



TripCheck Traveler Information Portal (TTIP)

System Overview

TTIP System Overview

Revision History

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1 INTRODUCTION

1.1. CHARTER

The TripCheck Traveler Information Portal (TTIP) is the result of a joint project sponsored by TransPort, a Portland, based consortium of regional traffic management agencies and the Oregon Department of Transportation. TTIP is part of a larger regional plan to improve Center-to-Center traffic communication and Center-to-Traveler communication.

1.2. SYSTEM DESCRIPTION

The TripCheck Traveler Information Portal allows transportation and emergency service agencies to share, view, access and display multi-modal real-time transportation and incident information. This focus on the quick and easy exchange of information is intended to speed emergency response and help operating agencies better understand their system management options. It supports a broad regional view of traffic situations rather than a small centralized view. Even smaller agencies can have access to a much broader span of information about traffic events that may impact their local operations.

In addition, this non-sensitive information is being made available to Information Service Providers (ISPs) who might use broadcast, wireless, and Internet media to distribute information to the traveling public, as well as other organizations and individuals.

Over time, a number of standards have been developed for presenting transportation information by several national and international standards bodies. There is a significant amount of overlap between the standards such that combined, they provide a homogenous view of various types of traffic management data.

This portal is based upon those standards for data access and sharing. See [Appendix A](#) for applicable standards.

1.3. INTENDED AUDIENCE

There are two groups of TTIP users: the first is public agencies involved in transportation and public safety. The second group is made up of Information Service Providers (ISPs), researchers, and others with an interest in dissemination of information to the public.

This document is intended for an Agency or an ISP who would like to become a consumer of traveler information from TTIP.

Those who read this document should be familiar with basic traffic terms and hardware. They should also have a reasonable understanding of Extensible Markup Language (XML) and the various standard schema definitions.

To access the data requires knowledge of Web applications and http calls.

1.4. DOCUMENT ORGANIZATION

This document consists of four sections and the appendix. This first section (1 Introduction) provides a basic description of the data exchange portal (TTIP).

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[Section 2](#) provides an understanding of the basic system data flow and XML documents.

[Section 3](#) outlines the process for accessing the various types of TTIP data once you have completed an Agency or ISP logon request and received your notification of completion.

[Section 4](#) discusses basic administration questions and support methodology for users.

[Appendix A and B](#) contains supplemental information.

2. SYSTEM CONTEXT

TTIP has been engineered to provide for a number of input feeds from a number of different public agencies. A consumer of the data may select any or all of the data available from TTIP. Over time, additional agencies have provided addition coverage for existing data types and new data types has been added. The basic flow is shown in table 2-1.

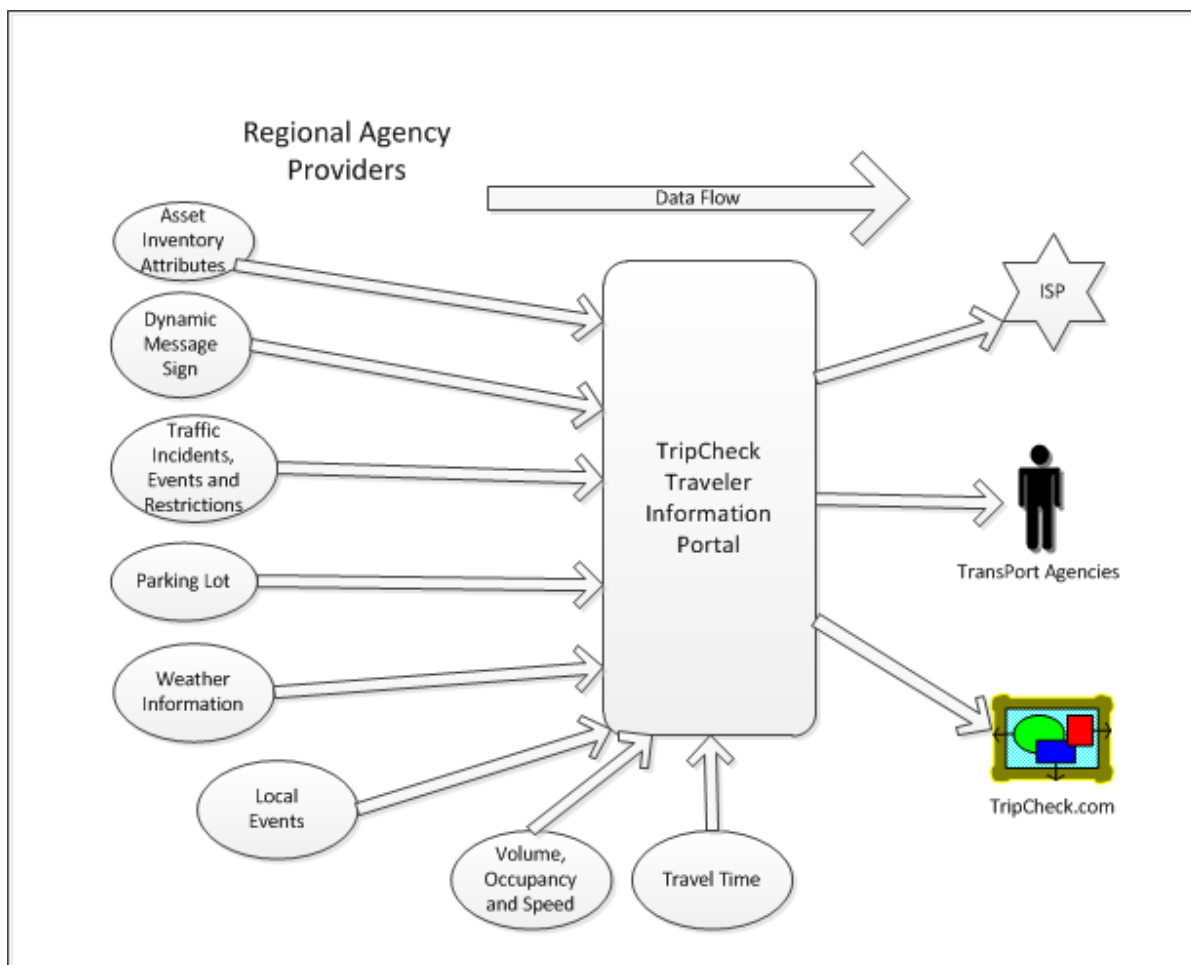


Figure 2-1: TTIP Data Flow

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2.1. XML AND REQUESTS FOR DATA

Each data feed is available as a separate XML document. Once a consumer is signed up to pull data from TTIP, any desired feed is accessible.

Each XML document defines a page of data and the context and content of a particular type of traffic data. The standards provide static information formats such as Inventory and Status schemas.

In the context of TTIP, all data flows are based upon requests. TTIP requests update from contributing Agencies. Agencies and ISPs must request the desired data from TTIP. Figure 2-1 illustrates the direction of data flow through the TTIP. See [Section 3](#) for detailed information about the Internet call used to request an XML document as an Agency or ISP.

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3. DATA ACCESS

3.1. ISP DATA REQUEST

Accessing the ISP XML data pages is simple. You issue a command from a browser or web application with the following format:

<http://www.TripCheck.com/TTIPv2/TTIPData/DataRequest.aspx?uid=<yourAgencyID>&fn=<xmlfile>>

Where <yourAgencyID> is the numeric agency code (the code was sent to you after your organization was added to our system), and <xmlfile> is one of the following:

xmlfile	Provider	Data Content	Update Frequency
cctvInventory	ODOT	Closed Circuit TV inventory and location attributes. This is the list of cameras currently displayed on TripCheck.	24 hours
clsinventory	ODOT	List classifications for length and speed and which detector station they belong to.	24 hours
clslengthbindata	ODOT	Length data aggregated by length classification for each detector station. The Bin Count represents the number of vehicles that passed the detector station in a 20 second period that fall into that particular length classification.	10 minutes
classspeedbindata	ODOT	Speed data aggregated by speed classification for each detector station. The Bin Count represents the number of vehicles that passed the detector station in a 20 second period that fall into that particular speed classification.	10 minutes
DACEugene	ODOT	DAC (Data Acquisition Components) collecting Volume, Occupancy and Speed data from highways located in Eugene	2 minutes
DACPortland	ODOT	DAC (Data Acquisition Components) collecting Volume, Occupancy and Speed data from highways located in Portland and surrounding areas.	2 minutes
DACRegion1Ramps	ODOT	This XML file contains ramp data collected by our Central Ramp Metering System for all ramps in ODOT Region 1 Traffic Jurisdiction.	2 minutes

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DACRegion2Ramps	ODOT	This XML file contains ramp data collected by our Central Ramp Metering System for all ramps in ODOT Region 2 Traffic Jurisdiction.	2 minutes
dmsinventory	ODOT, WSDOT	Dynamic Message Sign (DMS) inventory and location attributes for active signs in the Portland Metro area, including Vancouver Washington.	24 hours
dmsInventory-SW	ODOT	Statewide Dynamic Message Sign (DMS) inventory and location attributes for active signs in the State of Oregon.	24 hours
dmsstatus	ODOT, WSDOT	Dynamic Message Sign (DMS) content being displayed on active signs in the Portland Metro area, including Vancouver Washington.	2 minutes
dmsstatus-SW	ODOT	Dynamic Message Sign (DMS) content being displayed on active signs in the State of Oregon.	2 minutes
incd	ODOT	Incidents (accidents, etc) Events (planned closures, construction) and Trucking Restrictions.	2 minutes
incd-tle	Local Agencies	Non ODOT events occurring on local (non-ODOT) roads as reported by (non-ODOT) government agencies (Example: Washington County)	2 minutes
linkinventory	ODOT	Vehicle Detection Station (VDS) inventory and location attributes	24 hours
linkstatus	ODOT	Volume, Occupancy and Speed for VDS	2 minutes
mfparking	ODOT	Multnomah Falls parking lot occupancy percentage	2 minutes
PSUInventory	ODOT	Inventory of the Data Acquisition Components (DAC) devices located in Eugene and the Portland Metro area.	24 hours
PSUMFP	ODOT	This xml contains complete dataset for the Multnomah Falls parking lot including data related to all the gates	2 minutes
rw	ODOT	Road Weather conditions as reported by ODOT crew observing conditions	15 minutes

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rwis	ODOT	Road Weather Information System (automated weather stations collecting weather related data)	15 minutes
TTDcuInventory	ODOT	Inventory and location of blue tooth devices collecting vehicle travel time data	24 hours
TTDcuTraversals	ODOT	Time (in seconds) it takes a vehicle to travel from one Bluetooth station to the next station	2 minutes
TTSegInventory	ODOT	Information about a segment and travel time calculation parameters for the segment	24 hours
TTSegmentCalcs	ODOT	Calculated average travel time (in seconds) for a segment. Uses data collected by Bluetooth, radar and loops for calculation	2 minutes

Note 1: Requests for a specific file should not be made more often than the specified update frequency or an error message will be returned.

Note 2: .xml may be included or left off <xmfile> name.

Note 3: If you request the xml data in a web browser, you will see a string of data with the XML tags removed. To view with the tags intact, go to View/Source in the browser. It will open the data in a notepad session. You may save the data from notepad to preserve the formatting.

**Note 4: Some Dynamic Message Signs exist in the ODOT Region 1 DMS feed AND the statewide feed. There is currently no way to determine which signs are in both feeds.*

3.2. SAMPLE XML FILES

There are sample XML and XSD files available on the ISP Web page. These files may be viewed from an Internet Explorer browser window.

The XSD and XML files will be displayed in an appropriate format. To save these to your hard drive, click FILE/Save As in the browser.

4. SYSTEM ADMINISTRATION

The Oregon Department of Transportation provides the resources of TTIP as a service to TransPort, a consortium of public transportation agencies in Portland, Oregon as well as ISPs, and the traveling public.

Those resources include computing systems, networks, and application, technical, and operational support.

In addition, there are 3 areas of TTIP administration in which you as a user might be interested (4.1 - 4.3). These administrative areas are handled through TripCheck administration personnel who may be contacted at:

TripCheck.Support@odot.state.or.us

4.1. INITIAL AGENCY AND ISP SETUP

Go to the home page (<http://www.tripcheck.com/TTIPv2/ISP/login.aspx>) and click on the link labelled "Click here to establish a user account". Follow the instructions for submitting a request to ODOT. If you need to change information please provide the current information from your signup confirmation e-mail along with the new information. We'll update our databases and provide you a confirmation e-mail. Please allow up to 5 business days for these changes to be completed.

4.2. SYSTEM USABILITY QUESTIONS

While ODOT attempted to make this system easy to use, you may have additional questions, thoughts or suggestions which you would like to forward to us. We will attempt to respond to all requests within 72 hours.

4.3. SYSTEM OUTAGE OR FEED INTERRUPTION NOTIFICATION

At times, the various systems supporting TTIP must undergo maintenance. Often these maintenance tasks can be conducted without impacting the delivery of data from TTIP. In other situations, the TTIP support systems may be taken off line while the changes are applied.

To keep users of the TTIP feeds informed of interruptions (or potential interruptions), we have developed a simple email process to provide information prior to any planned outage. Our goal is to provide notification as early as possible, but please understand that in certain situations unplanned outages may occur without notice.

By default, we will be providing the notification via e-mail to the primary e-mail you provided in your Agency or ISP signup request. You may contact TripCheck.Support@odot.state.or.us to add other e-mail addresses to the notification process. Make sure you provide your Agency ID as well as your name and e-mail address.

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APPENDIX

A. TRAVELER INFORMATION STANDARDS

The traffic management data provided through this service is encapsulated in [Extensible Markup Language \(XML\)](#). The format of the data documents is further defined by a set of National and International standards that are presented here for reference.

TTIP uses a subset of these standards to reduce processing overhead. TTIP schemas are available on the TTIP Web site.

Note: These schema are used for reference only, not for validation.

Standard	Standard Body	TTIP Schema
ATIS : Advanced Traveler Information System	SAE ATIS message set standard http://www.itsware.net/xml/ATIS/ATIS_Adopted/ATIS.html	atis.xsd
IM : Incident Management	IEEE incident management material http://www.itsware.net/xml/ATIS/	im.xsd
INCD : Incidence	NTCIP standard	incd.xsd
INCD-TLE :	Trip Check Local entry. ODOT product for login.	incd-tle.xsd
ITIS :	ODOT	itis.xsd
Local :	ODOT	local.xsd
LRMS : LRMS Location Referencing Message Set	SAE LRMS Location Referencing Message Set standard http://www.itsware.net/xml/ATIS/	lrms.xsd
NTCIP : National Transportation Communications for ITS Protocol.	NTCIP Center to Center (C2C) http://www.ntcip.org/ http://www.itsware.net/xml/ATIS/	ntcip.xsd
TCIP : Transit Communications Interface Profiles Standards	APTA TCIP Transit Communications Transit Communications Interface Profiles (TCIP) Standards http://www.itsware.net/xml/ATIS/	tcip.xsd
TMDD : Traffic Management Data Dictionary	ITE/AASHTO TMDD http://www.itsware.net/xml/ATIS/	tmdd.xsd
ITIS SAE J2540.2	ITIS codes (SAE J2340.2) which are used in all the ITS message set standards http://www.itsware.net/xml/ATIS/	itis.xsd

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B. ACRONYMS

CCTV	Closed Circuit Television Cameras
DAC	Data Acquisition Component
DMS	Dynamic Message Signs
ISP	Internet Service Provider
ITS	Intelligent Transportation System
ODOT	Oregon Department of Transportation
RW	Road Weather – Manually entered weather information
RWIS	Remote Weather Information System
TLE	TripCheck Local Entry – for local (non ODOT) events.
TTIP	TripCheck Traveler Information Portal
VOS	Volume, Occupancy and Speed
WSDOT	Washington State Department of Transportation
XML	Extensible Markup Language