

Mobility on Demand

Group 5 - APTA Emerging Leaders Class of 2018

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Introduction - What is Mobility on Demand (MOD) & Why is it Important?

MOD uses on-demand, real-time data to provide a transportation system that is:

- Multimodal
- Integrated
- Automated
- Accessible
- Connected

Changing mobility trends are allowing people more flexibility than ever in how they choose to get from A to B, and transit has an opportunity to integrate with these new trends:

- Car sharing
- Bike Sharing
- Transportation Networking Companies (TNCs)



Addressing the Need: FTA Sandbox Grant

- Objective to conduct research on new service options & technologies to allow for great mobility
- Announced \$8 million in funding for MOD transportation projects
- MOD initiative to envision a multimodal, integrated and connected transportation system focused on personalized mobility
- Goals
 - Improved transportation efficiency
 - Improved transportation effectiveness
 - Enhanced customer service

Case Study #1: Dallas Area Rapid Transit

- Dallas Area Rapid Transit (DART) is a regional transit agency created by voters and funded with a one-cent local sales
- DART is currently composed of 13 Service Area Cities
 - 700+ Square Mile Service Area
 - 2.3 Million People in a region of 7 Million headed toward 11 Million
- Multimodal Agency
 - Bus, Rail, Paratransit, Streetcar, Vanpool and Microtransit
- In FY2017, DART provided over 65.7 million passenger trips

Case Study #1: Dallas Area Rapid Transit

Overarching Goals

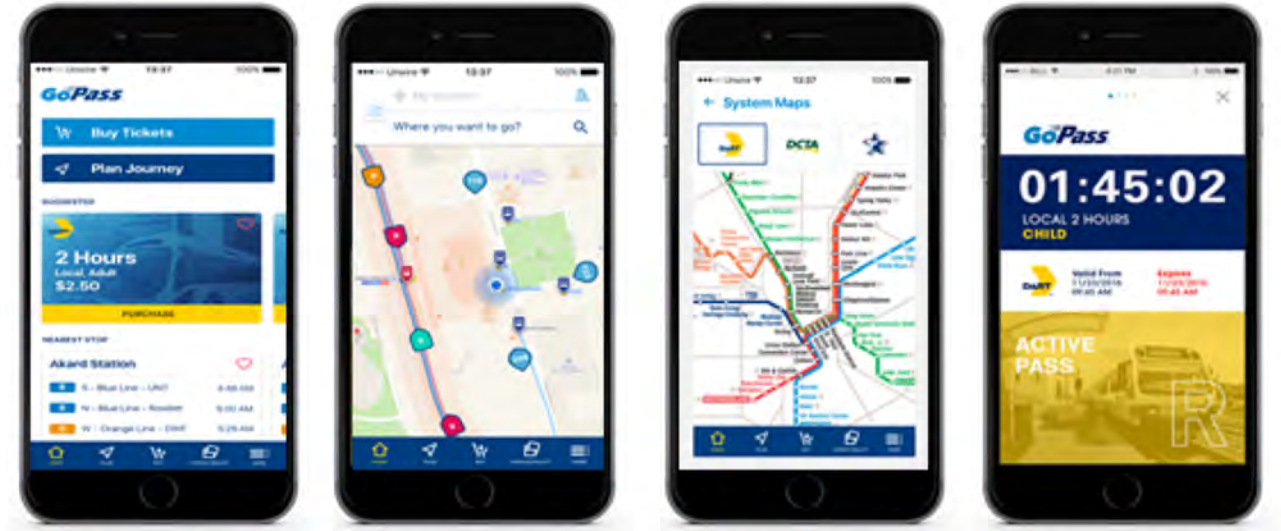
- **Provide single interface solution** to aggregate public and third party mobility providers
- **Deliver a “one-touch”, single payment transaction** for customers to interface with DART’s GoPass app and identify “door-to-door” transit solutions
- **Develop a clearinghouse portal** facilitating revenue 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



Case Study #1: Dallas Area Rapid Transit

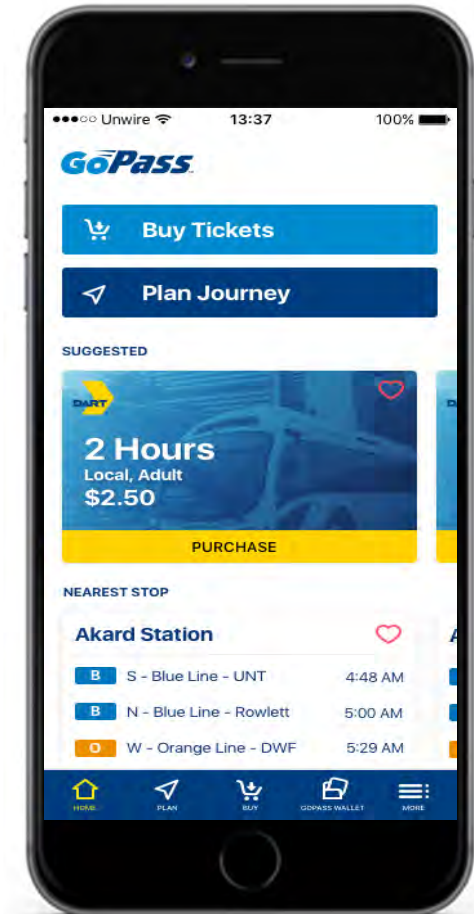
Anticipated Outcomes

- 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
- Reduce dependency on automobiles

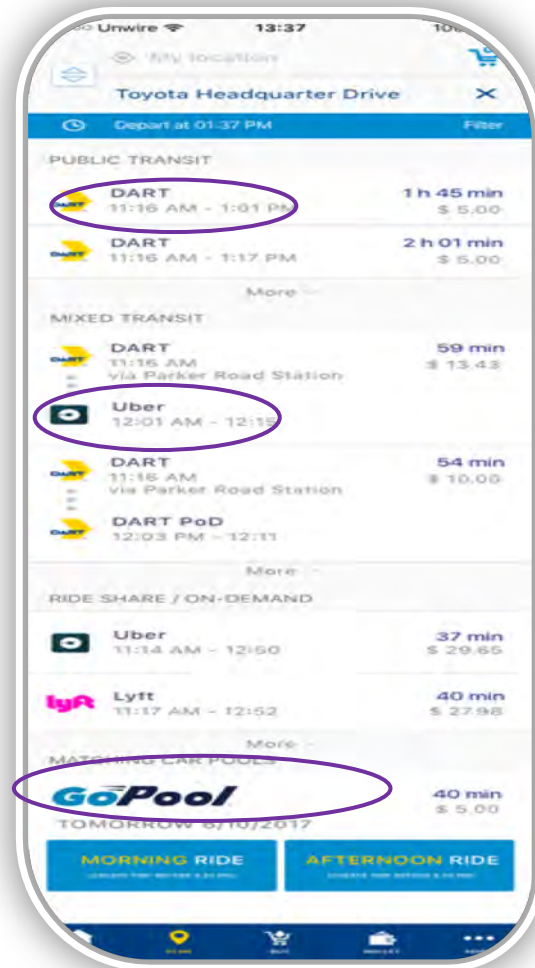


Case Study #1: Dallas Area Rapid Transit - GoPass 2.0

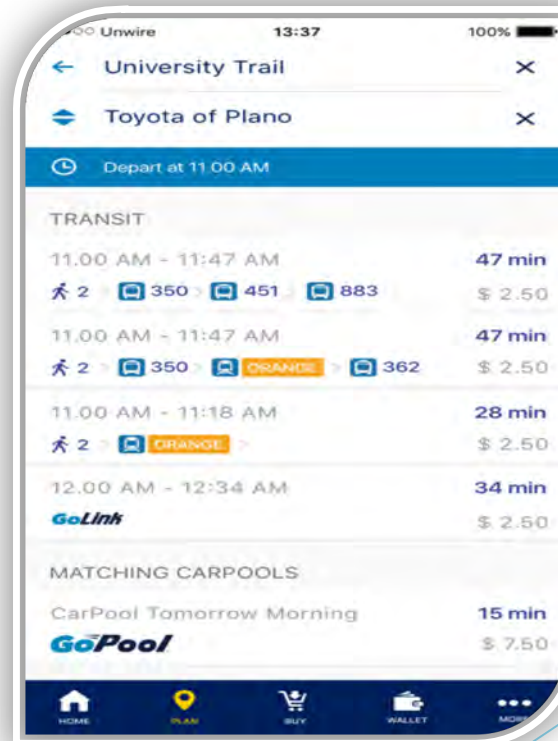
- **Update GoPass' Software Development Kit (SDK)** to leverage APIs of key mobility on demand providers including taxi, TNCs, bike and car share services
- **Upgrade GoPass' trip planning feature** to allow customers to choose transportation modes based on time, cost and overall travel preference
- **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



Case Study #1: Dallas Area Rapid Transit - GoPass 2.0

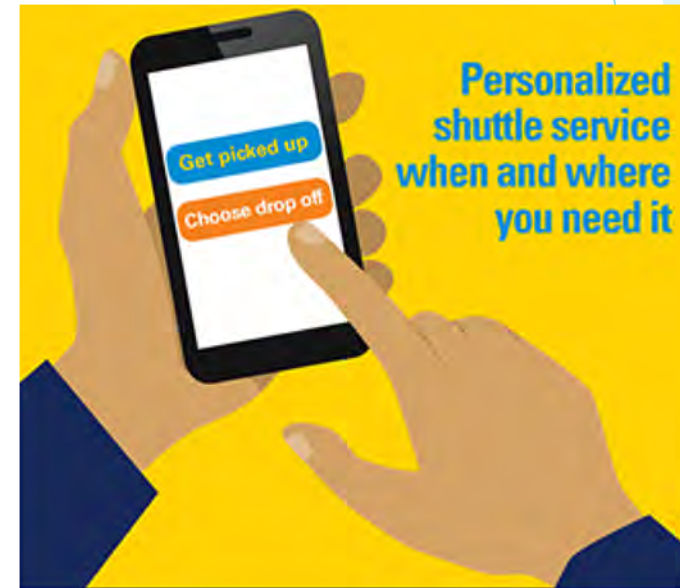


Phase 1

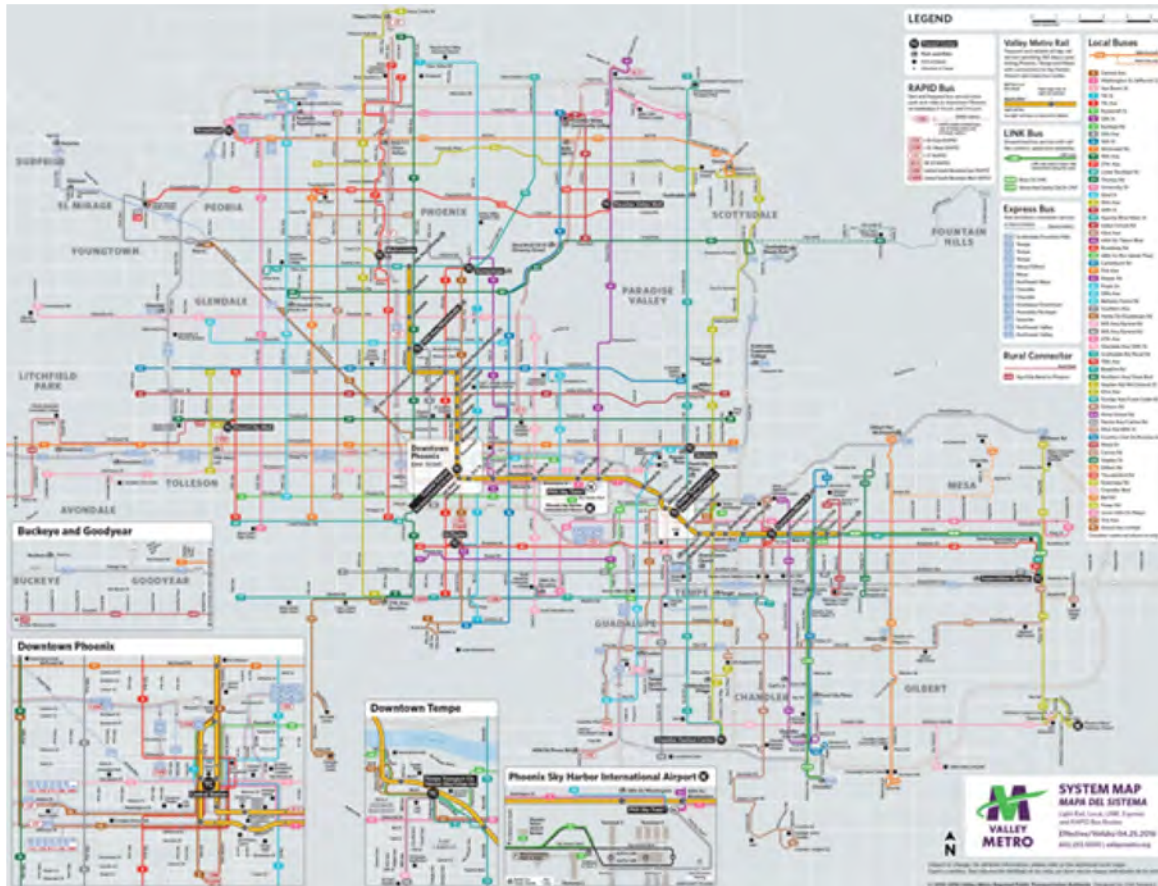


Case Study #1: Dallas Area Rapid Transit - GoLink

- Recently DART debuted 6 zones as a pilot test of a Mobility on Demand service branded GoLink
- If successful, DART's On Call services will be converted to GoLink
- GoLink currently utilizes a 3rd-party app that will be integrated into DART's GoPass if the service is successful
- As part of the pilot test, DART will supplement GoLink services operated by MV with shared ride Transportation Network Companies (TNC) services like Lyft/Uber or Via



Case Study #2: Valley Metro



26

Miles of light rail

104

Number of bus routes

72 million

Total ridership in 2017

Case Study #2: Valley Metro



- **\$1 million** awarded for a smartphone mobility platform that bridges gap between public and private transportation modes and integrates mobile ticketing
- **Project Summary:**
 - Optimized trip planning with integration of TNCs
 - Mobile ticketing for public and private modes with integrated backend payment
 - Real-time travel information
- **\$250K** awarded for autonomous vehicle demonstration
- **Project Partners:**
 - City of Phoenix
 - ASU
 - Uber
 - Lyft
 - GRiD Bikes
 - RouteMatch

Case Study #2: Valley Metro

Phase I (April)

- Enterprise architecture
- Traveler information
- Account profile
- Surveys
- Schedules
- Trip planning
- Mobile purchase pilot
- Links to Lyft, Uber, and GRiD

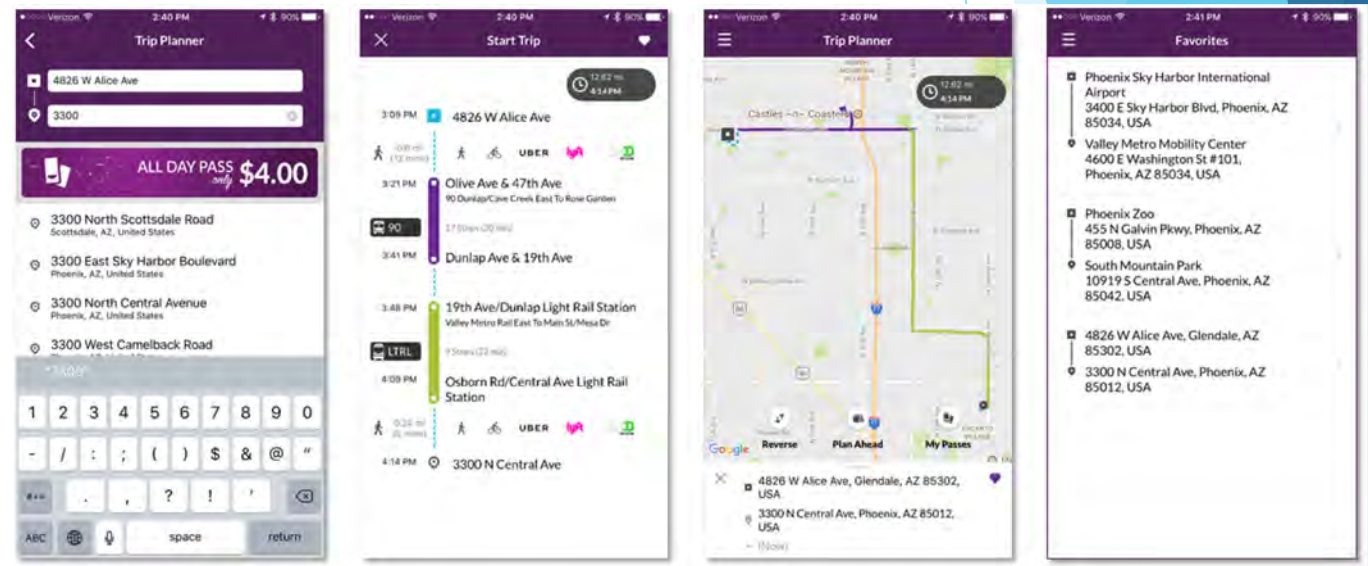
Phase II (October)

- Beacon technology
- Paratransit integration
- Safety notification service
- Bus arrival times
- Advertising partnerships
- Additional security
- Integrated single payment with Uber and/or Lyft

Case Study #2: Valley Metro

Anticipated Outcomes

- Allow users to plan trips using any and all available services in combination
- Schedule and pay for trips in single transaction
- Potential revenue generation from advertising channel
- Reduce traditional fare media usage
- Reduce inquiries to customer service center



Case Study #2: Valley Metro

Autonomous Vehicle Demonstration

- First/last mile connector or local circulator
- Data collection and lessons learned regarding:
 - Implementation
 - Operations and maintenance
 - Policies and regulations
 - Human factors and user satisfaction



MOD Sandbox Grantees by Location



Implementation Challenges

- **Complexity of Project** Integration of the API's for all of the different systems has proven much more complicated than originally anticipated extending the time and cost for the project.
 - Individual elements of the program like micro transit, bike share, and the dynamic carpooling will be phased in beginning initially with stand alone APPs, and integrated into a single APP later.
- **Diverse Partners**
 - Negotiating acceptable agreements with the TNC's for shared ride service and access to data to evaluation the program has proven more difficult than anticipated.
 - Rise and fall of mobility startups
- **Rapidly Changing Technology**
- **Unrealistic Expectation for Timeline**

Key Take Aways

- First Mile/Last Mile connections have long plagued transit agencies across the country
- Technological innovations have provided Public Transit it's first real paradigm shift in generations
- The Mobility on Demand Sandbox Grant provides agencies the opportunity to capitalize on this paradigm shift in order to provide customers an even better transit experience
- Similar to Public Private Partnership endeavors across the country, MOD is not without complications
- The ability to overcome these obstacles will make utilizing public transit more convenient, accessible and affordable.
- Mobility on Demand is the future of our industry

Thank You

