Glossary

AADT - Annual Average Daily Traffic.

AAR - Association of American Railroads.

AASHTO - American Association of State highway and Transportation Officials.

ABS - Automatic Block Signal

ACC - Adaptive Cruise Control. A cruise control system that maintains a safe distance from the vehicle ahead.

ACTS - Advanced Computerized Transportation System. Centralized integration of traffic control of freeways and urban streets to allow multiple highway jurisdictions to coordinate remp meters and street signals. Will provide traffic responsive signal contol to accommodate traffic surges during peak periods.

Actuated Controller - A controller assembly for supervising the operation of traffic control signals in accordance with the varying demands of traffic as registered with the controller by traffic detectors.

Actuation - The operation of any type of detector. The word operation means an output from the dectector to the controller unit.

Addressing - (1) System: The identification of specific intersections or locations for transmission of commands or the receipt of data. (2) Communications: The process of selecting a specific receiving unit on a multidrip line so that the message can be sent ot that unit along. Usually, specifc message enabling the selected unit to accept the data that follows.

Advance Pulse or Interval Advance (ADV) - A discrete command issued by the master computer whtich causes an online controlled unit to change conditions, generally advancing the unit to the next positin or state.

Advanced Vehicle Control Systems (AVCS) - (1) Vehicle and/or roadway-based electromechanical and communications devices that enhance the control of vehicles by facilitating and augmenting driver performance. Will ultimately relieve the driver of most tasks on designated, instrumented roadways.

Advanced Traffic Management Systems (ATMS) - (1) An array of institutional, human, hardware, and software components designed to monitor, control, and manage traffic on streets and highways. (2) An ITS America committee.

Advanced Systems Integration and Implementation (ASII) - Caltrans department researching new systems concepts and architecture, CVO, and institutional and implementation issues.

Advanced Pulbic Transportation Systems (APTS) - (1) Technology aimed at imporving public transportation. (2) Committee of ITS America. (3) FTA program to focus R&D and funding efforts on ITS technologies composed of four main areas: vehicle operations and communication, high occupancy vehicles, customer interface, and market development. Presently sponsoring Mobility Manager, Smart Vehicle and Smart Traveler programs.

AEI - Automatic Equipment Identification.

AHS - Automated Highway System.

AI - Artificial Intelligence. A computer software programming technique in which a computer "learns" from past experience, allowing it to make more intelligent decisons with greater program use.

ALERT - DRIVE I project which developed the European pres-standard for the RDS-TMC. DRIVE II analog is ATY-ALERT.

Algorithm - A procedure, process, or rule for the solution of a problem in a finite number os steps. An algorithm may be a set of commutation rules for the solution of a

mathematically expressed problem or for evaluating a function.

American Society of Civil Engineers - ASCE.

Amplifier (Detector Electronics) - A device that is capable of intenisfying the electrical energy produced by a sensor. A loop-detector unit is commonly called an amplifier, although its electronic function actualy is different.

Amplitude Modulation (AM) - A method of transmitting information by varying the strength of a carrier waveform in accordance with the instantaneous value of the intelligence-bearing signal.

AMTICS - Advanced Mobile Traffic Information and Communication Systems. A Janpanese traffic control system.

Analog - An electronic design that uses such as voltages, rather than numbers.

Analog Computer System - A control system that uses as analog computer as a master. An analog computer solves problems by operating on continuous variables that represent continuous data. Problems are solved by translating physical conditons (such as numbers, volumes, time, or speed) into related electrical quantities and using electrical circuits as analogs to represetn the physical phenomenon. Analog techniques have been used entensively in actuated controllers and arterial systems.

ANSI - American National Standards Institute. Umbrella organization for U.S.-based consensus standards setting. U.S. representative on the International Standards Organization.

APC - Automated Passenger Counting.

API - American Petroleum Institute.

APTS - Advanced Public Transportation Systems.

Areawide Control - A form of signal system control which treats all of the traffic signals in a city, metropolitan area, or major portion thereof as a total system.

ARI - Autofahrer Rundfunk Information. A german traffic information broadcasting system whose transmissions are received through car radios after drivers are alerted to turn the radio to a specific frequency. Analogous to American HAR system. See also: ARIAM.

ARIAM - Advanced version of ARI.

Arterial Control - A form of control for signalized intersections along an arterial street where major consideration is given to the provision of progressive traffic flow along the arterial.

ARTS - Advanced Rural Transportation Systems.

ASCE - American Society of Civil Engineers.

ASCII (American Standard Code of Information Interchange) - A standard code that assigns special bit patterns to each sign, symbol, numeral, letter, and operation in a specific test. The basic code uses 6-bit characters, allowing 64 (26) different encoded characters.

ASD - Automated Systems Development. Research area of Advanced Vehicle & Automated Systems (AVASD) Department of Caltrans.

ASH - Advanced Systems Integration and Implementation.

ASTM - American Society for Testing and Materials.

ASTRA - Integrated System of Assistance Services for Travel and Traffic. Objective is to investigate the feasibility of an interactive integrated system of assistance service for travel and traffic.

Asynchronous Data Transmission - A mode of data transmission by which the execution of the next instruction or next event is inititiated by a signal that is generated upon completion of the previous command or event.

ATA Foundation - American Trucking Associations Foundation.

ATC- Automated (electronic) Toll Collection.

ATIS - Advanced Transportation Information Systems.

ATLAS - Early Renault advanced vehicle electronics project.

ATMIS - Advanced Traffic Management and Information Systems.

ATMS - Advanced Traffic Management Systems.

ATSAC - Automated Traffic Surveillance and Control.

ATT - Advanced Transport Telematics.

ATT-ALERT - Advanced Transport Telematics - Advice and Problem Location for European Road Traffic. Builds on DRIVE I's RDS ALERT to continue the standardization and enhancement of the current RDS-TMC protocol, as well as developing a suite of compatible protocols for other bearers such as digital audio broadcasting and radiopaging.

Attenuation - The loss in signal strength associated with the transmission process. Attenuation is usually expressed as the ratio of recieved signal strength to trnasmitted signal strength.

Attenuation Distortion - The distortion of a transmitted signal caused by the nonuniform loss or gain at different frequencies.

Autoguide - A planned, but largely unimplemented British route guidance system that used infrared trnasceivers to transmit information between roeadside beacons and on-board displays in appropriately equipped vehicles.

Automated Highway System (AHS) - project to research and demonstrate fully highway-controlled vehicles mandated for initaial implementation by 1997 by the Intermodal Surface Transportation Efficiency Act (ISTEA).

Automatic Clearance Sensing (ACS) - Used in CVO to help large vehicles negotiate low/limited-clearance objects such as bridges and viaducts.

Automatic Vehicle Location System (AVLS) - Comp[uterized system which tracks the current location of fleet vehicles, to assist dispatching, etc.

Automatic Highway Advisory Radio (AHAR) - U.S. traffic information broadcasting system whose transmissions are received through car radios which automatically interrupt other radio reception and tune to the correct station.

Automatic Vehicle Classification (AVC) - Used in CVO to identify vehicles by type in order to reduce the necessity for record-keeping by drivers and speed interstate travel.

Automatic Vehicle Identification (AVI) - A system which combines an on-board tag or transponder with roadside receiver for the automated identification of vehicles. Used for elctronic toll collection (ETC), stolen vehicle recovery, etc.

Autoscope - A product patented by the University of Minnesota which uses a video camera and computer software to analyze roadway images and extract traffic flow information. Also used in Fast-Trac.

AUTOSTRADE - Highway and Telematic Network. Italian naional highway surveillance network. Construced by Maxconi and ABL, Ind., its main objectives are improving internal communications of the AUTOSTRADE

organization and providing better service and security to drivers.

Auxiliary Equipment - Separate devices used to add supplementary features to a controller assembly.

AVASD - Advanced Vehicle & Automated Systems Development.

AVHT - Advanced Vehicle and Highway Technologies.

AVID - Advanced Vehicle Development . Research area of Advanced Vehicle & Automated Systems Development (AVASD) department of Caltrans.

AVL - Automatic Vehicle Location. The installation of devices on a fleet of vehicles (e.g. buses, trucks or taxis) to enable the fleet manager to determine the level of congestion in the road network. Avl is also used to enable the fleet to function more efficiently by knowing the location of vehicles in real-time.

AVM - Automatic Vehicle Monitoring.

Background Cycle - The term used to identify the cycle length established by a coordination unit and master control in coordinated systems.

Backup System - A standby traffic signal control system that can be used to operate a computerized traffic signal system during computer down-time periods for routine maintenance or emergency failure periods. The backup system may be composed of components which, during normal operation, carry out other lower priority tasks or of components which are redundant during normal system operation, carry out other lower priority tasks or of components which are redundant during normal system operation.

Bandwidth - (1) The amount of green time available to a platoon of vehicles in a progressive signal system. Also referred to as through band. (2) A range of frequencies that a communications channel will carry without excessive attenuation.

BART - (1) Bay Area Rapid Transit.

Baud - A unit for expressing the rate at echich information is transmitted. A rate of one baud is one useful signal element per second. A bit rate is not necessarily equal to the baud rate in that a signal element may carry more than one bit of informationk, and some bits may be used for purposes other than carrying signal information.

BBS - Bulletin Board System. A database accessible to multiple user via computer, modem, and phone lines.

Beacons - Short-range roadside trnsceivers for communicating between vehicles and the traffic management infrastructure. Common transmission technologies include microwave and infrared.

Binary - (1) A characteristic or property involving a selection or conditon in which there are two and only two possibilities. Use of a binary system is predicated on the supposition that a duality exist: that is, a thing, state,or condition is or is not. (2) A numbering system based on two which only used the digits 0 and 1.

Bit Rate (BR) - The speed at which bits are transmitted, usually expressed in bits per second.

Bit - (1) An abbreviation of Binary digit. (2) A single character in a binary number.

Broad Band Communications - A band of communication frequencies above 4,000 Hertz, ususally transmitted over coaxial cables.

Byte - A sequence of adjacent bits used to represent a single character of information. The most common byte sizes are 8 bits and 16 bits.

CAAA - Clean Air Act Amendments (1990)

CACS - Comprehensive Automobile Control System.

CAD - (1) Computer-Aided Dispatching (2) Computer-Aided Design.

Camshaft - The adjustable or selective deviceused to change signal indications upon activation by the dial unit.

Capacity - The maximum volume that has a reasonable expectation of being accommodated by a roadway component under prevailing conditions, usually expressed as vehicles per hour (vph).

CAPTS - California Advanced Public Transportation Systems.

CAR-GOES - DRIVE I project investgating links between dynamic route guidance and traffic control.

CARAT - Congestion Avoidance and Reduction for Automobiles and Trucks.

CARIN - Car information and Navigation System. Autonomous route guidance system developed by Philips Electronics. Uses spoken directions and a visual pictogram display. Includes dead-reckoning and map matched dead reckoning.

CB - Citizen's Band Radio. A band of radio frequency disignated by the FCC for civlilan use.

CCATS - Camera and Computer Aided Traffic Sensor. Commercial video image analysis system launched in 1988 in Belgium by Devlonics Control NV. Also being used and evaluated in Spain, Italy, Luxembourg, UK, Germany, France, and the U.S.

CCD - Charge-coupled Device, an optical-electrical sensor.

CCTV - Closed Circuit television.

CD-CRAFT - CD and CRT Applied Format. Software standard for in-vehicle information and application and programs stored on CD-ROM.

CD-ROM - Compact Disc - Read Only Memory.

CDL - Commercial Driver's License.

CEI - Commission Electrotechnique Internationale. See International Electrotechnical Commission.

CEN - Comite European de Normalisation. Committee for European Standards. Goal is to eliminate differences in national standards so there are no technical barriers to trade. Includes a technical committee (TC 278) devoted to RTI issues.

CENELEC - Comite European de Normalisation Electrotechnique. European standards body for electrical systems and telecommunications.

Centralized Control - Form of traffic signal control in which the ability to make control decisions and to issue control commands is placed at one location.

CERCO - Consortium of European cartographic organizations.

Changable Message Sign (CMS) - Used in ATIS and ATMS. Also called Variable Message Sign (VMS).

CHART - Chesapeake Highway Advisories Routing Traffic. Provides traffic information to motorists travelling between the Baltimore -Washington metropolitan area and Maryland's Eastern Shore.

CIDER - Communication Infrastructure for Drive on European Roads. A DRIVE program with the objective of recommending the optimum communication infrastructure.

CITIES - Cooperation for Integrated Traffic Management and Information Exchange Systems.

CMAQ - (1) Congestion Management and Air Quality. A federal program which funds air quality improvement projects. (2) Congestion Mitigation for Air Quality.

CMS - (1) Changeable Message Sign. (2) Congestion Management System.

Coaxial Cable (Coax) - A single central conductor having a common axis with a second outer conductor.

Commercial Vehicle Operations (CVO) - (1) The application of ITS technology to commercial vehicles. (2) An ITS America committee.

Common Carrier - One of serveral licensed corporations that offer data transmission services such as speech, television, or digital data transmission. A common carrier is required to supply communication service to all users at published rates.

Communication System - The composite of communications equipment which interconnect all the control and surveillance components of a traffic control system.

Communication Link - The means of connecting one location to another in order to transmit and receive data.

Communication Network - A composite of communication links.

Communications Control Unit (CCU) - The portion of a system that handles the communication processes. The CCU may be a software program or a separate hardware unit. It handles message transmission, errors, control functions, and other communication-related tasks.

Communications - Transfer of information from one location from one location to another so that meaning is understood.

COMPASS - Canadian ATMS system focused on incident detection and management. In-pavement sensors transmit traffic information to a central facility, which notifies the appropriate incident management personnel and adjusts local changeable message signs (CMS0 accordingly. Sponsored by the Ontario Ministry of Transportation (OMT).

Computer Control - Regulation and/or supervision of traffic control devices by a computer.

Conditioning - A common-carrier service whereby the electrical characterisitics of a channel are tuned so as to give improved data transmission.

Congestion Avoidance and Reduction for Automobiles and Trucks (CARAT) - ATIS/ATMS system in Charlotte, NC. Includes a subscription-based advanced traveler information system (ATIS) that will provide incident location and response as well as consumer information to its users, and an advanced traffic management center (ATMS). Relies on visual monitoring and in-pavement sensors to detect incidents and congestion. Information will be broadcast by radio to system users.

Control Area - A grouping of sections. (A section is the smallest grouping of intersections that the computer considers. These intersections are so interdependent or close together that they always work in cosort). Control areas are generally deined by the physical proximity of sections and by the similarity of traffic conditions which permits independent control by the computer within the constraints imposed by required interface between sections overall system requirements.

Control Center - Consists of the room(s) that contains the computer equipment, displays and controls, and houses the personnel which operate theis equipment used in a computerized traffic control system.

Controller - A complete electrical mechanism mounted in a cabinet for controlling the operation of a traffic signal.

Controller Assembly - A complete electrica mechanism mounted in a cabinet for controlling the operation of a traffic control signal.

Controller Interface Unit (CIU) - The piece of equipment inserted between the local intersection communication terminal and the intersection controller unit to translate the instructions from the comuter into commands that are recognized and responded to by the controller unit.

Controller Unit - The part of the controller assembly which performs the basic timing and logic functions (NEMA).

Coordination - The establishment of a definite timing relationship between a user and the system resembles a conversation betwen two persons.

Corridors Program - Research and development project provided for under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 to address the relief of particularly congested urban highway systems.

Corridors - Roadways identified as highly congested and therefore a focus of federal research and funding.

CORRIDORS - Cooperation on Regional Road Informatics Demonstrations on Real Sites. DRIVE program which assists inter-urban consortia in dealing with interurban initiatives.

CPU - Central Processing Unit. The part of the computer or computer system which performs core processing functions.

Crescent - Program testing heavy commercial vehicles equipped with transponders in an integrated systems environment.

Crosstalk - Mutual coupling of magnetic fields, producting ineraction between two or more detector unites in the same cabinet, when the units are operating the similar frequencies. Crosstalk results in a detector out-putting an actuation in the absence of a vehicle.

CUTA - Canadian Urban Transit Association.

CUTR - Center for Urban Transportation Research.

CVM - Commercial Vehicle Management.

CVSA - Commercial Vehicle Safety Alliance.

Cycle - In a pretimed controller unit, a complete sequence of signal indications. In an actuated controller unit, a complete cycle is dependent on the presence of calls on all phases.

Cycle Length - The time period in seconds required for one complete cycle.

DAR - Digital Audio Radio.

DART - Diversion Advice Recommendation Technology.

Data Base - The assemblage of data constants and parameters used by computer algorithms in the execution of the traffic control function. Normally included are timing parameters, adjustment coefficients, algorithm coefficients, limit parameters, etc.

Database StandardsTask Group - A subcommittee of SAE's ITS division. The task group's purpose is to develop standards for digital street map databases. That includes standardization of terms and the use of that nomenclature to facilitate evaluation and comparison of the completeness and content level of various databases.

DATIS - Dulles Area Travel Information System. Dulles Internation Airport Corridor project. Testing techniques for collecting and disseminating traffic information, including accidents, transit service delays, and parking

availability at selected sites. Information will be provided at home, office, and malls.

Decentralized Control or Decentralized System - A form of traffic signal control in which the ability to make control decisions and issue control commands is placed at more than one location.

Delay - (1) A measure of the time that elapsed between the stimulus and the response. (2) The retardation of the flow of information in a channel for a definite period of time. (3) Traffic Delay: The time lost by vehicke(s) due to traffic friction or control devices.

DEMETER - Digital Electronic Mapping of European Territory.

Demodulation - The process of retreiving information from some previously modulated source. The reverse process of modulation.

Demultiplexing - The process of retrieving two or more communication channels from a multiplexed transmission media.

Deodetic Coordinates - A system of geographic position referencing.

Detector - A device for indicating the presence or passage of vehicles or pedestrians. This general term is usually supplemented with a modifier i.e. loop detector, magnetic detector indicating type. Such terinology parallels radio antenna for adding specifies of type.

Detector System - The complete sensing and indicating group consisting of the detector unit, transmission lines (lead-ins), and sensor.

Dial Unit - Consists of a dial graduated in one percent increments from 0 to 100 percent. Timing keys placed in the dial unit are to affect changes in signal indications.

Differential Correction - Technique for overcoming GPS selective availability by placing a receiver at a precisely known control point from which corrections can be broadcast for an area.

Digital Line Graphs (DLG) - Geographic computer plots produced by U.S. Geological Survey, available on CD-ROM. Includes data on political and administrative boundaries, water bodies, roads and trails, railroads, and points of interest. Drawn from 1:2,000,000 scale maps of the National Atlas of the U.S. Last updated in 1979.

Digital Traffic Control Computer System - A control system that uses a digital computer to control traffic signal controllers.

Digital Computer - A device capable of accepting information, applying prescribed processed to the information, and supplying the relusts of these processes. It ususally consists of input and output devices; storage, arithmetic and logic units; and a control unit.

Direct Wire - A communications method which uses wire interconnect between the transmission and reception points with no multiplexing.

Distributed System - A control system in which individual computers are innstalled in each of the major control areaas of a total system, and a supervising master is used to provide interface between the individual areas and to make decisions on timing patterns affecting two or more areas.

DLG - Digital Line Graph.

DNT - Drive Normalized Tansmission.

Doppler Effect - A change in the frequency with which waves from a source reach an observer, when the source and the observer are in rapid motion with respect to each other, by which the frequency increases or decrease according to the speed at ewhich the distance is decreasing or increasing.

DOT - Department of Transportation.

DRIVE - Dedicated Road Infrastructure for Vehicle Safety in Europe. A European Community program to find ways to alleviate road transportation problems through the application of advanced information and technology.

Driver Information Radio Experimenting with Communication Technology (DIRECT) - U.S. operational field test sponsored by the FHWA, Michigan DOT, and several automobile and electronic component manufacturers.

Duplex - Two-way communication on a cingle cummunication channel.

ECPA - Electronic Communications Privacy Act.

EDRM - European Digital Road Map Project. DRIVE project consortium which created the Geographic Data File (GDF) specification. Includes Daimler Benz, Bosch, Blaupunkt, Philips, Renault, SAGEM, TeleAtlas, and Intergraph. Continued in DRIVE II.

ELECTRANS - Electronic Highway Transportation Association of America.

Electrically Erasable Programmable Read-Only Memory (EEPROM) - An electrically erasable PROM. The contents of this device are modified through the application of an electrical voltage that are applied by the microprocessor during normal operation.

Electro Multi Vision - Toyota-Nippondenso information system. Displays vehicle and map information on an LCD screen.

Electromechanical Controller - A controller unit which performs its functions on the asis that en electrical impulse causes a mechanical action to take place.

Electronic Road Pricing (ERP) - Use of smart card technology or simple tags to charge motorists for road use based on demand, congestion, day and time, miles traveled, and other flexible criteria.

Emergency Vehicle Preemption - The transfer of the normal control of signals to a special signal control mode for emergency vehicles.

EMS - (1) Emergency Medical Services (2) Emergency Management Systems. (3) Emergency Message Systems.

Erasable Programmable Read-Only Memory (EPROM) - A device that stores which can be altered through the use of a special device.

ERGS - Electronic Route Guidance System. Sponsored by the Federal Highway Administration. The system provided vehicle directional guidance to the driver.

Error - Any case wherin the data received from a channel do not agree with the data transmitted.

ERTIS - European Road Tansport Information Systems.

ESC - Emergency Safety Center.

ETC - Electronic Toll Collection.

EOC - Emergency Operations Center.

ETTM - Electronic Toll and Traffic Management.

EUREKA - European Research Coordination Agency. Program designed to stimulate cooperative research and development between industries and governments in Europe.

EVM - Emergency Vehicle Management

FAME - Freeway and Arterial Management Effort.

FAST -TRAC - Faster and Safer Travel through Traffic Routing and Advanced Control.

FCC - Federal Communications Commission. The federal agency which regulates telecommunications in the United States.

FHA - Federal Highway Administration.

Fiber Optics - Technique for the transmission of light from a high-intensity, low-voltage lamp through a bundle of tiny and flexible glass fibers.

First-Generation Control (1-Gc) - This type of control is based on a table lookup approach. A number of fixed timing plans have been precomputed and stored. Timing plans are selected based on sensing certain demand parameters at strategically located detectors. As thresholds are reached, predeveloped and stored timing plans are implemented. This procedure is used in most of the presently operation digital computer controlled systems.

FLEET - Freight and Logistics Efforts for European Traffic.

Freeway and Arterial Mangement Effort (FAME) - Includes the Incident Management and Integrated Systems project which will develop a framework for establishing and implementing an incident management system.

Frequency Modulation (FM) - A method of data transmission whereby the frequency of a sinusoidal waveform (carrier) is changed in accordance with the information that is to be carried.

Frequency - (1) The number of oscillations of a signal per unit of time: Usually expresseed in cycles per second (cps). (2) The number of times an event (i.e., accident, vehicle stop, etc.) occurs per unit of time.

Frequency Division Multiplexing (FDM) - Involves the use of different frequencies (tones) to represent different channels. On a typical telphone circuit of voice-grade quality (Series 3000), up to 16 different tones represeitning 16 different channels can be transmitted.

Frequency Shift Keying (FSK) - A form of frequency modulation, typically with marking signals represented by one frequency and spacing signals represented by another frequency. The transmitter is changed from one frequency to another, i.e., keyed to represent a different information character.

FTA - Federal Transit Administration.

FTM - Freeway Traffic Management.

Full Duplex - A communicatin facility providing simultaneous transmission and reception in both directions.

Full-Traffic-Actuated Controller - A type of traffic-actuated controller in which means are provided for traffic actuation on all approaches to an intersection.

GAUDI - Generalized and Advanced Urban Debiting Innovation.

GEMINI - Generation of Messages in the New Integrated Road Transport Environment. DRIVE II project. To develop and integrated driver information system based on RDS-TMC and variable meassage sign (VMS) networks.

GENEGIS - Generator for Geographical Information Systems.

Generation (First, Second, Third) - Denotes significantly different approaches in control philosophies for computerized traffic signal systems. First Generation: Uses prestored timing plans developed offline based on previously collected traffic data. Timing plans can be selected on a basis of time-of-day, operator selection, or automatic matching of the timing plan best suited for existing traffic pattern condiitions. Second Generation: Contains an online optimization process to develop the timing plans in real time based upon current traffic condition. Third Generation: Dynamic control of individual intersections on a cycle-by-cycle basis using an areawide optimization criteria.

Half Duplex - A communication facility providing both transmission and reception in both directions, but not simultaneously.

Genesis - A personal traveler information systm that will provide real-time route specific vehicle and transit travel times. Traffic data will come from transit vehicles used as probes and conventional data sources.

Geocode - A code representing a political or geographic unit.

Geographic Information System (GIS) - Computerized data management system designed to capture, store, retrieve, analyze, and report on geographic/demographic information.

GEOSTAR - A satellite system which was used for determining vehicle location. Pioneered satellite-based commercial truck tracking and communications services. Now defunct.

Global Positioning System (GPS) - Government owned system which transmit data to ground-based receivers.

GLONASS - Soviet satellite Radionvavigation system similar to Global Positioning Sytem (GPS). May be integrated with a satellite.

Greater Austin Area Telecommunications Network - (GAATN) - A consortium of governmental agencies, City of Austin, Austin Independent School District, and the State of Texas that own a fiber optic telecommunications network in the Austin area.

Guidestar - An ITS program of the University of Minnesota Center for Transportation Studies / Minnesota Department of Transportation.

HAR - Highway Advisory Radio. The transmission of localized traffic advisory messages using 520 AM and 1610 AM frequencies.

Hard-Wired Conflict Monitor - Electrical wiring or circuit in a local controller assembly which acts to prevent certain combinations of signal indications which could result in direct traffic conflicts.

Hardware - The physical equipment in a computer system.

HARTime - Hillsborough Area Regional Transit. The public tansit provider for Hillsborough County.

Heads Up Display (HUD) - Display of instrument readings which appears (usually by reflection) on the inside of a vehicle's windshield.

Hertz (Hz) - A measure of frequency or bandwidth. One Hertz (Hz) is defined as one cycle per second (cps).

Incident - An occurrence in a traffic stream which causes a disturbance in the normal flow of traffic. Common incidents include stalled vehicles, spilled loads, near-collisions, and collisions.

HITS - Houston Intelligent System.

Houston Intelligent System (HITS) - Project aimed at improving the mobility of people and goods and reducing the environmental impacts of the transportation systems through advanced technology. Includes Smart Commuter.

HOV - High Occupancy Vehicle.

HPR - Highway Planning and Research.

HUFSAM - Highway Users Federation for Safety and Mobility.

I/M - Inspection and Maintenance Program (for motor vehicles).

IBTTA - International Bridge, Tunnel, and Turnpike.

ICVTAID - DRIVE project dealing with the use of computer vision techniques for incident detection.

IDEAS Program - Program for Innovations Deserving Exploratory Analysis.

IEC - International Electrotechnical Commission.

IEEE - Institute of Electrical and Electronics Engineers.

IFTA - Interstate Fuel Tax Agreement.

IMAURO - Integrated Model for the Analysis of Urban Route Optimization. DRIVE project dealing with urban traffic simulation.

IMPACT - Implementation Aspects Concerning Planning and Legislation.

IMS - Incident Management System.

Inductance - That property of an electric circuit or of two neighboring circuits whereby an electromotive force is generated in one circuit by a change of current in itself or in the other. The ratio of the electromotive force to the rate of change of the current.

Info-mobility - A japanese term for ITS.

INRAd - Caltrans-sponsored project ot demonstrate the use of short range, two-way communication between vehicles and the roadway using inductive radio.

Institute for Transportation Studies (ITS) - Transportation R&D orgainzation of the University of California. Faculty, staff, and graduate students conduct multi-disciplinary research. Operates PATH.

Integrated Road Transport Environment (IRTE) - Ultimate goal of the DRIVE and DRIVE II programs.

Intelligent Vehicle Highway Society of America (IVHS AMERICA) - Now renamed ITS America. A nonprofit, public/private scientific and educational cooperation which works to advance a national program for safer, more economical, energy efficient, and environmentally sound highway travel in the U.S.

IntelliTag - Radio Frequency Identification (RFID) system for electronic tol applications.

INTERCHANGE - DRIVE II project. Objective is to develop a network for the real-time exchange of ATT information betwen national travel/traffic inforamtion centers. Network is to be called ET-NET.

International Standards Organization(ISO) - An international standards umbrella organization. Includes a Technical Committee.

Interconnect - The communication media usually consisting of electrical cable connecting the system master with local controllers.

Interconnected Signal System - A number inf intersections which are connected by wire, radio, or some other means to effect traffic progression.

Interface - A common boundary at which two separate systems or portions of each joijn or interact. An interface can be mechanical, as in signal level transformation points. Moreover, it can also refer to human and machine interface and interaction between the operator and the computer.

International Symposium on Automotive Technoligy and Automation (ISATA) - Annual meeting on ITS and other automotive technology. Held in Florence.

Intersection Status - (1) The knowledge of whether a controlled intersection is on-line or operating in its standby mode. (2) In some systems, the knowledge of whether the intersection is displaying Main Street Green or not. (3) In other systems, the knowledge of the specific interval in which the camshaft is positioned or the particular indication is being displayed.

IR - Infrared.

Isolated Intersection Control - Form of signal control for a single signalized intersection

through which the flow of traffic is controlled without giving any consideratin to the operation of adjacent signalized intersections.

Isolated Controller - A controller for operating traffic signals not under master supervision.

ISTEA - Intermodal Surface Transportation Act. Passed in 1991, this legislation suthorized national surface transportation funding for the next sixs year. The ISTEA legislation was unusual in that it allowed transportation funds to be spenct on used not traditionally classified as transportation-related.

IT - Institute of Traffic Engineers.

ITS - Intelligent Tansportation Systmes. New Jersey and U.S. DOT program to develop methods for measuring effectiveness for epecific applications and to assess the state of the art.

ITS (IVHS) Roundtable - Ad hoc organization for the coordination of ITS development in Canada. Seeks to broaden ITS interests thoughout Canada and encourage active Canadian involvement though strategic planning and pertnership. Provides a forum for new developments rather than acting as a funding organization. Includes the Transportation Association of Canada.

ITU-Region II - International Telecommunications Union - Region II (consists of North America, Central America, and South America).

IUTRC - Illinois Universities Transportation Research Consortium.

IVHS Act - See Intermodal Surface Transportation Efficiency Act.

IVSAWS - In-Vehicle Safety and Advisory Warning System. Developed by Hughes.

Japan Digital Road Map Association - JDRMA.

JIT - Just-in-time delivery of freight by trucking companies.

JSAE - Japanese Society of Automotive Engineers.

JSK Foundation - Japanese Association of Electronic Technology for Automotive Traffic and Driving. Formed to disseminate the information from the CACS project. Worked on the SSVS project.

KHz - Kilohertz, or thousands of hertz. Hertz means cycles per second, a meaure of frequency.

Kiosk - An information center for traffic or travel data located in shopping malls, parking decks, hotel, airports, businessed, transit terminals, etc,. usually with interactive computer capability.

LAN - Local Area Network.

LCD - Liquid Crystal Display.

LED - Light-emitting Diode.

LEO - Low Earth Orbit.

LLAMD - London, Lyon, Amsterdam, Munich and Dublin. One of five POLIS projects of DRIVE II. Focused on traffic control and route guidance.

Local Controller - A controller assembly supervising the operation of traffic signals at a single intersection.

Loop Detector System - A vehicle detector system that senses a decrease in inductance of its senorloop(s) during the passage or presence of a vehicle in the zone of detection of the sensor loop(s) means the same as loop detector but is clearer in its inclusion of the wire as well as the electronics package.

LOS - Level of Service.

Low Powered Highway Advisory Radio (LPHAR) - Traffic information broadcasting system.

Requires the traveler to manually time in to a traffic message channel after being alerted by flashing roadside lights.

Low Earth Orbit - Satellite system to provide positioning and two-way messaging services.

LPHAR - Low Powered Highway Advisory Radio.

LPRS - License Plate Reading System.

LRT - Light Rail Transit.

LTL - Less Than Truckload.

MAGIC - Metropolitan Area Guidance, Information and Control.

Magnetometer - A detector that measures the difference in the level of the earth's magnetic forces caused by the passage or presence of a vehicle near its sensor.

Master Controller - A controller for supervising multiple secondary controller assemblies and/or multiple submaster controller assemblies.

Measures of Effectiveness (MOE's) - All quantities derived from detector data often used to estimate the effectiveness of the system in improving traffic flow. Common bases of comparison include volume, occupancey, speed, stops, delay, and queue length.

Memory Card - A plug-in computer memory card containing prerecorded information.

Metropolitan Area Guidance, Infomation and Control (MAGIC) - New Jersey incident detection and traffic management system. Will use variable message signs (VMS), closed circuit television (CCTV), highway advisory radio (HAR), loop detection, and ramp metering to help relieve congestion in several New Jersey counties. Operated by New Jersey DOT.

Microcomputer - A programmable computer whose CPU is a microprocessor.

Microprocessor - Microprocessors are basically microminiaturized CPU's.

Microsecond - One milionth of a second.

Milliseccond - One thousandth of a second.

MINERVE - Part of CARMINAT.

MIST - Management Information System for Traffic. A software package used for converting low-level traffic count data to high-level congestion reports;written by Farradyne System, Inc. and distributed by Traffic Control Technologies.

MITI - Japanese Ministry of International Trade and Industry.

MMI - Man-machine Interface (or interaction). The interface between the system hardware and the person who is using the system.

MNA - Mobile Navigation Assistant.

Mobile Digital Trunked Radio Systems (MDTRS) - Standard for pan-European public and private digital trucked mobile voice and data networks.

MOC - Japanese Ministry of Construction.

Modem (Modulator Demodulator) - A device used at both ends of a communication channel to transmit and receive data at high speed.

Modulation - The process whereby information is superimposed on another signal for the purpose of transmitting the information over a communications link. The desired information is retrieved by a demodulation process.

Module - (1) Software: A program unit that is discrete and identifiable with respect to compiling, combining with other units, and loading, e.g., the input to, or putput from, and assembler, compiler, linkage editor, or executive routing. (2) Hardwire: An assembly

of electronic or other equipment mounted in a single enclosure.

MOE - Measure of Effectiveness. Used to evaluate results of operational field tests.

Molbility Manager - FTA sponsored APTS project testing an experimental information clearinghoused aimed at integrating and coordinating transportation services offered by multiple providers. Combines Smart Traveler and Smart Vehicle technology with the integration of communications and billing systems.

MPO - Metropolitan Planning Organization.

MTA - Metropolitan Transportation Authority.

MTC - Metro Traffic Control. A private company which collects and disseminates traffic information through radio and television spot announcements.

MTCS - Metropolitan Traffic Control System. A software package used for controlling the iming of traffic signals in an urban road network.

MTIPS - Metropolitan Transportation Information Production System.

Multi AV - Nissan-Sumitomo navigation system. Uses microwave beacon receivers for the transmission of static information.

Multidrop Connection - The connection of more than two data receiver/transmitter stations to a single communication link. Special control signals must then be used to allow communication between the proper units. A multidrop connection is similar to a telephone party line.

Multiplexer (MUX) - A device which uses several communication channels at the same time, transmits and receives messages and controls the communications line. This device may or may not be a stored program computer.

Multiprocessing - Ability of computer operating system to process more than one programmed task at the same time.

Multiprocessor - (1) A control configuration in which more than one CPU is used. (2) A computer with multiple arithmetic and logic units which can be programmed to run more than one eask simultaneously.

Nanosecond - One billionth of a second.

Navigable Database - A digital Streetmap database containing sufficient detail and scope to support driver and vehicle guidance application.

Navigator - The first commercially available self-contained map-matching navigation system.

NavMate - A prototype autonomous, in-vehicle route guidance system developed by Zexel Corporation. Includes route determination, vehicle positioning, and route guidance.

Navstar - A Global Positioning System.

NCHRP - National Cooperative Highway Research Program.

Network Control - A form of control for a group of signalized intersections where relationships from a signal timing viewpoint must be considered. A typical example is the control of signals in the central business district (CBD) of a city.

NHS - National Highway Systems.

NHTSA - National Highway Traffic Safety Administration.

NIMC - National Incident Management Coalition. NIMC was created to serve as a focus for consensus-building, and for promotion and wider implementation of incident management programs.

NPA - Japanese National Police Agency.

NTIA - National Telecommunications and Information Administration of the United States.

NVF - New Vehicle Fleet. All of the new vehicles sold in the U.S. during a particular year.

OBC - On-board Computer.

OEM - Operation Information Center.

Offline - Descriptive of a system, or a process no under the control of the central processing unit. (See Online).

Offset - The time relationship expressed in seconds or percent of cycle length, determined by the difference between a defined interval portion of the coordinated phase green and a system reference point.

On-Line Travel Information System (OTIS) - Microcomputer-based system which helps agents to respond to telephoned requests for travel information. Used by the New York City Transit Authority.

Online - Descriptive of a system, peripheral equipment, or a process under control of the central processing unit. (See Offline).

Open Systems Interconnection - A standard communications architecture, adopted by the International Standards Organiation in 1983.

Operating System - Computer software that performs the function of organizing and controling the overall execution of the application soft-ware.

Optimization Programs - Programs that compute and evaluate the effects various sets of signal timing on vehicle flow within a given network. These programs determine optimal timingplans and/or evaluate a given timing pan.

Ordance Survey (OS) - British mapping agency, equivilent to USGS in the U.S.

OST - Office of the Secretary of Transportation for the U.S. Dept. of Tansportation.

OTIS - On-line Travel Information System.

PAMELA - Pricing And Monitoring Electronically of Automobiles. A DRIVE project which is investigating two-way microwave communications between vehicles and roadside equipment for automaic toll collection using smart cards.

Parity Check - A summation check in which the one bits in a character or work are added, and the sum checked agains a single, previously computed partiy bit; i.e., the check test whether the number of ones in a word is odd or even.

Parity - The addition of noninformation bits to a character being transmitted in order to make the number of one bits in each character always be odd or even (optionally). At the receiver, the bits in each received character are check to see that an odd number of one bits per character is received in order to detect errors in the received data.

PAYD - Pay As You Drive. Company formed to promote private introduction and operation of electronic toll collection (ETC) using prepaid tags for Automatic Vehicle Indentification (AVI) under license from the Hong Kong Government.

PC - Personal Computer.

PCD - Personal Communication Device. A small portable device used for communications, such as pagers and cellular phones.

PCS - Personal Communication Service. A next generation mobile telephone service which associates an individual with a universal telephone number.

Peripheral Equipment - Various units or amchines that are used mainly for input-output in comination or conjunction with the computer but are not part of the computer itself.

Permanent International Association of Road Congress (PIARC) - PIARC. The oldest international association concerned with roads.

Phase Shift Keying (PSK) - A modulation method employed to transmit data. The technique of differentially coherent phase modulation is generaly used as it eliminates the difficulty of deriving a reference phase. In such a system, each signal element is stored one element at a time and the phase change between successive elements provides system coherence and the desired reference.

Phase Modulation (PM) - A technique to tansmit information using a sine wave signal. The sine wave, or "carrier," has its phase changed in accordance with the information to be transmitted.

Platooning - Linking cars closely together in samll groups for high-speed, high-density freeway travel under control of an Automatic Vehicle Control System (AVCS).

Point-To-Point Connection - A communication link that connects only two data stations.

POLIS - Promoting Operational Links with Integrated Services. An organization of European cities with an agreement to work together in developing RTI technologies to help with urban transport problems.

PPS - Precise Positioning Service.

Precise Positioning Service (PPS) - Military version of Global Positioning System (GPS).

Predictive Data Fusion - Technique used in ATMS for combining traffic data from multiple sources into a single model of traffic behavior.

Preemption - The transfer of the normal control of signals to a special signal control mode.

Presence Loop Detector - An induction loop detector which is capable of detecting the presence of a standing or moving vehicle in any portion of the effective loop area (ITE).

Pretimed Traffic Signal Controller - A controller for the operation of traffic siganls with predtermined fixed cycle length, fixed interval duration, and fixed interval sequence.

Programmable Rad-Only Memor (PROM) - A device that stores data which cannot be altered by computer instructions. Data is stored ("burned") into this device by an external electronic process. Some PROM's can be erased and programmed through special physica processes.

PRIMAVERA - Priority Management for Vehicle Efficiency, Environmental and Road Safety on Arterials. DRIVE II project. Objectives is to identify and implement strategies for public transport priority using adaptive urban traffic control techniques.

Progression - A term used to describe the progressive movement of traffic through several intersections within a control system without stopping.

PROMISE - PROmetheus Mobile and portable Information Systems in Europe. Objective is to develop a multimodal traveler information system incorporating open architecture and mobile and portable terminals.

PROMPT - DRIVE II project occurring in Sweden. Objective is to develop and evaluate methods of giving active priority to buses, trams, and emergency vehicles in urban traffic control systems.

PTM - Public Transportation Management.

Pull Box - A container, usually 1 cu ft in size, that is place underground with a removable cover flush within the ground line. Splices and conduit ends are located here.

PVEA - Petroleum Violation Escrow Account. A fund administered jointly by the state of

California and the U.S. Dept. of Energy into which companies pay compenstation for environmental pollution.

PVS - Personal Vehicle System. A Japanese program coordinated by the Ministry of International Trade and Industry (MITI).

QASPR - Qualcomm Automatic Satellite Position Reporting. Uses existing civilian communications satellites for vehicle tracking. Introduced by Qualcommin February 1990.

Quad Sheets - A series of maps produced by the U.S. Geological Survey (USGS) at scales of 1:24,000 and 1:62,000. Available to the general public. Covers the entire U.S.

Quadrupole - A loop configuaration that adds a longitudinal sawslot along the center of the rectangle, so that the wire canbe installed in a figure-8 pattern, thereby producing four electromagnetic poles instead of the normal two. The design improves the sensitivity to small vehicles and also minimizes splashover.

QUARTET - Quadrilateral Advanced Research on Telematics for Environment and Transport. One of five POLIS/DRIVE II projects. Involves Stuttgart, Germany; Birmingham, England; Torino, Italy; and Athens, Greece. Focused on travel and traffic information and data exchange.

Queue Detector - Component of a traffic control system which sensed the presence (or number) of vehicles waiting in a queue.

R & D - Research and Development.

RACS - Road-Automotive Communication System. An experimental Japanese ATMS effort. Now integrated with AMTICS as VICS under the Ministry of Posts and Telecommunications.

Radio Frequency Identification (RFID) - A type of electronic identification that used radio frequency signals to read on-vehicle tags.

Ramp Metering - Traffic -responsive regulation of vehicle entry to a freeway, typically via sensor-controlled freeway ramp spotlights.

RDS ALERT - DRIVE I project which developed the European pre-standard for the RDS-TMC. DRIVE II analog is ATY-ALERT.

RDS - Radio Data System. A use of FM sideband radio for wide area transmission of digital information, program information, radio control, etc.

RDS-TMC - Radio Data System-Traffic Message Channel.

Real-time, Traffic-Responsive Control System - Traffic control system which evaluates and selects control system which evaluates an dselects tactics continously on the basis of current measures of traffic conditions.

Real-Time System (RTS) - A computer system wherein a computation is performed during the actual time that the related physical process transpires, in order that resultes of the computation can be used in guiding the physical process.

Real-Time Control - The processing of information or data in a sufficiently rapid manner so that the results of the processing are available in time to influcence the process being moniotred or controlled.

Receiver - a part of the communication system which accepts and translates (decodes) signals into commands or data functions.

Relay - an eletromagnetic device, having multiple electrica contacts, energized by electrical current through its coul. It is used to complete electrical circuits.

RFP - Request for Proposals.

Rijkswaterstaat - Dutch Ministry of Transportation.

RIM - Roadway Incident Management.

RIMES - Road Information and Management Eurosystem. DRIVE I project aimed at studying and developing standards for construction of road databases for the use of administrations managing a road network.

Road KIT - Mobile satellite communications and positioning servicedesigned and developed by Ontario private sector participants with 50% research and development funding from the Ontario government.

ROADCOM - En Route Applied Data Communications. EUREKA project to create an integrated system for on-board electonic data collection and processing, and bi-directional exchange of data between commerical vehicles and their home bases.

Roadstar I - Guidestar feasibility test of a driverless tractor trailer.

Route Guidance Database - The detailed information that is required to encable a computer to generate a high quality driving routte tetween two locations. The information includes such items as road geometry, street names, addresses, speeed limits, turn restrictions, one-way restrictions, road levels, and roadway connections.

RTI - Road Transport Informatics.

RTMS - Road Traffic Microwave Sensor. Canadian pole-mounted traffic sensor with multi-zone and multi-target capability for all-weather operation at intersections and for free-way surveillance. Funded by Ontario Ministry of Transportation through EIS, a Canadian company.

SAE - Society of Automotiv Engineers.

SAFE - San Diego Service Aluthority for Freway Emergencies. Operates a system of solar powered cellular phones installed along San Diego freeways to facilitate incident reporting.

SAGACE - An in-vehicle system providing traffic-related information such as parking availability, along with on-board vehicle diagnostics. Parking information isrelayed by RDS. Developed by SAGEM for CARMINATE.
SC&C - Surveillance and Control System. A traffic management system proposed in the Tamps, Florida Interstate Master Plan.

SCA - (1) Subsidiary Carrier Authorization. An additional FM signal (or two) included in regular commercial boradcasts for transmision of data. May be ued for ITS applications. Also call FM subcarrier.

SCANDI - Surveillance, Control, and Driver Information System.

SCATS - Sydney Coordinated Adaptive Traffic System.

SCOOT - Split, Cycle time and Offset, Optimization Technique. Traffic signal control system which allows dynamic signal response to traffic flow. Presently in use in several countries.

SCOPE - Applications of ATT in Southampton, Cologne, and Pineus. One of five POLIS projects of DRIVE II.

SCS - Surveillance and Control System.

SDTS - Spatial Data Transfer Standard.

SECFO - System Engineering and Consensus Formation Office. Part of DRIVE I. Coordinated issues among the DRIVE projects. Succeeded by CORD in DRIVE II.

Second Generation Control (2-GC) - Online timingplan generation wherein tining plans are updated periodically. This type of control program is based on a background cycel but provides for on-line real-time computation of timing plans. It utilizes a prediction model to predict near-term changes in traffic demand. These predictions are then used in an optimication program to develop the timng plan.

Seconday Controller - A controller which operates traffic signals under the supervision of a master controller.

Semiactuated Traffic Signal Controller - A type of traffic-actuated controller assembly in which means are provided for traffic actuation on one or more, but not all, approaches to an intersection.

Signal Timing - The amount of time allocated to each inerval/function in a signal cycle.

Simplex Channel - A one-way communication channel. One end of the channel is always the transmitter and the other end is always the receiver.

Sinusoidal - A waveform having the shape of the mathematically defined sine wave. This wave shape is commonly used in defining frequency-related parameters in communicating systems.

SIP - State Implemented Plan. A statewide air pollution abatement plan required by the CAAA.

Smart Bus - (1) Transit vehicle equipped with ITS applications. (2) A software enhanced cable.

Smart Corridor - Santa Monica Streets Corridor Demonstration Project.

Smart Traveler - FTA funded APTS projects occurring in Bellevue, CA, Houston, and St. Paul. Focus is on providing information more conveniently to transit users.

Smart Vehicle - FTA-funded APTS projects occurring in Ann Arbor, Michigan; Chicago; Portland, Oregon; Denver; and Balimore. Focus is on applying ITS technologies directly to transit vehicles.

SMR - Special Mobile Radio. 900400 mHz band. Privately owned.

SOCRATES - System of Cellular Radio for Traffic Efficiency and Safety. DRIVE project which is developing the techniques for using digital cellular telephony as the basic communications medium for transmitting traffic information within Europe's Integrated Road Transport Environment (IRTE). Includes the West Sweden Field Trial in 1991. Major participants are Philips and Bosch. Will supply CARIN and TravelPilot systems with traffic information. Continued in DRIVE II to maintain progress towards a pan-European traffic information and communications system.

SOCRATES Kernel - Name for DRIVE I SOCRATES consortium in DRIVE II. Has overall responsibility for coordinating SOCRATES developments in pilot projects.

Software - Various programs to facilitate the efficient operation of the system. Such software items include various assemblers, generators, subroutines, libraries, compilers, operating systems, and application programs.

Spatial Data Transfer Standard (SDTS) - U.S. federal database information interchange standard for geograhphic databasees. Provides specifications for digital spatial data transfer, data transfer encoding, and definition of spatial features and attributes.

Spread Spectrum - Type of radio transmission. Signal is spread over excess bandwidth by means of a special code signal and received by synchronizing the data and receiver with the same code.

Standard Positioning Service (SPS) - Civilian Transportation Improvement Program.

STP - Surface Transportation Program. A federal program which funds tansportation projects.

Strategic Highway Research Program (SHRP) - A research program on highway materials, pavement performance, structures, and operations funded by FHWAand AASHTO, and administered by TRB.

Submaster Controller - A controller assembly which receives command from a master controller assembly and effects changes in timing plans to dsecondary controller assemblies.

Surveillance - The monitoring of traffic perfomance and control system operation.

Sydney Coordinated Adaptive Traffic System (SCATS) - Australian computer-based real-time traffic signal control system.

Sync Pulse - A pulse generated from a central point that provides a common time base to all coordinated traffic controller units and which is used to provide a smooth flow of traffic through coordinated intersections.

Synchronous Controller Unit - A controller unit in which the timing mechanishm is controlled by and dependent on a suitable frequency standard such as the frequency standard such as the frequency of the alternating-current source.

System Status - A display or printout of the operational condition of each monitored unit in the system.

TAC - (1) Transportation Association of Canada. (2) Traffic Advisory Center. (3) Transportation Advisory Center. Used in DIRECT.

TARDIS - Traffic and Roads-DRIVE Integrated Systems. A DRIVE project to establish common functional specifications for sysems that are not wholly vehicle-based and that depend on communication between vehicles and roedside infrastructures. Includes investigating sthe possibility of combining communicatio for route guidance with that for automatic debiting.

TCC - Traffic Control Center.

TDM - Transportation Demand Management. An attempt to reduce demand for transportation through various mean, such as encouraging he use of high occupancy vehicles.

TeleMap - Traveler information system providing information via telephone and fax. Offered by Wayfinder Systems in cooperation with the American Auto Association.

Telemetering, Telemetry - The automatic transmission of data over long distances.

Third-Generation Control (3-GC) - Online timing-plan generation wherein timing plans will be updated on a cycle-by-cycle basis or some comparable time frequency. It is envisioned that it will be a significant advance in real-time dynamic control. The requirement of a constant or background cycle will probably by eliminated. More numerous and more sophisticated detectors will probably be required, along with considerabley more complex software.

Teletrac - AVL system for emergency and corporate vehicle and stolen vehicle location.

Test Site West Sweden - TSWS. Operated by the Swedish National Road Administration in Gothenberg, Sweden and its environs. Its mission is to create a system envrionment for testing RTI in a realistic traffic context.

TIGER files - Topologically Integrated Geographic Encoding & Referencing.

Time Division Multiplexing (TDM) - A technique for transmitting several different messages over one pair of wires by dividing a fixed interval of time into several time slots in which a discrete message is sent in each time slot.

TIP - Transportation Improvement Plan. A MPO program for transportation projects, developed jointly with the state for a 3-7 year period.

TIS - Traveler Information System.

TISC - Travtek Information Service Center.

TMC - (1) Traffic Message Channel (radio). (2) Transportation Management Center.

TMOC - Traffic Management Operation Center.

TOC - Taffic Operations Center.

Traffic Detector - A device located in or near the roadway, which is acted upon directly by a vehicle to create a usable pulse to an intersection control device.

Traffic-Responsive System - A system in which a master controller (analog or digital) either selects or computes signal timing based on the real-time demands of traffic as sensed by vehicle detectors.

Traffic Control – Regulation, warning, and guidance of traffic for the purpose of improving the safety and efficiency of traffic flow.

Traffic Operations Center - TOC. Center used to collect, analyze, and disseminate dynamic traffic information for rapid incident detection and response.

Transceiver - A communications device used both to transmit and receive information. A transmitter and receiver on common chassis.

TRANSCOM - Transportation Operations Coordinating Committee.

Transport Canada - Canadian Federal Ministry of Transportation.

Transportation Resources Processing System (TRIPS) - An audiotex/videotex-based ATIS in suburban California.

Transportation Research Board (TRB) - Part of the National Academy of Science, National Research Council. Serves to stimulate, correlate, and make known the findings of transportation research.

Transportation Operations Coordinating Committee (TRANSCOM) - An ETTM project for managing a heavily traveled corridor between northern New Jersey and New York City.

TRANSYT - An offline traffic signal timing optimization program developed in England. TRANSYT-7F was developed under Federal Highway Administration sponsorship.

Travel Demand Management - TDM.

TravelPilot - An enhanced version of the Etak Navigator marketed by Bosch using CD-ROM for map storage. Used in PANDORA and Pathfinder.

TrayLink - A Guidstar project. Interrelated AVL and ATIS system to be used in the Twin Cities in Minnesota.

TRB - Transportation Research Board.

TRRL - Transport and Road Research Laboratory. A UK organization for RTI research.
TVC - Traffic Vision Center. The integrated traffic management and traveller information system for the Tampa Bay, Florida metropolitan area.

TSS - Traffic Signal System.

UMTRI - University of Michigan Transportation Research Institute.

United States Council for Automotive Research (USCAR) - Umbrella consortium formed by Chrysler, Ford, and General Motors to oversee the activities of existing research consortiums.

User Services - Services available to users (drivers) of an ITS equipped roadway, as set forth by ITS America. The 29 services are arranged in 7 groups as follows:

(1) Travel and Transportation Management, En-Route Driver Information; Route Guidance; Traveler Services Information; Traffic Control; Incident Management; and Emissions Testing and Mitigation. (2) Travel Demand Management, Pre-Trip Travel Information;

Ride Matching and Reservation; Demand Management; and Operations. (3) Public Transportation Operations, Public Transportation Management; En-Route Transit Information; Personalized Public Transit; and Public Travel Security. (4) Electronic Payment, Electronic Payment Services. (5) Commercial Vehicle Operations, Commercial Vehicle Electronic Clearance; Automated Roadside Safety Inspection; On-Board Safety Monitoring; Commercial Vehicle Adminstrative Processes; Hazardous Materials Incident Response; and Commercial Fleet Management. (6) Emergency Management, Emergency Notification and Personal Security; and Emergency Vehicle Management. (7) Advanced Vehicle Control and Safety Systems Longitudinal Collision Avoidance; Lateral Collision Avoidance; Intersection Collision Avoidance; Vision Enhancement for Crash Avoidance; Safety Readiness; Pre-Crash Restraint Deployment; and Automated Highway Systems.

USGS - United States Geological Survey.

UTCS - Urban Traffic Control System. A software package used for controlling the timing of traffic signals in an urban road network; developed by the Federal Highway Administration and used by most local traffic engineering departments in the United States.

Utility/Cost Analysis - An evaluation procedure used for analyzing the ability of a traffic control system to perform its function in comparison to its cost.

UTMS - Universal Traffic Management System.

V/C - Volume/Capacity Ratio.

Variable Message Sign (VMS) - Used in ATMS and ATIS. Also called CMS (Changeable Message Sign).

Vehicle/Roadside Communications (VRC) - Used in ETTM, AVI, CVO, and ATMS. Technologies include transponders, readers, cellular telephone, and beacons, among others.

Vehicle On-Board Radar (VORAD) - Experimental low-powered radar unit to support collision avoidance.

VIC - Vehicle Inter-communication. DRIVE project. Objective is to specify protocols for real-time vehicle-to-vehicle communication, with possible AVCS applications.

Video Display Terminal (VDT) - Used by some manufacturers to designate the ocminatin of the CRT display with a keyboard.

VIGIL - An automatic incident and congestion detection system that uses video monitoring on selected sections of roadway to project traffic conditions over the entire roadway.

VITA - European specifications for electronic toll collection (ETC).

VMS - Variable Message Signs. Highway signs which can change the message they display.

Voice-Grade Lines - A channel suitable for transmission of speech, digital, or analog data, or facsimile, generally with a frequency reange of about 300-3,000 Hz.

Volume-Density Controller - A type of actuated controller which has added inital and gap-reduction timing features.

WAN - Wide Area Network. A method of connecting several computers together in a wide geographic area using fiber optic cable.

WARC - World Administrative Radio Conference.

Way-to-Go - A hand-held ATIS device.

WCC - Westchester Commuter Central. A traffic management center operated by Metro Traffic Control in Westchester County, New York.

Wide Area Vehicle Monitoring (WAVM) - An application of satellite communications and navigation technologies for automatic vehicle location (AVL), automatic vehicle indentification (AVI) and two-way communications. Originated by Ontario Ministry of Transportation and produced in cooperation with the private sector. Introduced commercially as Road KIT.

Wide-Band Channel - A channel having a bandwidth greater than that of voice-grade channel. Wideband channels having bandwidths from 50,000 Hz to over one million Hz (a video channel are available but not in common use in traffic systems).

Word Length - (1) The number of bits in a computer word. In a given computer, the number may be constant or variable. (2) The number of usable storage bits in a computer word.

Word - A group of consecutive bits which occupy one processor memory location and most frequently (but not always) are used in a standard computer instruction or operand.

World Geodetic System 1984 (WGS-84) - Standard, widely accepted scheme for laying out longitude and latitude lines on the globe that attemts to compensate for the earth's irregularities of shape. Used by GPS systems.