Complete Trip - ITS4US Deployment Program

Deployment Scenario Examples:
Sunflower City & Pinefield

March 12, 2020
USDOT Secretary Chao's Priority: Expanding Access to Transportation

- USDOT is launching a new department-wide initiative to expand access to transportation for people with disabilities, older adults, and individuals of low income. The **Complete Trip Portfolio** will identify ways to provide more efficient, affordable, and accessible transportation for underserved communities.

- Secretary Chao announced her intent to fund 3 new programs as part of the Complete Trip Portfolio to develop and deploy innovations in technology and further interagency partnerships to improve mobility:
  - Complete Trip – ITS4US Deployment Program
  - Inclusive Design Challenge
  - Mobility for All Pilot Program
Complete Trip - ITS4US Deployment Program

- A USDOT Multimodal Deployment Effort, led by ITSJPO and supported by OST, FHWA and FTA
- Built upon previous USDOT research investments, the Complete Trip-ITS4US Deployment Program supports communities in developing innovative integrated technologies and creating public-private partnerships to move towards complete trip deployments

**Vision**

Innovative and integrated complete trip deployments to support seamless travel for all users across all modes, regardless of location, income, or disability
Elina Zlotchenko
Program Manager
ITS Joint Program Office
Webinar Series

1. Overview of the Complete Trip - ITS4US Deployment Program
2. Engaging Stakeholders, Developing Partnerships, and Following the Planning Process
3. Enablers and Technologies
4. Deployment Scenario Examples
5. Deployment Scenario Examples
6. Privacy, Security, and Open Data
7. Procurement Path

Links to webinar recordings will be available on the ITS4US website:
https://its.dot.gov/its4us/its4us_webinar.htm
Today’s Agenda

- Program Overview
- Planning and Stakeholder Outreach
- Technology and Enablers Takeaways
- Building a Complete Trip Vision
- Deployment Scenario – Sunflower
- Deployment Scenario - Pinefield
- Stakeholder Q&A
Program Overview

- Up to $40 million available for communities to demonstrate innovative and integrated complete trip deployments to support seamless travel for all users across all modes, regardless of location, income, or disability.

- The Program aims to solve mobility challenges for all travelers, including:

  - Procure and award multiple large-scale, replicable deployments to address the challenges of planning and executing all segments of a complete trip.
The Complete Trip

- **The Complete Trip Concept:** An individual’s ability to go from origin to destination reliably, spontaneously, confidently, independently, safely, and efficiently without gaps in the travel chain.
Complete Trip Deployment Concept: Fundamental Elements

- Complete Trip deployments will be real-world environment deployments
  - If successful, deployed technologies are expected to remain as permanent operational elements
  - Successful sites will serve as replicable models for other candidate deployers
- There will be multiple Complete Trip deployments
  - Each site will have different solutions based on their population travel needs
    - Deployments must address their populations’ challenges of planning and executing complete trips
    - The unique needs of each site must drive the deployment process
- Complete Trip deployments are expected to be both large-scale and multi-modal
  - Large-scale implies deployments will have measurable impact, not a specific minimum geographic size
  - Sites will deploy multiple technologies and modes
Deployment Phases and Schedule

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

Program 2020 Schedule
- Pre-Deployment Outreach Webinars (Winter-Spring)
- Solicitation for Deployment Phase 1 Released (Summer 2020)
- Solicitation Award (Fall 2020)
Kate Hartman
Chief – Research, Evaluation, and Program Management
ITS Joint Program Office
Solving a Problem

- **Identify local needs**
  - Understand the complete trip challenges by:
    - Trip Segments
    - Underserved Populations

- **Design solutions that solves a problem**
  - Deployment Concepts must address the travel challenges of your particular community.
Partnerships

- Identify stakeholder groups and determine their roles:
  - Local
    - Advocacy Group
    - Community Organization
  - Institutional
    - Inter-governmental
    - Academic
    - Major Employer or Destination
  - Business
    - Technical Services
    - Vendor

- **Build the right team from the beginning.** Successful projects have brought together diverse, well-rounded teams.

- **Needs should drive solution development and selection of vendors.** Identify needs before developing formal partnerships to ensure that the needs will be met by the vendor solutions.
Stakeholder Outreach and Planning

- **Leverage your existing planning processes to develop your concept:**
  - Formalize partnerships and define roles
  - Inventory high-level community needs and transportation challenges from previous projects and outreach activities

- **Stakeholder Engagement is critical to success of any deployment program:**
  - Early and frequent involvement of stakeholders brings diverse viewpoints and inputs to the project and builds trust between public agencies, the public and other partners.
  - The more effective stakeholder engagement is the better an agency can make informed decisions about project concepts and direction
  - Stakeholders need to be engaged throughout the entire process
Enabling Components

- An enabling component is a technology or service that can be leveraged to build solutions that address the challenges to trip segments.
  - Multiple enabling components may be used in a single solution.
  - Deployments should include multiple solutions that are integrated together to support complete trips for all.

- Enabling components fall into four categories:
  - Software
  - Hardware
  - Communications
  - Service Model(s)
Creating Innovative Complete Trip Solutions

Leverage enabling components to solve your specific transportation problems
- Ensure technologies work together between trip segments
- Consider solutions that support spontaneous travel

Integrate with existing ITS and transportation services
- Utilize existing infrastructure and services when feasible
- Deploy new capabilities without adversely impacting current services

Plan for Scalability
- Consider phased roll-out to beta users
- Identify scalability risks and how to mitigate them

Performance Measurement Plan
- Identify how you will collect the data to measure performance metrics
- Identify if you need to collect pre-deployment performance data
Complete Trip (ITS4US) Deployment Scenario Example

Sunflower City
Sunflower City, USA
Sunflower City, USA

Bud wants accessible mobility options

Daisy wants to access mobility options without a mobile phone

Violet wants a one-stop-shop to pay for her multimodal trips

Jasmine wants real-time traveler information & trip planning and booking tools

Daisy wants to access mobility options without a mobile phone

Violet wants a one-stop-shop to pay for her multimodal trips

Jasmine wants real-time traveler information & trip planning and booking tools
Building the Team

Sunflower City Councilmember Marigold Bellerose has served as deployment champion, guiding the project through early phases.

Developing new partnerships with the Sunflower City Planning Department Lead Lily Flowers and Orchid Technologies, a local technology company.

Sunflower and Spring City Business Improvement Districts (BIDs), local advocacy group for people with disabilities, regional transit agency, low income community representatives, and other mobility providers.

Key partners committed personnel and resources to assist with Complete Trip deployment efforts.
Transportation Needs

**TRIP PLANNING**
- Real-time traveler information access with and without smartphones
- Reliable information on accessible paths

**OUTDOOR NAVIGATION**
- Accessible amenities, sidewalks and ADA landing pads, and pathways to services.

**INTERSECTION CROSSING**
- Users need sufficient time to cross busy intersections

**BOARDING/USING VEHICLES**
- Access to accessible vehicles
- Easy to understand instructions about how to use vehicles

**TRANSFERS/PAYMENTS STOPS & STATIONS**
- Variety of accessible and affordable mobility options with seamless payment options

**INDOOR NAVIGATION**
- Information about transfers and navigating stations

**INDOOR/OUTDOOR TRANSITION**
- Accessibility and infrastructure information to enter and exit stations available in accessible formats

**CONNECTING & COMPLETING TRIP SEGMENTS**
- Access to more destinations not served by public transit
Complete Trip Segments and User Groups

- People with Disabilities
  - Older Adults
- Low Income
- Rural Residents
- Veterans
- Limited English Proficiency
Integrated Payment System

Violet can view options, book and pay for her multimodal trip in one app.
Accessible Bikeshare Integration

Bud is confident that an accessible bike is available because he booked and paid for his ride through the app.
Jasmine uses the app for reliable traveler information & trip planning and booking.

Daisy can use the kiosk to view, book, and pay for her ride without a cell phone.
## Metrics Development Example

<table>
<thead>
<tr>
<th>Trip Segment</th>
<th>Need</th>
<th>Solution(s)</th>
<th>Target</th>
</tr>
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</table>
| Trip Planning                 | Comprehensive and reliable transit information (with and without smartphones) | • Kiosk & Mobile App  
• Real-time APIs                                       | Average 1000 unique users per day                    |
|                               |                                                                      |                                                      | Average estimated BRT arrivals times are within 1 minute of actual arrival times |
| Boarding/Using Vehicles       | Accessible vehicles providing mobility services for people with disabilities | • Adaptive bikeshare sub-fleet                        | 80% of travelers with disabilities indicating on annual survey: |
|                               |                                                                      |                                                      | • Satisfaction w/ instructions/info                       |
|                               |                                                                      |                                                      | • Increased access to destinations                        |
| Transferring vehicles/modes, payment, & using stops/stations | Ability to pay for a variety of mobility services beyond transit | • Kiosk & Mobile App  
• Integrated Payment System                               | 50% of adults in low-income ZIP codes have registered Mobility Payment cards/accounts within 2 years of launch |

*This process should be repeated for each need and a need may have several metrics.*
Christina Gikakis
Program Manager, Office of Mobility Innovation
Federal Transit Administration
Complete Trip (ITS4US) Deployment Scenario Example

Pinefield, USA
I wish we could go to the cafe for lunch but there are no services available until 3 pm.

Okay, we'll go another time.
Hazel and Vernon want convenient and affordable mobility options.

I wish we could go to the cafe for lunch but there are no services available until 3 pm.

Holly and Willow want spontaneous mobility options.

Okay, we'll go another time.
## Building the Team

### Champion & Advocates

Chestnut County Executive Fern Leif, County Council, and Pinefield Town Council have served as deployment champions.

### Partnership Building

Expanding and developing new partnerships with Veteran Transportation Service, taxi company, and existing dispatch vendor, and local employers.

### Stakeholder Engagement

Established regular working group meetings with the transit agency, county Department of Health and Human Services, VA Medical Center mobility manager, and Regional Transportation Planning Organization.

### Dedicated Resources

Key stakeholders pledged staff and resources to assist with concept development, deployment, and coordination efforts.
Transportation Needs

- Reliable and affordable alternative transportations to driving
- Access to traveler information and convenient scheduling of trips
- Accessible amenities and sidewalks
- Enhanced controlled crossings and lighting
- Information on when it is appropriate to cross and how much time a traveler has to safely cross
- Additional transportation options with consistent access to accessible vehicles
- Coordinated and affordable mobility services with seamless transfers
- Information on accessible pathways to points of interest
- Accessibility and infrastructure information to access fixed-route services
- Localization information and technology to support navigation tools
Complete Trip Segments and User Groups

- People with Disabilities
- Older Adults
- Low Income
- Rural Residents
- Veterans
- Limited English Proficiency
Preliminary Concept Vision

User Groups

Complete Trip Challenges

Enablers

Source: Getty Images
On-Demand Coordinated Ride Service

Hazel can book a convenient ride to her VA appointment through the coordinated ride service.
AV Circulator

Holly and Willow now have spontaneous mobility choices to go to lunch on the AV circulator.
Integrated Trip Payment Application

Vernon can book a subsidized trip to work with the integrated payment application.
Integrated Deployment
## Metrics Development Example

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</table>
| Trip Planning         | Access to traveler information and convenient scheduling of trips                            | • On-Demand Coordinated Ride Service  
• Integrated Trip Payment App                                                                 | 40% decrease in average time between desired pick-up time and actual pick-up time for VA appointments over 3 years |
| Boarding/Using Vehicles | Additional transportation options with consistent access to accessible vehicles            | • AV Circulator                                                                               | 35% increase in number of work/shopping trips in Pinefield completed within 45 minutes over 3 years |
| Transferring vehicles/modes, payment, & using stops/stations | Coordinated and affordable mobility services with seamless transfers                     | • Pinefield On-Demand Coordinated Ride Service  
• Integrated Trip Payment App                                                               | 50% of local employers were providing subsidies through the Integrated Trip Payment App within 2 years of deployment |

*This process should be repeated for each need and a need may have several metrics.*
Elina Zlotchenko

Program Manager

ITS Joint Program Office
Upcoming Outreach Activity

- Save the date for the remainder of the webinar series:
  - Deployment Scenario Examples: March 26, 2020, 1:00 – 2:00 PM ET
  - Privacy, Security, and Open Data: April 9, 2020, 1:00 – 2:00 PM ET
  - Procurement Path: April 23, 2020, 1:00 – 2:00 PM ET

- All webinars will be recorded. Recordings and slide decks will be posted on the program website: [https://its.dot.gov/its4us/](https://its.dot.gov/its4us/)
Enabling Components Q&A

For more information please contact:

Elina Zlotchenko
Program Manager, ITS JPO
Elina.Zlotchenko@dot.gov

Visit the Complete Trip - ITS4US Deployment Program Website:

https://its.dot.gov/its4us/