Truck Size and Weight Enforcement Technologies Project

Smart Roadside Workshop
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Truck Size and Weight
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Project Overview

- Objectives

  – Investigate how technologies can be combined and deployed to enhance the efficiency and effectiveness of states' truck size and weight enforcement programs

  – Recommend strategies to encourage the deployment of roadside technologies to improve truck size and weight enforcement

Project Overview (continued)

- Federal Highway Administration's Office of Freight Management and Operations is the sponsoring agency

- Technical Review Committee (FHWA, FMCSA, ITS Joint Program Office, and CVSA) provides direction, facilitates other stakeholders' involvement, and reviews deliverables
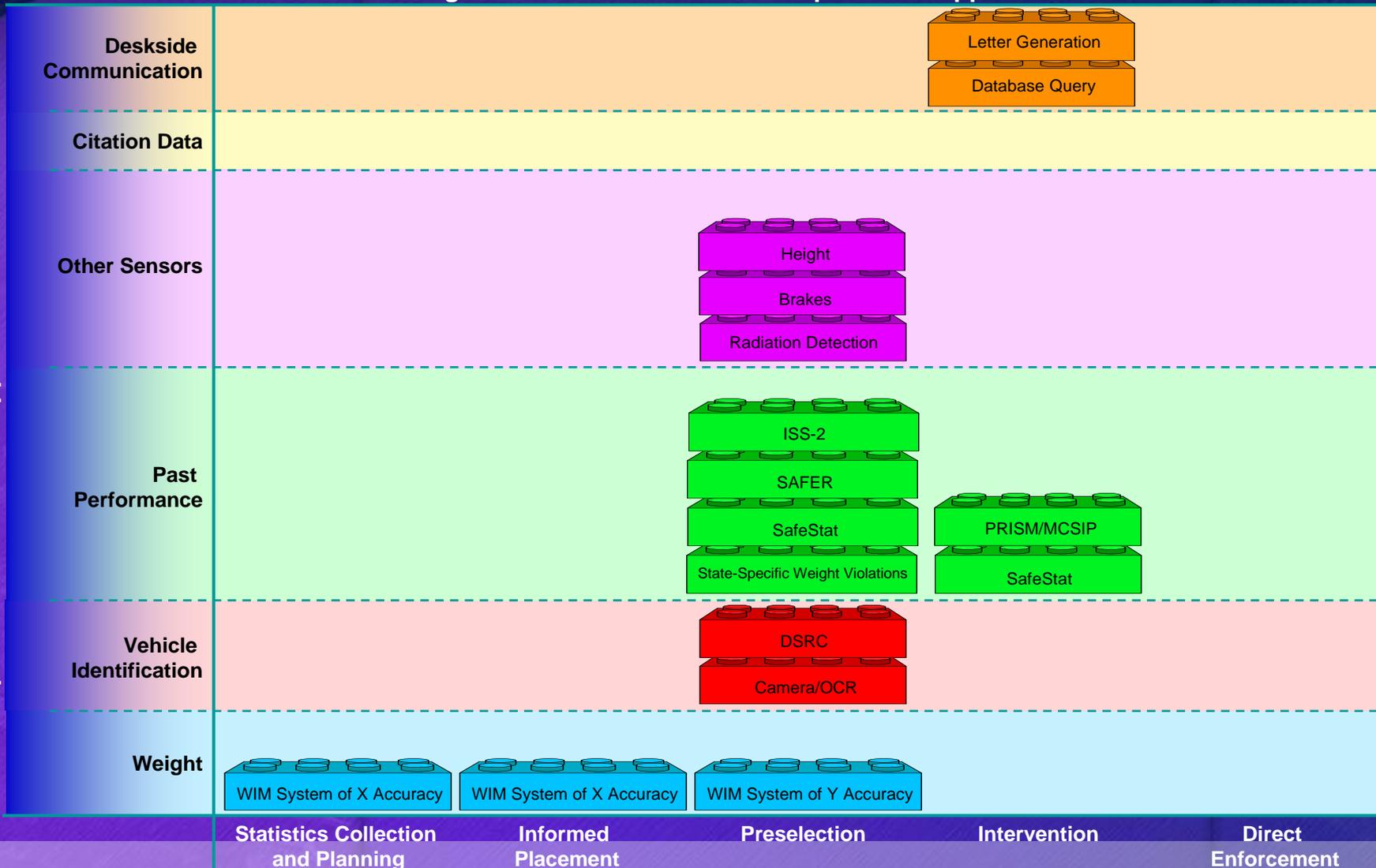
Task 1 Overview

- Objective
  - Produce a diagram that illustrates how roadside technologies could be combined to improve the efficiency and effectiveness of various elements of the roadside enforcement process in the United States

- Deliverable – "American Lego Diagram"
  - "Near-Term Activities" view depicts activities and technologies currently deployed in the U.S.
  - "Long-Term Activities" view depicts activities and technologies that are planned or could be deployed within the next five to seven years

Near-Term Activities Conducted at Roadside

Technologies to Collect Information Required to Support Roadside Activities

Required Information to Support Roadside Activities

	Statistics Collection and Planning	Informed Placement	Preselection	Intervention	Direct Enforcement
Deskside Communication			Letter Generation / Database Query		
Citation Data					
Other Sensors			Height / Brakes / Radiation Detection		
Past Performance			ISS-2 / SAFER / SafeStat / State-Specific Weight Violations	PRISM/MCSIP / SafeStat	
Vehicle Identification			DSRC / Camera/OCR		
Weight	WIM System of X Accuracy	WIM System of X Accuracy	WIM System of Y Accuracy		

Long-Term Activities Conducted at Roadside

Technologies to Collect Information Required to Support Roadside Activities

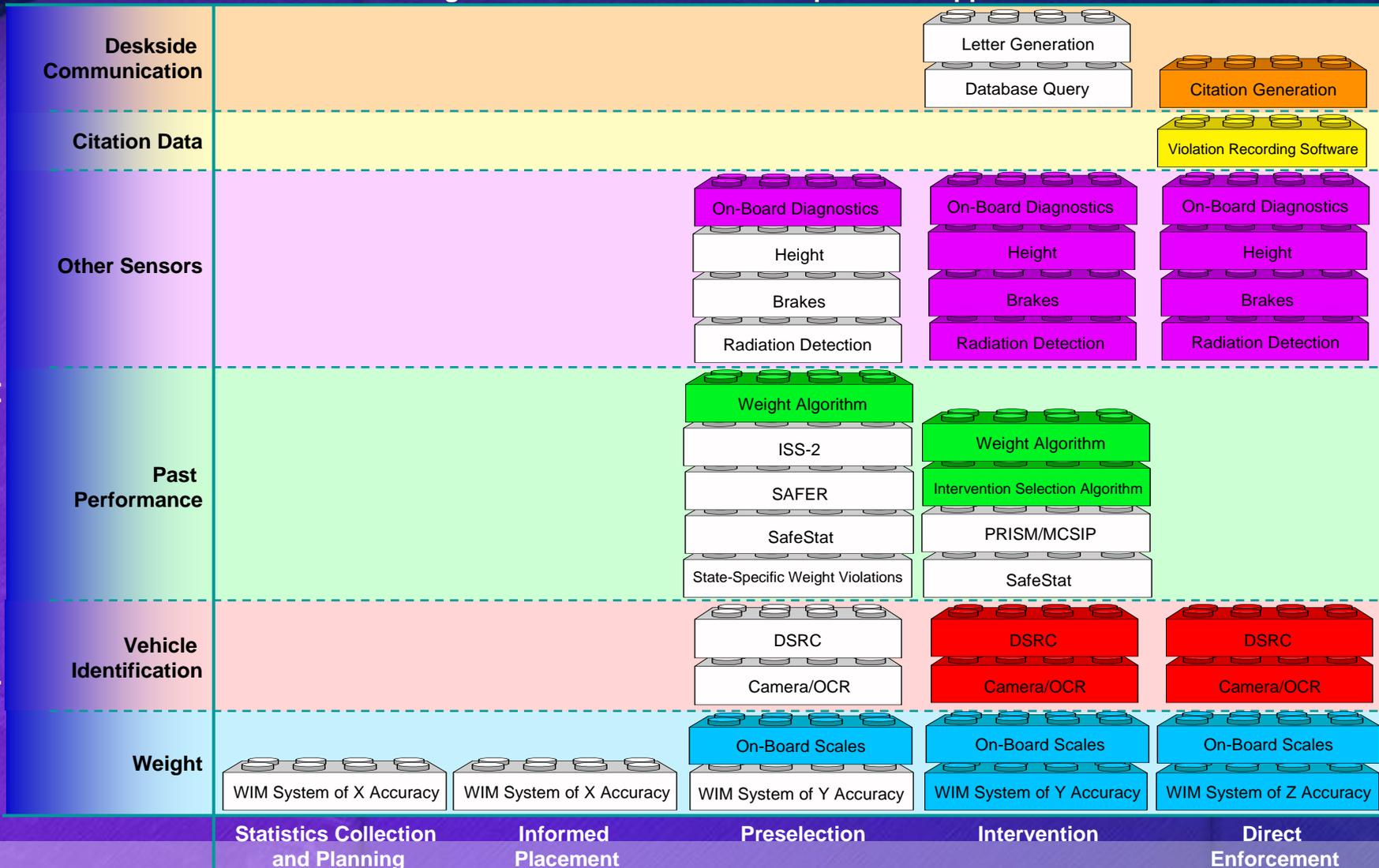Required Information to Support Roadside Activities

	Statistics Collection and Planning	Informed Placement	Preselection	Intervention	Direct Enforcement
Deskside Communication				Letter Generation / Database Query	Citation Generation
Citation Data					Violation Recording Software
Other Sensors			On-Board Diagnostics / Height / Brakes / Radiation Detection	On-Board Diagnostics / Height / Brakes / Radiation Detection	On-Board Diagnostics / Height / Brakes / Radiation Detection
Past Performance			Weight Algorithm / ISS-2 / SAFER / SafeStat / State-Specific Weight Violations	Weight Algorithm / Intervention Selection Algorithm / PRISM/MCSIP / SafeStat	
Vehicle Identification			DSRC / Camera/OCR	DSRC / Camera/OCR	DSRC / Camera/OCR
Weight	WIM System of X Accuracy	WIM System of X Accuracy	On-Board Scales / WIM System of Y Accuracy	On-Board Scales / WIM System of Y Accuracy	On-Board Scales / WIM System of Z Accuracy

Activities Conducted at Roadside
Near-Term versus Long-Term

Technologies to Collect Information Required to Support Roadside Activities

Required Information to Support Roadside Activities

	Statistics Collection and Planning	Informed Placement	Preselection	Intervention	Direct Enforcement
Deskside Communication			Letter Generation / Database Query		Citation Generation
Citation Data					Violation Recording Software
Other Sensors			On-Board Diagnostics / Height / Brakes / Radiation Detection	On-Board Diagnostics / Height / Brakes / Radiation Detection	On-Board Diagnostics / Height / Brakes / Radiation Detection
Past Performance			Weight Algorithm / ISS-2 / SAFER / SafeStat / State-Specific Weight Violations	Weight Algorithm / Intervention Selection Algorithm / PRISM/MCSIP / SafeStat	
Vehicle Identification			DSRC / Camera/OCR	DSRC / Camera/OCR	DSRC / Camera/OCR
Weight	WIM System of X Accuracy	WIM System of X Accuracy	On-Board Scales / WIM System of Y Accuracy	On-Board Scales / WIM System of Y Accuracy	On-Board Scales / WIM System of Z Accuracy

Long-Term Activities Conducted at Roadside

Upcoming Tasks

- Document the state of the practice for the technologies depicted in the Lego Diagram

- Document deployment challenges

- Develop a concept of operations for the virtual weigh station

- Develop a procedure for using weigh-in-motion

- Determine the feasibility of motor carrier use of data

- Determine other Federal agencies' potential roles

- Develop an implementation strategy

State of the Practice and Challenges

- States are being interviewed to support documentation of the "state of the practice" for the Lego technologies and challenges that impact deployment

  – Design of the roadside enforcement program

  – Deployment locations

  – Problems addressed by the deployments

  – Linkages between the technologies or to other safety, security, and/or mobility applications

  – Reasons for selecting the technologies

  – Estimated costs and funding sources

State of the Practice and Challenges (continued)

- State interviews (continued)
  - Exceptional technical requirements
  - Deployment challenges and how to address them
  - Technical performance and success in addressing problems
  - Limitations of the technologies and how to address them
  - Motor carrier involvement in planning activities
  - Lessons learned
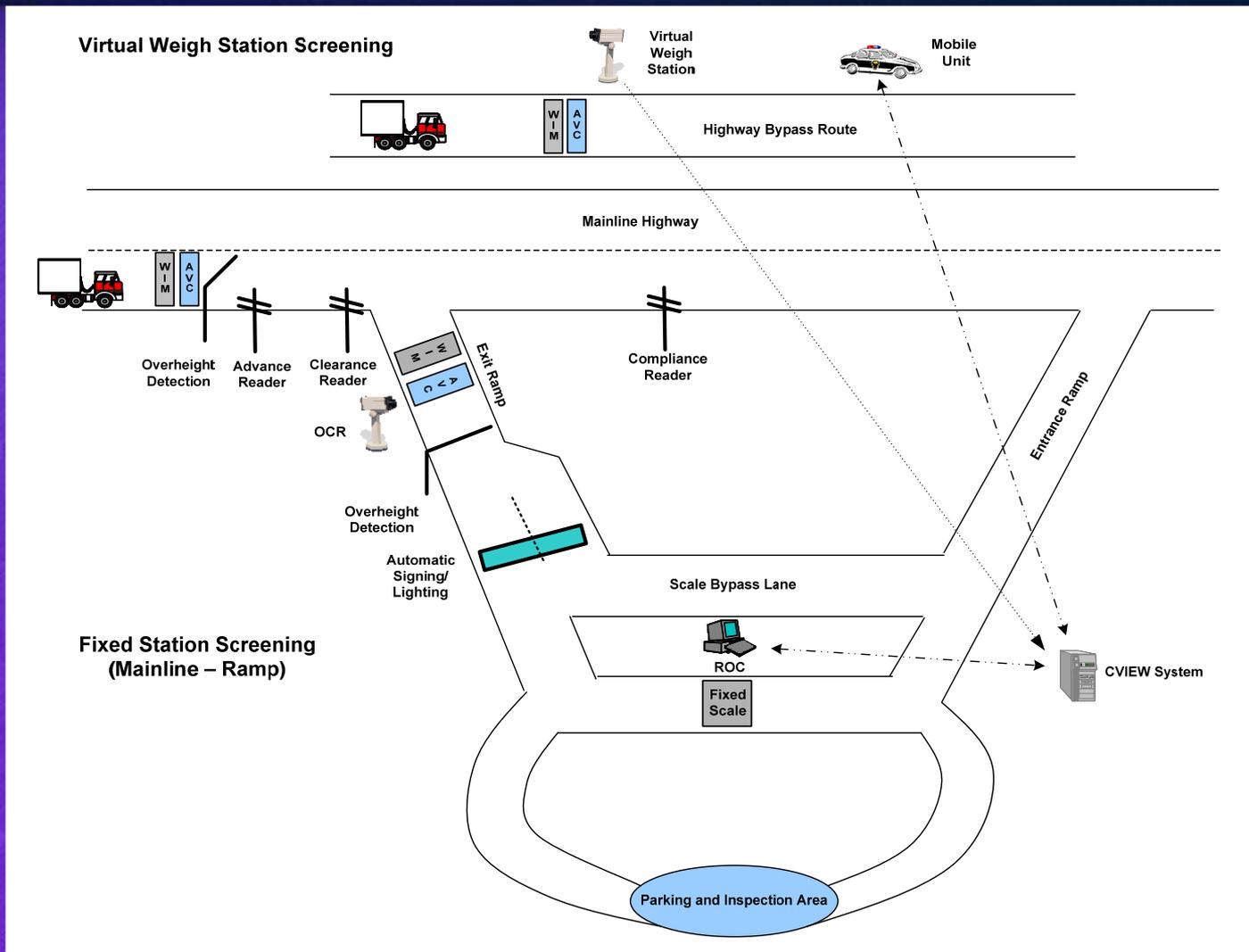 - Plans to enhance/add on to the deployments, or integrate the technologies with other systems

Virtual Weigh Station

Source: IRD Website

Virtual Weigh Station (continued)

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