



U.S. Department of Transportation

# Complete Trip - ITS4US Deployment Program

**COMPLETE TRIP**

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**Deployment Scenario Examples:  
Sunflower City & Pinefield**

March 12, 2020



# Sofia Gallo

Special Assistant

Office of the Secretary

# USDOT Secretary Chao's Priority: Expanding Access to Transportation

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- 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

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- 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

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- ✓ 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](https://its.dot.gov/its4us/its4us_webinar.htm)

# Today's Agenda

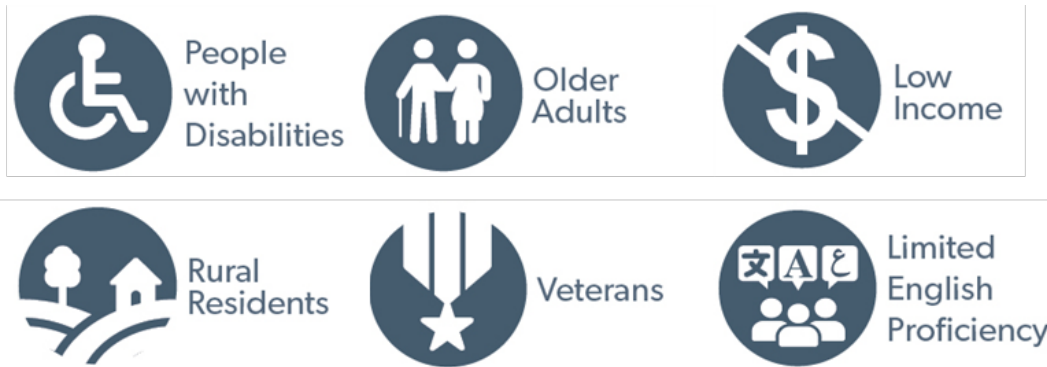
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- Program Overview
- Planning and Stakeholder Outreach
- Technology and Enablers Takeaways
- Building a Complete Trip Vision
- Deployment Scenario – Sunflower
- Deployment Scenario - Pinefield
- Stakeholder Q&A

# Program Overview

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- 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:

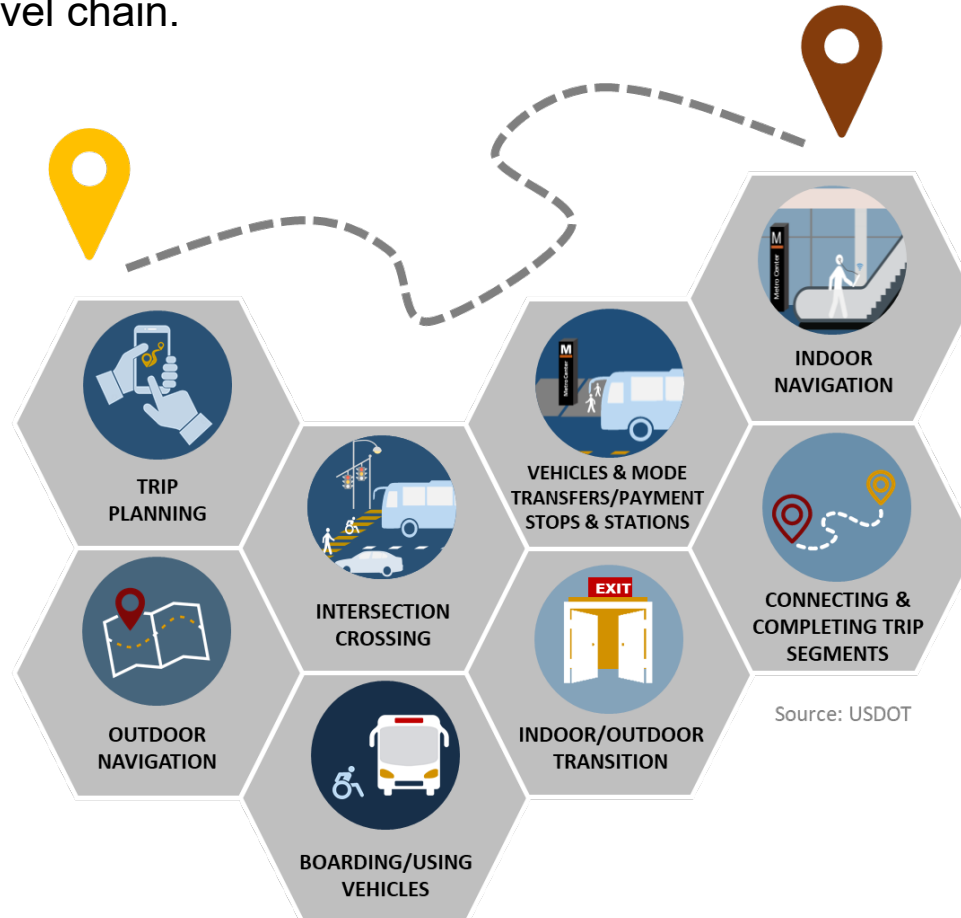


- Procure and award multiple large-scale, replicable deployments to address the challenges of planning and executing all segments of a complete trip



# 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.

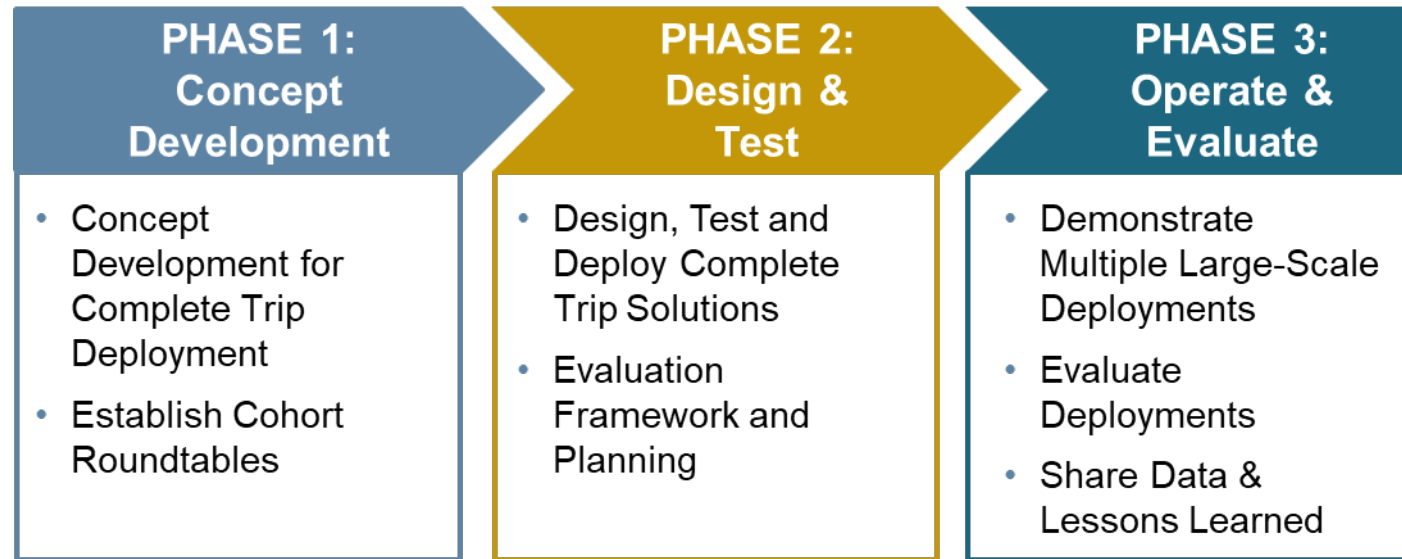


# Complete Trip Deployment Concept: Fundamental Elements

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- 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)



# Kate Hartman

Chief – Research, Evaluation, and Program Management

ITS Joint Program Office

# Solving a Problem

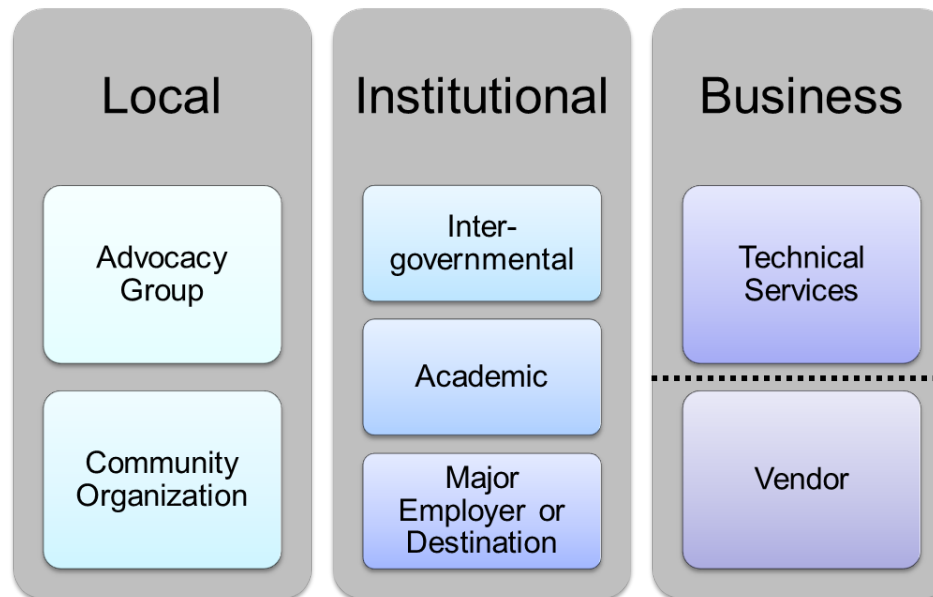
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- **Identify local needs**
  - Understand the complete trip challenges by:
    - Trip Segments
    - Underserved Populations
  
- **Design solutions that solves a problem**
  - Deployment Concepts must address the travel challenges of your particular community.

# Partnerships

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- **Identify stakeholder groups and determine their roles:**



- **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

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- **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



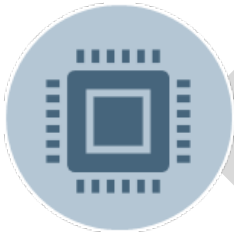
# Enabling Components

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- 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

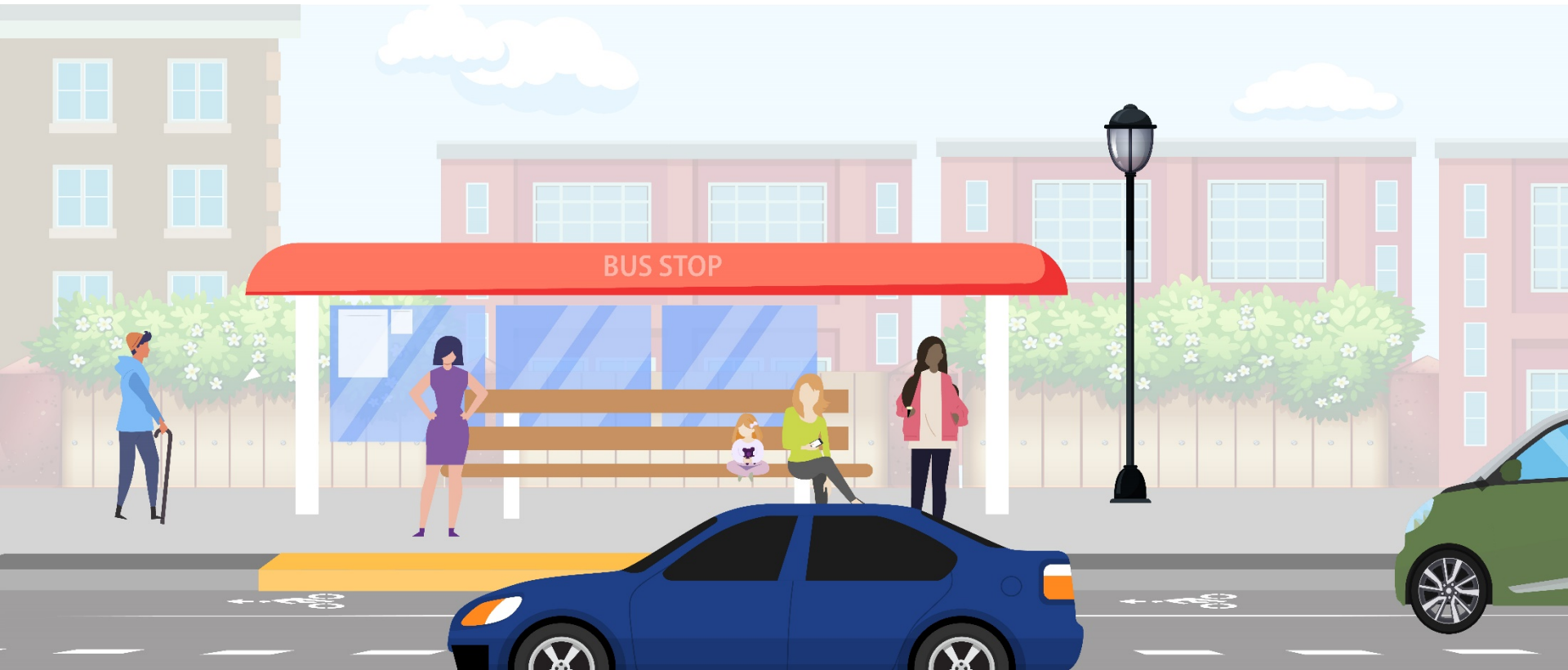
- Identify how you will collect the data to measure performance metrics
- Identify if you need to collect pre-deployment performance data

# Complete Trip (ITS4US) Deployment Scenario Example

Sunflower City

# Sunflower City, USA

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# 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*



# Building the Team



Champion &  
Advocates

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



Partnership  
Building

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



Stakeholder  
Engagement

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.



Dedicated  
Resources

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



TRANSFERS/PAYMENTS  
STOPS & STATIONS

- Variety of accessible and affordable mobility options with seamless payment options



OUTDOOR  
NAVIGATION

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



INDOOR  
NAVIGATION

- Information about transfers and navigating stations



INTERSECTION  
CROSSING

- Users need sufficient time to cross busy intersections



INDOOR/OUTDOOR  
TRANSITION

- Accessibility and infrastructure information to enter and exit stations available in accessible formats



BOARDING/USING  
VEHICLES







- Access to accessible vehicles
- Easy to understand instructions about how to use vehicles



CONNECTING &  
COMPLETING TRIP  
SEGMENTS

- Access to more destinations not served by public transit

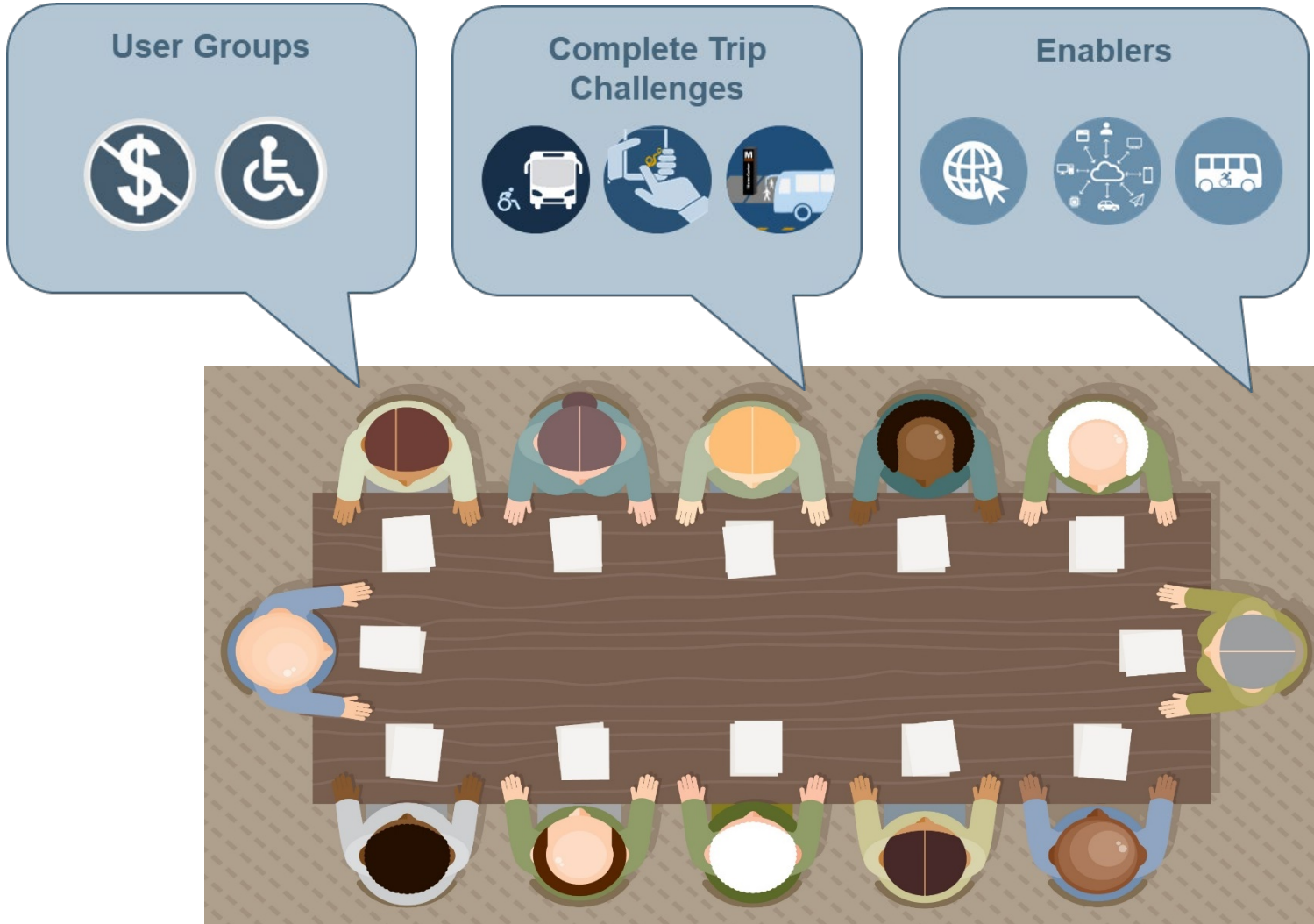
# Complete Trip Segments and User Groups

-  **People with Disabilities**
-  Older Adults
-  **Low Income**
-  Rural Residents
-  Veterans
-  Limited English Proficiency



Source: USDOT

# Preliminary Concept Vision





# Integrated Payment System



Vehicles & Mode  
Transfers / Payment  
Stops & Stations



*Violet can view  
options, book and  
pay for her  
multimodal trip in  
one app*

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# Accessible Bikeshare Integration

*Bud is confident that an accessible bike is available because he booked and paid for his ride through the app*



Boarding/Using Vehicles

# Real-time Mobility & Trip Planning

*Daisy can use the kiosk to view, book, and pay for her ride without a cell phone*

*Jasmine uses the app for reliable traveler information & trip planning and booking*



Trip Planning

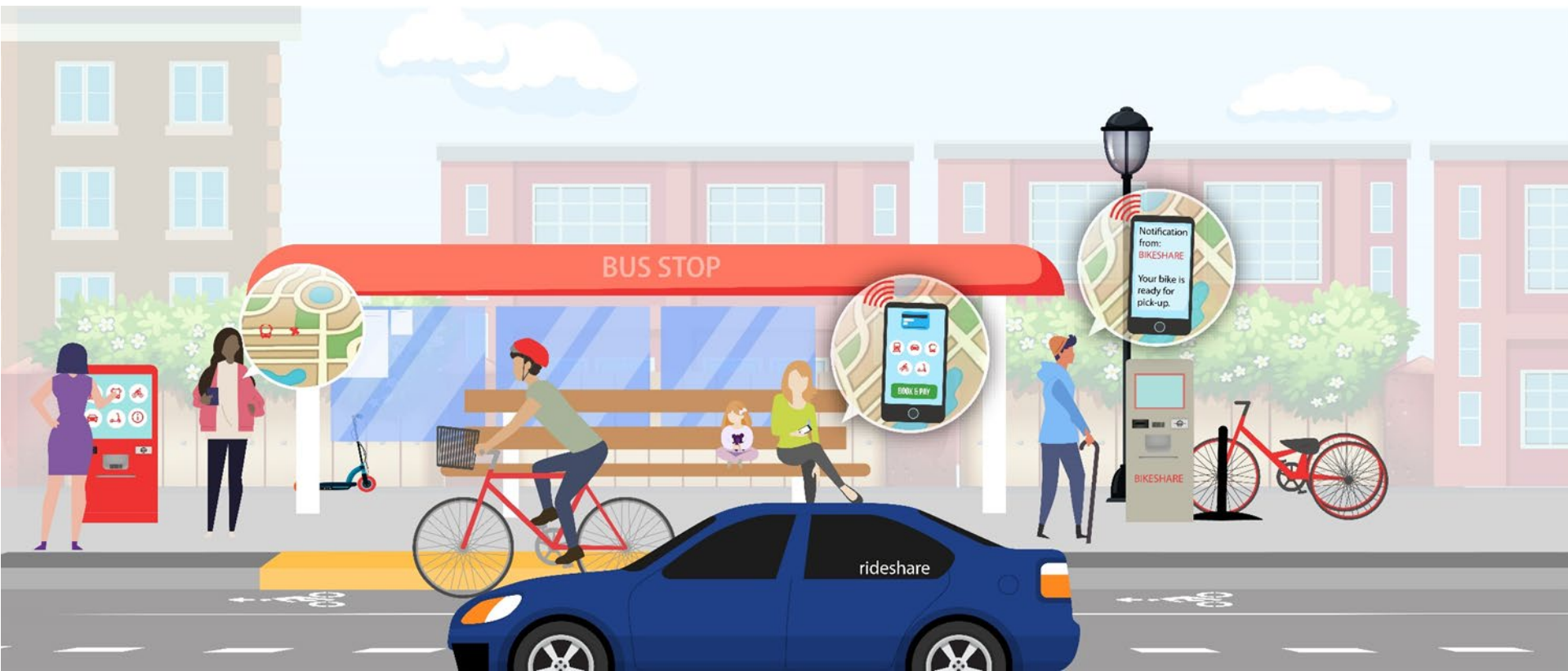


Vehicles & Mode  
Transfers / Payment  
Stops & Stations






Boarding/Using  
Vehicles

# Integrated Deployment



# Metrics Development Example

Trip Segment	Need	Solution(s)	Target
 <p>Trip Planning</p>	Comprehensive and reliable transit information (with and without smartphones)	<ul style="list-style-type: none"> <li>Kiosk &amp; Mobile App</li> <li>Real-time APIs</li> </ul>	<p>Average 1000 unique users per day</p> <p>Average estimated BRT arrivals times are within 1 minute of actual arrival times</p>
 <p>Boarding/Using Vehicles</p>	Accessible vehicles providing mobility services for people with disabilities	<ul style="list-style-type: none"> <li>Adaptive bikeshare sub-fleet</li> </ul>	<p>80% of travelers with disabilities indicating on annual survey:</p> <ul style="list-style-type: none"> <li>Satisfaction w/ instructions/info</li> <li>Increased access to destinations</li> </ul>
 <p>Transferring vehicles/ modes, payment, &amp; using stops/stations</p>	Ability to pay for a variety of mobility services beyond transit	<ul style="list-style-type: none"> <li>Kiosk &amp; Mobile App</li> <li>Integrated Payment System</li> </ul>	<p>50% of adults in low-income ZIP codes have registered Mobility Payment cards/accounts within 2 years of launch</p>

***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



# Pinefield, USA





# Pinefield, USA



*Hazel and Vernon want convenient and affordable mobility options*



# 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



TRIP  
PLANNING

- Reliable and affordable alternative transportations to driving
- Access to traveler information and convenient scheduling of trips



TRANSFERS/PAYMENTS  
STOPS & STATIONS

- Coordinated and affordable mobility services with seamless transfers



OUTDOOR  
NAVIGATION

- Accessible amenities and sidewalks
- Enhanced controlled crossings and lighting



INDOOR  
NAVIGATION

- Information on accessible pathways to points of interest



INTERSECTION  
CROSSING

- Information on when it is appropriate to cross and how much time a traveler has to safely cross



INDOOR/OUTDOOR  
TRANSITION

- Accessibility and infrastructure information to access fixed-route services



BOARDING/USING  
VEHICLES

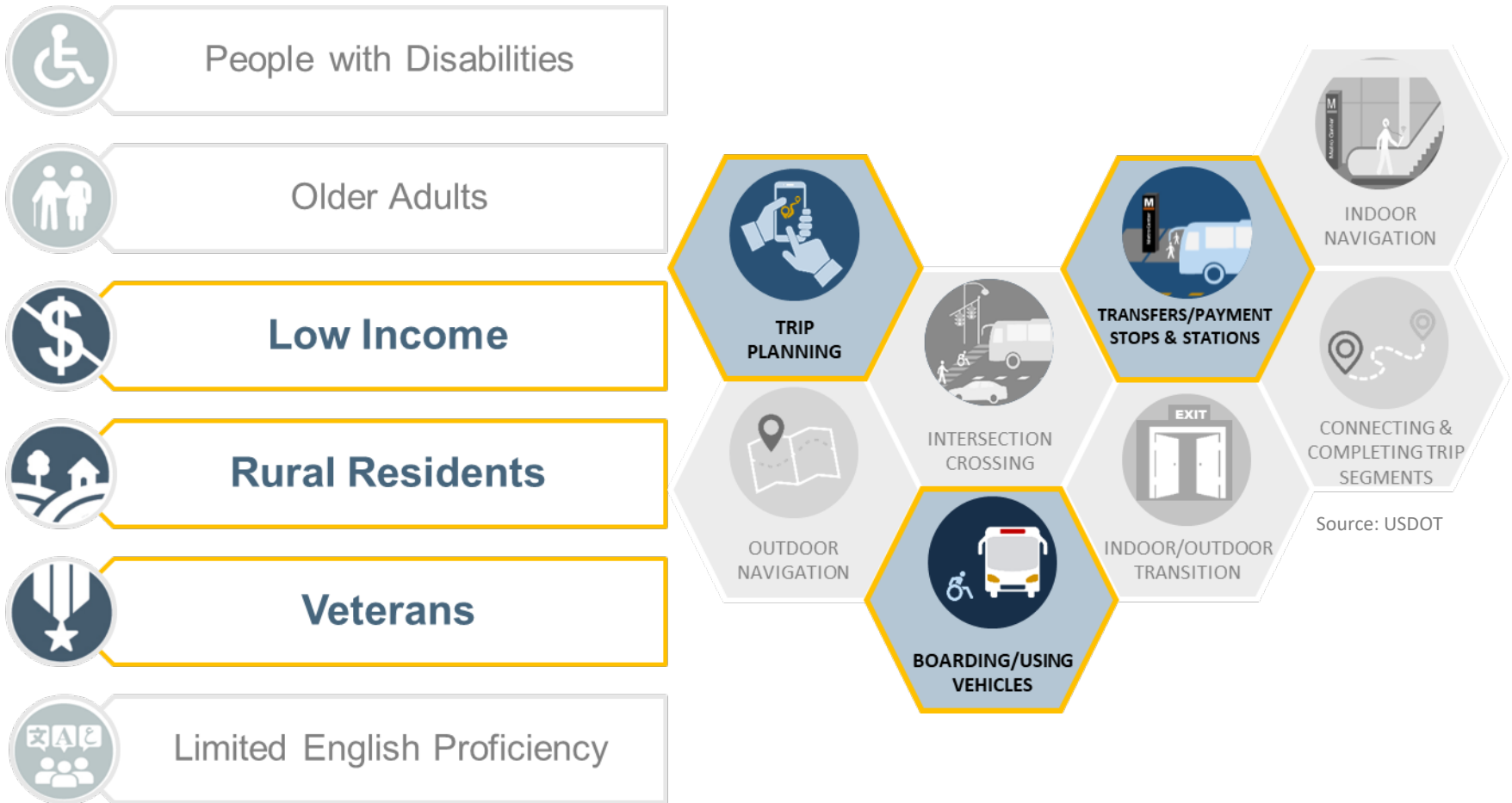
- Additional transportation options with consistent access to accessible vehicles



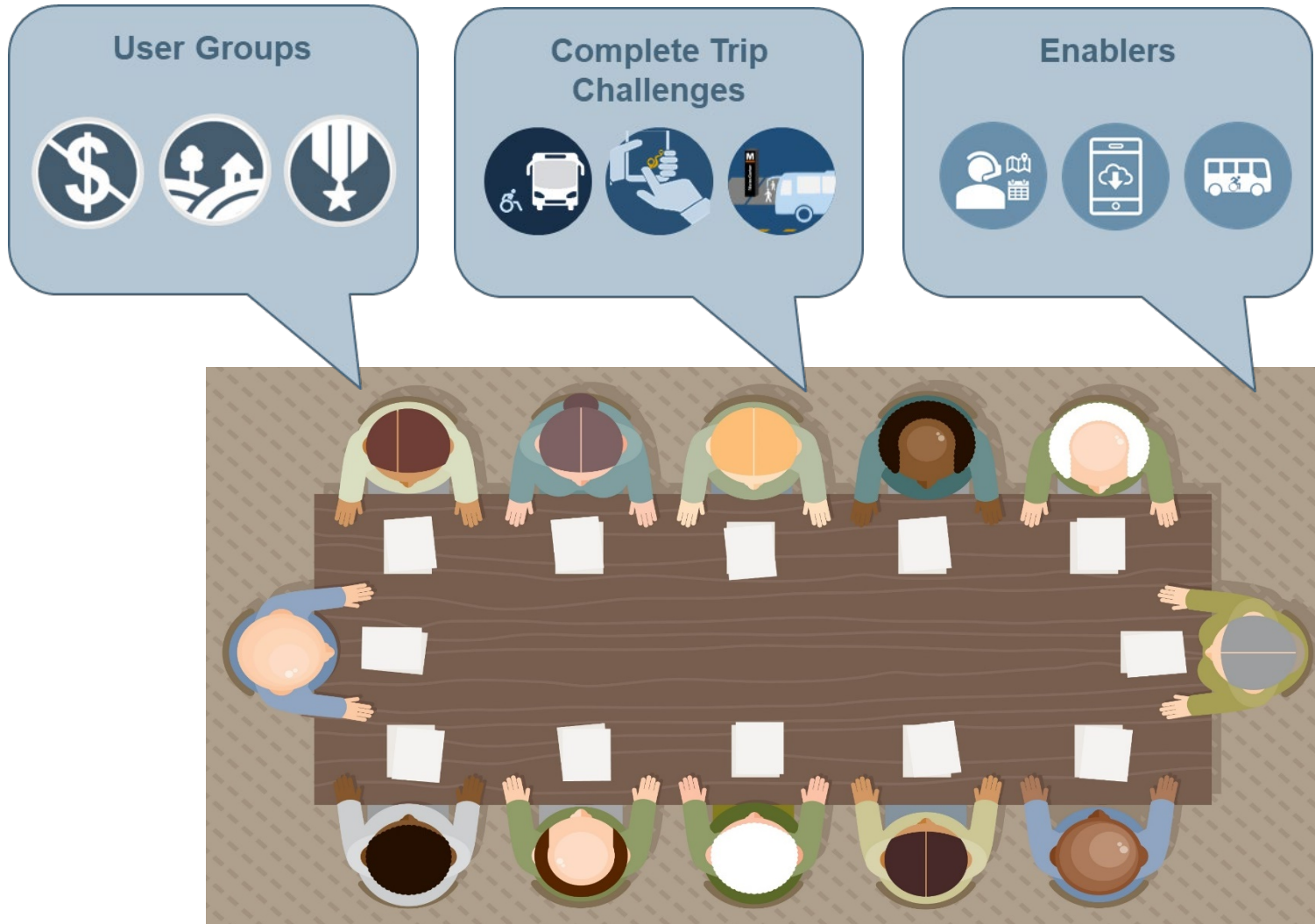
CONNECTING &  
COMPLETING TRIP  
SEGMENTS

- Localization information and technology to support navigation tools

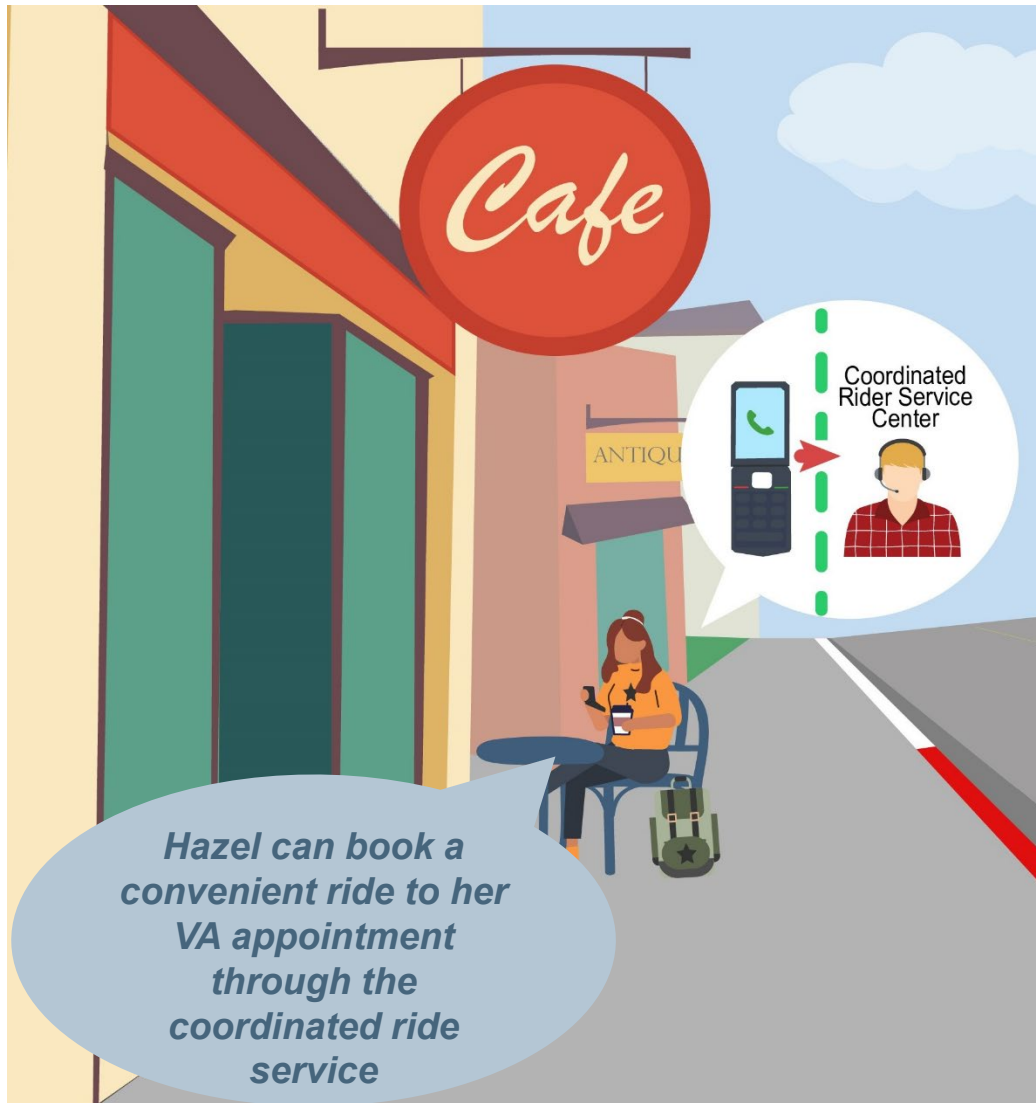
# Complete Trip Segments and User Groups



# Preliminary Concept Vision



# On-Demand Coordinated Ride Service



Trip Planning



Vehicles & Mode Transfers / Payment Stops & Stations



# AV Circulator



Boarding/Using  
Vehicles

# Integrated Trip Payment Application



Trip Planning



Vehicles & Mode  
Transfers / Payment  
Stops & Stations



# Integrated Deployment






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# Metrics Development Example

Trip Segment	Need	Solution(s)	Target
 <p>Trip Planning</p>	<p>Access to traveler information and convenient scheduling of trips</p>	<ul style="list-style-type: none"> <li>On-Demand Coordinated Ride Service</li> <li>Integrated Trip Payment App</li> </ul>	<p>40% decrease in average time between desired pick-up time and actual pick-up time for VA appointments over 3 years</p>
 <p>Boarding/Using Vehicles</p>	<p>Additional transportation options with consistent access to accessible vehicles</p>	<ul style="list-style-type: none"> <li>AV Circulator</li> </ul>	<p>35% increase in number of work/shopping trips in Pinefield completed within 45 minutes over 3 years</p>
 <p>Transferring vehicles/ modes, payment, &amp; using stops/stations</p>	<p>Coordinated and affordable mobility services with seamless transfers</p>	<ul style="list-style-type: none"> <li>Pinefield On-Demand Coordinated Ride Service</li> <li>Integrated Trip Payment App</li> </ul>	<p>50% of local employers were providing subsidies through the Integrated Trip Payment App within 2 years of deployment</p>

***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

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- 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/>

# Enabling Components Q&A

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For more information please contact:

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Website:

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