The Dallas-Fort Worth area is the fourth largest metropolitan region in the country in terms of population – and it is growing. With a current population of 7 million, the area adds approximately 1 million people every decade. By 2040, the region will be home to nearly 10.7 million people and will provide 6.7 million jobs.

<table>
<thead>
<tr>
<th>Current Population:</th>
<th>7.0 Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>2040 Population:</td>
<td>10.7 Million</td>
</tr>
<tr>
<td>Current Employment:</td>
<td>4.6 Million</td>
</tr>
<tr>
<td>2040 Employment:</td>
<td>6.7 Million</td>
</tr>
</tbody>
</table>
Current population demand diversity in mode of access
Current population demand diversity in mode of access

Texas is ranked 3<sup>rd</sup> for number of senior in US (65 and older)

<table>
<thead>
<tr>
<th>State</th>
<th>Total</th>
<th>Aged 65 and Older</th>
<th>Percent of those Aged 65 and Older in the US</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA</td>
<td>38,802,500</td>
<td>4,993,047</td>
<td>10.8%</td>
</tr>
<tr>
<td>FL</td>
<td>19,893,297</td>
<td>3,791,544</td>
<td>8.2%</td>
</tr>
<tr>
<td>TX</td>
<td>26,956,958</td>
<td>3,099,081</td>
<td>6.7%</td>
</tr>
<tr>
<td>NY</td>
<td>19,746,227</td>
<td>2,898,094</td>
<td>6.3%</td>
</tr>
<tr>
<td>PA</td>
<td>12,787,209</td>
<td>2,134,521</td>
<td>4.6%</td>
</tr>
<tr>
<td>OH</td>
<td>11,594,163</td>
<td>1,799,169</td>
<td>3.9%</td>
</tr>
<tr>
<td>IL</td>
<td>12,880,580</td>
<td>1,788,533</td>
<td>3.9%</td>
</tr>
<tr>
<td>MI</td>
<td>9,909,877</td>
<td>1,530,052</td>
<td>3.3%</td>
</tr>
<tr>
<td>NC</td>
<td>9,943,964</td>
<td>1,463,362</td>
<td>3.2%</td>
</tr>
<tr>
<td>NJ</td>
<td>8,938,175</td>
<td>1,313,503</td>
<td>2.8%</td>
</tr>
<tr>
<td>US</td>
<td>318,857,056</td>
<td>46,243,211</td>
<td>100%</td>
</tr>
</tbody>
</table>

Percent of the Population Aged 65 Years and Older by State, 2010-2014
Growth potential in DFW

- Magnet for major corporate headquarters

Projected economic growth, in GDP
Three Texas counties take the nation’s top spots for projected economic growth in the five-year period from 2017-2021.

1. Denton, Texas: 4.1%
2. Collin, Texas: 4%
3. Montgomery, Texas: 3.4%
4. Will, Illinois: 3.2%
5. San Francisco, California: 3.2%
6. Fort Bend, Texas: 3.1%

SOURCE: Oxford Economics

Tracy M. Cook / DMN
Growth potential in DFW

- Low costs of living and affordable housing opportunities
Current issues in DFW

Less jobs are accessible by transit (Spatial Mismatch)
Current issues in DFW

- High Poverty Rate (30% of children in Dallas are living in poverty)
Current issues in DFW

- The residents of affordable units in DFW are spending a higher percentage (15.1% to 26%) of their income on transportation.
Why Transit?

• Helping urban density as it continues to grow
• Matching demand with supply
• Response to expected needs of customers
• Approach for reducing traffic congestion
• Increases job access for low income riders
• Provide alternatives modes of transportation
• Create the fundamentals for households costs savings
Mobility on Demand is one of the alternatives

The Last Mile
Increasing transit accessibility

The terms “first mile/last mile” refer to the distance a person must travel to get to or from a transit stop. DART is working with transportation partners to increase the options available to bridge that distance and make riding transit a viable choice for more people.
DART’S Vision

CONTINUOUSLY IMPROVE THE TRANSPORTATION EXPERIENCE
A seamless and user-friendly solution for public and third party mobility transport options with a one-touch payment solution.

EXPAND THE REACH OF PUBLIC TRANSPORT
Lower the cost and expand the reach of public transportation to provide high quality, first and/or last mile services.

ACCESS TO ALL CONSUMERS
Integrate equitable MOD solutions including comparable access for the unbanked, disabled, low income, smartphone challenged customers and typically non-transit customers.
Simple Idea:
Integrated Ticketing, Payment and Mobility Options

Partially Sponsored by FTA MOD Sandbox Demonstration
**DART’s APP Based Shared Mobility Transition**

<table>
<thead>
<tr>
<th>2018</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>February</strong></td>
<td><strong>May</strong></td>
<td><strong>May</strong></td>
<td><strong>July</strong></td>
</tr>
<tr>
<td><strong>Begin pilot testing micro transit services with a stand alone app</strong></td>
<td><strong>Launch of a test app (GoPass ++ which includes a smart app switch for connecting to micro transit and carpool providing a single payment interface to customers</strong></td>
<td><strong>Launch of shared ride TNC through an app switch</strong></td>
<td><strong>Launch of 2nd bike share provider through an app switch</strong></td>
</tr>
<tr>
<td><strong>2.0</strong></td>
<td><strong>Go</strong></td>
<td><strong>Go</strong></td>
<td><strong>Go</strong></td>
</tr>
<tr>
<td><strong>Launch of 1st bike share provider through an app switch</strong></td>
<td><strong>GoBike</strong></td>
<td><strong>Go</strong></td>
<td><strong>GoBike</strong></td>
</tr>
<tr>
<td><strong>GoLink</strong></td>
<td><strong>GoLink 2.0 a new improved platform with real-time trip planning and cash to mobile option</strong></td>
<td><strong>GoPool</strong></td>
<td><strong>GoConnect</strong></td>
</tr>
<tr>
<td><strong>Go</strong></td>
<td><strong>Launch of GoPass 2.0 a new improved platform with real-time trip planning and cash to mobile option</strong></td>
<td><strong>Full Integration of aggregated mixed multi-modal services providers</strong></td>
<td></td>
</tr>
</tbody>
</table>

Partially Sponsored by FTA MOD Sandbox Demonstration
Current Mobility on Demand Zones

- **LEGACY**: 3 & 4 Vehicles
  - Full Service March 26

- **NORTH CENTRAL**
  - **PLANO**: 3 Vehicles
    - Full Service March 12

- **Inland**: 1 Vehicle
  - Full Service February 26

- **Rowlett**: 2 Vehicles
  - Full Service June 25

- **Kleberg**: 2 Vehicles
  - Full Service February 26

- **Rylie**: 1 Vehicle
  - Full Service February 26
Average Daily Ridership- June 2018

Mostly from Legacy

Average Daily Ridership

- Inland: WK1: 15, WK2: 30, WK3: 31, WK4: 32, WK5: 33
- Rowlett: WK1: 52
- Rylie: WK1: 18, WK2: 21, WK3: 26, WK4: 24, WK5: 20

let's go.
Ridership by Time Quadrant - June 2018

Average Daily Ridership by Time of Day

Inland: 31.6%
Kleberg: 31.7%
Legacy: 33.4%
NC Plano: 3.4%
Average Daily Ridership

Average Daily Ridership
Before – After (March to June 2018) MOD Implementation

<table>
<thead>
<tr>
<th>Location</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inland Port</td>
<td>7</td>
<td>2</td>
<td>24</td>
<td>31</td>
</tr>
<tr>
<td>Kleberg</td>
<td>4</td>
<td>37</td>
<td>53</td>
<td>58</td>
</tr>
<tr>
<td>Legacy</td>
<td>213</td>
<td>116</td>
<td>136</td>
<td>140</td>
</tr>
<tr>
<td>NC Plano</td>
<td>126</td>
<td>107</td>
<td>116</td>
<td>128</td>
</tr>
<tr>
<td>Rowlett</td>
<td>47</td>
<td>52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rylie</td>
<td>4</td>
<td>10</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>

Legend:
- Before
- March
- April
- May
- June

DART
let's go.
Inland Port

645 Riders
Average waiting Time: 12 minutes

Total Daily Ridership and Average Wait Times

Ridership
Avg. Wait Time
Linear (Avg. Wait Time)

DAILY RIDERSHIP
AVG. WAIT TIME


0 5 10 15 20 25 30 35 40 45 50

0.00 5.00 10.00 15.00 20.00 25.00

Ridership Avg. Wait Time Linear (Avg. Wait Time)
Rylie

473 Riders
Average waiting Time: 9 minutes

Total Daily Ridership Vs. Average Wait Times

DAILY RIDERSHIP

AVG. WAIT TIME

 Ridership
 Avg. Wait Time
 Linear (Avg. Wait Time)
Kleberg

1,221 Riders
Average waiting Time: 10 minutes

Total Daily Ridership and Average Wait Times

DAILY RIDERSHIP

AVG. WAIT TIME

Ridership
Avg. Wait Time
Linear (Avg. Wait Time)
Total Daily Ridership Vs. Average Wait Times

North Central Plano

2,901 Riders
Average waiting Time: 13 minutes
Legacy

2,942 Riders
Average waiting Time: 7 minutes

Daily Ridership and Average Wait Times

DAILY RIDERSHIP
AVG. WAIT TIME

Ridership  Avg. Wait Time  Linear (Avg. Wait Time)
Rowlett

258 Riders
Average waiting Time: 9 minutes

Daily Ridership and Average Wait Times

- Ridership
- Avg. Wait Time
- Linear (Avg. Wait Time)
Inland Port

Wait Times

May

June

DAILY RIDESHIP

AVG. WAIT TIME

0 to 5
5 to 10
10 to 15
15 to 20
20 to 30
30 to 40
40 to 50
50 to 60
More than 1 hour

45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Wait Times

- **0 to 5**: 12.3%
- **5 to 10**: 29.1%
- **10 to 15**: 31.4%
- **15 to 20**: 10.1%
- **20 to 30**: 3.1%
- **30 to 40**: 2.7%
- **40 to 50**: 0.4%
- **50 to 60**: 0.0%
- **More than 1 hour**: 0.0%

**June**
Cancelled Trips

6.5% (521) of Requested Trips was Cancelled by Passengers

Passenger Messages

- Wait time is too long: 37.8%
- I'm not ready to go: 23.4%
- I've had a change in my plans: 15.0%
- It took too long to receive my ETA: 12.5%
- Others: 11.3%

Wait time is too long
I'm not ready to go
I've had a change in my plans
It took too long to receive my ETA
Others

6.5% (521) of Requested Trips was Cancelled by Passengers
Reservation Type - June 2018

Mostly through App: 62.4%

Reservation Type:

- Inland: 69.5%
- Kleberg: 59.0%
- Legacy: 40.8%
- NC Plano: 44.7%
- Rowlett: 64.3%
- Rylie: 35.3%

Legend:
- Blue: Dispatcher
- Red: Flagdown
- Yellow: Rider

Let's Go.
Legacy Origin Destinations

June 2018: 2,942

April 2018: 2,828

4.03%
Legacy: Lunch Time

Toyota HQ

Legacy West

Shops @ Legacy
NC Plano Origin Destinations

June 2018 : 2901

19.09%

April 2018 : 2,436
NC Plano: Morning peak

Walmart

Parker Rd Station
NC Plano: Morning peak

Cross Creek Village Neighborhood Shopping Center

Business Place: Walmart
NC Plano: Morning Peak

Sam Club and other Retail Establishments
Inland Origin Destinations

June 2018 : 645

April 2018 : 420

53.57%
<table>
<thead>
<tr>
<th>Origin</th>
<th>Destination</th>
<th># of Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNT Dallas Station</td>
<td>Amazon Fulfillment Center</td>
<td>228</td>
</tr>
<tr>
<td>Amazon Fulfillment Center</td>
<td>UNT Dallas Station</td>
<td>113</td>
</tr>
</tbody>
</table>
Kleberg Origin Destinations

June 2018: 1,221

34.92%

April 2018: 905
Rylie Origin Destinations

June 2018: 473

April 2018: 358

32.12%
Rowlett Origin Destinations

June 2018
Overall Results

- Ridership 🍎steady growth
Overall Results

- Ridership
- Call Volumes
Overall Results

- Ridership
- Call Volumes
- Dispatch Activity
Overall Results

- Ridership
- Call Volumes
- Dispatch Activity
- Service with 10 minutes

Wait Times

0% 5% 10% 15% 20% 25% 30% 35% 40% 45%

0 to 5 6 to 10 11 to 15 16 to 20 21 to 30 31 to 40 41 to 50 50 to 60 > than an hour

April May June
Is MOD Microtransit Financially Viable?

Not Viable without TNC-Style Pricing and/or more ridership

Subsidy per rider Legacy Route 346
$35

GoLink Subsidy per Rider
$18.07 In Legacy Zone
$12.36 in N Central Zone

TNC Subsidy per Rider in GoLink Zones
$5.51
DART’s TNC/Taxi Negations Update

- At least one TNC wants exclusivity to participate in MOD project
- TNC’s have been willing to offer shared Ride Service for Dallas for MOD
- Without drug/alcohol testing transit must use FTA taxi exemption approach to include TNC’s in the MOD services
- Taxi’s are willing to comply with all drug and alcohol regulations
- Taxi’s have offered a shared ride product but exactly how it works is unclear
- Seamless integration of TNC’s and Taxi into the DART Microtransit software and GoPass has yet to be developed and negotiated with taxis and TNCs
- Data sharing with TNCs will be suboptimal due to TNC concerns
- TNC background checks seems to be increasingly feasible
- To offer choice to customer, MOD will need to include taxi, DART operated, and TNC as a rider choice
Key Takeaways

High level of interest in MOD has sparked rampant software development activity and various PPP agreements.

Although there are many pieces to an integrated journey planning and payment “ecosphere”, a mastery solution has not been developed.

Determining who “owns and controls” integrated mobility solutions is open for debate.

Negotiating acceptable agreements with the TNCs for shared ride service and access to data to evaluate the program has proven more difficult than anticipated.
Thank You