

2010 ITS Deployment Tracking National Survey

Survey Summary Report

Transit Management

Table of Contents

About This Report	2
Transit Vehicle Characteristics	3
Transit Signal Priority	3
Ramp Meter Signal Priority	3
Vehicles Operated As Vehicle Probes	4
Organized Regional Incident Management Program.....	4
Electronic Fare Payment.....	4
Travel Reporting.....	5
Safety and Security.....	6
Transportation Demand Management	6
Communications Technology.....	7
Corridor Management	7
Data Collection and Archiving.....	8
ITS Standards	9
ITS Funding.....	9
ITS Purchase Decisions.....	10
Benefits of Technologies.....	10

About This Report

For more than a decade, the Intelligent Transportation Systems Joint Program Office (ITS JPO) of the Research and Innovative Technology Administration (RITA) has tracked the deployment of ITS technology through a series of national surveys of metropolitan transportation agencies. This data collection effort targets agencies involved with freeway, arterial, and transit management, public safety (law enforcement and fire/rescue/emergency medical), and toll collection, as well as transportation management systems. The most recent survey, conducted in 2010, involved distribution of 1600 surveys covering 108 metropolitan areas with a response rate of 85%.

This report covers the Transit Management survey, and represents the results from a total of 143 responding agencies. This is one of a series of survey summaries for each of the survey types that provide an initial look at the data from the 2010 national survey. These summaries are limited to reporting the number of agencies responding to specific questions in the survey. Additional reports will be produced that cover counts and coverage of deployment of individual technologies, including deployment trends, covering national totals as well as individual cities and agencies. In addition, the 2010 survey results will be posted on line at: <http://www.itsdeployment.its.dot.gov/> where results from earlier surveys are also available.

Transit Vehicle Characteristics

Number of Transit Management agencies that responded: **143**

Service	Number of agencies with vehicles equipped with Automated Vehicle Location (AVL):	Number of agencies with vehicles with real-time monitoring of vehicle components:
Fixed Route Bus	77	36
Heavy or Rapid Rail	5	3
Light Rail	12	6
Paratransit	56	15
Demand Responsive	17	6
Commuter Rail	6	3
Ferry Boat	6	2

Service	Number of agencies with vehicles where automated dispatching or control software is available	Number of agencies with vehicles equipped with mobile data terminals	Number of agencies with vehicles that have Automatic Passenger Counters (Do not include registering fareboxes)
Fixed Route Bus:	50	52	60
Heavy or Rapid Rail:	8	1	1
Light Rail:	13	5	8
Paratransit:	49	50	4
Demand Responsive:	15	15	4
Commuter Rail:	4	2	2
Ferry Boat:	1	1	0

Transit Signal Priority

Number of agencies with Fixed Route Buses that have or will have traffic signal priority capability: **36**

Number of agencies with Light Rail vehicles that have or will have traffic signal priority capability: **11**

Number of agencies with Demand Responsive vehicles that have or will have traffic signal priority capability: **0**

Number of agencies with Paratransit vehicles that have or will have traffic signal priority capability: **0**

Ramp Meter Signal Priority

Number of agencies with Fixed Route Buses with ramp meter signal priority capability: **4**

Number of agencies with Demand Responsive vehicles with ramp meter signal priority capability: **0**

Number of agencies with Paratransit vehicles with ramp meter signal priority capability: **0**

Vehicles Operated As Vehicle Probes

Number of agencies that operate any vehicles as probes to collect travel time, speed or road condition information: **7**

Number of agencies that operate Fixed Route Buses as vehicle probes to collect travel time, speed, and conditions on freeways: **5**

Number of agencies that operate Fixed Route Buses as vehicle probes to collect travel time, speed, and conditions on arterials: **2**

Number of agencies that operate Water Craft / Ferries as vehicle probes to collect travel time, speed, and conditions on waterways: **1**

Number of agencies that share vehicle probe data with any other agency: **4**

Agency Type	Number of agencies
Other Transit	3
Freeway Management	2
Arterial Management	2

Organized Regional Incident Management Program

Number of agencies where operators or dispatchers report traffic incidents (e.g., stalled vehicles, crashes): **97**

Electronic Fare Payment

Service Type	Number of agencies with Vehicles/Stations equipped with Magnetic Stripe Readers	Number of agencies with Vehicle/Stations equipped with Smart Card Readers (with embedded computer chip)
Fixed Route Buses	57	35
Heavy or Rapid Rail Stations	10	10
Light-Rail Stations	9	7
Demand Responsive Vehicles	7	3
Paratransit Vehicles	14	4
Commuter Rail Stations	4	4
Ferry Boat Landings	2	1

Number of agencies that electronically store collected fare payment data for use in route and service planning: **93**

Number of agencies where any of the following capabilities are available through the electronic fare payment system:

The electronic fare payment system is integrated across modes within my agency: **39**

Mode	Number of agencies
Bus	58
Train	25
Commuter Rail	8
Ferry	4

The electronic fare payment system is integrated with other transit agencies: **37**
 The electronic fare payment system is integrated with parking payment systems: **6**
 The electronic fare payment system is integrated with other toll collection systems in this metropolitan area (e.g., road tolls): **0**

Number of agencies that operate the following types of electronic fare payment systems

Closed loop, proprietary system	66
Open loop, bank card system	8

Travel Reporting

Number of agencies that deploy a web-based trip planner to assist travelers in making trip related decisions: **79**

Tool incorporates:	Yes	No
Multiple transit systems	41	42
Modes other than transit (e.g., walking, biking, automobile)	49	34
Real-time traffic condition information	14	69

Number of agencies that have an agreement with a private vendor to distribute real-time transit information to travelers: **27**

Method	Number of agencies that use a methods to disseminate Transit Routes, Schedules, and Fare Information to the public	Number of agencies that use a methods to disseminate Real-time Transit schedule adherence or Arrival and Departure Times to the public
Internet	122	42
Email or alert to desktop	45	28
Email or alert to mobile device such cell phone or smart phone	32	29
511	26	9
Other (non-511) telephone systems (including customer service centers)	62	26
Dynamic Message Signs In-station	29	35
Dynamic Message Signs In-vehicle	14	10
Dynamic Message Signs At stop	15	18
Kiosks	34	10

Number of agencies with bus stops, rail stations, and bus depots where automated or dynamic traveler information (e.g., schedule and system information) is electronically displayed to the public

Bus Stops	30
Bus Depots	30
Rail Stations	26

Number of agencies with fixed route buses that electronically display automated or dynamic traveler information (e.g., schedule and system information) to the public: **20**

Safety and Security

Number of agencies with fixed route buses with audio or video surveillance to enhance: **88**

Number of agencies with facilities with audio or video surveillance to enhance security

Bus Depots	59
Rail Stations	33
Bus Stops	23

Number of agencies with vehicles that can be remotely shut down via wireless communication

Fixed Route Bus	5
Heavy or Rapid Rail	2

Number of agencies that use advanced video technologies to re-create crashes for accident review: **36**

Transportation Demand Management

Number of agencies that use data from technologies such as AVL/CAD systems and automatic passenger counter systems, to assist in planning: **75**

Number of agencies that employ automated vehicle location, combined with dispatching and reservation technologies to provide flexible routing and scheduling: **47**

Number of agencies that employ vehicle monitoring and communication technologies to facilitate the coordination of passenger transfers between vehicles or between transit systems: **47**

Number of agencies that provide ride sharing and carpool matching services: **41**

Number of agencies that operate a transportation management travel coordination center and/or participate in a brokerage service that coordinates travel requests or performs vehicle dispatching, or billing for multiple agencies (e.g., social service agencies, Health and Human Services, other transit agencies): **18**

Functions perform by center	Number of agencies
Coordinates travel information	15
Performs vehicle dispatching	9
Performs billing	6
Other	7

Number of agencies that participates in a brokerage service: **9**

Communications Technology

Number of agencies that have the following type(s) of radio system

Radio system is Analog	74
Radio system is Trunked	59
Radio system is Digital	50
Radio system is Regular	32

Number of agencies that that have implemented, are planning to implement, or have no plans to implement each of the following communication updates.

Communication Update	Implemented	Plan to Implement	No Plans to Implement
Updating your 150 or 450 MHz to a digital system	17	30	53
Converting to a dedicated 800 MHz system	37	14	52
Joining an area wide 800 MHz system	24	17	62

Number of agencies that communicate with public safety agencies using any of the following methods

A partner in a joint interoperable system	39
Have a dedicated radio channel	32

Number of agencies that DO NOT communicate with public safety agencies but are considering adding the capability of interoperability with public safety agencies: **38**

Yes, by use of a communication switch (such as the ACU-1000 or other brand)	6
Yes, by becoming part of an area-wide interoperable system	18
No plans to add capability	56

Number of agencies that use a radio system either in range VHF 150 MHz - 174 MHz OR in range UHF 421 MHz -512 MHz: **55**

Number of agencies where license holder operates under FCC license: **68**

Number of agencies that are aware of narrowbanding and rebanding requirements that will become effective January 1, 2013: **97**

Number of agencies where communication system meet the FCC Narrowbanding Requirement (12.5 KHz channel capable): **63**

Number of agencies that plan to assess and procure Narrowband capable equipment: **55**

Corridor Management

Number of agencies that have identified corridors for the purpose of integrating operations across freeways, major arterials, and/or public transit services: **25**

Number of agencies where the following type(s) of services are currently coordinated across the corridor, and what type(s) of services are envisioned for the future

Service	Currently Coordinated	Future
Cross jurisdictional traffic signal coordination	7	12
Traffic incident management	10	7
Real-time transfer of performance information	5	13
Electronic toll tags used by other toll road operators	7	3
Traffic responsive signal timing	8	15
Ramp control	2	8
Inclement weather traffic control strategies, treatments, warnings, or road closures	4	9
Transit operations	14	18
Planned special events	10	8
Coordinate traffic signal operations with freeway congestion or value pricing	1	8

Data Collection and Archiving

Number of agencies that have an archived data management system: **74**

Number of agencies that collect/archive the following information in real time

Vehicle time and location	65
Passenger count	53
Incidents	32
Vehicle diagnostics and health	25
Passenger information	25
Vehicle monitoring status	24
Trip Itinerary planning records	22
Transit vehicle signal priority events	6
Weather conditions (e.g., snow, fog, rain, etc.)	5
Emergency vehicle signal preemption events	3
Road conditions (e.g., wet, icy, etc.)	0

Number of agencies that collect/archive the following information electronically

Transit operations coordination information	32
Route designations (snow emergency, etc.)	12
Emergency/evacuation routes and procedures	10
Scheduled road work zones for transit	6
Current road work zones for transit	5
Intermodal (air, rail, water) connections	3
Highway operations coordination information	0

Number of agencies that use the data for the following purposes

Operation planning/analysis	69
Measurement of performance	49
Capital planning/analysis	34
Safety analysis	30
Dissemination to the public	17
Construction impact determination	9
Accident prediction models	4
Traffic management	4
Incident detection algorithm development	3
Roadway impact analysis	0

Number of agencies that provide data to third parties so they can create transit traveler information applications: 34

Application	Number of agencies
Applications have been developed by third party application developers	22
Agency has developed data sharing boilerplate agreements	14
Agency places restrictions on the data provided outside the agency	5

ITS Standards

Number of agencies that implemented any of the following transit-related ITS standards

Serial Data Communications Between Microcomputer Systems in Heavy-Duty Vehicle Applications SAE J1708	29
Contactless Fare Media System Standard (CFMS)	18
Standards for Transit Communications Interface Profiles APTA TCIP-S-001 3.0.0	12
ITS In-Vehicle Message Priority SAE J2395	5
Traffic Management Data Dictionary (TMDD)	4
Message Sets for External Traffic Management Center Communications	3
Standard for ATIS Message Set Delivered Over Reduced Bandwidth Media SAE J2369	3
Standard for Traffic Incident Management Message Sets for Use by Emergency Management Centers IEEE 1512.1-2006	1
Standard for the Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection IEEE 1570-2002	1

ITS Funding

Number of agencies that have a separate budget for ITS: 26

Number of agencies that track the budget separately for each of the following categories

ITS Deployments	18
ITS Operations and Maintenance	13
Traffic Management or Operations Center	2

ITS Purchase Decisions

Number of agencies that rated the importance of each of the following factors to your agency's decision to purchase ITS:

Factor	Not at all Important	Not very Important	Neutral	Somewhat Important	Very Important
Price of equipment	1	0	9	38	71
Public/constituent's Involvement	1	10	37	34	31
Funding/grant availability	1	2	4	12	98
Mobility benefits (e.g., to address congestion)	2	8	24	47	34
Safety benefits	0	1	4	35	78
Environmental benefits	2	4	28	49	31
Integration with other agencies	4	12	21	54	19
Integration with your current technologies	1	2	14	33	64
TCIP compliant	3	7	34	42	24
Already used by other agencies	3	6	31	49	19

Number of agencies that have any plans to invest in new ITS technology or to expand current ITS coverage in 2010 through 2013: **86**

Expand current ITS coverage	68
Invest in new ITS	46

Benefits of Technologies

Number of agencies that rated the benefits of the following technologies based on their experience:

Technology	No Benefit 1	2	Moderate Benefit 3	4	Major Benefit 5	No Experience
Automatic Vehicle Location	1	1	10	17	74	25
Communications	0	0	4	13	103	5
Traveler Information	2	3	20	22	47	33
Data Management – GIS	2	3	15	35	48	25
Computer Aided Dispatch and Scheduling	1	1	9	20	76	18
Maintenance Tracking	3	3	21	28	43	26
Electronic Fare Payment	5	3	11	18	49	36
Security Cameras	1	2	4	18	85	16
Weather Information System	11	9	16	7	7	70
Automatic Passenger Counters	5	4	12	18	39	47
Transit Signal Priority	8	8	16	12	12	65