Planning for The Future of Transportation

19th Annual
SAME Infrastructure Forum
Presentation Outline

- Dallas County/Public Works Mission and Vision
- History of Dallas County Mobility Plan
- Mobility Plan Goals
- Future of Transportation in Dallas County
- Factors Affecting the Future of Transportation
- Mobility Plan Criteria
- Schedule
Our Vision — To Be:

• Operationally a model government entity
  • project delivery leadership

• A healthy community
  • creating mobility opportunities

• Safe, secure, and prepared
  • improving Roadway, Trails, Infrastructure Facilities and Water

• A proactive regional partner
  • working with regional agencies, stakeholders and communities in the development of projects

• The destination of choice for businesses and residents
  • creating strong regional and local infrastructure for communities and economic bases
Current Dallas County Thoroughfare Plan originated in 1965 with one major update in 1973 and various minor updates over the years
  • Guidance for 4 bond programs between 1957
  • And 1991

1999 Major Capital Improvement Program (MCIP)
  • NCTCOG Regional Thoroughfare Plan has been used to help determine eligibility for funding
  • Dallas County funds up to 50% of project cost
  • From 1999-2020: Over $600M County funding has leveraged a total of over $1.6B in transportation infrastructure improvements across Dallas County
  • Most of thoroughfare network incorporated into Cities
  • 30 Cities with Master Agreements
  • Increasing MCIP requests for multimodal projects especially during last ten years
In response to the Dallas County Mission/Vision, Dallas County Public Works is currently developing the Dallas County Mobility Plan. Throughout a process of outreach, data collection, and a series of workshops, Dallas County has developed MCIP selection criteria methodology to promote safety in all aspects for the upcoming 7th Call for Projects.
PUBLIC WORKS MISSION/VISION

Regional Transportation Projects

Quality of Life

Leading Planner

High Value Added
MOBILITY PLAN GOALS

Regional Transportation Projects

Continue our thoroughfare work to provide Regional Thoroughfare Projects:
- Regional Projects
- Intercity Projects
- Increasing Street Capacity
- Accessibility and Mobility
Starting in 1999 with MCIP Public Works began to deliver alternative transportation projects such as connections to transit and alternative street configurations, including sidewalks, etc.

- Continue to provide quality of life projects by developing safety and multimodal connectivity projects.
  - Quality of Life:
    - Safety
    - Clean Air
    - Recreational Facilities
    - Health
Continue to be leading planners by participating and/or funding studies and innovative transportation projects such as Hyperloop, High Speed Rail and Autonomous Vehicles

- Future Transportation Modes
- Studies
- Travel Options
- Equity
Continue to provide high valued added projects through multimodal connectivity, economic vitality and the

- Inland Port related incentives
- Freight
- Market Responsiveness
- Land Values
- Land Use
CURRENT AND FUTURE DEMAND GENERATORS

Major Employment Centers

High Speed Rail

Higher Education/Universities
The Future of Transportation

Traditional in Between Cities Capacity Related

High Speed Rail Hyperloop Electric Scooters

Safety Engineering Lessons Learned Urban Roadway Design

Innovative Autonomous Vehicles Single Occupant Interactive Routing Intelligent Feedback
The Future of Transportation

Traditional in:

- Between Cities
- Capacity Related
Connections to Transportation Modes:

- High Speed Rail
- Hyperloop
- Electric Scooters
The Future of Transportation Safety - NOT So Fun Facts

80% of car crashes are attributed to a driver being distracted or not paying attention.

**Pedestrian Traffic Fatalities**

- 5,376 pedestrians were killed and 69,000 were injured in traffic crashes in 2015.

- Over half of pedestrian fatalities occurred at night.

- 8 out of 10 pedestrian fatalities occurred outside of intersections.

- 21% of children under age 14 who were killed in traffic crashes were on foot.

For further information on combating pedestrian deaths visit: www.aaa.com/pedestriansafety

**Total Work Zone Fatalities**

<table>
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<th>Year</th>
<th>Total</th>
<th>Drivers and passengers</th>
<th>Pedestrians and bicyclists</th>
<th>Others</th>
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<tr>
<td>2016</td>
<td>765</td>
<td>635</td>
<td>125</td>
<td>5</td>
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<tr>
<td>2015</td>
<td>712</td>
<td>595</td>
<td>113</td>
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% Change: 7%

**Total Work Zone Fatal Crashes**

- Interstate 2016: 259, 2015: 186 (70%)
- Arterial 2016: 339, 2015: 187 (60%)
- Local 2016: 52, 2015: 41 (25%)
- Collector 2016: 52, 2015: 41 (25%)

**Fatality Time and Location**

- 50% of fatalities in the past 5 years occurred in the dark.
- 70% of fatalities occurred at non-intersections.
- 59% of fatalities and injuries involve a person under the age of 25.
- 54% of fatalities occurred on Interstates, U.S. Highways, State Highway, County Roads and FM Roads.
The Future of Transportation

Safety

- Highway Safety Improvement Program (HSIP)
- Engineering Lessons Learned
- Roadway Construction and Detours

Guidance Memorandums on Promoting the Implementation of Proven Safety Countermeasures:

Select any of the following icons to learn more about the specific countermeasure:

- Roadside Design Improvement at Curves
- Reduced Left Turn Conflict Intersections
- Systematic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections
- Leading Lines
- Local Road Safety Plan
- U-turns
- Enhanced Designation and Pictograms for Horizontal Curves
- Longitudinal Marking Strips and Bases on Two-Lane Roads
- Median Barrier
- Safety Edges
- Roundabouts
- Yellow Change Intervisibility
- Median and Pedestrian Crossing Islands in Urban and Suburban Areas
- Pedestrian Hybrid Beacons
- Road Delineation
- Pedestrian Islands
- Road Safety Audit

FHWA Proven Safety Measures
Urban Roadway

- Instead of Forgiving Roadside for vehicles
- Forgiving Multimodal Roadway Environment for all users
Future Transportation Factors

- Community Factors
  - Aging Demographics
  - Millennial Preference
  - Congestion and Capacity Challenges
  - Increasing Community Demand
  - Economic Impact

- Transit Options
  - DART- Extensive bus network with express routes
  - DART- Light Rail
  - Regional Rail
  - High speed rail
  - Hyperloop
  - Integrating multiple transit providers
“With 89% of city planners expecting driverless cars to commercialize by 2025, the large-scale rollout of autonomous vehicles is just around the bend, propelled by innovative advances in technology and pushing cities to explore new infrastructure solutions.”

Source: Boston Consulting Group, 2016
Future Transportation Factors

**Smartphone**

[smärt, fōn]

Software processes inputs, plots a path, and sends instructions to the vehicle’s “actuator” (the driver).
Software processes inputs, plots a path, and sends instructions to the vehicle’s “actuators”, which control acceleration, braking, and steering. Hard-coded rules, obstacles avoidance algorithms, predictive modeling, and “smart” object discrimination (i.e., knowing the difference between a bicycle and a motorcycle) help the software follow traffic rules and navigate obstacles.
Future Transportation Factors

HYPERLOOP
CONNECTING DALLAS COUNTY MOBILITY PLAN WITH THE FUTURE

• A collaborative effort between Dallas County and the Cities of Dallas County

• Collaboration with Regional Transportation Agencies
  • DART, TxDOT, NCTCOG

• Integrating new and future technologies

• Document Regional Transportation and Thoroughfare Plans

• Address Population Growth, Congestion and Air Quality

• Does NOT replace city planning effort

• Process
  ✓ Collect Data
  ✓ Analyze Demographics and Data
  • Update MCIP Criteria
  • Develop the Mobility Plan
MOBILITY PLAN CRITERIA CATEGORIES

- Currently developing selection criteria for 7th Call for Projects
- Criteria to promote:
  - Safety
  - Regional Thoroughfare Projects
  - Multimodal Connectivity
  - Innovative Projects
October 22, 2015 – Mobility Plan Kickoff Meeting

October 7, 2016 – Sent Letter Requesting City & Partner Agency Participation and City Transportation Plans

December 2, 2016 – Presented Project Update at SAME Infrastructure Forum

June 29, 2017 – Held Phase 1 Mobility Plan Workshop for Cities and Partner Agencies

October 3, 2017 – Began Phase 2 of Mobility Plan

July 17- August 2018 – Completed Phase 2 City Meetings Workshop
2017: Fall:
  o Completed Phase 1
2018: Winter:
  o Initiate Phase 2 of Mobility Plan
  o Finalize map package

• Spring:
  o Review Existing MCIP Criteria
  o Commissioner Quarterly Briefings

• Summer 2018
  o Develop MCIP Selection Criteria
  o Mobility Plan Workshop Meetings (July 17th – August 17th)
  o First Draft of High Level Plan Document

• Fall 2018
  o Finalize High Level Plan Document
  o Finish Phase 2 of Mobility Plan

• December 2018:
  o Submit for Commissioner Court Approval

2019: Spring:
  o 7th Call for Projects
NEXT GENERATION OF TRANSPORTATION?
THANK YOU!

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