



U.S. Department of Transportation

COMPLETE TRIP

ITS4US

The logo for ITS4US, where the number '4' is stylized as a blue highway with a yellow dashed line representing a road. The '4' has two red location pins, one at the top and one at the bottom, connected by a yellow dashed line that forms the shape of the number.

**Webinar #6: Privacy, Security, and Open Data
- ITS4US Deployment Program**

April 9, 2020



Sofia Gallo

Special Assistant

Office of the Secretary

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 1
- ✓ 5. Deployment Scenario Examples 2
6. Privacy, Security, and Open Data
7. Procurement Path

Links to webinar recordings will be available on the ITS4US website:

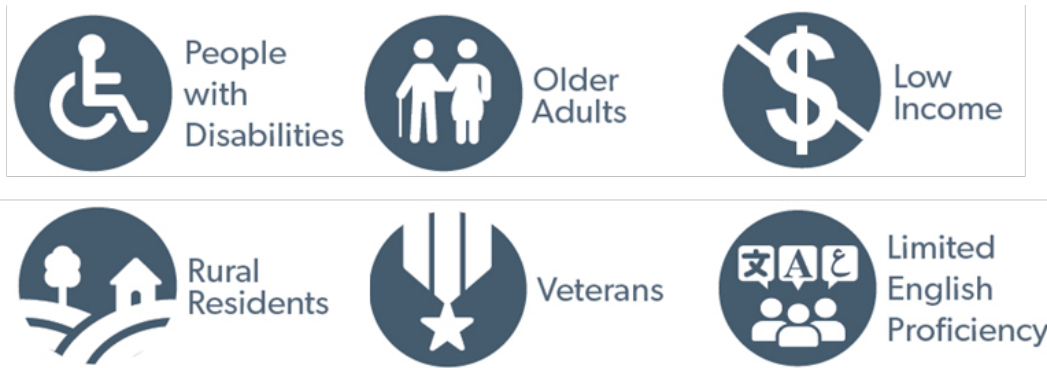
https://its.dot.gov/its4us/its4us_webinar.htm

Today's Agenda

- Program Overview
- Data and Program goals
- Underserved Community Presents Unique Data Challenges
- Data Management Plan
- Open Data and Data Rights
- Standards

Program Overview

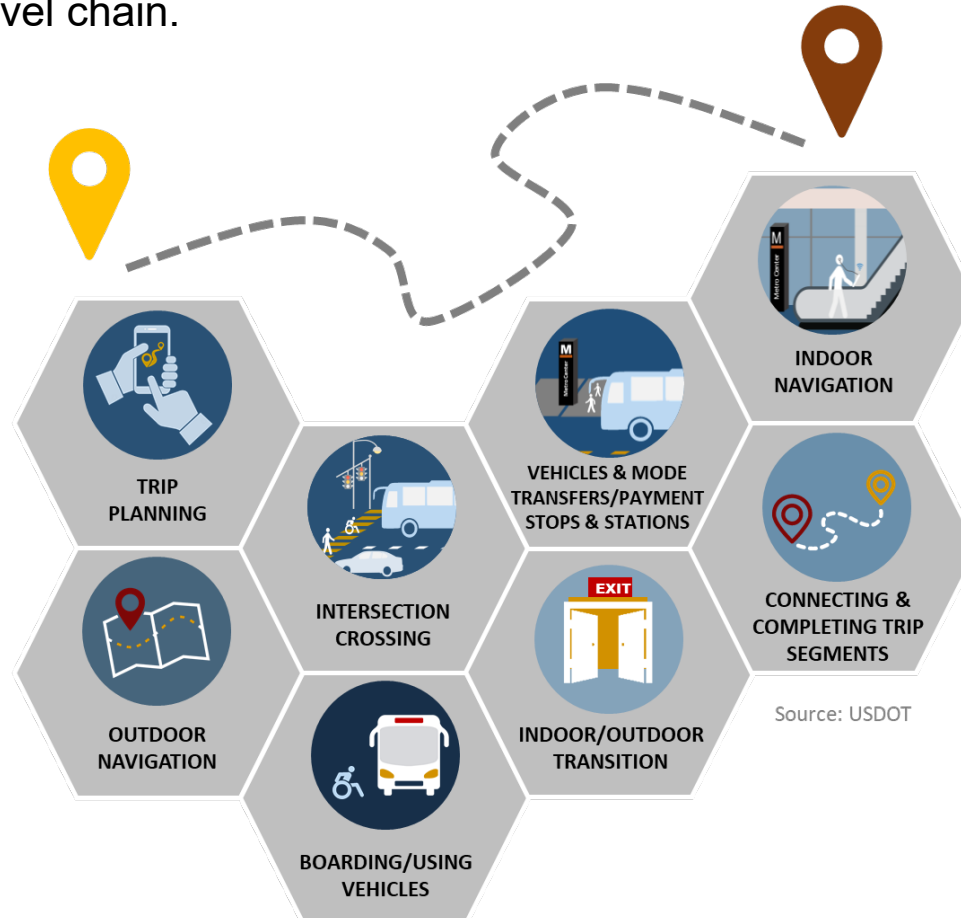
- Up to \$40 million available for communities to demonstrate innovative and integrated complete trip deployments to support seamless travel for all users across all modes, regardless of location, income, or disability
- The Program aims to solve mobility challenges for all travelers, including:



- 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.



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

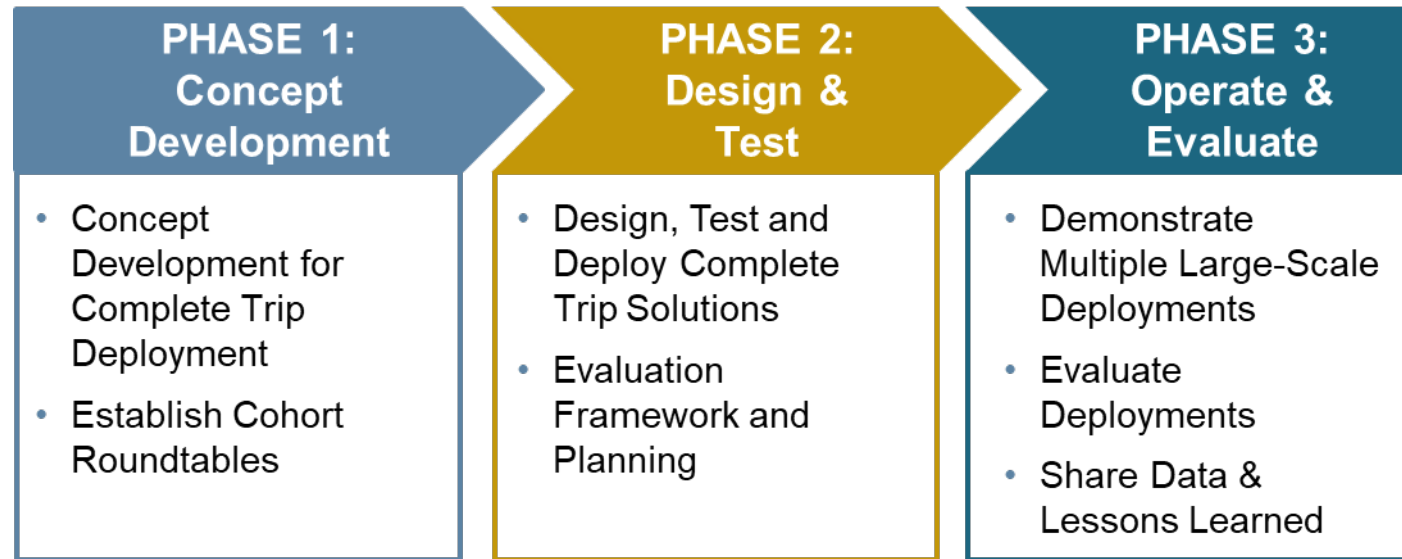


Identify replicable solutions and disseminate lessons learned

Complete Trip 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



■ Program 2020 Schedule

- Pre-Deployment Outreach Webinars (Winter-Spring)
- Solicitation for Deployment Phase 1 Released (Summer 2020)
- Solicitation Award (Fall 2020)



Govind Vadakpat

Highway Research Engineer

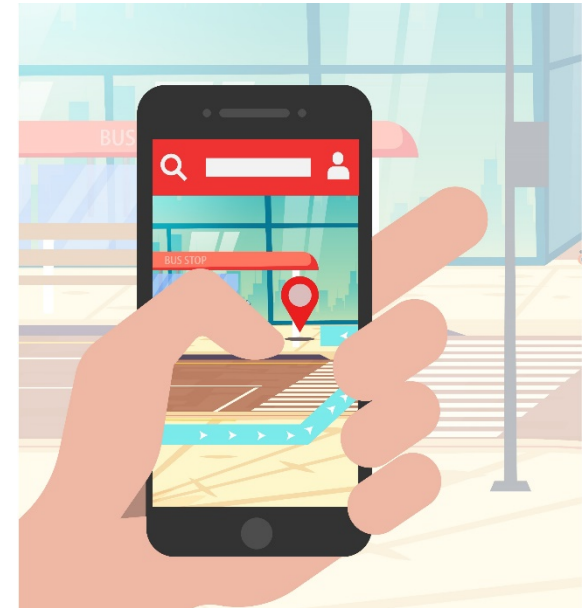
FHWA Office of Operations Research and
Development

Data Drives ITS4US Program Goals

Program Goal	Data Considerations
Spur high impact, integrated Complete Trip Deployments nationwide	<i>Conform to national standards, specifications, and formats</i>
Identify needs and challenges by populations	<i>Communities' needs must be collected and protected</i>
Develop and deploy mobility solutions that meet user needs	<i>Consider data needs for new technology solutions</i>
Measure impact of integrated deployments	<i>Quantify and evaluate the impact</i>
Identify replicable solutions and disseminate lessons learned	<i>Measure the project's success through performance measures and pass that information on</i>

Unique Data Challenges for Complete Trip Solutions

- Many technology and application solutions will need to:
 - Collect personal and sensitive user information about travel needs and abilities
 - Utilize accurate, real-time input data on the state of the environment with detailed maps
 - Rely on additional infrastructure to support precise navigation
 - Apply universal design principles and simplify user inputs
 - Extend existing interfaces and data structures

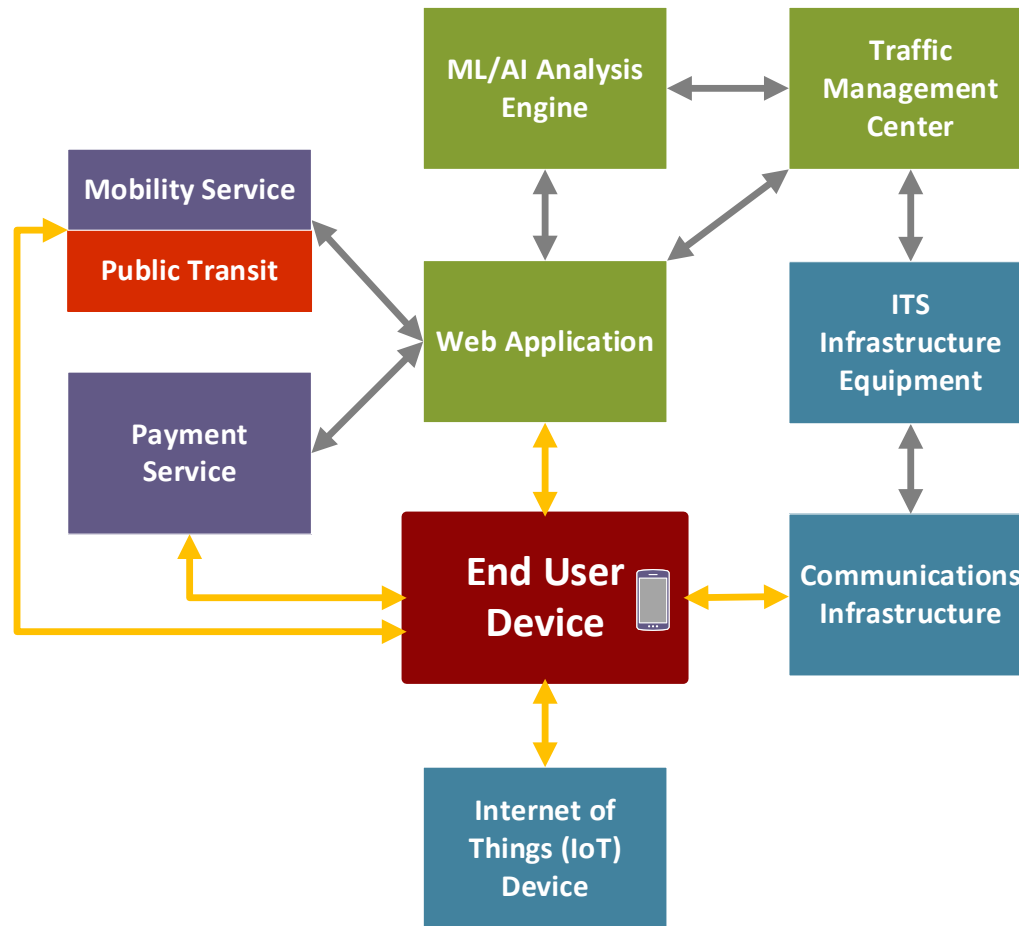


Data Management Plan

- A Data Management Plan (DMP) is a document that describes the data you expect to acquire or generate during the course of a research project, how you will manage, describe, analyze, protect, and store those data, and what mechanisms you will use during your project to share and preserve your data.
- A DMP includes the following sections:
 - Data Needs Summary
 - Privacy Needs
 - Privacy Operational Concepts
 - Security Needs
 - Data Rights
 - Standards



Generic Context Diagram



Data Needs Summary

- Extends the context diagram at a high-level and is the basis for the other more detailed elements in the Data Management Plan providing a summary of the types, nature, scope, and scale of the data expected to flow among the entities
- Provides a single location for a high-level view for data flows
- Shows where specific data may be collected, stored, or transformed to serve:
 - Performance measures
 - Systems/device/entity operational health tracking
 - Transaction monitoring/support



Personally Identifiable Information (PII)

Non-PII

Traffic count information, general trends on network conditions, date, time, and weather

Potential PII

Internet cookies, IP addresses, and vehicle characteristics (size, color, and make/model)

Actual PII

Names, addresses, telephone numbers, and vehicle identification numbers (VIN)

Locational PII

GPS tracking information (Lat./Long.), roadway video data, video of faces, and in-vehicle video

Sensitive PII

Medical records/information; Social Security, bank account, and passport numbers

Privacy Operational Concepts

- Concepts to be implemented to ensure that privacy is protected and that any PII information is properly handled.
- Things to Consider:
 - Transparency
 - Individual Participation and Redress
 - Purpose Specification
 - Data Minimization
 - Use Limitation
 - Data Quality and Integrity
 - Security
 - Accountability and Auditing



Security Needs

Confidentiality

Data is not disclosed to unauthorized users or systems

Availability

Data is available, functioning at a required time

Integrity

Data is accurate and consistent to meet the system needs

Authenticity

Data source can be confirmed, and log what has been sent and received

What is Open Data?

- **Open Data** is data that is freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control.
 - **Technically Open** - Available in a machine-readable non-proprietary standard format
 - **Legally Open** - Explicitly licensed in a way that permits commercial and non-commercial use and re-use without restrictions.



USDOT's Interest in Open Data

- Allows others to build upon USDOT funded development work
- Provides transparency into development of resources to support applications/software
- Promotes collaboration on development activities
- Facilitates sharing of common code across projects/deployments
- It's the Law:
 - Foundations for Evidence-Based Policymaking Act of 2018: Title 2 (OPEN Government Data Act)

Data Rights for ITS JPO-Funded Projects

- Data including data provided by partners from the project shall be provided for public access to the data collected by default, unless specific privacy, confidentiality, security, or other valid restrictions are identified and documented to the USDOT
- Some of the data must be made available to the public at least at an aggregate level or anonymized format
- Data rights for data generated/created/captured by project partners should be determined and documented early in the process
- Data must also include proper documentation and metadata

Data Standards

- As much as possible existing open standards and specifications that are maintained by a standards organization or community should be used. Examples:
 - International Organization for Standardization (ISO) 8601 - datetime format
 - General Transit Feed Specification (GTFS)
- Where existing standards are insufficient, you should talk in the DMP how the project will help contribute to the development of new or updated standards



Existing USDOT Resources

ITS DataHub

<https://its.dot.gov/data/>

The screenshot shows the ITS DataHub website. At the top, there is a dark blue header with the Transportation.gov logo and navigation links: ABOUT ITS JPO | ABOUT U.S. DOT | U.S. DOT BRIEFING ROOM | U.S. DOT ACTIVITIES. Below the header, the page title is "ITS DataHub" with the subtitle "Intelligent Transportation Systems". A navigation menu includes Home, About, Resources, Metrics, Community, Search, and View On GitHub. The main content area features a large banner with a city skyline at night and a search box that says "EXPLORE OUR DATA! Welcome to the Department of Transportation public access point for ITS JPO Data. Search by project names and topics... Search". Below the banner is a "FEATURED DATASETS" section with three cards: 1. "Tampa CV Pilot Basic Safety Messages Sample" with a map thumbnail and description: "Contains a sample of sanitized Basic Safety Messages collected from the Tampa Connected Vehicle pilot." 2. "Tampa Connected Vehicle Pilot Basic Safety Message Visualization" with a city skyline thumbnail and description: "A visualization portal for the Tampa CV Pilot Basic Safety Messages." 3. "Cooperative Automated Research Mobility Applications (CARMA) 2" with a road scene thumbnail and description: "Data representing the performance of prototype cooperative automated driving system applications for improving traffic mobility."

The ITS DataHub provides a single point of entry to discover ITS research datasets in near-real time and decrease the time from research to insight.



Elina Zlotchenko

Program Manager

ITS Joint Program Office

Upcoming Outreach Activity

- Save the date for the remainder of the webinar series:
 - 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/>

Stakeholder 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 and FAQs:

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

https://www.its.dot.gov/its4us/its4us_faq.htm