ITS Technology Adoption and Observed Market Trends from ITS Deployment Tracking

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Advanced Technology Task Force

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Objective

- Examination of the market dynamics and benefits associated with diffusion of ITS

- Qualitative and quantitative analysis based on the ITS Deployment Statistics database: http://www.itsdeployment.its.dot.gov

- Report available at: http://ntlsearch.bts.gov/repository/record/ntl/34991.html

RITA *Intelligent Transportation Systems Joint Program Office*

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Final Report — October 8, 2010

U.S. Department of Transportation
Research and Innovative Technology Administration

Trend Analysis Methodology

- Three ITS technology markets covered:
  - Electronic Toll Collection
  - Highway Data Collection
  - Arterial Data Collection and Dissemination

- Information gathered through:
  - Purchaser/Supplier interviews
  - Attending a trade conference (ETC)
  - Secondary research
  - ITS Deployment Tracking database

Electronic Toll Collection

- Main factors driving the deployment of ETC technologies:
  - Toll revenues relative to expenses
  - Maturity of technology
  - The number of agencies involved in the purchase
  - Location of purchaser
  - Trucking interests
  - The development and adoption of PrePass/NorPass
  - Cost savings of ETC versus cash transactions
  - Federal research into connected vehicles

Highway Data Collection

- In-situ or Mobile Detection
  - In-situ based industry is innovating in small increments
  - Mobile detection growing as a result of the increased ability of computers to process and transmit real-time data

- Broader Market Issues of Interest
  - Purchasers are very comfortable buying hardware
  - Don't show same level of comfort for buying data
  - Support or education for purchasing data could benefit this market

Arterial Data Collection and Dissemination

- Four main areas of focus:
  - Vehicle Data-Collection Sensors (includes cameras, loops, and cell phones)
  - Transit Priority
  - Emergency Vehicle Preemption
  - Traffic Management Software
- Three main drivers : urbanization, environmental, government
  - Multiple ways of achieving same functionality
  - Big players companies often differ in terms of "additional features" only
  - Interoperability becoming the norm
  - Multi-modal approach: rail, parking, traffic signal optimization, etc. as European firms enter the American market

Initial Views from 2010 ITS Deployment Tracking Survey

Freeway Mgmt: Attitudinal Questions

Survey Question	Number of Agencies				
53. Please rate the importance of each of the following factors to your agency's decision to purchase ITS technologies:					
Factor	**Not at all Important**	**Not very Important**	**Neutral**	**Somewhat Important**	**Very Important**
Price of equipment	0	2	14	64	35
Public/constituent's involvement	2	14	46	37	16
Funding/grant availability	3	3	15	29	66
Mobility benefits (e.g., to address congestion)	0	1	7	45	61
Safety benefits	0	2	7	26	78
Environmental benefits	1	8	37	42	26
Integration with other agencies	0	14	21	49	29
Integration with your current technologies	0	2	7	30	75
Already used by other agencies	2	15	43	46	6
Other	0	1	2	0	5
54. Does your agency have any plans to invest in new ITS technology or to expand current ITS coverage in 2010 through 2013?					
Yes	102				
Invest in new ITS	67				
Expand current ITS coverage	96				
No	14				

Freeway Mgmt: Benefit Interpretation

Survey Question	Number of Agencies					
55. Based on your agency's experience, please rate the benefit of the following ITS technologies:						
Technology	**No Benefit** **1**	**2**	**Moderate Benefit** **3**	**4**	**SIgnificant Benefit** **5**	**No Exper-ience**
Sensors Loops	1	1	20	17	60	20
Vehicle Probes	6	2	7	16	13	72
Toll Tags	1	2	8	5	26	75
Cameras	0	1	3	8	101	7
Ramp Control	0	1	5	8	22	78
Lane Management	1	5	3	16	20	64
Traveler Information	0	1	4	23	71	19
Automated Enforcement	1	1	2	2	6	101
Archived Data	2	2	26	23	30	29

Arterial Mgmt: Attitudinal Questions

Survey Question	Number of Agencies				
54. Please rate the importance of each of the following factors to your agency's decision to purchase ITS technologies:					
Factor	**Not at all Important**	**Not very Important**	**Neutral**	**Somewhat Important**	**Very Important**
Price of equipment	4	4	28	91	129
Public/constituent's involvement	12	32	95	70	41
Funding/grant availability	3	1	17	60	171
Mobility benefits (e.g., to address congestion)	3	7	31	89	124
Safety benefits	3	0	22	79	150
Environmental benefits	6	22	63	109	55
Integration with other agencies	6	23	69	105	47
Integration with your current technologies	4	4	37	77	127
Already used by other agencies	9	20	76	107	32
Other	3	0	9	2	6
55. Does your agency have any plans to invest in new ITS technology or to expand current ITS coverage in 2010 through 2013?					
Yes	162				
Invest in new ITS	104				
Expand current ITS coverage	139				
No	96				

Arterial Mgmt: Benefit Interpretation

Survey Question	Number of Agencies					
56. Based on your agency's experience, please rate the benefit of the following ITS technologies:						
	No Benefit		Moderate Benefit		SIgnificant Benefit	No Experie nce
Technology	1	2	3	4	5	
Sensors Loops	1	5	28	54	165	11
Vehicle Probes	4	12	20	18	11	187
Adaptive traffic signal control	7	13	23	33	35	146
Cameras	1	4	27	49	135	44
Lane Management	7	10	17	24	19	174
Traveler Information	3	11	43	28	54	113
Automated Enforcement	12	19	29	22	20	153
Archived Data	2	9	44	67	37	95

Next Stages

- 2010 ITS Deployment Tracking Results
  - National Summary to be published late March 2011
  - Web content available online in June 2011
  - Full database available for download Summer 2011

- Thank you!
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