Moooving Herds

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North Central Texas Council of Governments
TexITE Fall 2016 Meeting
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How Big is Our Ranch?

<table>
<thead>
<tr>
<th>Measure</th>
<th>2017</th>
<th>2040</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>9,441 sq. miles</td>
<td>9,441 sq. miles</td>
<td>0%</td>
</tr>
<tr>
<td>Population</td>
<td>7,235,500</td>
<td>10,676,800</td>
<td>48%</td>
</tr>
<tr>
<td>Employment</td>
<td>4,584,200</td>
<td>6,691,400</td>
<td>46%</td>
</tr>
<tr>
<td>Person Trips</td>
<td>24,883,827</td>
<td>36,038,397</td>
<td>45%</td>
</tr>
<tr>
<td>Total Person Trips</td>
<td>27,270,154</td>
<td>76,100,105</td>
<td>179%</td>
</tr>
<tr>
<td>Vehicle Trips</td>
<td>19,506,248</td>
<td>28,348,373</td>
<td>45%</td>
</tr>
<tr>
<td>Transit Trips</td>
<td>192,505</td>
<td>337,366</td>
<td>75%</td>
</tr>
</tbody>
</table>
A Tall Order – DFW Transportation Issues

- Dramatic growth in single occupant vehicles (SOV)
- Increased travel time and costs
- Air quality nonattainment area
- No “regional” public transportation
- Suburban sprawl
- Lack of coordination between land use and transportation investments
Represents a blueprint for the region’s multimodal transportation system

Covers at least a 20-year timeframe

Responds to Regional Transportation Council goals

Identifies policies, programs, and projects for continued development

Guides the expenditure of federal and state transportation funds
### Mobility 2040 Expenditures

<table>
<thead>
<tr>
<th>Category</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastrucrure Maintenance</td>
<td>$37.4</td>
</tr>
<tr>
<td>Management &amp; Operations</td>
<td>$7.2</td>
</tr>
<tr>
<td>Growth, Development, &amp; Land Use Strategies</td>
<td>$3.6</td>
</tr>
<tr>
<td>Rail, Bus &amp; Paratransit</td>
<td>$27.2</td>
</tr>
<tr>
<td>HOV/Managed Lanes</td>
<td>$43.4</td>
</tr>
<tr>
<td>Freeways/Tollways &amp; Arterials</td>
<td></td>
</tr>
<tr>
<td><strong>Mobility 2040 Expenditures</strong></td>
<td><strong>$118.9</strong></td>
</tr>
</tbody>
</table>

*Actual dollars, in billions. Values may not sum due to independent rounding.*
Mobility Options

- Supports on- and off-street bicycle and pedestrian facilities
- Recommends over 6,350 new lane miles on the region’s roadway network
- Calls for more than 380 miles of passenger rail by 2040
- Introduces “high intensity bus” service to the region
- Accommodates high-speed rail service to and within the region
- Recognizes the important roles freight and aviation play in our region’s economy

Regional Performance

Documents significant performance measures to track system performance over time
Goat Paths – The Regional Veloweb

Facility Status
- Existing: 442 Miles
- Funded: 146 Miles
- Planned: 1,288 Miles
- Total 1,876 Miles
- Major Roads

Dallas CBD

Fort Worth CBD
Cattle Cars– Major Transit Recommendations

- Recommended Rail
- Existing Rail
- Recommended High-Intensity Bus
- Major Roadways

Dallas CBD

Fort Worth CBD

Bison image
Quicker Cattle Cars – High-Speed Rail

[Map showing rail lines and station locations in a region]

- At Grade
- Grade Separated
- Station Locations
- Major Roadways

[Inset maps showing Dallas CBD and Fort Worth CBD]

- Dallas CBD
- Fort Worth CBD
Cattle Drives – Funded Roadway Recommendations

- New or Additional Freeway Capacity
- Additional Freeway Capacity and New Tolled Managed Lanes
- New or Additional Tolled Managed Capacity
- New or Additional Toll Road Capacity
- Freeway Capacity Maintenance
- Regionally Significant Arterial Improvement
- Freeways/Tollways
- Other Major Roadways

Dallas CBD

Fort Worth CBD
Separating the Herd – Managed Lanes

Near Term Managed Lane System Openings

Current Express/HOV + New Managed Lanes:
- Current Express/HOV Lanes
- New TEXPRESS Managed Lanes
- Transitional
- High - Occupancy Vehicle Lane
- Major Roadways

Fort Worth CBD

Dallas CBD

Segment 3C
Opening 2021

Opening 2017

Segment 3B
Opening January 2017

Open 2014

Open 2015

Segment 3A
Opening September 2018

Opening 2018

Open 2014

Segments 1 & 2W
Open 2014

Open August 2016

HOT Conversion
Opening October 2016
Improve transit services within communities
- Seek, renew, and strengthen partnerships
- Improve awareness of existing transit services
- Leverage resources to increase transit options

Improve transit services across city and county borders
- Facilitate more access to regional destinations
- Simplify reliable connections among transit providers

Continue to discuss public transportation needs
  Coordinating committees, planning studies, and ongoing communication
Life on the Ranch – Regional Sustainable Development

Utilize Existing System Capacity

- Single use area type, non-transit, connected to existing infrastructure
- Infill rail
- Infill mixed use with rail access
- Infill mixed use
- Stand alone mixed use

Improve Rail Mobility

- Commuter rail/light rail in single use areas
- Mixed use with rail

Promote Mixed Use

- Shared drives/parking, spacing of turns/signals
- Improved Access Management
- Improve Access Management

- Improved Rail Mobility
- Utilize Existing System Capacity
- Promote Mixed Use
### Regional Performance Measures

<table>
<thead>
<tr>
<th>Regional Performance Measures</th>
<th>2017</th>
<th>2040</th>
<th>No-Build</th>
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<td>Population</td>
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<tr>
<td>Vehicle Miles of Travel (Daily)</td>
<td>206,162,100</td>
<td>319,470,600</td>
<td>320,119,900</td>
</tr>
<tr>
<td>Hourly Capacity (Miles)</td>
<td>44,334,300</td>
<td>52,655,900</td>
<td>43,872,500</td>
</tr>
<tr>
<td>Vehicle Hours Spent in Delay (Daily)</td>
<td>1,521,100</td>
<td>3,587,000</td>
<td>6,198,200</td>
</tr>
<tr>
<td>Increase in Travel Time Due to Congestion</td>
<td>38.2%</td>
<td>58.4%</td>
<td>98.2%</td>
</tr>
<tr>
<td>Annual Cost of Congestion (Billions)</td>
<td>$10.7</td>
<td>$25.3</td>
<td>$43.9</td>
</tr>
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</table>

#### Lane Miles at Level of Service ABC, DE, and F

- **2017 Network**
  - LOS ABC
  - LOS DE
  - LOS F

- **2040 Build**
  - LOS ABC
  - LOS DE
  - LOS F

- **2040 No-Build**
  - LOS ABC
  - LOS DE
  - LOS F

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Move ‘em On Out – Congestion Over Time

Level of Congestion:
- No Congestion
- Light Congestion
- Moderate Congestion
- Severe Congestion

Map showing congestion levels in various counties in 2012.

Source: NCTCOG Travel Demand Model
Riding Off Into the Sunset

Highway operating system changing fast, finally

• Rapid technology development
• Consumer demand for improved driving experience (e.g., texting valued more)
• Safety/operational challenges require greater levels of vehicle automation
• USDOT’s Automated Vehicles Policy
• Other transportation modes have made shift to high automation already

The trail ahead

• Vehicle automation emerges in multiple locales, expands quickly
• Shared mobility market share grows rapidly with vehicle automation
• Electrification of AV fleets
• Fewer vehicles provide more mobility to more people (e.g., today’s non-drivers)
• More VMT?
The region is expected to grow significantly
- The are different transportation needs within the region
- The MTP addresses the growth and specific needs with multiple options
Questions or Comments?

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