

The Irving to Frisco Corridor Project Advisory Committee meeting will begin shortly.

Please mute your microphones and enter your name and organization in the chat box.

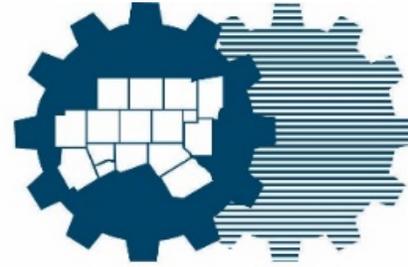


Thank you.



North Central Texas
Council of Governments





North Central Texas Council of Governments



FARMERS
BRANCH



Hebron



IRVING TO FRISCO PASSENGER RAIL CORRIDOR STUDY

Project Advisory Committee
7th Meeting

January 21, 2021

Meeting Protocols

Meeting Protocols

- Please keep your microphone muted unless speaking
- Please enter your name and organization into the [Chat Box](#)
- Please utilize the [Raise your hand](#) feature to ask a question or make a comment; you may also use the [Chat Box](#) for questions and comments



- If joining by phone, please hold your questions and comments until feedback is requested at specified times during presentation

Agenda

- Study Milestones Schedule
- December Advisory Committee Follow-up
 - Demand: Trip Patterns along Corridor
 - Supply: Downtown Carrollton – Analysis of Future Rail Movements
- Land Use Analysis Report (Draft)
- Alternative Analysis Results
 - Review of Alternatives
 - Modeling Results
 - Ridership Analysis Summary
- Collin County Transit Study Update
- Questions & Discussion
- Next Steps

A Look Ahead

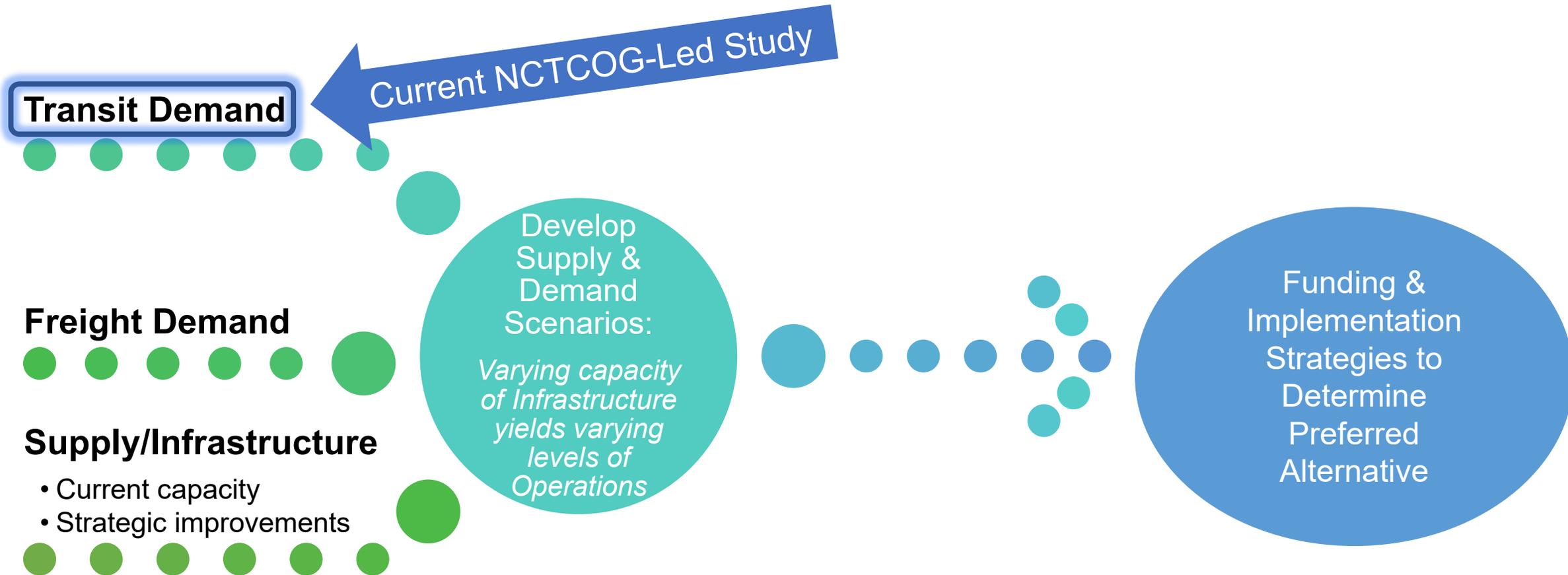
Transit Demand Results for this Corridor:

- Results of Corridor Termini Analysis
- Results of Interlining with TRE Corridor
- Stations organized by ridership (high, medium, & low)

Next Steps for Future Efforts:

- Review the Supply Side
 - How does the transit demand fit in with current infrastructure & forecasted freight demand?
- How Will it be Funded? Who Will Implement and Operate?

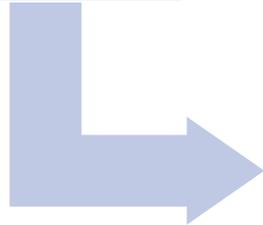
Current Demand Study & Future Efforts



Study Milestones Schedule

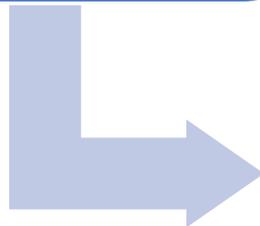
December

- Supply vs. Demand Analyses
- Alternatives Analysis (Ridership Modeling Efforts)



January

- Land Use Analysis Report (Draft)
- Alternatives Analysis Results



February

Funding & Implementation Strategies (Draft)

Productions & Attractions To/From Frisco-Carrollton Segment

Travel demand projections shown (productions & attractions) are representative of **all** trips, not just transit trips

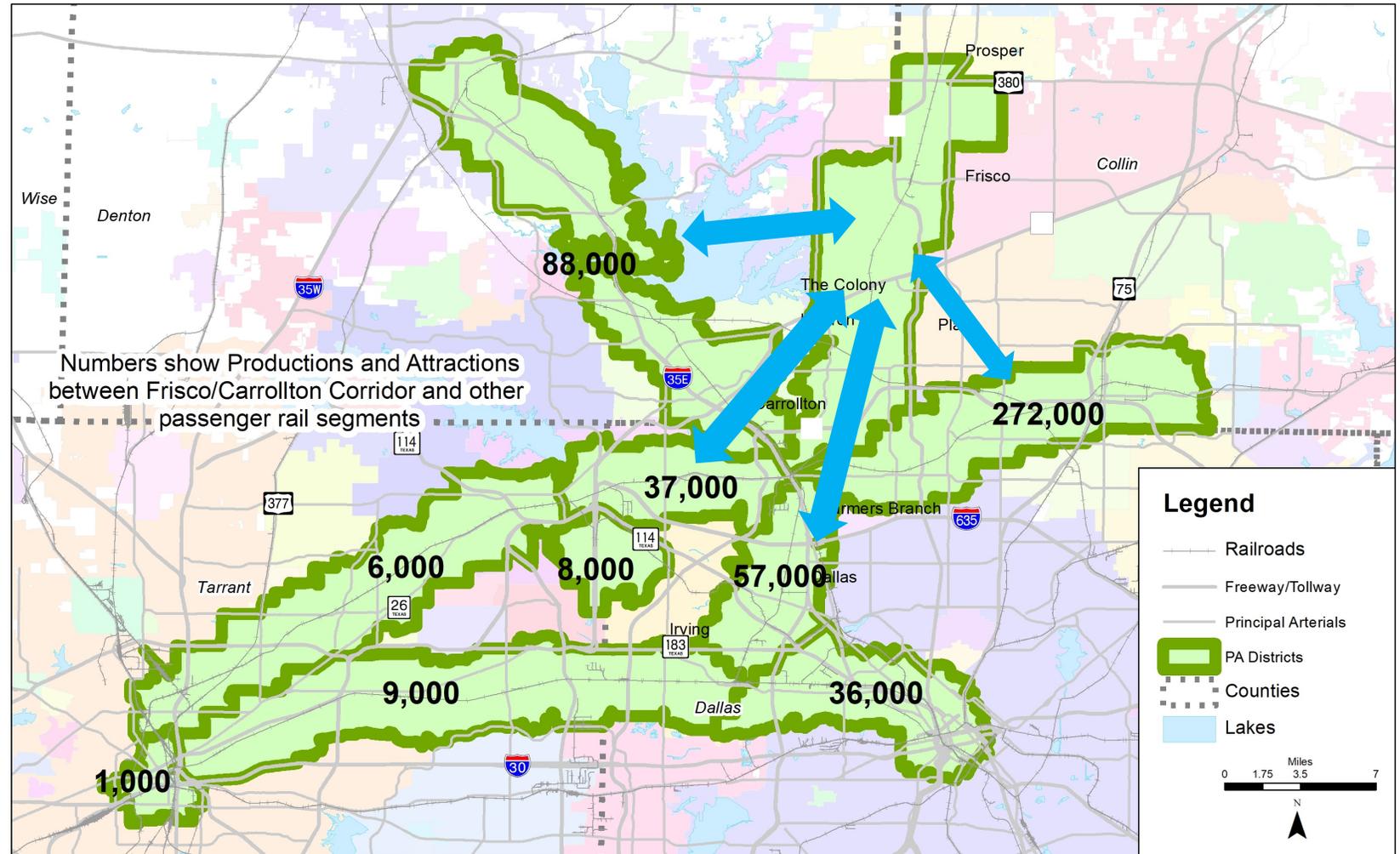
Regions shown in green (PA Districts) are 2- to 4-mile buffers around segments of the Regional Rail network

Also, see analysis by:

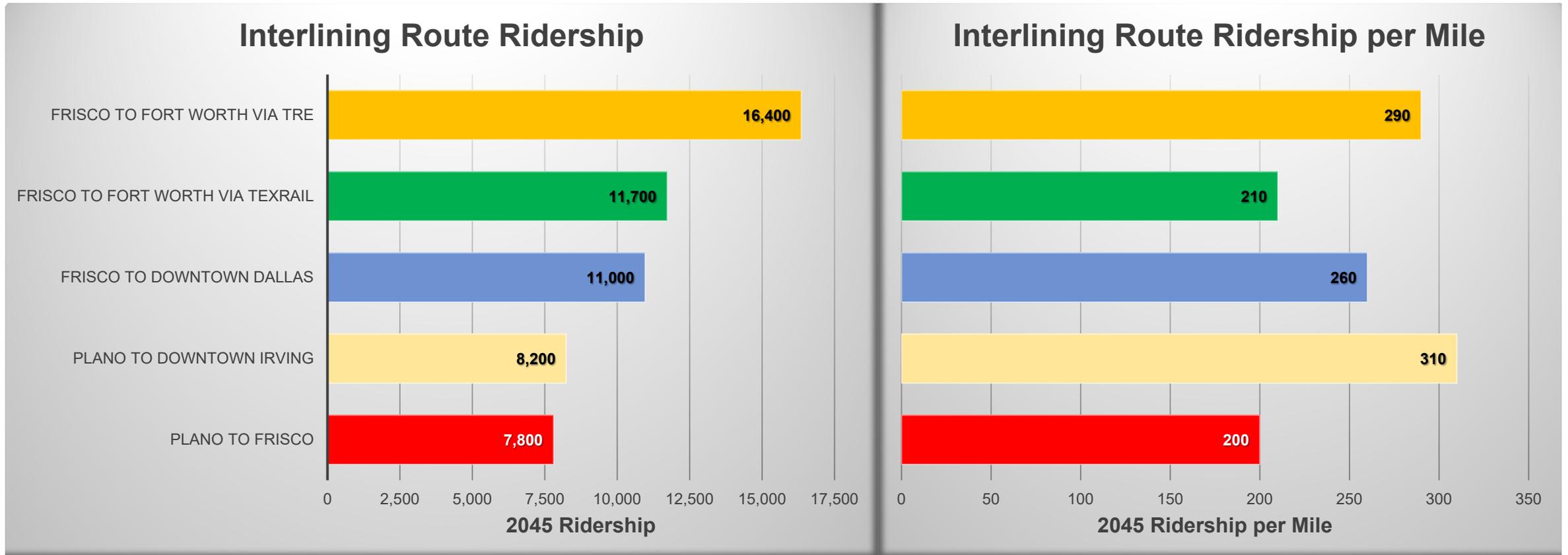
DART 2040 Transit System Plan

Frisco Area Transit Opportunities Summary (2017)

January 21, 2021



Five Interlined Routes Review



(As shown at October 15, 2020 PAC Meeting)

Downtown Carrollton – Analysis of Rail Movements

- Current Conditions – DART Green Line on Aerial Structure with Station & Parking
- Current Under Final Design – DART Silver Line with At-Grade Station & Expanded Parking
- Future Opportunities
 - Irving to Celina Corridor with At-Grade Station
 - DCTA A-Train Extended to Downtown Carrollton with Potential Connections to Silver Line & Irving-Celina Corridor

Downtown Carrollton – Analysis of Rail Movements

All Existing Railroad Movements Must Be Maintained

- BNSF Railway
- Dallas, Garland & Northeastern (DGNO) Railroad

Corridor Interlining

- Celina-Frisco-Carrollton-Irving: Thru Movement One Seat Ride
- Celina-Frisco-Carrollton-DFW Airport-Fort Worth – Requires Transfer
- Celina-Frisco-Carrollton-Downtown Dallas – Requires Transfer to Light Rail

Land Use Analysis Report Update

- Objective: Provide recommendations that facilitate structured and systematic growth of transit supportive land uses at station locations
- Progress:
 - In development alongside “Best practices for transit-supportive economic development” report
 - Leveraging prior *Station Area Alternative Demographics* analysis
 - Draft document to PAC for review/comment before next meeting



Source: <http://www.houstontomorrow.org/livability/story/dallas-looking-at-transit-oriented-development-for-medical-district/>

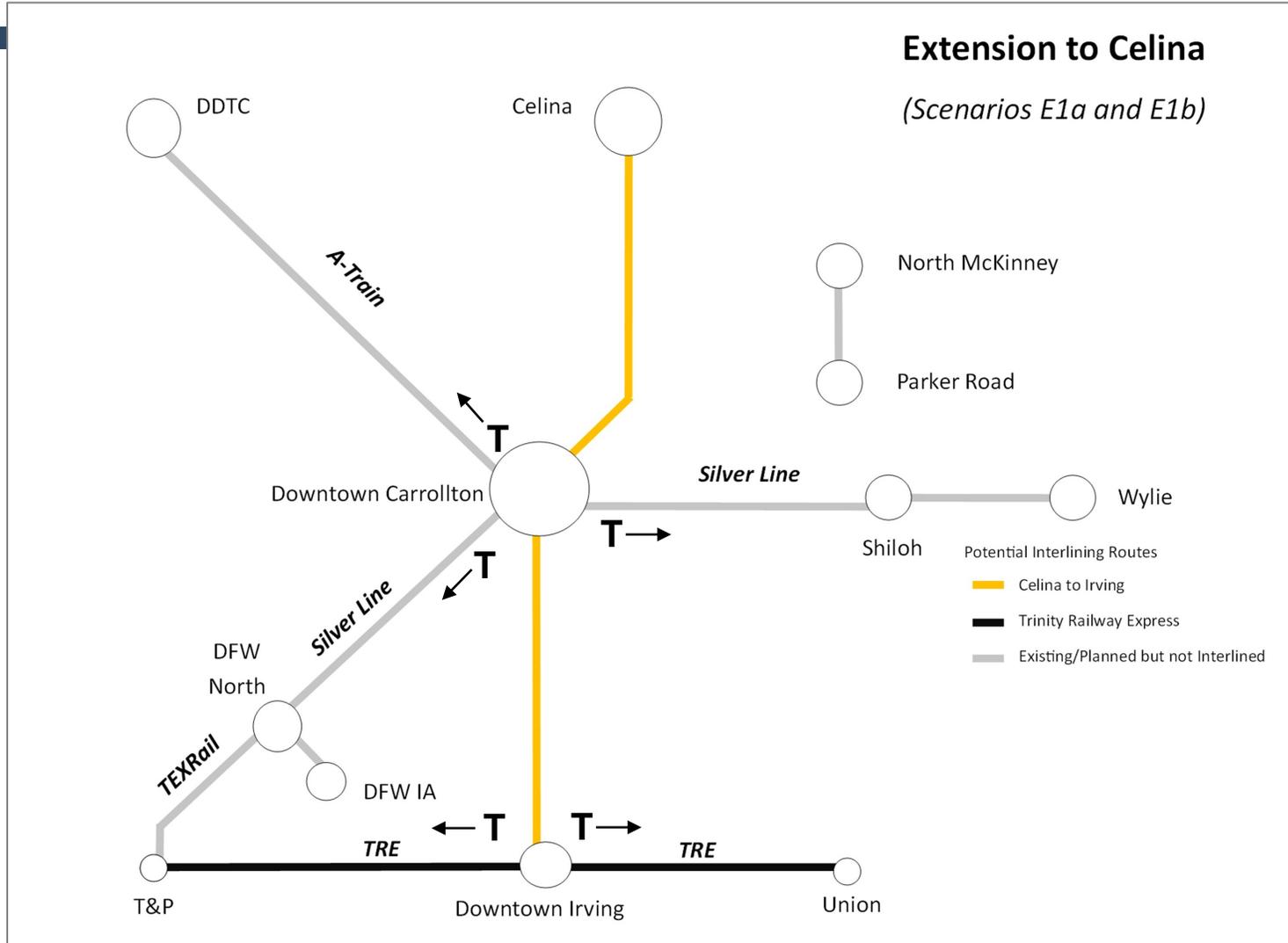
Alternative Analysis Modeling: What do we Want to Know?

- Q1: What ridership do we expect with our updated station list and other changes?
- Q2: How much can we affect ridership with different development patterns (Alternative Demographics)?
- Q3: Should we extend the corridor to Celina?
- Q4: Should we continue to pursue the interlining opportunities we identified earlier in the study?
- Q5: If we want to defer some stations with lower ridership, what is the effect on the rest of the line?

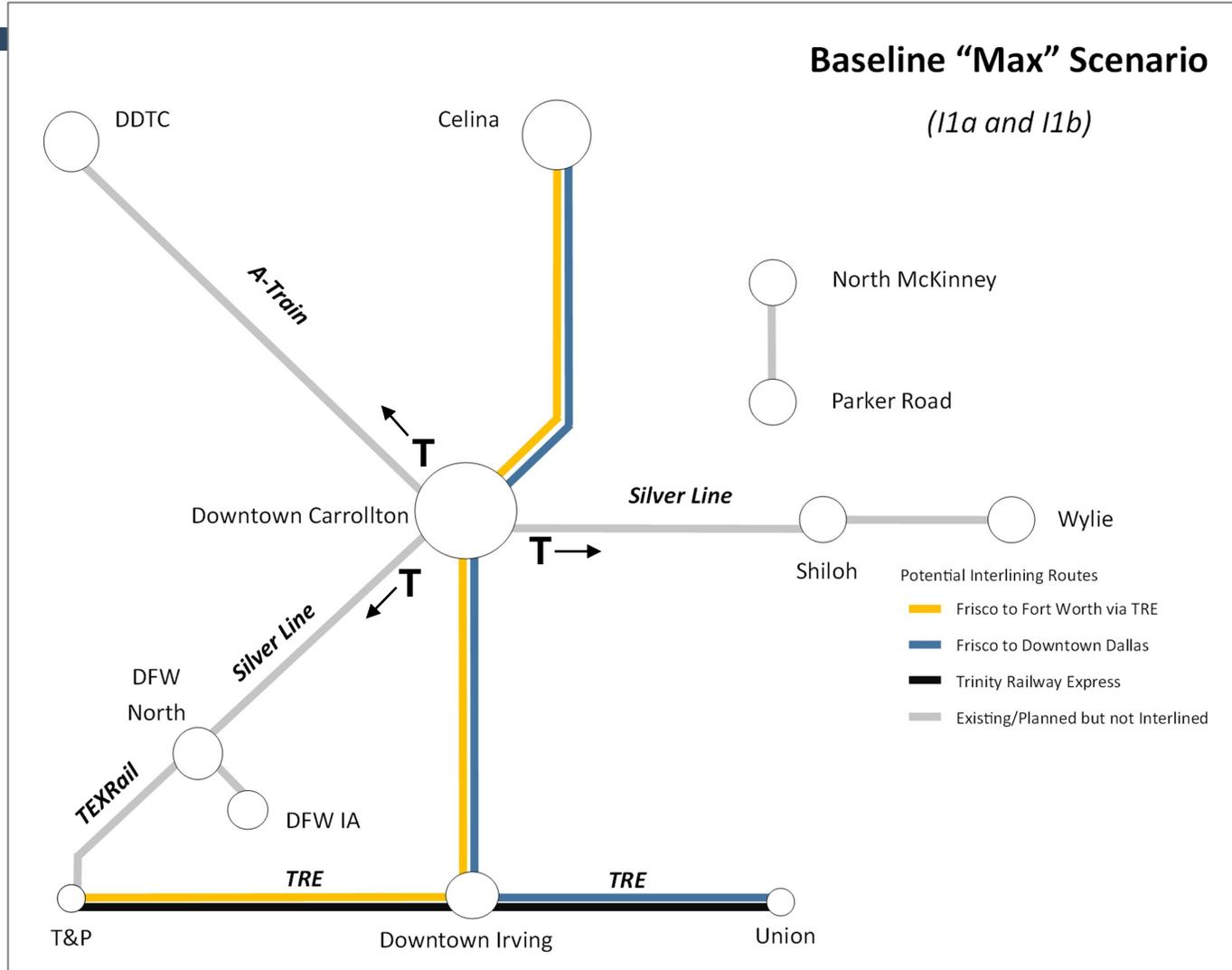
Overview of Alternatives

| | Scenario Family | Name | Description |
|----|-----------------|-------|---|
| Q1 | Baseline | ★ B1a | Service from Irving to Frisco; updated stations; Mobility 2045 Demographics |
| | | ★ B1b | Service from Irving to Frisco; updated stations; Alternative Demographics |
| Q3 | Extension | ★ E1a | Service from Irving to Celina; updated stations; Mobility 2045 Demographics |
| | | ★ E1b | Service from Irving to Celina; updated stations; Alternative Demographics |
| Q4 | Interlining | ★ I1a | "Max": Service from Celina to T&P, Celina to Union, and T&P to Union (TRE); Mobility 2045 Demographics |
| | | ★ I1b | "Max": Service from Celina to T&P, Celina to Union, and T&P to Union (TRE); Alternative Demographics |
| | | ★ I2 | Service from Celina to T&P, South Irving to Union; Mobility 2045 Demographics |
| Q5 | Phasing | P1 | Service from Irving to Frisco, Prosper or Celina; omit one or more low-ridership stations; Demographics TBD |
| | | P2 | Service from Irving to Frisco, Prosper, or Celina; omit one or more low-ridership stations; Demographics TBD |
| | | P3 | Service limits TBD; Demographics TBD; consolidated recommendations for "phased" implementation based on P1 and P2 |

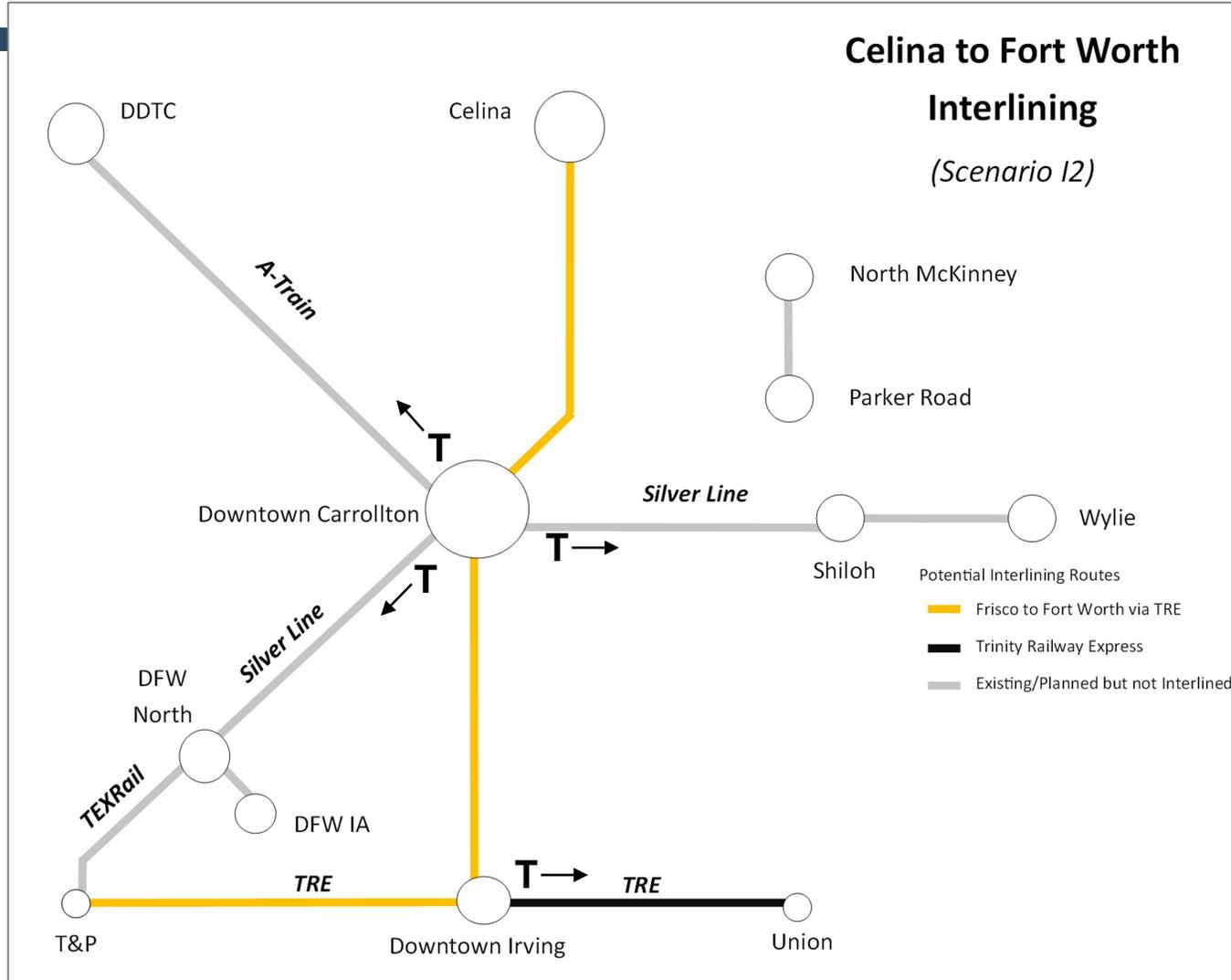
Previous Modeling



Previous Modeling



Current Scenario



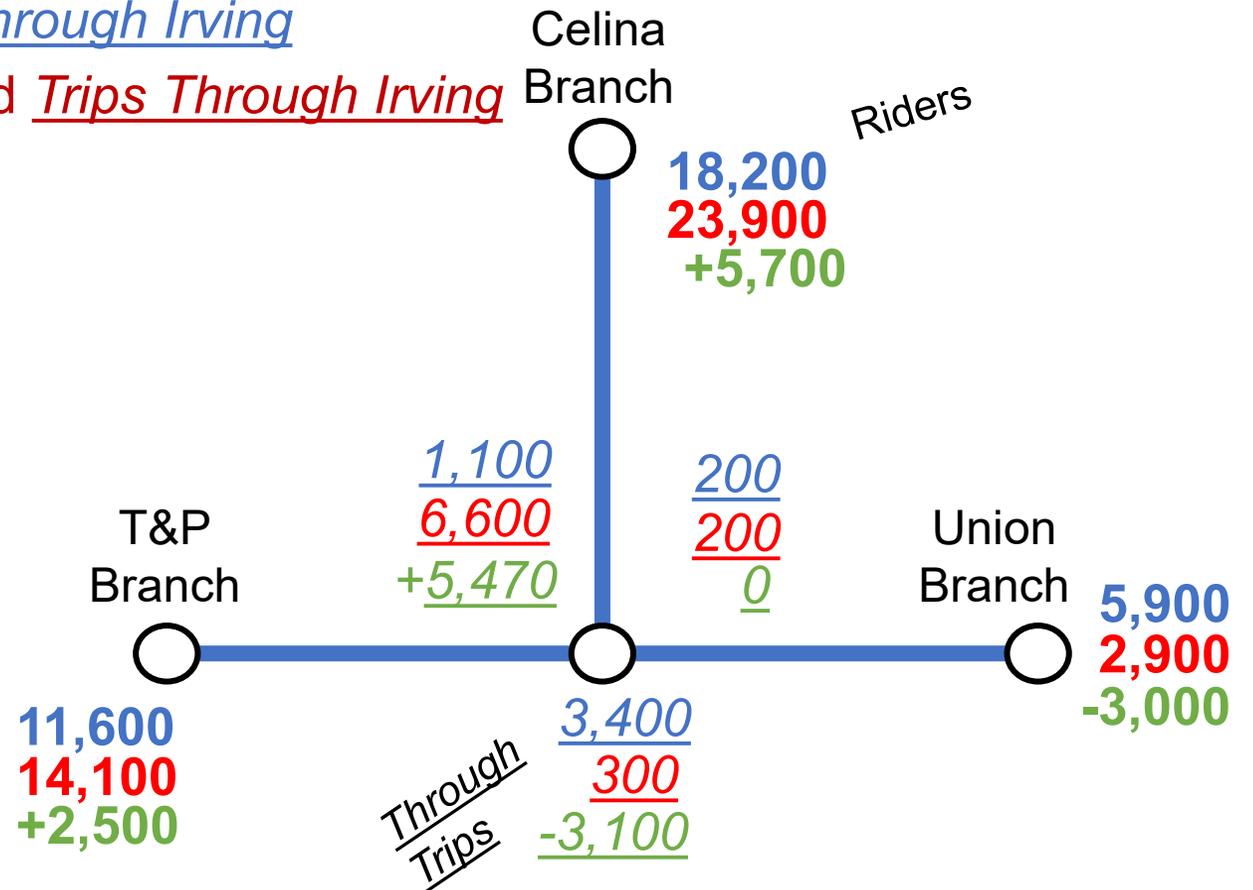
Celina to Fort Worth Interlining (I2)

Extension to Celina (E1a) **Riders** and *Trips Through Irving*

Celina to Fort Worth Interlining (I2) Riders and *Trips Through Irving*

Difference in **Riders** and *Trips Through Irving*

| Line Ridership | Irving-to-Celina (E1a) | Interlining Frisco w/ west TRE leg (I2) |
|----------------------------|------------------------|---|
| Celina to Irving | 18,200 | n/a |
| Celina to Fort Worth | n/a | 31,400 |
| TRE (Fort Worth to Dallas) | 14,100 | n/a |
| TRE (Irving to Dallas) | n/a | 2,900 |
| Total | 32,300 | 34,300 |
| Total Rail | 292,500 | 293,000 |
| Total Transit | 621,500 | 623,900 |

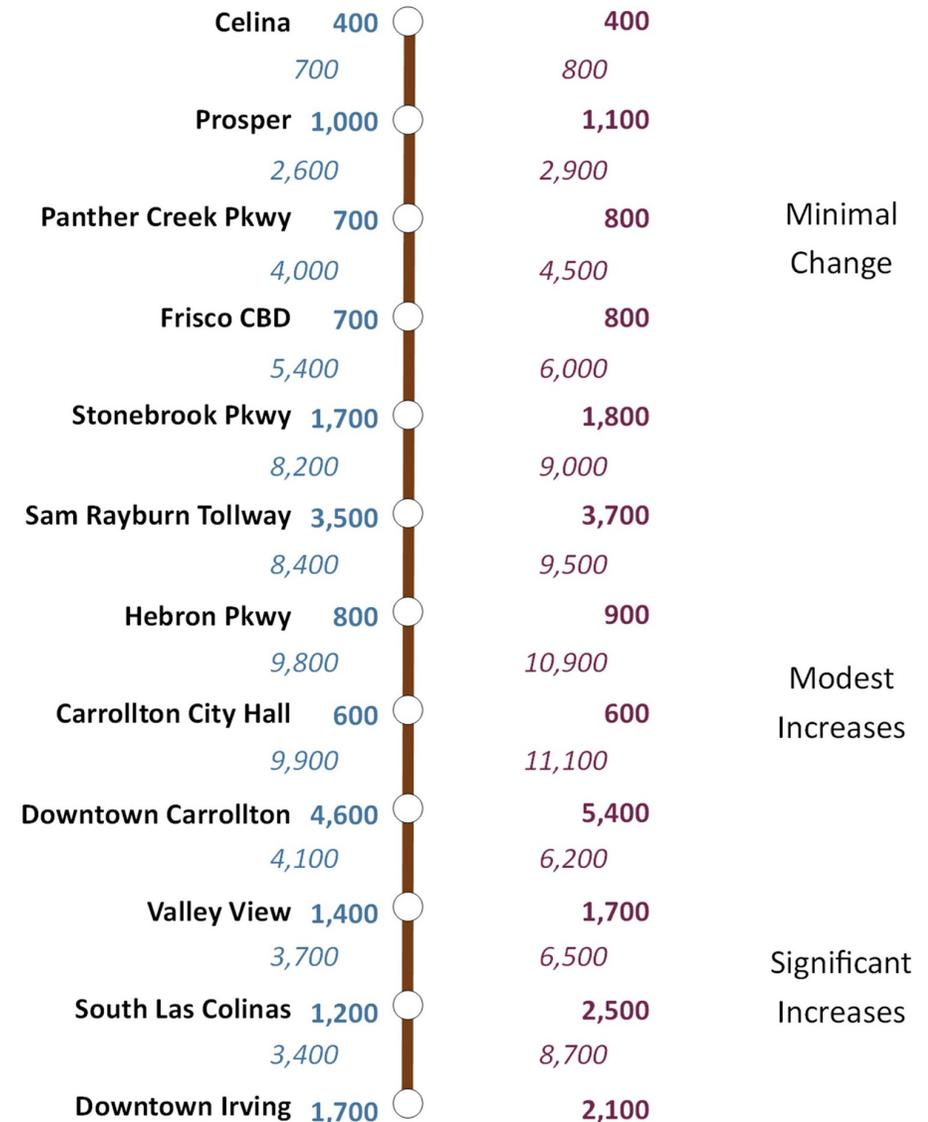


Extension to Celina (E1a)

Celina to Fort Worth (I2):

Impacts of Interlining

- Comparing Scenario I2 to E1a
 - Include extension to Celina
 - Original Mob. 2045 demographics
- More realistic scenario than I1a
20/60-min headways across TRE and BNSF/Frisco Corridors
- Modest impact north of downtown Carrollton
- Significant impact at Las Colinas

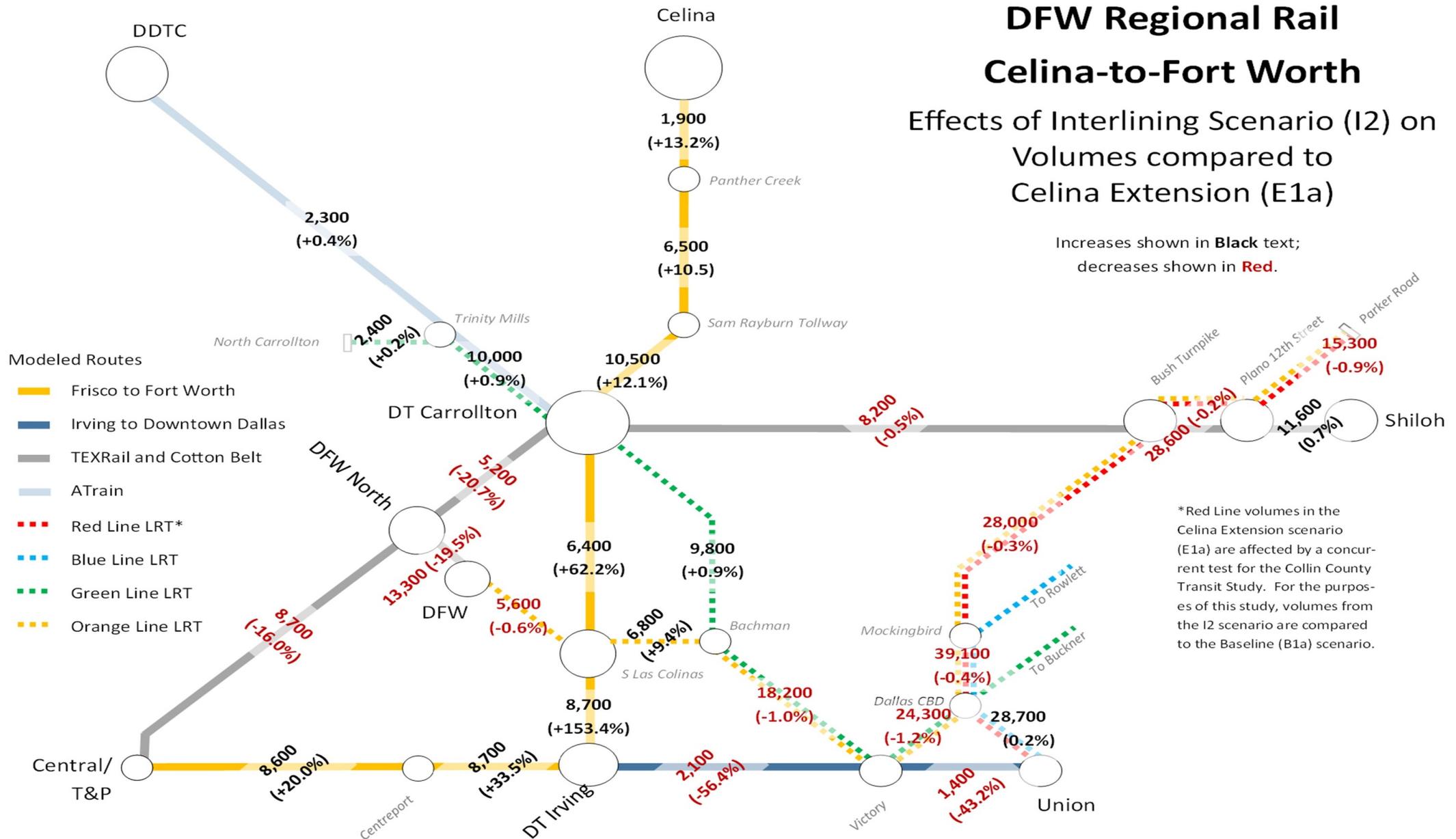


Interlining – Effects on Other Lines

DFW Regional Rail Celina-to-Fort Worth

Effects of Interlining Scenario (I2) on Volumes compared to Celina Extension (E1a)

Increases shown in **Black** text;
decreases shown in **Red**.

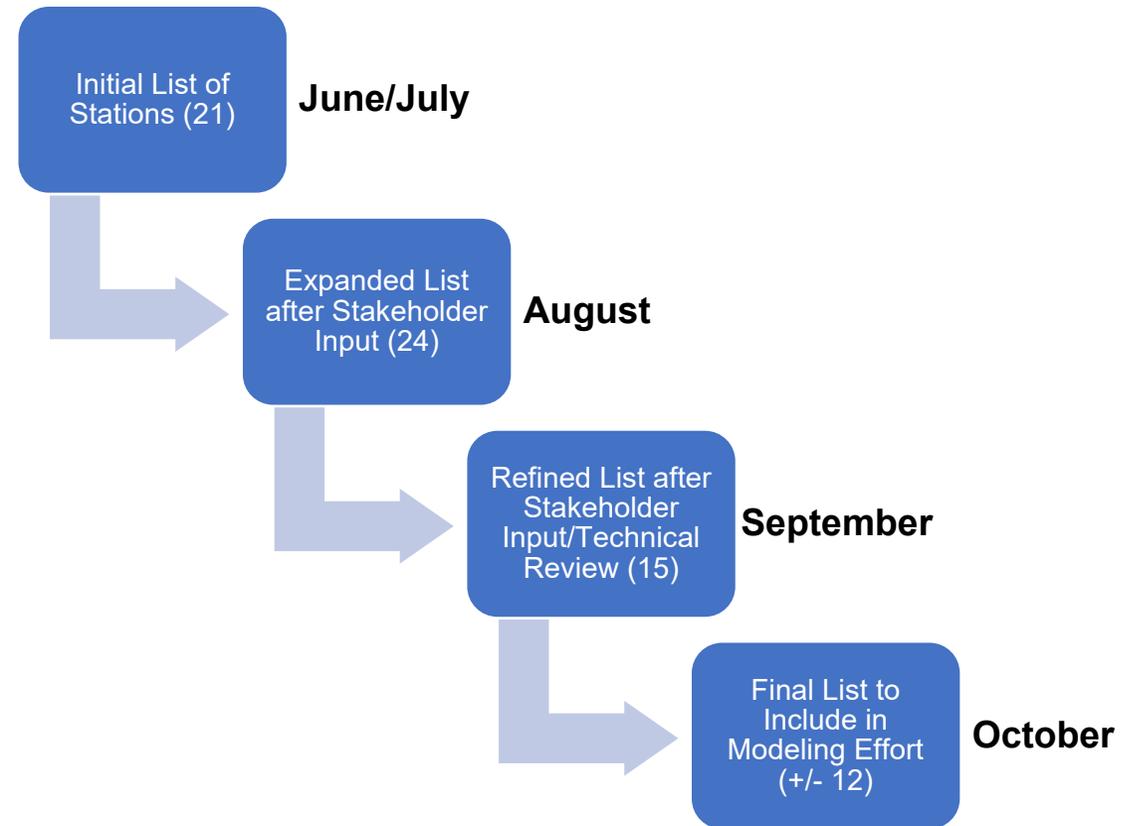


*Red Line volumes in the Celina Extension scenario (E1a) are affected by a concurrent test for the Collin County Transit Study. For the purposes of this study, volumes from the I2 scenario are compared to the Baseline (B1a) scenario.

Transit Demand Process

Looking back...

- Phase I: Station Screening Process
12 Stations
- Phase II: Ridership Modeling
 - Testing Termini
 - Testing Alternative Demographics
 - Testing Interlining



Ridership Results Summary

- Alternative Demographics
 - Minimal effect on ridership
- Interlining
 - Highest ridership if interlined with west (Fort Worth) leg of TRE
 - Significantly increases ridership on Irving to Carrollton segment
- Corridor Termini
 - Southern: Downtown Irving (Fort Worth via TRE)
 - Northern: Undetermined

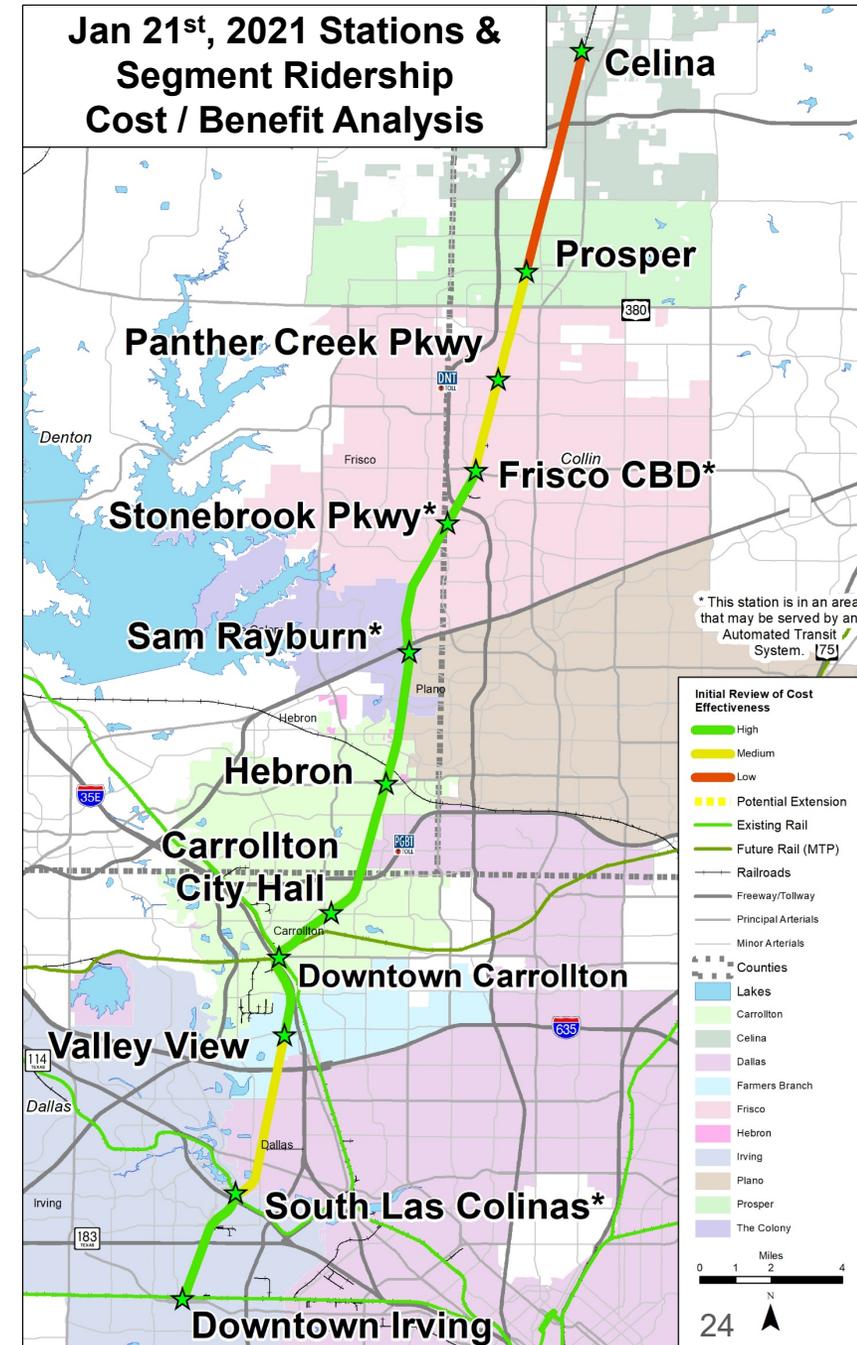
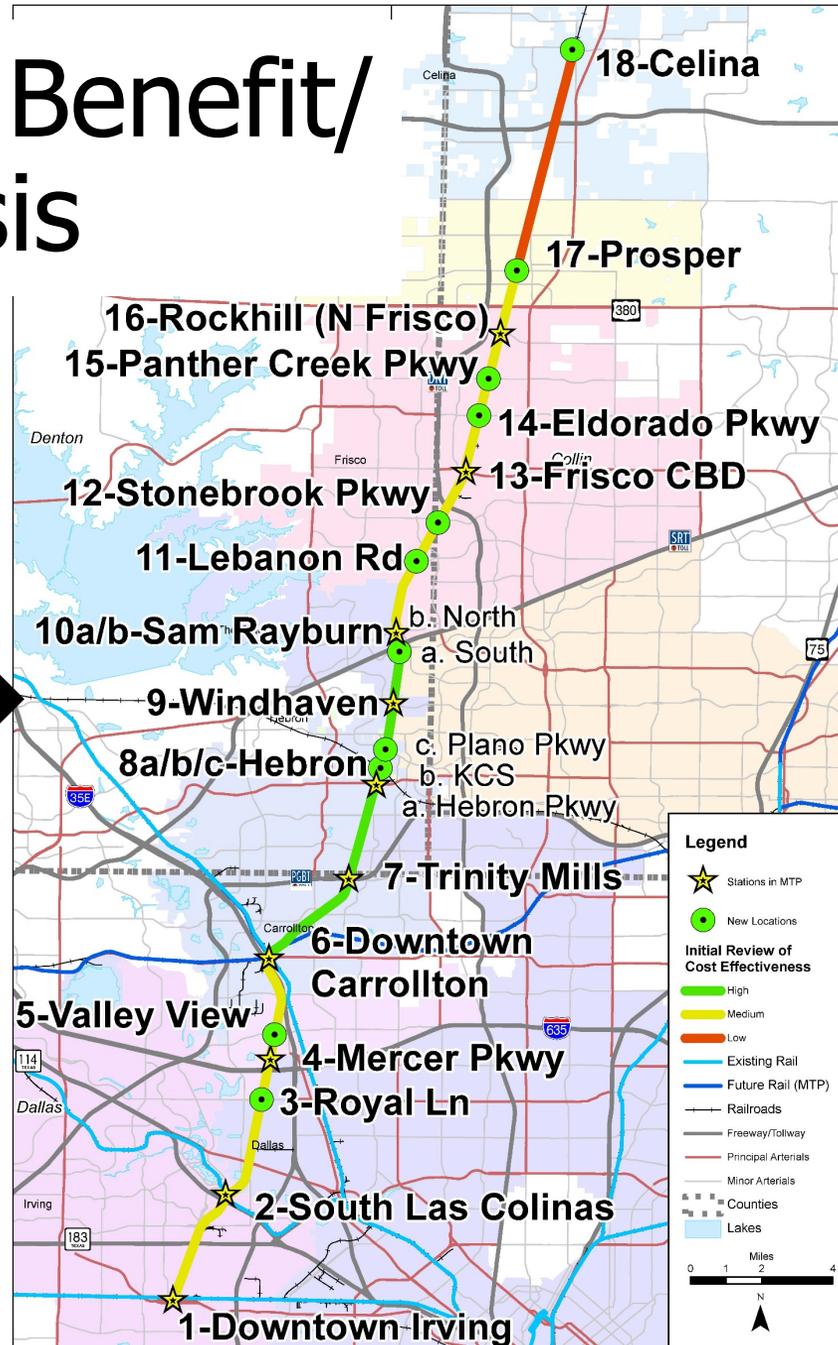
Alternatives Analysis Decision Matrix

Scenario Families

| | Criteria | Stations | Scenario Families | | | Ridership Modeling Summary |
|---------------------------------------|---|-----------------------|---|--------------|--------------------------------------|---|
| | | | Baseline | Extension | Interlining | |
| Corridor Termini Determination | Terminal station minimum segment volume threshold ≈ 4,000 trips | Northern Terminus | Frisco CBD / Panther Creek Parkway | Undetermined | No effect | Panther Creek Parkway, Prosper, or Celina Additional station to station analysis required to determine recommended northern terminus |
| | | Southern Terminus | Downtown Carrollton (Valley View not logical terminus) | No Effect | Downtown Irving (Fort Worth via TRE) | Downtown Irving (T&P in Fort Worth via TRE) Study finds interlining Frisco Corridor with western leg of TRE increases ridership significantly between Irving and Carrollton |
| Individual Station Ridership | Low < 1,000 riders 1,000 < Medium < 2,000 High > 2,000 riders | Celina | N/A | Low | Low | Low Ridership; Potential northern terminus station Addn'l analysis required to determine recommended northern terminus |
| | | Prosper | N/A | Medium | Medium | Medium Ridership if extended; Potential northern terminus station Addn'l analysis required to determine recommended northern terminus |
| | | Panther Creek Parkway | Medium | Low | Low | Low to Medium Ridership; Potential northern terminus station Addn'l analysis required to determine recommended northern terminus |
| | | Frisco CBD | Low | Low | Low | Low Ridership; No change between scenarios |
| | | Stonebrook Parkway | Medium | Medium | Medium | Medium Ridership; No change between scenarios |
| | | Sam Rayburn Tollway | High | High | High | High Ridership; No change between scenarios |
| | | Hebron Parkway | Low | Low | Low | Low Ridership; No change between scenarios |
| | | Carrollton City Hall | Low | Low | Low | Low Ridership; No change between scenarios |
| | | Downtown Carrollton | High | High | High | High Ridership; No change between scenarios |
| | | Valley View | Medium | Medium | Medium | Medium Ridership; No change between scenarios |
| | | South Las Colinas | Medium | Medium | High | Medium to High Ridership; Results show increase in ridership due to Interlining w/ west leg of TRE |
| | | Downtown Irving | Medium | Medium | High | Medium to High Ridership; Results show increase in ridership due to Interlining w/ west leg of TRE |

Poor Man's Benefit/ Cost Analysis

Original Corridor with
Potential Stations
June 18, 2020 PAC



Original Analysis per June 18th, 2020 PAC

POOR MAN'S BENEFIT/COST RATIO TABLE Irving to Frisco Passenger Rail Corridor

| Link | Station | | Distance (miles) | Average Link Cost | Link Weekday | Link Cost per Weekday Rider |
|------|---------------------|---------------------|---------------------|--|---------------------|--------------------------------|
| | From | To | | (Distance * Unit Cost, \$ millions) | Ridership Volume | |
| 1 | Celina | Prosper | 6.4 | \$245 | 700 | \$350,000 |
| 2 | Prosper | North Frisco | 1.8 | \$68 | 1,700 | \$40,000 |
| 3 | North Frisco | Downtown Frisco | 4.0 | \$153 | 3,400 | \$45,000 |
| 4 | Downtown Frisco | Sam Rayburn | 4.8 | \$184 | 7,000 | \$26,300 |
| 5 | Sam Rayburn | Windhaven | 2.1 | \$79 | 8,100 | \$9,800 |
| 6 | Windhaven | Hebron | 2.3 | \$90 | 9,100 | \$9,900 |
| 7 | Hebron | Trinity Mills | 2.7 | \$105 | 9,500 | \$11,100 |
| 8 | Trinity Mills | Downtown Carrollton | 3.1 | \$120 | 9,800 | \$12,200 |
| 9 | Downtown Carrollton | Mercer Parkway | 3.0 | \$116 | 3,600 | \$32,200 |
| 10 | Mercer Parkway | South Las Colinas | 4.0 | \$156 | 3,400 | \$45,900 |
| 11 | South Las Colinas | Downtown Irving | 3.3 | \$127 | 3,400 | \$37,400 |

| |
|-------------------------------------|
| Lowest Cost Per Weekday Rider |
| Intermediate Cost Per Weekday Rider |
| Highest Cost Per Weekday Rider |

Notes: Stations (minus Prosper and Celina) and Demographics based on Mobility 2045 (full commuter service). Unit Cost determined from TEXRail capital cost divided by its length; approx. \$39 million/mile.

January 21, 2021

Updated Analysis per January 21st, 2021 PAC

POOR MAN'S BENEFIT/COST RATIO TABLE Irving to Frisco Passenger Rail Corridor

| Link | Station | | Distance (miles) | Average Link Cost | Link Weekday | Link Cost per Weekday Rider |
|------|-----------------------|-----------------------|---------------------|--|---------------------|--------------------------------|
| | From | To | | (Distance * Unit Cost, \$ millions) | Ridership Volume | |
| 1 | Celina | Prosper | 6.4 | \$245 | 800 | \$306,300 |
| 2 | Prosper | Panther Creek Parkway | 3.1 | \$120 | 2,900 | \$41,400 |
| 3 | Panther Creek Parkway | Frisco CBD | 2.6 | \$100 | 4,500 | \$22,200 |
| 4 | Frisco CBD | Stonebrook Parkway | 1.6 | \$62 | 6,000 | \$10,300 |
| 5 | Stonebrook Parkway | Sam Rayburn | 3.8 | \$147 | 9,000 | \$16,300 |
| 6 | Sam Rayburn | Hebron | 3.8 | \$147 | 9,500 | \$15,500 |
| 7 | Hebron | Carrollton City Hall | 3.9 | \$151 | 10,900 | \$13,900 |
| 8 | Carrollton City Hall | Downtown Carrollton | 1.8 | \$69 | 11,100 | \$6,200 |
| 9 | Downtown Carrollton | Valley View Lane | 2.3 | \$89 | 6,200 | \$14,400 |
| 10 | Valley View Lane | South Las Colinas | 4.8 | \$185 | 6,500 | \$28,500 |
| 11 | South Las Colinas | Downtown Irving | 3.3 | \$127 | 8,700 | \$14,600 |

| |
|-------------------------------------|
| Lowest Cost Per Weekday Rider |
| Intermediate Cost Per Weekday Rider |
| Highest Cost Per Weekday Rider |

Notes: Stations and Link Weekday Ridership based on Interlining Scenario I2 (Interlining west leg of TRE with Irving to Frisco Line; east leg of TRE is separate service); Demographics based on Mobility 2045. Unit Cost determined from TEXRail capital cost divided by its length; approx. \$39 million/mile.

Next Steps/Future Efforts

THIS STUDY NEXT STEPS

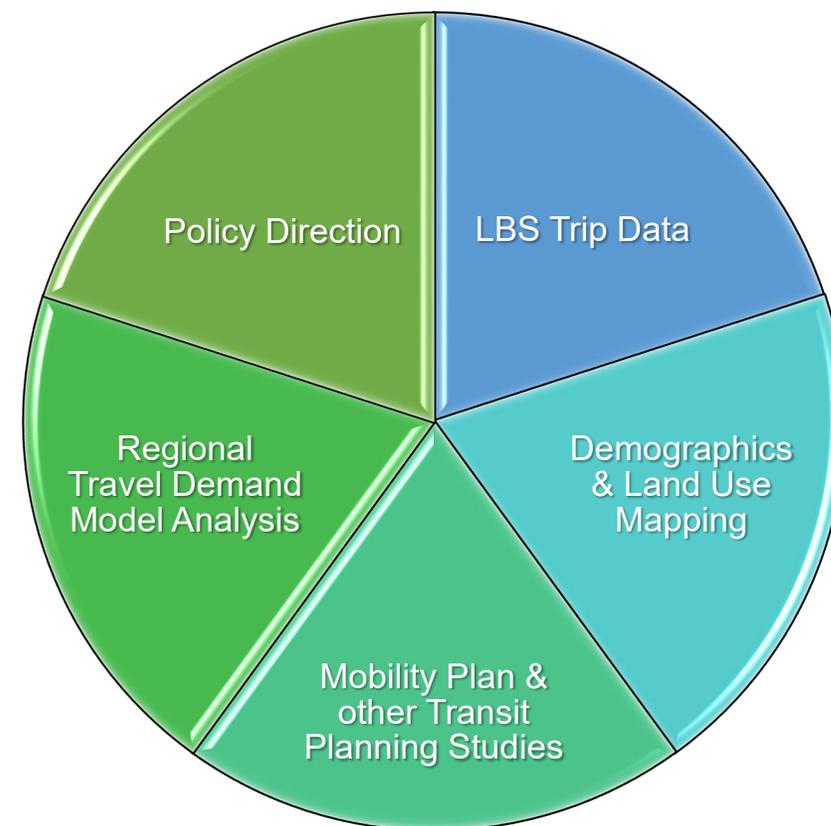
- Finalize ridership modeling based on these results
- Prepare viable Funding/ Implementation Strategies based on this Final Scenario
- Compile efforts and results into Final Report

FUTURE EFFORTS

- Study results to inform:
 - Mobility Plan Update
 - Supply side analysis & follow-on Supply/Demand Scenarios
- Develop Implementation structure and Funding strategy for Preferred Alternative
 - Select stations may be deferred depending on several factors at this stage (supply analysis, funding availability, implementing entity)

Collin County Transit Study Update

- Transit Propensity
- Potential Scenario Framework
- Initiated Modeling of Service Scenarios
- Initiated Exploration of Investment/
Governance Options



Questions & Open Discussion

- Study Milestones Schedule
- Land Uses Analysis Report
- Alternative Analysis/Modeling Results
- Ridership Summary Efforts
- Northern Terminus
- Upcoming Funding/Implementation Options Discussion

Next Steps

- Draft Land Use Analysis Report to Committee
- Prepare Draft Funding and Implementation Strategies
- Finalize results of People Mover Locations Feasibility Analysis

Next scheduled meeting is **February 18**

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