

CENTRAL CORRIDOR ADVISORY GROUP

MEETING #10

March 21, 2014 1:30 pm – 3:30 pm

Austin City Hall, Council Chambers



*project***connect**
central corridor

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Agenda

- 1) Welcome & Introductions
- 2) Public Involvement Update
- 3) Definition of Final Alternatives
- 4) Evaluation of Final Alternatives
- 5) Next Steps
- 6) Citizen Communication
- 7) Next Meeting – April 11, 2014



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CCAG Charge

The CCAG will:

- Ensure open and transparent public process
- Advise Mayor and project team in prioritizing and defining a preferred alignment for the next high-capacity transit investment for the Central Corridor
- Assist project team in a meaningful dialogue with the community



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Transit and Bike Share during SXSW 2014

- MetroRail
 - Over 54,000 boardings—10% increase over 2013
- MetroRapid
 - Over 65,000 boardings
- B-cycle
 - North American record for single-day bike checkouts (10.1 checkouts per bike on Friday, March 14)



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Phase 2 Work Plan & Schedule

Decision-Making Process

- Phase 2: Select Locally Preferred Alternative (LPA)

Current
Progress

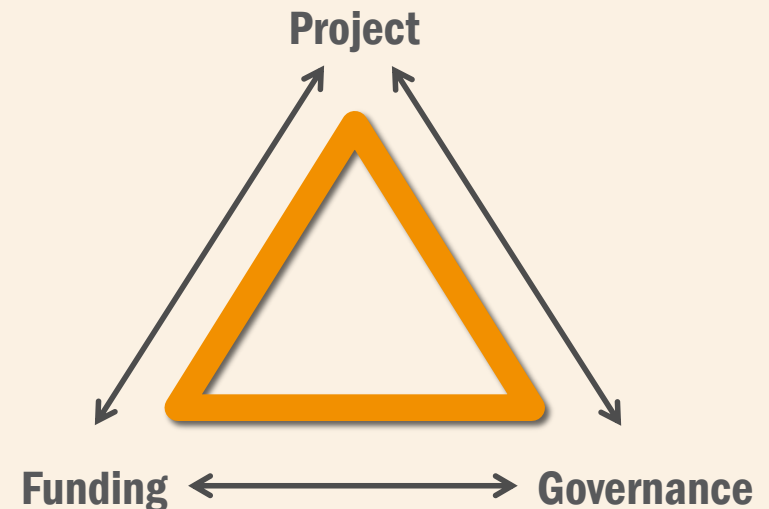
Central Corridor High-Capacity Transit Study Work Plan

				2013	2014					
				6	7	8	9	10	11	12
				Dec	Jan	Feb	Mar	Apr	May	Jun
Phase 2 Select Draft Locally Preferred Alternative (LPA)	Step 4: Identify Preliminary Alternatives	Task 9	Project Purpose							
		Task 10	Process – Methodology & Criteria							
		Task 11	Identify & Screen Preliminary Alternatives – Service, Mode & Alignment							
	Step 5: Define Final Alternatives	Task 12	Define Final Alternatives – Mode & Alignment							
	Step 6: Evaluate Alternatives	Task 13	Evaluate Final Alternatives							
	Step 7: Select LPA	Task 14	Select Draft Locally Preferred Alternative (LPA)							
			Decision							*

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Phase 2 Objectives

- Project Definition
 - Service, mode, alignment, stops
- Funding Plan
 - Capital and O&M costs, funding sources
 - *Within* overall Project Connect Plan
- Governance Structure



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Evaluation Process

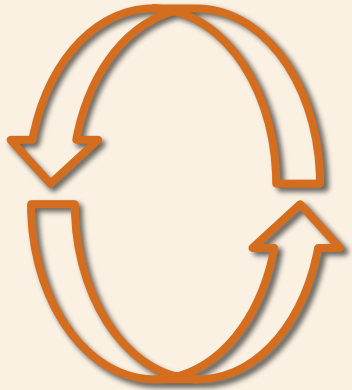
Identify Preliminary Alternatives

Screen Preliminary Alternatives

Define Final Alternatives

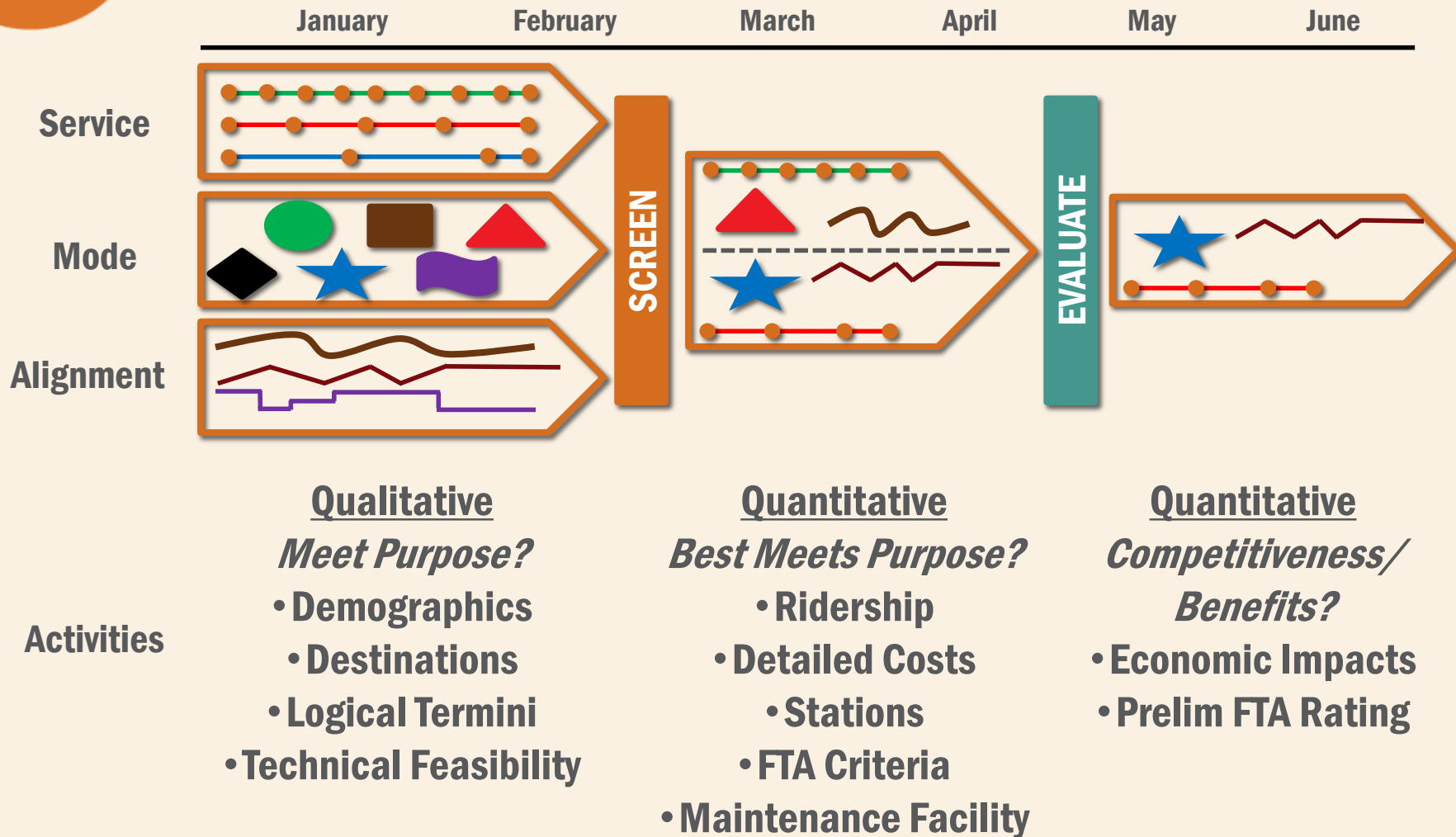
Evaluate Final Alternatives

Select Draft LPA



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Evaluation Process



2

Public Involvement Update

2

Public Outreach Update: Recent Activities

- 2/22 Feria Para Aprender – Focus Group (Spanish)
- 2/25 University Area Partners
- 2/26 Austin Homebuilders Association
- 2/28 Movability Austin Board of Directors
- 3/4 OWANA (Old West Austin/Clarksville) Quarterly Meeting
- 3/4 Interfaith Environmental Network
- 3/5 Allandale Neighborhood Association
- 3/5 Circle C Annual Meeting
- 3/5 Alliance for Public Transportation
- 3/5 Access Advisory Committee



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Public Outreach Update: Recent Activities

- 3/11 South Austin Civic Club
- 3/17 LBJ School Transportation Course
- 3/18 Urban Transportation Commission
- 3/18 Austin Branch of the American Society of Civil Engineers (ASCE)



- 3/19 AARP South Austin Chapter
- 3/19 Downtown Commission
- 3/19 Environmental Board

2

Public Outreach Update: Upcoming Activities

- 3/23 Unitarian Universalist Fellowship of Austin
- 3/25 Walnut Creek Neighborhood Association
- 3/25 Planning Commission
- 3/26 CTRMA Board
- 3/26 Center for Transportation Research
- 3/27 UT LAMP
- 3/28 Austin Youth Council
- 3/31 CAMPO Open House
- 4/2 State Transportation Planning Committee
- 4/7 West Austin Neighborhood Group
- 4/8 RECA Ideas Forum
- 4/8 Urban Transportation Commission
- 4/9 Capital Metro Customer Satisfaction Advisory Committee
- 4/16 Greater Austin Contractors & Engineers Association (ACEA) Symposium

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Public Outreach Update: Upcoming Highlights

- Multiple SpeakUpAustin discussions planned
 - Reliability and Guideway
 - Mode discussion
- Webinar on Evaluation Process
- Online input tool for station locations and amenities
- 4/4 Housingworks New Starts Forum
- Presence at various community events and festivals



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Public Outreach Update: Upcoming Activities

- Step 5 Workshops
 - 4/3 Austin Chamber Transportation Committee
 - 4/12 East Riverside Corridor
 - 4/17 Downtown Austin



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Definition of Final Alternatives

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Final Alternatives

January

February

March

April

May

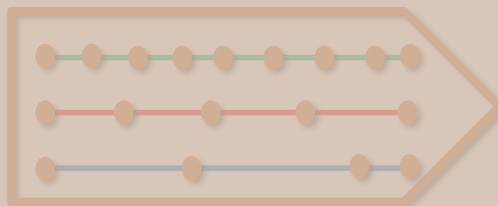
June

Preliminary
Alternatives

Final
Alternatives

Locally
Preferred
Alternative
(LPA)

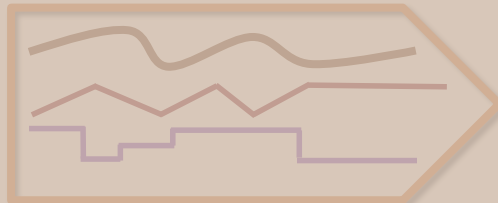
Service
Alternatives



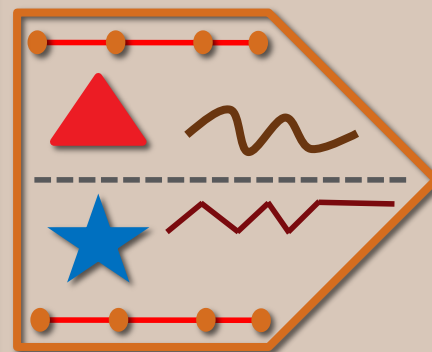
Mode
Alternatives



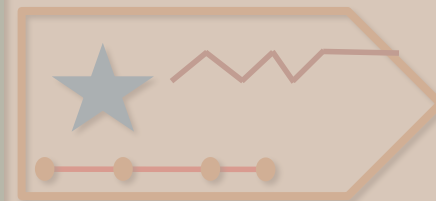
Route
Alternatives



SCREEN



EVALUATE



3

Final Service Profile

Reliability

Mostly Dedicated

Mixed Traffic

Transit Priority/
Pre-emption

Dedicated
Guideway

Separated
Guideway

Fully Separated
Guideway

Frequency

10 - 15

5 minutes

60 minutes

Stop Spacing

½ - 1 mile

< ¼ mile

> 5 miles

Speed

20-30 avg.

10 mph

55 mph maximum (including stops)

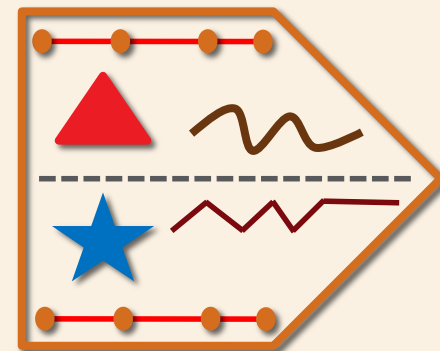
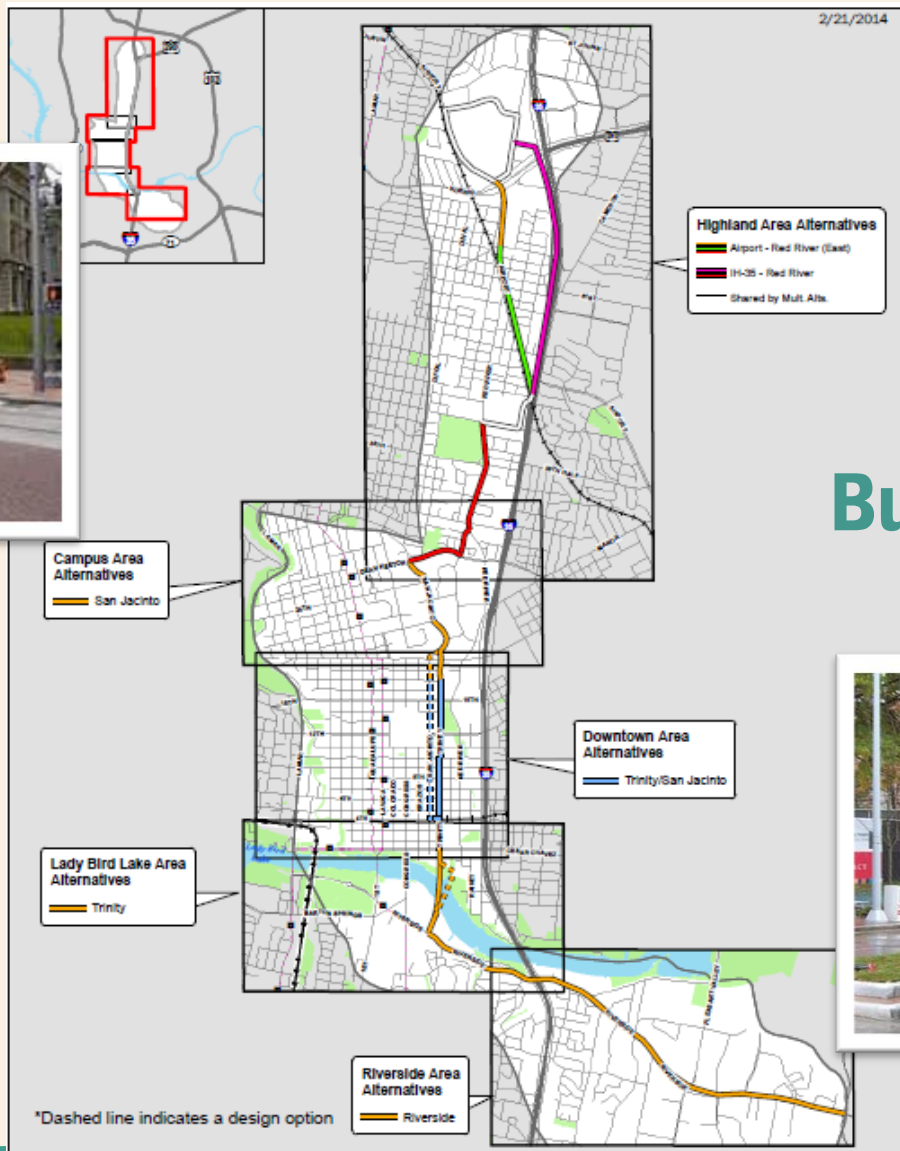
60 mph

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Final Alternatives



Urban Rail



Bus Rapid Transit
(dedicated)



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Final Alternatives – Elements

- Number and locations of stops
- Vehicle types
- Vehicle maintenance facility options
- Alignment alternatives refinements
 - Additional screening
- Operations plan – in progress

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Stations

Proposed station locations

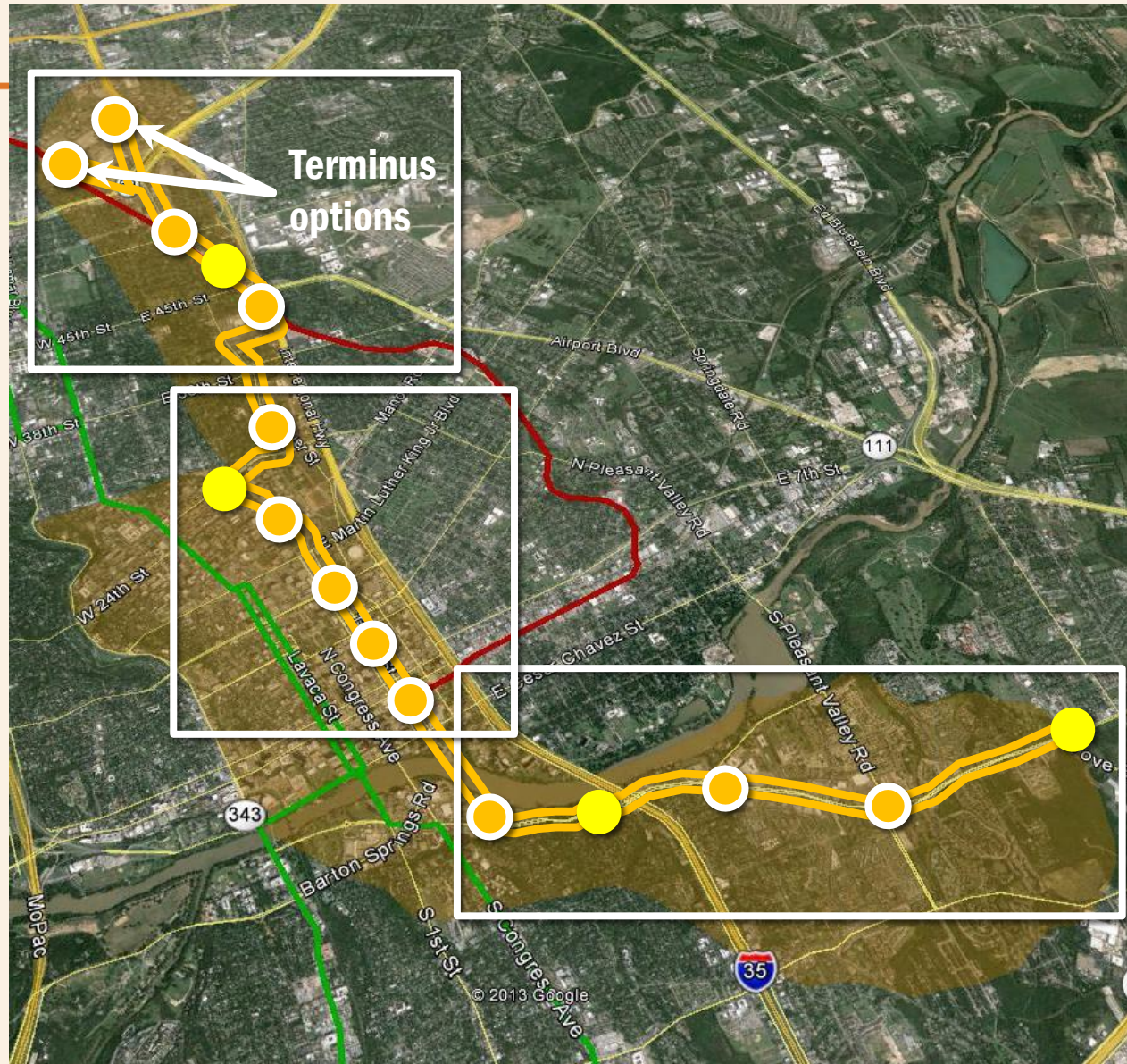


Additional locations under review



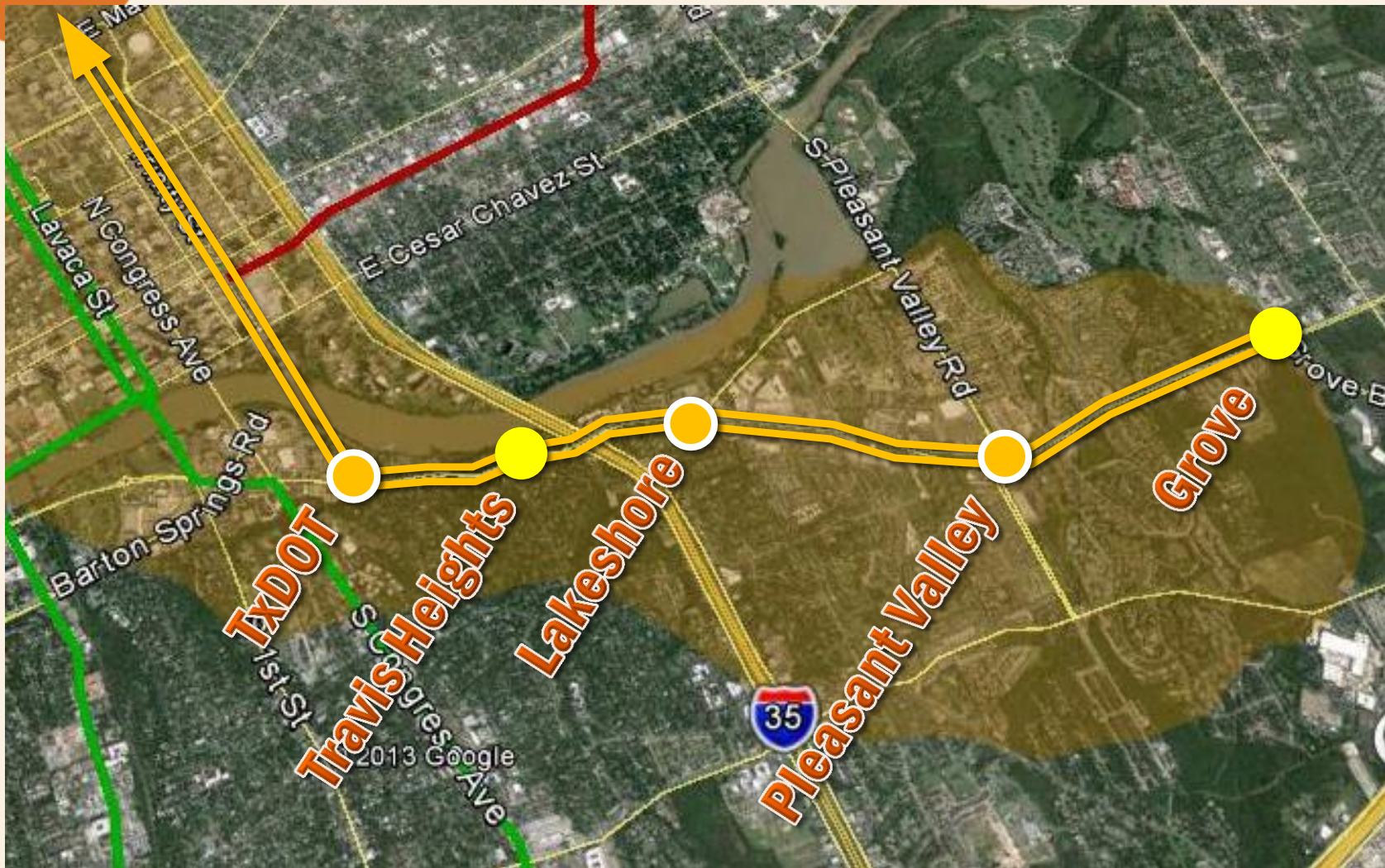
Three sections in detail:

- East Riverside
- Downtown to UT
- Hancock to Highland



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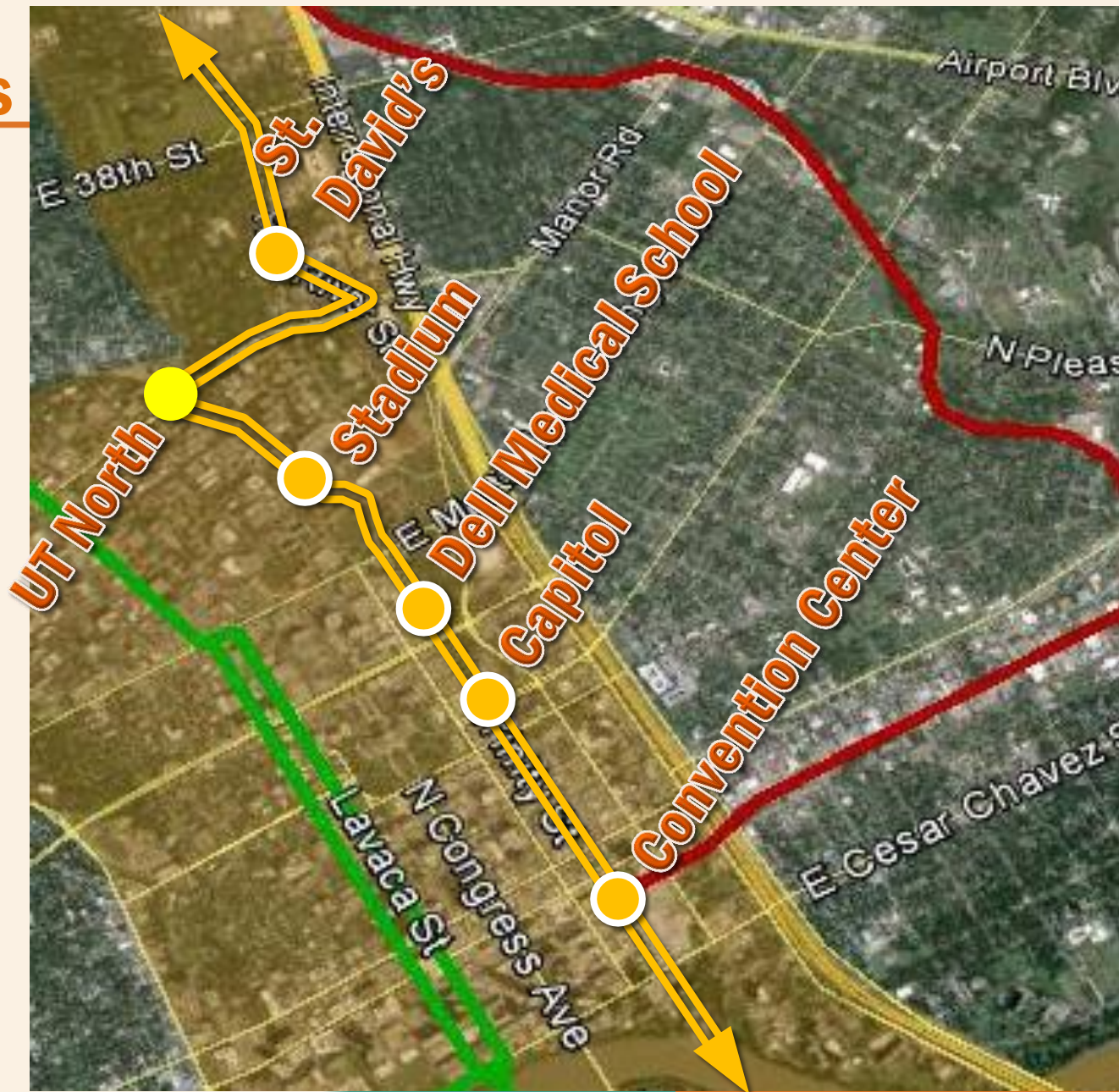
Riverside Stations



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Stations

- Downtown through UT



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Stations

- Hancock to Highland



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Vehicle Types

Urban Rail

Powered by offsite-generated electricity



Portland MAX



Houston MetroRail

Bus Rapid Transit (BRT)

Powered by internal combustion (clean diesel, natural gas)



Austin MetroRapid

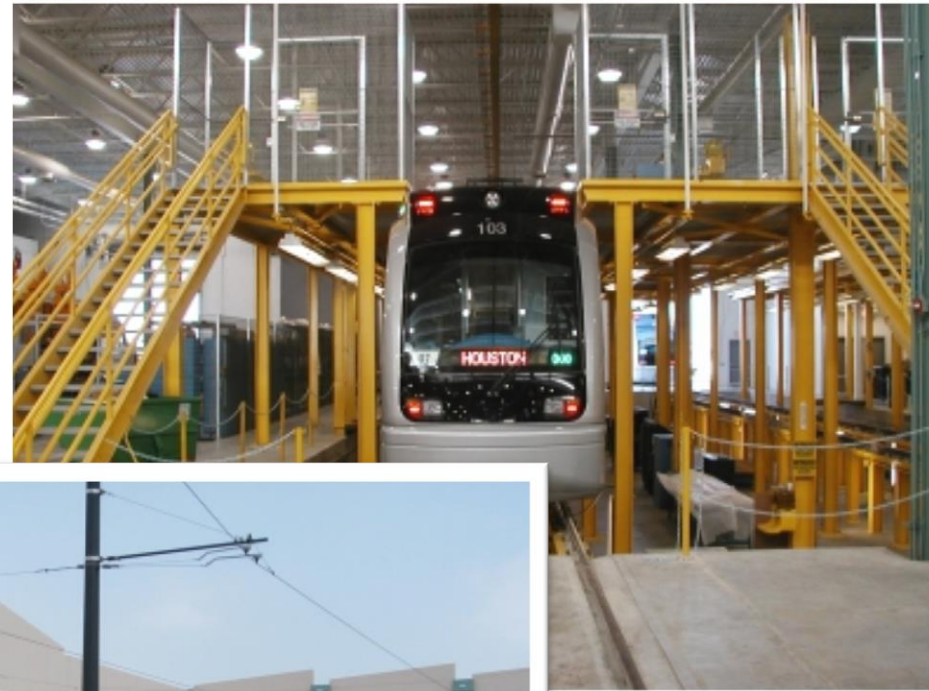


Cleveland Healthline

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Vehicle Maintenance Facility Options

- BRT can use existing *expanded* facility
- Urban Rail would need new facility
 - Potential opportunities: East Riverside or Highland area





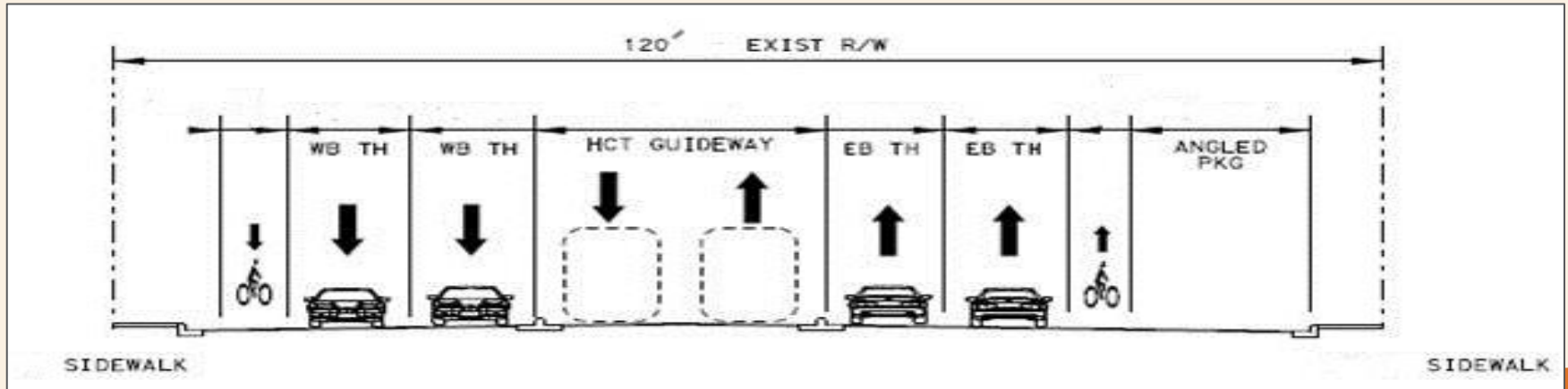
Alignment Alternatives Refinements

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Typical Section

- Considerations
 - ROW width
 - Guideway requirements
 - Operations
 - At grade, elevated, tunnel
 - Other modes
 - Parking
 - Driveways
 - Etc.

*Guideway considerations and station platforms are virtually the same for both modes



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Definition of Alternatives

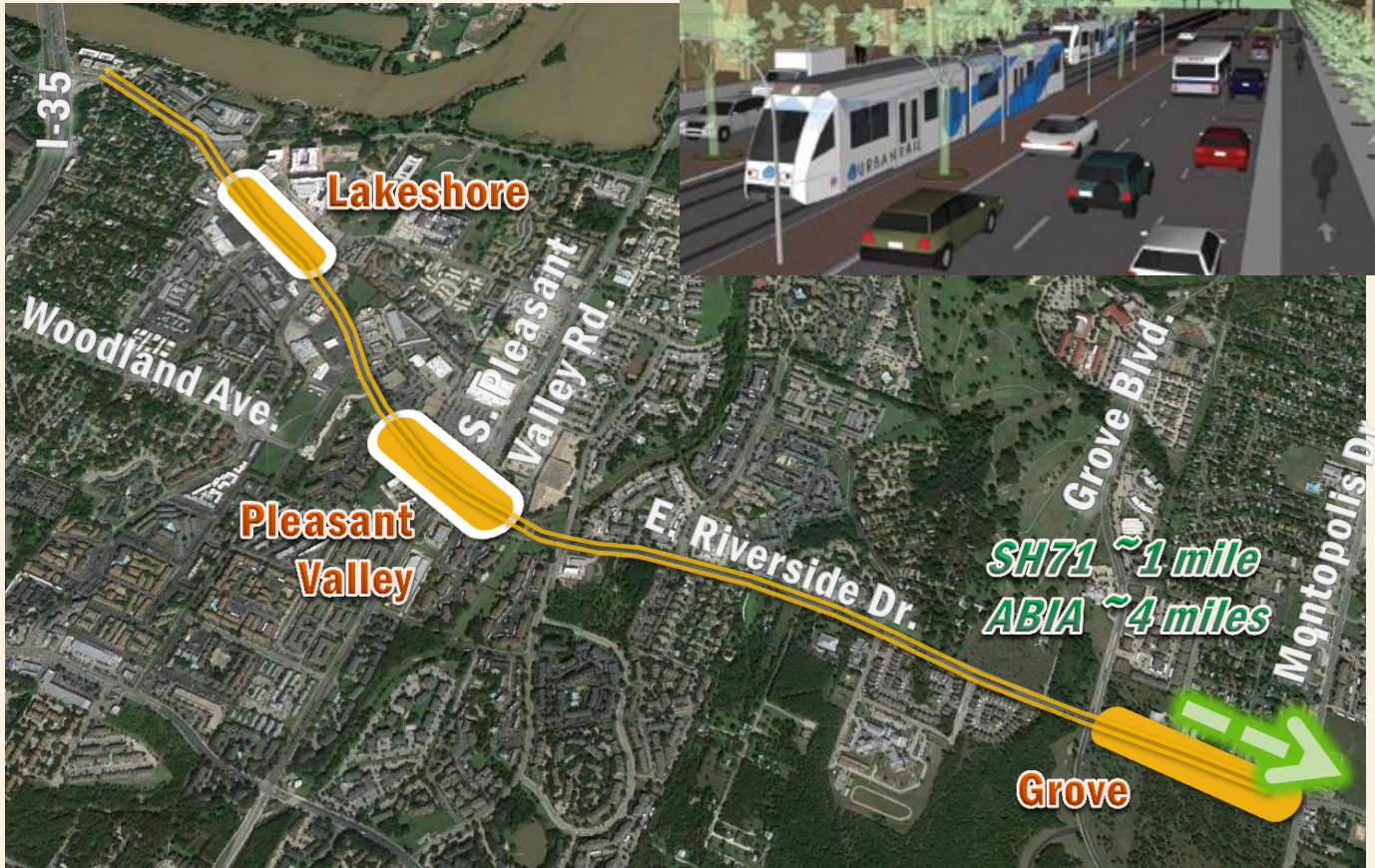
- Walk-through of the alignment alternatives and various considerations
- In geographic order from south to north
 - East Riverside
 - Lady Bird Lake Crossing
 - Includes discussion of alternatives screening
 - Downtown
 - UT
 - Highland

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E. Riverside Dr. (East of I-35)



- Center running, at-grade
- Adequate ROW
- Stations at Grove, Pleasant Valley and Lakeshore
- Potential park & ride at Pleasant Valley and/or Grove

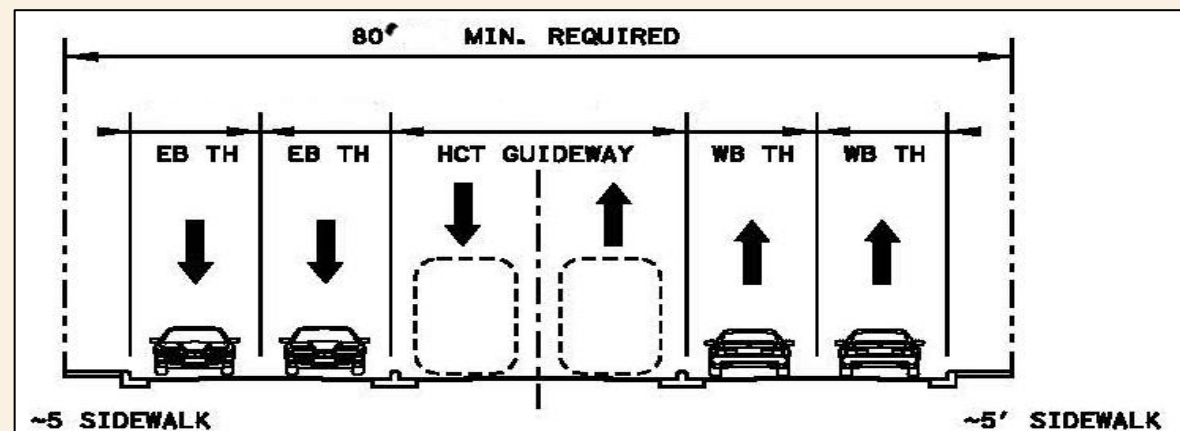


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E. Riverside Dr. (West of I-35)

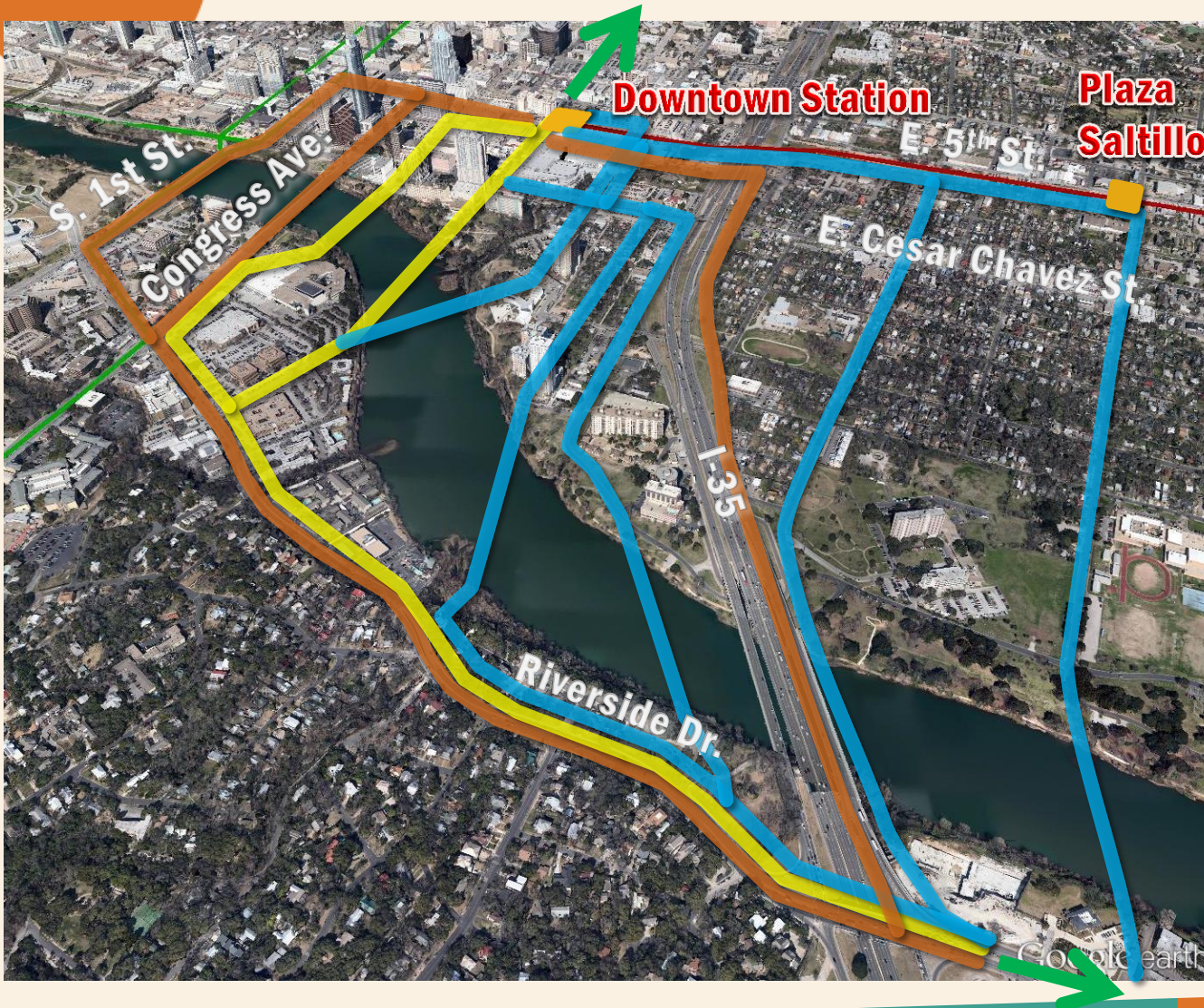


- Center running, at-grade
- Variable ROW
- TxDOT station
- Optional Travis Heights station
- Requires roadway widening and bridge reconstruction at creek crossings



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Lady Bird Lake Crossing: Preliminary Alternatives



Existing
Bridges

New Crossing
(west)

New Crossing
(east)

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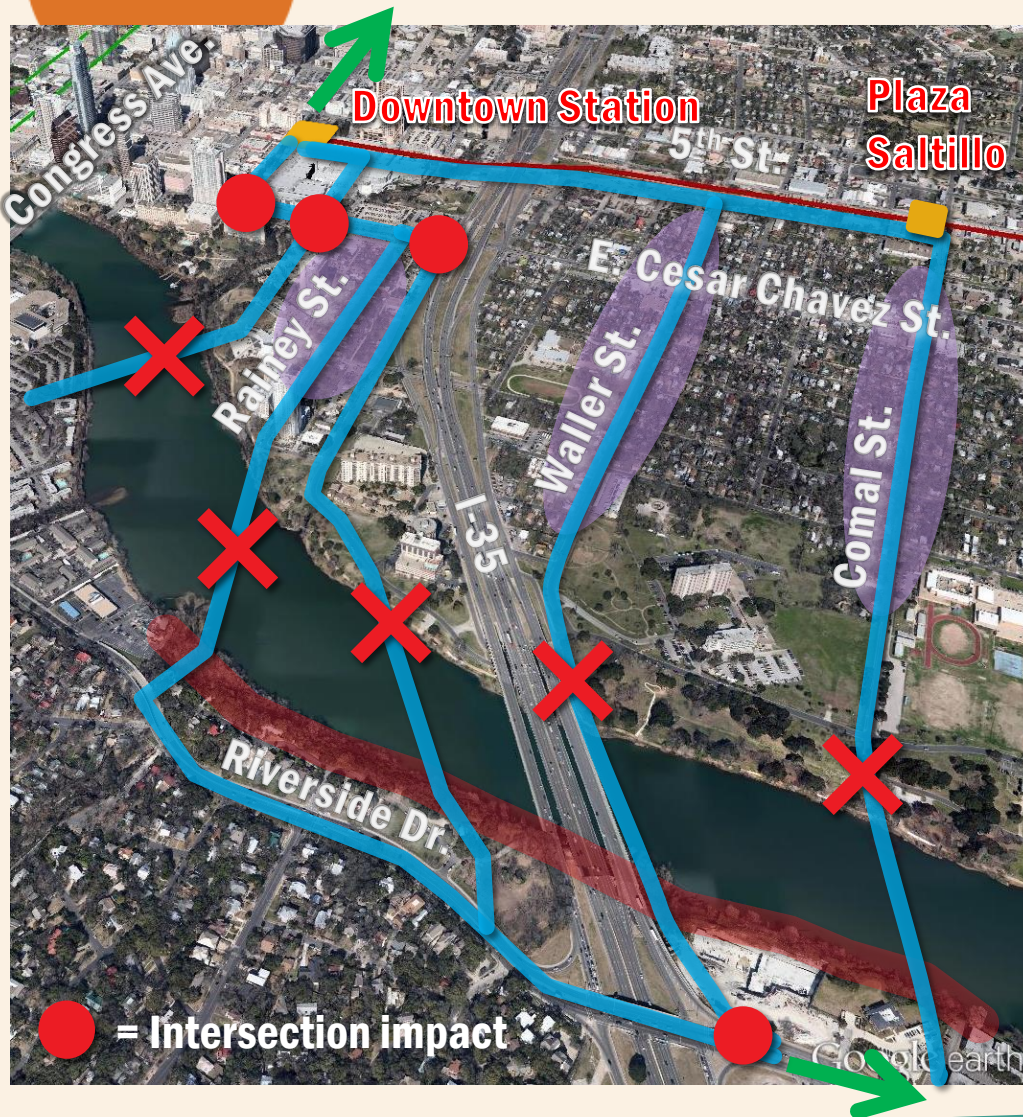
Lady Bird Lake Crossing: Existing Bridges



- Potential benefits:
 - Reduced cost
 - Access to Auditorium Shores, SoCo, South Central Waterfront area
 - Connection with MetroRapid (S. Congress)
- ✗ South 1st St. (Drake Bridge)
 - Reduced auto capacity; traffic and construction impacts
 - Reduced reliability and speed; constrained intersections
- ✗ Congress Ave. (Ann W. Richards Bridge)
 - Reduced auto capacity; traffic and construction impacts
 - Reduced reliability and speed; constrained intersections
 - Mexican free-tailed bat population
- ✗ I-35 Frontage
 - Inconsistent with planned use of frontage roads
 - Difficult to access from downtown

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Lady Bird Lake Crossing: New Crossing (East)



- Potential benefits
 - Access to near east side and/or Rainey district
 - Connection at Plaza Saltillo
 - New capacity across lake
- Common challenges
 - Steep topography and development on south bank of lake
 - Serving South Central Waterfront area
 - Existing Red Line alignment
- ✗ Red River, Rainey, East Avenue
 - Service on Cesar Chavez
 - Narrow ROW
- ✗ Waller, Comal
 - Narrow ROW
 - Residential access
 - Eliminates Red Line connection to downtown
 - Lack of system connectivity
 - Access to East Riverside

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Lady Bird Lake Crossing: New Crossing (West)



X Brazos – impact to Statesman property & Congress/Riverside, Congress/Barton Springs intersections

Trinity – Ranked highest in most screening criteria

- Aligns with Trinity to the north
- Access to Auditorium Shores, SoCo, South Central Waterfront
- Potential conflict with Waller Creek Boathouse

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Lady Bird Lake Crossing

Bridge Option



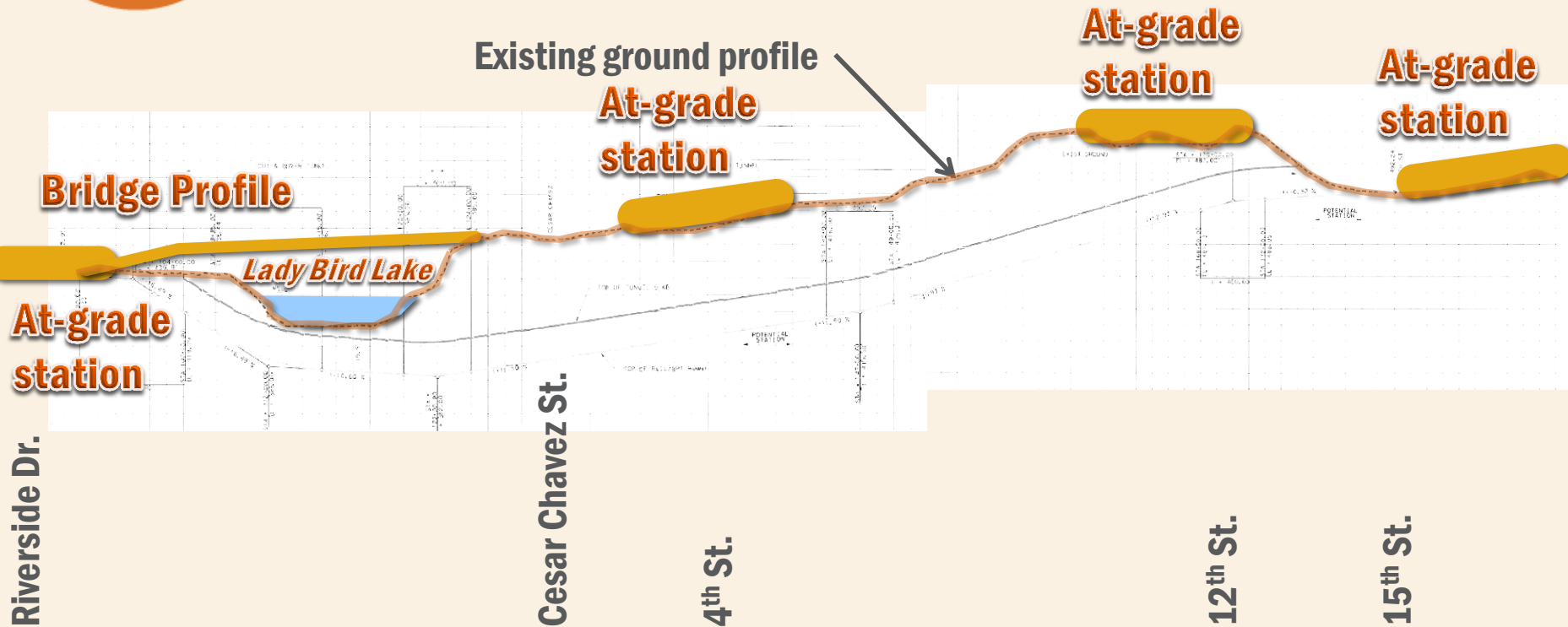
- Lower cost than tunnel
- Interface with Waller Creek Lattice, Waller Creek Boathouse, Four Seasons, TxDOT, Statesman, Housing Authority
- Opportunity for signature structure



Portland-Milwaukie Light Rail Bridge across Willamette River

3

Lady Bird Lake Crossing Bridge Option



- Rough order-of-magnitude cost for Urban Rail \$175M (East Riverside to 15th St.)
 - \$75M for signature bridge
 - \$100M for at-grade section (Cesar Chavez to 15th St.)
- BRT ~25% - 30% less

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Lady Bird Lake Crossing

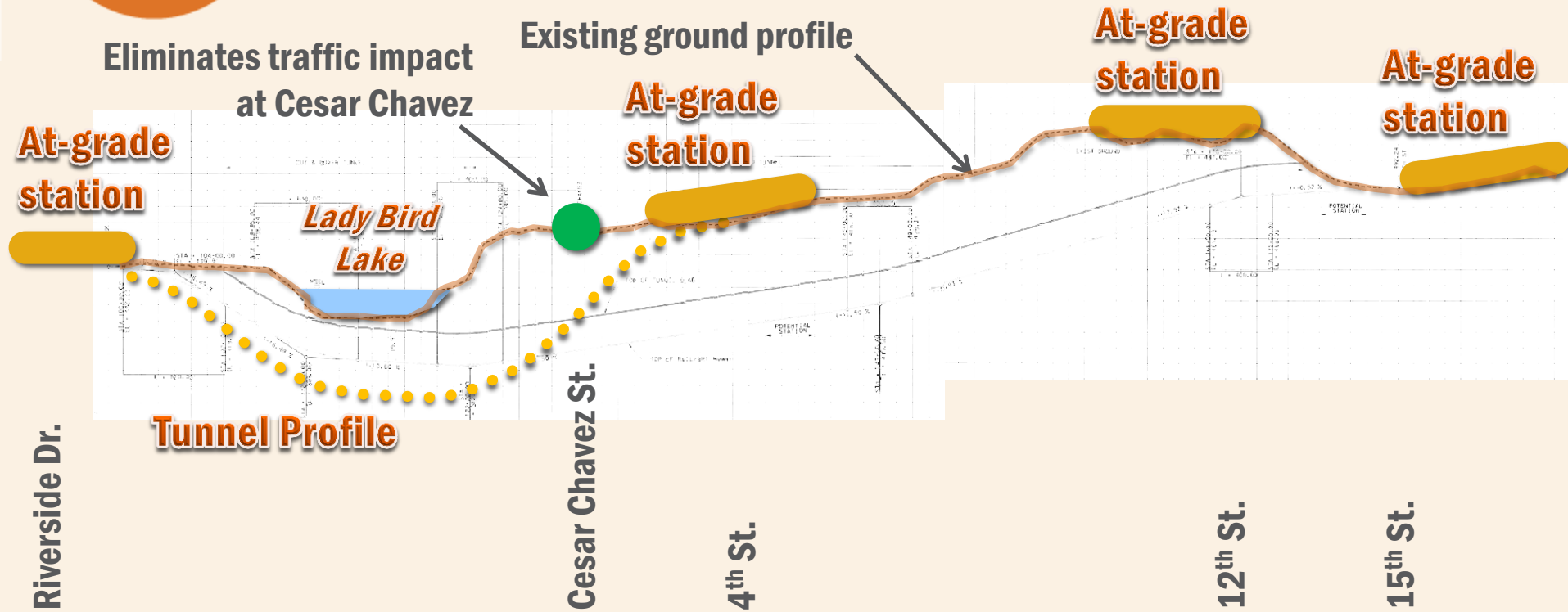
Tunnel Option



- Costs more than bridge
- Avoids Waller Creek Boathouse
- Construction methods:
 - Cast-in-place box
 - Bored/mined tunnel
- Portals on South Shore and Trinity
- Tunnel can be extended into downtown to increase service reliability and speed and to eliminate at-grade traffic impacts

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Lady Bird Lake Crossing Short Tunnel Option

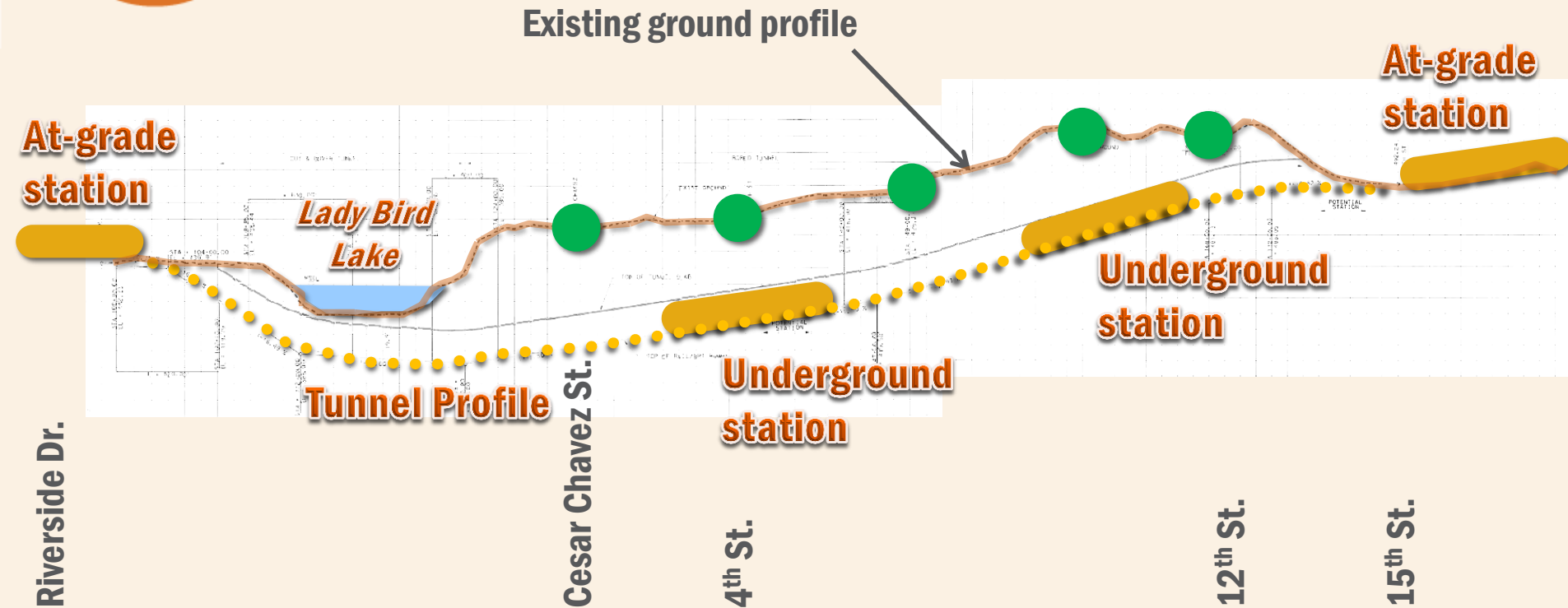


- Rough order-of-magnitude cost for Urban Rail \$240M (East Riverside to 15th St.)
 - \$175M for tunnel
 - \$65M for at-grade section (4th St. to 15th St.)
- BRT ~15% - 25% less

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Lady Bird Lake Crossing Long Tunnel Option

Eliminates at-grade impacts to traffic, pedestrians, utilities, etc., from Cesar Chavez to 15th St.



- Rough order-of-magnitude cost for Urban Rail \$475M (East Riverside to 15th St.) – tunnel and stations
- BRT ~5% - 15% less

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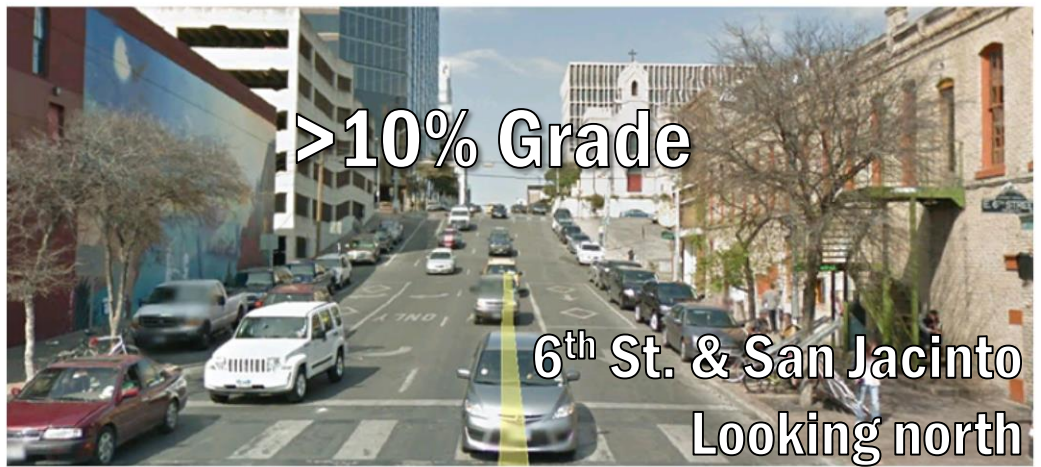
San Jacinto & Trinity

Couplet Option



San Jacinto

- Very steep grades between 6th and 7th St.
- Undesirable turns from Trinity to San Jacinto
- Undesirable to have multiple crossings of 6th St.

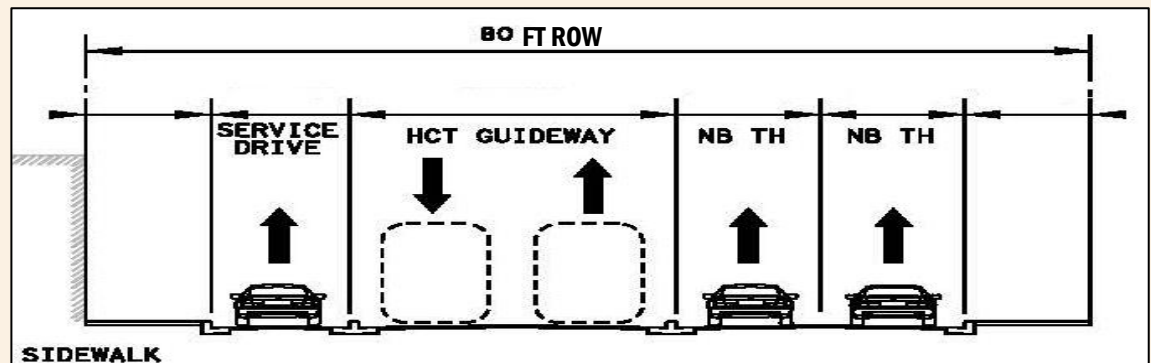


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Trinity At-Grade Option



- Numerous driveways and alleys
- Grades are nearly at recommended maximum for high-capacity transit vehicles
- Center-running on west side of street with two northbound through lanes and service lane

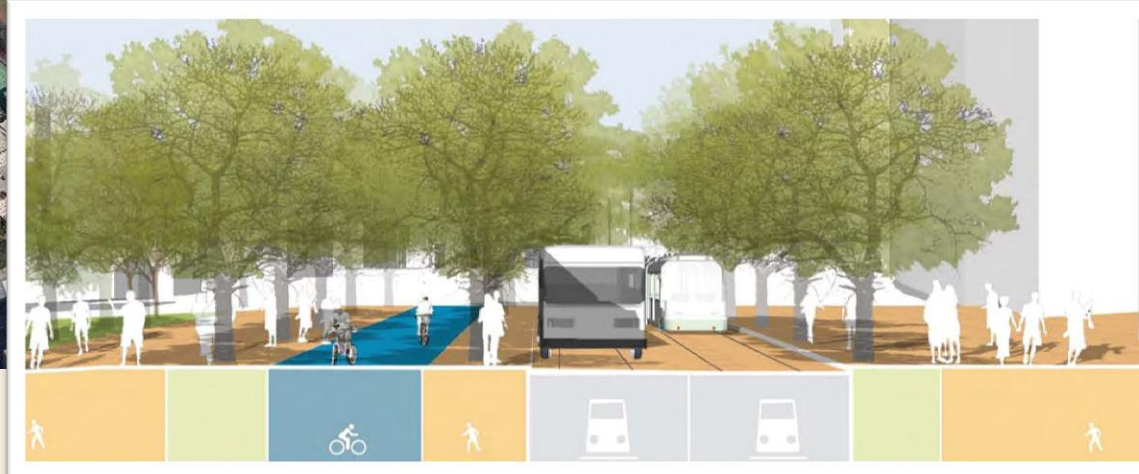


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University of Texas: San Jacinto Blvd.



- Consistent with UT master plan (below)
- San Jacinto will become transit mall
- Crowd control and pedestrian activity
- Floodplain mitigation

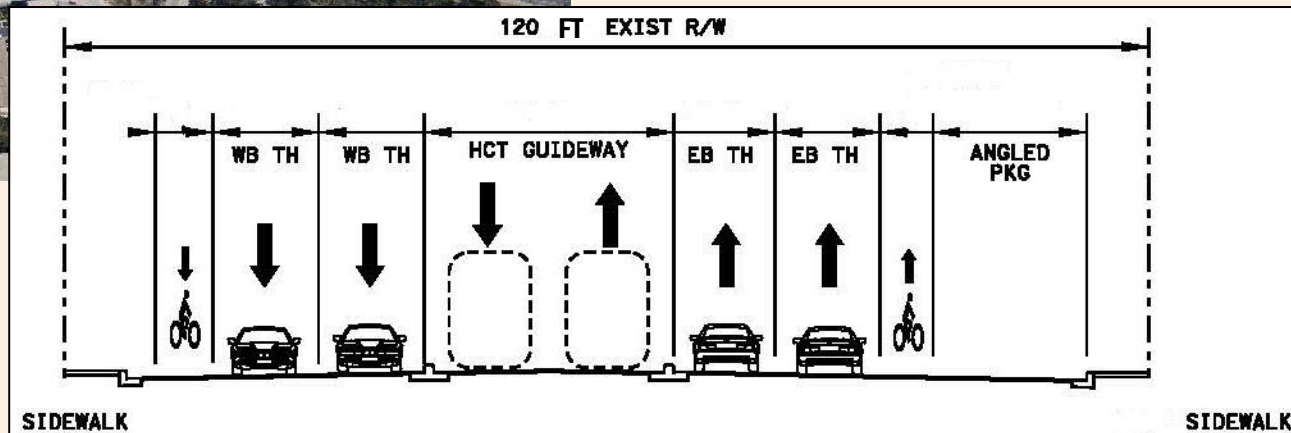


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Dean Keeton – Medical Arts

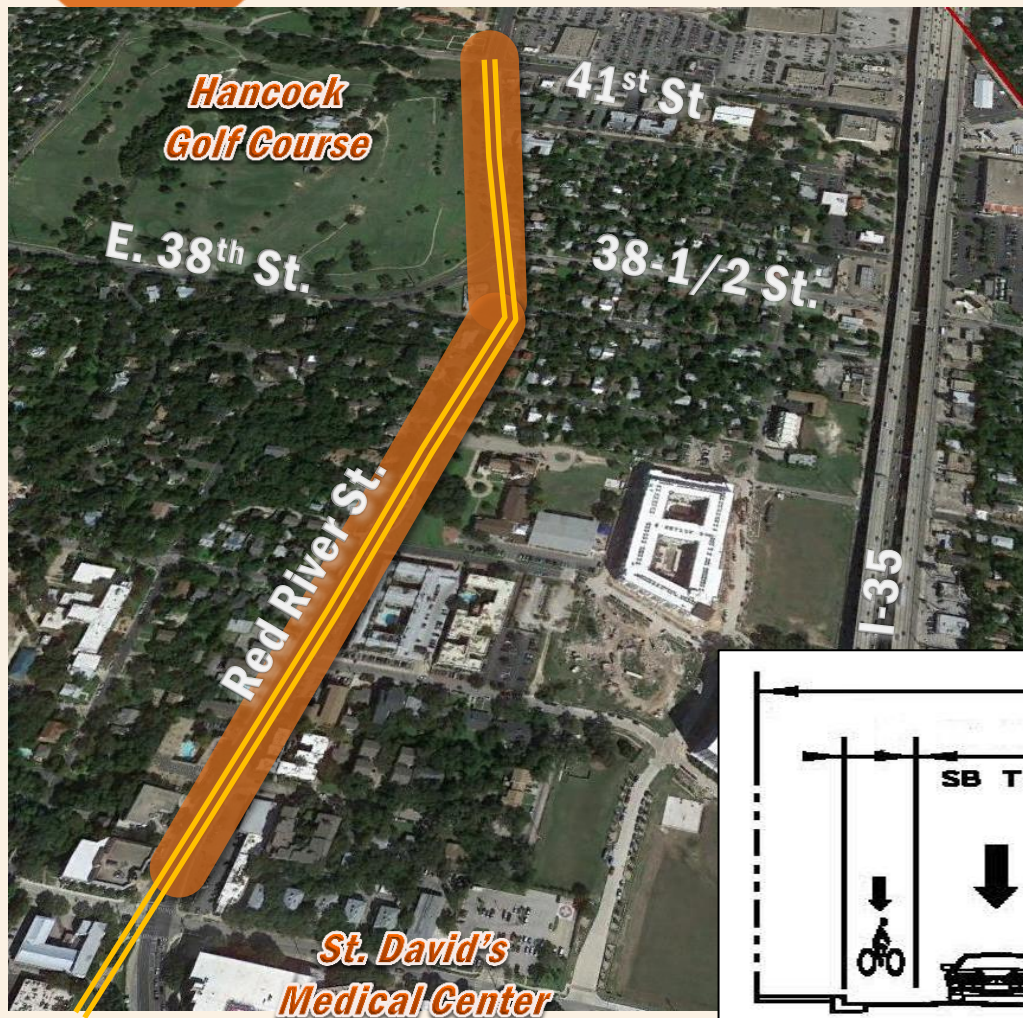


- Center-running in Dean Keeton and Medical Arts
- Opportunity for stop location next to St. David's Medical Center
- Opportunity to increase speed with wider curve at Dean Keeton/San Jacinto

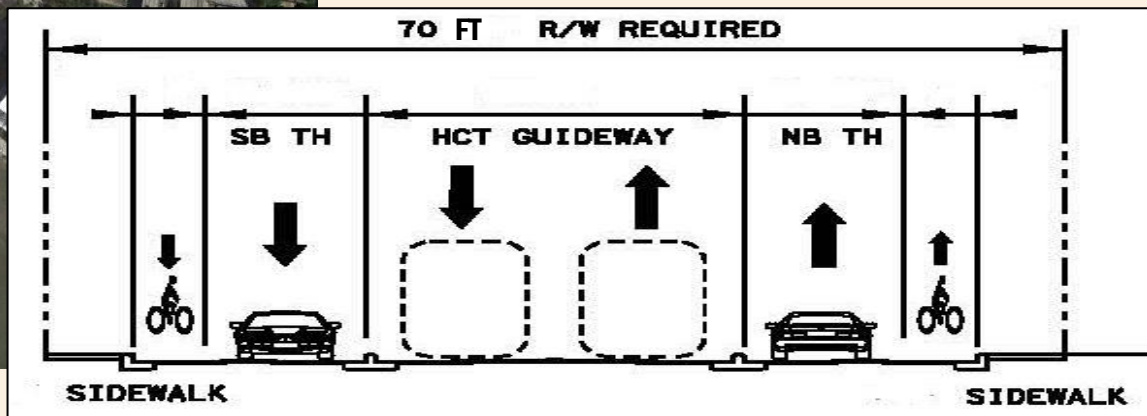


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Red River



- Center-running
- Frequent residential driveways
- Narrow ROW would require removal of one lane of traffic in each direction
- Additional design considerations required




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Hancock Design Options



- Grade separation with Red Line
- Property and neighborhood impacts
- I-35 improvements

East Tunnel Option =====

- Portal on 41st 
- Below-grade station at Red Line
- Potential tunnel extension under I-35 towards Mueller

West Tunnel Option =====

- At-grade station and portal on Red River
- Red Line transfer at Highland or new station on Airport

3

Airport Boulevard



- Center-running
 - Tunnel portal from Hancock in median
 - Widen roadway to west
 - Parallel drainage improvements
- ✗ I-35 – Elevated over SB Frontage
- Eliminated due to significant ROW limitations and community opposition to additional elevated structures

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ACC Highland Terminus Design Options

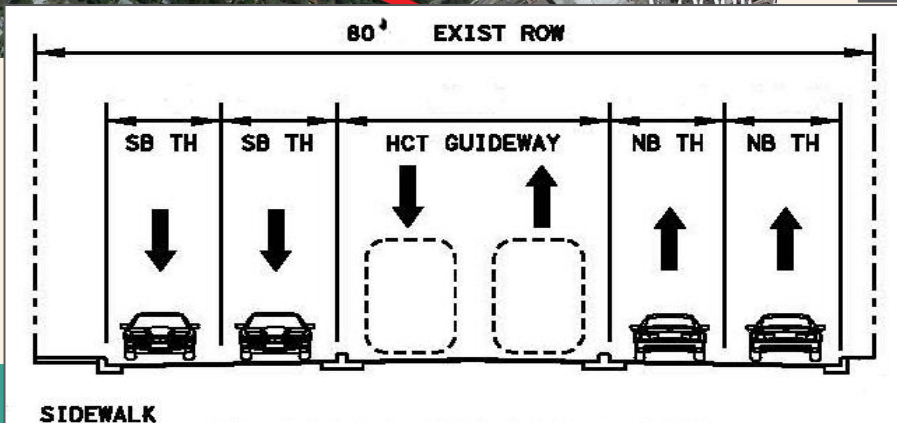


Middle Fiskville Terminus

- Opportunity for park & ride
- Opportunity to extend to north or northeast
- Red Line transfer at Hancock or Airport Blvd. (new station)
- Potential tunnel from Airport Blvd to Middle Fiskville to increase service speed and reliability

Airport Blvd Terminus

Transfer at existing Highland Station



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Ongoing Considerations: System Connectivity

- MetroRail Red Line
 - Downtown Station improvements
 - Impacts of additional station at Hancock or Airport Blvd.
- E-W through downtown
 - 4th St. transit mall
 - Seaholm/LSTAR/Amtrak
- Future connections
 - Next tier sub-corridors (Lamar, Mueller, East Austin)
 - Other sub-corridors



CCAG Discussion



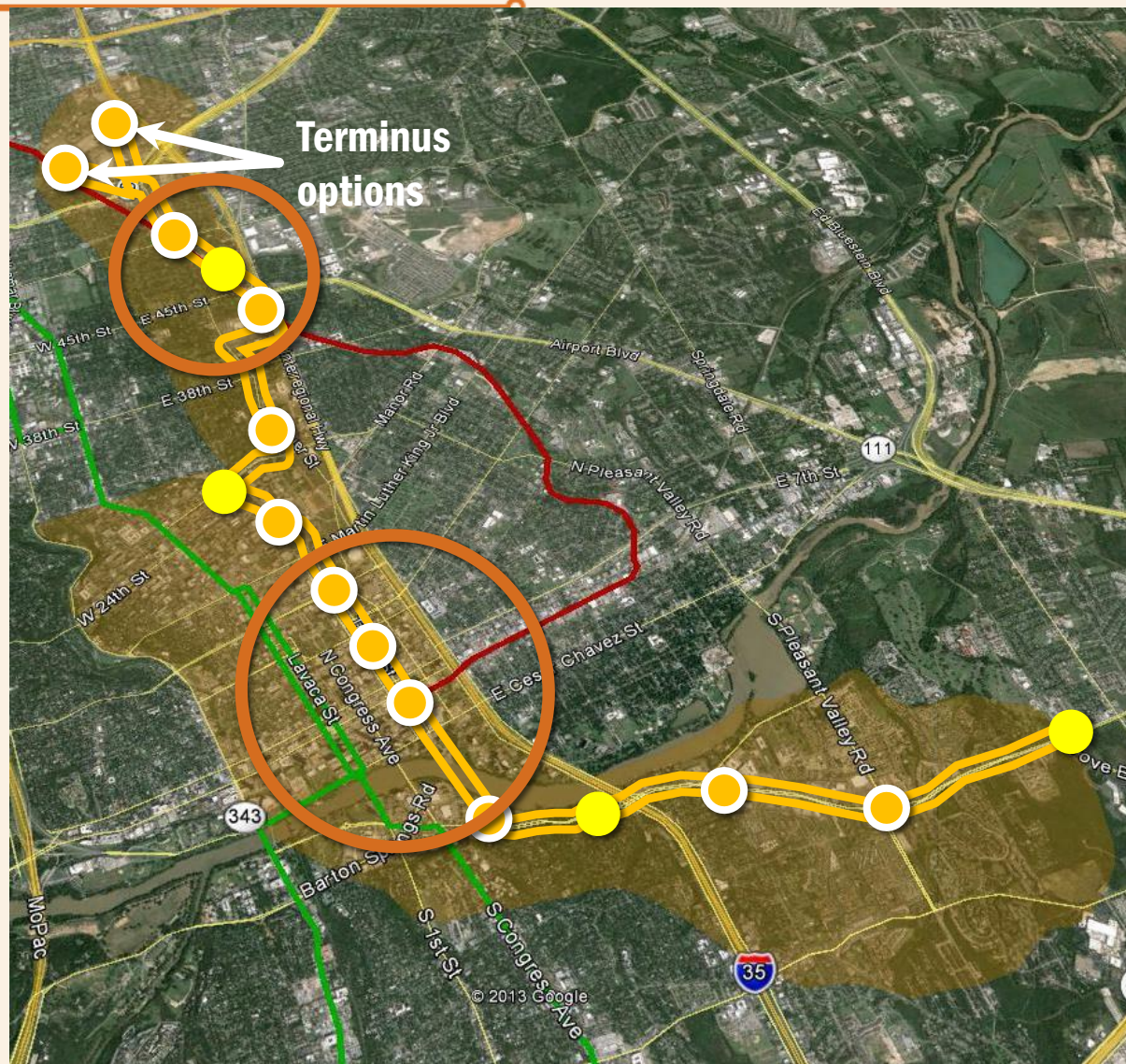
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Evaluation of Final Alternatives

4

Evaluation Focus

- Hancock to Highland
- Lady Bird Lake to 15th



4

Evaluation Factors

- Shared characteristics
 - Approximate length (miles)
 - Estimated number of stations
- Shared socioeconomic characteristics
 - Population within ½ mile of stations*
 - Transit-dependent populations within ½ mile of stations*
 - Affordable housing within ½ mile of stations*
 - Employment within ½ mile of stations*

***FTA criteria**

4

Evaluation Factors

- Ridership projections
 - Projected average weekday ridership
 - Projected annual ridership*
 - Projected annual transit-dependent ridership*
 - Effect on system ridership
- Travel time
 - Highland to 4th Street
 - Grove to 4th Street
 - Total transit travel time (end to end)
 - Potential travel time savings

***FTA criteria**

4

Evaluation Factors

- Cost effectiveness
 - Rough order-of-magnitude total capital cost*
 - Rough order-of-magnitude annual O&M cost*
 - Estimated O&M cost per rider
 - FTA cost effectiveness calculation*
- Economic development potential
- System connectivity

***FTA criteria**

4

Evaluation Factors

- Potential environmental effects
 - Lady Bird Lake habitat/water resources
 - Visual
 - Known cultural resources
 - Traffic
 - Emissions*
 - ROW
 - Utilities
- FTA competitiveness (FTA criteria index)

*FTA criteria

5

Next Steps

4

Road to the LPA – Upcoming CCAG Meetings

- CCAG #11, April 11th
 - Operations plan
 - Evaluation approach
 - FTA process
 - Project development timeline
- CCAG #12, May 2nd
 - Project team recommendation for LPA (*end-to-end*)
 - System connectivity
 - Rough order-of-magnitude (ROM) cost estimates
 - Ridership estimates
 - Funding and governance
- CCAG #13, May 16th
 - Phasing options (*the project*)
 - System connectivity
 - Scope and fee for additional system planning and project definition
- CCAG #14, June 13th
 - Action on recommended LPA and 1st Phase (*the project*)

6

Citizen Communication

7

**Next Meeting
April 11th**

THANK YOU

More Information:

Project Connect &
Central Corridor HCT Study

projectconnect.com



projectconnect
central corridor