

# Highway Information APIs

For reference

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*Please note this is an archive of the NZTA InfoConnect webpage available for existing users' reference. This API is no longer available for new account requests.*

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## Getting Started: What is the Highway Information API?

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The Traffic Road Event Information System (TREIS) API lets you access real time data on events/incidents 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 notable events/incidents that may cause delays to road users or require caution, and only where the details have been verified by the Transport Agency or another official source.

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

## Accessing and using the data

### SOAP

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

### REST

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

### Additional information

More detail is available in the [TREIS Webservices Documentation \[PDF, 198 KB\]](#) which covers:

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

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

## Linear referencing (RS/RP) & geospatial coordinates

The TREIS webservice returns highway event locations in 2 forms:

- **Linear referenced (“RS/RP”)**  
Linear referencing is the default positioning system used in the NZTA LRMS and RAMM systems and measures a linear distance offset along a road centreline from a known marker position (reference station or RS). The TREIS webservice returns either a single RS/RP (for a point event) or 2 values (bounding a linear stretch of road).
- **Geospatial (currently NZMG coordinates).**  
Geospatial coordinates provide a (x,y) position for points along a road centreline in a known coordinate system. A road event covering a stretch of road will be defined by an array of (x,y) points along the centreline.

The Spatial LRMS data extract embedded in the TREIS database allows RS/RP & geospatial coordinates to be reconciled for any stretch of State Highway.

### Coordinate systems

Users of the TREIS webservice feed may wish to consume geospatial coordinates in other coordinate systems, commonly WGS84 which may be used in the Google Maps API. In this case, it is recommended that users reproject data in their web client application. A suggested mechanism is to use a JavaScript version of the Proj.4 library to reproject coordinates. Proj.4 is described generally here:

<http://trac.osgeo.org/proj/> and the Javascript implementation here: <http://trac.osgeo.org/proj4js/>

Relevant parameters for coordinate conversion are the “srid” (equivalent to “EPSG code”) values for each coordinate systems, as follows:

Name	SRID	Type	Comment
<b>WGS84</b>	4326	Geographic	For Google Maps
<b>NZTM</b>	2193	Projected	NZ National Mapping Standard
<b>NZMG</b>	27200	Projected	Old NZ Standard
<b>NZGD2000</b>	4167	Geographic	Practically the same as WGS84

WGS84 & NZTM should cover most of the common use for NZ web mapping.

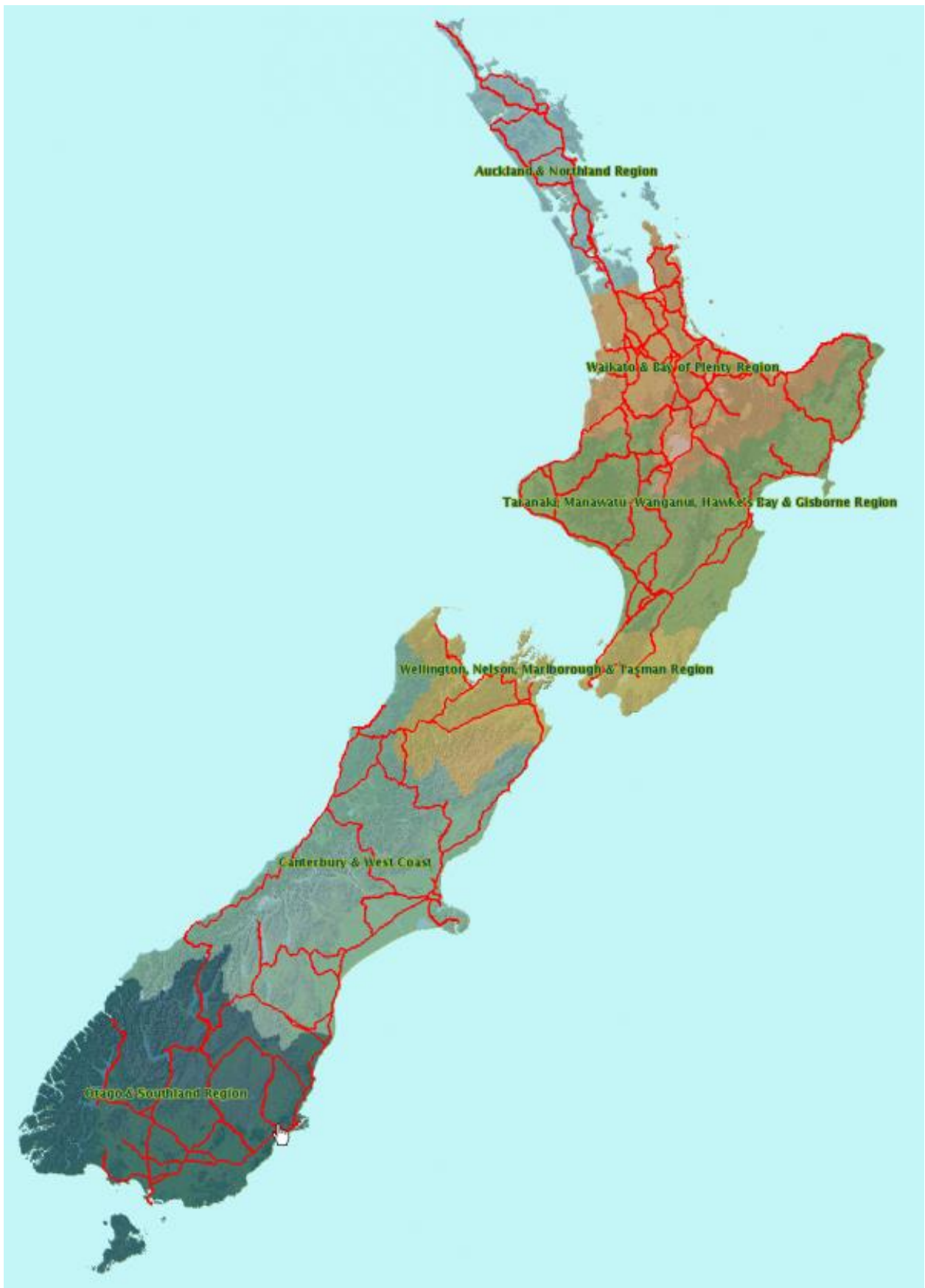
Note also that the transformGeom method of the NZTA Location Referencing API can reproject data between coordinate systems.

### Future use of NZMG at NZTA

NZMG is no longer a NZ national standard, having been replaced by the projected coordinate system "NZ Transverse Mercator" (NZTM) some time ago. Currently, most NZTA geospatial data is still held in NZMG; this is planned to be replaced by NZTM with the next 2 years or so. The TREIS webservice feed will be upgraded to provide updated coordinate systems support in the future.

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# Event Regions Map



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TREIS API added element eventRegions to the roadEvent complexType. It is an optional element as indicated by the minOccurs='0' attribute.

```
<xs:element name="roadEvent">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="tns:alternativeRoute"/>
      .....
      <xs:element minOccurs="0" ref="tns:eventRegions"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

**eventRegions complexType definition:**

Property	Type	Null	Description
<b>eventRegions</b>	complexType	Y	Parent container of eventRegion elements
<b>eventRegion</b>	string	N	The Region of the created event Example of possible values: <ul style="list-style-type: none"> <li>• Auckland &amp; Northland Region</li> <li>• Waikato &amp; Bay of Plenty Region</li> <li>• Taranaki, Manawatu-Wanganui, Hawke's Bay &amp; Gisborne Region</li> <li>• Wellington, Nelson, Marlborough &amp; Tasman Region</li> <li>• Canterbury &amp; West Coast Otago &amp; Southland Region</li> </ul>

```
<xs:element name="eventRegions">
<xs:complexType>
<xs:sequence>
<xs:element maxOccurs="unbounded" ref="tns:eventRegion" />
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="eventRegion" type="xs:string" />
```

An example of TREIS SOAP Web service response is given below:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <tns:GetTreisInfoResponse xmlns:tns="https://infoconnect.highwayinfo.govt.nz/schemas/treis">
      <tns:roadEvent> <tns:alternativeRoute>Tiakitahuna Rd, No 1 Line And Karere Rd</tns:alternativeRoute>
      <tns:directLineDistance1>0.22 km northwest of Tiakitahuna</tns:directLineDistance1>
```

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    <tns:directLineDistance2>1.90 km southwest of Karere</tns:directLineDistance2>
    <tns:directLineDistance3>3.75 km southwest of Longburn</tns:directLineDistance3>
    <tns:eventComments>Serious Collision - Northbound Traffic Has Been
Diverted.</tns:eventComments>
    <tns:eventDescription>Crash</tns:eventDescription>
    <tns:eventId>68523</tns:eventId>
    <tns:eventIsland>North Island</tns:eventIsland>
    <tns:eventType>Road Hazard</tns:eventType>
    <tns:expectedResolution>Until further notice</tns:expectedResolution>
    <tns:impact>Delays</tns:impact>
    <tns:locationArea>SH 56 Tiakitahuna Road, Tiakitahuna, South Of Palmerston
North</tns:locationArea>
    <tns:locations>
      <tns:location>056-0011/04.94 Tiakitahuna</tns:location>
    </tns:locations>
    <tns:planned>>false</tns:planned>
    <tns:restrictions/>
    <tns:startDate>2012-11-16T12:52:00.000+13:00</tns:startDate>
    <tns:status>Active</tns:status>
    <tns:wktGeometry>SRID=27200;POINT (2722186.572841235
6086239.972712915)</tns:wktGeometry>
    <tns:eventCreated>2012-11-16T12:56:23.267+13:00</tns:eventCreated>
    <tns:eventModified>2012-11-16T13:13:45.420+13:00</tns:eventModified>
    <tns:informationSource>Police</tns:informationSource>
    <tns:supplier>Official</tns:supplier>
    <tns:eventRegions>      <tns:eventRegion>Taranaki, Manawatu-Wanganui, Hawke's Bay
& Gisborne Region</tns:eventRegion>      </tns:eventRegions>
  </tns:roadEvent>
</tns:GetTreisInfoResponse>
</soapenv:Body>
</soapenv:Envelope>

```

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