INSTRUCTIONS
XML FORMAT ELECTRONIC SUBMISSIONS
FOR INVENTORY UPDATES USING FRA WEB SERVICE

SUMMARY:

States and Railroads can now submit updates in XML format to the National Highway-Rail Crossing Inventory Database. These Inventory Update XML files can be submitted in several ways, including: (1) Submission of a file using the Federal Railroad Administration's (FRA) Master Web Service, or (2) sending to FRA the file on CD, or (3) sending it via email. This document provides instructions for uploading XML Inventory Update files using FRA's Web Service.

DEFINITIONS:	XML	=	Extensible Markup Language
	SOA	=	Service Oriented Architecture
	SOAP	=	Simple Object Access Protocol
	WSDL	=	Web Service Description Language
	URL	=	Uniform Resource Locator (Web-page Link)

INSTRUCTIONS:

1. Registration:

    FRA's Contractor, Creative Information Technology Inc. (CITI), in their FRA Project Office, is responsible for FRA's data processing services including those in the XML Format. Contact the FRA Project Office, IT Program Manager, Mr. Anteneh Admasu, to register your agency to submit and receive data in XML and obtain a User Name and Password. Contact Mr. Admasu at 703-548-3313 or toll free at 888-372-9393, ext 236, or by email at aadmasu@frasafety.net .

2. Accessing the FRA SOA Master Web Page (URL and WSDL):

    The Inventory Web Service can be found at the URL below along with a description of the Web Service in WSDL.

    https://safetydata.fra.dot.gov/masterwebservice/default.aspx

    Upon accessing the site, the FRA SOA Master Web Page will appear. Click on the "Data Upload Service" link, to get to the "Data Upload Service" web page. Then, click on the "Service Description" for the WSDL.

DataUploadService

The following operations are supported. For a formal definition, please review the **Service Description**.

- **GetCrossingDataWithErrors**
  Returns the Crossing Data as an XML document that has not passed the validation rules

- **GetF71Schema**
  Get XML Schema of crossing data

- **UploadCrossingData**
  Accept Crossing Data as an XML document Returns the number of records recieved

3.   <u>Get Current Inventory Schema</u>:

To get the current Inventory Schema, click on "Get F71 Schema" in the "Data Upload Service" web page.   Have your computer specialist or information technology staff prepare and send a SOAP message based on the example provided in the "Get F71 Schema." Alternatively, contact the FRA Project Office to receive the schema.

4.   <u>Prepare a XML file of Inventory Updates</u>:

Following the Inventory Schema's specifications, prepare a XML file of updates. The naming convention for the file should be:

> XNG(Railroad Code or State Abbreviation)MMDDYY.XML.

Provide data for the following elements:
> INIT, CROSSING, REASON, EFFDATE, STATE, CNTYCD, RAILROAD, TYPEXING, POSXING, <u>and just the ELEMENTS to be updated</u>.

These elements are defined in the Field Specification at:
> <u>Format and Description of Crossing Inventory Data Fields:</u>
> > http://www.fra.dot.gov/downloads/safety/outreach/datbyfld22802.pdf
> > http://safetydata.fra.dot.gov/officeofsafety/downloads/default.asp

<u>Optional Method</u>: You can either validate the final Inventory update XML file against the Inventory Schema using a validation application, or use FRA's "Get Crossing Data With Errors" web service.   Or, you can also just wait until FRA receives and validates your XML file and returns a response to you (see paragraph below regarding receiving a response from FRA on the records received and validation results).

5.   <u>Get the WSDL to Submit XML Inventory Update File:</u>

From the "Data Upload Service" web page, click on the "Service Description" link. You may wish to have your computer specialist or information technology staff review the full WSDL service description.

6.   <u>Upload the XML Update File</u>:

From the "Data Upload Service" web page, click on the "Upload Crossing Data" link.   Have your IT computer specialist staff review the sample SOAP message and enter placeholder values including the User Name and Password. They may need to create a small application to use the FRA Web Service and run the "Data Upload Service." For assistance in entering these contact the FRA Project Office.

7.   <u>Receiving a Response from FRA:</u>

After you have submitted your Inventory Update XML file, FRA will respond with a message by either an XML file or e-mail providing you with the number of records received and the results of the validation against the Schema. FRA will also send an XML file (or e-mail) with any crossings that did not pass the Inventory Schema rules during the validation process. If all of the data has passed the validation rules, the response will be a positive message that the file was received and processed successfully. You can then correct the data that did not pass the validation and send the file again.

<u>Note:</u>   If you want to do the validation yourself, you click on "Get Crossing Data With Errors" link which will validate the file. Contact the FRA Project Office for details on how and when to do this.

8.   <u>FRA Processing of Inventory Update Data Received</u>:

When the XML file has been successfully received, the FRA Project Office will begin processing your data. The process first involves running detailed validation and error checks against the data, including cross-field data checks, and possibily contacting the submitter if there is questionable data. Once the data passes the validation and error checks, the updates will be made to the Inventory File.

9.   <u>Obtaining Processed Data:</u>

You can download your updated Inventory data directly from FRA's safety data web site at:
            http://safetydata.fra.dot.gov/officeofsafety/downloads/default.asp

or you can use FRA's "Download Crossing Data" Web Service in XML Format.

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