GCM

Gary - Chicago - Milwaukee ITS Priority Corridor

Corridor Transportation Information Center

System Glossary
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1 INTRODUCTION

The following definitions, abbreviations and acronyms are generated from the System Definition Document (Document #9931.GCM), the Interface Control Specification (Document #9932.GCM), and the Requirements Specification (Document #9933.GCM). They are meant to serve as the C-TIC standards for these and all future documentation. Also included are acronyms and definitions used in the ITS, transportation and communication industries.

2 DEFINITIONS

This section contains definitions of terms used throughout the C-TIC documents.

Acceptance Criteria - The criteria a system or component must satisfy in order to be accepted by a user, customer, or other authorized entity. (See IEEE Std 610.12-1990.)

Acceptance Testing - Formal testing conducted to determine whether or not a system satisfies its acceptance criteria and to determine whether or not to accept the system. (See IEEE Std 1012-1986[12].)

Advanced Driver Information Systems (ADIS) - Vehicle features that assist the driver with the planning, perception, analysis, and decision-making.

Advanced Public Transportation Systems (APTS) - Application of ITS technology (electronic, computer and telecommunications) to public transportation services in order to improve utilization and performance of these services.

Advanced Traffic Management Systems (ATMS) - Regional systems aimed at optimizing traffic flow for a set of roads or the entire region. Elements include sensors to monitor traffic flow for a set of roads or the entire region, centrally programmable traffic lights, automated highway signs, computers and telecommunications technology.

Advanced Traveler Information Systems (ATIS) - A collection of developed technologies aimed at providing real time information about traffic conditions, schedules and routes.

Algorithm - (1) A finite set of well-defined rules for solution of a problem in a finite number of steps; for example, a complete specification of a sequence of arithmetic operations for evaluating sine *x* to a given precision. (2) Any sequence of operations for performing a specific task. (See IEEE Std 610.12-1990.)

Algorithm Analysis - The examination of an algorithm to determine its correctness with respect to its intended use, to determine its operational characteristics, or to understand it more fully in order to modify, simplify, or improve it.

Alias - (1) An additional name for an item (2) An alternate label. For example a label and one or more aliases may be used to refer to the same data element or point in a computer program.

Arterial Roadway - See "Functional Classification."

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

Audit - An independent examination of a work product or set of work products to assess compliance with specifications, standards, contractual agreements, or other criteria. (See IEEE Std 610.12-1990.)

Automatic Vehicle Identification (AVI) - 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.

Automatic Vehicle Location (AVL) - A computerized system that tracks the current location of vehicles in a

fleet. It is used to assist in applications such as dispatching.

Automatic Vehicle Locating and Monitoring (AVLM) - System designed to automatically manage bus transit system using on-board bus electronics and radio communications technology. The central computer is equipped to record and provide real time schedule and other operational information.

Baud - Unit of signal frequency in signals per second. Not synonymous with bits per second since signals can represent more than one bit. Baud equals bits per second only when the signal represents a single bit.

Block Diagram - A diagram of a system, computer, or device in which the principal parts are represented by suitably annotated geometrical figures to show both the functions of the parts and their functional relationships. (See IEEE Std 610.12-1990.)

Borman Traffic Management Center - The centralized operations center for passing data to the C-TIC from Indiana. This center is located along the Borman Expressway (I-80/I-94) in Northwest Indiana.

Calendar Day - Consecutive days, including Saturday, Sunday and Holidays.

Chicago Area Transportation Study (CATS) - The electronic network description file supplied by CATS. This file is used by the TRF group along with the MIF file from Motorola to build the ANR file.

Cellular *999 - Motorist information and retrieval service operated by the Illinois Tollway Authority to obtain traffic condition information from motorists with cellular phones.

Chicago Transportation Authority (CTA) -

Client - (1) One of two components comprising Sun's Network File System (NFS.) The system includes a networked microprocessor-based host (called the "Server") that handles the bulk of the processing, and one and more desktop computers (called the "Clients") providing the interface but little of the processing. (2) A software component which uses a defined interface to access the specialized features of a server. (Also see "Server" and "Client-Server.")

Client-Server - A computer architecture in which the tasks required to execute an application are distributed among computer components according to each component's suitability to perform the task.

Closed Loop Signal System (CLSS) - A traffic signal control system which has two-way communication between a master traffic controller and a remote location, usually the traffic engineer's office. The master traffic controller also communicates with numerous local traffic signal controllers. The maximum number of local traffic controllers in the system depends on the manufacturer.

Closed Loop Signal System Connection - The connection from the master of a closed loop traffic signal system to the TIC.

Collector Road - See "Functional Classification."

COM Center - See "Communications Center."

Communications Center - The IDOT District 1 Operations and Communications Center. The Center is the operations hub of the District with the primary responsibility of "calling out" the appropriate personnel and

coordinating their actions by using up-to-the-minute information from various agencies. The Center operates an extensive highway information system serving major interstates, arterials and secondary roads maintained by IDOT District 1. The system includes Highway Advisory Radio, handling of incident reports and dispatch for IDOT maintenance vehicles, including Minutemen courtesy patrol and snow removal.

Communications Center Connection - The connection from the IDOT Communications Center to the C-TIC to allow for transfer to and from the C-TIC of information regarding incidents.

Component - One of the parts that make up a system. A component may be hardware or software and may be subdivided into other components. (See IEEE Std 610.12-1990.)

Correctness - (1) The degree to which a system or component is free from faults in its specification, design, and implementation. (2) The degree to which software, documentation, or other items meet specific requirements. (3) The degree to which software, documentation, or other items meet user needs and expectations, whether specified or not. (See IEEE Std 610.12-1990.)

Data - (1) A representation of facts, concepts, or instructions in a manner suitable for communication, interpretation, or processing by human or by automatic means. (2) Sometimes used as a synonym for documentation. (See IEEE Std 610.12-1990.)

Data Dictionary - (1) A collection of the names of all data items used in a software system, together with relevant properties of those items; for example, length of data item, representation, etc. (2) A set of definitions of data flows, data elements, files, data bases, and processes referred to in a leveled data flow diagram set.

Data Flow Diagram - A diagram that depicts data sources, data sinks, data storage, and processes performed on data as nodes, and logical flow of data as links between the nodes. (See IEEE Std 610.12-1990.)

Data Structure - A physical or logical relationship among data elements, designed to support specific data manipulation functions. (See IEEE Std 610.12-1990.)

Database - A collection of interrelated data stored together in one or more computerized files. (See IEEE Std 610.12-1990.)

De Leuw, Cather & Company (DCCO) - De Leuw, Cather & Company is providing system engineering services to IDOT and is responsible for system requirements, integration and testing on the GCM C-TIC project.

Design Requirement - A requirement that specifies or constrains the design of a system or system component. (See IEEE Std 610.12-1990.)

Design Specification - A document that describes the design of a system or component. Typical contents include system or component architecture, control logic, data structures, input/output formats, interface descriptions and algorithms. (See IEEE Std 610.12-1990.)

Detailed Design - (1) The process of refining and expanding the preliminary design of a system or component to the extent that the design is sufficiently complete to be implemented. (2) The result of the process in (1). (See IEEE Std 610.12-1990.)

Document - (1) A medium, and the information recorded on it, that generally has permanence and can be read by a person or machine. (2) To create a document as in (1). (See IEEE Std 610.12-1990.)

Documentation Work Plan - A subset of the Project Management Plan. It is intended to identify those documents necessary to provide technical and procedural guidelines for the design, operation and testing of the GCM C-TIC.

Dual Incidence Matrix Encoded (DIME) files - Computer-based map files created under contract to the U.S. Census Bureau and used for the 1980 census. The comparable files for the 1990 census are called the TIGER files.

Electronic Toll and Traffic Management (ETTM) - Uses AVI to electronically collect tolls, enabling vehicles to pay tolls with less delay at tollbooths.

Electronic Toll Collection (ETC) - Advanced toll collection systems using transponder/toll plaza telecommunications devices such as AVI or ETTM systems. Goals of using ETC include increased toll lane throughput. Encompasses both read only and read/write systems and uses short range communications between vehicles roadside.

Error - The difference between a computed, observed, or measured value or condition and the true, specified, or theoretically correct value or condition. Systematic Error: A constant error or one that varies in a predictable manner (e.g., equipment misalignment.) Random Error: An error that varies in a random fashion (e.g., an error resulting from radio static.) (See IEEE Std 610.12-1990.)

Escape Clausing - A method of processing data in which groups or sequences of data are analyzed to determine whether or not the data shall continue with the transmission process.

Ethernet - A defacto standard LAN using coaxial cables and CSMA/CD (Carrier Sense Multiple Access/Carrier Detect.) Similar to an IEEE 802.3 LAN.

Evaluation Plan - Provides a comprehensive set of procedures to evaluate the effectiveness of the GCM C-TIC ITS approach. Intended to guide the evaluation of results after the system testing activities have been concluded.

Expressway - See "Functional Classification - freeway."

External Interface - The software and hardware required to provide communications between a system external to the GCM C-TIC.

Failure - The inability of a system or component to perform its required functions within specified performance requirements. (See IEEE Std 610.12-1990.)

Fast-Trac - Oakland County, Michigan field test of ATMS and ATIS.

Fault - (1) A defect in a hardware device or component; for example, a short circuit or broken wire. (2) An incorrect step, process, or data definition in a computer program. (See IEEE Std 610.12-1990.)

Federal Highway Administration (FHWA) - One of the funding Parties.

Firmware - The combination of a hardware device and computer instructions and data that reside as read-only software on that device. (See IEEE Std 610.12-1990.)

Flowchart - A control flow diagram in which suitably annotated geometrical figures are used to represent operations, data, or equipment, and are now are used to indicate the sequential flow from one to another. (See IEEE Std 610.12-1990.)

Freeway - See "Functional Classification."

Full Duplex - Simultaneous two-way independent transmission in both directions. Also referred to as simply "duplex."

Functional Classification - Roadways are grouped into the following categories for the purpose of design, funding and access:

- **Local**. Local roads comprise of all facilities not included in one of the higher classifications. They permit direct access to residential properties, abutting lands and connection to higher classifications of roadways. It offers the lowest mobility and usually contains no bus routes. Service to through traffic movement usually is deliberately discouraged.

- **Collector**. A collector street provides both land access service and traffic circulation within residential neighborhoods and commercial and industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods distributing trips from the arterials through the area to their ultimate destination.

- **Arterial**. An arterial serves the major centers of activity, high traffic volume corridors and supplements freeways for long trip desires. Arterials include but are not restricted to partially controlled access facilities. Arterials provide for a high degree of mobility, while providing access to commercial and industrial areas. Ideally, an arterial does not penetrate residential neighborhoods.

- **Freeway**. A freeway has full control of access where the right of owners or occupants of abutting land to access a highway is fully or partially controlled by public authority. Full control of access means that the authority to control access is exercised to give preference to through traffic by providing access connections with selected public roads only and by prohibiting crossings at grade or direct private driveway connections. Freeways may be toll or non-toll facilities. In the State of Illinois, "expressway" is the legal term for what is the national definition of "freeway."

Functional Design - (1) The process of defining the working relationships among the components of a system. (2) The result of the process in (1). (See IEEE Std 610.12-1990.)

Functional Requirement - A requirement that specifies a function that a system or system component must be able to perform. (See IEEE Std 610.12-1990.)

Functional Specification - A document that specifies the functions that a system or component must perform. Often a part of the requirements specification. (See IEEE Std 610.12-1990.)

Gary-Chicago-Milwaukee (GCM) Corridor - ITS priority corridor containing 16 counties and 2,500 miles of roadways which connect the three cities.

General and Detail Design Specification - Provides increased detail describing the modular and functional structure of the project. Outlines the interfaces to the system environment for use during the programming phase of the project and serves as the controlling technical baseline for coordination with the other groups working on

the GCM C-TIC.

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

Global Positioning System (GPS) - A government-owned system of 24 earth-orbiting satellites that transmit data to ground-based receivers. GPS provides extremely accurate latitude and longitude ground position in WGS-84 coordinates. However, for U.S. strategic defense reasons, deliberate error (called selective availability) is introduced into the code that is provided for civilian users.

Half Duplex - A circuit designed for transmission in either direction but not both directions simultaneously.

High Occupancy Vehicle (HOV) - Any vehicle, bus, van, or car with multiple riders. An HOV lane refers to a roadway lane reserved for use by HOV's.

Highway - 1) A general name referring to roadways of various functional and design classification types including freeways, expressways, arterials and collectors. 2) A legal term describing any public way used for vehicular travel. The term "highway" includes rights-of-way, bridges, drainage structures, signs, guard rails, protective structures and all other structures and apparatus necessary for vehicular traffic.

Highway Advisory Radio (HAR) - A traffic information broadcasting system used in the U.S. Drivers are alerted to tune their car radios to a specific channel in order to receive transmitted information.

Highway Users Federation for Safety and Mobility (HUFSAM) - A Washington-based coalition of 400 corporate and association members (plus some 2,000 individual members) with affiliated groups in each state and 14 regional offices around the country. Its main goal is to serve the common interests of business and industry in advancing highway transportation safety and efficiency. HUFSAM was instrumental in the formation of ITS AMERICA. The Highway/Vehicle Technology Committee of HUFSAM, composed of representatives from major U.S. transportation companies, has been charged with identifying the value of ITS and defining how such systems can be effectively utilized.

Historical Travel Time Data - Roadway travel times originally based on CATS or other previous studies.

Illinois Department of Transportation (IDOT) - IDOT is responsible for providing project management for the GCM C-TIC and for operating the C-TIC.

Illinois State Toll Highway Authority (ISTHA) - The organization which controls the tollway system in Illlinois. This toll system will provide travel time information to the C-TIC based on readings from their I-Pass electronic toll collection system.

Intelligent Transportation Systems (ITS) - Application of electronic computer and telecommunications technology to add efficiency to monitor vehicle use and capacity of existing roadways. ITS goals include alleviating traffic congestion, reducing accidents, using energy more efficiently, reducing emissions, and increasing ridership and bus transit.

Interface - (1) A shared boundary across which information is passed. (2) A hardware or software component that connects two or more other components for the purpose of passing information from one to the other. (3) To connect two or more components for the purpose of passing information from one to the other. (4) To serve as a connecting or connected component as in (2). (See IEEE Std 610.12-1990.)

Interface Control Specification Document (ICS) - A document prepared on all critical interfaces to specify physical connectivity protocols, message content, message structure, timing and control methodology.

Interface Requirement - A requirement that specifies an external item with which a system or system component must interact, or that sets forth constraints on formats, timing, or other factors caused by such an interaction. (See IEEE Std 610.12-1990.)

Interface Specification - A document that specifies the interface characteristics of an existing or planned system or component. (See IEEE Std 610.12-1990.)

Interface Testing - Testing conducted to evaluate whether systems or components pass data and control correctly to one another. (See IEEE Std 610.12-1990.)

Intermodal Surface Transportation Efficiency Act (ISTEA) - Public Law 102-240, Dec. 18, 1991. The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 provides the primary federal funding ($151B) for all surface transportation programs in the U.S. for the six (6) year period 1992-1997. This legislation includes the Intelligent Vehicle-Highway Systems Act of 1991 (Title VI, Part B.)

Internal Interface - The software and hardware required to provide communications between systems internal to the C-TIC.

Internet - A network of interconnected computers used by the C-TIC to provide traffic information to interested parties.

Kiosk - Computer terminal display located in public area such as shopping center airport, office complex, etc., giving real-time traffic information for the purpose of trip/route planning. May also include information on services, facilities, etc. . ..

Layer - A characteristic of a representation of the road network (which has no everyday informal analog) which simultaneously contains all information present at the given level and all levels above it. Layer n contains all segments and super-segments at level n and all levels above n. Hence, the primary difference from "level" is that it includes the simple segments creating the super-segment, as well as the super-segment. (Also see "Level.")

Level - The lower level representations have the most detail which the higher levels have progressively less detail. A level n network is constructed from segments of rank n and above. The segments on the higher level have been constructed by chaining together shorter segments of identical rank. These chained together segments are defined to be super- segments. The primary difference from "layer" is that the higher levels do not contain the simple segments creating the super-segment. (Also see "Layer" and "Rank" definitions.)

Level of Documentation - A description of required documentation indicating its scope, content, format and quality. Selection of the level may be based on project cost, intended usage, extent of effort, or other factors.

Link - See "Traffic Link."

Locale - A named polygon which defines a geographical area.

Local Road - See "Functional Classification."

Location - Defines a point on the road network. It is specified as a particular road segment a relative distance

along the segment, and the right or left side of the segment.

LORAN-C - Land-based radio navigation system operated by the U.S. Coast Guard as a public service. This hyperbolic system uses signals broadcast from land-based radio towers.

Major Road - A major road is an expressway, highway, or arterial road designed for heavy thoroughfare. (Also see "Functional Classification.")

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

Metra -

Modem - A device that converts serial digital data from a transmitting terminal to a signal suitable for transmission over a telephone line to a receiving terminal.

Monitor Traffic Management Center -

National Highway Traffic Safety Administration (NHTSA) - A branch of the U.S. Department of Transportation that focuses on safety and standards.

Navigable Database - A digital street map database containing sufficient detail and scope to support driver and vehicle guidance applications (e.g., the generation by computer of a high quality driving route between two stated addresses.)

Navigation - The determination of the vehicle's position and direction of travel, utilizing information provided by GPS, or another internal position device and computerized maps.

Node - (1) In a diagram, a point, circle, or other geometric figure used to represent a state, event or other item of interest. (See IEEE Std 610.12-1990.) (2) A node is the intersection and/or interchange where two or more roadways meet or where a roadway begins or ends. For example, the intersection of Milwaukee Avenue and Lake-Cook Road is a node.

- **Node - Interchange**. A node specified to represent the physical nature of an interchange (e.g., layout of ramps) for route guidance purposes and to define a freeway or expressway segment and link.

- **Node - Intersection**. A node which represents the intersection of roadways that are not grade separated.

Null Modem Cable - A device which interfaces between a local peripheral that normally requires a modem and the computer near it that expects to drive a modem and interface to that device; an imitation modem in both directions.

Object Oriented Analysis (OOA) - Attempts to define object classes associated with the objects and the relationship between different objects and classes in the systems problems domain. OOA attempts to understand the problem domain and what the systems responsibilities are for the problem domain.

Pace -

Parity - A check bit defined to check if the correct number of bits are set for that character. Examples- odd, even, disabled (or no.)

Performance - The ability of a system or subsystem to perform its functions.

Performance Evaluation - The technical assessment of a system, subsystem or component to determine how effectively objectives have been achieved.

Performance Requirements - A requirement that imposes conditions on a functional requirement. (See IEEE Std 610.12-1990.)

Performance Specification - A document that specifies the performance characteristics that a system or component must possess. (See IEEE Std 610.12-1990.)

Position - The latitude, longitude, and altitude of a point on the surface of the earth.

Quality Assurance (QA) - (1) A planned and systematic pattern of all actions necessary to provide adequate confidence that an item or product conforms to established technical requirements. (2) A set of activities designed to evaluate the process by which products are developed or manufactured. (See IEEE Std 610.12-1990.)

Quality Control (QC) - The procedures used for Quality Assurance.

Rank - An attribute of the segment identifying its place in the road network hierarchy. The lowest ranking segments are residential, the highest ranking segments are interstate highways. Rank is an attribute of a roadway which indicates its functional classification. There are four (five for national implementation) road ranks defined.

Road ranks are defined (based on AASHTO classifications) and have the following general characteristics:

- **rank 0.** (Corresponds to "Local" Functional Classification.) Local roads which provide land access to individual sites. These are low capacity/volume, low speed, local roadways (e.g., residential streets.)

- **rank 1**. (Corresponds to "Collector" Functional Classification.) Collector roads which provide through movement and land access to local areas. These are moderate capacity/volume, low speed, through roadways.

- **rank 2**. (Corresponds to "Arterial" Functional Classification.) Arterial roads which provide through movements between CBDs and some land access to secondary generators. These are high capacity/volume, moderate speed, extended roadways.

- **rank 3**. (Corresponds to "Freeway" Functional Classification.) Freeways which provide through movement exclusively between CBDs and major generators. These are high capacity/volume, high speed, wide area roadways.

- **rank 4**. (Corresponds to "Freeway" Functional Classification.) High capacity/volume, high speed, major routes between large cities extending outside the test area. (For national implementation of ITS projects.)

Regional Transportation Authority -

Requirement - (1) A condition or capability needed by a user to solve a problem or achieve an objective. (2) A condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed documents. (3) A documented representation of a condition

or capability as in (1) or (2). (See IEEE Std 610.12-1990.)

Requirements Specification - A document that specifies the requirements for a system or component. Typically included are functional requirements, performance requirements, design requirements and development standards. (See IEEE Std 610.12-1990.)

Road Network - A road network is a collection of interconnected roadways. Typically, a road network covers a limited geographical area such as the Chicago Metropolitan area, but, it may cover a larger area.

Road Segment - A segment is the section of roadway between two adjacent nodes in a given road network layer. A segment at a higher network layer can be made of more than one segment at a lower layer. A road segment may contain zero or more shape points.

Roadway - A roadway is a continuous length of road having the same name. An example of a roadway is Dundee Road or Lake-Cook Road north of Chicago. It should be noted that two or more roadways may share the same section of road. For example, Northwest Highway is a roadway contained within the roadway named "US 14." Some roadways may not have any specified beginning or ending points due to their unusual topological nature such as Circular Drive, Mobius Avenue, Kleins Boulevard, or Eschers Lane.

Segment - A continuous point of a road which connects two intersections/nodes.

Selective Availability - A technique of deliberately introducing inaccuracy into GPS broadcasts for civilian applications.

Server - (1) A computer providing a service, such as shared access to a file system, a printer or an electronic mail system to LAN users. Usually a combination of hardware and software. There are variations on the same theme. They are called file servers and print servers. (2) The component in a computer system which will validate the client request for correct parameters and access privileges and then execute the requested task. It may return a message to the client. (Also see "Client" and "Client-Server.")

Shape Points - A node in the Road Segment used to define the curvature or alignment of the roadway.

Simple Link - A simple link is a link formed by a pair of adjacent simple segments. A layer 0 traffic link is a simple link. This is the lowest unit of road length for which a traversal time (measure of impedance) is associated. This concept is primarily used by probe vehicle reporting and route planning.

Simple Segment - A simple segment is a road segment that does not have an intervening node(s) between the defining nodes of the segment at a lower network layer. All segments within layer 0 are simple segments. A simple segment can also exist at a higher layer. In order to determine if a segment is a simple segment, perform an analysis at layer 0 (Is this segment a simple segment at layer 0? If the answer is no, then it is not a simple segment.) Simple segments are used by vehicle positioning to perform map matching. Vehicle positioning always operates at layer 0 of a road network.

Smart Card - An electronic information carrier system that uses plastic cards about the size of a credit card with an imbedded integrated circuit that stores and processes information.

Specification - (1) A document that describes in a complete, precise, verifiable manner, the requirements, design, behavior or other characteristics of a system or system component, and, often, the procedures for determining whether these provisions have been satisfied. (See IEEE Std 610.12-1990.)

Stolen Vehicle Recovery System (SVRS) - Application of AVI/AVLM type technology with non route specific radio navigation tracking systems to allow locating and tracking stolen vehicles.

Stop Bits - The number of bits following a character in a transmission to define the end of a character.

Subsystem - A secondary or subordinate system within a larger system. (See IEEE Std 610.12-1990.)

Super Link - A super link is a link formed by a pair of adjacent super-segments.

Super-Segment - (1) A super-segment is a segment within layer 1, 2, or 3, containing one or more simple segments. A super-segment may also be a simple segment. Super-segments are used to control the amount of detail for purposes of map display, route planning, route guidance and probe vehicle reporting. (2) A generalization of the segment to the higher levels of the network. It is defined to be constructed by chaining together shorter segments of roadways of identical rank.

System - A collection of components organized to accomplish a specific set of functions. (See IEEE Std 610.12-1990.)

Test Phase - The period of time during which the components of a hardware or software product are evaluated and integrated, and the product is evaluated to determine whether or not requirements have been satisfied.

Topologically Integrated Geographic Encoding & Referencing (TIGER) files - Computer-based map files created for the Census Bureau in support of the 1990 census. They contain DIME file data augmented with information for new suburbs and small cities (as of 1987) that were not included in the DIME files.

CorridorTransportation Information Center (C-TIC) - Consisting of the hardware, software, a centralized facility and operations personnel. It communicates to and from external systems.

Traffic Link - A traffic link (or link, for short) is a pair of adjacent segments and its associated data within a given network layer. It should be noted that links are directional. Therefore, for adjacent bi-directional segments, there are two links defined, one in each direction. Physically, a traffic link consists of the portion of road from the detected beginning of a segment to the detected beginning of one of its successor segments.

Traffic Systems Center (TSC) - Operated by IDOT to monitor and control the flow of traffic on expressways within the Chicago area.

Traffic System Center (TSC) Connection - The connection to the IDOT TSC which allows for electronic transfer of information from the TSC to the C-TIC.

Transit Systems -

Travel Technology (TravTek) - A public/private partnership involving the City of Orlando, the Florida DOT, FHWA, General Motors, and the American Automobile Association. An operational test which provided motorists with traffic congestion information, motorist services (yellow pages) information, tourist information, and route guidance information.

User - The person using the specific system referred to.

User Instructions - Documentation conveying to the end user of the system, instructions for using the system

to obtain desired results.

User Operations Manuals - Operating manuals for C-TIC Console Operators and C-TIC Database Users.

Validation - The process of evaluating a system or component during or at the end of the development process to determine whether it satisfies specified requirements. (See IEEE Std 610.12-1990.)

Vehicle Navigation and Information Systems (VNIS) - "Smart Cars" applications for vehicles and route guidance, vehicle location and traffic information displays onboard cars and trucks. Utilizes map databases and ETTM technology.

Verification - (1) The process of evaluating a system or component to determine whether the products of a given development phase satisfy the conditions imposed at the start of that phase. (2) Formal proof of program correctness. (See IEEE Std 610.12-1990.)

Verification & Validation (V & V) - The process of determining whether the requirements for a system or component are complete and correct, the products of each development phase fulfill the requirements or conditions imposed by the previous phase, and the final system or component complies with specified requirements. (See IEEE Std 610.12-1990.)

Verification & Validation Plan (V & V Plan) - C-TIC document # 99XX.

Verification & Validation Team (V & V Team) - The personnel assembled to develop and implement a Verification and Validation Plan.

Walk Through - A static analysis technique in which a designer or programmer leads members of the development team and other interested parties through a segment of documentation or code, and the participants ask questions and make comments about possible errors, violation of development standards, and other problems. (See IEEE Std 610.12-1990.)

Week - Seven (7) days, Monday to Sunday.

Work Day - Monday, Tuesday, Wednesday, Thursday, Friday excluding legal holidays acknowledged by the State of Illinois.

XON/XOFF - Control characters used for data flow control.

3 ABBREVIATIONS AND ACRONYMS

This section contains the acronyms used throughout the C-TIC documents.

AASHTO - American Association of State Highway Transportation Officials.

ADIS - Advanced Driver Information Systems.

AHAR - Automatic Highway Advisory Radio.

AI - Artificial Intelligence.

ANSI - American National Standards Institute.

APTS - Advanced Public Transportation Systems.

ASCII - American Standard Code for Information Interchange.

ATC - Automated (electronic) Toll Collection.

ATIS - Advanced Traveler Information Systems.

ATMS - Advanced Traffic Management Systems.

AVI - Automatic Vehicle Identification.

AVL - Automated Vehicle Location system.

AVLM - Automatic Vehicle Locating and Monitoring.

CASE Tools - Computer Aided Software Engineering Tools.

CATS - Chicago Area Transportation Study.

CCTV - Closed Circuit TV.

CCVE - Closed Circuit Video Equipment.

CLSS - Closed Loop Signal System.

CMS - Changeable Message Sign.

CRC Bytes - Cyclic Redundancy Check bytes.

CSMA - Collision Sense Multiple Access.

C-TIC - Corridor Transportation Information Center.

CVO - Commercial Vehicle Operations.

DAT - Digital Audio Tape.

DB - DataBase.

DBMS - DataBase Management System.

DCCO - De Leuw, Cather & COmpany.

DCD - Data Carries Detect.

DDD - Detail Design Document #9935.

DIME - Dual Incidence Matrix Encoded files.

DSR - Data Set Ready.

DTE - Data Terminal Equipment.

DTR - Data Terminal Ready.

ERS - Emergency Response Service.

ETC - Electronic Toll Collection.

ETTM - Electronic Toll and Traffic Management.

FCC - Federal Communications Commission.

FHWA - Federal Highway Administration.

GDD - General Design Document #9934.

GIS - Geographic Information System.

GPS - Global Positioning System.

GUI - Graphical User Interface.

HAR - Highway Advisory Radio.

HAZMAT - Hazardous Materials.

HOV - High Occupancy Vehicle.

HUFSAM - Highway Users Federation for Safety and Mobility.

HVAC - Heating, Ventilation, Air Conditioning.

ICS - Interface Control Specification. Document #9932.

IDOT - Illinois Department of Transportation.

IEEE - Institute of Electrical and Electronics Engineers.

INDOT - Indiana Department of Transportation.

ISTEA - Intermodal Surface Transportation Efficiency Act.

ISTHA - Illinois State Toll Highway Authority.

ITE - Institute of Transportation Engineers.

ITS - Intelligent Transportation Systems.

LAN - Local Area Network.

LORAN-C - Long Range Land-based radio navigation system operated by the U.S. Coast Guard as a public service.

LSB - Least Significant Bit.

MOE - Measure of Effectiveness.

MPO - Metropolitan Planning Organization.

NFS - Network File System.

NHTSA - National Highway Traffic Safety Administration.

NWCD - NorthWest Central Dispatch.

OAM - Operations Administration and Maintenance.

OOA - Object Oriented Analysis.

OOD - Object Oriented Design.

PMP - Project Management Plan.

POP - Project Operations Plan.

QA - Quality Assurance.

QC - Quality Control.

RAM - Random Access Memory.

RISC - Reduced Instruction Set Computer.

RMS - Ramp Metering System

RPC - Remote Procedure Call.

RPCGEN Tools - Remote Procedure Call Generation utility.

SAE - Society of Automotive Engineers.

SCADA - Surveillance Control and Data Acquisition.

SSI - Surface Systems Incorporated.

SVRS - Stolen Vehicle Recovery System.

TBD - To Be Determined.

TCP/IP - Transmission Control Protocol/Interface Protocol.

TFHRC - Turner-Fairbank Highway Research Center.

TIGER - Topologically Integrated Geographic Encoding & Referencing files.

TRB - Transportation Research Board.

TravTek - Travel Technology.

TSC - Traffic Systems Center.

TT - Travel Time.

UDP - Universal Data Protocol.

UIC - University of Illinois at Chicago.

UIC-EECS - University of Illinois at Chicago - Electrical Engineering and Computer Science Department.

USDOT - United States Department of Transportation.

V & V - Verification & Validation.

V & V Plan - Verification & Validation Plan.

V & V Team - Verification & Validation Team.

VDS - Video Detection System.

VNIS - Vehicle Navigation and Information Systems.

WIM - Weigh in Motion.

WISDOT - Wisconsin Department of Transportation.