ITS Strategic Plan

Goal:
Mobility: Achieve measurable improvements in mobility, system performance, and economic productivity through research & demonstration of ITS technology

Focus Area: Real-Time Information on all roads and for all modes

Scope: The Real-Time Information goal area is a broad, crosscutting goal encompassing information management and traveler information provision activities. It transcends traditional ATIS and 511 services by striving to achieve ubiquitous real-time data across the nation's surface transportation network. This includes data on all roads (highways, toll roads, and arterials) and for all modes (traffic, transit, parking, and intermodal). Traffic information encompasses both personal and commercial vehicles. Transit information includes bus, rail and waterway operations. Parking information includes parking capacity, pricing and location references for travelers to change modes efficiently. Intermodal information about airports, marine ports and inland ports relevant to surface transportation is also an essential feature. A key focus of this goal area will be ensuring that real-time information is accurate, reliable, timely and easily accessible.

For the purposes of this goal area, "real-time information" is data that is anywhere from a few seconds to a few minutes old. It is not data that is sufficient to avoid an imminent crash. That type of data exchange is covered in the Connected Vehicle goal area.

Objectives:
- Ensure real-time transportation information is <u>available</u> for public & private use on all roads and all modes throughout the United States
- Ensure real-time transportation information is <u>easily and equitably accessible</u> for public & private use
    - Common formats/data exchange
    - Sufficient timeliness
    - Reasonable cost
- Ensure real-time transportation information is <u>accurate and reliable</u>
- Ensure that tools are available to use the data to <u>inform travelers and impact their travel decisions</u>, including warning them of hazardous conditions
- Ensure that tools are available to use the data for <u>real-time management</u> of the transportation network
- Ensure that tools are available to use the data for <u>performance measurement and analysis</u> of the transportation network

Metrics (by Objective)
- Ensure real-time transportation information is available for public & private use on all roads and all modes throughout the United States

- o % of state, local and transit agencies that provide real time information
- o % of miles covered on freeways, arterials, and toll roads
- o % of transit routes/lines that provide real time information
- o % of parking facilities that provide real time information
- o % coverage in rural and urban areas
- o % of airports, marine ports and inland ports that provide real time information
- Ensure real-time transportation information is easily and equitably accessible for public & private use
  - o Common data formats and data exchange standards are established
  - o Data is available within X minutes in urban areas and X minutes in rural areas (need different metric for each type of data)
  - o Reasonable cost metric to ensure equitability
- Ensure real-time transportation information is accurate and reliable
  - o Data is X% accurate X% of the time
  - o Data is available X% of the time
- Ensure that tools are available to use the data to inform travelers and impact their travel decisions, including warning them of hazardous conditions
  - o Market penetration of public sector delivery services (e.g. CMS, phone, web sites, arrival times signs, etc.)
  - o Market penetration of private sector delivery services (e.g. embedded in-vehicle, after-market in-vehicle, handheld, web sites, alert/notification services, etc.)
- Ensure that tools are available to use the multi-modal data for real-time management of the transportation network in an integrated fashion
  - o % of State DOTs, MPOs and local agencies that are using the data to actively manage the network in real time
- Ensure that tools are available to use the data for performance measurement and analysis of the transportation network
  - o % of State DOTs, MPOs and local agencies that are using the data for planning and analysis
  - o # of public and private universities that are using the data for transportation research and analysis

Federal Role:
- Research – Possible topic areas include:
  - o Standards development and testing
  - o Evaluating performance of new technologies (data quality and reliability)
  - o Performance measures
  - o Overcoming potential barriers
  - o User requirements (How much data? How accurate? How timely?)
  - o Behavioral research and human factors (use of data and impacts)
  - o Decision support tools
- Convene – Bring public and private sector stakeholders together along with industry experts

- Provide technical assistance – Help public agencies implement standards and performance measures.
- Promote/educate – Promote public/private partnerships, use of standards and performance measures; educate decision-makers on the value and importance of real time information
- Act as clearinghouse – for standards, research results, performance measures, best practices, lessons learned

Things Not Needed by the Federal Government:
- Don't displace private industry
- Technology research (except research that is too risky or costly for others to do)
- Traveler information dissemination (except to ensure equitable accessibility)
- Traveler information display

Strategies:
- Aid states and local governments in overcoming real or perceived constraints on their authority to obtain and utilize ITS related data.
- Leverage recent advancements in V2I probe data (cell phones, fleets with GPS, VII, etc.) by conducting research to determine the value of this data and share the results with states and local governments. Research topics should include data accuracy, procurement methods and data sharing.
- Investigate availability of and opportunities to collect transit and parking data
- Investigate availability of and opportunities to collect port/air terminal data
- Develop national standards for data exchange
- Determine public/private roles and policies
- Link ITS capabilities with the support of performance measurement activities related to systems operations and associated definitions and metrics
- Establish the most appropriate ITS applications/processes/procedures (including the use of innovative financing and partnerships) for gathering and analysis of data in support of performance measurement
- Enable benchmarking among public agencies

- Develop models/tools that use data for
    - Transportation investment decisions
    - Operations and network management
    - Transportation planning
- Share models/tools with transportation agencies
    - Establish real-time information program reference model implementation
    - Establish reference model tools for data exchange formats
- Establish high-quality performance measures
- Ensure multi-modal integration of data