Intelligent Transportation Systems
Joint Program Office

ITS Program Advisory Committee Meeting

March 31, 2016

Agenda

8:00 – 8:20	**Continental Breakfast**
8:20 – 8:25	Welcome Remarks
8:25 – 8:30	Opening Remarks / Agenda Review
8:30 – 9:00	Connected Vehicle Pilots Update
9:00 – 10:00	FAST Act / 2016 ITS Research Program Budget
10:00 – 10:15	Break
10:15 – 12:00	Proposed 2016 Advise Memorandum Topics

- Automation
- Scenario Planning
- Traffic Safety Culture
- Vehicle Hacking

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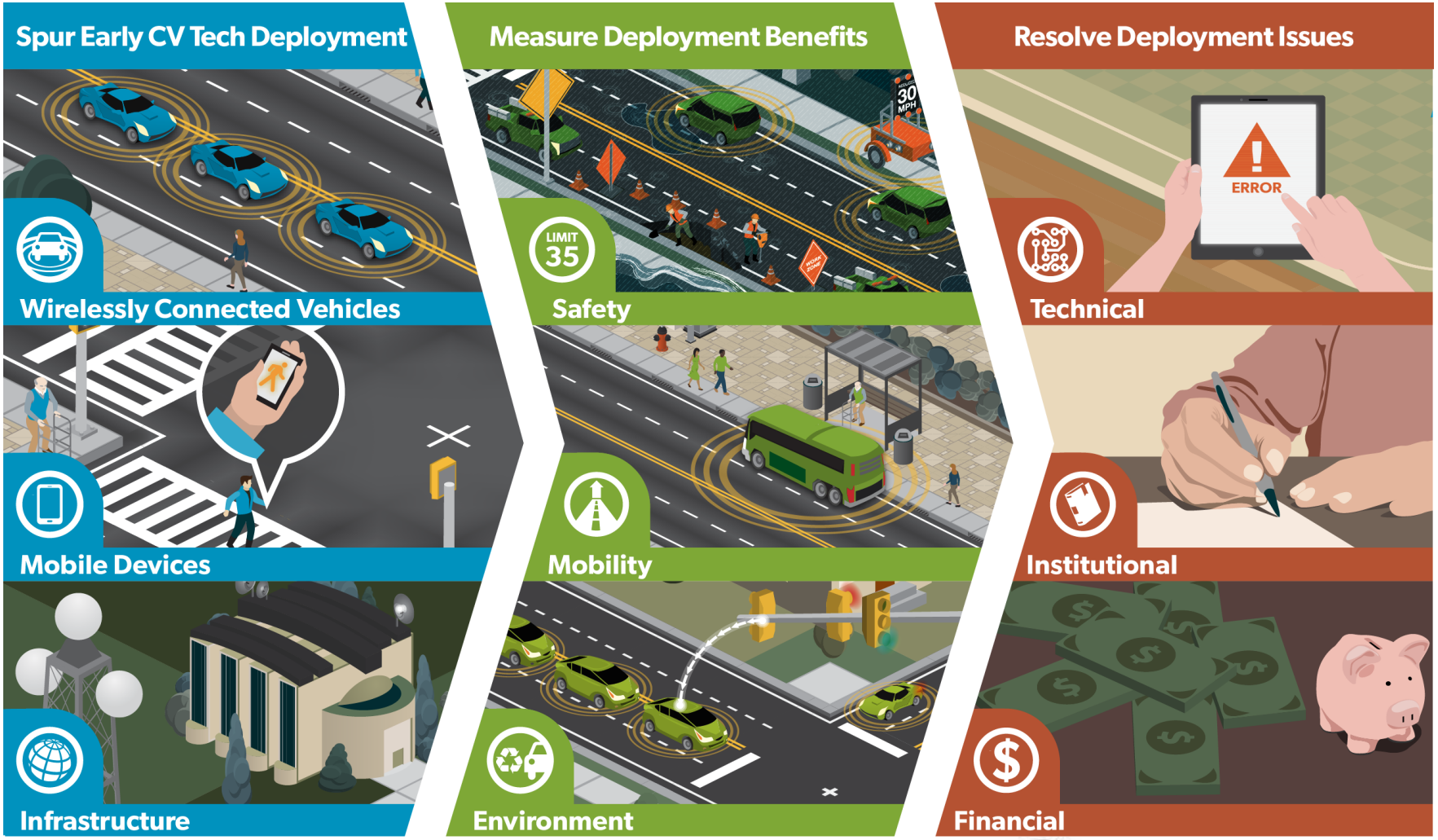
CONNECTED VEHICLE PILOT
Deployment Program

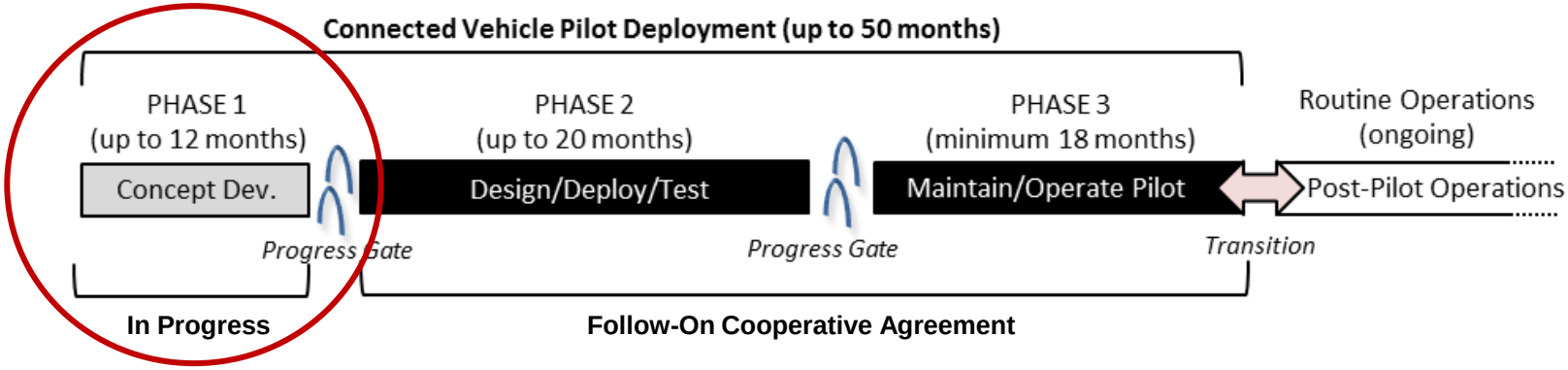
•Kate Hartman, Program Manager

ITS Joint Program Office

CV Pilot Deployment Program Goals

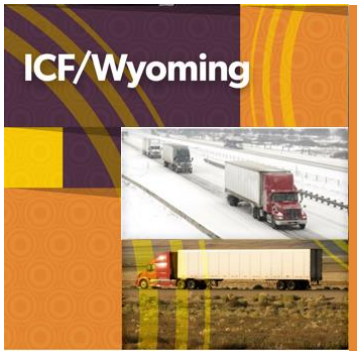


DEPLOYMENT SCHEDULE



- Phase 1: Concept Development (*Current Phase*)
  - Creates the foundational plan to enable further design and deployment
  - **Progress Gate: Is the concept ready for deployment?**
- Phase 2: Design/Deploy/Test
  - Detailed design and deployment followed by testing to ensure deployment functions as intended (both technically and institutionally)
  - Progress Gate: Does the system function as planned?
- Phase 3: Maintain/Operate
  - Focus is on assessing the performance of the deployed system
- Post Pilot Operations (CV tech integrated into operational practice)

SITES SELECTED – 2015 AWARDS



- Reduce the number and severity of adverse weather-related incidents in the I-80 Corridor in order to improve safety and reduce incident-related delays.
- Focused on the needs of commercial vehicle operators in the State of Wyoming.

- Improve safety and mobility of travelers in New York City through connected vehicle technologies.
- Vehicle to vehicle (V2V) technology installed in up to 10,000 vehicles in Midtown Manhattan, and vehicle to infrastructure (V2I) technology installed along high-accident rate arterials in Manhattan and Central Brooklyn.

- Alleviate congestion and improve safety during morning commuting hours.
- Deploy a variety of connected vehicle technologies on and in the vicinity of reversible express lanes and three major arterials in downtown Tampa to solve the transportation challenges.

Overview of Pilot Deployment Proposed CV Applications

ICF/Wyoming
Work Zone Warnings
Spot Weather Impact Warning
Situational Awareness
Freight-Specific Dynamic Travel Planning
Automatic Alerts for Emergency Responders
CV-enabled Weather-Responsive Variable Speed Limits
Road Weather Advisories for Trucks and Vehicles
Truck Parking Availability for Freight Carriers

Tampa (THEA)
Curve Speed Warning
Pedestrian in Signalized Crosswalk Warning (Transit)
Emergency Electronic Brake Lights (EEBL)
Forward Collision Warning (FCW)
Intersection Movement Assist (IMA)
Vehicle Turning Right in Front of Bus Warning (Transit)
Intelligent Traffic Signal System (I-SIG)
Mobile Accessible Pedestrian Signal System (PED-SIG)
Transit Signal Priority (TSP)
Probe-enabled Traffic Monitoring

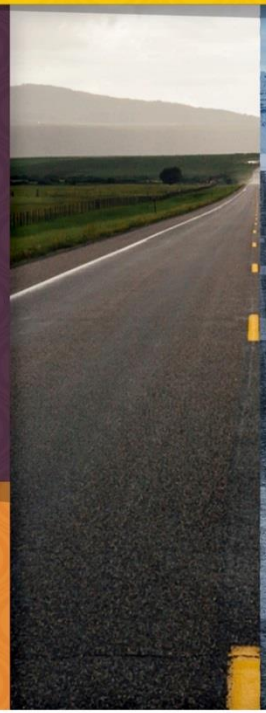
New York City (NYC)
Curve Speed Warning
Pedestrian in Signalized Crosswalk Warning (Transit)
Red Light Violation Warning
Reduced Speed/Work Zone Warning
Blind Spot Warning (BSW) *
Emergency Electronic Brake Lights (EEBL) *
Forward Crash Warning *
Intersection Movement Assist (IMA) *
Lane Change Assist (LCA) *
Stationary Vehicle Ahead (SVA) *
Vehicle Turning Right in Front of Bus Warning (Transit)
Advanced Traveler Information System
Emergency Communications and Evacuation (EVAC)
Freight-Specific Dynamic Travel Planning and Performance Measurement (F-ATIS)
Intelligent Traffic Signal System (I-SIG)
Mobile Accessible Pedestrian Signal System (PED-SIG)
Eco-Speed Harmonization

•**Deployment of applications is dependent upon Final ConOps and funding*

Concept Development Activities and Public Events

Task	Sep 2015	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016
Task 1 – Program Mgt.													
Task 2 – Concept of Oerations						◆◆	◆						
Task 3 – Security Concept													
Task 4 – Safety Plan													
Task 5 – Performance Measurement									◆	◆◆			
Task 6 – System Requirements													
Task 7 – App Planning													
Task 8 – Human Use Approval													
Task 9 – Training Plan													
Task 10 – Partnership													
Task 11 – Outreach Plan													
Task 12 – Deployment Plan												◆◆◆	
Task 13 – Readiness Summary													

◆ Public webinars to share the concept development activities from the three sites (see website for exact dates and times)



ICF/Wyoming

CV Application	WYDOT Snow Plows	WYDOT Maintenance Fleet Vehicles	Emergency Vehicles	Private Trucks/ Commercial Vehicles
1. Road Weather Advisories for Trucks and Vehicles	✔	✔	✔	✔
2. Automatic Alerts for Emergency Responders			✔	
3. CV-enabled Weather-Responsive Variable Speed Limits	✔	✔	✔	✔
4. Spot Weather Impact Warning	✔	✔	✔	✔
5. Work Zone Warnings	✔	✔	✔	✔
6. Situational Awareness	✔	✔	✔	✔
7. Truck Parking Availability for Freight Carriers				✔
8. Freight-Specific Dynamic Travel Planning				✔

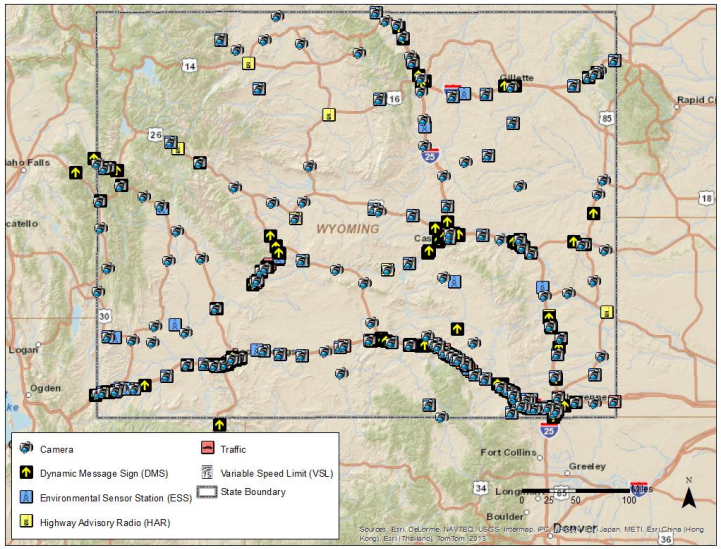
ICF/Wyoming Pilot Deployment Overview

Objective:

- Reduce the number and severity of adverse weather-related incidents (including secondary incidents) in the I-80 Corridor in order to improve safety and reduce incident-related delays.
  - Focused on the needs of the commercial vehicle operator in the State of Wyoming

Approach:

- Equip fleet vehicles (combination of snow plows, maintenance fleet vehicles, emergency vehicles, and private trucks) that frequently travel the I-80 corridor to transmit basic safety messages (BSMs), collect vehicle and road condition data and provide it remotely to the WYDOT TMCs
- Deploy DSRC roadside equipment (RSE) to supplement existing assets and initiatives
- Road weather data shared with freight carriers who will transmit to their trucks using exiting in-vehicle systems



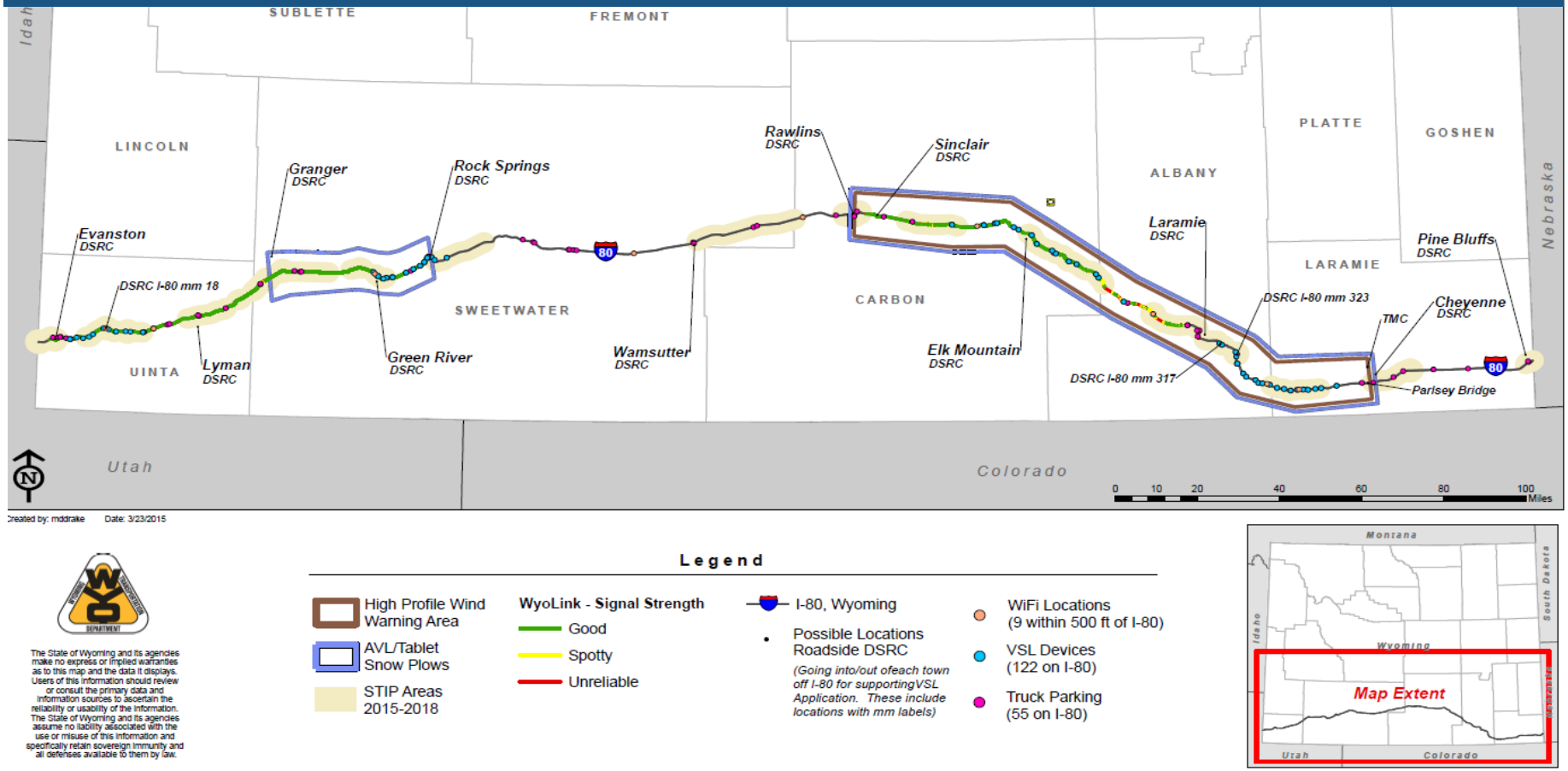
•Source: Wyoming DOT

Deployment Team:

- Prime Consultant: ICF International; Partner State: Wyoming DOT
- Sub Consultants: Trihydro Corporation, National Center for Atmospheric Research, University of Wyoming, Catt Laboratory and McFarland Management

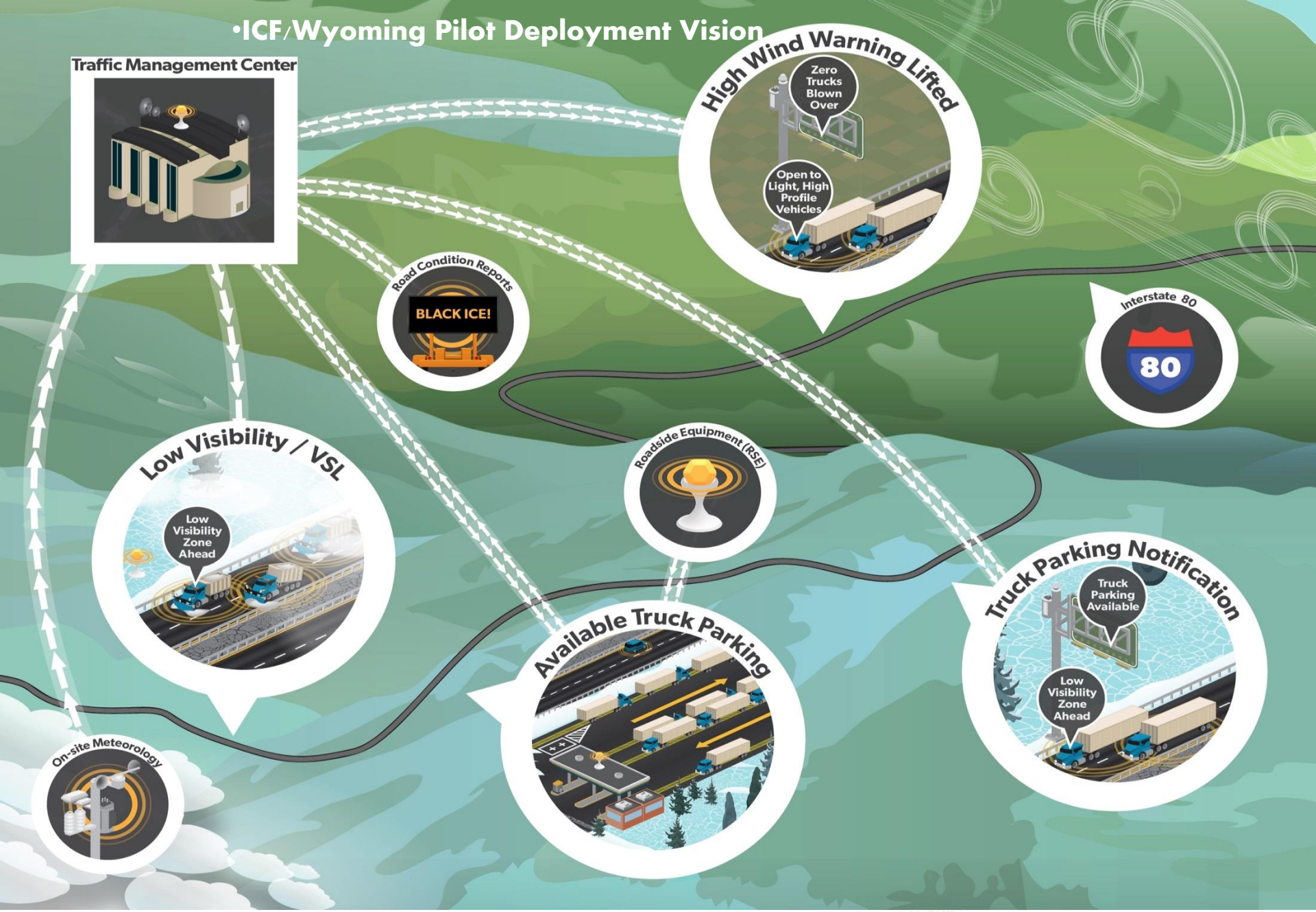
ICF/Wyoming Pilot Deployment Site: High Priority Corridor

•Wyoming I-80 Corridor – Connected Vehicle Map

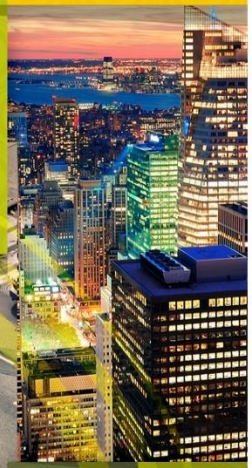


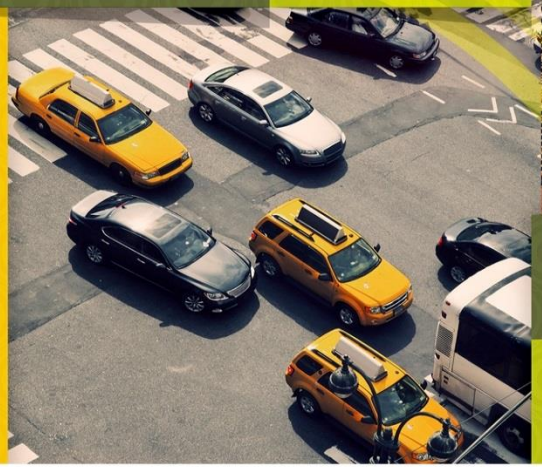
Source: Wyoming CV Pilot Deployment Team

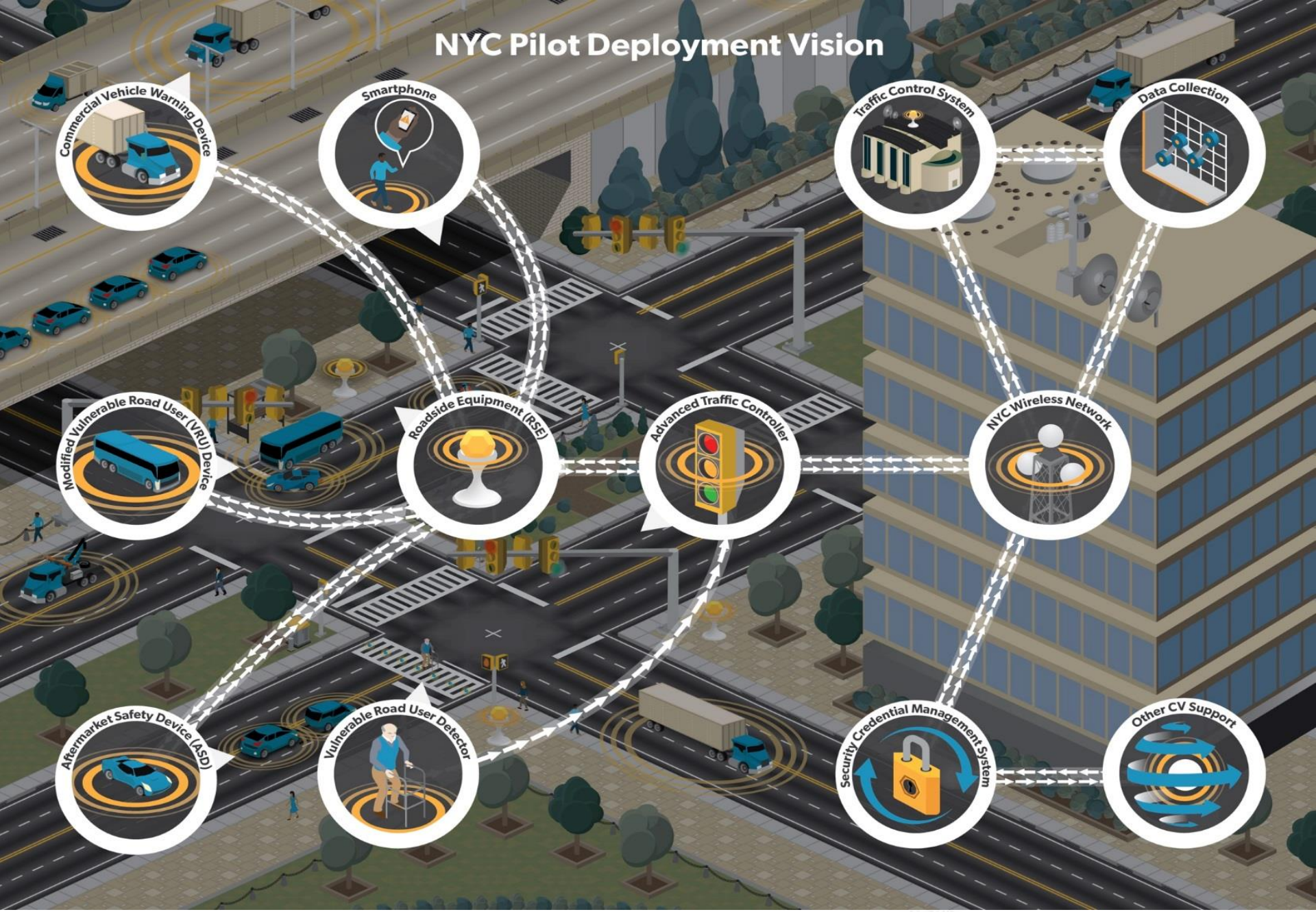
•ICF/Wyoming Pilot Deployment Vision



New York City






NYC Pilot Deployment Vision
Commercial Vehicle Warning Device
Smartphone
Traffic Control System
Data Collection
Modified Vulnerable Road User (VRU) Device
Roadside Equipment (RSE)
Advanced Traffic Controller
NYC Wireless Network
Aftermarket Safety Device (ASD)
Vulnerable Road User Detector
Security Credential Management System
Other CV Support

New York City (NYC) Pilot Deployment Overview

Objective:

- Improve safety and mobility of travelers in New York City through connected vehicle technologies
  - Aligned with the NYC's Vision Zero initiative, which seeks to reduce crashes and pedestrian fatalities, and increase safety of travelers in all modes of transportation

Approach:

- Equip up to 10,000 vehicles (taxis, buses, commercial fleet delivery trucks, and City-owned vehicles) that frequently travel in Midtown Manhattan and Central Brooklyn to transmit and receive connected vehicle data
- Install V2I technology at high-accident rate arterials:
  - Upgrade 239 traffic signals along 1st, 2nd, 5th, and 6th Avenues in Manhattan and Flatbush Avenue in Central Brooklyn (emergency evacuation route)
  - Deploy Roadside equipment (RSE) along FDR Drive

•*Source: NYC DOT*

Deployment Team:

- Prime Consultant: NYC DOT
- Sub Consultants: JHK Engineering, Battelle, Cambridge Systematics, KLD Engineering, Security Innovation and Region 2 University Transportation Research Center

Manhattan Grid

- Closely spaced intersections (600’ x 250’)
- Day vs. Night conditions
- Residential/commercial mix
- High accident rate (red dot) (2012-2014)
  - 20 fatalities
  - 5,007 injuries
- 204 intersections

Central Brooklyn – Flatbush Ave

- Over-Height restrictions
  - Tillary St.; Brooklyn Bridge
- High accident rate (red dots) (2012-14)
  - 1,128 injuries
  - 8 fatalities
- Average AM speed 15 mph
- 35 intersections

Manhattan – FDR Drive

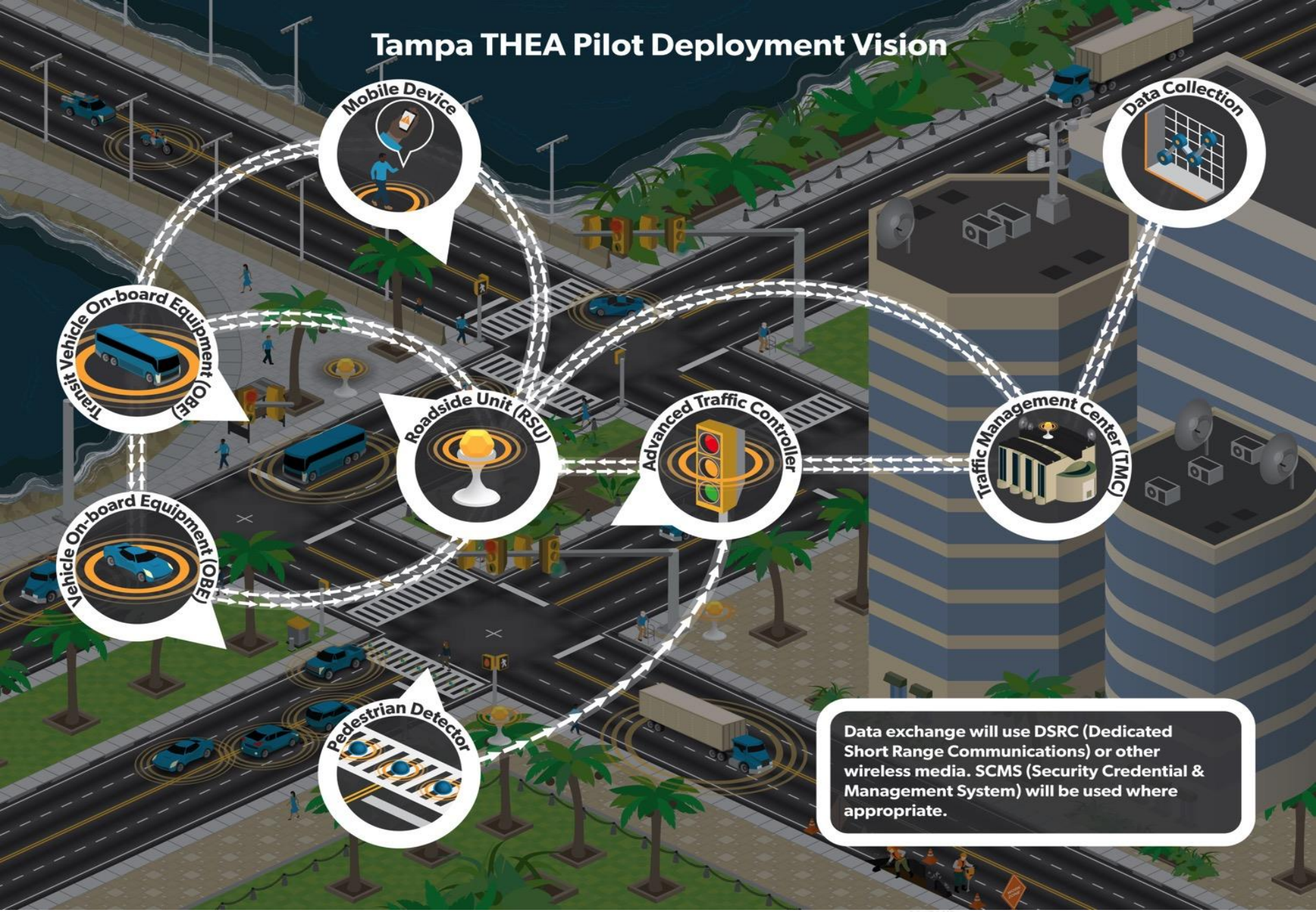
- Limited access highway
- Excludes trucks/buses
- Short radius of curvature
- Over-Height restrictions
- $1,958,497 in Over-Height incident delay costs (2014)
  - 24% of City-wide total

•*Source: NYC DOT*

NYC Pilot Deployment Proposed CV Application-Fleet Distribution

CV Application	Taxi & Limousine	NYC DOT/ Sanitation	MTA/ NYCTA Buses	Commercial Vehicles	Pedestrian
	7500	500	1500	500	TBD
1. Mod. Eco-Speed Harmonization	✓	✓	✓	✓	
2. Red Light Violation Warning	✓	✓	✓	✓	
3. Ped. in Signalized Crosswalk Warn.	✓	✓	✓	✓	✓
4. RT Vehicle in Front of Bus Warning			✓		
5. Mobile Accessible Ped Signal Sys.					✓
6. Curve Speed Warning	✓	✓	✓	✓	
7. Freight Dynamic Travel Planning		✓	✓	✓	
8. Reduced Speed/Work Zone Warn.	✓	✓	✓	✓	
9. I-SIG	✓	✓	✓	✓	
10-15. V2V Applications (6)	✓	✓	✓	✓	
16. EVAC In-Vehicle Information	✓	✓	✓	✓	


Tampa (THEA)
Tampa Hillsborough
Expressway Authority
TAMPA HILLSBOROUGH
EXPRESSWAY
AUTHORITY


Tampa THEA Pilot Deployment Vision
Mobile Device
Data Collection
Transit Vehicle On-board Equipment (OBE)
Roadside Unit (RSU)
Advanced Traffic Controller
Traffic Management Center (TMC)
Vehicle On-board Equipment (OBE)
Pedestrian Detector
Data exchange will use DSRC (Dedicated Short Range Communications) or other wireless media. SCMS (Security Credential & Management System) will be used where appropriate.

TAMPA (THEA) PILOT DEPLOYMENT OVERVIEW

Objective:

- The primary objective of this deployment is to alleviate congestion and improve safety during morning commuting hours.
  - Deploy a variety of vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) safety, mobility, and agency data applications to create reinforcing benefits for motorists, pedestrians, and transit operation.

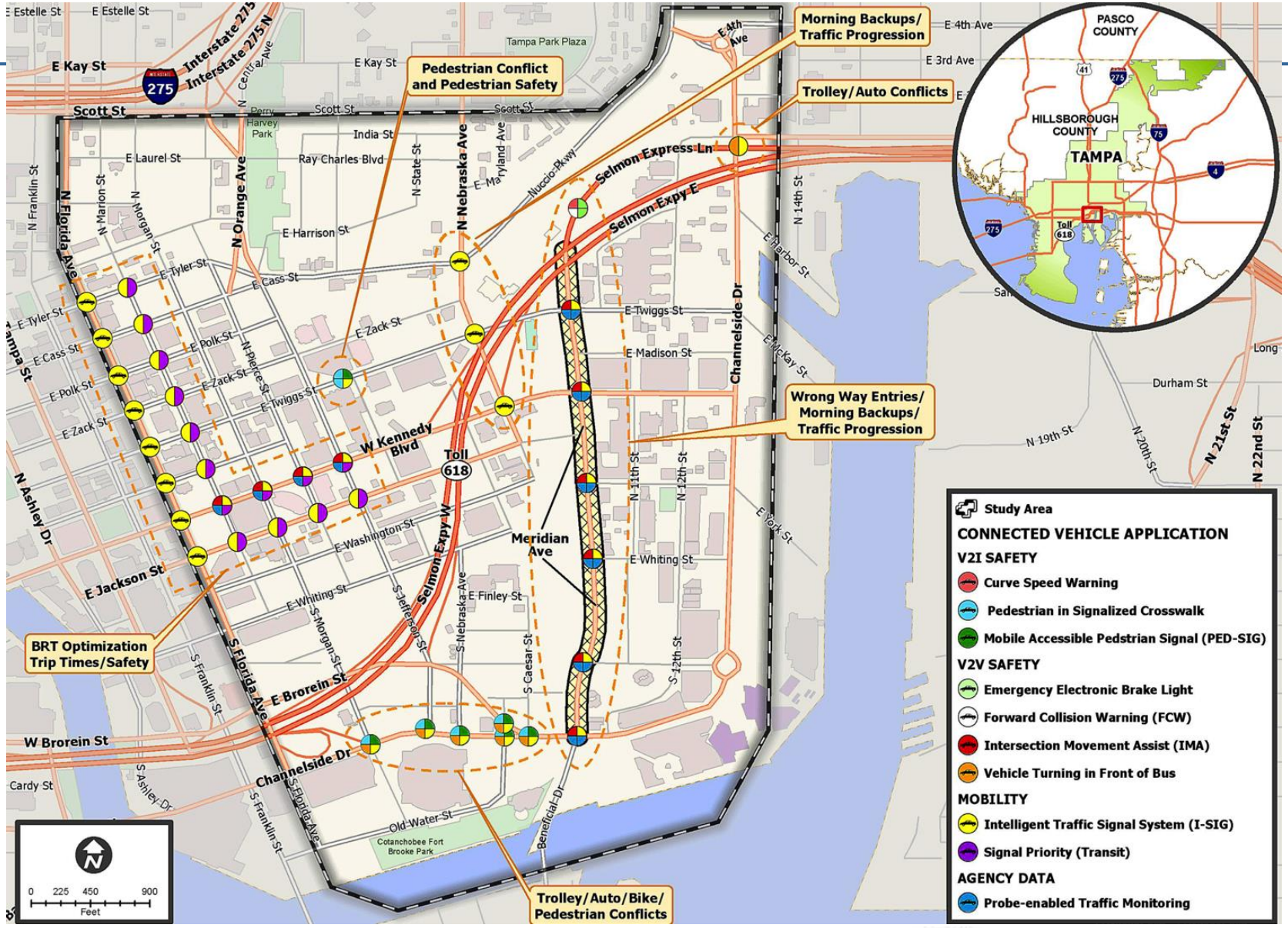
•*Source: THEA*

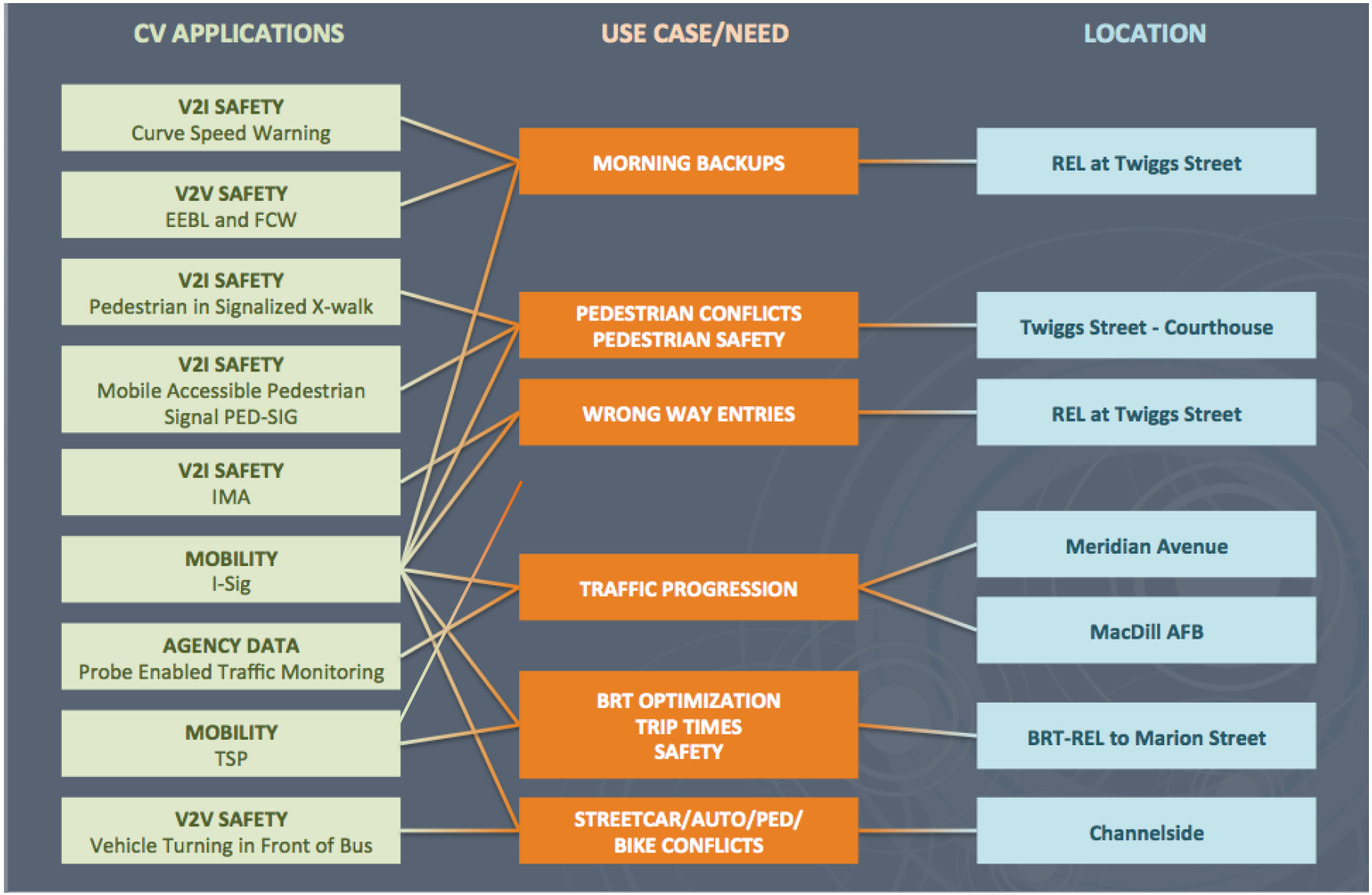
Approach:

- Deploy a variety of connected vehicle technologies on and in the vicinity of reversible express lanes and three major arterials in downtown Tampa to solve the following transportation challenges:
- Morning peak hour queues, wrong-way entries, pedestrian safety, bus rapid transit (BRT) signal priority optimization, trip time and safety, streetcar trolley conflicts, and enhanced signal coordination and traffic progression.

Deployment Team:

- Prime Consultant: Tampa Hillsborough Expressway Authority (THEA)
- Sub Consultants: HNTB Corporation, Siemens Industry, Inc., Booz Allen Hamilton, Center for Urban Transportation Research at University of South Florida and Global-5 Communications


Morning Backups/ Traffic Progression
Pedestrian Conflict and Pedestrian Safety
Trolley/Auto Conflicts
Wrong Way Entries/ Morning Backups/ Traffic Progression
BRT Optimization Trip Times/Safety
Trolley/Auto/Bike/ Pedestrian Conflicts
PASCO COUNTY
HILLSBOROUGH COUNTY
TAMPA
Study Area
CONNECTED VEHICLE APPLICATION
V2I SAFETY
Curve Speed Warning
Pedestrian in Signalized Crosswalk
Mobile Accessible Pedstrian Signal (PED-SIG)
V2V SAFETY
Emergency Electronic Brake Light
Forward Collision Warning (FCW)
Intersection Movement Assist (IMA)
Vehicle Turning in Front of Bus
MOBILITY
Intelligent Traffic Signal System (I-SIG)
Signal Priority (Transit)
AGENCY DATA
Probe-enabled Traffic Monitoring
Interstate 275
E Kay St
Scott St
N Orange Ave
N Nebraska Ave
Selmon Expy E
Selmon Expy W
Channelside Dr
W Kennedy Blvd
Toll 618
Meridian Ave
E Jackson St
E Brorein St
W Brorein St
N Florida Ave
S Florida Ave
Ray Charles Blvd
E Harrison St
E Cass St
E Zack St
E Polk St
E Twiggs St
E Madison St
E Whiting St
E Washington St
E Finley St
Durham St
0 225 450 900
Feet


CV APPLICATIONS
USE CASE/NEED
LOCATION
V2I SAFETY
Curve Speed Warning
V2V SAFETY
EEBL and FCW
V2I SAFETY
Pedestrian in Signalized X-walk
V2I SAFETY
Mobile Accessible Pedestrian Signal PED-SIG
V2I SAFETY
IMA
MOBILITY
I-Sig
AGENCY DATA
Probe Enabled Traffic Monitoring
MOBILITY
TSP
V2V SAFETY
Vehicle Turning in Front of Bus
MORNING BACKUPS
PEDESTRIAN CONFLICTS
PEDESTRIAN SAFETY
WRONG WAY ENTRIES
TRAFFIC PROGRESSION
BRT OPTIMIZATION
TRIP TIMES
SAFETY
STREETCAR/AUTO/PED/
BIKE CONFLICTS
REL at Twiggs Street
Twiggs Street - Courthouse
REL at Twiggs Street
Meridian Avenue
MacDill AFB
BRT-REL to Marion Street
Channelside

Join us for the *Getting Ready for Deployment* Series

- Discover more about the 2015 CV Pilot Sites
- Learn the Essential Steps to CV Deployment
- Engage in Technical Discussion

Website: http://www.its.dot.gov/pilots

Twitter: @ITSJPODirector

Facebook: https://www.facebook.com/USDOTResearch

Contact for CV Pilots Program:

Kate Hartman, Program Manager

Kate.hartman@dot.gov

Contact for Pilot Sites:

- Kate Hartman, ICF/Wyoming Site COR Kate.Hartman@dot.gov
- Jonathan Walker, NYC Site COR Jonathan.b.Walker@dot.gov
- Govind Vadakpat, THEA Site COR G.Vadakpat@dot.gov

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- Automation
- Scenario Planning
- Traffic Safety Culture
- Vehicle Hacking

FAST Act General Information

- Five Years (FY 16 – 20)
- Increase in Top-Level Funding of 11%
- No Increase for OST-R (94% of all funding)
- Major New/Revised Programs
  - Nationally Significant Freight and Highway Projects
  - Surface Transportation Block Grant Program
  - National Highway Freight Program
  - Nationally Significant Federal Lands and Tribal Projects Program

FAST ACT – ITS JPO

- Advanced Transportation and Congestion Management Technologies Grants (w/FHWA)
- Determine Authorization Levels
- Figure Out “Administered by FHWA”
- Support National Freight Goals
- Support Cybersecurity Research for Connected Vehicles
- Incorporate Technical Corrections

ITS Strategic Plan 2015 to 2019

- Strategic Priorities
  - Realizing Connected Vehicles
  - Advancing Automation

- Program Categories:
  - Connected Vehicles
  - Automation
  - Emerging Capabilities
  - Enterprise Data
  - Interoperability
  - Accelerating Deployment

2015 Accomplishments

Connected Vehicles (CV)

- Awarded CV Pilots to ICF-WY, NYCDOT, and Tampa/THEA
- Completed the development, research and evaluation of the Dynamic Mobility Applications (DMA) (FRATIS, INFLO, Enable ATIS, and R.E.S.C.U.M.E.)
- Developed AERIS and Road Weather CV Applications
- Completed initial research into Security Credential Management System (SCMS) Proof of Concept
- Completed research to enable the NHTSA V2V decision
- Completed Draft Spectrum Test Plan Report

2015 Accomplishments (cont.)

Automation

- Develop Automated Vehicle Policy Research Plan
- Published Human Factors Evaluation of Level 2 and Level 3 Automated Driving Concepts Report
- Delivered Report on Target Crash Populations for Automated Vehicles
- Convened 2015 Automated Vehicle Symposium

Emerging Capabilities

- Engaged Federal partners at ATTRI State of Science Roundtable and moved toward application selection
- Completed Smartcross Pedestrian Safety with Cell Phones project

2015 Accomplishments (cont.)

Interoperability

- Facilitated US-Mexico ITS Architecture workshop in cooperation with OST-X
- CVRIA v2.0 released, initial communications view completed
- Facilitated public CV Architecture Workshop in support of CV Pilots
- Completed Human Factors Final reports for DVI Design Guidance, Integration Architecture, and Multiple Sources for V2I and V2V

Enterprise Data

- Released new Version 2.2 of Research Data Exchange (RDE)
- Draft Final Report for Recommended Modifications and Additions to ITS Standards
- Continued to advance Smart Cities research

2015 Accomplishments (cont.)

Accelerating Deployment

- Released online CV101 eLearning course
- Continued PCB training courses with participation from over 36,000 participants in 2015
- Published the *2015-2019 ITS JPO Strategic Plan*
- Continued to engage stakeholders at TRB, ITS America, the ITS World Congress and other venues
- Evolved SE Michigan Connected Vehicle Test Bed to support our Deployment and Technical Assistance program
- Awarded Integrated Corridor Management project
- Awarded MSAA Deployment Planning grants to selected local and regional organizations to plan coordinated mobility services

Connected Vehicle Pilot Deployment Program

PROGRAM GOALS

PILOT SITES

•STAY CONNECTED

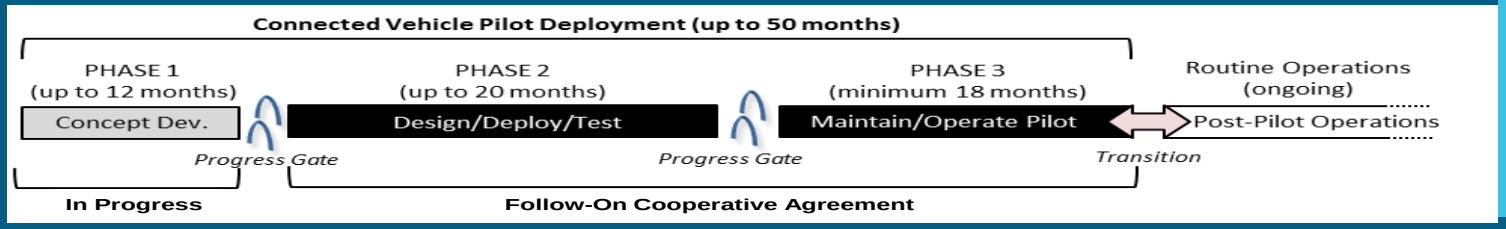
- Participate in Concept Development Phase Webinars for the three Pilot Sites (see website for exact dates and times)

Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016
◆ ◆	◆		◆ ◆ ◆			◆ ◆ ◆

•Concept of Operations Webinars

•Performance Measurement Webinars

•Comprehensive Deployment Plan Webinars



U.S. Department of Transportation
ITS Joint Program Office

Smart City Challenge

Vision

To demonstrate and evaluate a holistic, integrated approach to using advanced ITS technologies to improve surface transportation performance within a city.

Goals

- Identify the challenges and community needs
- Identify which technologies will solve the city's challenges
- Encourage cities to integrate advanced technologies – including connected and automated vehicle technologies – into the management and operations of the city
- Demonstrate the impact of advanced technologies
- Identify technical, policy, and institutional issues, and work with partners to address them

DOT Smart City Challenge

1,400 local officials, companies, academics and non-profits joined our webinars

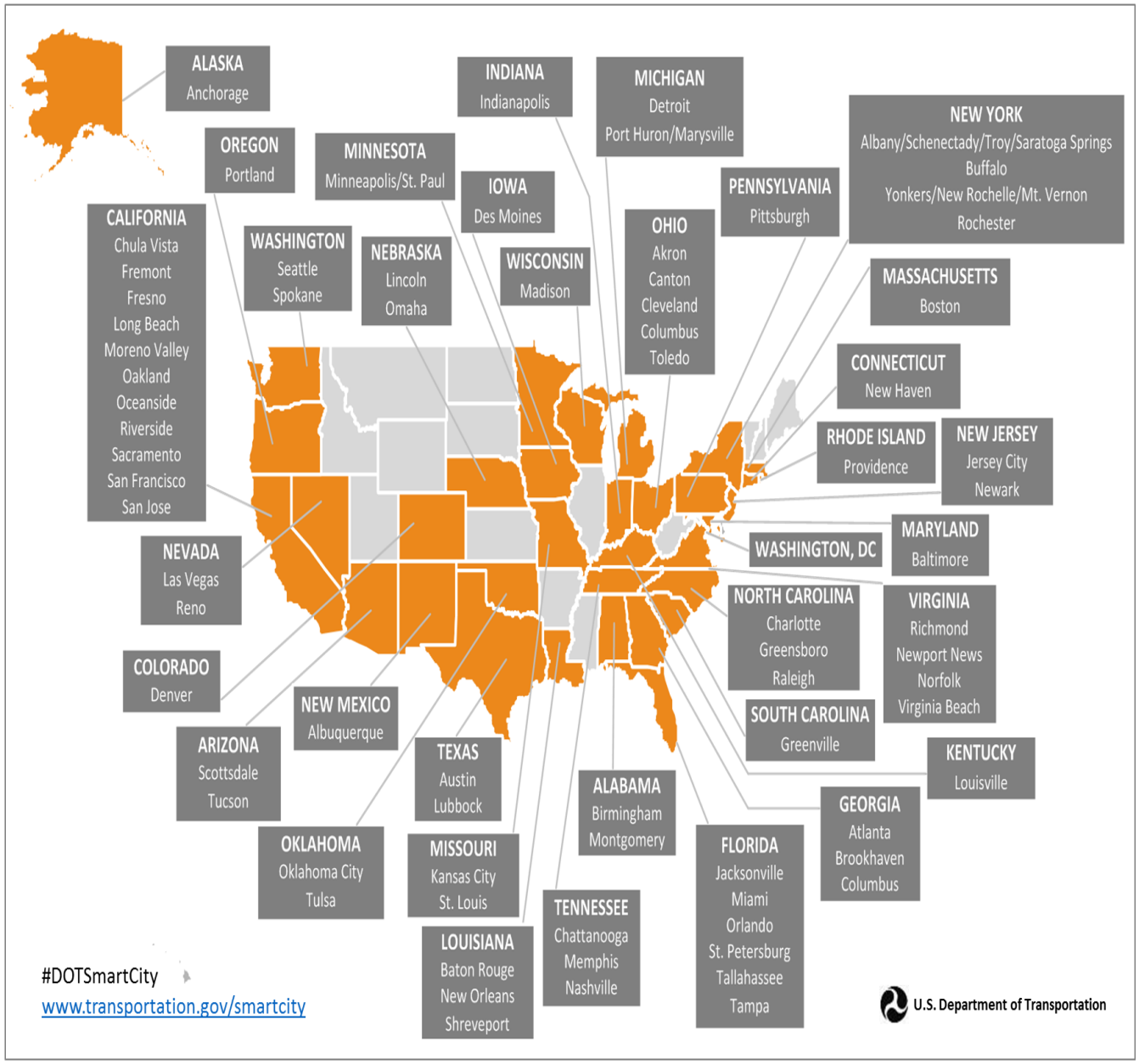
800 people participated in our Smart City Forum

300 companies have expressed interest in partnering

78 applications received for the Smart City Challenge

5 Smart City Challenge Finalists to be announced in March at SXSW

1 Smart City Challenge Winner announced in June



FAST Deployment Grants

- ITS JPO will support and provide partial funding for FAST Act's Advanced Transportation and Congestion Management Technology Deployment grant program:
  - Provides grants to eligible entities to develop model deployment sites no later than 6 months after the date of enactment.
  - Funding for the program is set at $60 million with up to 2 million for program reporting, evaluation, and administrative costs each fiscal year from FY 2016 to FY 2020.
  - No more than 20 percent of the fiscal year award can be made to a single grant recipient.
  - Funded from Highway R&D, TIDP, & ITS Research
- May provide support for a number of ITS initiatives including Smart City study of digital technologies and information technologies, cybersecurity systems to help prevent hacking, spoofing, and disruption of connected and automated transportation vehicles, V2I deployment, etc.

2016 Research Activities

- PCB
- ITS Architecture and standards
- ATTRI
- MARAD ITS Assessment
- St Lawrence Seaway ITS Concept Technology

Constraints

- Vehicle Automation
- Mobility on Demand
- Human Factors
- AERIS
- Road Weather Management
- Cybersecurity

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ITS Advisory Committee Advice Memo Timeline

Advice Memo/Report to Congress Timeline	
October 2, 2015	2015 Advice Memo Submitted
June 4, 2016	2014 – 2016 Term Expires
January 1, 2017	Advice Memo Due to ITS JPO
May 1, 2017	ITS PAC Report Due to Congress
January 1, 2018	Advice Memo Due to ITS JPO
May 1, 2018	ITS PAC Report Due to Congress
June 4, 2018	2016 – 2018 Term Expires

Agenda (continued)

12:00	**1:00**	**Lunch**
1:00	2:15	Proposed 2016 Advise Memorandum Topics (cont) • Subcommittee Assignments
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Beyond Traffic: The Smart City Challenge

ITS Program Advisory Committee Meeting

31 March 2016

U.S. Department of Transportation (USDOT)

Beyond Traffic: The Smart City Challenge

- Encourage cities to put forward their best and most creative ideas for innovatively addressing the challenges they are facing.
- The Smart City Challenge will address how emerging transportation data, technologies, and applications can be integrated with existing systems in a city to address transportation challenges.
- Demonstrate how advanced data and intelligent transportation systems (ITS) technologies and applications can be used to reduce congestion, keep travelers safe, protect the environment, respond to climate change, connect underserved communities, and support economic vitality.

Beyond Traffic: The Smart City Challenge

Phase 1 (Deadline February 4, 2016):

- Support concept development and planning activities
- Used to identify Smart City Challenge Finalists
- $100K each

Phase 2 (Deadline May 24, 2016):

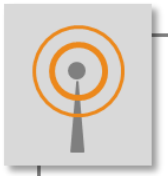
- Smart City Challenge Finalists
- Support implementation of their proposed demonstration
- $50 Million
  - U.S. Department of Transportation: $40 Million
  - Vulcan Foundation: $10 Million

Beyond Traffic: The Smart City Challenge

Technology Elements *(Highest Priority)*

Vision Element #1
Urban Automation

Vision Element #2
Connected Vehicles



Vision Element #3
Intelligent, Sensor-Based Infrastructure

Innovative Approaches to Urban Transportation Elements *(High Priority)*

Vision Element #4
User-Focused Mobility Services and Choices

Vision Element #5
Urban Analytics

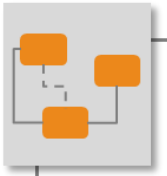
Vision Element #6
Urban Delivery and Logistics

Vision Element #7
Strategic Business Models & Partnering

Vision Element #8
Smart Grid, Roadway Electrification, & EVs

Vision Element #9
Connected, Involved Citizens

Smart City Elements *(Priority)*



Vision Element #10
Architecture and Standards

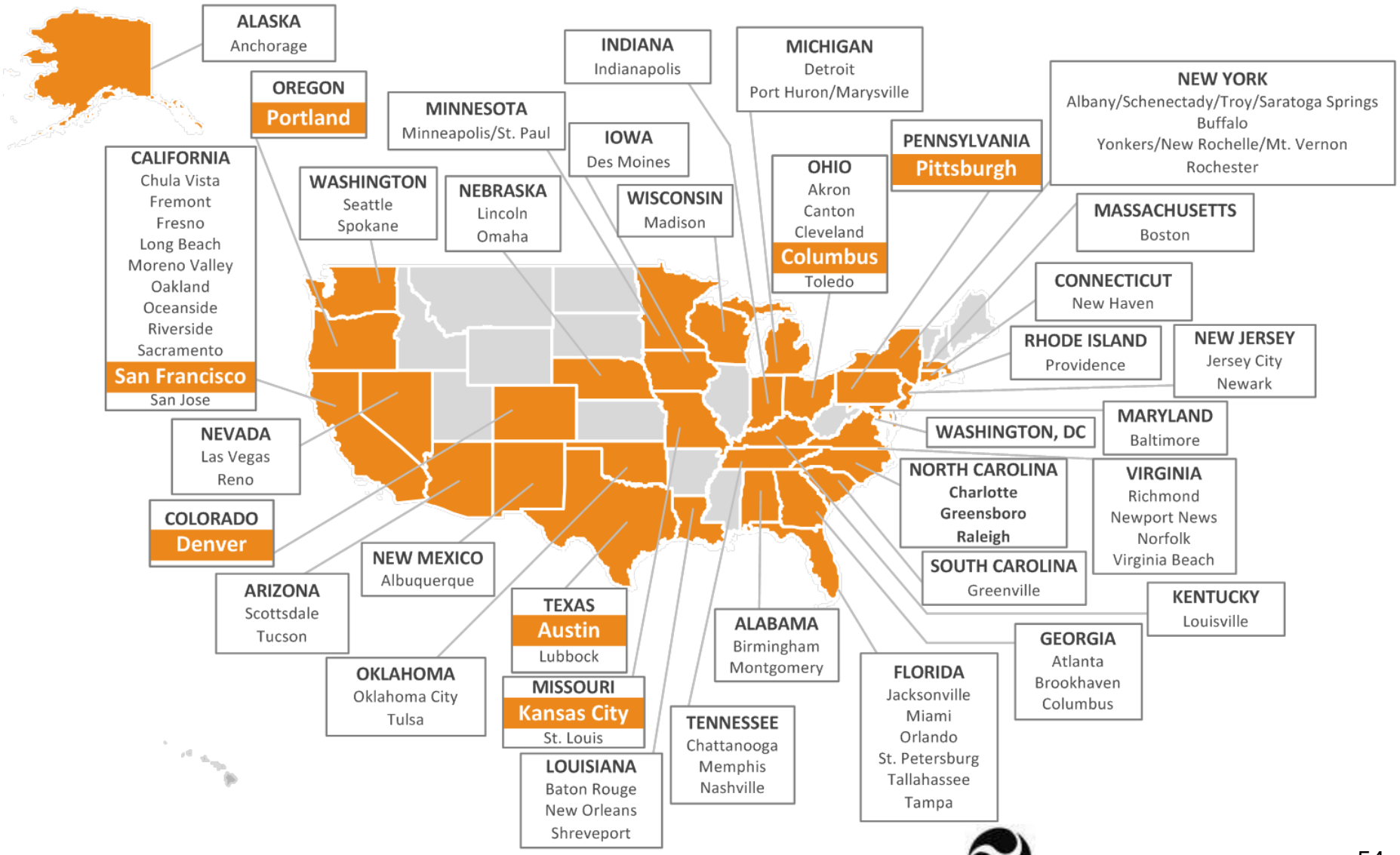
Vision Element #11
Low-Cost, Efficient, Secure, & Resilient ICT

Vision Element #12
Smart Land Use

Challenges Cities are Facing

1. Ensuring that all members of the community benefit from technological improvements
2. Providing first-mile and last-mile service for transit users
3. Combining and streamlining payment systems, including for those without smartphones
4. Integrating the sharing economy into a suite of mobility options
5. Enhancing trip planning services to help users make efficient choices
6. Determining the current state of travel conditions
7. Improving bicyclist and pedestrian safety
8. Facilitating the movement of goods into and within a city
9. Coordinating data collection and analysis across systems
10. Reducing inefficiency in parking systems and payment
11. Limiting the impacts of climate change and reducing carbon emissions
12. Improving traffic signal operations
13. Increasing avenues to partners & adapting to new business models

Smart City Challenge Finalists



Smart City Challenge Partners

- Paul Allen's Vulcan, Inc.
- Mobileye
- Autodesk
- NXP
- Amazon Web Services
- Alphabet's Sidewalk Labs
- U.S. Department of Energy

Notice of Funding Opportunity (NOFO) #2

- **Issued:** March 25, 2016
- **Applications Due:** May 24, 2016
- **Scope Section**
  - Program Management
  - Systems Engineering Process
  - Performance Measurement
  - Data Privacy
  - Data Management and Support for Evaluation
  - Safety Management
  - Communications Plan
  - International Collaboration
  - Architecture and Standards
  - Interim and Final Reports

Notice of Funding Opportunity (NOFO) #2

- **Proposal**
  - ***Volume 1 – Technical Approach***
    - Technical Approach
    - Data Management
    - Management Plan
    - Staffing
    - Capacity and Capability
  - ***Volume 2 – Budget Application***

Kick-off Meeting: March 23, 2016

Time	Item
2:00 pm	Welcome and Introductions
2:05 pm	Smart City Challenge – Phase 2 Notice of Funding Opportunity (NOFO)
2:25 pm	Technical Assistance and Other Opportunities for Finalists
2:45 pm	Smart City Challenge Partners

3:15 pm	Nuts & Bolts – Cooperative Agreement ($100,000)
	• Required Deliverables:
	  • Kick-off Meeting
	  • Progress Reports
	  • Video
	  • Final Report
	  • Technical Meetings / Engagement

3:30 pm	Adjourn

Technical Assistance & Other Opportunities

- **April 4-5: Finalist Workshop (Washington DC)**
  - ***Sample Collaborative Sessions***
    - Creating Ladders of Opportunity
    - Advancing Safety in Smart Cities
    - Communications, Outreach, and Citizen Engagement
  - ***Sample City Team Workshops***
    - Building Mobility Options
    - Data and Evaluation
    - Electrification and Smart Grids
    - Automation: Moving People, Moving Things
    - Connected Vehicles
  - ***Introductions from USDOT's Smart City Partners***

Key Dates

Upcoming Workshops and Opportunities

March 31	World Economic Forum in San Diego, CA
April 17-24	International Trip to Europe (Copenhagen, Amsterdam and Oslo)
April 19-21	USDOT V2I Safety Applications Demonstrations and Connected Vehicle Technical Assistance in Fowlerville, MI
April	USDOT Technical Assistance Meeting #2 – Connected Vehicle Boot Camp (webinar or in Washington, DC)
April/May	Smart City Challenge Finalist Roundtable in City with Senior USDOT Officials
April/May	Startup Event for Finalist Cities
May 3-4	USDOT Mobility on Demand Workshop in Denver, CO
May 17	Live.Ride.Share Event in Denver, CO
May 24	NOFO Deadline

For More Information

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Team Lead Research and Demonstration

U.S. Department of Transportation, ITS Joint Program Office

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Email: Brian.Cronin@dot.gov

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