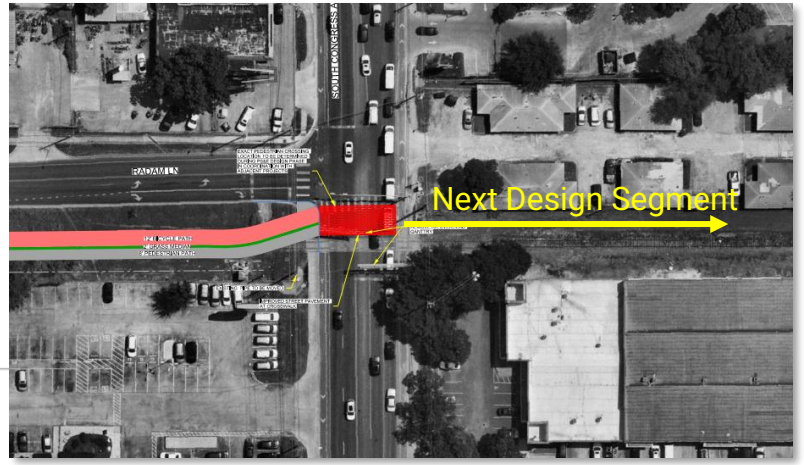
Since the proposed PHB location is for a future urban trail, comparable trail user counts were used for the analysis. Several trail locations in the City of Austin were recommended by city staff that have daily trail user count devices installed and would represent comparable pedestrian volumes along a trail away from the central core of the city. Among the trails, high utilization trails show average of 1,500-2,000 pedestrian daily usage while lower end shows average of 5,00-1,000 daily usage. 10% of the daily volume is an approximation of the peak hour pedestrian volume. Thus, the peak hour pedestrian volume would range from 50-200 per hour, with 75 pedestrian per hour as an estimated average volume. The plotted point of one highest hour of traffic volumes and pedestrian crossing volumes is well above the threshold curve for the crossing distance, as shown by the red dot in Figure 1, which is above the curve and thus meets the warrant.

3.00 RECOMMENDATION

The PHB for the Bergstrom Spur Urban Trail crossing of S. 1st Street meets the warrants established in the TMUTCD. The distance to a nearby controlled intersection for crossing S. 1st Street if over 300 feet away and the alternative route to traverse the sidewalks along S. 1st Street to get to the controlled crossing is not a desirable option for trail users. To provide for the safety of trail users to continue along the path of the trail, **it is recommended that the installation of a PHB be provided at the Bergstrom Spur Urban Trail crossing of S. 1st Street.**

FNI Design Project: Western Segment





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