Freeway Travel Time
– Traffic

Technical Documentation

Contents

Document Control

Revision History

Version	Date	Author	Description
1	March, 2023	Liam Zylberberg	Creating initial version of document
1.1	April, 2023	Liam Zylberberg	Updated some data field descriptions and information to be clearer and easy to read.

References

Document Name	Location

1   Overview

Freeway Travel Time contains near real-time information pulled from roadside sensors about travel times for freeways throughout Metropolitan Melbourne.

The Department of Transport and Planning (DTP) wishes to improve customer experience and use of the transport network by establishing a sustainable organisation wide approach to sharing DTP data with third party data consumers (journey planning and wayfinding producers, developers, researchers, innovators, etc.).

An Application Programming Interface (API) is a way for two or more computer programs or applications to communicate with each other. APIs enable data to be transmitted between different IT systems and applications within and between organisations.

Freeway Travel Time consists of two APIs, including 'Freeway Travel Time – GIS' and 'Freeway Travel Time – Traffic'.

This document provides information about the Department of Transport and Planning 'Freeway Travel Time – Traffic' API.

'Freeway Travel Time – Traffic' contains travel times and traffic conditions collected from road-side sensors for freeways throughout Metropolitan Melbourne.

2   API Meta Data

This dataset contains travel times and traffic conditions collected from road-side sensors for freeways throughout Metropolitan Melbourne. The data includes (where available) the actual travel time, nominal travel time, rounded travel time, travel time variance, average speed, traffic conditions, congestion index, delay and excess delay.

This dataset uses the GeoJSON format. For more information about the GeoJSON format, visit **geojson.org.**

NOTE: This API has a rate limit of 5 calls per minute.

2.1   Brief

Resource Name: Freeway Travel Time – Traffic

URL: https://data-exchange-api.vicroads.vic.gov.au/opendata/variable/freewaytraveltime/v1/traffic

Domain: Roads

Update Frequency: Every 30 seconds

Data Format: GeoJSON

Data Type: Geospatial Data (Line)

Geographic Extent: Metropolitan Melbourne (Freeways)

2.2   Dataset Attributes

We have produced a table below outlining each of the data Fields and Values contained within this dataset.

Table 1 Dataset Attributes

Name	Type	Definition
type	String	Fixed Value: FeatureCollection
features	Array [Feature]	Array of Feature object. *Refer to **Feature** object details.*
Feature	**Object**	**A single freeway or freeway segment is represented as a single feature in GeoJSON.**
Feature.type	String	Fixed Value: Feature
Feature.geometry	Object [GeometryCollection]	A collection of geometries that represent the location of the structure. May be blank or null. *Refer to **GeometryCollection** object details.*

Name	Type	Definition
Feature.properties	Object [Properties]	The properties of the freeway or freeway segment. *Refer to **Properties** object details.*
GeometryCollection	**Object**	**A collection of geometries that represent the location of the structure.**
GeometryCollection.type	String	Fixed Value: GeometryCollection
GeometryCollection.geometries	Array [Geometry]	An array of Geometry objects. *Refer to **Geometry** object details.*
Geometry	**Object**	**A geographic representation of the freeway or freeway segment as specified by the GeoJSON specification.**
Geometry.type	String	**LineString** *A linestring represents two or more geographic points that share a relationship as specified in the GeoJSON specification.* **Point** *A point represents a single geographic position as specified in the GeoJSON specification.*

Geometry.coordinates	Array [Double]	Coordinates are in x, y order (longitude, and latitude for geographic coordinates) precisely in that order and using double values. Altitude or elevation MAY be included as an optional third parameter while creating this object.
		
		Ex: when the geometry type is point
		
		`1 {`
		
		`2   "type": "Point",`
		
		`3   "coordinates": [100.0, 0.0]`
		
		`4 }`
		
		Ex: when the geometry type is LineString
		
		`1 {`
		
		`2   "type": "LineString",`
		
		`3   "coordinates": [`
		
		`4     [100.0, 0.0],`
		
		`5     [101.0, 1.0]`

Name	Type	Definition
		6]
		7 }
Properties	**Object**	**Properties of the freeway or freeway segment.**
Properties.id	String	[SourceName]:[SourceId] Is a unique identifier for the freeway or freeway segment.
Properties.source	Object [Source]	An object that describes the information source. *Refer to Source object details.*
Properties.freewayName	String Enumeration	The name of the freeway or the name of the freeway the freeway segment is related to.
Properties.segmentName	String	The name of the freeway segment. If the feature is a freeway instead of a freeway segment, this will be a description of the start and end point of the freeway.
Properties.direction	String Enumeration	The direction of the freeway or freeway segment. Possible values include: Inbound, Outbound, Northbound, Eastbound, Southbound, Westbound
Properties.publishedTime	String	The time the measures were published by the source system (STREAMS Intelligent Transport System). ISO 8601 time string, Victorian local time. Format: [YYYY]-[MM]-[DD]T[HH]:[MM]:[SS]

Name	Type	Definition
Properties.enabled	Boolean	Indicates whether the freeway or freeway segment is enabled or not.
Properties.parentPathID	String	The id of the parent of the freeway segment. For freeways, this field will be blank or null.
Properties.pathValid	Boolean	Indicates whether the freeway or freeway segment is valid.
Properties.actualTravelTime	Integer (int32)	The actual travel time of the freeway or freeway segment.
Properties.nominalTravelTime	Integer (int32)	The nominal travel time of the freeway or freeway segment.
Properties.averageSpeed	Integer (int32)	The average speed for the freeway or freeway segment, truncated to a number of kilometres per hour (km/h.)
Properties.condition	String	The current traffic condition for the freeway or freeway segment. Possible values include: Blank, Light, Medium, Heavy
Properties.hasOverride	Boolean	Indicates whether the freeway or freeway segment currently has an operator override.
Properties.overrideStartTime	String	The start time of the operator override. Will be blank or null in the case where there is no operator override. ISO 8601 time string, Victorian local time. Format: [YYYY]-[MM]-[DD]T[HH]:[MM]:[SS]
Properties.overrideEndTime	String	The end time of the operator override. Will be blank or null when there is no operator override. ISO 8601 time string, Victorian local time. Format: [YYYY]-[MM]-[DD]T[HH]:[MM]:[SS]
Properties.messageRequested	String	The id of the freeway travel time message. May be blank or null.
Properties.roundedTravelTime	Integer (int32)	The current rounded travel time for the freeway or freeway segment.
Properties.varianceRoundedNominal	Integer (int32)	The variance of the rounded travel time from nominal travel time.
Properties.varianceNominal	Integer (int32)	The variance of the actual travel time from the nominal travel time.
Properties.dataSubstitution	Number (double)	The percentage level of interpolation that has been applied to missing movement data. The percentage is measured as a percentage of the length of the path that has been interpolated against the total distance.
Properties.includesRampWaitTime	Boolean	Indicates whether the ramp wait times are included in the travel time measures in the case where the freeway or freeway segment travel time is from a sensor located on or near a sign associated with an on-ramp.
Properties.maxEndTime	String	The expiry time, in the case of a manual override of the freeway or freeway segment travel time. Will be blank or

Name	Type	Definition
		null when there is no manual override. ISO 8601 time string, Victorian local time. Format: [YYYY]-[MM]-[DD]T[HH]:[MM]:[SS]
Properties.congestionIndex	Number (double)	The congestion index for the freeway or freeway segment. This applies only to freeway or freeway segment travel time comes from a remote system, and is calculated by the remote system.
Properties.delay	Integer (int32)	The delay for the freeway or freeway segment. This applies only to freeway or freeway segments travel times from a remote system, and is calculated by the remote system.
Properties.excessDelay	Integer (int32)	The excess delay for the freeway or freeway segment. This applies only to freeway or freeway segment travel times from a remote system, and is calculated by the remote system.
Properties.orderOnParent	Integer (int32)	The order of the freeway segment on the parent freeway. For freeways, this field will be blank or null.
Source	**Object**	**An object that describes the information source.**
Source.sourceName	String	Fixed value: Streams
Source.sourceId	String	Source system ID of the freeway or freeway segment.