Toll Calculator API

1 Toll Calculator API

Transport for NSW has provided the Toll Calculator API to give developers a means of accessing the most up-to-date toll pricing for journeys undertaken across NSW roads. This API also provides the coordinates for the toll gantries and the toll prices for the different toll roads.

2 Disclaimer

1. The results returned by the Toll Calculator API are estimates only. Transport for NSW (TfNSW) does not guarantee the accuracy of the results returned by the API.

2. The toll calculator API can be used to calculate the toll charges for a one-way journey and not a double back journey.

3   Route API

Given an origin and destination location, the toll calculator API will generate up to 3 possible routes between the origin and destination and calculate any toll that may be applicable.

Request

* = required field

Parameters	Data Type	Description
origin*	LocationDescriptor	The starting point of the route
destination*	LocationDescriptor	The ending point of the route
vehicleClass	Enum("A","B")	Indicates whether the journey is being undertaken by a light or heavy vehicle. A = light vehicle, B = heavy vehicle
vehicleClassByMotorway	VehicleClassByMotorway	Indicates whether the journey is being undertaken by a light or heavy vehicle based on classification on a per-motorway basis. This field does not need to be used unless the vehicle has a different vehicle classification depending on motorway.
excludeToll	Boolean	Whether to exclude toll roads when determining routes. When true, the router will try to avoid all toll roads if possible. When false (default), all routes are considered.
includeSteps	Boolean	Whether to return steps and turn-by-turn instructions (true) or not (false, default).
departureTime	String	Indicates the date and time of travel. An ISO 8601 UTC formatted date time string (in format 'yyyy-MM-ddThh:mm:ssZ'). This field is used to determine time of day pricing for certain toll roads. If

Parameters	Data Type	Description
		none is supplied, a range of prices will be provided.

Response

Parameter	Data Type	Description
routes		An array of route options
- geometry	String	Encoded polyline representing the route's linestring. For more information about the encoding, see https://developers.google.com/maps/documentation/utilities/polylinealgorithm
- distance	Number	The total distance of the route, in meters
- duration	Number	The expected total duration of the route, in seconds
- minChargeInCents	Number	The minimum total toll charge in cents. The actual toll may be higher (described by maxChargeInCents) depending on whether all attributes are supplied in the request. For example, if no vehicle class is provided in the request, minChargeInCents will represent the toll charged for a light vehicle.
- maxChargeInCents	Number	The maximum total toll charge in cents. The actual toll may be lower (described by minChargeInCents) depending on whether all attributes are supplied in the request. For example, if no vehicle class is provided in the request, maxChargeInCents will represent the toll charged for a heavy vehicle.
- summary	String	Short description of the route
- tollsCharged		Breakdown of individual tolls being charged
○ chargeType	String	The type of toll charged – Fixed, TimeOfDay or Distance
○ charges	TollCharge[]	Array of charges that may be applicable

Parameter	Data Type	Description
o minChargeInCents	Number	The minimum total toll charge in cents. The actual toll may be higher (described by maxChargeInCents) depending on whether all attributes are supplied in the request. For example, if no vehicle class is provided in the request, minChargeInCents will represent the toll charged for a light vehicle.
o maxChargeInCents	Number	The maximum total toll charge in cents. The actual toll may be lower (described by minChargeInCents) depending on whether all attributes are supplied in the request. For example, if no vehicle class is provided in the request, maxChargeInCents will represent the toll charged for a heavy vehicle.
o gantryVisits	GantryVisit[]	List of gantries the vehicle will pass under

4   Match API

Given an encoded polyline representing the route, the toll calculator API will calculate any toll that may be applicable for that route.

Request

* = required field

Parameter	Data Type	Description
polyline*	String	Encoded polyline representing the route's linestring. For more information about the encoding, see https://developers.google.com/maps/documentation/utilities/polylinealgorithm Note: Ensure that polyline JSON string is escaped before passing to the API.
accuracy	Number	It is used to measure the accuracy of provided polyline against Open Street Map road network. The higher the value, the less accurate the polyline needs to be. It is measuring in meters. By default, this value is set to 5. e.g. a value of 15 means that points in the polyline are within around ~15m of the OSM road network.

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Parameter	Data Type	Description
vehicleClass	Enum("A","B")	Indicates whether the journey is being undertaken by a light or heavy vehicle. A = light vehicle, B = heavy vehicle
vehicleClassByMotorway	VehicleClassByMotorway	Indicates whether the journey is being undertaken by a light or heavy vehicle based on classification on a per-motorway basis. This field does not need to be used unless the vehicle has a different vehicle classification depending on motorway.
includeSteps	Boolean	Whether to return steps and turn-by-turn instructions (true) or not (false, default).
departureTime	String	Indicates the date and time of travel. An ISO 8601 UTC formatted date time string (in format 'yyyy-MM-ddThh:mm:ssZ'). This field is used to determine time of day pricing for certain toll roads. If none is supplied, a range of prices will be provided.

Response

Parameter	Data Type	Description
match		Matched route, based on the polyline provided
- confidence	Number	A number representing the confidence of the route match from the polyline supplied. 1 = exact match, 0 = very poor match. If the number is low, the tolls calculated may not match the intended route being requested.
- geometry	String	Encoded polyline representing the route's that has been matched. For more information about the encoding, see https://developers.google.com/maps/documentation/utilities/polylinealgorithm
- distance	Number	The total distance of the route, in meters
- duration	Number	The expected total duration of the route, in seconds
- minChargeInCents	Number	The minimum total toll charge in cents. The actual toll may be higher (described by maxChargeInCents) depending on whether all attributes are supplied in the request. For

Parameter	Data Type	Description
		example, if no vehicle class is provided in the request, minChargeInCents will represent the toll charged for a light vehicle.
- maxChargeInCents	Number	The maximum total toll charge in cents. The actual toll may be lower (described by minChargeInCents) depending on whether all attributes are supplied in the request. For example, if no vehicle class is provided in the request, maxChargeInCents will represent the toll charged for a heavy vehicle.
- summary	String	Short description of the route
- tollsCharged		Breakdown of individual tolls being charged
○ chargeType	String	The type of toll charged – Fixed, TimeOfDay or Distance
○ charges	TollCharge[]	Array of charges that may be applicable
○ minChargeInCents	Number	The minimum total toll charge in cents. The actual toll may be higher (described by maxChargeInCents) depending on whether all attributes are supplied in the request. For example, if no vehicle class is provided in the request, minChargeInCents will represent the toll charged for a light vehicle.
○ maxChargeInCents	Number	The maximum total toll charge in cents. The actual toll may be lower (described by minChargeInCents) depending on whether all attributes are supplied in the request. For example, if no vehicle class is provided in the request, maxChargeInCents will represent the toll charged for a heavy vehicle.
○ gantryVisits	GantryVisit[]	List of gantries the vehicle will pass under

5   Data types

LocationDescriptor

LocationDescriptor is used to specify the origin and destination in the Toll Calculator Route API. Location can either be supplied using WGS84 latitude/longitude coordinates or by using a name-based text search.

- lat and lng are both required if location is being supplied through coordinates.
- only name is required if supplied through name-based text search.

Parameter	Data Type	Description
lat	Number	WGS84 Latitude
lng	Number	WGS84 Longitude
name	String	String based search of location name

VehicleClassByMotorway

VehicleClassByMotorway is used in the request of Toll Calculator Route API and Match API to identify the specific vehicle class for the vehicle on each motorway. This is only required if the vehicle is classified as a heavy vehicle on one toll road, and a light vehicle on another.

Parameter	Data Type	Description
LCT	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle in the Lane Cove Tunnel. A = light vehicle, B = heavy vehicle
CCT	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle in the Cross City Tunnel. A = light vehicle, B = heavy vehicle
ED	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle in the Eastern Distributor. A = light vehicle, B = heavy vehicle
M2	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle on the M2. A = light vehicle, B = heavy vehicle
M5	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle on the M5. A = light vehicle, B = heavy vehicle
M5E	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle on the M5 East. A = light vehicle, B = heavy vehicle
M7	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle on the M7. A = light vehicle, B = heavy vehicle
M8	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle on the M8. A = light vehicle, B = heavy vehicle

Parameter	Data Type	Description
M4	Enum("A","B")	Indicates whether the vehicle is considered a light or heavy vehicle on the M4. A = light vehicle, B = heavy vehicle

TollCharge

TollCharge describes a toll may be applicable for the journey. It'll include the cost and the conditions under which the toll will be charged.

Parameter	Data Type	Description
chargeInCents	Number	Toll charge, in cents
vehicleClass	Enum("A","B")	If the toll charge is dependent on the vehicle class, the class will be specified. If not defined, then the toll applies to all vehicle classes.
startTime	String	If the toll charge is dependent on time of use, then this field specifies the time from which the toll is applicable, in 24 hour HHMM format.
endTime	String	If the toll charge is dependent on time of use, then this field specifies the time at which the toll is no longer applicable, in 24 hour HHMM format.
dayOfWeek	String	If the toll charge is dependent on day of use, then this field specifies the day of week: WEEKEND or WEEKDAY

GantryVisit

GantryVisit describes an instance where the vehicle passes under a toll gantry.

Parameter	Data Type	Description
gantryRef	String	A reference identifier for the gantry location
distance	Number	The distance of the gantry location from the start of the route, in meters
duration	Number	The estimated travel time to get to the location of the gantry from the start of the route, in seconds

Parameter	Data Type	Description
estimatedArrivalTime	String	Indicates the date and time of the vehicle is estimated to arrive at the gantry location as an ISO 8601 UTC formatted date time string (in format 'yyyy-MM-ddThh:mm:ssZ'). This field is only calculated if departureTime is provided.
gantry	Gantry	Describes the gantry and its proeprties
• gantryRef	String	A reference identifier for the gantry location
• gantryName	String	A human readable name of the gantry
• motorwayRef	String	A reference identifier of the motorway Note: Do not take this as the alpha numeric route numbers that are shown on motorway signs
• motorwayName	String	A human readable name of the motorway
• motorwayProvider	String	The name of the provider of the motorway
• chargeType	String	The type of toll charged on this motorway – Fixed, TimeOfDay or Distance
• latitude	Number	Approximate location of the toll gantry, as WGS84 Latitude coordinates
• longitude	Number	Approximate location of the toll gantry, as WGS84 Longitude coordinates

6   Additional information

Coverage

Coverage is limited to New South Wales.

Vehicle classification

Vehicle class definitions are different for each toll road, except for the Sydney Harbour Bridge and Tunnel. Check the definitions to work out which charge applies to you.

https://www.rms.nsw.gov.au/sydney-motorways/toll-charges/index.html

If the vehicle has a different classification on different motorways, vehicle class can be specified for each motorway using the vehicleClassByMotorway parameter.

Location search

Toll Calculator API includes basic name-based geocoding functionality. For a fully-featured autocomplete and geocoding API, we suggest you use the Trip Planner Stop Finder API.

https://opendata.transport.nsw.gov.au/dataset/trip-planner-apis

7   Attribution

Toll Calculator API uses data from both Transport for NSW and OpenStreetMap.

You will need to follow the following attribution guidelines:

https://opendata.transport.nsw.gov.au/data-licence

https://www.openstreetmap.org/copyright