

# NZTA TREIS Web services

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## Introduction

The Traffic Road Event Information System (TREIS) API lets you access real time data on events that affect traffic conditions across the network of national highways in New Zealand. An example of an event/incident could include road works, an accident, or weather related problems such as ice or snow. Note that this information is ONLY for events/incidents that may cause significant delays (20 minutes or more) to road users as confirmed by the NZ Transport Agency (NZTA) New Zealand.

The TREIS API makes available three sets of data:

1. Events/Incidents  
This is a detailed list of confirmed events/incidents on the state highway with a specified location. For example, caution advised due to a land slip blocking one lane of traffic.
2. General Warnings – North Island  
These are the general warning messages that apply to a wider geographic area within the North Island. For example, widespread flooding and slips in the Hawke's Bay area.
3. General Warnings – South Island  
The same as 2, but only for the South Island. For example, Otago And Southland Winter Conditions Exist And Motorists Are Advised To Watch For Ice And Grit In Shaded Areas And On Bridge Decks And To Carry Chains Especially When Travelling The Alpine Passes

## Scope of this Document

This document covers:

- specification of the TREIS web services API, and
- Information on how to connect to the TREIS web services API.

## Intended Audience

This document is intended for data architects and developers that must integrate their applications with the TREIS web services.

# TREIS SOAP Web service

## SOAP web service

The web service model of software development and communication is a standard defined by the World Wide Web Consortium (W3C). More information about W3C web service model can be obtained from:

- [http://en.wikipedia.org/wiki/Web\\_services](http://en.wikipedia.org/wiki/Web_services), and
- <http://www.w3.org/2002/ws/>

## WSDL documents

The behaviour of a web service is described by a document written in the XML dialect known as the Web Services Description Language (WSDL). Often this document is referred to as the '*WSDL*'.

The WSDL specifies the web services:

- operations
- data structures, and
- Exceptions (failure information).

A software tool is used to transform the WSDL specification into program source code. This program source code allows connection to the web service, and is designed to be integrated into a larger software application. The services provided by the web service can be accessed by any programming language that has a tool that converts WSDL into program code. This means the web service model is programming-language agnostic - it is not limited to any programming language or platform.

## XML namespace

The XML namespace used in TREIS' Web Services Description Language (WSDL) document has the form:  
<https://infoconnect.highwayinfo.govt.nz/schema/treis>

### Notes:

- The XML namespace is not a URL that can be accessed via a web browser, despite having a prefix of *http/https*. Instead, this namespace is simply used to distinguish the elements of the WSDL so that they will not accidentally be the same as any other XML identifiers if the WSDL is embedded within another XML document.

## Obtaining the WSDL from the Web service

When the TREIS SOAP web service is deployed and running in a host application server it is possible to obtain the web service's defining WSDL using a web browser. To do this, simply issue a request to the URL that has the following form:

<http://<hostname>/ic/jbi/TREIS/SOAP/FeedService/main.wsdl>

Where:

- *<hostname>* is the name (or IP address) of the computer that is hosting the TREIS web service, typically this is *infoconnect1.highwayinfo.govt.nz*

## Using the WSDL to test the TREIS SOAP Web service

If you are able to obtain the TREIS Web service's WSDL you can use this to test the Web service without needing to write any client application code. This is possible using a tool called SoapUI (available from <http://www.soapui.org/>). By specifying the location of the TREIS Web service's WSDL in SoapUI it will generate prototypes of the operations the Web service provides. You may then modify the prototypes and

then make requests of the Web service. Using SoapUI is useful to:

- ensure the TREIS Web service has been installed correctly and is operational
- discover the operations provided by the TREIS Web service for obtaining data
- obtain TREIS data that can be incorporated in client application unit tests
- perform regression testing after the TREIS Web service has been modified, and
- Benchmark the total time required to perform each TREIS Web service operation.

## Operations

The TREIS Web service exposes only one method for retrieving road event information: **GetTreisInfo()**

This operation returns a **GetTreisInfoResponse** object which contains the following elements represented here as Java methods:

- List <GeneralWarningMessage> **northIslandWarning**
- List <GeneralWarningMessage> **southIslandWarning**
- List <RoadEvent> **roadEvent**

## URLs

### SOAP

TREIS

<https://infoconnect1.highwayinfo.govt.nz/ic/jbi/TREIS/SOAP/FeedService/main.wsdl>

# TREIS REST Web service

## REST web service

TREIS also provides the option of retrieving traffic information via a REST web service. More information about RESTful web services can be found at:

[http://en.wikipedia.org/wiki/Representational\\_State\\_Transfer](http://en.wikipedia.org/wiki/Representational_State_Transfer)  
<http://developer.yahoo.com/php/howto-reqRestPhp.html>

The information provided by the TREIS REST web service is the same as that provided by the TREIS SOAP web service only without the SOAP envelope and header information.

The TREIS REST web service does not have a WSDL to define its structure; however, you can use TREIS' SOAP web service WSDL definition in understanding the structure of the data returned by TREIS REST.

## URLs

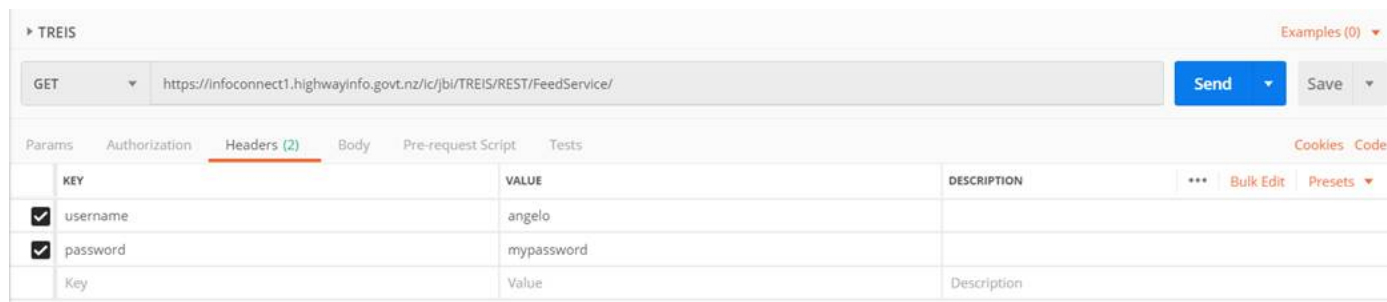
Accessing TREIS data via the REST web service is as simple as pasting this URL into your internet browser:

<https://infoconnect1.highwayinfo.govt.nz/ic/jbi/TREIS/REST/FeedService/>

Take note that the trailing forward slash "/" is an important part of the URL. You must also provide your user account information as part of your http request as detailed in the InfoConnect website:

<https://www.nzta.govt.nz/traffic-and-travel-information/infoconnect-section-page/about-the-apis/highway-information-api/>

Example using Postman: Add 2 headers "username" and "password"



The screenshot shows the Postman interface for a REST client. The request method is GET and the URL is <https://infoconnect1.highwayinfo.govt.nz/ic/jbi/TREIS/REST/FeedService/>. The Headers tab is selected, showing two headers:

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> username	angelo	
<input checked="" type="checkbox"/> password	mypassword	
Key	Value	Description

# TREIS Response Properties

## NorthIslandWarning Type Properties

The following information is available about each **northIslandWarning** type

Property	Type	Null	Description
message	string	N	A message that warns of particular situations or occurrences for regions or locations within the North Island
createdDate	date	N	Indicates the date this warning was created
modifiedDate	date	Y	Indicates the date this warning was updated

## SouthIslandWarning Type Properties

The following information is available about each **southIslandWarning** type

Property	Type	Null	Description
message	string	N	A message that warns of particular situations or occurrences for regions or locations within the South Island
createdDate	date	N	Indicates the date this warning was created
modifiedDate	date	Y	Indicates the date this warning was updated

## RoadEvent Properties

The following information is available about each road event

Property	Type	Null	Description
alternativeRoute	string	N	Contains details of any alternative routes to take which will bypass the event
directLineDistance1	string	N	Direct line distance to the closest town to this event
directLineDistance2	string	N	Direct line distance to the second closest town this event
directLineDistance3	string	N	Direct line distance to the third closest town to this event
endDate	date	Y	The date this event ends
eventComments	string	Y	Contains extra comments or information about the event
eventDescription	string	N	A brief description of the nature of this event. Example values: <ul style="list-style-type: none"> <li>• Snow</li> <li>• High Winds</li> <li>• Slip</li> <li>• Fog</li> <li>• Public Event etc.</li> </ul>
eventId	int	N	A unique ID given to an event

Property	Type	Null	Description
eventIsland	string	N	Indicates which island the event is located. Possible values: <ul style="list-style-type: none"> <li>• North Island</li> <li>• South Island</li> </ul>
eventType	string	N	The type of this event: Possible values: <ul style="list-style-type: none"> <li>• Road Hazard</li> <li>• Road Work</li> <li>• Area Warning</li> <li>• Compliment</li> <li>• Complaint</li> <li>• Damage Report</li> </ul>
expectedResolution	string	N	The time until this event is expected to be resolved. Possible values: <ul style="list-style-type: none"> <li>• Until further notice</li> <li>• A DateTime value of the form dd/mm/yyyy hh:mm</li> </ul>
impact	string	N	The impact of this event to the public. Example values: <ul style="list-style-type: none"> <li>• Delays</li> <li>• Caution</li> <li>• Road Closed</li> <li>• Vehicle Restrictions etc.</li> </ul>
locationArea	string	N	The state highway number(s) where the event is on followed by a brief location description
locations	Location	N	The location(s) of this event represented as RS (reference station) / RP (route position) values.
planned	boolean	N	Indicates whether this event was planned or not
publicEnquiriesTo	string	Y	The person public enquiries should be sent to
restrictions	string	Y	Restrictions related to this event. Example values: <ul style="list-style-type: none"> <li>• Chains Essential</li> <li>• Speed restrictions in place</li> <li>• Closed to heavy vehicles</li> </ul>
startDate	date	N	The date this event starts on
status	string	N	Indicates the current status of this event. Possible values: <ul style="list-style-type: none"> <li>• Active</li> <li>• Resolved</li> <li>• Scheduled</li> </ul>
updateDue	date	Y	The date an update is due for this event
wktGeometry	string	N	The well known text spatial geometry of this event represented as a POINT or as a MULTILINESTRING (for Area Warning type of events)
eventCreated	date	Y	The date this event was created
eventModified	date	Y	The date this event was last modified
informationSource	string	Y	Who reported this event
supplier	string	Y	The supplier of this event. Possible values: <ul style="list-style-type: none"> <li>• Official</li> <li>• Unofficial</li> </ul>

## Locations Properties

The following information is available about each segment

Property	Type	Null	Description
location	string	N	The reference station (RS) and route position (RP) on the state highway of this event followed by a location description.  Example: <b>01N-2065-R1/00.00 Auckland Central</b>  Example for an Area Warning event (stretch of road): <b>073-0145/00.36 - 073-0159/01.97</b>