DART Mobility on Demand Project

Mobility on Demand Working Group
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On Going MOD Projects

- Uber Pilot Test
  - Farmer's Branch – Park Cities On Call Diversion
  - Mockingbird Parking Diversion
- Lyft --- Parker Road Parking Diversion
- Farmers Branch – MV Microtransit Test
- Plano MOD Sandbox Pilot Test
  - Requires Major Software Application Development

Results of Uber Test
Park Cities –Farmer's Branch Test

The Pilot started on July 1, 2016

Total trips from start: 722

Total fare of trips from start of pilot: $5,488.87
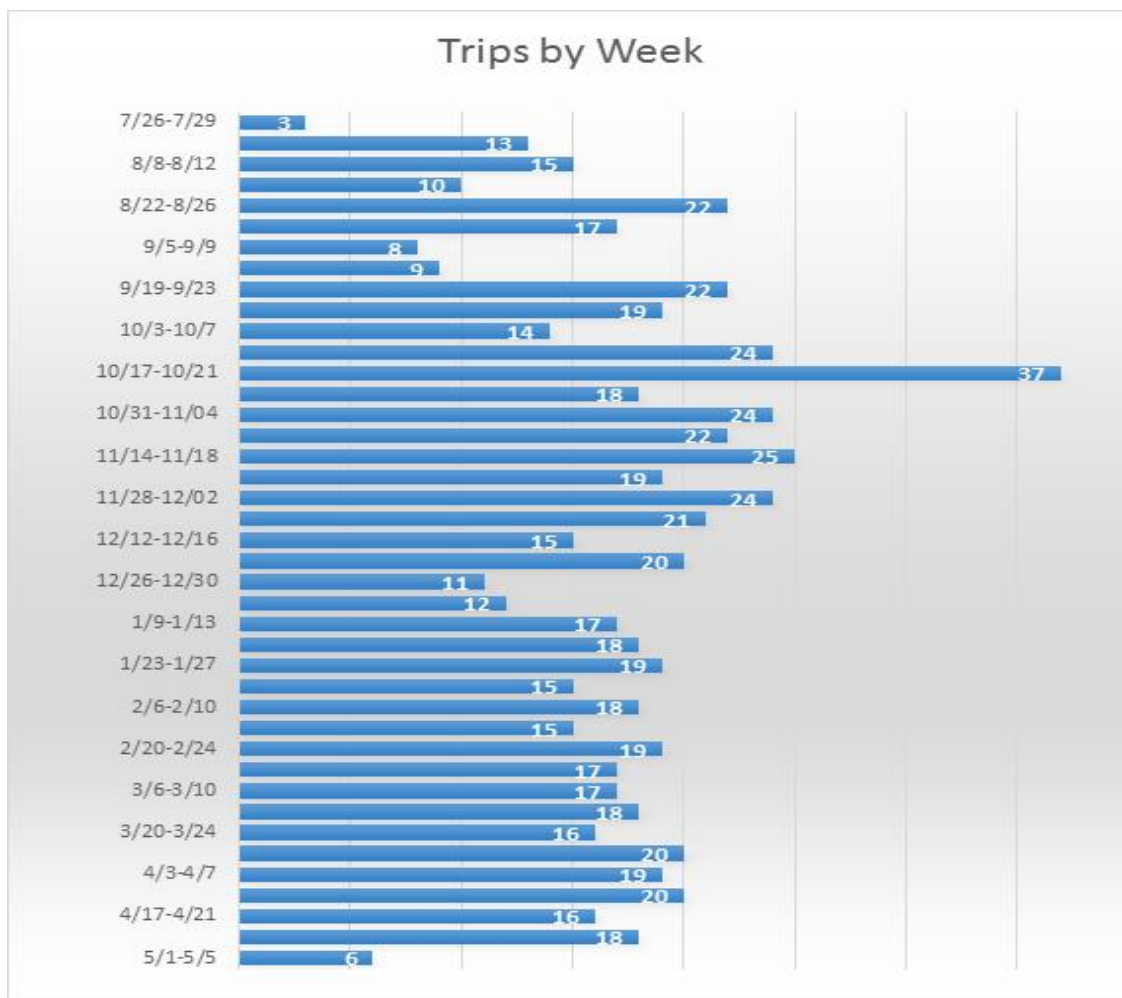
Avg. Uber fare of all trips: $7.56

Avg. trip mile for all users: 3.62

Comparative Farmer's Branch On Call Cost --- $14.24

Comparative Park Cities On Call Cost ---- $44.30

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On Call Pilot Test
Farmer's Branch- Park Cities Uber

Trips by Week

Week	Trips
7/26-7/29	3
	13
8/8-8/12	15
	10
8/22-8/26	22
	17
9/5-9/9	8
	9
9/19-9/23	22
	19
10/3-10/7	14
	24
10/17-10/21	37
	18
10/31-11/04	24
	22
11/14-11/18	25
	19
11/28-12/02	24
	21
12/12-12/16	15
	20
12/26-12/30	11
	12
1/9-1/13	17
	18
1/23-1/27	19
	15
2/6-2/10	18
	15
2/20-2/24	19
	17
3/6-3/10	17
	18
3/20-3/24	16
	20
4/3-4/7	19
	20
4/17-4/21	16
	18
5/1-5/5	6

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MV – Demand Trans Microtransit Pilot Farmer's Branch

- DART's On Call Services : Essence of the First-Mile/Last-Mile Problem

- Prospective transit users cannot easily access desired transit services via walking or by driving to park-n-ride facility

- Core assumption: prospective transit user is strong candidate if access problem can be solved

- Strong implication: line-haul transit is of very good quality and capable of attracting choice riders as well as transit captives

- Conventional transit solutions—fixed route buses, shuttles, etc.—have typically NOT been effective as first mile/last mile strategies

- More flexible, user-tailored services often needed to attract riders

Typical 1ˢᵗ Mile/Last Mile Service

First Mile/Last Mile DRT Service

4 Outbound Passengers Board DRT
Vehicle at Transit Station, are Distributed

2 Passengers Are Inbound
to Transit Station, Picked
Up During Tour

Transit Station

Dropoff

Dropoff

Pickup

Dropoff

Pickup

Dropoff

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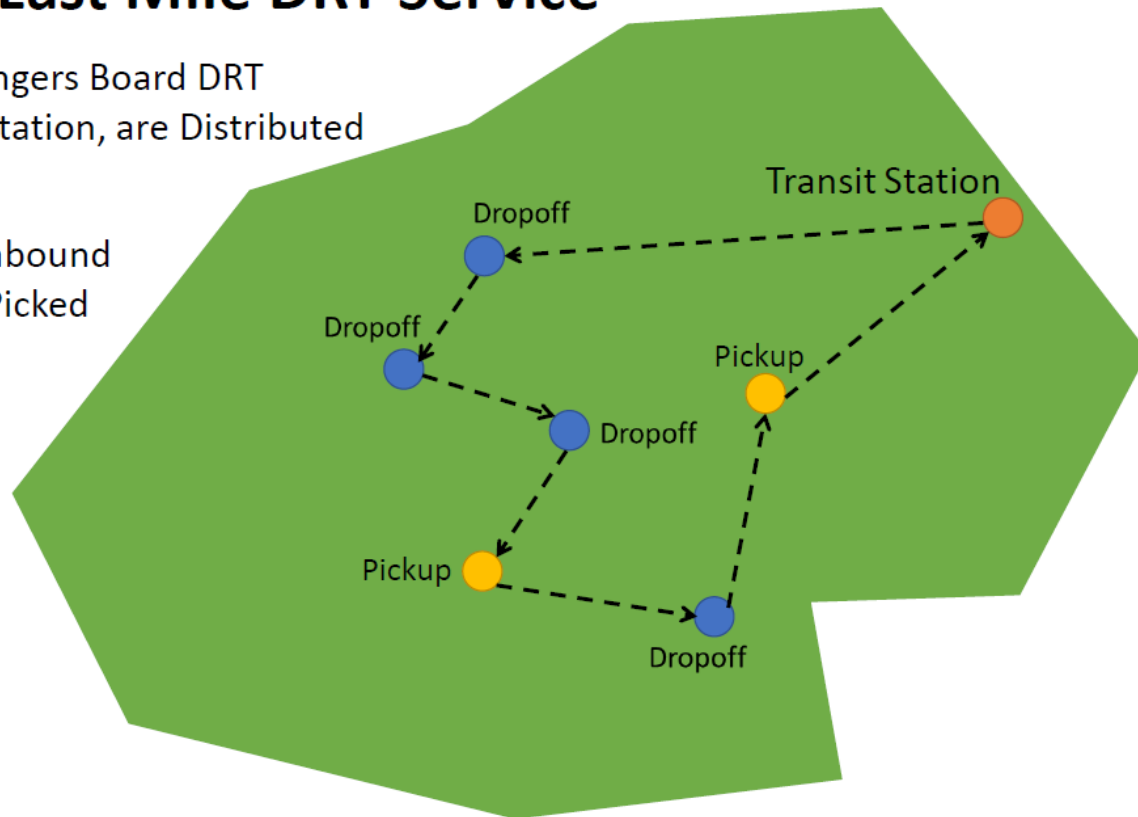
Bridj Style Microtransit

Flex-Route Service—Limited Deviations

Scheduled CheckPoint

Dropoff

Transit Station

Time windows at Designated Stops provide opportunity for vehicle to deviate from fixed route

Pickup

Designated Stop

Designated Stop

Dropoff

Dropoff

Dropoff

Key is small service zones, less than 10 square miles/25 square km

Optional Stop

Pickup

Designated Stop
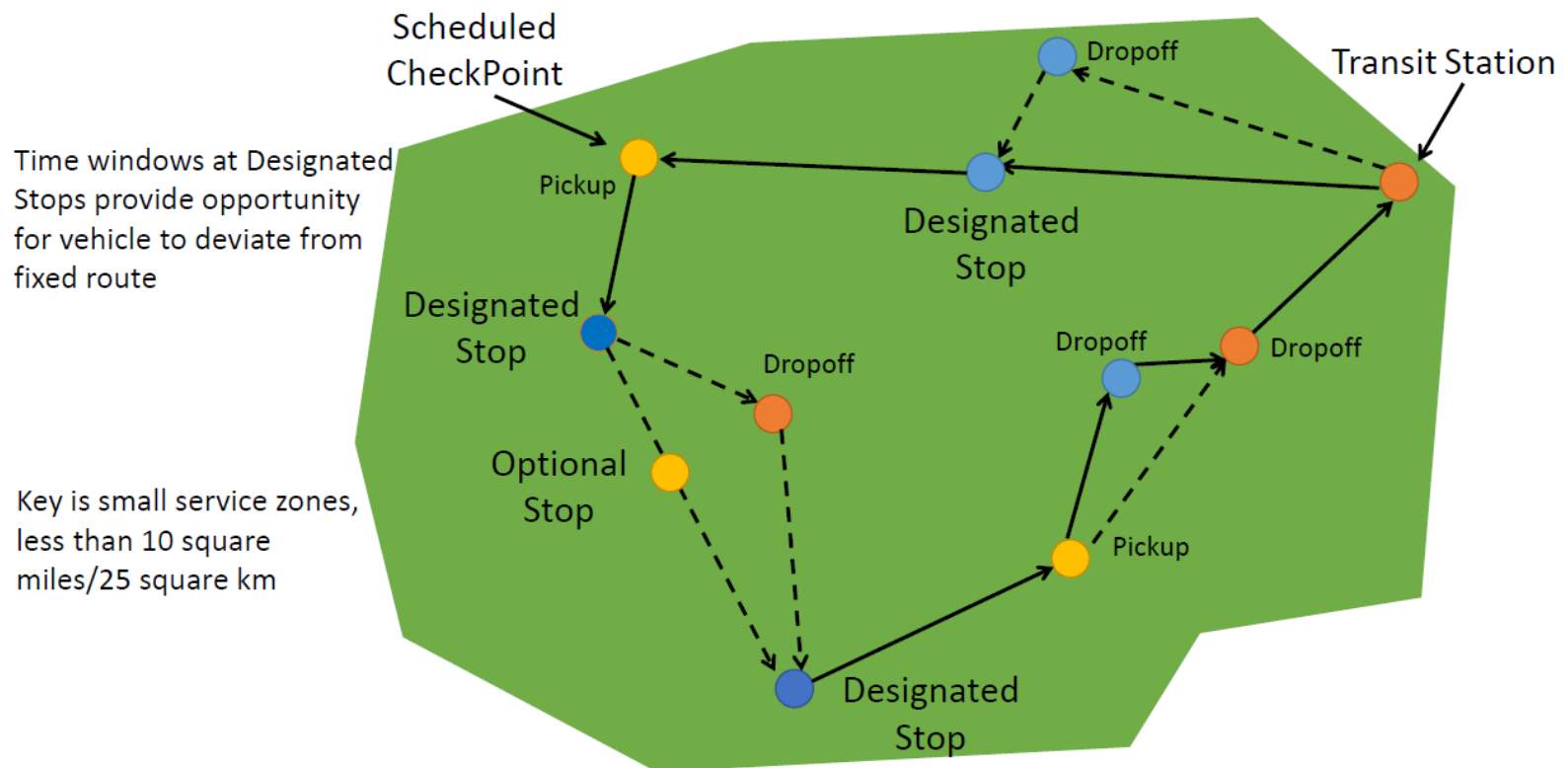
What is new in today's Microtransit

- Technology—self-service booking apps (Web, smartphone), cloud-based computing, low cost in-vehicle devices, ubiquitous data

- Transportation Network Companies (Uber/Lyft)

- Lower per trip cost than taxis, production costs lower than traditional demand responsive service

- More good 1st mile/last mile opportunities to access LRT and express bus

- Increased decentralization of employment creates significant opportunity in reverse commuting markets if there is transit access

- Blended operating models managed via technology platforms, use of both dedicated and non-dedicated vehicles in single service

Multi-Provider Options via Scheduling System

- Scheduling system can assign trips to multiple service providers
- Can send selected trips to service providers' other than dedicated vehicle (DV) provider using APIs of other, non-DV (NDV) providers
- Potential integration with TNCs, taxi operators, other NDV providers
- Could use any provider's API in concept
- Trip exchange hub—to create pool of capacity from multiple providers—being developed via large FTA-funded grant
- With trip exchange hub, trips that "fail" scheduling using dedicated vehicles can be sent to central data exchange and be handled by other providers using non-dedicated vehicles.

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Customer Booking on Smartphone

Driver Manifest—Routing Directions

Live Console—Real-Time Operations View

Sandbox Mobility on Demand Grant

- Federally Funded MOD Grant

  - $1.5 Million for Technology Development ($1.2 Federal Funds)

  - $1.5 Million for Plano Pilot Test (Locally)

  - $1 million for Southern Dallas Pilot Test (Locally Funded)

- Sandbox Time Line

  - Go Pass 2.0 – November 2017

  - MOD Technology Go Pass Upgrade --- February 2018

  - Pilot Test Begins – March 2018

  - Pilot Test Ends --- February 2019

Overarching Goals

Reduce the overwhelming dependency on the single occupant automobile within the North Texas region.
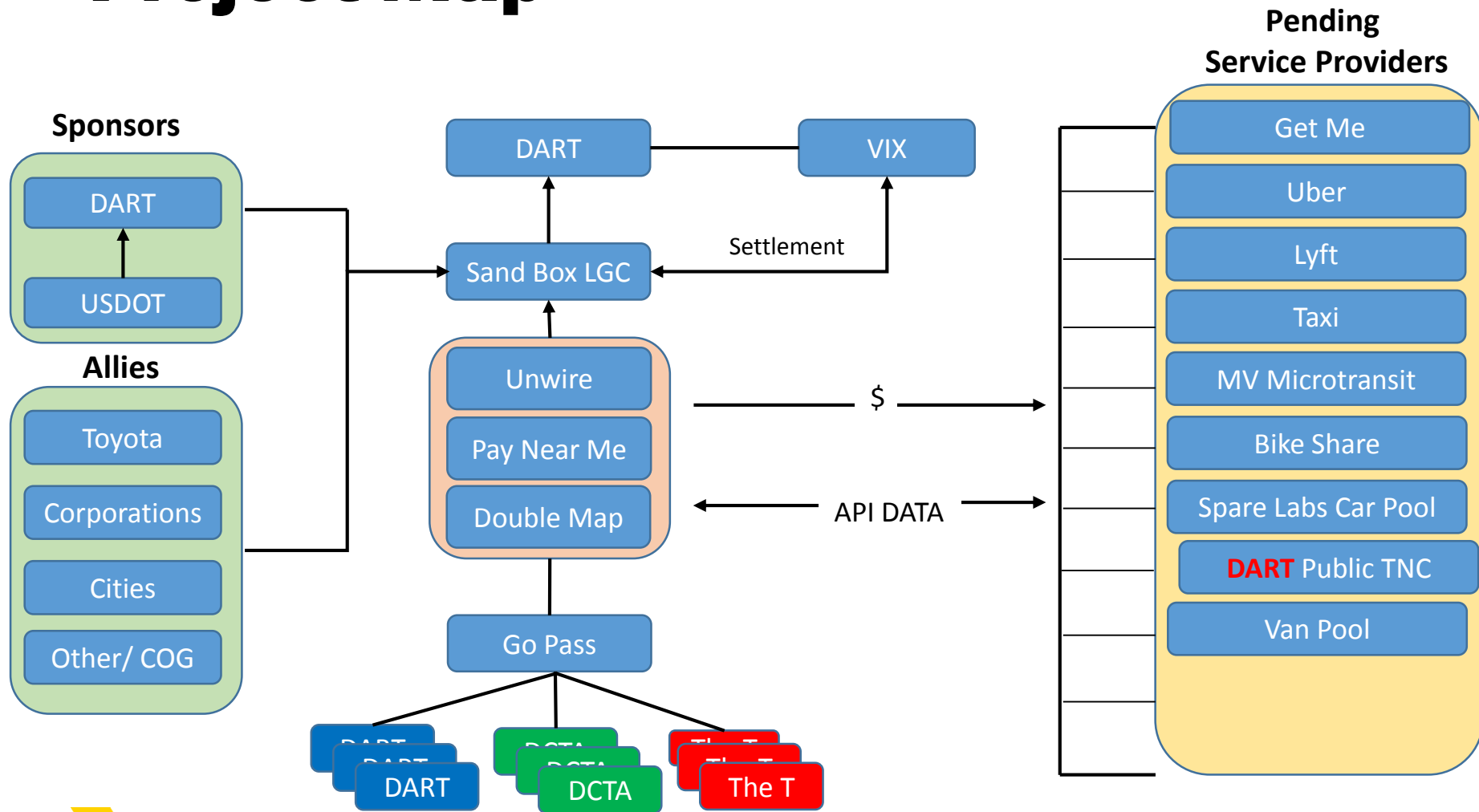
- **Provide single interface solution** to aggregate public and third party mobility providers

- **Deliver a "one-touch", single payment transaction** for customers to interface with DART's GoPass app and identify "door-to-door" transit solutions

- **Develop a clearinghouse portal** facilitating revenue settlement for multiple third-party transportation providers

- **Integrate equitable MOD options to DART's portfolio of public transit options** including comparable access for the unbanked, disabled, low income, and smartphone challenged customers

- **Lower the cost and expand the reach of public transportation** to provide high quality, first and/or last mile services

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Technology Strategy

- **Update GoPass' Software Development Kit (SDK)**
  to leverage APIs of key mobility on demand providers
  including taxi, TNCs, bike and car share services

- **Upgrade GoPass' trip planning feature**
  to allow customers to choose transportation modes
  based on time, cost and overall travel preference

- **Integrate *DoubleMap* on demand app technology**
  for pairing customers with DART and/or other public
  demand responsive providers as an additional option for
  first and/or last mile travel

- **Integrate Dynamic Carpooling** – *Spare Labs*

- **Leverage DART's account-based back office**
  provided by *Vix Technology* to function as a
  clearinghouse portal facilitating revenue settlement for
  multiple third-party transportation providers

- **Leverage GoPass to allow multiple payment options**
  to include bank cards, NFC (Apple Pay, Android Pay and
  Samsung Pay), and "cash to mobile" through *PayNearMe*
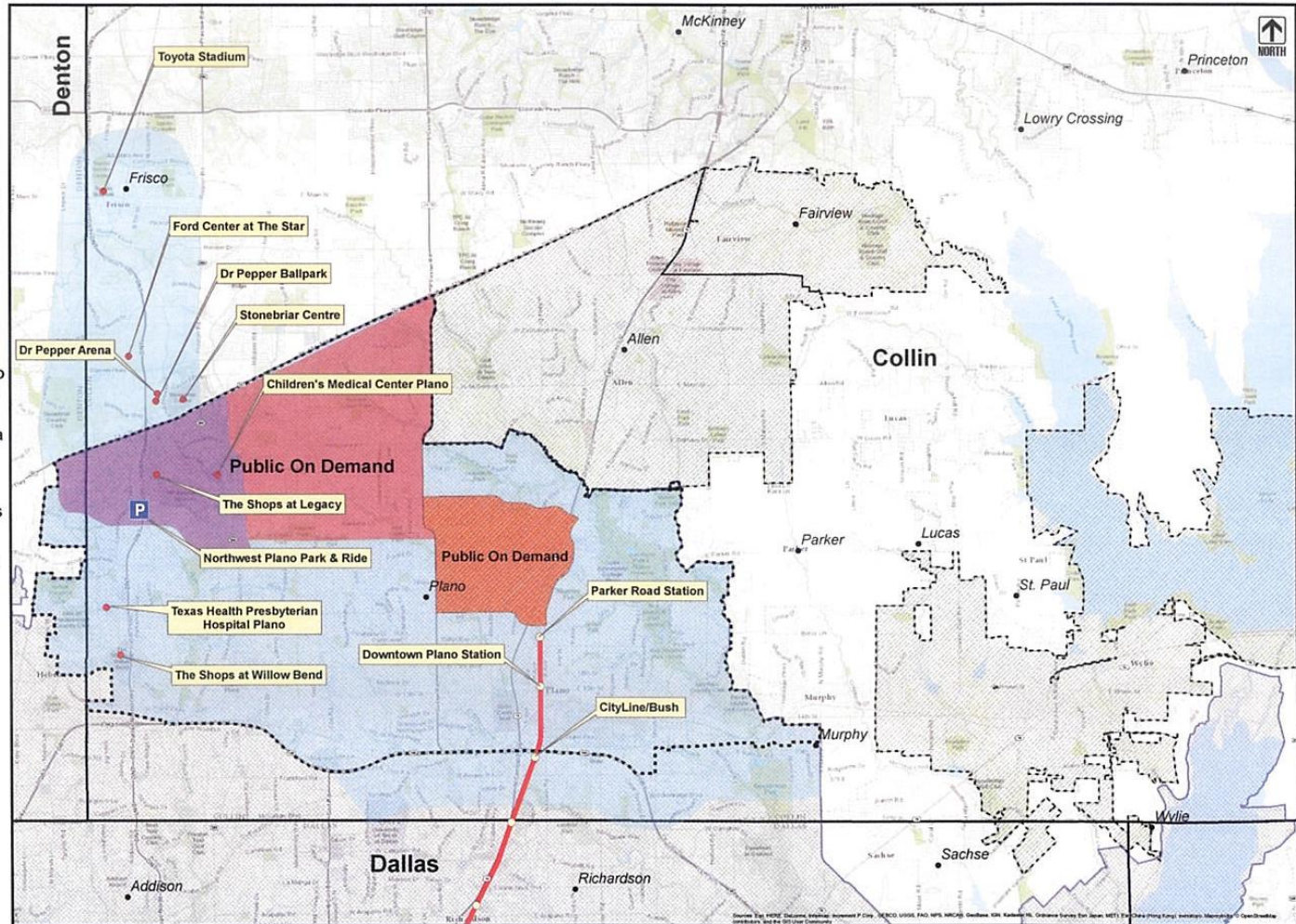 integration and other emerging payment options

MOD Project Map

Sponsors

- DART
- USDOT

Allies

- Toyota
- Corporations
- Cities
- Other/ COG

DART — VIX

Sand Box LGC

Settlement

- Unwire
- Pay Near Me
- Double Map

$

API DATA

Go Pass

- DART
- DCTA
- The T

Pending Service Providers

- Get Me
- Uber
- Lyft
- Taxi
- MV Microtransit
- Bike Share
- Spare Labs Car Pool
- **DART** Public TNC
- Van Pool

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Mobility On Demand - Pilot Area Location

Mobility On Demand – Southern Sector Pilot Area Options
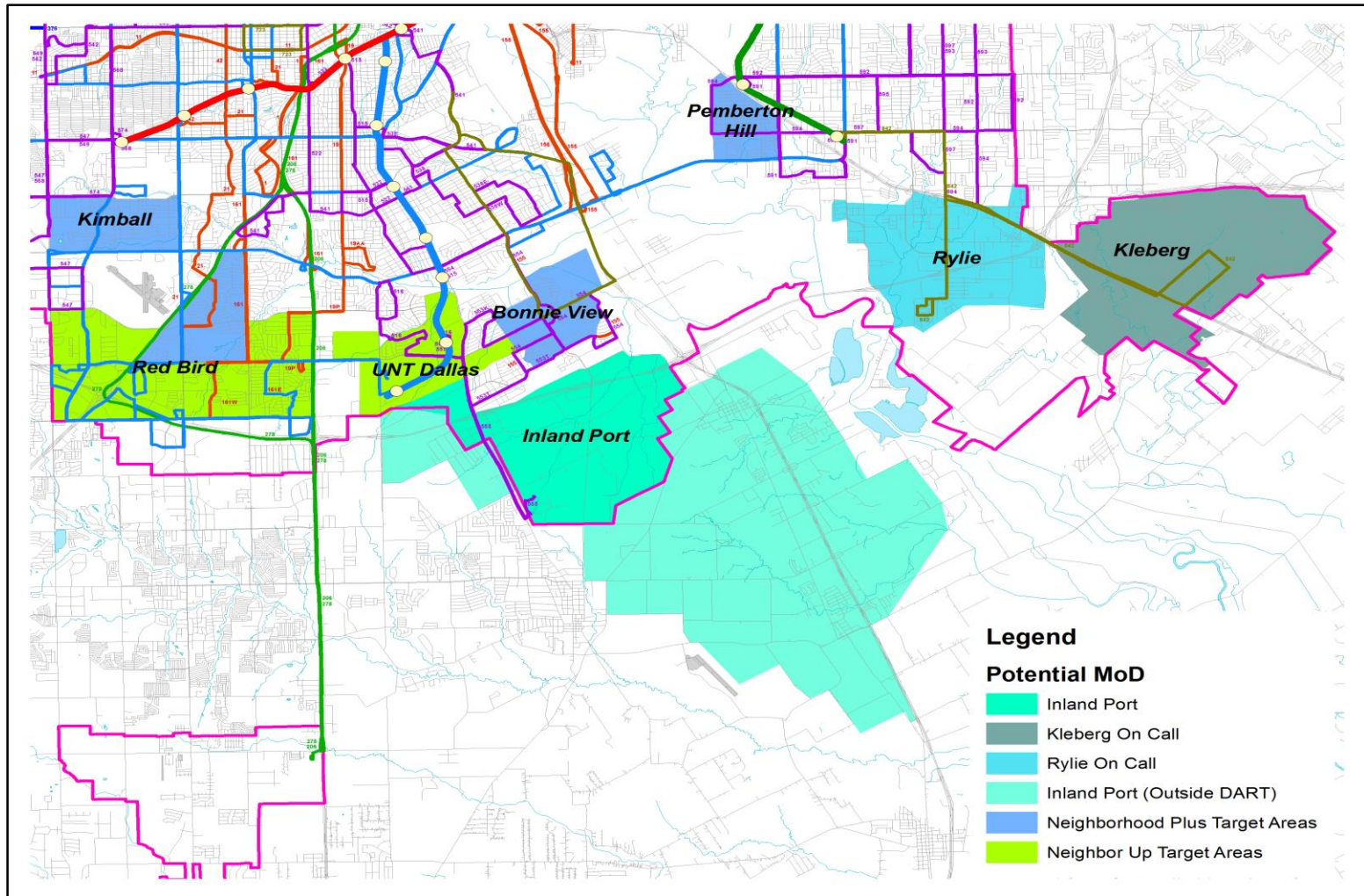
Anticipated Outcomes

- **Transition next day demand responsive scheduling to same day scheduling**

- **Replacement of ineffective, costly fixed route transit** in low density areas with mobility of demand services

- **Expand service within certain low density areas** not currently served by fixed transit due to fiscal constraints

- **Attraction of a new market of transit riders to DART Rail and high frequency bus services** from market segments which have historically not used transit due to the inflexibility, multiple transfers and poor frequency of the traditional bus system

- **Reduce dependency on automobiles**

Questions?

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