

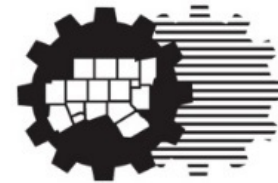


DALLAS MIDTOWN  
**A U T O M A T E D**  
**T R A N S P O R T A T I O N**  
**S Y S T E M S T U D Y**

# Dallas Midtown Automated Transportation System Study

Study Review Committee #6

April 4, 2019



**North Central Texas**  
**Council of Governments**

**JACOBS**<sup>®</sup>



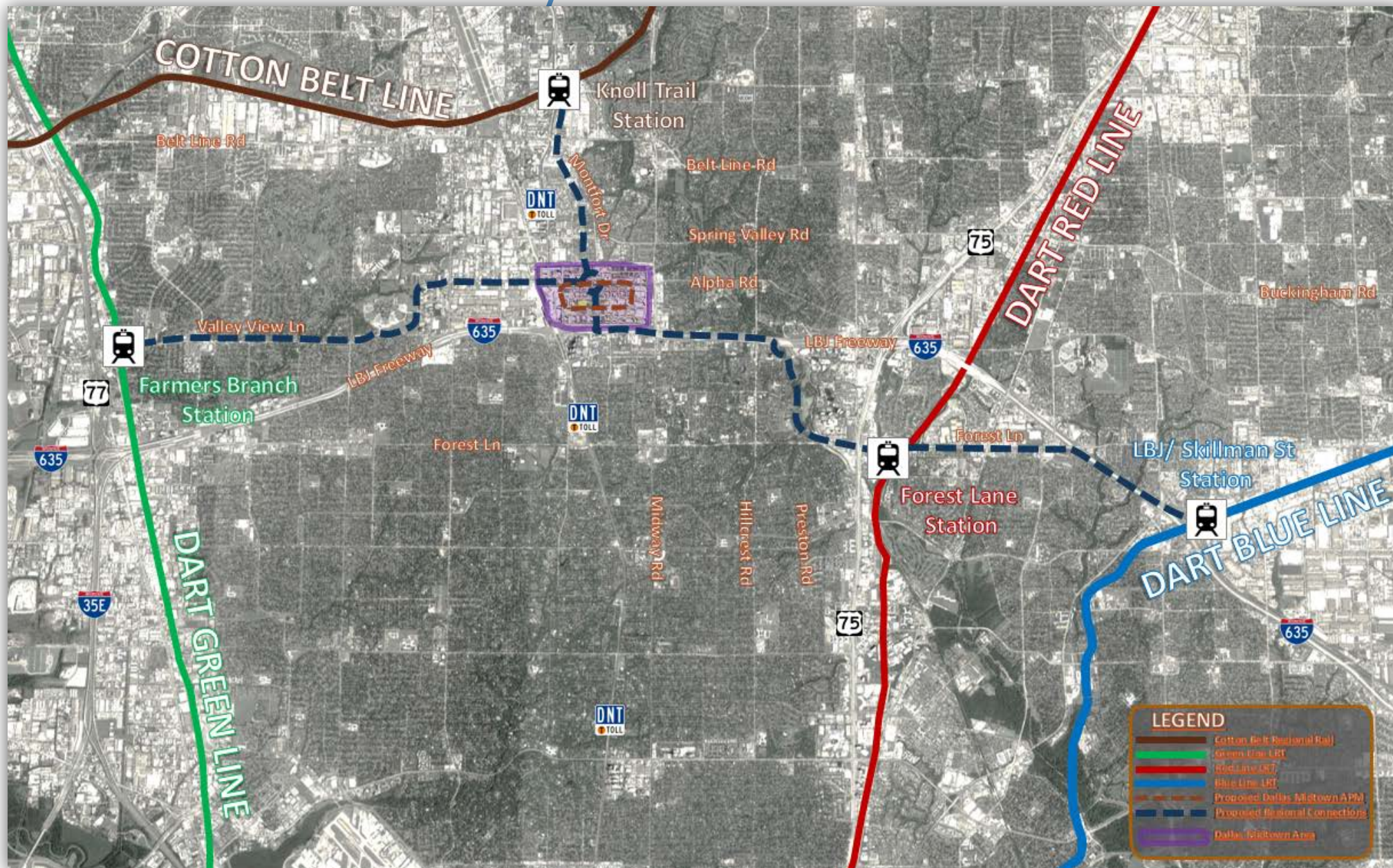
**WALKER**  
CONSULTANTS

# 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

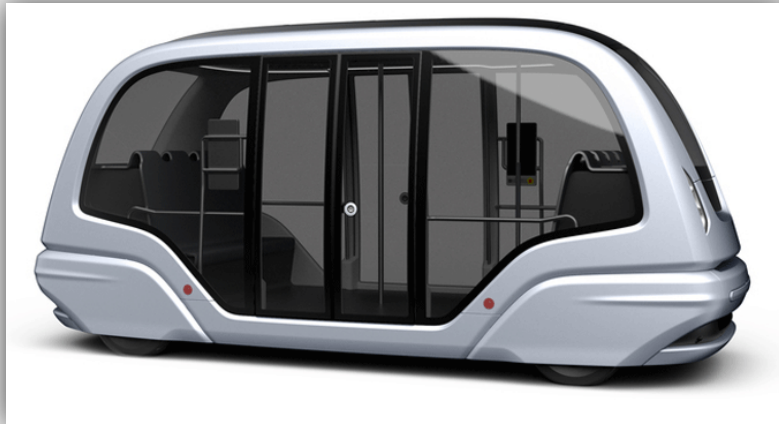




# System Recommendations



# Recommended ATS Vehicle



## Group Rapid Transit

### ❖ Vehicle Characteristics

- 12-21 passengers/vehicle
- Electric Vehicle
- No specialized track required

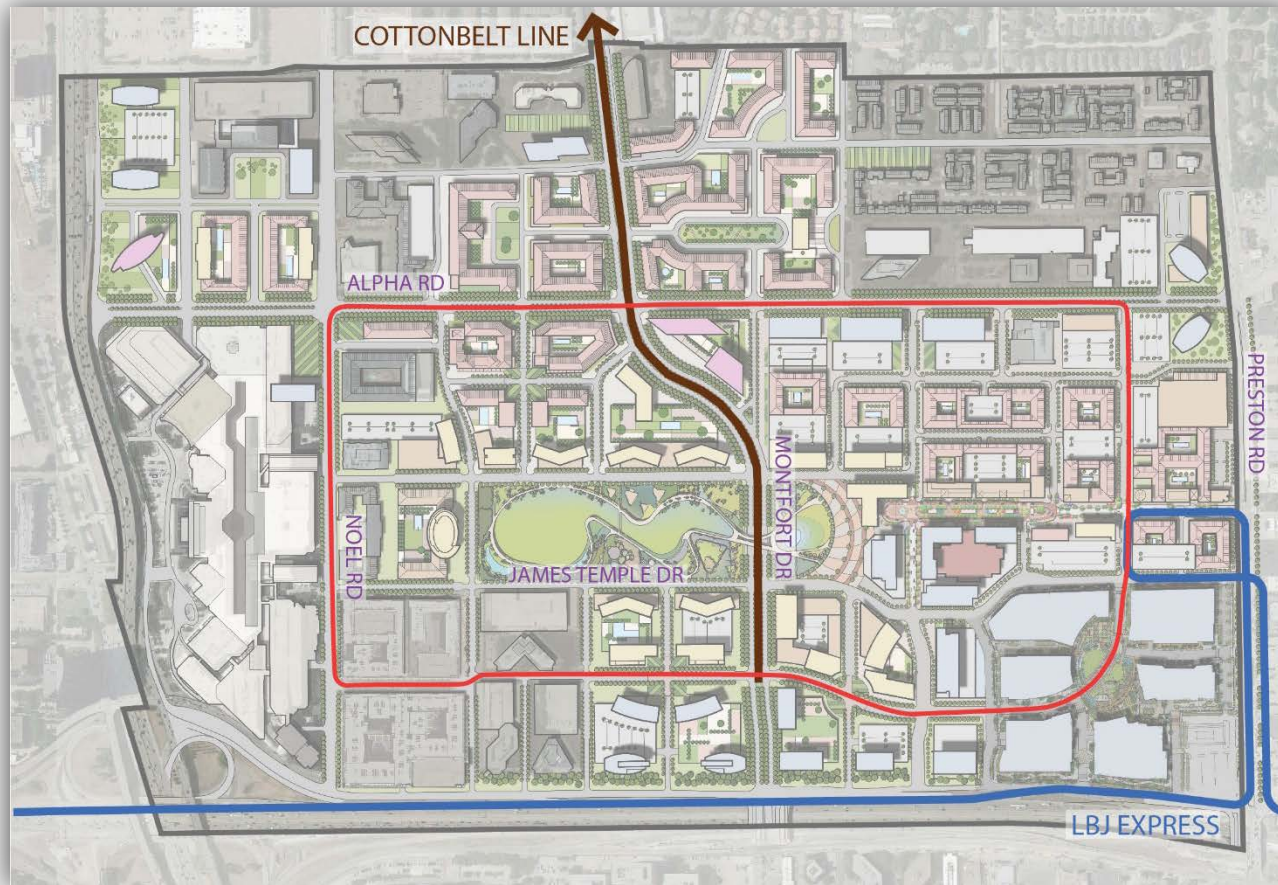
### ❖ Operational Characteristics

- 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

# Recommended ATS Alignment



## ❖ Alignment Characteristics

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

## ❖ Key Advantages

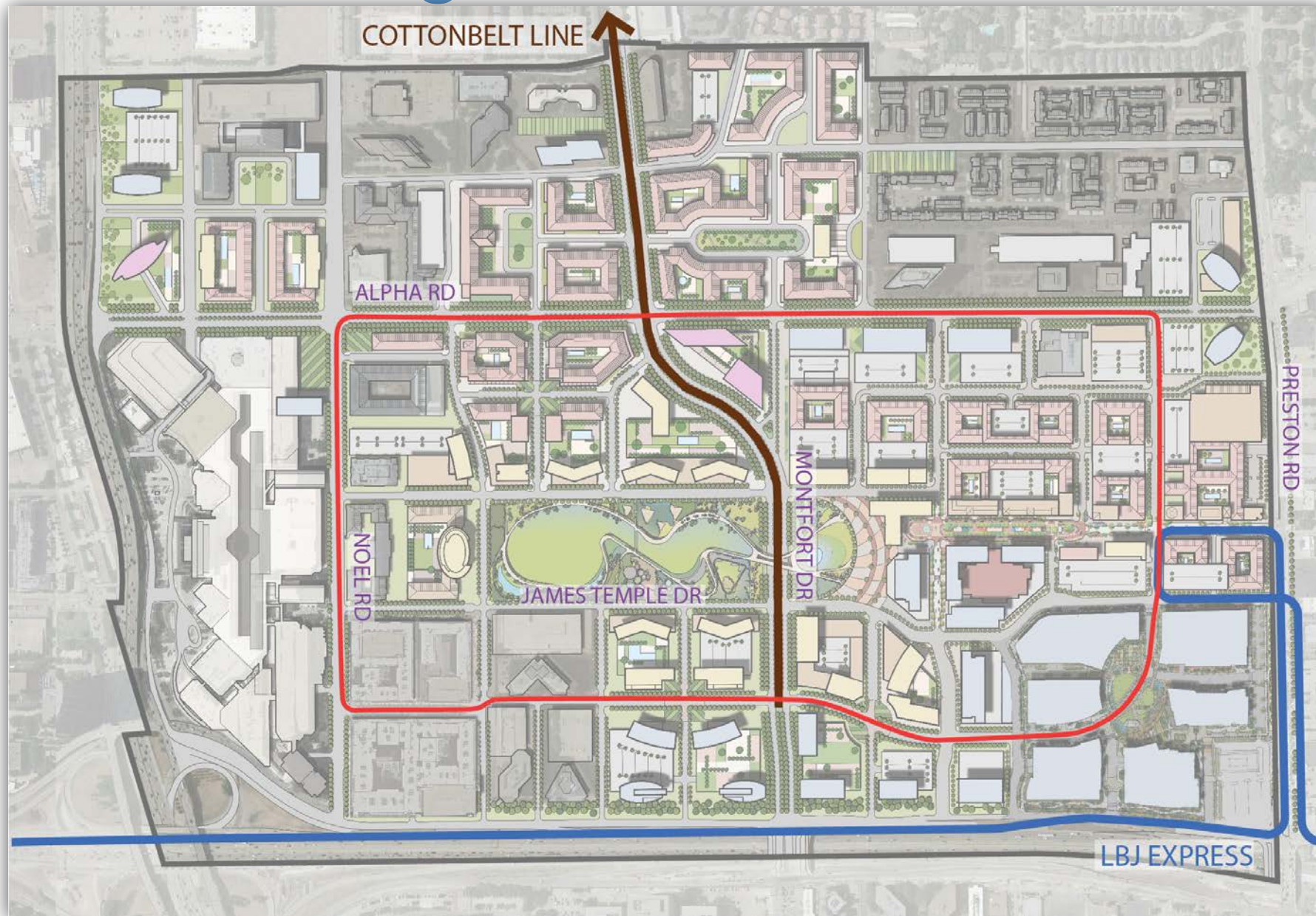
- ❑ 70% of total area within 2 minute walk
  - ❑ Including LBJ frontage development
- ❑ 99% of total area within 5 minute walk

## ❖ 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)**



# Recommended Alignment and Connections





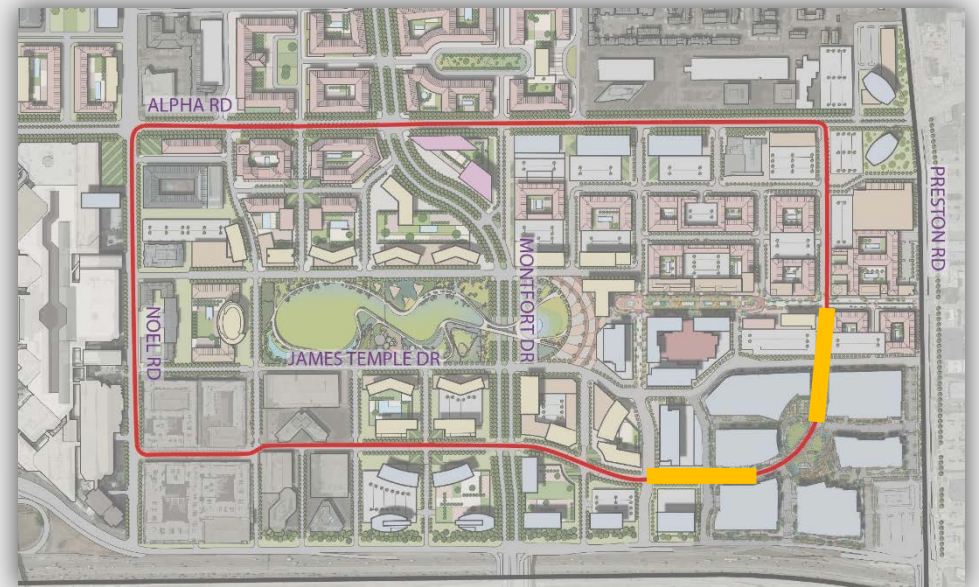
# Recommended ATS Alignment - Transition



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

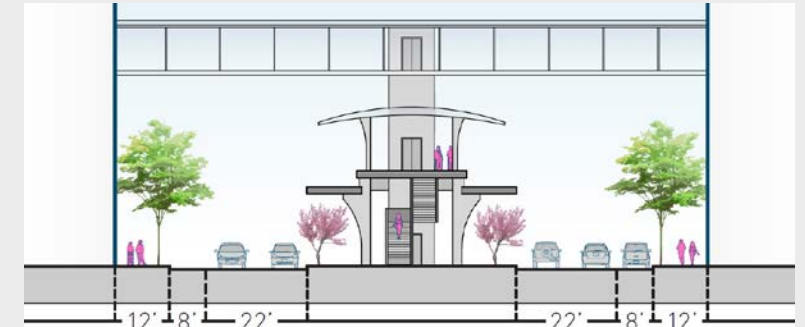
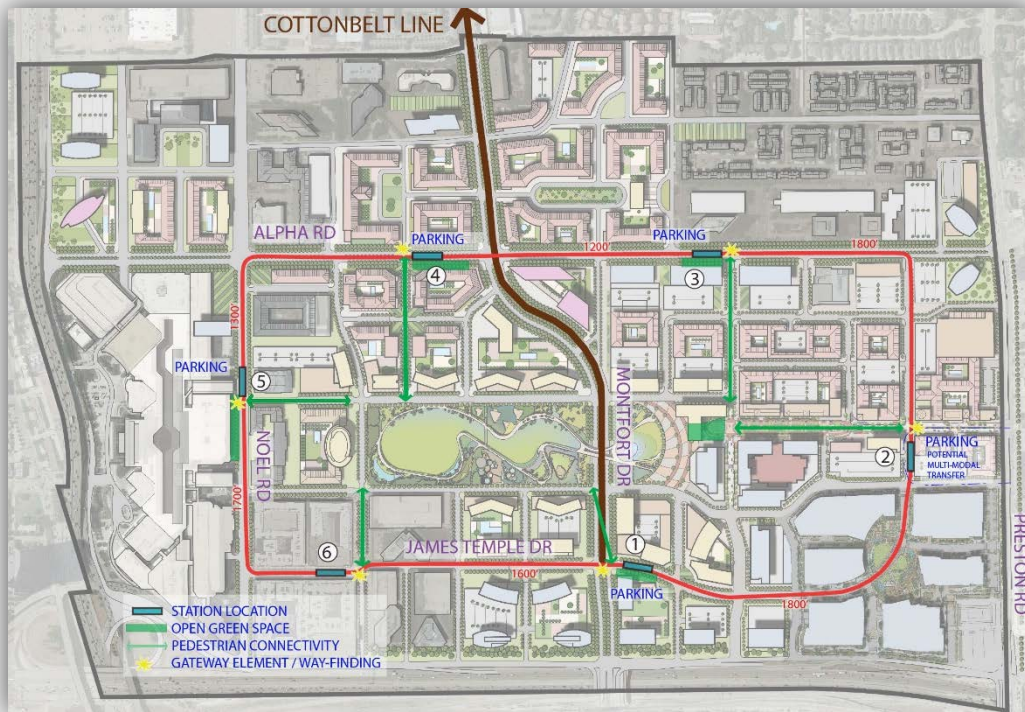
## ❖ Impacts of transition from elevated to at-grade

- ❑ 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





# 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)**

# 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

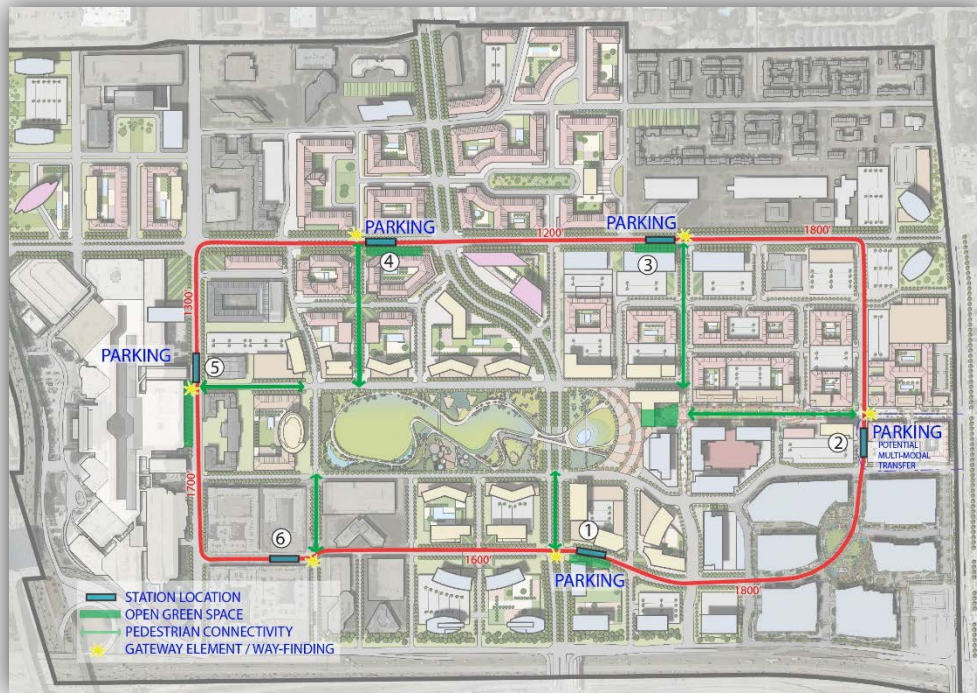
- Capital Cost (one-time):
  - Shared Plus: \$600M—700M
  - Cost Savings: \$1.3—1.4B
- Maintenance Cost (annual at total build):
  - Shared Plus: \$9M—10M
  - Cost Savings: \$4M —5M





# 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



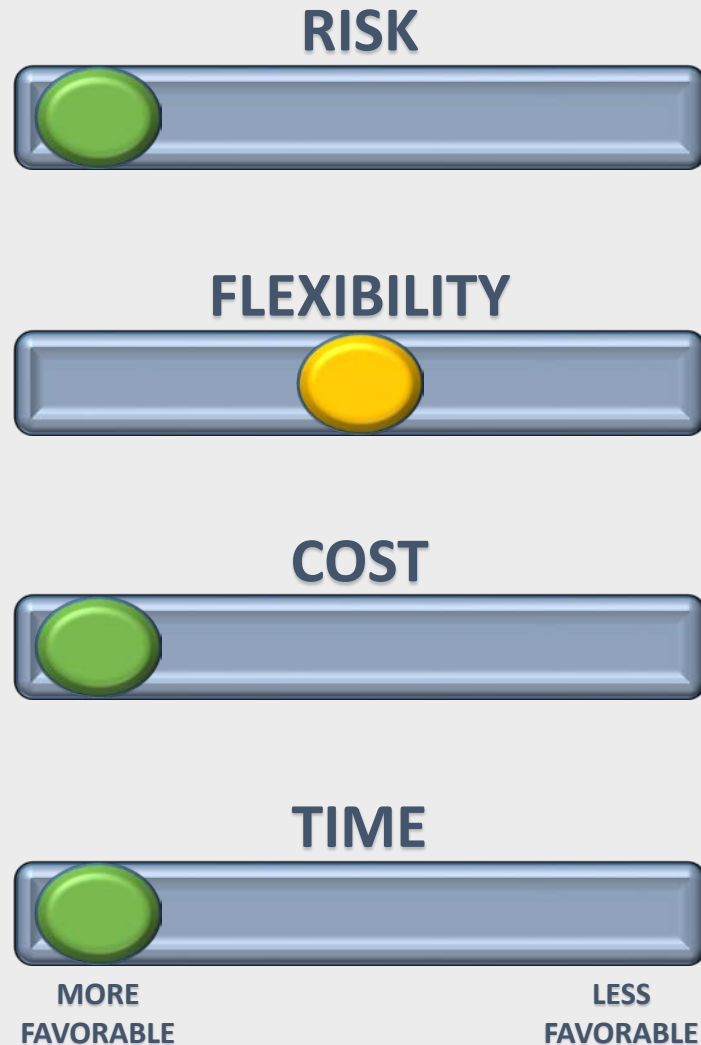
# Ordinance Changes



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?

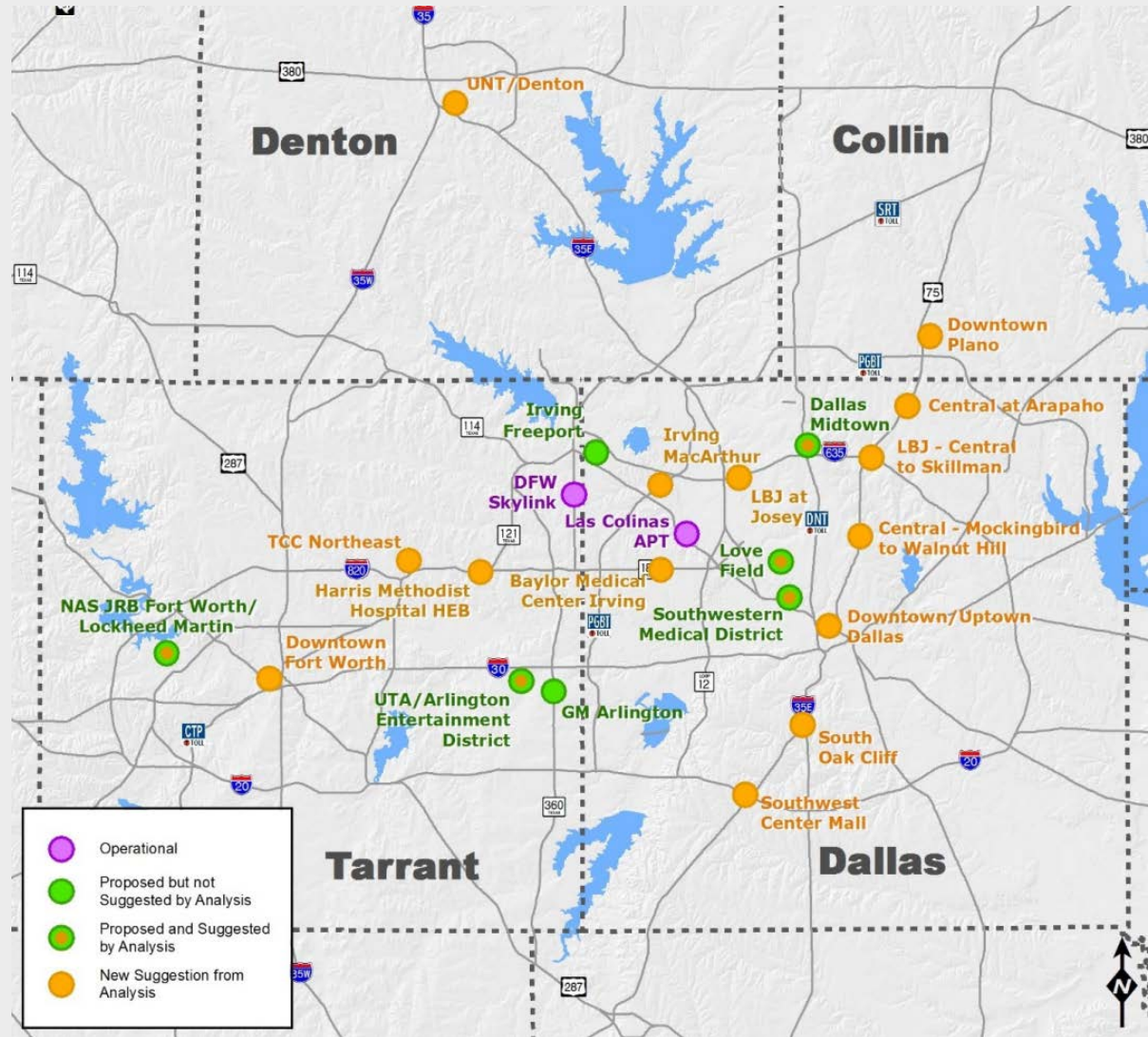
# Governance Structure (TPMA)



## ❖ 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!

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