



# qldtraffic.qld.gov.au API specification

## Traffic and road condition information API

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## History

Version	Date	Description
0.11	24-03-2016	Draft specification for QLDtraffic public API specification (unreleased)
0.12	06-05-2016	<ul style="list-style-type: none"> <li>- Removed http if-modified-since request section</li> <li>- Removed ETag &amp; If-None-Match request section</li> <li>- Significantly simplified API</li> </ul>
0.13	18-05-2016	<ul style="list-style-type: none"> <li>- Updated 2.1.2 API Authorised Requests to state that the use of an API key is now optional although preferred</li> <li>- Updated section 4 data structures               <ul style="list-style-type: none"> <li>o Re-modelled API response as per strict GeoJSON specification to make the response easier to consume for the client (i.e. using generic GeoJSON parsers/map layer libraries) [4.1-4.2]</li> <li>o Re-modelled cardinality so that each road event represents 1 GeoJSON <i>Feature in a FeatureCollection</i> (instead of an array of FeatureCollection as stated in v0.12 of this document) [4.1-4.2]</li> <li>o Changed Feature <i>geometry</i> property to always be of type <i>GeometryCollection (all geometries of a road event)</i> [4.2]</li> <li>o Moved all singular road event metadata into the <i>properties</i> of a <i>Feature</i> [4.3]</li> <li>o Replace <i>Positions</i> structure with <i>Road Summary</i> structure [section 4.6] which lists roads and boundaries related to a singular event</li> </ul> </li> </ul>
0.14	24-05-2016	Document formatting for improved readability
0.15	15-06-2016	<p>Modify section detailing events API</p> <ul style="list-style-type: none"> <li>- Add 4.3.1 – model <i>Source</i> structure as an object (previously existing as simple properties)</li> <li>- Modify 4.3.4 – add postcode property to <i>Road Summary</i> structure</li> <li>- Update specimen GeoJson response (4.2)</li> </ul> <p>Add sections detailing traffic web cameras API</p> <ul style="list-style-type: none"> <li>- 5.3 Traffic Web Camera data (API)</li> <li>- 4.4 Feature structure (traffic web cameras)</li> <li>- 4.5 Feature properties (traffic web cameras)</li> <li>- Add specimen GeoJson response for this API (4.4)</li> </ul>

0.20	06-07-2016	<p>Rename domain name from qldtraffic.com.au to qldtraffic.qld.gov.au</p> <p>Modify section API access key (2.1.1) to clarify 2 uses of</p> <ul style="list-style-type: none"> <li>- 2.1.1.1 Public API access key</li> <li>- 2.1.1.2 Registration of an API access key</li> </ul> <p>Modify section API authorised requests (2.1.2) to indicate that the access key will be passed in the URL rather than as an HTTP header</p> <p>Update section Transport Protocol (3) to indicate that HTTPS will be used as the transport communication protocol (previously HTTP)</p> <p>Modify section detailing events API response GeoJson fields</p> <ul style="list-style-type: none"> <li>- Feature properties (4.3) <ul style="list-style-type: none"> <li>o Add <i>status</i> property to</li> <li>o Add <i>last_updated</i> property</li> <li>o Add <i>next_inspection</i> property</li> <li>o Add <i>web_link</i> property</li> </ul> </li> <li>-</li> <li>- Duration structure (4.3.3) <ul style="list-style-type: none"> <li>o Add <i>active_days</i> property</li> </ul> </li> <li>- <i>Road Summary</i> structure (4.3.4) <ul style="list-style-type: none"> <li>o Remove <i>region</i> property in as it is not used</li> </ul> </li> </ul>
0.21	08-07-2016	<p>Modify API authorised requests (section 2.1.2)</p> <ul style="list-style-type: none"> <li>- specify key name as “api_key”</li> <li>- indicate error code as HTTP status 403</li> </ul>
0.22	28-07-2016	<p>Modify API authorised requests (section 2.1.2)</p> <ul style="list-style-type: none"> <li>- specify key name as “apikey”</li> <li>- specify common public key</li> <li>- modify language to refer directly to query string</li> </ul> <p>Updated event sub type, and event due to type.</p>
1.0	29-07-2016	<p>Modify API response examples with current rights/disclaimer/copyright information.</p> <p>Release final version of this document.</p>
1.1	10-03-2017	<p>Include the details for where to register for an API access key.</p>
1.2	25-05-2017	<p>Add the high risk crash zone API specification. Sections 4.6, 4.7 and 5.4.</p>

1.3	05-10-2017	<p>Include changes to the QLDtraffic service to cater for the area alerts. Changes include:</p> <ul style="list-style-type: none"><li>▪ Feature properties (4.3)<ul style="list-style-type: none"><li>○ Add <i>area_alert</i> property</li><li>○ Add <i>alert_message</i> property</li></ul></li><li>▪ Event Data (5.2)<ul style="list-style-type: none"><li>○ Add <i>information regarding the endpoint for accessing road events along with area alerts.</i></li></ul></li></ul>
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# 1 Introduction

## 1.1 Purpose

This document provides a specification of the integration and data distribution framework provided by the Department of Transport and Main Roads' QLDtraffic service. The specification is intended to provide sufficient detail to enable the implementation of client components that interact and communicate with the QLDtraffic service information.

## 1.2 Scope

The scope of this document is all traffic and road condition information captured and made available via the QLDtraffic service.

This includes:

- real-time information, such as crashes, hazards, road restrictions and other events

Transport and Main Roads (TMR) provides this information in the interest of allowing and encouraging informed travel decisions by members of the public and industry.

## 1.3 Audience

The intended audience is developers, architects, system designers and testers. It assumes prior knowledge and understanding of concepts and specifications including HTTP, JSON and REST.

## 1.4 Feedback

We recognise that the success of the Queensland Government Open Data Initiative is dependent on an active community of people using open data.

This QLDtraffic API specification is in a beta state, and is intended to provide visibility to interested parties of the data available via the QLDtraffic service for the purpose of building applications.

We welcome all feedback on the specification. While not all suggestions may be incorporated, they will be recorded and reviewed on a regular basis.

## 1.5 References

1	S. Bradner, "RFC2119 – Key words for use in RFCs to Indicate Requirement Levels," March 1997. [Online]. Available: <a href="http://www.ietf.org/rfc/rfc2119.txt">http://www.ietf.org/rfc/rfc2119.txt</a> . [Accessed 21 February 2013].
2	D. Crockford, "RFC4627 - The application/json Media Type for JavaScript Object Notation (JSON)," July 2006. [Online]. Available: <a href="http://www.ietf.org/rfc/rfc4627.txt">http://www.ietf.org/rfc/rfc4627.txt</a> . [Accessed 5 June 2013].
3	R. Fielding, J. Gettys, J. Mogul, H. Frystyk, L. Masinte, P. Leach and T. Berners-Lee, "Hypertext Transfer Protocol - HTTP/1.1," June 1999. [Online]. Available: <a href="http://www.ietf.org/rfc/rfc2616.txt">http://www.ietf.org/rfc/rfc2616.txt</a> . [Accessed 5 June 2013].
4	R. Braden, "RFC1123 - Requirements for Internet Hosts - Application and Support," October 1989. [Online]. Available: <a href="http://www.ietf.org/rfc/rfc1123.txt">http://www.ietf.org/rfc/rfc1123.txt</a> . [Accessed 5 June 2013].
5	H. Butler, M. Daly, A. Doyle, S. Gillies, T. Schaub and C. Schmidt, "The GeoJSON Format Specification," 16 June 2008. [Online]. Available: <a href="http://www.geojson.org/geojson-spec.html">http://www.geojson.org/geojson-spec.html</a> . [Accessed 5 June 2013].

## 1.6 Definitions

Term	Definition
API	Application Programming Interface, a means of software applications to interact with other applications
HTTP	Hypertext Transfer Protocol
HTTPS	Secure Hypertext Transfer Protocol
SSL	Secure Sockets Layer
JSON	JavaScript Object Notation, an open standard for transmitting data.
GEOJSON	An open, specialized JSON format for encoding a variety of geographic data structures and related metadata.
POI	Point of Interest
REST	Representational State Transfer
TMR	Transport and Main Roads
URL	Uniform Resource Locator. Also known as a web address.



## 2 Protocol Specification

### 2.1 Authorisation

The information provided as part of this service is provided on an as-is basis. Use of the data must be in accordance with the Creative Commons Attribution-ShareAlike 3.0 Australia (CC BY-SA 3.0 AU) licence.

Authorised use supports the integration with third party applications and software products as well as consumption by manual processes. TMR reserves the right to limit or restrict access to the data where access by third parties has a negative or detrimental impact on the overall service.

#### 2.1.1 API Access Keys

The API will require a valid API access key is provided with the API request.

Potential consumers of the API have 2 choices

- Use the public API access key; or
- Register a unique API access key by requesting one

It is preferable that consumers are registered by requesting an API key, which will permit provision of enhanced service to consumers (e.g. being notified of upcoming releases and outages of the API).

The 2 methods are detailed below.

##### 2.1.1.1 Public API access key

A public API key, shown below, is available for developers who do not wish to register and receive their own API key:

```
"apikey": "3e83add325cbb69ac4d8e5bf433d770b"
```

This key is globally limited to 100 requests/minute.

Developers who have not acquired their own key must use this access key when programmatically requesting data from the API according to section 2.1.2 API Authorised Requests.

##### 2.1.1.2 Registration of an API access key

The API will contain a developer portal (website) where potential consumers of the API can request access to the API by providing their organization details, email address and a secret.

To register, send the following details to [qldtraffic@tmr.qld.gov.au](mailto:qldtraffic@tmr.qld.gov.au): **Organisation name, Contact person, Email address** and **Application name (if known)**.

The API administrator will review API access requests to determine if access will be authorized to the API.

Once an access request is successfully granted, the administrator will issue an API access key which is unique to the registered consumer and signed with the secret. The access key will be exchanged with the authorized consumer. Example:

```
"apikey": "3e83add325cbb69ac4d8e5bf433d770b"
```

Developers must use this access key when programmatically requesting data from the API according to section 2.1.2 API Authorised Requests.

## 2.1.2 API Authorised Requests

For authorized requests, developers must use a valid API access key in the HTTP URL query string parameter named “apikey” as below:

```
GET /v2/events?apikey=3e83add325cbb69ac4d8e5bf433d770b HTTP/1.1
```

```
Host: api.qldtraffic.qld.gov.au
```

The API will check the “apikey” query string parameter is present and valid before proceeding with requests. The following HTTP codes may be returned in this scenario:

HTTP status code	Description
403	The request presented an API access key that was invalid

## 2.1.3 API Request Limiting Policy

The API will limit the number of requests which can be made during a nominated period. This information will be provided when access keys are issued to API consumers.

When an individual access key has exceeded its limit, an HTTP 429 (Too Many Requests) will be returned from the server.

# 3 Transport Protocol

## 3.1 HTTPS

HTTPS will be used as the transport communication protocol (HTTP with secure sockets layer).

# 4 Data contract specification

The data provided from the QLDtraffic service is available in JSON, utilizing the GeoJSON specification [5] for geographic information.

Specific details about data provided by QLDtraffic is included below, however for general details about GeoJSON we recommend reviewing the GeoJSON specification at <http://www.geojson.org/>.

## 4.1 JSON structure

All GeoJSON feeds provided via QLDtraffic conform to the following basic format

(example shown for the Event data API described in section 5.2):

```

{
  "type": "FeatureCollection",
  "features": [
    {
      "type":
      "Feature",
      "geometry": {
        "type": "GeometryCollection",
        "geometries": [
          {
            "type":
            "LineString",
            "coordinates": [
              [
                153.0258962,
                -27.3399828
              ]
            ],
            ,
            [
              153.02596,
              -27.34007
            ]
          ],
          ,
          [
            153.02602,
            -27.34015
          ]
        ],
        ,
        [
          153.026028,
          -27.3401745
        ]
      ]
    },
    {
      "type":
      "LineString",
      "coordinates": [
        [
          153.025712,
          -27.3403917
        ]
      ],
      ,
      [
        153.0259353,
        -27.3406821
      ]
    ]
  },
  {
    "type":
    "LineString",
    "coordinates": [
      [
        153.026028,

```

```

    }
  ]
},
"properties": {
  "id": 155,
  "status": "Published",
  "published": "2016-06-13T12:19:00+10:00",
  "source": {
    "source_name": "EPS",
    "source_id": null,
    "account": null,
    "provided_by": null,
    "provided_by_url": "Department of Transport and Main Roads"
  },
  "url": "http://api.qldtraffic.qld.gov.au/v1/events/155",
  "event_type": "Special event",
  "event_subtype": "N/A",
  "event_due_to": null,
  "impact": {
    "direction": "Southbound",
    "towards": "Station",
    "impact_type": "Lanes blocked",
    "impact_subtype": "Right lane blocked",
    "delay": "No delays expected"
  },
  "duration": {
    "start": "2016-06-13T12:13:00+10:00",
    "end": "2016-06-27T12:18:00+10:00",
    "active_days": [
      "Monday",
      "Tuesday",
      "Wednesday",
      "Thursday"
    ],
  },
  "recurrences": [
    {
      "event_id": 155,
      "description": "Monday to Wednesday, 12 PM to 1 AM",
      "impact": {
        "direction": "Southbound",
        "towards": "Station",
        "impact_type": "Lanes blocked",
        "impact_subtype": "Right lane blocked",
        "delay": "No delays expected"
      }
    },
    {
      "event_id": 155,
      "description": "Tuesday to Wednesday, 12 AM to 12 PM",
      "impact": {
        "direction": "Southbound",
        "towards": "Station",
        "impact_type": "Lanes blocked",
        "impact_subtype": "Right lane blocked",
        "delay": "No delays expected"
      }
    }
  ]
}

```

```

    },
    {
      "event_id": 155,
      "description": "Wednesday to Thursday, 12 AM to 12:01
AM", "impact": {
        "direction": "Southbound",
        "towards": "Station",
        "impact_type": "Lanes
blocked",
        "impact_subtype": "Right lane
blocked", "delay": "No delays
expected"
      }
    }
  ]
},
"event_priority": "Low",
"description": "Fitzgibbon - Road name
abbreviations", "advice": "Use alternative route",
"information": "Cleaning -
Fitzgibbon", "road_summary": {
  "road_name": "Kuringgai Parkway / Merimbula Crescent / Mount Kaputar
Avenue",
  "locality":
  "Fitzgibbon",
  "postcode": "4018",
  "local_government_area": "BRISBANE
CITY", "district": "Metropolitan"
},
"last_updated": "2016-06-20T11:37:19.448257+10:00",
"next_inspection": "2016-06-
27T09:30:00.000000+10:00",
"web_link": "http://www.metropolitan.qld.gov.au"
}
}
],
"published": "2016-07-06T15:20:12.9418832+10:00",
"rights": {
  "owner": "As per the respective provided_by details contained in the feed:
Department of Transport and Main Roads, Transport for NSW, or the
respective Local Government Authority.",
  "disclaimer": "The State of Queensland makes no statements, representations
or warranties about the accuracy, currency, reliability or completeness of
the information contained in this feed.",
  "copyright": "Copyright in material within this feed is owned by the State of
Queensland or other entities which provide material for the website by
arrangement. Please consult the respective provided_by_url for each data
owner or the QLDTraffic website for further information
https://qldtraffic.qld.gov.au/More/Data.html."}
}

```

A road event is a set of geometries indicating the affected roads, and properties related to those affects.

The root of the GeoJson API response is a *FeatureCollection* (<http://geojson.org/geojson-spec.html#feature-collection-objects>).



Each *Feature* (<http://geojson.org/geojson-spec.html#feature-objects>) in the *FeatureCollection* contains the geometry & details of a road event.

A road event may have many non-contiguous segments of road which are affected.

The following footer fields are present to describe all features in the API response

Property	Type	Description
published	ISO Datetime	The date time when the document was generated and published
rights	Object	This object contains static text descriptions which apply to the document as a whole: owner, disclaimer and copyright

See sections below for the description of each member.

## 4.2 Feature structure

When a GeoJson response is returned from API 5.2 Event data, the Feature geometry and properties collection all pertain to an individual road event.

The general format for feature is:

```
{
  "type": "Feature",
  "geometry": Object,
  "properties": Object
}
```

Properties of the above Feature are described as:

Property	Type	Description
type	String	Always "Feature"
geometry	Object	This object contains geometry data structures supported by the GeoJson specification.  The "type" used will be "GeometryCollection". <a href="http://geojson.org/geojson-spec.html#geometry-collection">http://geojson.org/geojson-spec.html#geometry-collection</a>  The principal "type" attributes found within the "geometries" will be "LineString" and "Point".
properties	Object	This object contains the metadata properties related to the road event and is described in further detail in the following section.

## 4.3 Feature properties

The general format for properties is:

```

"properties": {
  "id": Number,
  "status": String,
  "published": ISO DateTime,
  "source": {
    "source_name": String,
    "source_id": String,
    "account": String,
    "provided_by": String,
    "provided_by_url": String
  },
  "url": String,
  "event_type": String,
  "event_subtype": String,
  "event_due_to": String,
  "impact": {
    "direction": String,
    "towards": String,
    "impact_type": String,
    "impact_subtype": String,
    "delay": String
  },
  "duration": {
    "start": ISO DateTime,
    "end": ISO DateTime,
    "active_days": [ String ],
    "recurrences": [
      {
        "event_id": Number,
        "description": String,
        "impact": {
          "direction": String,
          "towards": String,
          "impact_type": String,
          "impact_subtype": String,
          "delay": String
        }
      }
    ]
  },
  ...
}
],
"event_priority": String,
"description": String,
"advice": String,
"information": String,
"road_summary": {
  "road_name": String,
  "locality": String,
  "postcode": String,
  "local_government_area": String,
  "district": String
}
"last_updated": ISO Datetime,
"next_inspection": ISO Datetime,
"event_type": String
}

```

This object contains the metadata properties related to the road event.

Property	Type	Description
id	Number	A unique identifier for this event
status	String	The status for this event, always one of the following: <ul style="list-style-type: none"> <li>- Published</li> <li>- Reopened #</li> </ul> <p># Reopened status refers to a published event where roads have been reopened after closures</p>
published	ISO Datetime	The datetime that this event was published
source	Object	A Source object, as described below.
url	String	The url to access this individual event via the API e.g: v1/events/17
event_type	String	The primary type for this event, always one of the following: <ul style="list-style-type: none"> <li>- Hazard</li> <li>- Crash</li> <li>- Congestion</li> <li>- Roadworks</li> <li>- Special event</li> <li>- Flooding</li> </ul> <p>This is the 1<sup>st</sup> part of a 3-part hierarchy event categorisation as follows:</p> <p>event_type – event_subtype – event_due_to</p>



event_subtype	String	<p>The secondary type for this event, always one of the following:</p> <ul style="list-style-type: none"> <li>- Poor visibility</li> <li>- Adverse driving conditions</li> <li>- Signal fault</li> <li>- Road damage</li> <li>- Debris on road</li> <li>- Stationary vehicle</li> <li>- Fire</li> <li>- Single vehicle</li> <li>- Multi-vehicle</li> <li>- Recurring</li> <li>- Incident related</li> <li>- Earlier incident related</li> <li>- Planned roadworks</li> <li>- N/A</li> <li>- Long-term flooding</li> <li>- Flash flooding</li> <li>- Bridge or culvert damaged</li> <li>- General</li> <li>- Police incident</li> <li>- Emergency roadworks</li> </ul> <p>This is the 2<sup>nd</sup> part of a 3-part hierarchy event categorisation as follows: event_type – event_subtype – event_due_to</p>
event_due_to	String	<p>The actual cause of the event, always one of the following:</p> <ul style="list-style-type: none"> <li>- Fog</li> <li>- Heavy rain</li> <li>- Dust</li> <li>- Sun glare</li> <li>- Smoke</li> <li>- High winds</li> <li>- Slippery surface</li> <li>- Animal or wildlife</li> <li>- Lights blacked out</li> <li>- Lights flashing yellow</li> <li>- Earlier flooding</li> <li>- Earlier flash flooding</li> <li>- Pot holes</li> <li>- Rough surface</li> <li>- Soft shoulders</li> <li>- Saturated pavements</li> <li>- Boggy conditions</li> <li>- Deep wheel tracks</li> <li>- Fallen vegetation</li> <li>- Spill</li> <li>- Burst water main</li> <li>- Heavy rain</li> <li>- Water over road</li> <li>- Heavy rain</li> <li>- Flooding of river</li> </ul> <p>This is the 3<sup>rd</sup> part of a 3-part hierarchy event categorisation as follows: - event_type – event_subtype – event_due_to</p>



impact	Object	An Impact object, described below.
duration	Object	The duration and times that this event impact.
event_priority	String	The priority of the event, always one of the following: <ul style="list-style-type: none"> <li>- Red Alert</li> <li>- High</li> <li>- Medium</li> <li>- Low</li> </ul> The “Red Alert” is a higher priority than “High”
description	String	An event description
advice	String	Advice to motorists
information	String	Extra information regarding this event.
road_summary	Object	A Road summary object described below.
last_updated	ISO Datetime	The date time this event was last updated in the system.
next_inspection	ISO Datetime	The date time a review is next due for road inspection related to the roads of this event
web_link	String	A URL link to additional information for the event (external to qldtraffic)
area_alert	Boolean	This property is present only if the version 2 of the API is accessed. Flag to determine whether the road event has an area alert associated with it. If the value is true, then the last
alert_message	String	This property is present only if the version 2 of the API is accessed. Message associated with the area alert.

### 4.3.1 Source structure

A source describes the source of the event data, whether it be Department of Transport and Main Roads or from other external event sources.

```
{
  "source_name": String,
  "source_id": String,
  "account": String,
  "provided_by": String,
  "provided_by_url": String
}
```

Property	Type	Description
source_name	String	The source system from which this event was sourced.  Values: <ul style="list-style-type: none"> <li>- EPS</li> <li>- Guardian</li> <li>- tfNSW</li> </ul>
source_id	String	The additional event identifier when from an external source
account	String	The additional account information when from a "Guardian" external source
provided_by	String	The additional regional data supporting events from the source
provided_by_url	String	The additional web link data supporting events from the source

### 4.3.2 Impact structure

An impact describes the affect an event has on the roads effected.

```
{
  "direction": String,
  "towards": String,
  "impact_type": String,
  "impact_subtype": String,
  "delay": String
}
```

Property	Type	Description
direction	String	Always one of the following: <ul style="list-style-type: none"> <li>- Northbound</li> <li>- Southbound</li> <li>- Eastbound</li> <li>- Westbound</li> <li>- Northeast bound</li> <li>- Northwest bound</li> <li>- Southeast bound</li> <li>- Southwest bound</li> <li>- Inbound</li> <li>- Outbound</li> <li>- Both directions</li> <li>- All directions</li> <li>- Unknown</li> </ul>
towards	String	Text, may be null or whitespace.
impact_type	String	Always one of the following: <ul style="list-style-type: none"> <li>- N/A</li> <li>- Closures</li> <li>- Lanes affected</li> <li>- Lanes blocked</li> <li>- Road restricted</li> <li>- No blockage</li> </ul> <p>This is the 1<sup>st</sup> part of a 2-part hierarchy impact categorisation as follows:</p> <p>impact_type - impact_subtype</p>

<p>impact_subtype</p>	<p>String</p>	<p>Always one of the following:</p> <ul style="list-style-type: none"> <li>- Road closed to all traffic</li> <li>- Road closed to through traffic</li> <li>- One lane closed</li> <li>- Partial lane closures</li> <li>- All lanes affected</li> <li>- Both lanes affected</li> <li>- Lane or lanes reduced</li> <li>- Single lane in operation"</li> <li>- All lanes blocked</li> <li>- Both lanes blocked</li> <li>- Lane or lanes blocked</li> <li>- One lane blocked</li> <li>- Two lanes blocked</li> <li>- Left lane blocked</li> <li>- Middle lane blocked</li> <li>- Right lane blocked</li> <li>- Restricted to four wheel drive vehicles only</li> <li>- Restricted to high clearance vehicles only</li> <li>- Subject to a 5 tonne GVM limit</li> <li>- Subject to a 10 tonne GVM limit</li> <li>- Subject to a 15 tonne GVM limit</li> <li>- Subject to a 25 tonne GVM limit</li> <li>- Subject to a 42.5 tonne GVM limit</li> <li>- Subject to a 46 tonne GVM limit</li> <li>- Limited to 80% of legislative axle group limit</li> </ul> <p>This is the 2<sup>nd</sup> part of a 2-part hierarchy impact categorisation as follows:</p> <ul style="list-style-type: none"> <li>- impact_type - impact_subtype</li> </ul>
<p>delay</p>	<p>String</p>	<p>Always one of the following:</p> <ul style="list-style-type: none"> <li>- Unknown traffic impact</li> <li>- No delays expected</li> <li>- Delays expected</li> <li>- Long delays expected</li> <li>- Delays expected (during active hours)</li> <li>- Long delays expected (during active hours)</li> </ul>

### 4.3.3 Duration structure

A duration describes when an even is taking place.

```
{
  "start": ISO DateTime,
  "end": ISO DateTime,
  "active_days": [ String ],
  "recurrences": [
    {
      "description": String,
      "impact": Object
    }
  ]
}
```

Property	Type	Description
start	ISO Datetime	The date and time this event starts
end	ISO Datetime	The date and time this event stops
active_days	Array	An array of days of the week that the recurring impacts for this event will occur at some point in the day. This summarizes days of the week for the recurrences array described below. Can be null or contain 0 to 7 elements. Possible values:  Sunday Monday Tuesday Wednesday Thursday Friday Saturday
recurrences	Array	An array of days, times and impacts that this event is impacting the road, may be null or empty.
recurrences[n].description	String	The days of week and times affected, eg. "Friday 9pm to Saturday 8am"
recurrences[n].impact	Object	An impact object, described above.

## 4.3.4 Road summary structure

Each road summary object lists the affected roads and location information (e.g. locality, district) related to the geometry of the road event.

The general format for road summary is:

```
{
  "road_name": String,
  "locality": String,
  "postcode": String,
  "local_government_area": String,
  "district": String
}
```

Properties of the above RoadSummary are described below:

Property	Type	Description
road_name	String	The name of the road(s) for all geometries of the event
locality	String	The locality name(s) for all geometries of the event
postcode	String	The postcode(s) for all geometries of the event
local_government_area	String	The local government area(s) for all geometries of the event
district	String	The district(s) for all geometries of the event

## 4.4 Feature structure (traffic web cameras)

When a GeoJson response is returned from API 5.3 Traffic Web Camera data, the geometry types and properties collection are different to those described in the principal events API.

Each GeoJson feature object lists the geometry and properties collection.

The general format for Feature (in web cameras context) is:

```
{
  "type": "Feature",
  "geometry": {
    "type": "Point",
    "coordinates": [
      151.9763031,
      -27.56567955
    ]
  },
  "properties": {
    "id": 5,
    "url": "http://api.qldtraffic.qld.gov.au/v1/webcams/5",
    "description": "Toowoomba - Down the Range - East",
    "direction": "East",
    "district": "Darling Downs",
    "locality": "Toowoomba City",
    "postcode": "4350",
    "image_url": "http://qldtraffic.qld.gov.au/.../toowoomba_range-east.jpg"
  }
}
```

Properties of the above Feature are described as:

Property	Type	Description
type	String	Always "Feature"
geometry	Object	This object contains geometry data structures supported by the GeoJson specification.  The "type" used will be "Point" and geometry will be a simple lat/long pair.
properties	Object	This object contains the metadata properties related to the traffic web camera and is described in further detail in the following section.



## 4.5 Feature properties (traffic web cameras)

When a GeoJson response is returned from API 5.3 Traffic Web Camera data, the properties collection object lists the web camera metadata and URL to the web camera image.

The general format for Feature properties (in web cameras context) is:

```
"properties": {
  "id": Number,
  "url": String,
  "description": String,
  "direction": String,
  "district": String,
  "locality": String,
  "postcode": String,
  "image_url": String
}
```

Properties are described below:

Property	Type	Description
id	Number	The id of the web camera.
url	String	The URL to retrieve a single web camera (metadata) via the API
description	String	The description of the web camera (used for labelling)
direction	String	The compass direction the web camera is facing. Can be one of: North, NorthEast, East, SouthEast, South, SouthWest, West, NorthWest
district	String	The district of the web camera location
locality	String	The locality of the web camera location
postcode	String	The postcode of the web camera location
image_url	String	The URL to retrieve the most current web camera image (JPEG format)

## 4.6 Feature structure (high risk crash zones)

Each GeoJson feature object lists the geometry and properties collection.

The general format for the high risk crash zone feature is:

```
{
  "type": "Feature",
  "geometry": {
    "type": "Point",
    "coordinates": [
      151.9763031,
      -27.56567955
    ]
  },
  "properties": {
    "road_section_id": "91",
    "road_name": "The Range",
    "Suburb": "Toowoomba City",
    "District": "Darling Downs",
    "description": "Toowoomba - Down the Range - East. This road has experienced a higher crash occurrence in the past compared to other roads. Road users are advised to take care and to drive to prevailing conditions."
  }
}
```

Properties of the above Feature are described as:

Property	Type	Description
type	String	Always "Feature"
geometry	Object	This object contains geometry data structures supported by the GeoJson specification.
properties	Object	This object contains the metadata properties related to the high risk crash zone and is described in further detail in the following section.

## 4.7 Feature properties (high risk crash zones)

When a GeoJson response is returned from API 5.4 Traffic High risk crash zone data, the properties collection object lists the high risk crash zone metadata.

The general format for feature properties is:

```
"properties": {
  "road_section_id": Number,
  "road_name": String,
  "Suburb": String,
  "District": String,
  "description": String
}
```

Properties are described below:

Property	Type	Description
road_section_id	Number	The id of the road section
road_name	String	The road or roads affected by the high risk crash zone
Suburb	String	The suburb / locality of the high risk crash zone
District	String	The district of the high risk crash zone
description	String	The description of the high risk crash zone

## 5 API specification

This section identifies the application programming interfaces provided by the QLDtraffic service for the purposes of integration. It provides details of their use and identifies expected results based on given conditions.

Traffic and road event information relates to dynamic information about events impacting the road network. This includes unplanned events, such as crashes, hazards, and temporary restrictions due to environmental conditions, and planned events, such as roadworks and special events. This information may be actively managed by TMR, or imported into the QLD traffic service from external data sources. Typically this information is updated at least daily.

### 5.1 API access

All API access is via the following API URL Paths:

- <https://api.qldtraffic.qld.gov.au/v1/>  
NB: The road events returned will not have information about the area alerts.
- <https://api.qldtraffic.qld.gov.au/v2/> (only for event data)

Note for the process of obtaining an API access key for authorized parties to consume the API, refer to section 2.1 *Authorisation* of this document.

If you have been granted access to the API during the development phase, you will be provided with a different base URL to access the service.

### 5.2 Event data

All current event information captured within the QLDtraffic service that may be directly created by TMR, or imported from external sources such as other Queensland and interstate road agencies, is accessible via the following path: <https://api.qldtraffic.qld.gov.au/v2/events>

### 5.3 Traffic Web Camera data

All live traffic web camera still images & metadata captured within the QLD traffic service is accessible via the following path: <https://api.qldtraffic.qld.gov.au/v1/webcams>

---

## 5.4 High risk crash zone data

A high risk crash zone may be described as follows:

*This road has experienced a higher crash occurrence in the past compared to other roads. Road users are advised to take care and to drive to prevailing conditions.*

The list of high risk crash zones presented on the QLD Traffic website is accessible via the following path:  
<https://api.qldtraffic.qld.gov.au/v1/highriskcrashzones>