IDENTIFICATION INFORMATION

Data Set Identity: Freight Analysis Framework (FAF) Network
Identification Code: None
Data Set Description: The spatial component of the FAF network is derived from National Highway System Version 2009.11 and contains state primary and secondary roads, National Highway System (NHS), National Network (NN) and several intermodal connectors as appropriate for the freight network modeling. The network consists of over 447,808 miles of equivalent road mileage. The data set covers the 48 contiguous States plus the District of Columbia, Alaska, and Hawaii. The nominal scale of the data set is 1:100,000 with a maximal positional error of ±80 meters.

Theme:
Theme Keyword Thesaurus: None
Theme Keyword: Network

Bounding Coordinates:
West_Bounding_Coordinate: -88.468248
East_Bounding_Coordinate: -84.995385
North_Bounding_Coordinate: 35.005803
South_Bounding_Coordinate: 30.251503

Data Set Citation: “Freight Analysis Framework Network Machine Readable Data Files” were prepared by the Federal Highway Administration Office of Freight Management and Operations, Washington DC, 2010

Data Set Credit: The freight assignment, capacity analysis and modeling portions of “FAF Network” are developed by Battelle Memorial Institute, Columbus, OH.

Use Restrictions: The FAF network, or any portion thereof, can be freely distributed as long as this metadata entry is included with each distribution. The original metadata entry cannot be modified or deleted from any data transfer.

DATA QUALITY INFORMATION

Beginning Date of Information Content: 20101025
Ending Date of Information Content: 20101025

Thematic Quality:
Thematic Accuracy Report: The FAF network retains NHS Version 2009.11 attribute fields of RECTYPE, ORIGID, STFIPS, CTFIPS, SIGN1, SIGNT1, SIGNN1, SIGNQ1, SIGN2, SIGNT2, SIGNN2, SIGNQ2, SIGN3, SIGNT3, SIGNN3, SIGNQ3, LNAME, MILES, FCLASS, RUCODE, STATUS, NHS. All other fields listed in the NHS Version 2009.11 metadata are dropped. The accuracy of these fields is consistent with Version 2009.11 except the MILES attribute values. The accuracy of field “MILES” is unverified and may have distorted during modification of the network for modeling purpose. New fields added to FAF network are, ID, LENGTH, DIR, NN, TRK_RTE and LCV_TYPE. The field “ID” is used to join the freight modeling algorithm variables for assignment as well as assignment outputs for thematic display purpose. The mileage reported in the field “LENGTH” is based on great circle distance.

Logical Consistency Report: All node and link topological relationships and uniqueness of entity IDs are verified by computer algorithm.
Completeness Report: The completed FAF network was delivered to the FHWA on October 2010.

Positional Quality:

*Horizontal Positional Quality*

**Horizontal Positional Accuracy Report:** As reported in the NHS Version 2009.11 metadata, the elements of the NHS have been conflated to the 1:100,000 DLG-3 data set which maintains a nominal accuracy of at least ±80 meters. Where new roads have been added which are not in the DLG-3 database link alignments have been digitized or converted from digital sources acquired from State DOTs with a map scale of at least 1:100,000.

**Spatial Data Organization Information**

**Direct Spatial Reference Method:** Vector

**Point and Vector Object Information:**

**Vector Object Information:**

*SDTS Vector Object Type:* “line, non-planar graph”

*Vector Object Count:* 170,994

**Spatial Reference Information**

**Horizontal Coordinate System Definition:**

*Geographic:*

*Latitude Resolution:* 0.000464

*Longitude Resolution:* 0.000464

*Geographic Coordinate Units:* “Decimal Degrees”

**Status Information**

**Data Set Status:** Available

**Release Date:** 20101025

**Maintenance And Update Frequency:** None

**Lineage**

**Source Information:**

**Source Citation:** “NHS Version 2009.11, Federal Highway Administration, Washington DC, HEP-10

**Source Citation Abbreviation:** NSH V 2009.11

**Beginning Date of Source Currentness:** 20100831

**Source Contribution:** NHS, Interstate, and other arterial highway system, intermodal connectors.

**Process Step:**

**Process_Description:** Update NHS and intermodal connector links. States edge matched and NHS attributes verified.

**Process_Date:** 20101025

**Process_Step:**
DIGITAL METADATA FOR FAF-3.1 RELEASE

Process_Description: Update and integrate intermodal terminals. States geo-location matched and attributes verified.
Process_Date: 20101025
Process_Step:
Process_Description: Modified NHS codes as per direction of the FHWA.
Process_Date: 20101025
Process_Step:
Process_Description: Verified Intermodal terminals.
Process_Date: 220101025
Process_Step:
Process_Description: Modified NHS based on amendments.
Process_Date: 220101025
Process_Step:
Process_Description: Update LCV codes based on FHWA Truck Size and Weight Regulations. Verified with state specific input from DOT website or direct contact.
Process_Date: 220101025
Process_Description: Update National Network (NN) codes based on the information provided to Battelle by the FHWA office of Freight Management and Operation and the information sited under FHWA Truck Size and Weight Regulation Study, 1998.
Process_Date: 220101025
Process_Description: Update truck route restrictions code and include restrictions due to height and hazmat designation using the State data sources, and the Rand McNally truck road atlas.

ENTITY AND ATTRIBUTE INFORMATION

Entity And Attribute Overview: Data dictionaries for FAF network link, freight assignment output and capacity analysis output are available in the Freight Analysis Framework Methodology Document.

<table>
<thead>
<tr>
<th>ID</th>
<th>Integer</th>
<th>Unique Identification Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LENGTH</td>
<td>Number</td>
<td>Length of arc (miles)</td>
</tr>
<tr>
<td>DIR</td>
<td>Number</td>
<td>Freight Direction for Freight Modeling</td>
</tr>
<tr>
<td>0 Both Direction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Link AB Direction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1 Link BA Direction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RECTYPE</td>
<td>Character</td>
<td>Identifies Arc File records, valid value ‘L’</td>
</tr>
<tr>
<td>VERSION</td>
<td>Character</td>
<td>The Version ID is used to maintain consistency across data files containing alternate releases of the FAF. The Version Code consists of a leading Version Number (Main release) and a trailing number (modification number), thus, 3.1 describes Major Release 3 and modification number 1.</td>
</tr>
<tr>
<td>STATE</td>
<td>Character</td>
<td>State Abbreviation</td>
</tr>
<tr>
<td>STFIPS</td>
<td>Numeric</td>
<td>State FIPS Code</td>
</tr>
<tr>
<td>CTFIPS</td>
<td>Numeric</td>
<td>3 digit County FIPS Code</td>
</tr>
</tbody>
</table>
SIGN1    Character  Designated primary Sign Route for the arc.

SIGNT1   Character  Describes the type of the sign route.
Attribute_Domain_Values:
  Enumerated_Domain_Value: 'I'
  Enumerated_Domain_Value_Definition: Interstate
  Enumerated_Domain_Value: 'U'
  Enumerated_Domain_Value_Definition: US Route
  Enumerated_Domain_Value: 'S'
  Enumerated_Domain_Value_Definition: State Route
  Enumerated_Domain_Value: 'O'
  Enumerated_Domain_Value_Definition: Off-Interstate Business Marker
  Enumerated_Domain_Value: 'C'
  Enumerated_Domain_Value_Definition: County Route
  Enumerated_Domain_Value: 'T'
  Enumerated_Domain_Value_Definition: Township
  Enumerated_Domain_Value: 'M'
  Enumerated_Domain_Value_Definition: Municipal
  Enumerated_Domain_Value: 'P'
  Enumerated_Domain_Value_Definition: Parkway or Forest Route Marker
  Enumerated_Domain_Value: 'N'
  Enumerated_Domain_Value_Definition: None of the above
  Enumerated_Domain_Value: (blank)
  Enumerated_Domain_Value_Definition: Not signed or not applicable

SIGNN1    Character  Contains the actual sign route numbers. Using HPMS standards,
an optional directional indicator (N, S, E, W) can also be used as
part of this field.

SIGNQ1    Character  Sign Route Qualifier Record which is used to qualify the sign route
description follows the Sign Route Number.
  Enumerated_Domain_Value: 'A'
  Enumerated_Domain_Value_Definition: Alternate Route
  Enumerated_Domain_Value: 'B'
  Enumerated_Domain_Value_Definition: Business Route
  Enumerated_Domain_Value: 'P'
  Enumerated_Domain_Value_Definition: By Pass
  Enumerated_Domain_Value: 'S'
  Enumerated_Domain_Value_Definition: Spur
  Enumerated_Domain_Value: 'L'
  Enumerated_Domain_Value_Definition: Loop
  Enumerated_Domain_Value: 'F'
  Enumerated_Domain_Value_Definition: Proposed (future)
  Enumerated_Domain_Value: 'D'
  Enumerated_Domain_Value_Definition: Temporary (detour)
DIGITAL METADATA FOR FAF-3.1 RELEASE

Enumerated_Domain_Value: 'T'
Enumerated_Domain_Value_Definition: Truck Route

Enumerated_Domain_Value: 'N'
Enumerated_Domain_Value_Definition: None of the above

Enumerated_Domain_Value: (Blank)
Enumerated_Domain_Value_Definition: No Qualifier, not signed, or not applicable

SIGN2 Character contains the designated secondary Sign Route for the arc.

SIGNT2 Character Describes the type of the sign route.

Enumerated_Domain_Value: 'I'
Enumerated_Domain_Value_Definition: Interstate

Enumerated_Domain_Value: 'U'
Enumerated_Domain_Value_Definition: US Route

Enumerated_Domain_Value: 'S'
Enumerated_Domain_Value_Definition: State Route

Enumerated_Domain_Value: 'O'
Enumerated_Domain_Value_Definition: Off-Interstate Business Marker

Enumerated_Domain_Value: 'C'
Enumerated_Domain_Value_Definition: County Route

Enumerated_Domain_Value: 'T'
Enumerated_Domain_Value_Definition: Township

Enumerated_Domain_Value: 'M'
Enumerated_Domain_Value_Definition: Municipal

Enumerated_Domain_Value: 'P'
Enumerated_Domain_Value_Definition: Parkway or Forest Route Marker

Enumerated_Domain_Value: 'N'
Enumerated_Domain_Value_Definition: None of the above

Enumerated_Domain_Value: (blank)
Enumerated_Domain_Value_Definition: Not signed or not applicable

SIGNN2 Character Contains the actual sign route numbers.

SIGNQ2 Character Sign Route Qualifier Record

Enumerated_Domain_Value: 'A'
Enumerated_Domain_Value_Definition: Alternate Route

Enumerated_Domain_Value: 'B'
Enumerated_Domain_Value_Definition: Business Route

Enumerated_Domain_Value: 'P'
Enumerated_Domain_Value_Definition: By Pass

Enumerated_Domain_Value: 'S'
Enumerated_Domain_Value_Definition: Spur

Enumerated_Domain_Value: 'L'
Enumerated_Domain_Value_Definition: Loop

Enumerated_Domain_Value: 'F'
Enumerated_Domain_Value_Definition: Proposed (future)

Enumerated_Domain_Value: 'D'
Enumerated_Domain_Value_Definition: Temporary (detour)
DIGITAL METADATA FOR FAF-3.1 RELEASE

Enumerated_Domain_Value: 'T'
Enumerated_Domain_Value_Definition: Truck Route
Enumerated_Domain_Value: 'N'
Enumerated_Domain_Value_Definition: None of the above
Enumerated_Domain_Value: (Blank)
Enumerated_Domain_Value_Definition: No Qualifier, not signed, or not applicable.

SIGN3   Character   Contains the designated additional secondary Sign Route
SIGNT3  Character   Describes the type of the sign route.
Enumerated_Domain_Value: 'I'
Enumerated_Domain_Value_Definition: Interstate
Enumerated_Domain_Value: 'U'
Enumerated_Domain_Value_Definition: US Route
Enumerated_Domain_Value: 'S'
Enumerated_Domain_Value_Definition: State Route
Enumerated_Domain_Value: 'O'
Enumerated_Domain_Value_Definition: Off-Interstate Business Marker
Enumerated_Domain_Value: 'C'
Enumerated_Domain_Value_Definition: County Route
Enumerated_Domain_Value: 'T'
Enumerated_Domain_Value_Definition: Township
Enumerated_Domain_Value: 'M'
Enumerated_Domain_Value_Definition: Municipal
Enumerated_Domain_Value: 'P'
Enumerated_Domain_Value_Definition: Parkway or Forest Route Marker
Enumerated_Domain_Value: 'N'
Enumerated_Domain_Value_Definition: None of the above
Enumerated_Domain_Value: (blank)
Enumerated_Domain_Value_Definition: Not signed or not applicable

SIGNN3   Character   Contains the actual sign route numbers
SIGNQ3   Character   Sign Route Qualifier Record which
Enumerated_Domain_Value: 'A'
Enumerated_Domain_Value_Definition: Alternate Route
Enumerated_Domain_Value: 'B'
Enumerated_Domain_Value_Definition: Business Route
Enumerated_Domain_Value: 'P'
Enumerated_Domain_Value_Definition: By Pass
Enumerated_Domain_Value: 'S'
Enumerated_Domain_Value_Definition: Spur
Enumerated_Domain_Value: 'L'
Enumerated_Domain_Value_Definition: Loop
Enumerated_Domain_Value: 'F'
Enumerated_Domain_Value_Definition: Proposed (future)
Enumerated_Domain_Value: 'D'
Enumerated_Domain_Value_Definition: Temporary (detour)
Enumerated_Domain_Value: 'T'
Enumerated_Domain_Value_Definition: Truck Route
## DIGITAL METADATA FOR FAF-3.1 RELEASE

Enumerated_Domain_Value: 'N'
Enumerated_Domain_Value_Definition: None of the above
Enumerated_Domain_Value: (Blank)
Enumerated_Domain_Value_Definition: No Qualifier, not signed, or not applicable.

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNAME</td>
<td>Character</td>
<td>Local Road Name</td>
</tr>
<tr>
<td>MILES</td>
<td>Numeric</td>
<td>Length of arc (miles)</td>
</tr>
<tr>
<td>FCLASS</td>
<td>Numeric</td>
<td>Functional Class</td>
</tr>
<tr>
<td></td>
<td>01</td>
<td>Rural Interstate</td>
</tr>
<tr>
<td></td>
<td>02</td>
<td>Rural Principal Arterial</td>
</tr>
<tr>
<td></td>
<td>06</td>
<td>Rural Minor Arterial</td>
</tr>
<tr>
<td></td>
<td>07</td>
<td>Rural Major Collector</td>
</tr>
<tr>
<td></td>
<td>08</td>
<td>Rural Minor Collector</td>
</tr>
<tr>
<td></td>
<td>09</td>
<td>Rural Local</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Urban Interstate</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Urban Freeway or Expressway</td>
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<tr>
<td></td>
<td>14</td>
<td>Urban Principal Arterial</td>
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<td></td>
<td>16</td>
<td>Urban Minor Arterial</td>
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<td></td>
<td>17</td>
<td>Urban Collector</td>
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<tr>
<td></td>
<td>19</td>
<td>Urban Local</td>
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<tr>
<td>RUCODE</td>
<td>Numeric</td>
<td>Rural/Urban Code</td>
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<tr>
<td></td>
<td>1</td>
<td>Rural</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Small Urban (1990 pop 5,000 -49,999)</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Large Urban (1990 &gt;= 50,000)</td>
</tr>
<tr>
<td>STATUS</td>
<td>Numeric</td>
<td>Open status of road</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Proposed/Under construction</td>
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<tr>
<td></td>
<td>1</td>
<td>Open to traffic</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Ferry route</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Canadian routes connecting Alaska to the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>contiguous States.</td>
</tr>
<tr>
<td>NHS</td>
<td>Numeric</td>
<td>National Highway System</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Not on NHS</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Interstate</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Non-Interstate STRAHNET</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>STRAHNET Connector</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Other NHS</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Approved Intermodal Connector</td>
</tr>
<tr>
<td>NN</td>
<td>Numeric</td>
<td>National Network</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>on NN system</td>
</tr>
<tr>
<td>TRK_Type</td>
<td>Numeric</td>
<td>Truck route related restrictions</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>State designated truck route</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>NN system</td>
</tr>
</tbody>
</table>

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Created: 10/25/2010
Printed: 04/11/2011
DIGITAL METADATA FOR FAF-3.1 RELEASE

3 Long Combination Vehicle (LCV) route
5 Arc with state truck restriction
6 Low clearance
8 NN with low clearance
9 NN with state truck restriction
11 Hazmat restriction
09 Rural Local

LCV_TYPE Integer Identify the LCV character
1 Double with length less than 100’
2 Double with length up to and over 100’
3 Double and Triple with length less than 100’
5 Double and Triple with length up to and over 100’
6 Low clearance

DISTRIBUTION INFORMATION
Distribution Contact: Mr. Michel Sprung
Federal Highway Administration
Office of Freight Management & Operations
1200 New Jersey Ave, SE
Washington, DC 20590

Distribution Liability: None
Standard Transfer Options:
Digital Form:
Digital Transfer Information:
Format Name: shape file
Format Version Number: generic
Format Version Date: none
Digital Transfer Options:
Offline Options:
Offline Media: CD-ROM
Recording Format: generic
Computability Information: None

METADATA REFERENCE INFORMATION
Metadata Date: 20101025
Metadata Standard Name: FGDC Content Standards for Digital Spatial Metadata
Metadata Standard Version: 19940331

CONTACT INFORMATION
Contact Organization Primary: Federal Highway Administration
Office of Freight Management & Operations
1200 New Jersey Ave, SE
DIGITAL METADATA FOR FAF-3.1 RELEASE

Contact Mail Address: Washington, DC  20590
1200 New Jersey Ave, SE
Washington, DC  20590

Contact Voice Telephone: (202) 366-9047
Contact Email: Michael.Sprung@dot.gov
Contact Instructions: Between hours of 9 am and 3 p.m. Eastern Standard Time.