DALLAS MIDTOWN AUTOMATED TRANSPORTATION SYSTEM STUDY

Dallas Midtown Automated Transportation System Study

Study Review Committee #6

April 4, 2019

North Central Texas Council of Governments

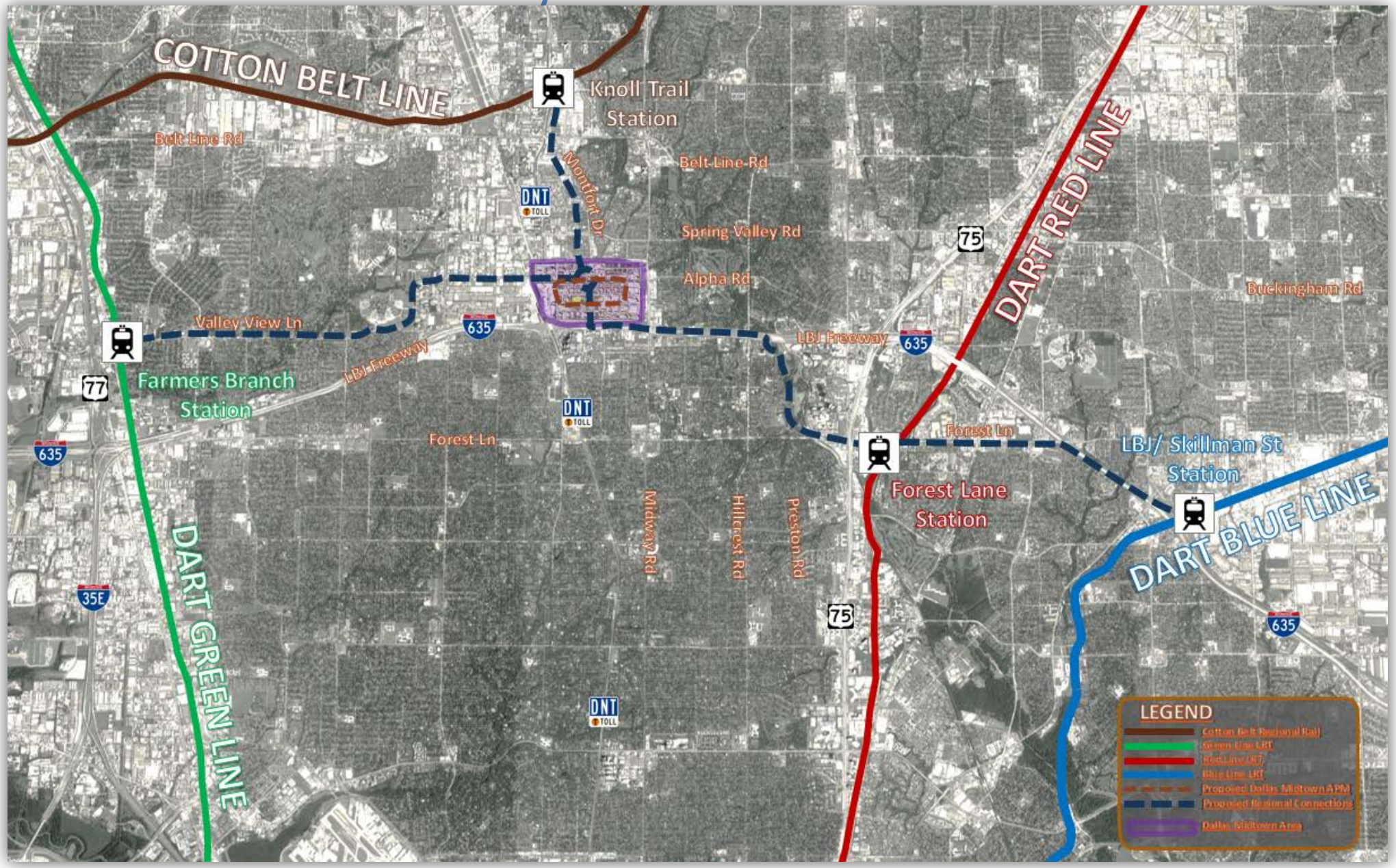
JACOBS

WALKER CONSULTANTS

Agenda

- Regional Connectivity
- System Recommendations
  - Autonomous Vehicle
  - ATS Alignment
  - ATS Station Location
  - Shared-Use Parking Strategy
- Implementation
  - Transportation and Parking Management Authority (TPMA)
  - Ordinance Changes
  - Implementation Schedule
- Where do we go from here?
  - ATS Stations
  - Systems Technology
  - Governance Delineation at Midtown
  - Autonomous Systems in the Metroplex

Regional Connectivity



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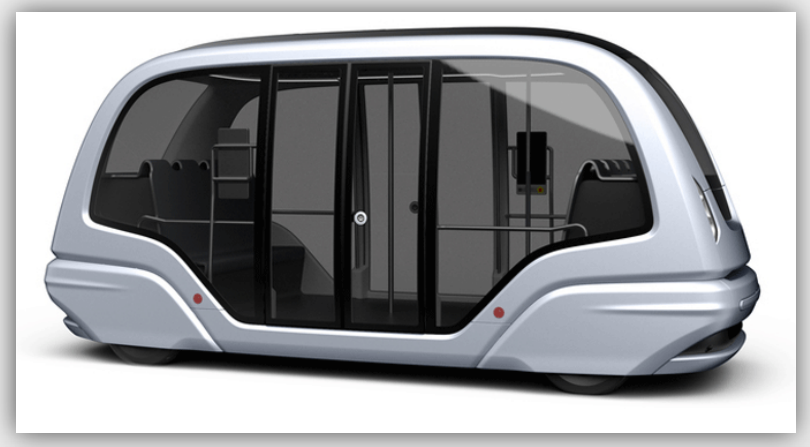
System Recommendations

Recommended ATS Vehicle

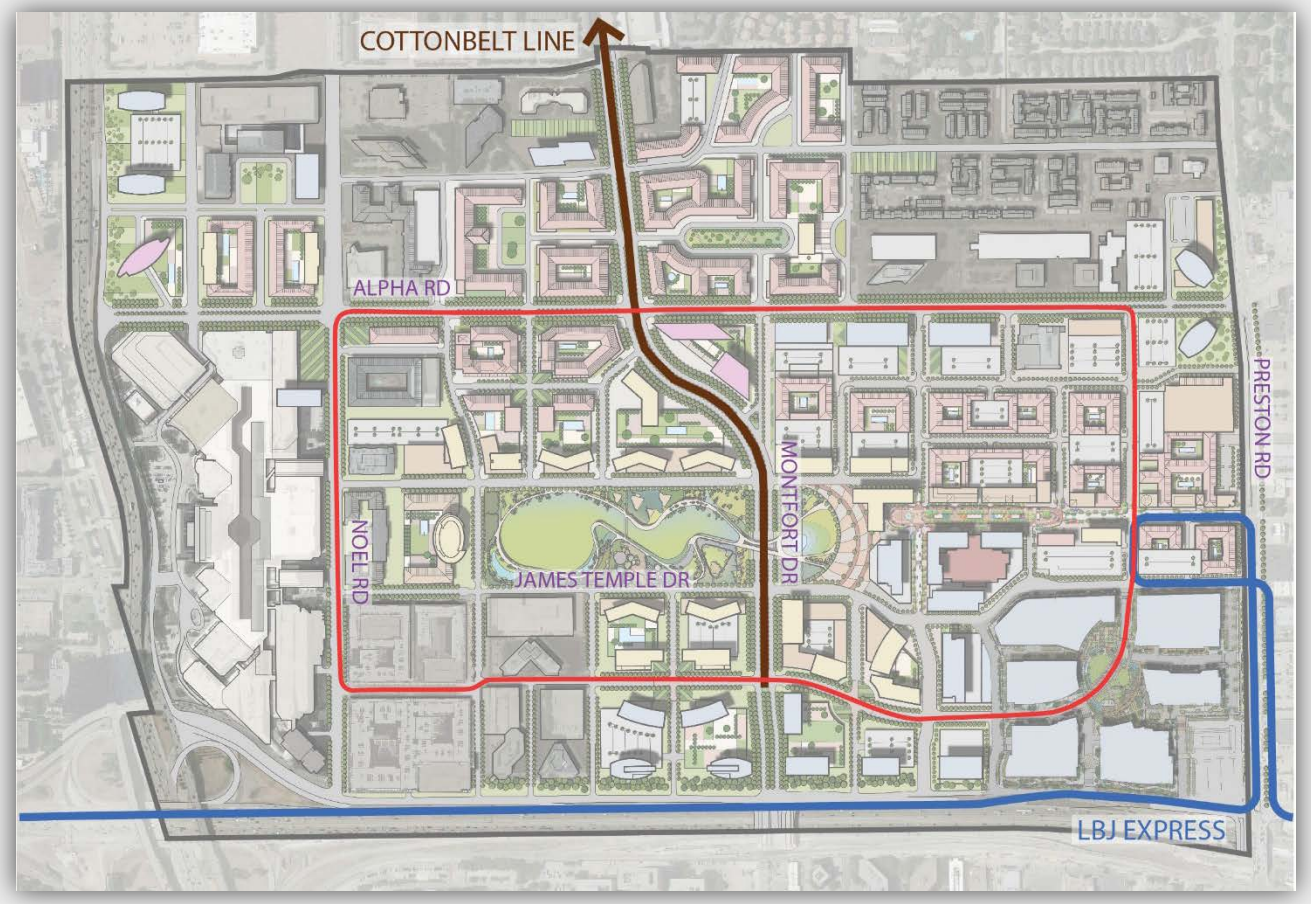


Group Rapid Transit

- **Vehicle Characteristics**
  - 12-21 passengers/vehicle
  - Electric Vehicle
  - No specialized track required
- **Operational Characteristics**
  - System Capacity: 840 persons/hour (15,120 persons/daily)
  - Expected headways: 1 minute
  - Maximum Speed: 30 mph
- **Implementation Cost***
  - Vehicle: $360K
  - Operations and Maintenance: $1.4M/year

*Implementation costs are estimates for planning purposes only. Estimates based on prior installations of similar systems and industry-expected costs in 2019.

Recommended ATS Alignment



❖ Alignment Characteristics

- Elevated, 2.2 mile system
- Internal circulator – dual loop
- Utilize existing/planned thoroughfares

❖ Key Advantages

- 70% of total area within 2 minute walk
  - Including LBJ frontage development
- 99% of total area within 5 minute walk

❖ Implementation Cost*

- Right of Way: $8.5M/mile ($18.7M)
- Utilities: $3M/mile ($6.6M)
- Traffic Improvements: $1M/mile ($2.2M)
- Construction: $1.5M/mile ($3.3M)
- **Total Build: $14M/mile ($30.8)**

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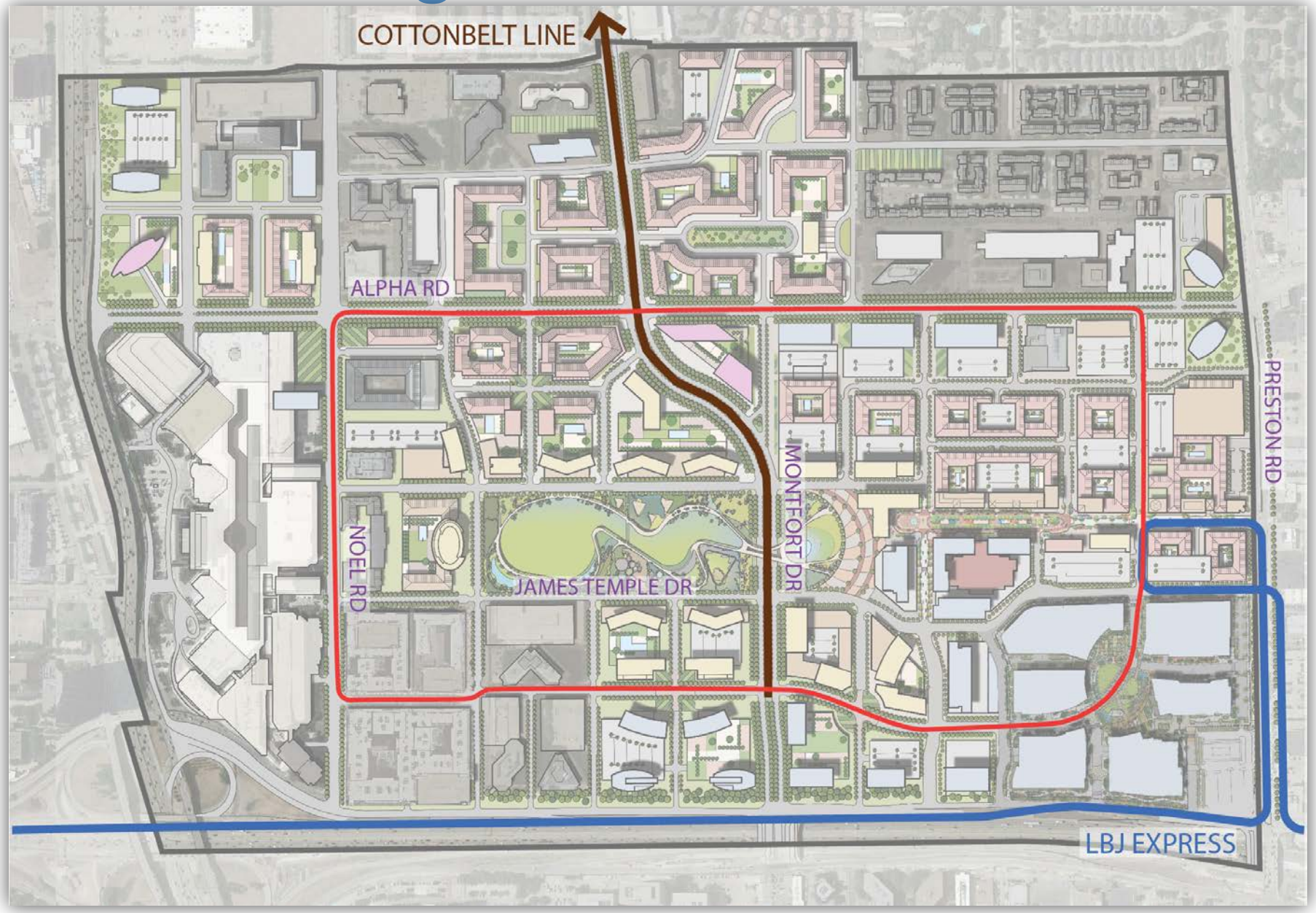
Recommended Alignment and Connections



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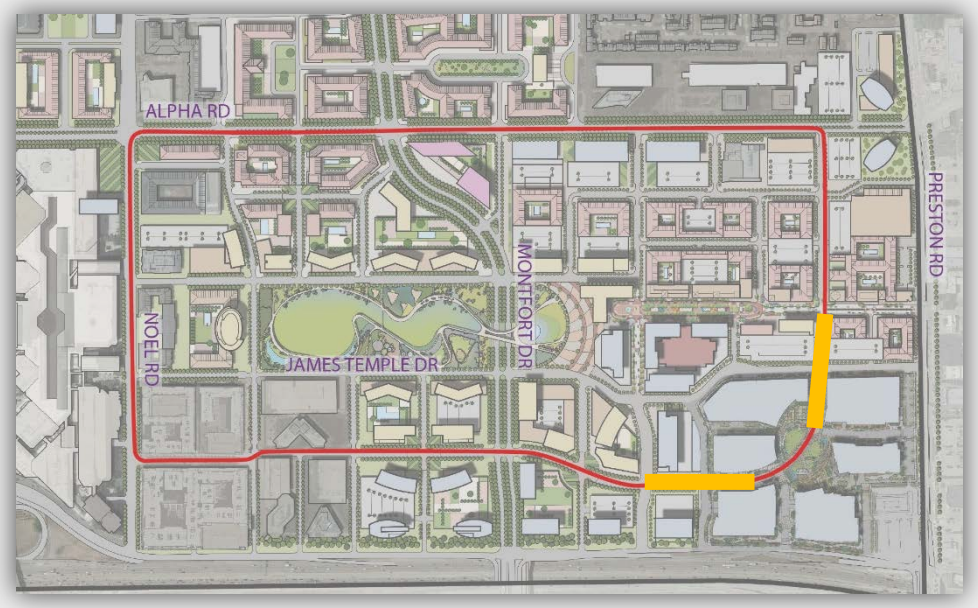
Recommended ATS Alignment - Transition

Background image from Park Heritage Marketing Brochure. ATS rendering by Jacobs. Used with permission.

- **Impacts of transition from elevated to at-grade**
  - 630’-750’ transition length
  - Through streets blocked during transition length
  - More ROW required for at-grade system
  - Pedestrian conflicts on street level
  - Operational conflicts at cross-streets/signals



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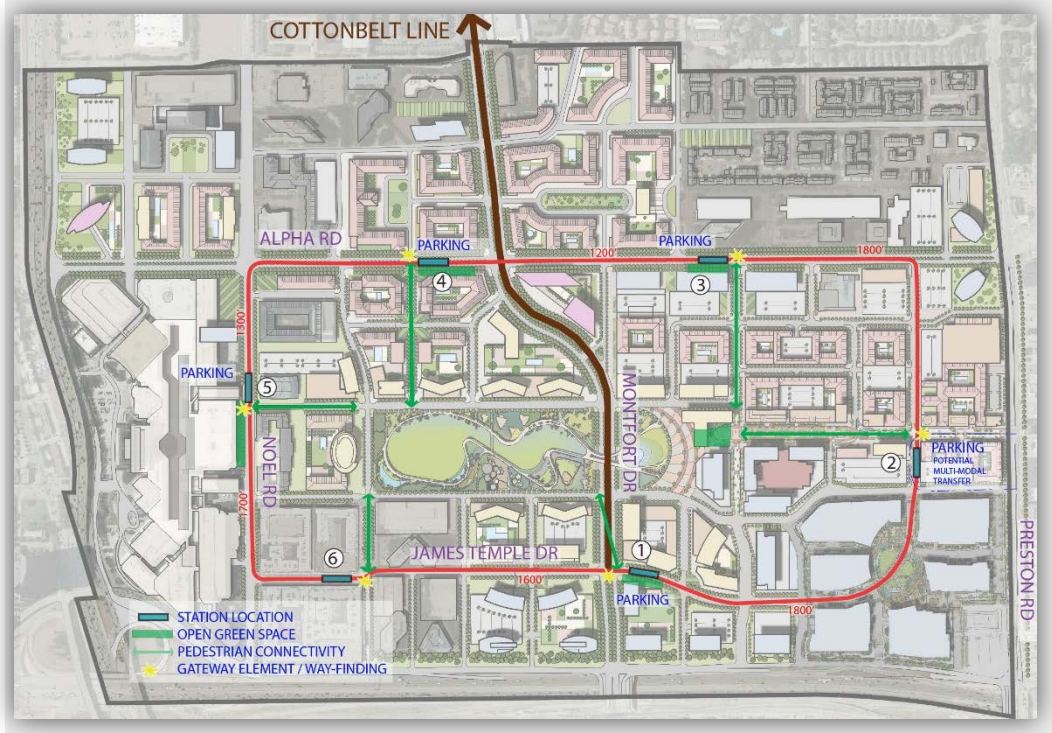
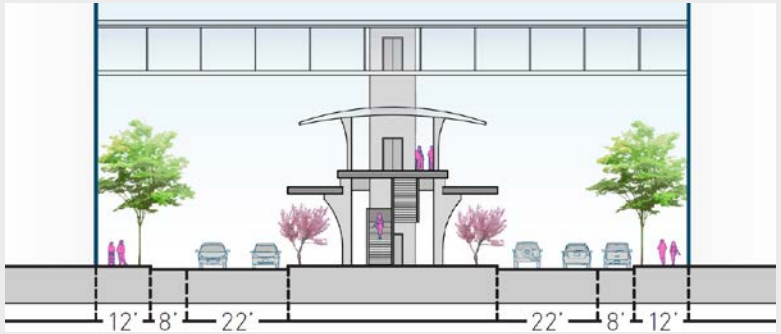
Recommended ATS Station Locations





❖ Station Characteristics

- Maximize connections to park
- In median near intersection (on-line)
- Off-line stations possible within developments
- Activates streets between alignment and park

❖ Implementation Cost*

- Right of Way: $3M/station ($18M)
- Construction: $5M/station ($30M)
- Pedestrian Bridge: $1.5M/station ($9M)
- **Total Build: $9.5M/station ($57M)**

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Recommended Shared Parking Strategy

- **Number of Spaces**
  - Shared Plus (recommended mode split): 42,204 total, 20,904 new
- **Location Considerations**
  - Proximity to ATS station (< 1/10 mile preferred)
  - Access to road planned for vehicular circulation
  - Potential to interface with transit
  - Proximity to multiple uses/hubs
- **Implementation Cost**
  - Capital Cost (one-time):
    - Shared Plus: $600M—700M
    - Cost Savings: $1.3—1.4B
  - Maintenance Cost (annual at total build):
    - Shared Plus: $9M—10M
    - Cost Savings: $4M —5M

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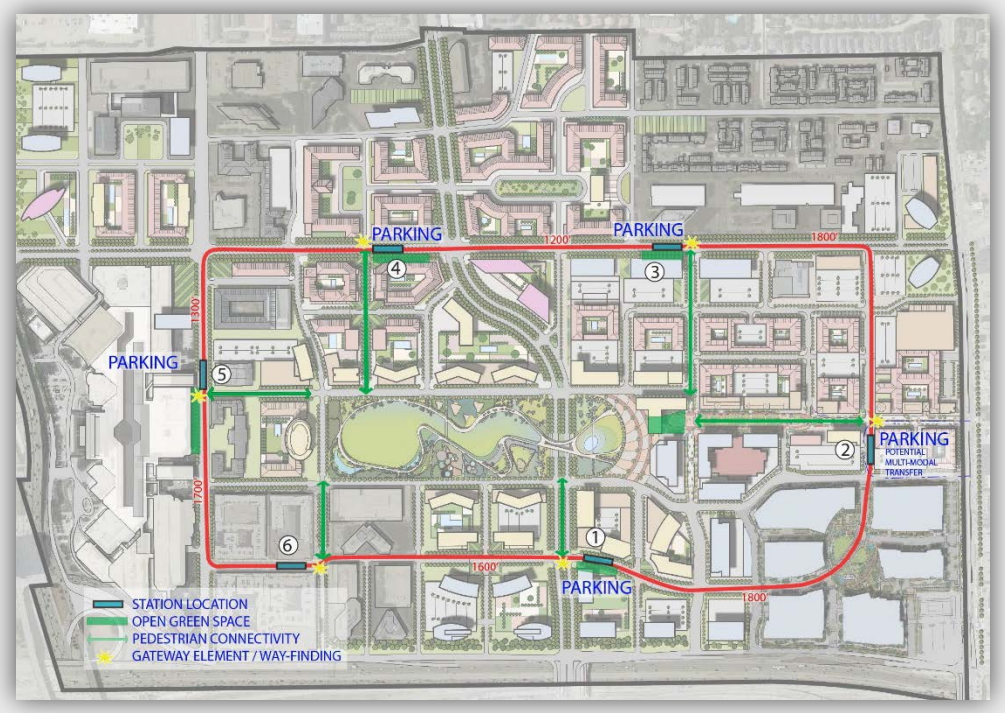
Implementation

TPMA



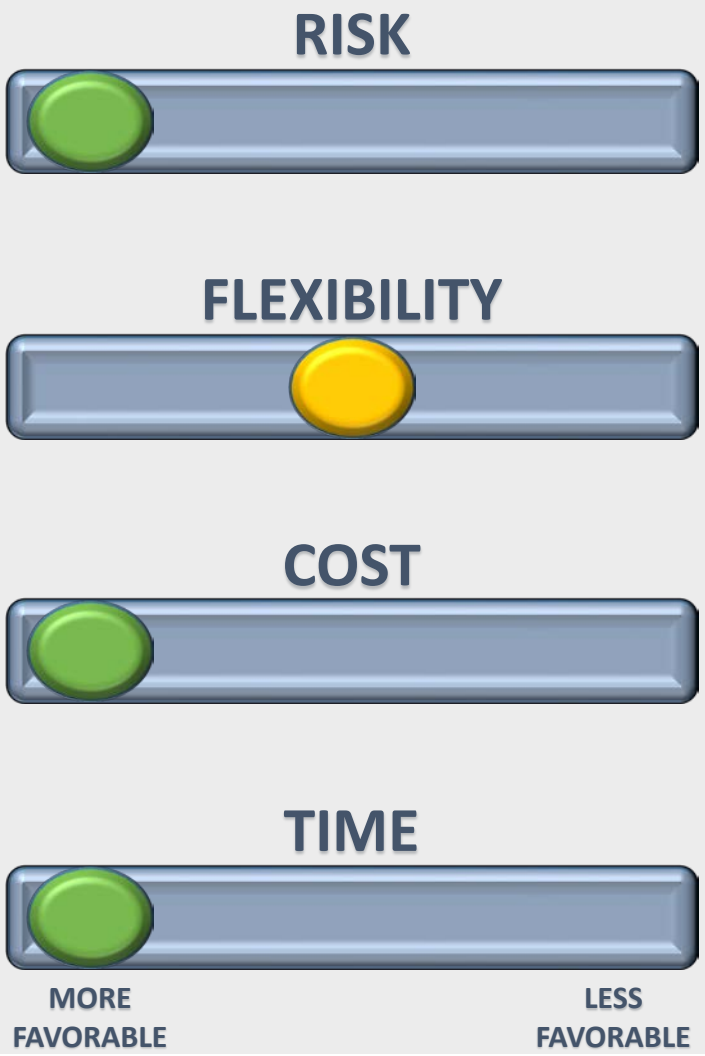
- **Combined System with both Transportation Demand Management and Parking Management Duties**
  - "Carrot" and "Stick" TDM approaches to achieve SOV reduction goals
  - Active parking supply management and paid parking programs
  - TDM coordinator position(s)
- **Public Private Partnership (P3)**
  - Flexibility in timing, scope, and investment
  - Benefits from private and public sector
  - RFP; strong and comprehensive contractual language

Ordinance Changes

Lloyd District in Portland, Oregon

- **Creation of a District-Wide Parking Management Plan alongside TPMA**
  - Overarching "master plan level" vision for district-wide parking and transportation demand management—created by TPMA and adopted by City
  - Used as a guide to consider development opportunities and parameters
- **Parking Maximums**
  - Exaction of parking maximums; elimination of parking minimums
  - New development required to utilize existing shared parking resources

Recommended Implementation Schedule



❖**Shared-Use Parking**

- ➢ Change parking requirements
- ➢ Use of existing parking facilities to meet existing demand
- ➢ Construct new facilities in predetermined locations as development occurs and demand increases

❖**Autonomous Transit System**

- ➢ Complete 2.2 mile build-out of ATS system
- ➢ Initial regional connections established from start

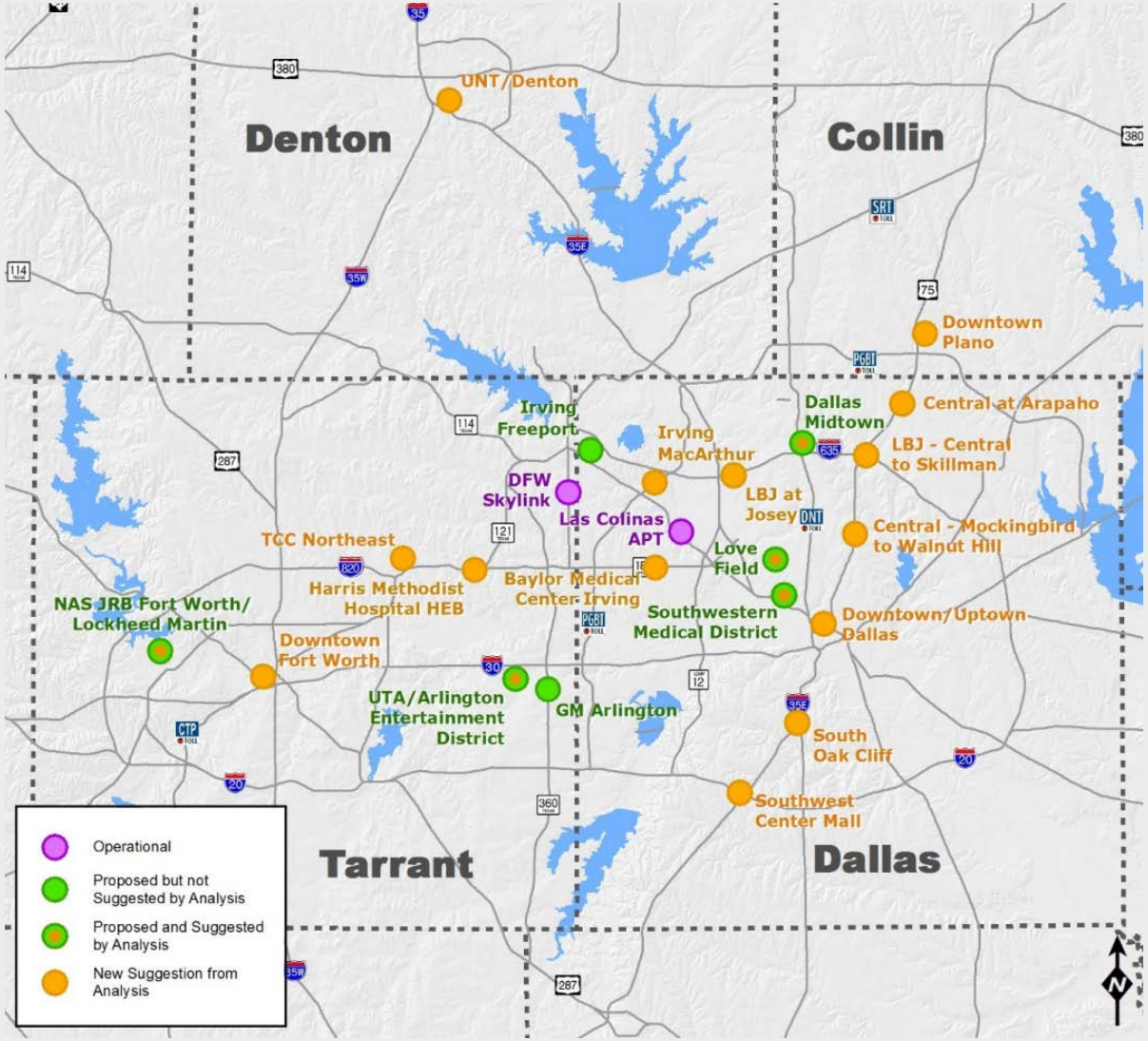
Where do we go from here?

Governance Structure (TPMA)

❖ **Establishment of TPMA**

- Lead effort in parking/ development regulation updates
- Establish supervisory structure for district amenities
- Push ATS/parking into development
  - Midtown Park
  - Intelligent Transportation System (ITS) installation
  - Miscellaneous amenities (security, marketing, etc.)

Regional People Mover Initiative



Source: Last mile Transit Connections Concept Study; NCTCOG; 2016

- **Build individual autonomous networks across the Metroplex**
  - Building from the Dallas Midtown model
  - Increasing last mile connections with regional transit
  - ATS installations supporting each other

Next Steps

- **Study Timeline**
  - April/May – Team to produce Final Report
  - May – Final Report Submitted
- **Final Public Meetings**
  - May 7, 2019- Presentation of Final Recommendations

Thank you to our Study Review Committee!

Thank you for attending!

❖ Dallas Midtown Parking Study

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