

Smart Park: Real-Time Parking Information for Truckers

*Jeff Secrist
Chief, Technology Division*



Federal Motor Carrier Safety Administration
Office of Analysis, Research and Technology

Federal Highway Administration
Office of Freight Management and Operations



**2008 Smart
Roadside
Workshop**

April 29, 2008

Outline

- Purpose
- Work Plan
- Contract Awards for Phase 1
- Foster-Miller Approach
- Vehicle Sense Approach
- Schedule



Purpose of SmartPark

To demonstrate technology for conveying real-time information on parking availability to truckers on the road



Work Plan

- Phase 1 (05/07 – 11/08)
 - Demonstrate technologies for accurately and reliably determining number of spaces available for truck parking at a truck stop/rest area
 - Down-select one technology for proceeding into Phase 2

Work Plan

- Phase 2 (1/09 – 1/10)
 - Calibrate sensors
 - Add parking information dissemination to truckers (e.g., HAR and VMS)
 - Equip adjacent truck stops/rest areas with parking space monitors
 - Add capability for tracking historical usage of a truck stop/rest area
 - Add capability for assigning truck parking spaces at a paved, striped area
 - Add capability for making truck parking reservations
 - Add business plan for sustaining operation

Contract Awards for Phase I

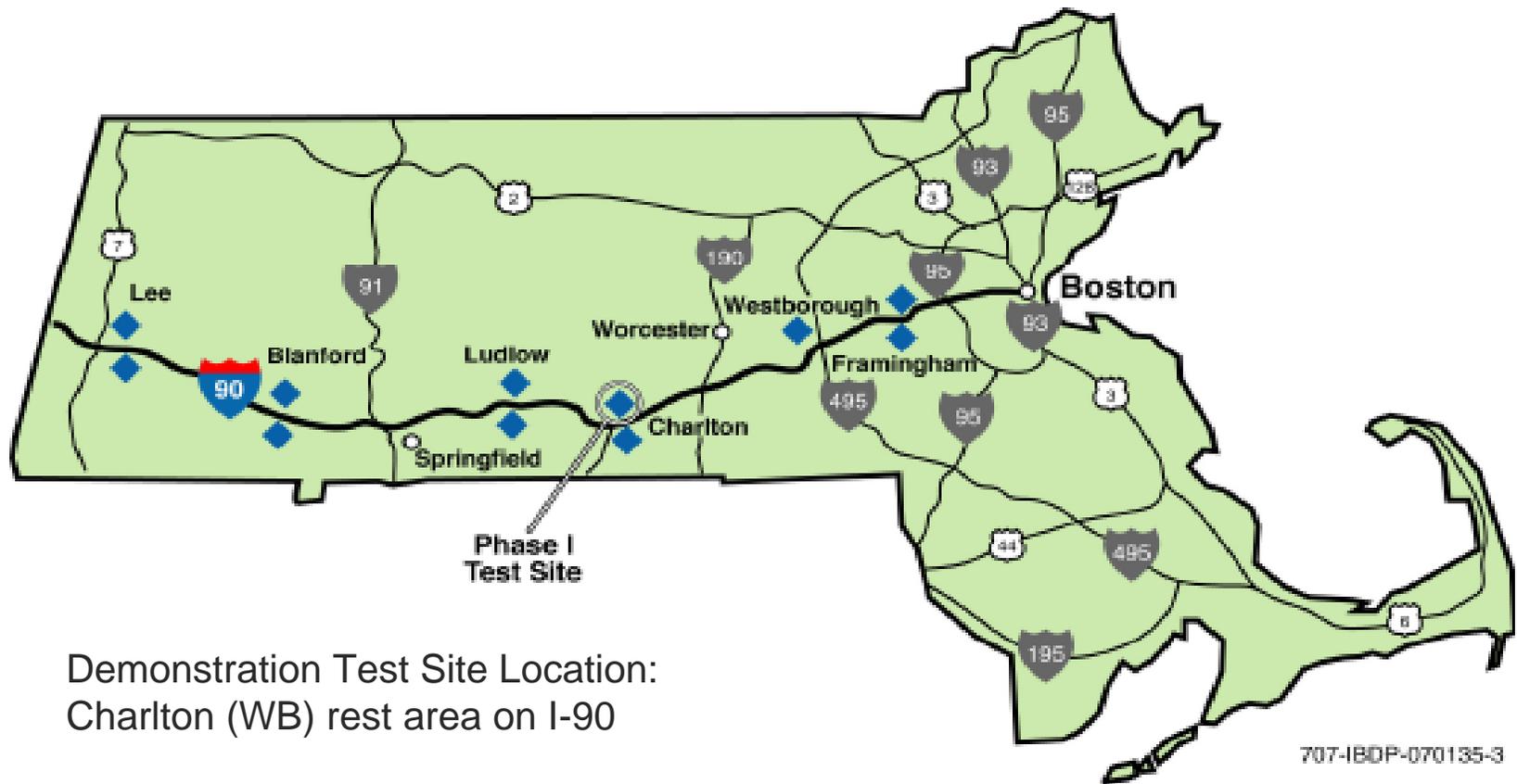
■ Foster Miller

- Imaging Technology
- Demonstration site
 - Charleton WB (public), I-90

■ Vehicle Sense

- Magnetic sensor technology
- Demonstration sites
 - Mile Marker 9 (public), NB, I-95
 - Interstate Travel Plaza (private), NB, US-1

Foster-Miller Approach

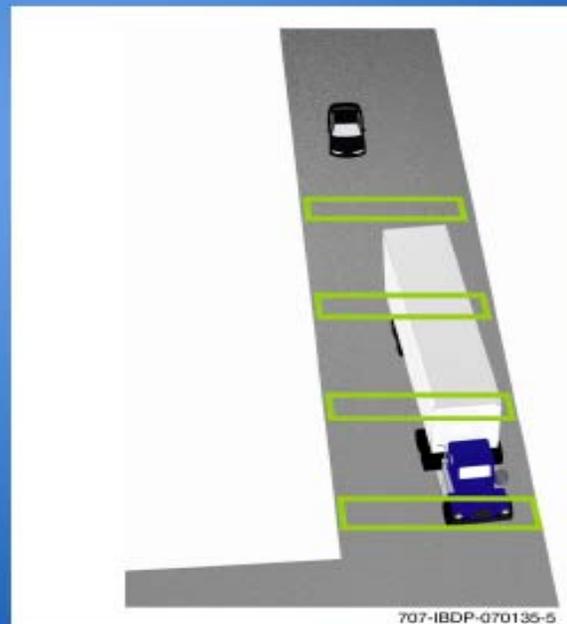


Demonstration Test Site Location:
Charlton (WB) rest area on I-90

Foster-Miller Approach

Vehicle Detection

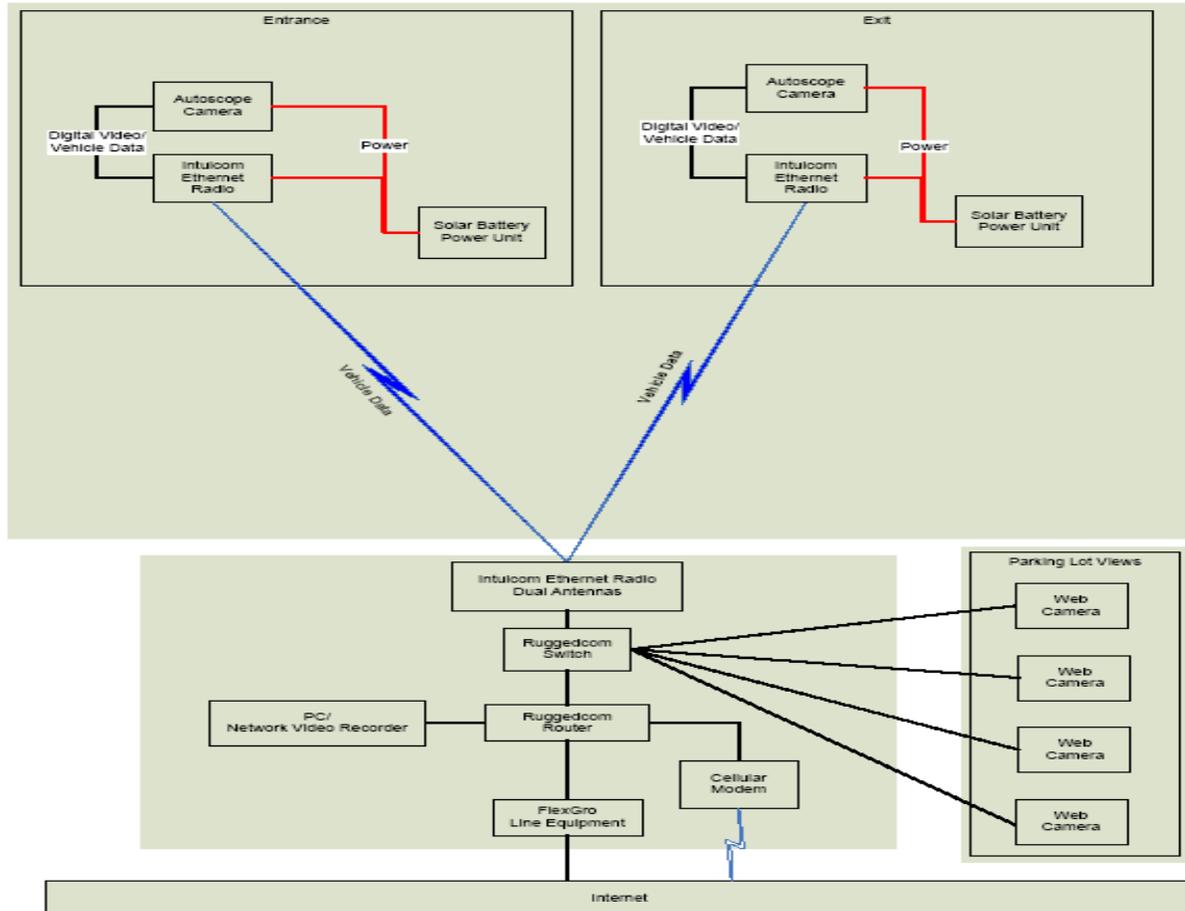
- ❖ AutoScope RackVision wireless video camera system
- ❖ Multiple trip line algorithm identifies and classifies vehicles
- ❖ Software algorithms adjust for variations due to weather, shadows, lighting conditions



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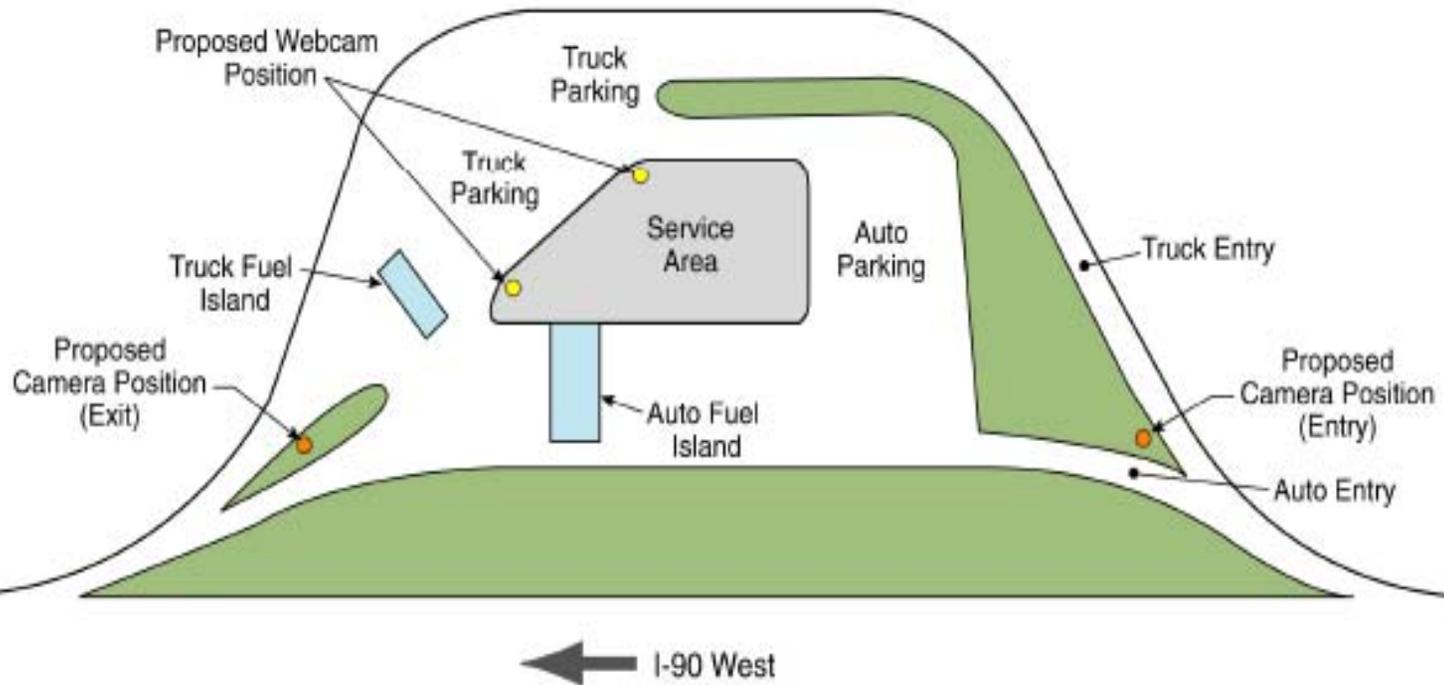
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Foster-Miller Approach

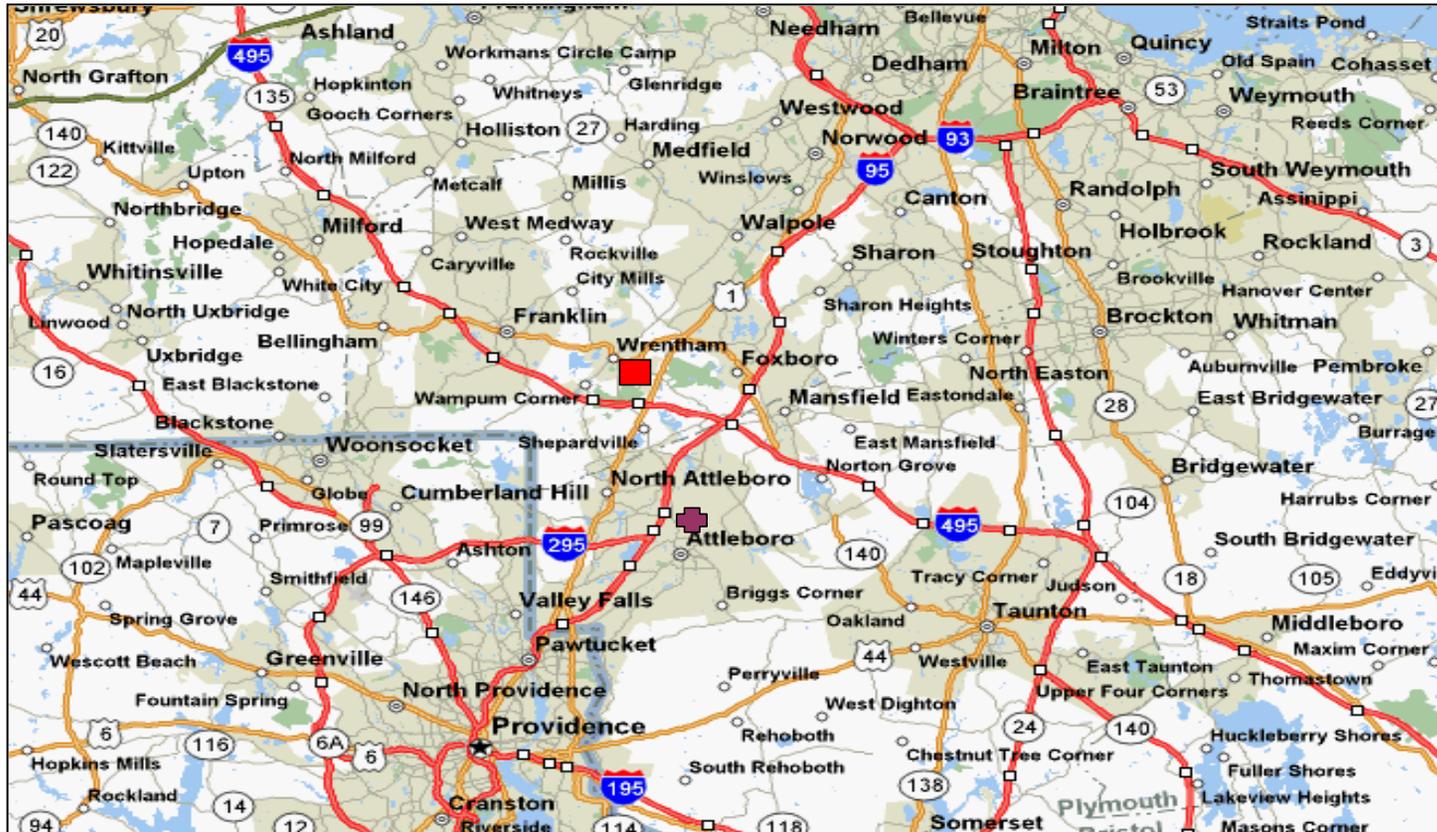


Foster-Miller Approach

Equipment Placement - Charlton Service Center



Vehicle Sense Approach



Vehicle Sense Approach

Vehicle Detection Unit -- Magnetic Sensor



Vehicle Sense Approach

- Mile Marker 9
 - Public (free)
 - 27 Legal truck parking spaces (paved)
 - Car parking separated
 - Only one entry/exit
 - Parking 24 hrs/day
 - Restrooms 12 hrs/day
- Magnetic Sensors
 - 2 per space
 - 2 at Entry
 - 2 at Exit



Vehicle Sense Approach

- Interstate Travel Plaza
 - Private (fee)
 - 45 Legal truck parking spaces (unpaved)
 - No car parking
 - Only one entry/exit
 - Parking 24 hrs/day
 - Fuel & retail 18 hrs/day
- Magnetic Sensors
 - 2 at Entry
 - 2 at Exit

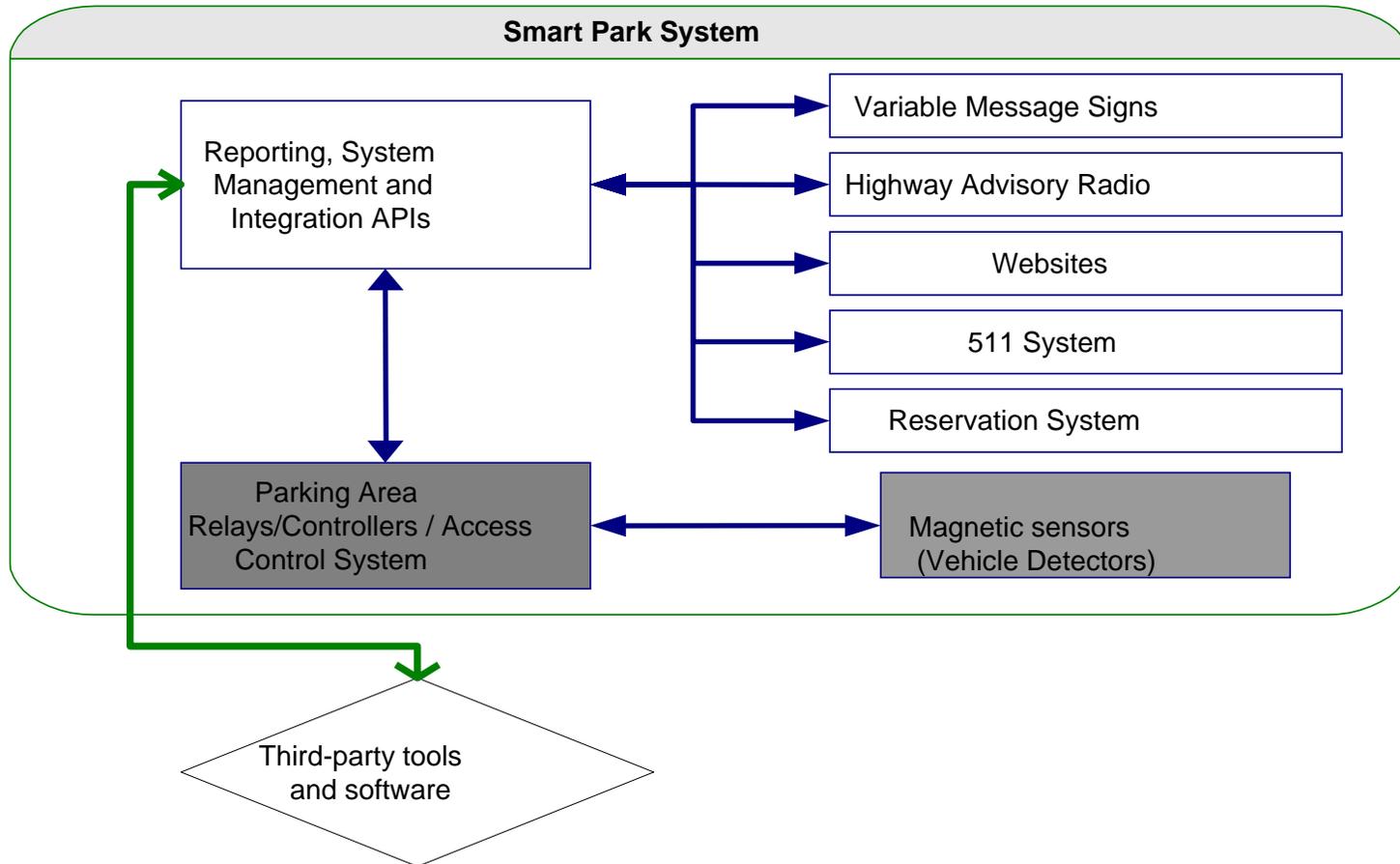


Vehicle Sense Approach

- Base Station Units (BSU)
 - Collect data from a set of 5 to 10 magnetic sensors
 - None required at Interstate Travel Plaza
- Parking Area Relay (PAR)
 - Collects data from all BSUs
 - Aggregates data for entire parking area
 - Sends aggregated data to operations control center



Vehicle Sense Approach



Schedule

- Install equipment now
- Begin 6-month field test 03/08
- Progress review meeting 04/08
- End field test 09/08
- Final report (Phase 1) 11/08
- Review Meeting (Phase 1) 12/08
- Begin Phase 2 01/09

For more information:

FMCSA SmartPark Project Manager

Quon Kwan

quon.kwan@dot.gov

(202) 385-2389