

NSDI Framework Transportation Identification Standard Fact Sheet

Introduction

The NSDI Framework Transportation Identification Standard specifies a conceptual model for uniquely identifying physical road segments that are temporally stable and independent of any cartographic representation, scale, level of detail or network application. These road segments form the building blocks that enable different applications to share geo-spatial and other attribute data about road networks; allow road database developers to maintain their databases through transactional updates; and help contribute to the development of a national framework road database.

How It Works

This is accomplished by decomposing a road network into reference points and segments. A road segment represents a length of roadway. Reference points represent beginning and ending points of road segments or some identifiable feature along the segment like a bridge or railroad crossing. A process for combining the road segments to create topologically connected analytical networks is also specified within this model. The model includes a set of locational descriptors for each road segment and a format for a unique identification code to be assigned to each identified segment. The standard also specifies a process for assigning, modifying and recording road segment identification codes.

Guidelines for selecting and locating the end points of appropriate road segments are included as an informative appendix to the standard. However,

the user of the standard does not have to follow the guidelines to be in conformance with the standard.

The basic Framework Transportation Identification Standard can be extended to cover other transportation networks including railroads, commercial waterways, pipelines, and public transit guideways. Other network layers may require different process standards for assigning and recording identification codes. These additional process standards are not included as part of this initial standard.

Reference points and segments and their relationships to each other, are represented in the standard through a set of tables that are briefly described here. A chart illustrating the relationship between the tables is also included.

FTRP Table

The locations of reference points, and other pertinent information about them, are recorded in the Framework Transportation Reference Point (FTRP) Table. FTRP act primarily as endpoints for road segments. However, some FTRP may represent other transportation features and may occur along the length of a given FTSeg.

FTSeg Table

Sections of roadways are called Framework Transportation Segments (FTSeg) and are defined with an unambiguous beginning and ending FTRP. It is important to note that FTSeg are independent of any particular cartographic display or analytical network. The length of the FTSeg can be as long as the jurisdiction it resides within.

Connectivity Table

The topological relationships between the FTSeg are described in the Connectivity Table. FTSeg may be connected either at their endpoints (terminal connectivity), or somewhere along the length of one (explicit connectivity) or both (implicit connectivity) FTSeg.

Attribute Table

Attributes can be assigned to FTRP and FTSeg through the Attribute Table. The locations of attributes along an FTSeg are represented as a percentage offset along the segment.

Equivalency Table

Compatibility between different networks is achieved through the equivalency table. At points of connectivity between differing representations of the roadway(s) all FTSeg must be capable of connecting to other FTSeg. Equivalence among multiple representations of FTRP and FTSeg can be sustained through the creation of an Equivalency Table that establish analogous relationships between two or more FTRP, or between one FTSeg and another FTSeg (or portion thereof.)

Authority Table

Any organization which takes responsibility for proposing, designating, or working in partnership with other organizations to define FTRP and FTSeg is, for the purposes of this standard, operating as an authority. This table provides important contact information for those contributing data and other information.

The complete standard is available at:

<http://www.bts.gov/gis/fgdc/>

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NSDI Framework Transportation ID Standard
Diagram Of Table Relationships With Linked Fields

