Cotton Belt Regional Rail Corridor Project

North Dallas AFG
University of Texas at Dallas
Administration Building

March 1, 2018
Discussion

• Public Involvement
• Project Scope
  – Alignment
  – Stations
• Environmental Impacts and Mitigation
• Betterments
• Service Plan Amendment Public Hearing
Public Involvement
Public Meeting Summary

Public Meetings
• August 2016 (5)
• May 2017 (3)
• September 2017 (3)
• November/December 2017 (3)
• March 2017 (1)

Area Focus Groups
• April/May 2017 (4)
• August/September 2017 (4)
• March 2017 (1)
Upcoming Opportunities for Public Involvement

• Always Available to You
  – DART web site
  – Letters
  – Board Meetings

• Project Public Meetings and Hearings
  – March 8, 2018: Public Meeting
  – March 27, 2018: Service Plan Amendment Public Hearing
  – April/May 2018: DEIS Public Hearing
# City Resolutions for Cotton Belt

<table>
<thead>
<tr>
<th>City</th>
<th>For Alignment Deviation and to Add Fixed Guideway west of Green Line</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coppell</td>
<td>For Alignment Deviation and to Add Fixed Guideway west of Green Line</td>
<td>Passed June 13, 2017</td>
</tr>
<tr>
<td>Carrollton</td>
<td>For Alignment Deviation and to Add Fixed Guideway west of Green Line</td>
<td>Pending</td>
</tr>
<tr>
<td>Addison</td>
<td></td>
<td>Not Required</td>
</tr>
<tr>
<td>Dallas</td>
<td>For Alignment Deviation and to Add Fixed Guideway west of Green Line</td>
<td>Pending</td>
</tr>
<tr>
<td>Plano</td>
<td>For Alignment Deviation and to Add Fixed Guideway east of Red Line</td>
<td>Passed February 26, 2018</td>
</tr>
<tr>
<td>Richardson</td>
<td>For Alignment Deviation and to Add Fixed Guideway east of Red Line</td>
<td>Passed January 22, 2018</td>
</tr>
</tbody>
</table>
Project Alignment
# Project Comparison

<table>
<thead>
<tr>
<th>Project Scope</th>
<th>August 2016</th>
<th>February 2018</th>
<th>Project Based on Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Limits</td>
<td>DFW Terminal B to Shiloh</td>
<td>DFW Terminal B to Shiloh</td>
<td>DFW Terminal B to Shiloh</td>
</tr>
<tr>
<td>Includes South Alternative to CityLine/Bush</td>
<td>Yes (option)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Includes Cypress Water Design</td>
<td>Yes (option)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Single track with passing tracks; double track stations</td>
<td>Yes</td>
<td>Yes</td>
<td><strong>Double track</strong></td>
</tr>
<tr>
<td>Number of Stations (TBD during project development)</td>
<td>10 Cotton Belt</td>
<td>10 Cotton Belt + 1 LRT</td>
<td>9 Stations (Delete Preston Rd Station) + 1 LRT</td>
</tr>
<tr>
<td>30-minute peak, 60-minute off-peak headways</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Regional Rail Vehicle Standards/Guidance</td>
<td>DCTA (GTW)</td>
<td>FWTA (FLIRT3)</td>
<td>FWTA (FLIRT3)</td>
</tr>
<tr>
<td>Mitigation</td>
<td>Not defined</td>
<td>Not Defined</td>
<td><strong>Defined</strong></td>
</tr>
<tr>
<td>Betterments (Board Policy) along the corridor</td>
<td>Not Defined</td>
<td>Not Defined</td>
<td><strong>Preliminary</strong></td>
</tr>
</tbody>
</table>
# Station Guidance

<table>
<thead>
<tr>
<th>Station Name</th>
<th>Location</th>
<th>Input To Date*</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFW DFWIA AB Terminal Station</td>
<td>DFW</td>
<td>include in project</td>
</tr>
<tr>
<td>1 North DFW Station</td>
<td>DFW</td>
<td>include in project</td>
</tr>
<tr>
<td>2 Cypress Waters Station</td>
<td>Dallas</td>
<td>include in project</td>
</tr>
<tr>
<td>3 Downtown Carrollton Station</td>
<td>Carrollton</td>
<td>include in project</td>
</tr>
<tr>
<td>4 Addison Station</td>
<td>Addison</td>
<td>include in project</td>
</tr>
<tr>
<td>5 Knoll Trail Station</td>
<td>Dallas</td>
<td>include in project</td>
</tr>
<tr>
<td>6 Preston Rd Station</td>
<td>Dallas</td>
<td>candidate for elimination</td>
</tr>
<tr>
<td>7 Coit Rd. Station</td>
<td>Dallas</td>
<td>include in project</td>
</tr>
<tr>
<td>8 UT-Dallas Station</td>
<td>Richardson</td>
<td>include in project</td>
</tr>
<tr>
<td>9 CityLine/Bush Station</td>
<td>Richardson</td>
<td>include in project</td>
</tr>
<tr>
<td>10 12th Street Station (Light Rail and Cotton Belt)</td>
<td>Plano</td>
<td>include in project</td>
</tr>
<tr>
<td>11 Shiloh Station</td>
<td>Plano</td>
<td>include in project</td>
</tr>
</tbody>
</table>

*Input received during Public and Board Meetings
Cypress Waters Station

Key Community Comments
- Supported by City of Coppell Council Resolution
- Supported by City of Dallas
- Supported by Cypress Waters developer
- Coppell citizen support for station

Station Benefits
- Transit-Oriented Development opportunity
- Serves Cypress Waters via pedestrian trails and bus network
- Large employment centers in area
- Provides opportunity for station in DART Service Area

Station Facts
- Platform Type: Side
- Parking Spaces: 199
- Bus Bays: 4
- Bus Routes: 2
- Projected Daily Ridership
  - Opening Day: 200
  - 2040: 910
- Mode of Access %
  - Bus Transfer: 17%
  - Drive: 36%
  - Walk: 47%
- Est. Travel Time (minutes)
  - To DFW Airport: 18
  - To Downtown Carrollton: 7
  - To Addison: 15
  - To CityLine/Bush: 33

DFW North Station
- 4.8 miles

Cypress Waters Development

YKK AP American Inc.
Knoll Trail Station

**Station Facts**

- **Platform Type:** Side
- **Parking Spaces:** N/A
- **Bus Bays:** No
- **Bus Routes:** 1

**Projected Daily Ridership**

- **Opening Day:** 500
- **2040:** 530

**Mode of Access %**

- **Drive:** 0%
- **Bus Transfer:** 9%
- **Walk:** 91%

**Est. Travel Time (minutes)**

- To DFW Airport: 36
- To Downtown Carrollton: 11
  - To Addison: 3
  - To CityLine/Bush: 15

**Knoll Trail Station**

**Key Community Comments**

- Supported by City of Dallas
- Good citizen support with limited opposition
- Some concern for lack of parking
- Some concern too close to Addison Station

**Station Benefits**

- Proximity to high density residential north and south of station
- Arterial access and proximity to DNT
- Walk distance to Prestonwood Town Center
Preston Road Station

Key Community Comments
• Mostly opposition to with limited support for station
• Concerns expressed for school impacts, traffic, access, parking, noise and safety
• Difficult to access station by any mode

Station Facts
- Platform Type: Side
- Parking Spaces: N/A
  - Bus Bays: No (On-Street stops)
- Bus Routes: 1
- Projected Daily Ridership
  - Opening Day: 300
  - 2040: 400
- Mode of Access %
  - Bus Transfer: 29%
  - Drive: 0%
  - Walk: 71%
- Est. Travel Time (minutes)
  - To DFW Airport: 38
  - To Downtown Carrollton: 13
    - To Addison: 5
    - To CityLine/Bush: 13

Station Benefits
• Proximity to residential neighborhood to reach employment/activity centers
Coit Road Station

Key Community Comments
- Mixed community support and opposition for station
- Support for a North Dallas station with parking
- Citizen concern for loss of small amusement park
- Concern for station adding to Coit traffic

Station Benefits
- Key intercept point along a major north-south arterial
- Other locations within North Dallas are severely limited in providing arterial access to a park-and-ride station site

Station Facts

<table>
<thead>
<tr>
<th>Platform Type:</th>
<th>Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Spaces:</td>
<td>198</td>
</tr>
<tr>
<td>Bus Bays:</td>
<td>4</td>
</tr>
<tr>
<td>Bus Routes:</td>
<td>2</td>
</tr>
</tbody>
</table>

Projected Daily Ridership
- Opening Day: 600
- 2040: 760

Mode of Access %
- Bus Transfer: 16%
- Drive: 22%
- Walk: 62%

Est. Travel Time (minutes)
- To DFW Airport: 42
- To Downtown Carrollton: 17
- To Addison: 9
- To CityLine/Bush: 9

Advertisement

COTTON BELT
Coit Station Area Considerations

Community Identified Station Relocation Sites
Coit Road Station Area
Land Use

- Residential
- Residential
- Residential
- Residential
- Residential
- Residential (Highland Springs)
- Residential
- Pump Station
- Residential
- Residential
- Residential
- Residential
- City of Dallas
- Frankford Middle School
- Creek
- Adventure Landing
Environmental Impacts and Mitigation
Mitigation vs Betterments

- **Mitigation** is required under Federal rules and DART policy to address impacts to the natural and cultural environment.
  - There is no federal dollar “cap” to mitigation; the impact must be addressed in part, to the extent practical under the guidance of being prudent and feasible.
  - Mitigation is the interest of the both the Federal Agencies under the National Environmental Policy Act and DART under the Mitigation Policy.
  - Mitigation is a requirement of the Federal documentation.

- DART Board Policy for **betterments** is based on residential adjacency.
  - The Betterments Policy establishes the dollar amount to be applied.
  - Betterments are not a requirement or interest of the Federal Agencies during the environmental review process.
  - Betterments can be an enhancement to a mitigation treatment, but they can also be standalone.
  - Not a part of the Federal documentation.
Traffic Analysis and Mitigation
## Roadway Mitigation

### Grade Separations and Signal/Design Improvements

<table>
<thead>
<tr>
<th>Roadway At-Grade Crossing (Crossing Number)</th>
<th>City</th>
<th>LOS Impacts?</th>
<th>Queuing Impacts?</th>
<th>Recommended Traffic Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade Separation (5 New)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Belt Line Road (5)</td>
<td>Coppell / Dallas</td>
<td>Yes</td>
<td>Yes</td>
<td>Track over the Road</td>
</tr>
<tr>
<td>Midway Road (21)</td>
<td>Addison</td>
<td>No</td>
<td>Yes</td>
<td>Track over the Road</td>
</tr>
<tr>
<td>Coit Road (35)</td>
<td>Dallas</td>
<td>No</td>
<td>Yes</td>
<td>Roadway over the Track</td>
</tr>
<tr>
<td>Custer Parkway (37)</td>
<td>Richardson</td>
<td>Yes</td>
<td>Yes</td>
<td>Track over the Road</td>
</tr>
<tr>
<td>Plano Parkway (46)</td>
<td>Plano</td>
<td>Yes</td>
<td>Yes</td>
<td>Track over the Road</td>
</tr>
<tr>
<td><strong>Intersection Improvements (6)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MacArthur Boulevard (9)</td>
<td>Coppell</td>
<td>Yes</td>
<td>No</td>
<td>Signal/Design Improvements</td>
</tr>
<tr>
<td>Luna Road (12)</td>
<td>Carrollton</td>
<td>Yes</td>
<td>Yes</td>
<td>Signal/Design Improvements (Grade Separation not feasible)</td>
</tr>
<tr>
<td>North Marsh Lane (19)</td>
<td>Carrollton / Addison</td>
<td>Yes</td>
<td>Yes</td>
<td>Signal/Design Improvements</td>
</tr>
<tr>
<td>Addison Road (22)</td>
<td>Addison</td>
<td>Yes</td>
<td>Yes</td>
<td>Signal/Design Improvements (Grade Separation not feasible)</td>
</tr>
<tr>
<td>Hillcrest Road (31)</td>
<td>Dallas</td>
<td>No</td>
<td>No</td>
<td>Signal/Design Improvements</td>
</tr>
<tr>
<td>Alma Road (38)</td>
<td>Richardson</td>
<td>Yes</td>
<td>Yes</td>
<td>Signal/Design Improvements (Grade Separation not feasible)</td>
</tr>
</tbody>
</table>

**Note:** All at-grade roadway crossings will be gated; residential areas will include quiet zones
North Dallas Crossing Configuration

* Grade separations previously identified in Service Plan
Street Crossings
North Dallas

Utility Easement at Meandering Way

Not to Scale

At-grade Alignment
Partial Grade Separated and At-grade Alignment
Full Grade Separated and At-grade Alignment
Noise Impacts and Mitigation
# Residential Noise Impact Summary

<table>
<thead>
<tr>
<th>City</th>
<th>Without Quiet Zones</th>
<th>Quiet Zones without Additional Mitigation</th>
<th>Quiet Zones with Additional Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Moderate</td>
<td>Severe</td>
<td>Moderate</td>
</tr>
<tr>
<td>Coppell</td>
<td>303</td>
<td>425</td>
<td>0</td>
</tr>
<tr>
<td>Carrollton</td>
<td>328</td>
<td>547</td>
<td>31</td>
</tr>
<tr>
<td>Addison</td>
<td>414</td>
<td>297</td>
<td>16</td>
</tr>
<tr>
<td>Dallas</td>
<td>968</td>
<td>1,502</td>
<td>188</td>
</tr>
<tr>
<td>Richardson</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plano</td>
<td>316</td>
<td>319</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2329</strong></td>
<td><strong>3090</strong></td>
<td><strong>235</strong></td>
</tr>
</tbody>
</table>

* Additional mitigation to be considered
# Proposed Noise Mitigation

<table>
<thead>
<tr>
<th>Mitigation</th>
<th>Corridor</th>
<th>North Dallas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiet Zones (No Train Horns)</td>
<td>36</td>
<td>7</td>
</tr>
<tr>
<td>Crossing Bell Mitigation</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Noise Barriers</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Noise Barrier Length (feet)</td>
<td>20,300</td>
<td>17,700</td>
</tr>
</tbody>
</table>

*Example*
North Dallas Noise Barrier Locations

[Map showing North Dallas Noise Barrier Locations]
Vibration Impacts and Mitigation
Vibration Impact Location Map
Dallas

Vibration Legend
- Vibration Impact
Proposed Vibration Mitigation

Track treated with Tire Derived Aggregate (TDA)
Visual Mitigation
Visual Mitigation Examples

• Typical landscaping at 120-150 foot intervals along residential areas for:
  – Visual screening
  – Soften views of sound walls, corridor fencing (where possible)
• Preservation of existing vegetation
• Station landscaping/appropriate lighting in residential areas
• Station materials/finishes to complement surrounding character
• Complementary structure design
• Public and agency coordination to define types of vegetation
Betterments
Betterments

- Betterments require Board approval typically during final design
- Based on community Input
- Suggestions to be made to DART Board include:
  - Increase noise barrier height from 12 to 15 feet
  - Use higher standard for vibration betterments
  - Enhanced landscaping package (This will be defined during Final Design with Community Input)

Los Angeles - Orange Line BRT (dedicated fixed guideway)
Proposed Vibration Mitigation (TDA) FTA Threshold 72 VdB
Suggested Vibration Betterment (TDA)
Suggested Threshold 65 VdB

TDA Location
- Vibration Mitigation: 2,850 feet
- Vibration Betterment: 6,700 feet
Service Plan Amendment Public Hearing
Public Meeting

March 8, 2018: Parkhill Junior High School, 7:00 pm

• Presentation on latest project development with discussion:
  – Alignment
  – Station Locations
  – Grade Separations
  – Mitigation
  – Betterments
Service Plan Amendment Public Hearing

March 27, 2018: DART Board of Directors Meeting, 6:30 pm, DART Board Room

• Opportunity to provide testimony on:
  – Alignment
  – Station Locations
  – Grade Separations

• Advocate for Betterments
DART Policies
Betterments Policy for Residential Areas

DATE ISSUED: October 28, 1997

Resolution No. 970217
Policy No. IV.11 (Planning)

1. Betterments are items implemented that are above and beyond the standard environmental mitigation measures or design criteria identified through the planning, preliminary engineering process.

2. Such betterments will be considered for residential areas as defined by existing land use, if a majority of property owners, regardless of how much frontage they own, bordering the rail right-of-way request betterments.

3. Recommendations will not be advanced until a cooperative DART and community effort has demonstrated that all reasonable efforts have been made to assure participation of all impacted residential properties in identifying the type and placement of betterments.

4. As a guideline, the target budget for betterments is calculated based on the center line length of the subject area and an amount not to exceed $70/linear foot. This amount is in 1997 dollars and will increase over time with inflation.

5. This target budget will be applied as an upper limit for any recommended betterments.

6. Staff will advance betterment recommendations within the target budget based on input from the affected property owners, reasonableness, maintainability, and technical feasibility.

7. Betterment recommendations will not be advanced if they are judged unsafe or will impair the normal operation of the rail system.

8. Potential betterments will be identified in preliminary engineering after application of DART mitigation policies and design criteria. Betterments, if any, should be identified and approved by the Board before design reaches the 65% level for any rail segment.

9. The residential betterments approved by the DART Board will be funded through amendments to the project budgets and the Financial Plan (if greater than $1 million).
Grade Separation Policy

1. Warranted Grade Separations: DART will design and construct at DART's cost, grade separations of DART Operating right-of-way that meet warrants subject to a determination by DART, that other reasonable and effective traffic mitigation measures are not feasible, and there are no physical, environmental, financial, or other constraints that would preclude a grade separation.

   The criteria for evaluating a grade crossing are:
   1. traffic projections
   2. safety
   3. length of dike of vehicle queue's
   4. highway safety
   5. right-of-way delay
   6. changes in level of service
   7. impact on area-wide signal system
   8. cost-effectiveness
   9. mitigation measures

   In evaluating these criteria, DART has determined that, subject to a determination that other reasonable and effective traffic mitigation measures are not feasible, two specific warrants can effectively measure if a street intersecting a rail line should be grade separated. These grade separation warrants are:
   1. Queuing impacts
   2. Level of Service (LOS) impacts

2. Non-Warranted Grade Separations: For grade crossings that do not meet grade separation warrants or crossings where other reasonable and effective traffic mitigation measures are feasible but the city still desires a grade separation, DART will agree to design and construct the grade separation subject to a determination by DART that there are no physical, environmental, financial, or other constraints that would preclude a grade separation and will contribute a maximum of $1.5 million (in 1998 dollars according adjusted for inflation at the time of construction of the non-warranted separation) toward the incremental cost. The requesting city or others must agree to pay the remainder of the incremental cost prior to DART beginning design on the project. This agreement will be effected through an agreement with the entity paying for the crossing.

3. Warranted Retrofitted Grade Separations: In the future, following completion of a particular grade crossing, a city desires a grade separation of a crossing that still fails to meet grade separation warrants, DART will agree to design and construct the grade separation subject to a determination by DART that there are no physical, environmental, financial, or other constraints that would preclude a grade separation and will contribute a maximum of $1.5 million (in 1998 dollars according adjusted for inflation at the time of construction of the non-warranted separation) toward the incremental cost. The requesting city or others must agree to pay the remainder of the incremental cost prior to DART beginning design on the project. This agreement will be effected through an agreement with the entity paying for the crossing.

4. Non-Warranted Retrofitted Grade Separations: It in the future, following completion of a particular grade crossing, a city desires a grade separation of a crossing that still fails to meet grade separation warrants, DART will agree to design and construct the grade separation subject to a determination by DART that there are no physical, environmental, financial, or other constraints that would preclude a grade separation and will contribute a maximum of $1.5 million (in 1998 dollars according adjusted for inflation at the time of construction of the non-warranted separation) toward the incremental cost. The requesting city or others must agree to pay the remainder of the incremental cost prior to DART beginning design on the project. This agreement will be effected through an agreement with the entity paying for the crossing. The retrofit portion of the Grade Separation Policy applies to all rail corridors in the DART Transit System Plan.

5. To the extent there is a conflict between the terms of this Policy and the terms of any Interlocal Agreement with any member city, the provisions of that Interlocal Agreement will control.
Hike and Bike Trail Use on DART Right-of-Way

DATE ISSUED: February 27, 1996
Resolution No. 963034
Policy No. III.09 (Operations)

DART-owned rights-of-way may be made available to other governmental entities for utilization as hike, bike transportation, or recreational use under the following conditions:

1. On rail corridors that are on DART's Service Plan for transit use in the near future, hike, bike transportation, or recreational uses of the corridor compatible with transit, will be evaluated by DART during the preliminary engineering and environmental assessment phase of the development of the corridor.

2. On rail corridors that are within DART's service area, a hike, bike transportation, or recreational use of the corridor compatible with existing rail/freight operations will be allowed, provided the governmental entity agrees to:
   a. Maintain fully the entire width of the corridor where the facility is located;
   b. Indemnify DART for the use of the corridor; and
   c. Vacate the corridor if and when DART wishes to use the corridor for its purposes.

3. For rail corridors outside the DART service area, a hike, bike transportation, or recreational use of the corridor compatible with rail/freight operations will be allowed, provided the governmental entity agrees to:
   a. Maintain fully the hike or bike path;
   b. Compensate fairly DART for the use of the property;
   c. Indemnify DART; and
   d. Vacate the corridor if and when DART wishes to use the property for its purposes.

On all rail corridors owned by DART, DART will cooperate with other private and public bodies to find alternative funding sources for development by other governmental entities of the corridor for hike, bike transportation, or recreational use of the corridor.

DART is not obligated to provide any additional funding for development of hike, bike transportation, or recreational use of the corridor.
Supplemental
Presented August 2016 Public Meetings
Increased Aesthetics

Example Hike/Bike Trail, Planting, Fencing, Wall (Residential Area)

Los Angeles - Orange Line BRT (dedicated fixed guideway)