Intelligent Transportation Systems Program Advisory Committee (ITSPAC)

August 13, 2014

Key Bridge Marriott Hotel
Arlington, VA
Capital View Ballroom

Agenda

8:00 – 8:05	Welcome: Stephen Glasscock
8:05 – 8:15	Opening Remarks: Assistant Secretary Greg Winfree
	ITS JPO Director Ken Leonard
8:15 – 8:45	Introductions by Committee Members: Steve Kenner
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MAP-21 Deployment Incentives Report

ITS Program Advisory Committee

August 13, 2014

Bob Rupert, Technical Programs Coordinator, Office of Transportation Management, FHWA

Background and Objectives

- Mandated by MAP-21, to encourage deployment of ITS technologies to improve the performance of the National Highway System in areas such as:
  - traffic operations, emergency response, incident management, surface transportation network management, freight management, traffic flow information and congestion management
- Aim to accelerate adoption of innovative technologies through the use of:
  - demonstration programs
  - grant funding
  - incentives to eligible entities
  - other tools/strategies or methods that will result in the deployment of innovative ITS technologies
- OST charged with developing a "***detailed and comprehensive plan"*** to address how incentives may be adopted, "through existing deployment activities carried out by surface transportation modal administrations."
- ITS JPO coordinating response
- Report due by end of September

Examples of Deployment Incentives

- Demonstration programs
  - Urban Partnership Agreement Congestion Initiative Demonstrations
  - Ann Arbor Connected Vehicle Safety Model Deployment
  - Integrated Corridor Management pioneer site demonstrations in Dallas and San Diego
- Grant funding
  - Commercial Vehicle Information Systems and Networks (CVISN)
  - Planning Grants
    - Mobility Services for All Americans (MSAA)
- Incentives to eligible entities
  - Increasing funding eligibility for ITS deployment activities, including support for continuing operations and maintenance
  - Reducing administrative burden or reporting requirements
  - Assistance with compliance with rules and policies
- Rulemaking, Regulations, Mandates
  - Section 1201 requirement for real-time traffic and travel conditions information
  - MAP-21 Performance Management Provisions

Examples of Deployment Incentives (cont'd)

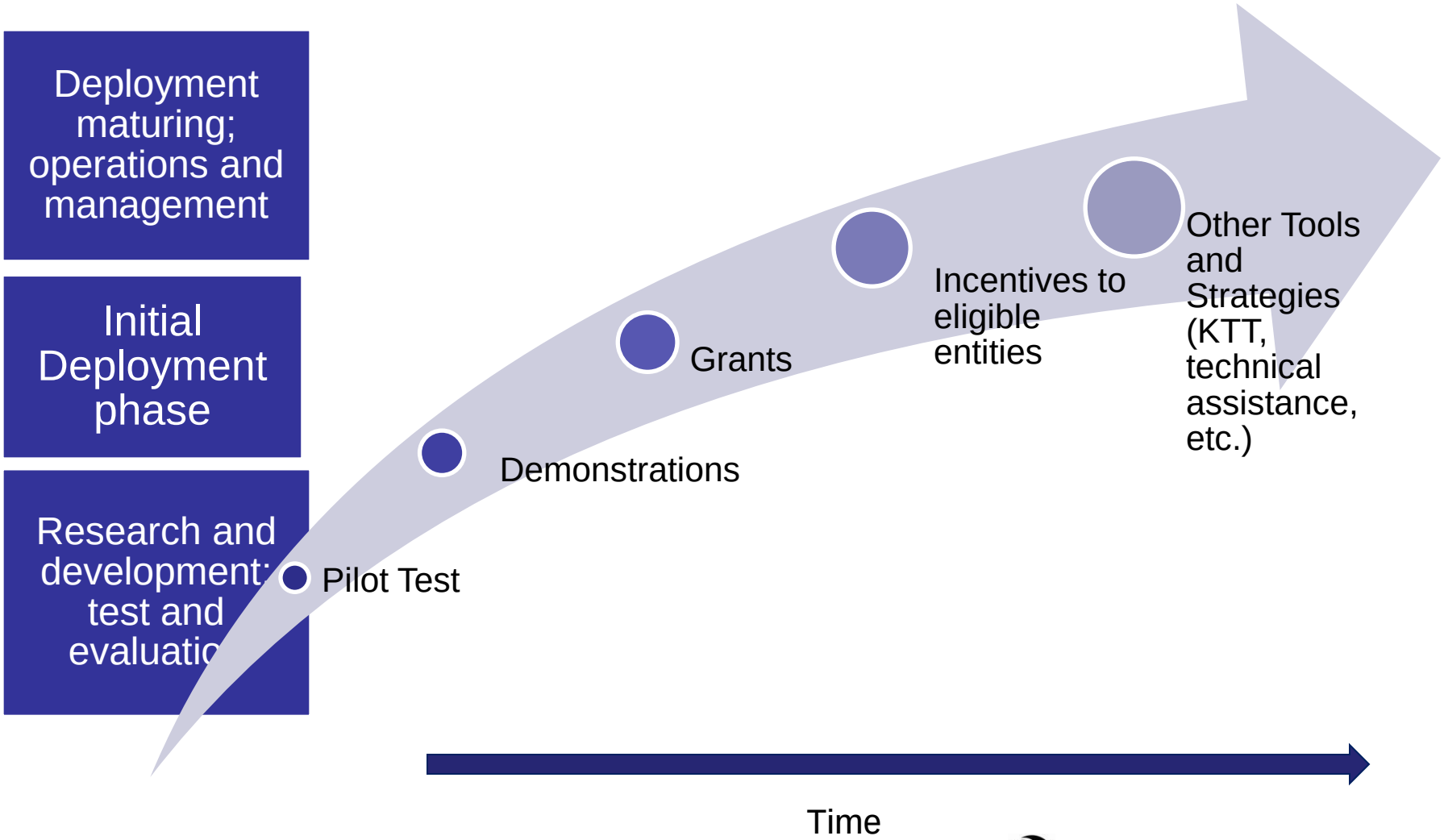
- Competitions
- Tools, Strategies, and Methods
  - Knowledge and Technology Transfer (KTT) Activities
    - Training and Webinars
    - Workshops
    - Evaluations
    - Publications
    - ITS Knowledge Resources
  - Planning and Decision-Making Tools
    - Traffic Analysis Tools
    - Decision Support Systems
  - Technical Assistance
  - Encouraging use of Standards

Image Source: Thinkstock/USDOT

Incentive Types/Strategies by Category

Rewards or Penalties ($ or other)	Eligibility of ITS for Federal Aid/ Deployment Programs	Directives	Knowledge and Technology Transfer
Demonstrations	Expand to More Programs	Regulations	Training
Grants	Cover Long Term O&M	Legislative Mandates	Tools
Competitions	Ease eligibility criteria for matching grants	Standards	Technical Assistance
Awards/Recognition	Provide higher federal share for ITS	Policies	Guidance
Performance-based Rewards	Explore other Federal Agency programs		Workshops
Performance-based Penalties			Stakeholder Engagement
Reducing taxes or administrative burden			Deployment Coalitions / Collaborative Research Env.

Lifecycle Approach for Deployment Incentives



Findings

1. Deployment is more likely to be achieved when **a full range of incentives** is applied over the course of the ITS Research and Development lifecycle, from planning and demonstration program grants, to KTT activities.
2. **Funding** is important ingredient. **Increasing the eligibility of ITS** systems and applications for federal funding has proven very important in removing past barriers to deployment.
3. **Competitive grant programs for field trials and demonstrations** important for stimulating interest in a technology. They assist the early adopters in entering the market, and provide real world examples.
4. While providing financial incentives is important, encouraging **sustainable funding for ongoing operations and maintenance** is even more important for ITS deployment.
5. Deployment **planning grants** are viewed favorably as they incentivize agencies to budget for implementation and operations and maintenance and include ITS projects in their Transportation Improvement Programs (TIPs).

Findings (continued)

1. **Rulemaking** important tool, but must be include a very strong societal benefit-cost case.
2. **KTT is important in reducing the uncertainty about the risks and benefits of ITS.** KTT includes: training, technical assistance, guidance documents, and peer to peer exchanges.
3. **Demonstrating and communicating the benefits** of ITS technology was most often cited as the factor influencing adoption.
4. Looking to the future, connected vehicle deployment depends on consumer adoption of the technology. **The U.S. DOT is considering exploring the concept of providing incentives for consumer adoption**, including consumer education efforts such as NHTSA's New Car Assessment Program (NCAP), The Environmental Protection Agency's (EPA) Energy Star program.

Project Stages

Review Literature

- Findings from review of literature on government use of incentives
- Compare with other Federal agency Programs (DOE, HHS, etc.)

Document Baseline

- Identify baseline of deployment incentives currently used
- **Gather stakeholder input**
- Assess gaps
- Prioritize deployment incentives

Develop Plan

- "Detailed and comprehensive" plan
- All modes
- Assess stakeholder feedback
- Conduct workshop

Prepare Final Report

- Cross-cutting analysis
- Considerations for future ITS initiatives
- **Additional feedback**

We are here

Remaining Timeline

- Draft Final Report - July 31
- Program Office Review – July-August
- OST Review – August-September
- Final Report – September 30

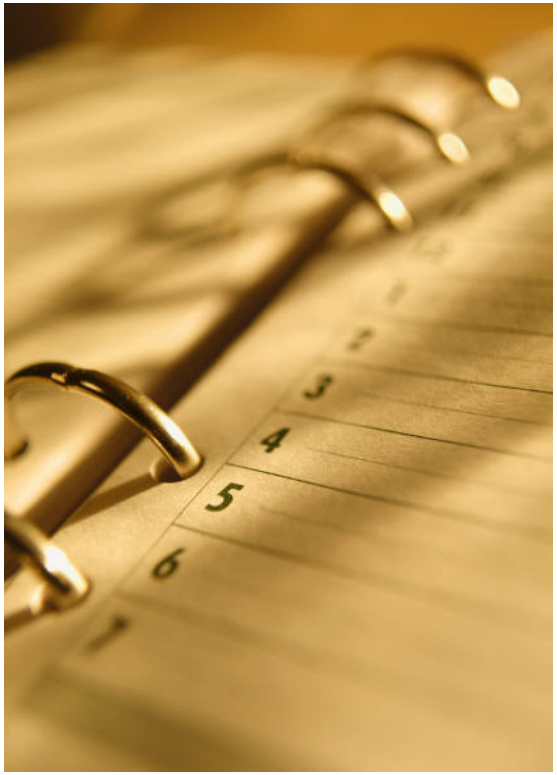


Image Source: Thinkstock/USDOT

Question and Answer

Contacts:

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ITS 2015–2019
STRATEGIC PLAN
Intelligent Transportation Systems (ITS)
Joint Program Office (JPO)
FHWA-JPO-14-NNN | www.its.dot.gov
U.S. Department of Transportation

Outline

- Strategic Planning Process
- ITS Strategic Plan Components and Hierarchy
- ITS Strategic Plan's Framework
- Strategic Priorities, Vision, and Mission
- Strategic Themes
- ITS Technology Lifecycle and Operational Disciplines
- Program Categories
- Strategic and Operational Plan Elements

The Strategic Planning Process: Reflecting Stakeholder Input

WE HAVE HEARD YOU...

Over **700 stakeholders** representing states and localities from across the country participated in development of the 2015–2019 ITS Strategic Plan

Over **100** inputs regarding ENTERPRISE DATA were received

Over **75%** of stakeholders agreed that technology developers (EMERGING CAPABILITIES, not currently associated with CVs) will have an impact on the future of the CV environment.

AUTOMATION was a recurring topic of interest, being discussed by over **100** stakeholders

285 different organizations contributed inputs to the ITS Strategic Plan 2015–2019

Nearly **100%** of stakeholders that participated in the surveys indicated they were satisfied with the current level of emphasis on CV research

INTEROPERABILITY as an ITS program focus was raised over **200** times

Over **55%** of participating stakeholders claimed they are currently ready for and would be receptive to new CV or similar technology, such as what has been described under ACCELERATING DEPLOYMENT.

Data collection efforts yielded **845** unique ITS Stakeholder responses

ITS Strategic Plan Components and Hierarchy

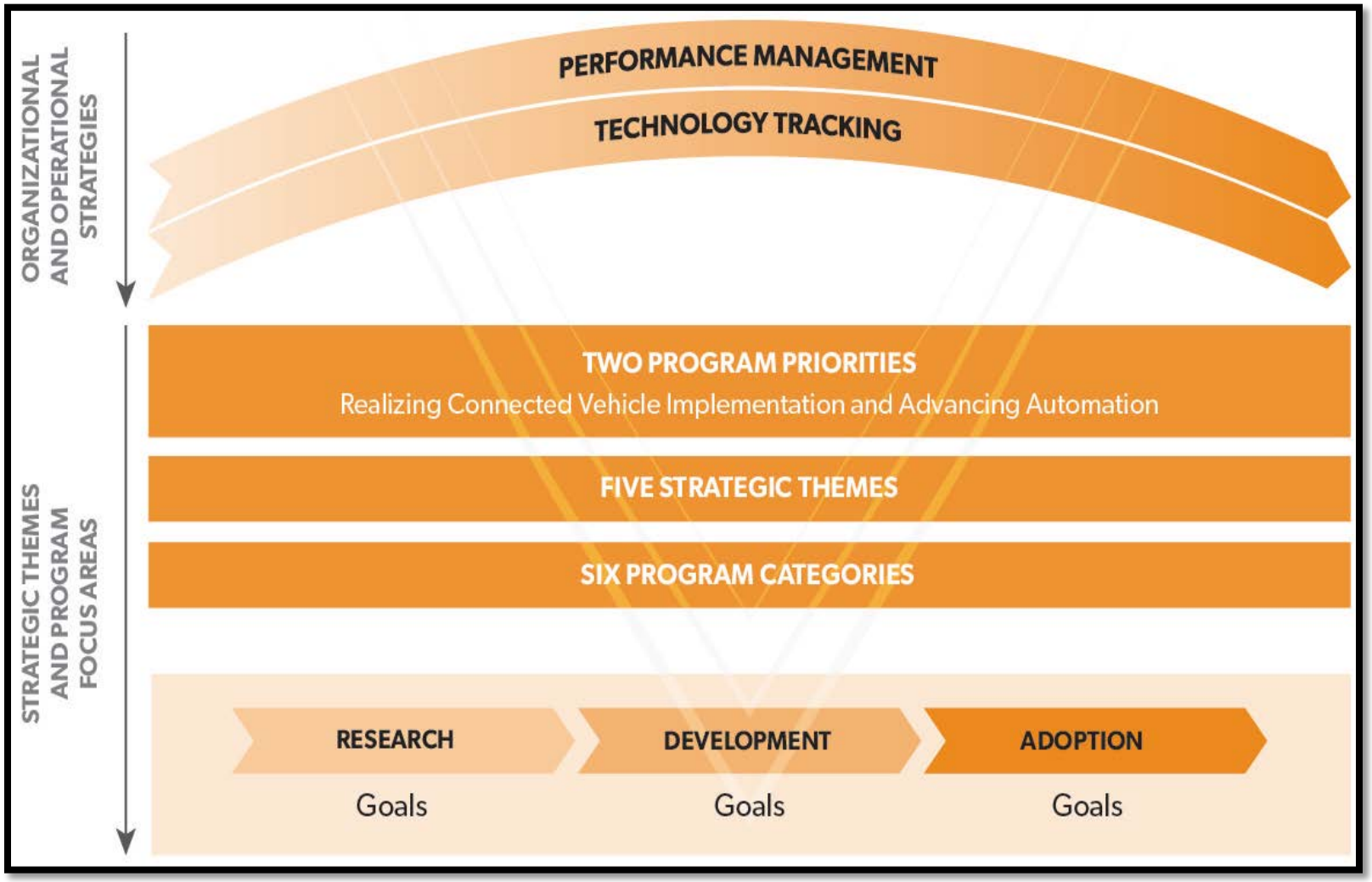
STRATEGIC PLAN

The purpose of the **ITS Strategic Plan** is to lay out the direction and goals of the ITS Program and to provide a framework around which the ITS JPO and other Department of Transportation agencies will conduct research, development, and adoption activities in order to achieve outcomes and goals of the overarching ITS Program. The Plan will be used to inform interested stakeholders about the activities and priorities of the *ITS Program*.

OPERATIONAL PLAN FOR JPO

The purpose of the **ITS JPO Operational Plan** is to provide a suite of program charters with resource allocations, milestones, responsibilities, and processes that the individual programs will develop. Working within the overarching structure and framework set forth in the Strategic Plan, the Operational Plan will allow the JPO to maintain its focus and momentum along the program categories defined in the Strategic Plan.

ITS Strategic Plan's Framework



Strategic Priorities

- Two Strategic Priorities reflect a sense of where the bulk of transportation research and innovation is heading. These priorities are not exclusive of other technologies or research areas.

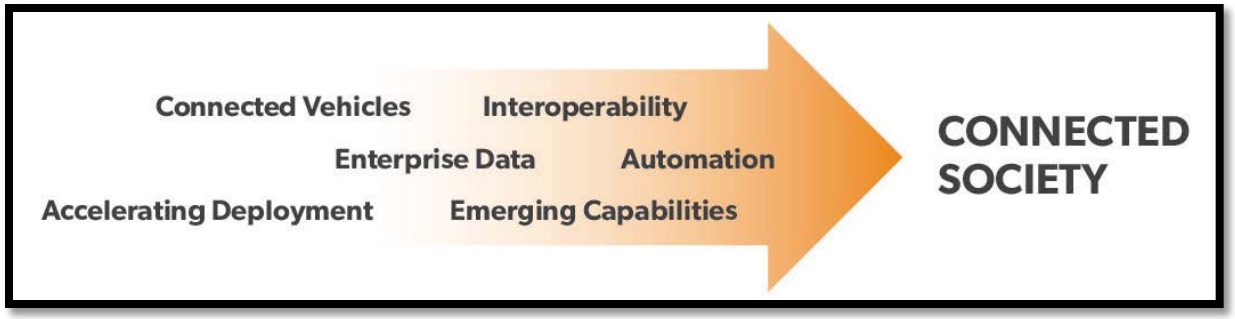
  - ***Realizing Connected Vehicle Implementation***
    - builds on the substantial progress made in recent years around design, testing, and planning for connected vehicles to be deployed across the nation.

  - ***Advancing Automation***
    - shapes the ITS Program around research, development, and adoption of automation related technologies as they emerge.

Vision and Mission

VISION

Transform the Way Society Moves



MISSION

Conduct research, development, and education activities to facilitate the adoption of information and communication technology to enable society to move more safely and efficiently.

Strategic Themes

- **Enable Safer Vehicles and Roadways** by developing better crash avoidance, performance measures, and other notification mechanisms, commercial motor vehicle safety considerations, infrastructure-based, and cooperative safety systems.

- **Enhance Mobility** by exploring methods and management strategies that increase system efficiency and improve individual mobility.

- **Limit Environmental Impacts** by better managing traffic flow, speeds, congestion, and using technology to address other vehicle and roadway operational practices.

- **Promote Innovation** by fostering technological advancement and innovation across the *ITS Program*, continuously pursuing a visionary/exploratory research agenda, and aligning the pace of technology development, adoption, and deployment to meet future transportation needs.

- **Support Transportation Connectivity** through the development of standards and systems architectures, and the application of advanced wireless technologies that enable communications among and between vehicles of all types, the infrastructure, and portable devices.

ITS Technology Lifecycle and Operational Disciplines

RESEARCH

The Research stage of the lifecycle starts with **idea generation**, includes **concept development**, and proceeds through all other research activities.

DEVELOPMENT

The Development stage of the lifecycle starts with **prototype development**, proceeds through **testing**, and includes **measures of effectiveness**.

ADOPTION

The Adoption stage of the lifecycle starts after testing is complete and technologies are ready for initial adoption. This stage includes **model deployments** and **measurements of initial adoption**.

PERFORMANCE MANAGEMENT

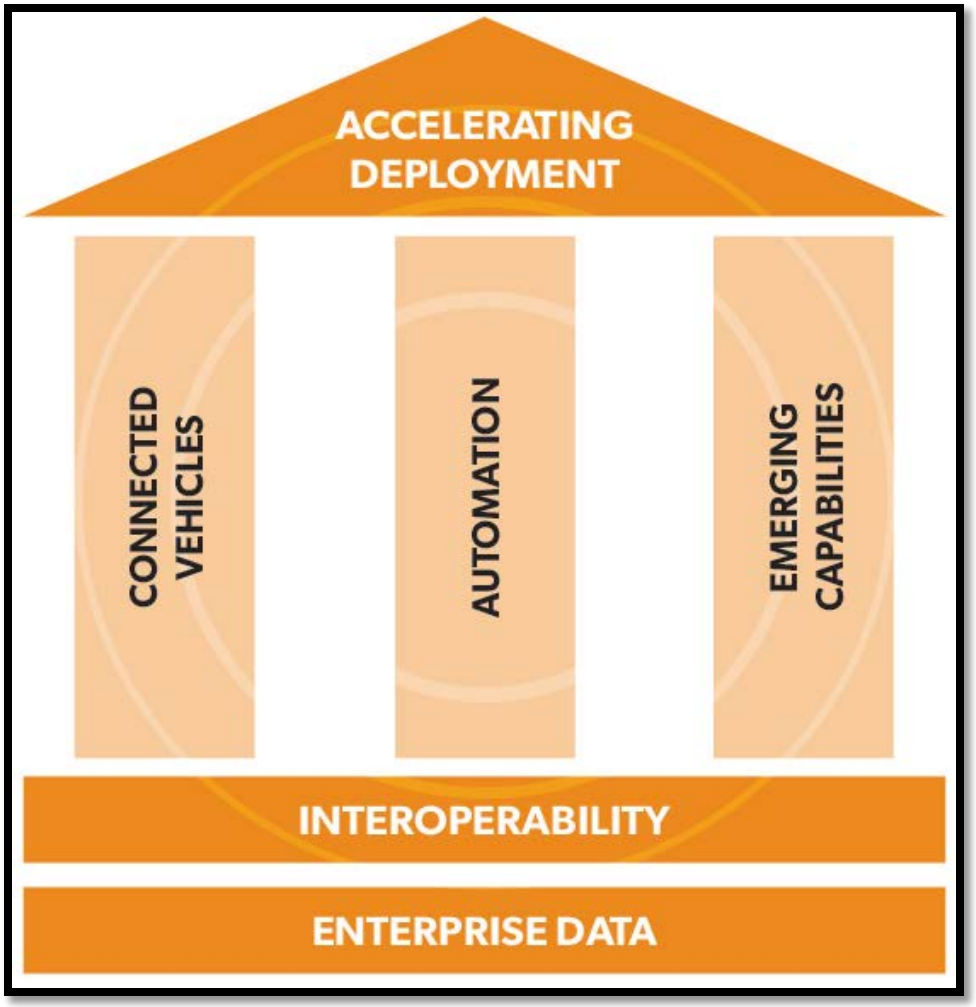
Performance management is the discipline of using metrics and defined outcomes to measure success of the ITS JPO, its programs and projects, and identify opportunities for improvement.

TECHNOLOGY TRACKING

Technology Tracking activities take place throughout the technology lifecycle to ensure goals, objectives, and performance indicators of all functions and activities are being used to make decisions and facilitate progress.

The Adoption Phase sets the stage for large scale **deployment**.

Program Categories



Program Categories

- **Connected Vehicles** program category will be primarily focused on adoption and eventual deployment of the system.

- **Automation research** will focus on topics related to automated road-vehicle systems and related technologies that transfer some amount of vehicle control from the driver to the vehicle.

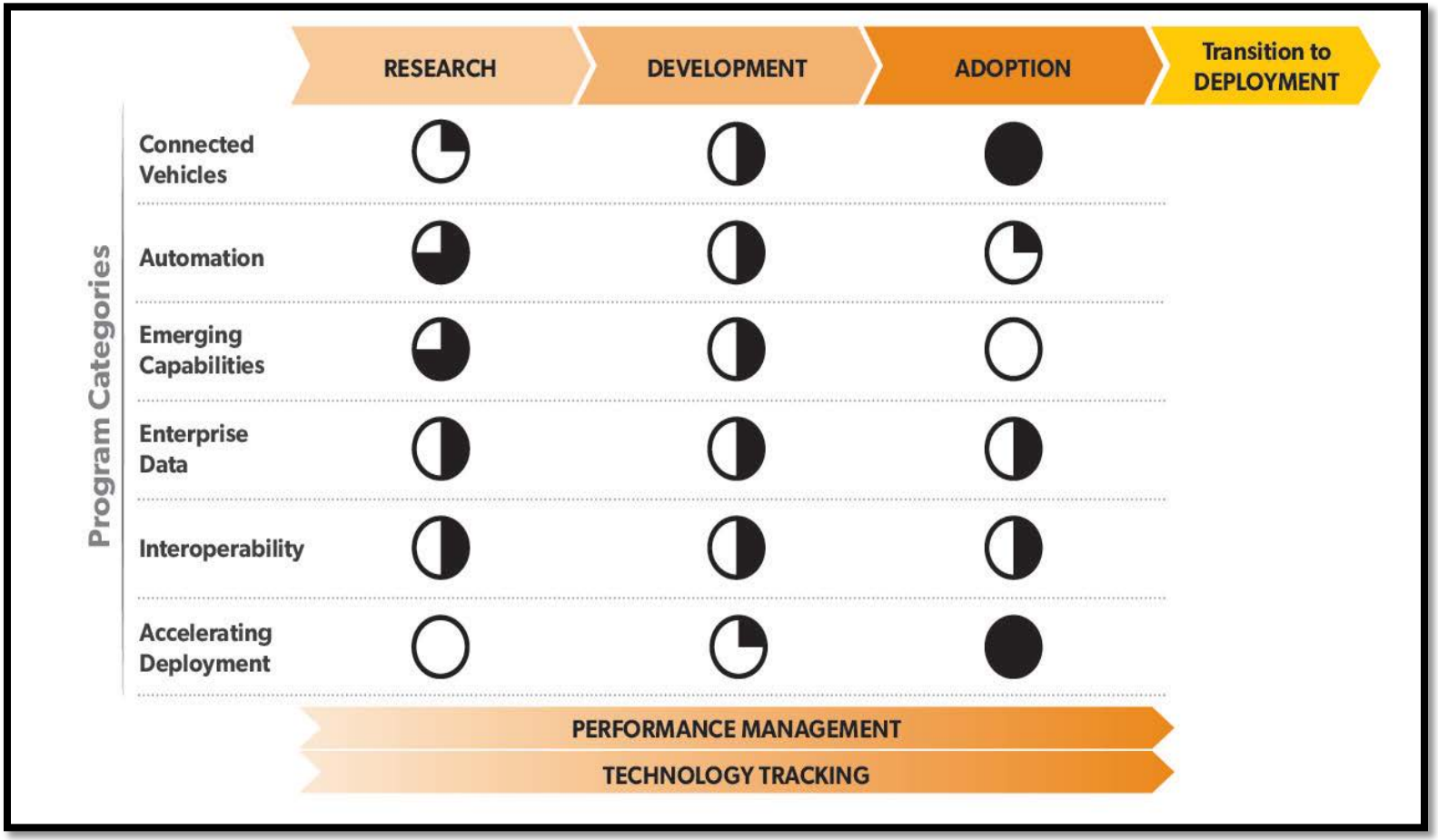
- **Emerging Capabilities** will focus on future generations of transportation systems.

- **Enterprise Data** programs will continue existing efforts in operational data capture from stationary sensors, mobile devices, and connected vehicles, and expand into research activities involving the development of mechanisms for housing, sharing, analyzing, transporting, and applying those data for improved safety and mobility across all modes of travel.

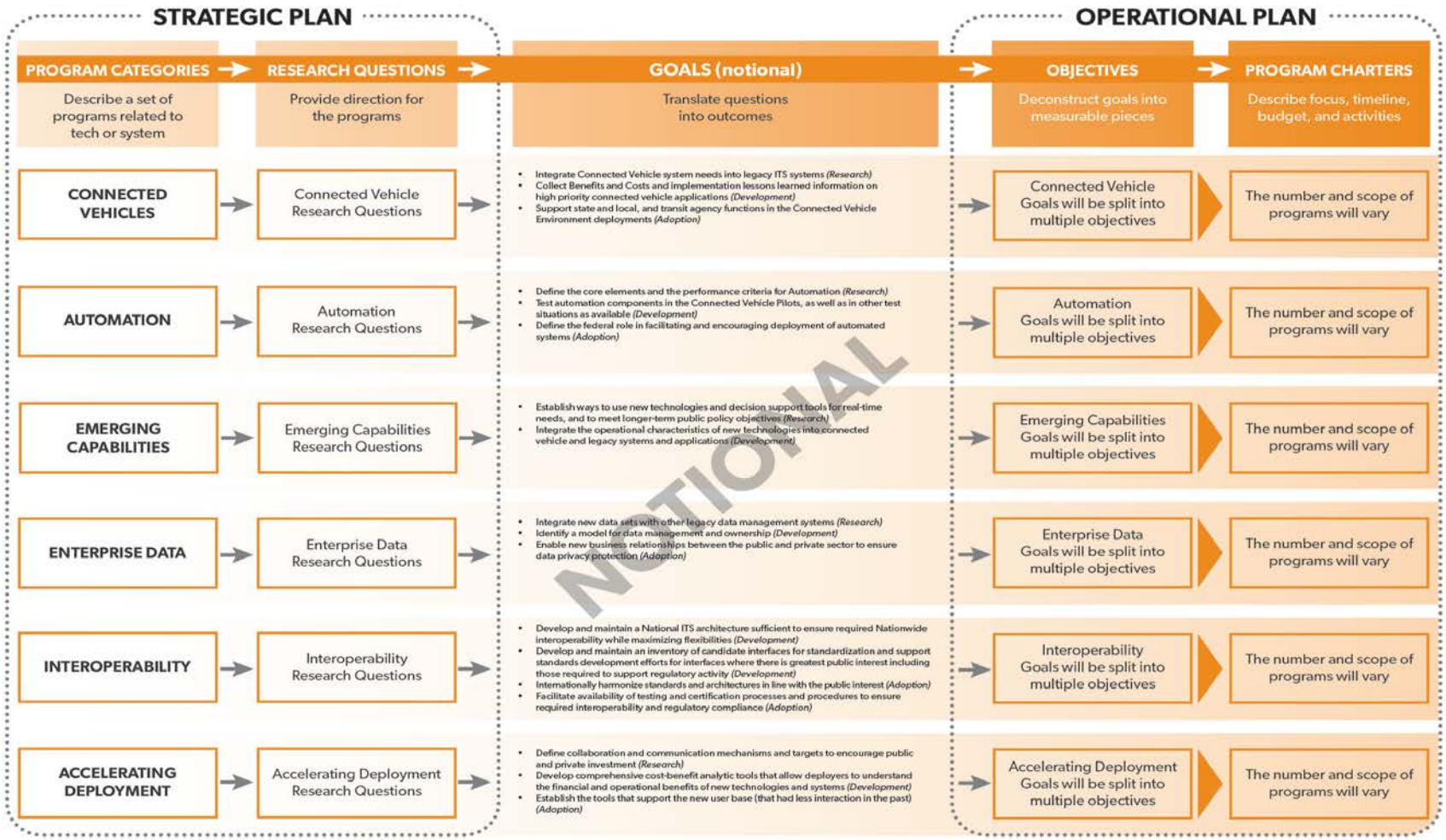
- **Interoperability** focuses on how to ensure effective connectivity among devices and systems.

- **Accelerating Deployment** advances the work from adoption to wider scale deployment in coordination with several other DOT agencies.

Program Categories and Technology Lifecycle



Strategic and Operational Plan Elements



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