

# Glossary of Terms

## List of Acronyms

### A

AASHTO	<u>American Association of State Highway and Transportation Officials</u> . One of five standards development organizations with which US DOT is working to establish standards for integrated, interoperable ITS deployment.
ABS	Antilock Brake System
ADA	Americans with Disabilities Act
AFD	Architecture Flow Diagram
AID	Architecture Interconnect Diagram
AHS	Automated Highway System
AMPS	Advanced Mobile Phone System
ANSI	American National Standards Institute
APTS	Advanced Public Transportation System
Architecture	An overarching framework that allows individual Intelligent Transportation System (ITS) services and technologies to work together, share information, and yield synergistic benefits.
ASTM	<u>American Society of Testing and Materials</u> . One of five standards development organizations with which US DOT is working to establish standards for integrated, interoperable ITS deployment.
ATC	Automatic Train Control
ATMS	<u>Advanced Traffic Management Systems</u> . An array of institutional, human, hardware and software components designed to monitor, control and manage traffic on streets and highways.
ATIS	<u>Advanced Traveler Information Systems</u> . Vehicle features which assist the driver with commute planning by giving accurate, real-time information on routes, road conditions, etc.
AVCS	<u>Advanced Vehicle Control Systems</u> . Vehicle and/or roadway-based electromechanical and communications devices that enhance the control of vehicles by facilitating and augmenting driver performance. Of particular importance are collision avoidance or warning systems to prevent accidents.
AVI	<u>Automated Vehicle Identification</u> . A system that combines an on-board transponder with roadside receivers to automate identification of vehicles for purposes such as electronic toll collection and stolen vehicle recovery.
AVL	<u>Automatic Vehicle Location</u> . Computerized system that tracks the current location of vehicles to assist dispatching, emergency response, data collection, route navigation, etc.
AVO	Automated Vehicle Operation



**B**

Beacons	Short-range roadside transceivers for communicating between vehicles and the traffic management infrastructure. Common transmission technologies include microwave and infrared
BNF	Backus-Nauer Form
Bus Lane	A lane reserved for bus use only. Sometimes also known as a "diamond lane." See also "HOV".

**C**

CAD	<u>Computer-Aided Dispatch</u> . Uses advanced communications to coordinate and relay information efficiently to vehicle fleets, such as transit buses, patrol cars, emergency-response vehicles, and private carriers.
CASE	Computer Aided Systems Engineering
CCTV	Closed Circuit TV
CD	Compact Disk
CDROM	CD Read Only Memory
CDMA	Code Division Multiply Access
CDPD	Cellular Digital Packet Data
CMAQ	<u>Congestion Management and Air Quality program</u> . Funding category in the Intermodal Surface Transportation Efficiency Act that targets efforts to reduce metropolitan air pollution. ITS technologies that contribute to improving air quality are eligible for CMAQ funds.
CMS	<u>Changeable Message Signs</u> . Electronic sign on a highway that can change the message it displays. Used to warn and redirect traffic.
Conformity	Process to assess the compliance of any Federally funded or approved transportation plan, program, or project with air quality implementation plans. The conformity process is defined by the Clean Air Act. Conformity also applies in reference to the National ITS Architecture.
COTR	Contracting Officer Technical Representative
CSP	Communication Service Provider
CV	Commercial Vehicle
CVAS	Commercial Vehicle Administration Subsystem
CVCS	Commercial Vehicle Check Subsystem
CVISN	<u>Commercial Vehicle Information System and Networks</u> . A network that connects existing federal, state, and private-sector information systems to improve commercial vehicle movement.
CVO	<u>Commercial Vehicle Operations</u> . Assist the safe and efficient movement of trucks and buses. These systems use electronic screening and vehicle identification systems, advances in administration.
CVS	Commercial Vehicle Subsystem



**D**

DAB	Digital Audio Broadcast
DC	Double Click (or District of Columbia)
DD	Data Dictionary
DDE	Data Dictionary Element
Demand Response	Segment of public transit designed to efficiently move persons not able to access regular, fixed transit routes. This form of transit is utilized especially for persons with disabilities and senior citizens.
DFD	Data Flow Diagram
DGPS	Differential Global Positioning System
DMS	Dynamic Message Sign
DMV	Department of Motor Vehicles
DOD	Department of Defense
DOT	<u>Department of Transportation</u> . When used alone, indicates US Department of Transportation. In conjunction with a place name, indicates state, city, or county transportation agency.
DSRC	Dedicated Short Range Communications
DTA	Dynamic Traffic Assignment

**E**

E9-1-1	Emergency 9-1-1
ECPA	Electronic Communications Privacy Act
EDI	Electronic Data Interchange
EDP	<u>Early Deployment Plan</u> . Same as a Strategic Deployment Plan.
Electronic Fare Payment.	Systems that allow electronic debit or credit processing of transit fares
EPA	Environmental Protection Agency
EM	Emergency Management Subsystem
EMC	Emergency Management Center
EMMS	Emissions Management Subsystem
EMS	<u>Emergency Management Services</u> . Services designed to optimize the response time to incidents and enhance emergency service coordination.
ESMR	Enhanced SMR
ETC	<u>Electronic Toll Collection</u> . Scanners at toll plazas read transponders on vehicles entering the facility and allow traffic to flow without stopping to pay toll fees



ETA	Expected Time of Arrival
ETS	Emergency Telephone Services
ETTM	Electronic Toll and Traffic Management

## F

FAA	<u>Federal Aviation Administration</u> . The Federal agency which regulates air travel and associated areas in the United States.
FARS	Fatal Accident Reporting System
FCC	<u>Federal Communications Commission</u> . The Federal agency which regulates telecommunications in the United States.
FHWA	<u>Federal Highway Administration</u> . Agency of the US Department of Transportation that funds highway planning and deployment programs.
Fiber.	A medium used to transmit information via light impulses rather than through the movement of electrons. A single strand of optical fiber, the approximate size of a human hair, can carry thousands of digital voice conversations or data transmissions at the same time
Financial Capacity	Refers to the ISTEA requirement that an adequate financial plan for funding and sustaining transportation improvements be part of the plan and TIP.
FIPS	Federal Information Processing Standard
FOT	Field Operation Test
FMC	Freeway Management Center
FMS	Final Management Subsystem
FPR	Final Program Review
FRA	<u>Federal Railroad Administration</u> . Agency of the US Department of Transportation that funds rail planning and deployment programs.
FTA	<u>Federal Transit Administration</u> . Agency of the US Department of Transportation that funds transit planning and deployment programs.

## G

GIS	<u>Geographic Information System</u> . Computerized data management system designed to capture, store, retrieve, analyze, and report on geographic and demographic information.
GPS	<u>Global Positioning Systems</u> . A system that determines the real-time position of vehicles using communications with a satellite. Also, refers more specifically to a government owned system of 24 Earth-orbiting satellites which transmit data to ground-based receivers and provides extremely accurate latitude/longitude ground positions.



**H**

HAR	Highway Advisory Radio
HAZMAT	Hazardous Material(s)
HELP / Crescent.	A multi-state research effort to design and test an integrated truck-monitoring systems using AVL, AVC, and WIM technologies.
HOV	<u>High Occupancy Vehicle</u> . Any vehicle containing more than one or two persons, such bus, carpool, or vanpool.
HRI	Highway Rail Intersection/Interface
HSR	High Speed Rail
HUD	Head-Up Display

**I**

IEEE	<u>Institute of Electrical and Electronics Engineers</u> . One of five standards development organizations with which US DOT is working to establish standards for integrated, interoperable ITS deployment.
Intermodal	The ability to connect, and make connections between modes of transportation.
Intermodalism	Seamless integration of multiple travel modes.
Internet	A collection of computer networks, all connected using a common set of protocols and rules on sharing and directing messages.
Interoperability	The ability to the integrate the operation of diverse networks and systems. The vision of the intelligent transportation infrastructure is a seamless interoperable network from coast to coast that allows drivers and information to flow through the system without barriers.
Interstate Highway System	The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate System also connects the U.S. to internationally significant routes in Mexico and Canada.
IP	Internet Protocol
IPR	Interim Program Review
ISO	International Standards Organization
ISP	Information Service Provider
ISTEA	<u>Intermodal Surface Transportation Efficiency Act of 1991</u> . Federal law providing primary federal funding for highway and other surface transportation programs in the United States through 1998. ISTEA contains the Intelligent Vehicle-Highway Systems Act, and has been superceded by the Transportation Equity Act for the 21 <sup>st</sup> Century (TEA-21).
ITE	<u>Institute of Transportation Engineers</u> . One of five standards development organizations with which US DOT is working to establish standards for integrated, interoperable ITS deployment.
ITI	<u>Intelligent Transportation Infrastructure</u> . The computer, communications, and control systems required to support a variety of intelligent transportation system products and services in urban



and rural areas.

ITS	<u>Intelligent Transportation Systems</u> . The application of advanced technologies to improve the efficiency and safety of transportation systems.
ITS America	<u>Intelligent Transportation Society of America</u> . A nonprofit, public/private scientific and educational corporation that works to advance a national program for safer, more economical, more energy efficient and environmentally sound highway travel in the United States. Federal advisory committee used by the US Department of Transportation.
ITS Infrastructure	Computer, communications, and control systems required to support a variety of ITS products and services in urban and rural areas.
IVHS	Intelligent Vehicle Highway Systems
IVIS	In Vehicle Information System

## J

JPO	<u>Joint Program Office for ITS</u> . Office of the US Department of Transportation established to oversee and guide the multi modal National ITS program.
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## L

LAN	Local Area Network
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LEO	Low-Earth Orbit Satellite System
Long Term	In transportation planning, refers to a time span of, generally, twenty years.
Loop Detectors	Sensors embedded below the surface of roads and highways that monitor the flow of vehicles and help authorities manage traffic and incidents.
LPD	Liability and Property Damage
LRMS	Location Reference Messaging Standard

## M

Mainstreaming	The act of bringing ITS technology into everyday use by travelers and transportation professionals. Also refers to incorporating ITS into traditional transportation planning and programming processes.
MAN	Metropolitan Area Network
MDI	<u>Model Deployment Initiative</u> . A program designed to develop model sites demonstrating integrated intelligent transportation infrastructure and successful jurisdictional and organizational working relationships. The program is also designed to demonstrate the benefits of integrated transportation management systems that feature strong regional, multimodal traveler information services.
MMDI	Metropolitan DI



MMI	Man-Machine Interface (or Interaction)
Mode	A form of transportation such as an automobile, bus or bicycle.
MOE	Measure of Effectiveness
MPH	Miles per Hour
MPO	<u>Metropolitan Planning Organization</u> . Regional policy body that is responsible in cooperation with the state and other transportation providers for carrying out the metropolitan transportation planning requirements of federal highway and transit guidelines.
MTC	Metro Traffic Control
Multi-Modal	The availability of transportation options using different modes within a system or corridor.

## N

NA	National Architecture
National ITS Architecture	Establishment of nationally compatible systems linking all modes of transportation. Discourages local or regional areas from developing incompatible ITS implementations.
NAR	National Architecture Review
NAV	Navigation
NEMA	National Electrical Manufacturers Association
NHPN	National Highway Planning Network
NHS	<u>National Highway Traffic Safety Administration</u> . Agency of the US Department of Transportation that whose charge is safety
NII	National Information Infrastructure (aka Information Superhighway)
NPRM	Notice of Proposed Rule Making
NTCIP	<u>National Transportation Communications for ITS Protocol</u> . Required for traffic management operations. Allowing for wireline communications between traffic management centers and field equipment.

## O

OEM	Original Equipment Manufacturer
Open System	A vendor-independent computer system that is designed to interconnect with a variety of commonly available technology products.
OSI	Open Systems Interconnection
OTP	Operational Test Plan



**P**

Paratransit	A variety of smaller, often flexibly-scheduled and routed transportation services using low-capacity vehicles, such as vans, to operate within normal urban transit corridors or rural areas. These services usually serve the needs of persons that standard mass transit services would serve with difficulty, or not at all. Often, the patrons include the elderly and persons with disabilities.
PC	Personal Computer
PCB	Professional Capacity Building program
PCS	Personal Communications System
PD	Police Department
PDA	Personal Digital Assistant
PIAS	Personal Information Access Subsystem
PMS	Parking Management Subsystem
PS	Planning Subsystem
PSA	Precursor System Architecture
PSPEC	Process Specification
PSTN	Public Switched Telephone Network
PTS	Positive Train Separation
Public Participation	The active and meaningful involvement of the public in the development of transportation plans and programs.

**R**

Ramp Metering	Regulation of vehicle entry to a freeway via sensor-controlled freeway-ramp signals.
R&D	Research and Development
RDS	Radio Data Systems
RDS-TMC	Radio Data Systems incorporating a Traffic Message Channel
RFID	<u>Radio-Frequency Identification</u> . An electronic identification method that uses radio-frequency signals to read on-vehicle tags for automated vehicle identification.
RFP	Request for Proposal
RS	Roadway Subsystem
RSPA	Research and Special Programs Administration of the US Department of Transportation.
RTA	Regional Transit Authority
RTS	Remote Traveler Support Subsystem



**S**

SAE	<u>Society of Automotive Engineers</u> . One of five standards development organizations with which US DOT is working to establish standards for integrated, interoperable ITS deployment.
SC	Single Click
SDO	<u>Standards Development Organization</u> . US DOT is working with five organizations to develop standards in areas relevant to intelligent transportation: state-level participation and roadside infrastructure, (AASHTO), dedicated short-range communication systems (ASTM), electronics and communication message sets and protocols (IEEE), traffic management and transportation planning systems (ITE), and in-vehicle and traveler information (SAE).
SDP	Strategic Deployment Plan
Smart Card	Electronic information systems that uses plastic cards (similar to credit or debit cards) to store and process information. Used in fare-payment and parking applications.
SMR	Specialized Mobile Radio
SONET	Synchronous Optical Network
SOV	Single Occupancy Vehicle
SOW	Statement of Work
Statewide Transportation Plan	The official, statewide intermodal transportation plan that is developed through the statewide transportation planning process.
SQL	Standard Query Language
SSR	Standard Speed Rail
STIP	<u>Statewide Transportation Improvement Plan</u> . A staged, multi-year statewide Intermodal program of transportation projects, which is consistent with the statewide transportation, plan and planning processes and metropolitan plans, TIPs, and processes.
STMF	Simple Transportation Management Framework

**T**

TAS	Toll Administration Subsystem
TCIP	Transit Communications Interface Profiles
TCM	<u>Transportation Control Measures</u> . Actions to adjust traffic patterns or reduce vehicle use to reduce air pollutant emissions. These may include HOV lanes, provision of bicycle facilities, ridesharing, telecommuting, etc.
TCS	Toll Collection Subsystem
TDM	<u>Transportation Demand Management</u> - Programs designed to reduce demand for transportation through various means such as the use of high occupancy vehicles, alternative work hours, transit and telecommuting.
TDMA	Time Division Multiple Access



TEA-21	<u>Transportation Equity Act for the 21<sup>st</sup> Century</u> . The latest Federal law providing primary federal funding for highway and other surface transportation programs in the United States through 2004. TEA-21 contains guidelines and funding for ITS deployment.
Telecommuting	The substitution, either partially or completely, of transportation to a conventional office through the use of computer and telecommunications technologies (e.g., telephones, personal computers, modems, facsimile machines, electronic mail).
TIP	<u>Transportation Improvement Plan</u> . An MPO program for transportation projects, developed jointly with the state for a 3 to 7 year period.
TM	Traffic Management
TMA	<u>Transportation Management Area</u> . All urbanized areas over 200,000 in population and other areas that request designation.
TMC	Traffic Management Center
TMDD	Traffic Management Data Dictionary
TMS	Traffic Management Subsystem
TOC	Traffic Operations Center
Transit	Generally refers to passenger service provided to the general public along established routes with fixed or variable schedules at published fares. Related terms include: public transit, mass transit, public transportation, urban transit and paratransit.
Transponder	Electronic device designed to store information. Electronic readers access the information stored on these devices for such functions as toll collection and trucking activities.
TRB	<u>Transportation Research Board</u> . Part of the National Academy of Science, National Research Council. Serves to stimulate, correlate, and make known the findings of transportation research.
TRMC	Transit Management Center
TRMS	Transit Management Subsystem
TRT	Technical Review Team
TRVS	Transit Vehicle Subsystem
TSM	<u>Transportation System Management</u> . The element of a TIP that proposes non-capital intensive steps toward the improvement of a transportation system, such as refinement of system and traffic management, the use of bus priority or reserved lanes, and parking strategies. It includes actions to reduce vehicle use, facilitate traffic flow, and improve internal transit management.

## U

Urbanized Area	Area which contains 50,000 or more population plus incorporated surrounding areas.
USDOT	<u>US Department of Transportation</u> – Principal direct Federal funding agency for transportation facilities and programs.



User Services Services available to users of an ITS equipped roadway, as set forth by ITS America. There are 30 services, arranged in seven categories as follows:

- Travel and Transportation Management
- Travel Demand Management
- Public Transportation Operations
- Electronic Payment
- Commercial Vehicle Operations
- Emergency Management
- Advanced Vehicle Control and Safety Systems

USR User Service Requirement

## V

VMS Variable-Message Sign. Electronic highway sign that can change the message it displays. Used with traffic-management systems. Also referred to as changeable or electronic message signs.

VMT Vehicle Miles of Travel. A standard area wide measure of travel activity. The most conventional VMT calculation is to multiply average length of trip by the total number of trips.

VRC Vehicle/Roadside Communications

VS Vehicle Subsystem

## W

WAN Wide Area Network

WIM Weigh-in Motion

WWW World Wide Web

## Z

Zone The smallest geographically designated area for analysis of transportation activity. A zone can be from one to 10 square miles in area. Average zone size depends on the total size of study area.

