Agenda

- **Purpose of this Webinar**
  - To share the submitted Performance Measurement Plan from HIRTA with the stakeholders of the project and ITS4US community.

- **Webinar Content**
  - Complete Trip – ITS4US Deployment Program Overview (*Fred Bowers*)
  - Site Orientation & Deployment Concept Overview (*Brooke Ramsey*)
  - Performance Measurement and Evaluation Support Plan (*Santosh Mishra* and *Steve Wilks*)
  - Stakeholder Q&A
  - How to Stay Connected (*Fred Bowers*)

- **Webinar Protocol**
  - Please mute your phone during the entire webinar
  - You are welcome to ask questions via chatbox at the Q&A Section
  - The webinar recording and the presentation material will be posted on the ITS4US website
Program Overview

Fred Bowers, Site COR
Program Overview

- A USDOT Multimodal Deployment effort, led by ITS JPO and supported by OST, FHWA and FTA

- Supports multiple large-scale replicable deployments to address the challenges of planning and executing all segments of a complete trip

Vision

Innovative and integrated complete trip deployments to support seamless travel for all users across all modes, regardless of location, income, or disability
The Complete Trip Concept

**Complete Trip:** An individual’s ability to go from origin to destination reliably, spontaneously, confidently, independently, safely, and efficiently without gaps in the travel chain.
Program Goals

- Spur high-impact integrated Complete Trip deployments nationwide
- Identify needs and challenges by populations
- Develop and deploy mobility solutions that meet user needs
- Measure impact of integrated deployments
- Identify replicable solutions and disseminate lessons learned
Complete Trip Phase 1 Awardees

- University of Washington
  - OR, WA, MD

- California Association of Coordinated Transportation
  - CA, OR, and WA

- Heart of Iowa Regional Transit Agency
  - Dallas County, IA

- ICF
  - Buffalo, NY

- Atlanta Regional Commission
  - Gwinnett County, GA
Deployment Phases

**PHASE 1: Concept Development**
- Concept Development for Complete Trip Deployment
- Establish Cohort Roundtables

**PHASE 2: Design & Test**
- Design, Test and Deploy Complete Trip Solutions
- Evaluation Framework and Planning

**PHASE 3: Operate & Evaluate**
- Demonstrate Multiple Large-Scale Deployments
- Evaluate Deployments
- Share Data & Lessons Learned

**Operations Maintenance**
- Sustain operations for a minimum period of five years after the program is completed with no supplementary federal funds

**Deployment**
- Up to 12 months
- Up to 24 months
- Minimum of 18 months

**Post-Deployment**
- 5 years
HIRTA Health Connector
Overview

Brooke Ramsey, Project Management Lead
HIRTA and Dallas County Overview

- HIRTA provides demand response services to population in 7 county areas, including Dallas County.
- Dallas County grew at 36% in the last decade.
- Coordination of medical transportation services for underserved a major challenge.

Population Breakdown in Dallas County (Source: Census 2019)

Underserved Population (Total: 33,500) Share in Dallas County (Source: Census 2019)
High-Level Findings from Stakeholders

- Lack of awareness on transportation options
- Lack of integrated booking and trip management experience
- Limited capabilities in current modes to meet the needs of underserved
- Limited wayfinding capabilities
- Service management challenges with return trips
- Same day and after hour service issues
- Limited data sharing and reporting to measure the performance of healthcare transportation
Health Connector Complete Trip Overview

2. Vehicle Dispatched and Arrives
3. Wayfinding and Boarding the Correct Vehicle
4. In-vehicle Information
5. Arrival at Healthcare Center
6. Wayfinding at the Healthcare Center
7. Guidance on Intake and Wait-time
8. As-needed Wayfinding/ Customer Information
9. Appointment Complete
10. Return Ride Requested

Source: HIRTA Team
Performance Measurement Plan
Overview

Steve Wilks, Concept Development Lead
Goals

- G1-Improved Health outcomes for Dallas County Residents
- G2-Self-reliance and Spontaneity for Underserved Groups
- G3-Efficient Transportation Management Capabilities for Medical Transportation Services
- G4-Financial Sustainability of Medical Transportation Programs
- G5-Safe Medical Transportation Services
Key Use Cases

- Fixed Recurring Appointment
- Recurring but Irregular Appointment
- Medical Transportation Needs for Veterans
- An Older Adult using Medicaid Benefits
- Return Trip Depends on Planned Discharge Per Progression of Recovery
- No-show for Inbound Transportation but Return Trip Needed
- After-hours Service Needed for Urgent Care
Approach to Defining Performance Measures

- Identification of Categories and MPM measures as Initial List
  - Core Measures
  - Tier 1 Measures
  - Tier 2 Measures
  - Tier 3 Measures
- Mapping to Goals and Objectives
- Mapping to Use Cases
- Data Sufficiency Check

Source: Transit Center, “Mobility Performance Metrics (MPM),” February 2020, Federal Transit Administration, Report No.: 0150
Performance Measures

- Core:
  - PM#1: Ability to Dynamically Reassign Vehicles to Address Service Disruption
  - PM#2: Availability of Transportation alternatives
  - PM#3: Trips Unfulfilled due to System Unreliability
  - PM#4: ETA Prediction Accuracy
  - PM#4: On-time Performance
  - PM#5: Travel-time Prediction Accuracy
  - PM#8: Spontaneity Time
  - PM#9: Time spent in Non-vehicle Component of Complete Trip (access and wait time)
Performance Measures (contd.)

- **Core (contd.)**
  - PM#10: Privacy Protection
  - PM#11: Traveler Safety in Healthcare Transportation
  - PM#12: System’s Ability to Meet Accessibility Needs
  - PM#13: Self-reliance/Dignity Index
  - PM#14: Reduced Anxiety/Stress in Medical Transportation
  - PM#15 Complaints and Customer Satisfaction
  - PM#16: System Productivity (Trips/Hour)

- **Tier 1:**
  - PM#17: Ability to Assign Trips to Third-party Providers
  - PM#18: Minimized Deadhead Hours/ Time
  - PM#19: WAV Reliability
  - PM#20: Increased Cost Efficiency
Performance Measures (contd.)

- **Tier 1:**
  - PM#21: Improved Coordination among HIRTA, Healthcare Providers and Health Navigators
  - PM#22: Delivery of Safe Healthcare Transportation

- **Tier 2:**
  - PM#23: Reduction in Medical appointment Deferment due to Transportation

- **Tier 3**
  - PM#24: Savings due to Reduction in No-shows for Medical Appointments
  - PM#25: Safe Transportation Access to Healthcare Facilities
Constraints

- PII in Traveler Details and Trip history Data
- Access to Search History Logs
- Wayfinding Request Details
- Survey Design and Recruitment
- Extrapolation for Tier2 and Tier 3 Metrics.
Confounding Factors

- Similar Capabilities available from Other Entities
- Traffic Delays Caused by Factors beyond HIRTA’s Control
- Impact of Weather on Traveler’s Choice and Perception
- Limitations in Capacity due to Participation of Service Providers in Rural Areas
- Safety Events Caused by Factors Beyond HIRTA’s or its Partners’ Control
- Other Factors Causing Improvements in Health Outcomes
Confounding Factors

- Reasons for No-shows and Cancellations May not be Known
- Traveler Anxiety May be Due to Factors Beyond Control
- Temporary Outage or Degraded System Performance
- Customer Complaints may not be Valid
Analysis Approach

- Before and After Analysis
- Control and Treatment Method
- Trend Analysis of System Performance
- Behavioral Analysis
- Financial Modeling
Data Collection, Sharing and Reporting Plan

Santosh Mishra, System Development Lead
Datasets

- Admin
- Driver
- Trip
- Aggregated
- Health/Medical Appointment
- Survey
- System Log
- Wayfinding
Data Collection Approach

- Baseline: Before/Pre-Deployment Data
- Deployment Data
  - During Deployment
    - Through Surveys
    - Through In-person Interviews
- Financial Data
Data Verification and Processing

- Quality Check
  - Missing Data
  - Insufficient Data
  - Invalid Data
  - Outlier
  - Exposure to PII

- Processing
  - Filtering
  - Correlation
  - Anonymization
  - Aggregation
Next Steps

Santosh Mishra, System Development Lead
Next Steps

- Coordination with Institutional Review Board (IRB) and Human Use Approval
- Finalization of Survey Approach
- Finalization of Performance Measurement Plan
- Finalization of Data Management Plan
- Support for Independent Evaluation
- Development of Deployment Plan
Stakeholder Q&A

▪ Please keep your phone muted

▪ Please use chat box to ask questions

▪ Questions will be answered in the order in which they were received
Stay Connected

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Visit the Complete Trip - ITS4US Deployment Program Website and FAQs:
https://its.dot.gov/its4us/
https://www.its.dot.gov/its4us/its4us_faq.htm