Dallas Midtown - Automated Transportation System

Conceptual Engineering Study

Project Kick-Off Meeting
Study Review Committee
March 1, 2018

North Central Texas Council of Governments

Why People Movers?

- Sustained Regional Growth
  - 120,000+ Pop. & 60,000+ Jobs annually
  - Corporate relocations include Toyota, Liberty Mutual, State Farm, and … Amazon??
  - How do we maintain a high quality of life / livability and attract businesses when we continuously have to accommodate this type of growth?
- Decreased funding options for mobility improvements
  - Increasing gap between funds available and funds required to maintain acceptable levels of mobility
  - Emphasis on asset management and optimizing system performance
- Changing perception of mobility
  - Millennials have noticeably different attitude towards mobility
  - Improvements in smart vehicle technologies and automated vehicles
  - Growth of affordable rideshare services as last-mile connections

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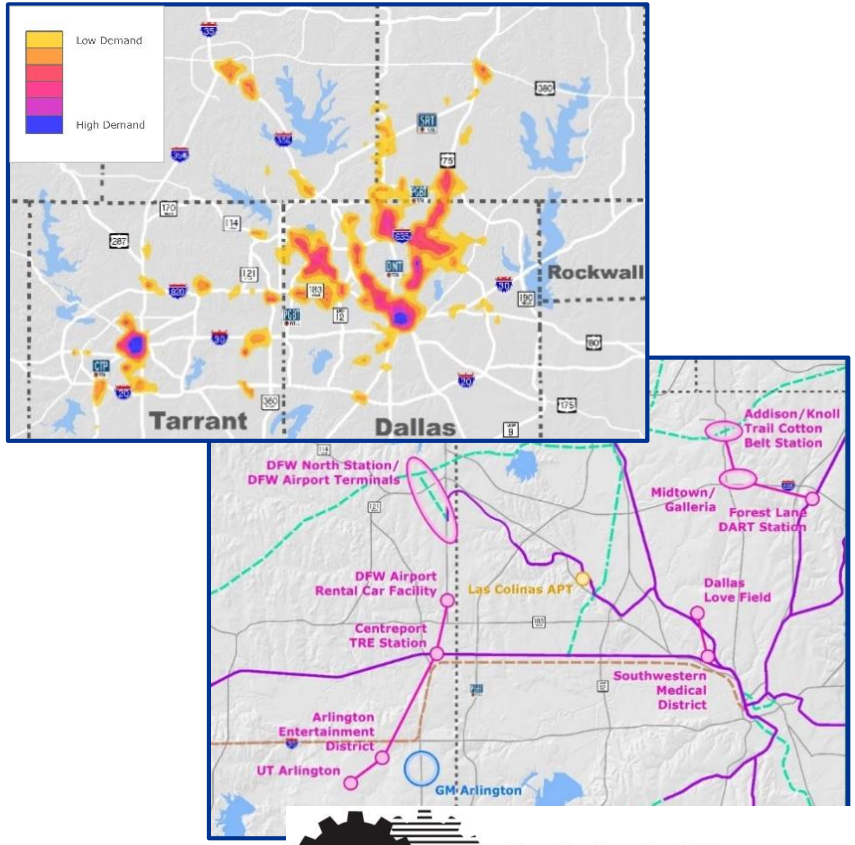
NCTCOG People Mover Initiative

- NCTCOG Regional People Mover Efforts
  - Southwestern Medical District – Love Field
  - Dallas Midtown – Active Planning Study
  - GM Test Track in Arlington
  - DFWIA - Arlington Entertainment District – UTA Connector
- People Mover Request for Information Process
  - Select system type and technology to promote uniformity
  - Reduce procurement and maintenance costs
  - Attract manufacturers



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NCTCOG People Mover Initiative

- Other Regional People Mover Policies
  - Integrate with existing and planned developments and parking facilities
  - Accommodate freight movements
  - Promote last mile connections using new technologies
  - Enhance connections with regional transit systems

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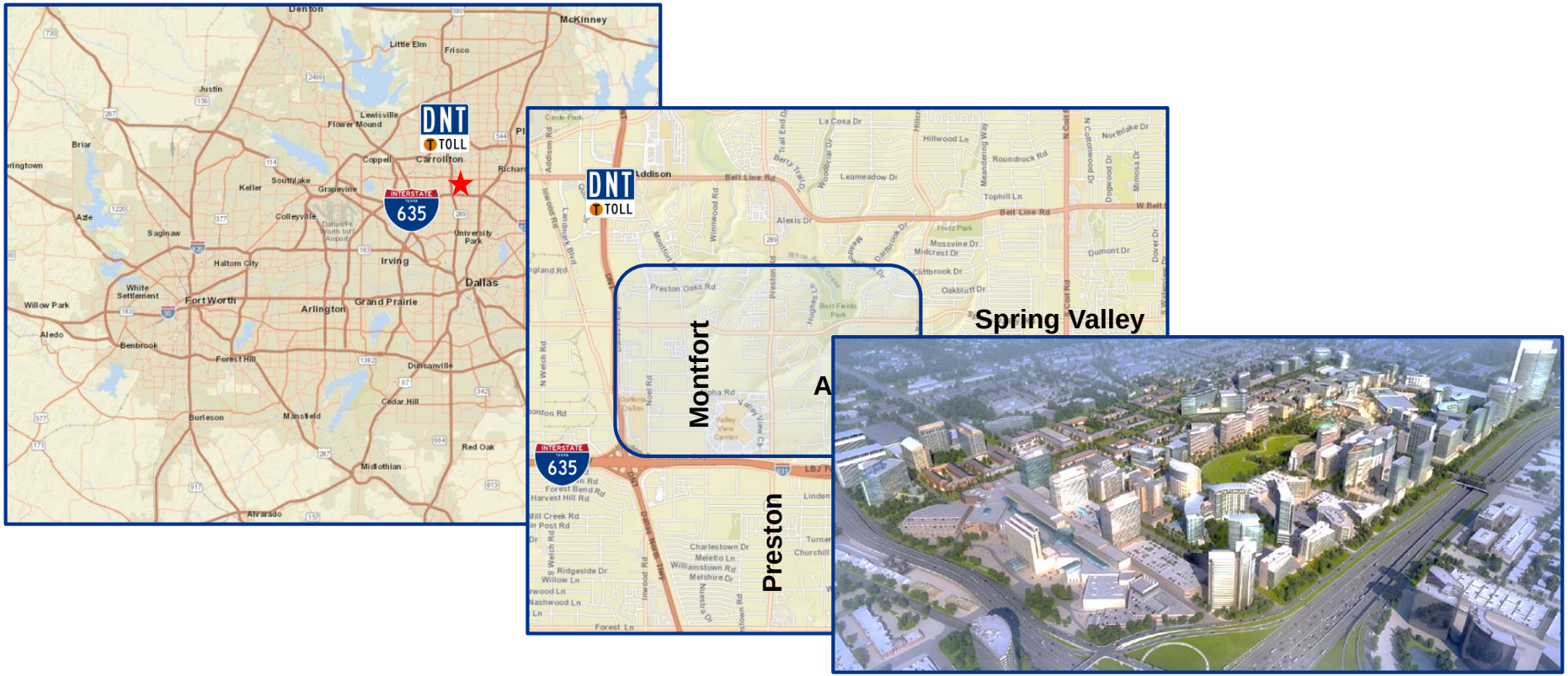
STUDY AREA



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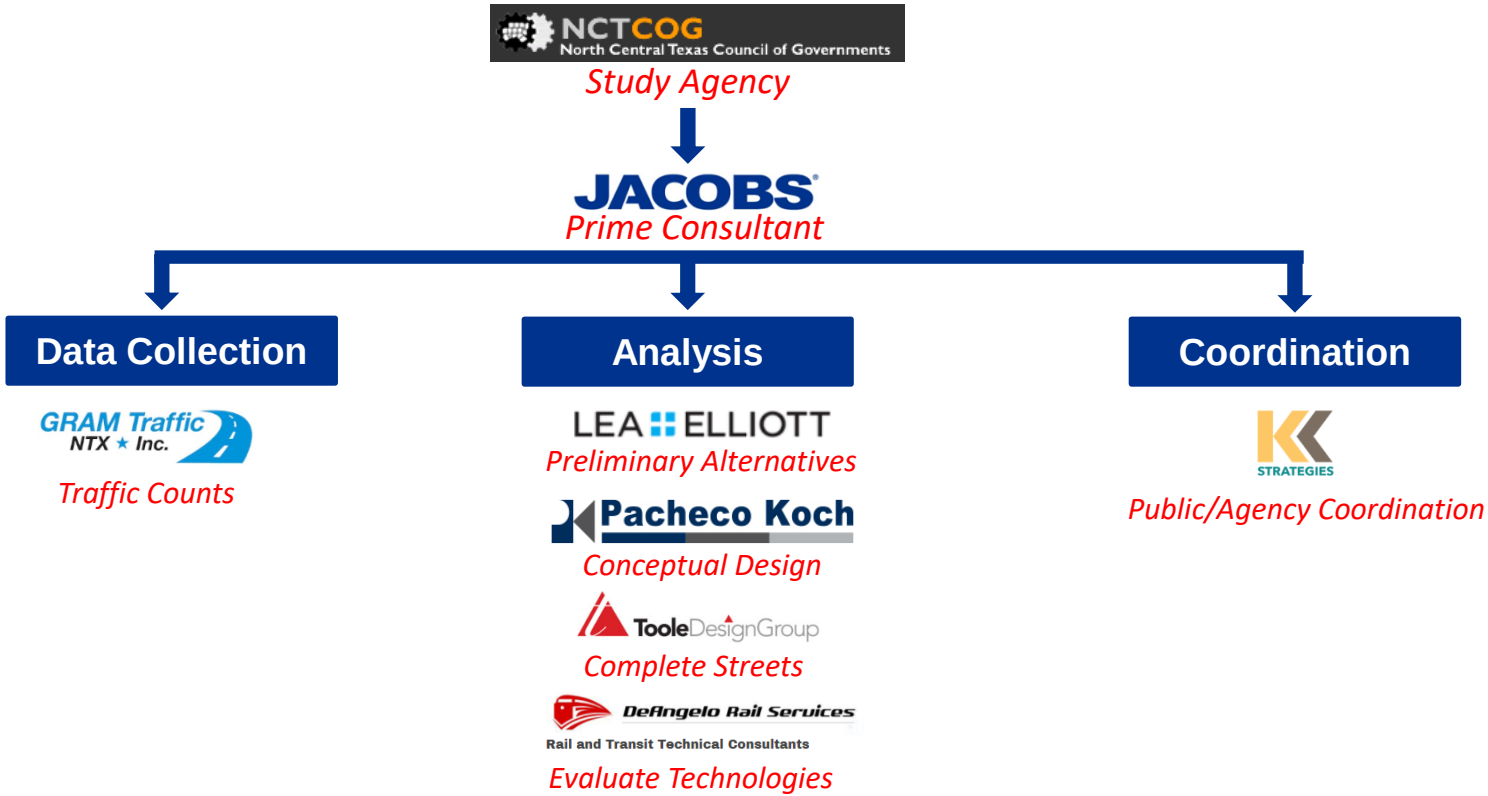
STUDY TEAM



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STUDY OBJECTIVES

- Provide efficient and effective circulation within the proposed development
- Establish connections to the regional rail and transit systems

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SCOPE OF WORK

- Task 1- Project Management
  - Oversee the project scope and delivery schedule
  - Facilitate coordination between agencies, consultants and stakeholders including the public
  - Track project activities, needs and issues

- Task 2 - Partner Agency, Public and Local Government Coordination
  - Develop a Study Review Committee comprising of NCTCOG, DART, City of Dallas, Midtown developers and pertinent stakeholders
  - Present study scope, timeline and deliverable
  - Present preliminary alternatives and seek feedback
  - Present recommended alternatives and implementation options and seek feedback
  - Organize technology demonstration to familiarize the Study Review Committee

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SCOPE OF WORK

- Task 3 - Data Collection
  - Collect City of Dallas Thoroughfare Plan; Land Use Plan; Traffic Counts; Signal Timing Sheets
  - Perform cursory environmental review using NCTCOG Regional Ecosystem Framework
  - Prepare white paper on best practices in the context of automation

- Task 4 - Preliminary Alternatives & Initial Screening
  - Develop reasonable alternatives pertaining to Automated Transportation System Technology and Alignment
  - Screen alternatives based on preliminary ridership estimation
  - Identify alternatives for more detailed analysis
  - Identify connections to regional transit systems focusing on DART Red Line and Cotton Belt Line

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SCOPE OF WORK

- Task 5 - Conceptual Design Analysis
  - Develop performance based evaluation methodology
  - Evaluate technology in terms of vehicle size, capacity, speed and method of propulsion
  - Identify localized traffic impacts including intersection and approach Level of Service (LOS)
  - Prepare preliminary horizontal and vertical alignments and determine Right of Way (ROW) impacts
  - Determine the number, spacing and location of stations
  - Assess project parking demand and identify potential locations
  - Develop conceptual operating plans including hours of operations and frequency of service
  - Develop an estimate of probable construction and maintenance cost

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SCOPE OF WORK

- Task 6 - Implementation Options
  - Examine appropriate phasing and timing for construction of the project
  - Identify the variation in capacity and demand over time based on development levels
  - Develop draft financial plan to accommodate estimated capital, operating and maintenance costs
  - Prepare a potential organization structure identifying owners, operators and maintainers of the ATS

- Task 7 – Recommendations
  - Prepare a comprehensive report summarizing project methodology, agency and stakeholder feedback, findings and recommendations

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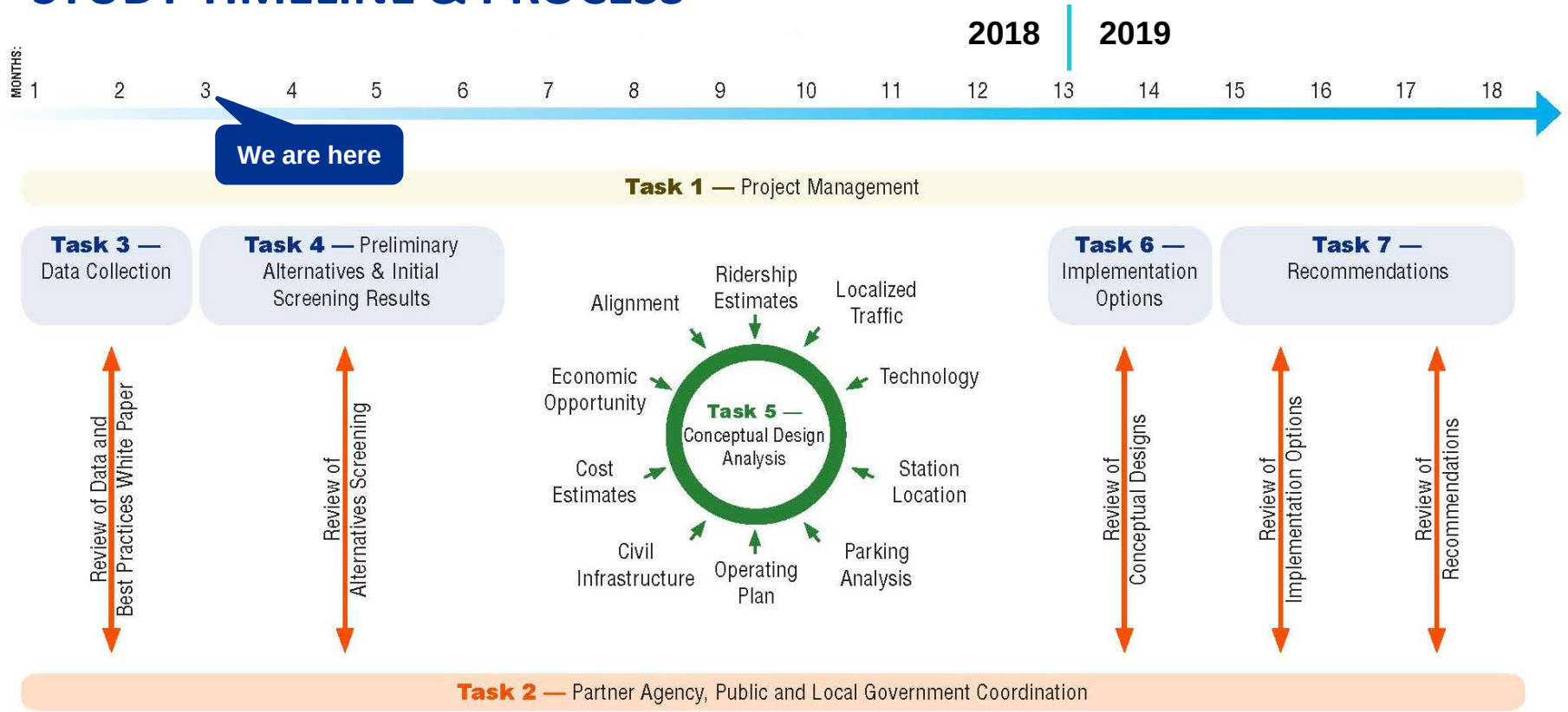
STUDY TIMELINE & PROCESS



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DELIVERABLES

Study Review Committee List

Identifies key stakeholders

Summary of Data Collection

Identifies site-specific parameters

White Paper on ATS Technologies

Provides overview of industry practices

Memorandum on Initial Screening Results

Identifies technologies applicable to Dallas Midtown

Technology Demonstration

Provides hands-on experience with Automated Technology

Report of Conceptual Design Analysis

Provides design details related to the preferred alternative

VISSIM 3D Animations

Provides visual presentation of the ATS in Dallas Midtown

Evaluation Methodology Matrix

Provides high-level tool for evaluating other sites

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ATS Technology Alternatives

- Automated People Mover - Fully automated, driverless, dedicated ROW, usually grade-separated transit system; vehicles are rubber-tired, steel-wheeled, air-cushioned or magnetically-levitated (maglev)


- Autonomous Vehicles – Driverless vehicles capable of navigating without human input; uses radar, laser and GPS technologies for guidance


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ATS Technology Alternatives

- Personal Rapid Transit (PRT) – Sized for individual to small groups (1-8 pax); non-stop origin-to-destination routing; stations located on sidings with frequent merge/diverge points; short headways

- Group Rapid Transit (GRT) – Sized for small to medium groups (20-40 pax); non-stop origin-to-destination routing; stations located on sidings with frequent merge/diverge points; short headways

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ATS Technology Alternatives

- Cable-Propelled Transit – Top or bottom supported cable transit systems using motor-less, engine-less vehicles

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Questions?

December 3, 2018

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