Dallas CBD Second Light Rail Alignment (D2)

Subway Project Refinement

Technical Committee Meeting
February 23, 2017
Meeting Objectives

• Agree on Proposed Refinements and Options to be advanced with alternatives:
  – West Junction – should RR ROW be advanced?
  – East Junction – which, if any, Monument Street options should advance?
  – Arts District options – is there a viable option to advance?
  – Commerce realignment with Swiss only?

• Agree on the set of alternatives
  – Alignment, Station Locations
  – Could achieve Short List of 3 options today
Objectives to Identify Reasonable Set of Subway Alternatives

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Reminders

1. Conceptual design only at this time:
   – Are alternatives feasible?
   – What is the list of potential impacts to be addressed further in DEIS?
   – What are key opportunities? i.e., station locations and access points, TOD opportunities, operational flexibility

2. Once a refined LPA is selected:
   – Preliminary engineering for alignment, tunnel portals, stations and access points
   – DEIS, mitigation for identified impacts (property, parks, historic, traffic, etc.)
## Reasonable Alternatives Assessment

### Summary of Technical and Stakeholder Committee Recommendations

<table>
<thead>
<tr>
<th>Alternative</th>
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<th>Stakeholder Committee Recommendation</th>
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<tbody>
<tr>
<td><strong>PACIFIC</strong></td>
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<tr>
<td>RR ROW</td>
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<td>VICTORY ROW</td>
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<td><strong>ELM</strong></td>
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<tr>
<td>RR ROW</td>
<td>YES *Needs Refinement</td>
<td>YES *Refine Alignment</td>
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<tr>
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<td>VICTORY ROW</td>
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<tr>
<td>GOOD LATIMER</td>
<td>NO *Unless There is Feasible Below-Grade Option</td>
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<td>SWISS</td>
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<td><strong>UPTOWN</strong></td>
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<td>PEARL</td>
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<tr>
<td>ROUTH</td>
<td>NO</td>
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<td><strong>ARTS DISTRICT</strong></td>
<td>YES *Work With City on East Junction Options</td>
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*Common Recommendation*
## Summary of Options & Refinements

### Arts District Options
- Ross/Leonard/2-Portal
- Olive/Monument
- Olive/Pearl/Monument
- Olive/Pearl/Swiss
- Olive/Modified Swiss

### Commerce Refinements
- Commerce/Swiss (Original)
- Commerce/Swiss (Modified)
- Commerce/ Good Latimer/ Monument 2-portal concept

### Monument Street Options
- #1
- #2
- #3
- #4
- #5
- #5 with 2-Portal
- #6

### RR ROW Options
- Pacific - Original
- Pacific with 700’ curve
- Elm - Original
- Elm Refinement
- Elm with 700’ curve
LPA Refinement Evaluation Process

- **Key Objectives**
  - Range of Reasonable Subway Alternatives

- **Assessment of Proposed Refinements and Options**

- **Screening Evaluation**

- **Short List of Subway Alternatives**

- **Detailed Evaluation**

- **Refined D2 LPA Recommendation**

Dec-Jan | Jan-Feb | Mar-May | May-June
Recent Meeting Participants

• Deep Ellum Foundation
• City of Dallas Staff
• Preservation Dallas
• Sixth Floor Museum (letter received)
• Dallas County
• Victory Stakeholders
• Perot Museum of Nature and Science
• Bullington Truck Terminal (Thanksgiving Foundation)
• FTA
Information to support Assessment of Options and Refinements

• Historic resource issues
• Geologic conditions from boring data
  – Depth to Austin Chalk
  – Thickness of Austin Chalk
• Building plans
• Operating plan
• Demographics/Market Area Coverage
Historic Resources – RR ROW

• Sixth Floor Museum letter states opposition and concern to Elm or Pacific options that use RR ROW
• Landmark Commission, City of Dallas Historic Preservation and Preservation Dallas do not support due to level of risk and potential impacts
• Dallas County does not support due to level of risk and potential impacts
Historic Resources – RR ROW

• **Section 106 of the National Historic Preservation Act (NHPA)**
  – Requires agencies identify and assess the effects of federally assisted undertakings on historic properties
  – Requires that the Advisory Council on Historic Preservation (ACHP) have the opportunity to comment on the project for compliance with Section 106 and Section 4(f)
  – Seek ways to avoid, minimize, or mitigate any adverse effects on historic properties

• **Section 110 of NHPA**
  – If a project may affect a National Historic Landmark, such as Dealey Plaza, FTA must consult with the National Park Service

• **Section 4(f) of the U.S. Department of Transportation Act of 1966**
  – Transportation projects may not be approved by the Secretary of Transportation unless a determination is made that there is **no feasible and prudent alternative**, and that all possible planning has been done to minimize harm
Geology/Constructability – RR ROW

• RR ROW has poor conditions for tunneling
• Cut and cover is not acceptable in Dealey Plaza
• Soft ground TBM machine would be required for entire project and would increase curve radius requirements in Dealey Plaza area
  – 700’ radius desirable
  – Potential to affect larger area
  – TBM adds concrete liner as it builds tunnel – this has to be demolished at stations, access points, shafts along the rest of the corridor
Depth to Austin Chalk
Geology/Constructability – Pacific

- Bullington Truck Terminal plans
Operating Plan Concept

DART Rail Operations with D2
Works with Victory or RR ROW Option

Orange Line Options (3):
- Terminate near East TC and turnback to DFW
- Continue existing service pattern to Parker Road Station
- Add service to Baylor
DART Rail Operations with D2
During Incident Management using Victory Junction
DART Rail Operations with D2
During Incident Management using Victory Pocket Track
DART Rail Operations with D2
During Incident Management using Victory Junction
DART Rail Operations with D2
During Incident Management using Victory Pocket Track
State Fair TX-OU Operating Plan

State Fair of Texas TX-OU Game Day Service Map

Special Bus Service to and from Fair Park (pre-game and post-game)

- CityLine/Bush Station (Red Line)
- Mockingbird Station (Red, Blue)
- Trinity Mills Station (Green Line)

All TRE trains will be met by buses at Victory for a direct connection to the fair.
Market Area Coverage

- Maps and data illustrate current and future population and employment within ¼ mile walk radius of LRT Stations
Existing Market Area Coverage (¼-mile) and Employment Density
Existing Market Area Coverage (¼-mile) and Population Density
Existing Market Area Coverage (¼-mile)
Existing plus Pacific with RR ROW-Swiss
Combined Market Area Coverage (¼-mile)
Existing plus Elm with Victory-Swiss
Combined Market Area Coverage (¼ mile)
Existing plus Elm with RR ROW-Swiss
Combined Market Area Coverage (¼-mile)
Existing plus Elm with RR ROW-Monument 2 portal
Combined Market Area Coverage (¼-mile)
Existing plus Commerce with Victory-Swiss Combined Market Area Coverage (¼-mile)
Options and Refinements

- **West**
  - Victory ROW
  - Railroad ROW

- **Commerce and Arts District**
  - Arts District/Ross alignment options
  - Commerce refinements

- **East**
  - Swiss Avenue
  - Monument Street
West Options - Victory ROW

- Victory ROW Option
West Options – RR ROW

- Elm Railroad RR ROW
  - Original
  - 700’ Radius Curve

- Elm RR ROW
  - Proposed Refinement

- Pacific RR ROW
  - Original
  - 700’ Radius Curve
Commerce Options and Refinements

• Study two options:
  - Straighten curve to Swiss and move portal to east of IH-345
  - Feasibility of below grade option via Good Latimer

Straighten curves

Only advance if below grade option is feasible
Commerce Refinements

- Straighten curve to Swiss
- Below grade option via Good Latimer (2-Portal solution)
Arts District Options

- Several options developed to determine feasibility
Arts District Options

- with Station

Leonard to Monument (2-portal)

Olive/Pearl/ Monument (no wye junction)

Olive/ Monument (no wye junction)
Arts District Options

- without Station
  - Olive, Pearl to Swiss
  - Olive to Swiss
East Options and Refinements

• Elm Alternative Monument St options
East Options and Refinements

- Elm Alternative Monument St options
# Initial DART Technical Staff Assessment

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**Advance to Screening?**

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<th>Commerce</th>
<th>Arts District (Ross)</th>
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<tr>
<td>Y</td>
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- ![Meets Objective](green): Meets Objective
- ![Meets Objective with some challenges](yellow): Meets Objective with some challenges
- ![Does not meet objective due to fatal flaw or significant risk factor](red): Does not meet objective due to fatal flaw or significant risk factor
Next Steps

• Complete Screening Evaluation if more than 3 alternatives advance today

• Review Technical Committee recommendations with Stakeholder Committee on March 22

• Initiate more detailed evaluation of short list:
  - Refine station locations
  - Identify station portal opportunities
  - Streetcar alignments and connections
  - Urban design opportunities
  - Real estate needs
  - Utility coordination
  - Capital costs