511 Data Exchange including an Open511 Protocol

Toll Data

February 5, 2020
Table of Contents

1  Overview.................................................................................................................................................................... 5
2  Toll Data APIs ........................................................................................................................................................... 6
   2.1  API: Toll Program............................................................................................................................................ 6
3  Appendix A: API Response Messages- XML.................................................................................................... 18
   3.1  Toll Program XML ........................................................................................................................................ 18
4  Appendix B: API Response Messages- JSON................................................................................................... 35
   4.1  Toll Program JSON....................................................................................................................................... 35
List of Tables

A.1.1 Example Toll Program Response (XML) ......................................................................................................... 18
B.1.1 Example Toll Program Response (JSON) ........................................................................................................ 35
## Document History

<table>
<thead>
<tr>
<th>Description</th>
<th>Version</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Draft</td>
<td>0.1</td>
<td>04/13/17</td>
</tr>
<tr>
<td>Updated based on MTC's comment</td>
<td>0.2</td>
<td>06/21/17</td>
</tr>
<tr>
<td>Added order to toll-destination and defined values for toll-sign-status</td>
<td>0.3</td>
<td>07/06/17</td>
</tr>
<tr>
<td>Added JSON response sample and finalized document</td>
<td>0.4</td>
<td>05/15/18</td>
</tr>
<tr>
<td>Updated URL and response sample</td>
<td>0.5</td>
<td>02/05/20</td>
</tr>
</tbody>
</table>
1 Overview

This document focuses on data exchange APIs for the Toll data. For a complete overview of 511 Data Exchange, please refer to Open 511 Data Exchange Specifications – Overview document. The overview document covers:

- General information about 511 Data Exchange
- Different protocols and data feeds available through Open 511 APIs
- Standard Discovery API specifications.
- Encodings and Protocols along with reference to standard documentation.
- Technical Guidelines

It is highly recommended that all users of Open 511 Data Exchange review the information in the overview document.
2 Toll Data APIs

The Toll Data consists of a single resource - the Toll Program. The Toll Program resource provides configuration and toll rate data on all the Toll Signs contained within the Toll Program. Open511 provides message structure and API endpoint for accessing these resources. Open511 will also provide metadata/lookup information that can be used by consumers to filter and limit information during requests.

2.1 API: Toll Program

The Toll Program resource provides information about various toll programs within a jurisdiction. The Toll Program includes details of all the Toll Signs that the program supports. Consumers can request information on all the available programs or they can use additional filters such as a program authority, toll sign id or geography to restrict the results as per their needs and use case.

The Toll-Program structure is the main element of the Toll-Programs collection. Below is a message structure of Toll-Program.

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Mandatory/Optional</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>self</td>
<td>Link</td>
<td>Mandatory</td>
<td>Self link to the current resource</td>
</tr>
<tr>
<td>Jurisdiction</td>
<td>Link</td>
<td>Mandatory</td>
<td>Link to the jurisdiction publishing the Toll Program</td>
</tr>
<tr>
<td>Id</td>
<td>String</td>
<td>Mandatory</td>
<td>A unique ID for the Toll Program, following the format jurisdiction-id/toll-program-id. For example, 511.org/8c3f2.</td>
</tr>
<tr>
<td>Toll-authority-info</td>
<td>Container</td>
<td>Mandatory</td>
<td>Container for Toll Authority information</td>
</tr>
<tr>
<td>—Toll-authority</td>
<td>String</td>
<td>Mandatory</td>
<td>Name of the toll authority. For example, 'Bay Area Toll Authority (BATA)'</td>
</tr>
<tr>
<td>—Toll-program-name</td>
<td>String</td>
<td>Mandatory</td>
<td>Name of toll program. A toll authority may have more than one toll program, but each toll program will have its own toll program resource. A toll program essentially identifies a toll corridor or facility. For example, ‘I-680 South from Concord to Dublin’ or ‘Golden Gate Bridge.’</td>
</tr>
<tr>
<td>General-toll-info</td>
<td>Container</td>
<td>Optional</td>
<td>Contains rules that apply globally to all toll signs within the toll program</td>
</tr>
<tr>
<td>Toll-signs</td>
<td>Collection</td>
<td>Mandatory</td>
<td>Collection of toll signs within the toll program</td>
</tr>
</tbody>
</table>
## General-toll-info structure

The General-toll-info structure provides rules that apply globally to all toll signs within the toll program.

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Mandatory/Optional</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tolled-vehicles</td>
<td>Collection</td>
<td>Optional</td>
<td>The vehicle types that are required to pay toll. The tolled-vehicles element indicates the vehicle types that will be charged a toll. The tolled vehicles specified under the general-toll-info element are applied to all toll rates within a program. The tolled vehicles specified under toll-rate take precedence over tolled vehicles provided under the general-toll-info element. When this element is included, the element must have at least one vehicle type specified under it.</td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Optional</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>----------</td>
<td>----------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>tolling-methods</td>
<td>Collection</td>
<td>Optional</td>
<td>This element provides the list of tolling methods for this toll program. A tolling method is a means by which the toll is collected. Example of tolling methods are “FasTrak,” “Pay by Plate,” and “Toll Booth.” The tolling methods provided in this element are considered to be the only tolling methods applicable for this toll program. When this element is included, the element must have at least one tolling methods specified under it. The tolling methods specified under toll-rate take precedence over tolling methods provided under the general-toll-info element.</td>
</tr>
<tr>
<td>—tolling-method</td>
<td>Enum</td>
<td>Optional</td>
<td>Tolling method. Value list:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CASH: Cash</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PAYBYPLATE: Pay by (License) Plate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FASTRAK: FasTrak</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TOLLBOOTH: Toll Booth</td>
</tr>
<tr>
<td>Payment-options</td>
<td>Collection</td>
<td>Optional</td>
<td>This element provides the list of payment options that are applicable for this toll program. A payment option represents a mode of payment. Examples of payment options are “invoice,” “cash,” “credit cards”, etc. The payment-options provided in this element are considered to be the only payment options applicable for this toll program. The payment options specified under toll-rate take precedence over payment options provided under the general-toll-info element.</td>
</tr>
<tr>
<td>—payment-option</td>
<td>Enum</td>
<td>Optional</td>
<td>Payment option. Value list:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CASH: Cash</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CC: Credit Card</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FASTRAK: FasTrak</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>INVOICE: Invoice</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PREPAID: Pre-Paid</td>
</tr>
<tr>
<td>Minimum-toll</td>
<td>Decimal</td>
<td>Optional</td>
<td>Minimum toll rate that applies across all tolls in the toll program.</td>
</tr>
<tr>
<td>Maximum-toll</td>
<td>Decimal</td>
<td>Optional</td>
<td>Maximum toll rate that applies across all tolls in the toll program.</td>
</tr>
<tr>
<td>Toll-currency</td>
<td>String</td>
<td>Optional</td>
<td>This element specifies the toll currency type. The value is specified in ISO 4217 based on a three-Letter currency code. For example, USD (US Dollars).</td>
</tr>
<tr>
<td>Toll-exemptions</td>
<td>Collection</td>
<td>Optional</td>
<td>The toll-exemptions element specifies the vehicle types and lanes or contains general information about the toll where it is exempted. This list can be omitted if there are no exemptions. When the list is included, there must be at least one toll exemption provided. The toll exemptions specified under toll-rate take precedence over toll restrictions provided under the general-toll-info element.</td>
</tr>
<tr>
<td>—vehicle-type</td>
<td>Enum</td>
<td>Optional</td>
<td>Specifies the types and classes of vehicles that are exempted from providing any toll. Value list:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Toll Data

- **AV**: All Vehicles
- **SOV**: Single Occupancy Vehicles
- **HOV2**: HOV 2+: High Occupancy Vehicles, 2 or more people
- **HOV2OC**: HOV 2 for vehicles that have maximum of 2 seats.
- **HOV3**: HOV 3+: High Occupancy Vehicles, 3 or more people
- **HOV4**: HOV 4+: High Occupancy Vehicles, 4 or more people
- **HYBCARS**: Hybrid Cars
- **MOTORBIKE**: Motor bikes
- **BUS**: Bus/Buses
- **VANPOOL**: Vanpools
- **LOWEV**: Low Emission Vehicles
- **HIGHEV**: High Emission Vehicles
- **TRAILER**: Trailers
- **AXLE2**: 2-Axle Vehicles
- **AXLE3**: 3-Axle Vehicles
- **AXLE4**: 4-Axle Vehicles
- **AXLE5**: 5-Axle Vehicles
- **AXLE6**: 6-Axle Vehicles
- **MULTIAXLE**: Multi-Axle Vehicles
- **VEHCLASS1**: Vehicle Class 1
- **VEHCLASS2**: Vehicle Class 2
- **VEHCLASS3**: Vehicle Class 3
- **VEHCLASS4**: Vehicle Class 4
- **VEHCLASS5**: Vehicle Class 5
- **VEHCLASS6**: Vehicle Class 6
- **VEHCLASS7**: Vehicle Class 7
- **VEHCLASS8**: Vehicle Class 8
- **VEHCLASS9**: Vehicle Class 9
- **VEHCLASS10**: Vehicle Class 10
- **VEHCLASS11**: Vehicle Class 11
- **VEHCLASS12**: Vehicle Class 12
- **VEHCLASS13**: Vehicle Class 13

<table>
<thead>
<tr>
<th>---lane-type</th>
<th>Enum</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifies the toll lanes that are exempted from collecting any toll. Value list: ALL: All Lanes LEFTLANE: Left Lane LEFTLANE2: Two left lanes LEFTLANE3: Three left lanes MIDDLELANE: Middle Lane MIDDLELANE2: Two middle lanes MIDDLELANE3: Three middle lanes RIGHTLANE: Right lane RIGHTLANE2: Two Right Lanes RIGHTLANE3: Three Right Lanes CARPOOLLANE: Carpool lanes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>general</th>
<th>String</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifies any general information about the tolls where tolls are exempted. This is free-form text field.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Toll-restrictions

- **Collection**
- **Optional**
- The toll-restrictions specify the vehicle types that are restricted from toll lanes, toll lanes that are restricted
from any particular type of toll traffic and any other general toll restriction information. This list can be omitted if there are no restrictions. When the list is included, there must be at least one toll restriction provided. The toll restrictions specified under toll-rate take precedence over toll restrictions provided under the general-toll-info element.

<table>
<thead>
<tr>
<th>—vehicle-type</th>
<th>Enum</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vehicle type for the restriction. Value list:
- AV: All Vehicles
- SOV: Single Occupancy Vehicles
- HOV2: HOV 2+: High Occupancy Vehicles, 2 or more people
- HOV2OC: HOV 2 for vehicles that have maximum of 2 seats.
- HOV3: HOV 3+: High Occupancy Vehicles, 3 or more people
- HOV4: HOV 4+: High Occupancy Vehicles, 4 or more people
- HYBCARS: Hybrid Cars
- MOTORBIKE: Motor bikes
- BUS: Bus/Buses
- VANPOOL: Vanpools
- LOWEV: Low Emission Vehicles
- HIGHEV: High Emission Vehicles
- TRAILER: Trailers
- AXLE2: 2-Axle Vehicles
- AXLE3: 3-Axle Vehicles
- AXLE4: 4-Axle Vehicles
- AXLE5: 5-Axle Vehicles
- AXLE6: 6-Axle Vehicles
- MULTIAXLE: Multi-Axle Vehicles
- VEHCLASS1: Vehicle Class 1
- VEHCLASS2: Vehicle Class 2
- VEHCLASS3: Vehicle Class 3
- VEHCLASS4: Vehicle Class 4
- VEHCLASS5: Vehicle Class 5
- VEHCLASS6: Vehicle Class 6
- VEHCLASS7: Vehicle Class 7
- VEHCLASS8: Vehicle Class 8
- VEHCLASS9: Vehicle Class 9
- VEHCLASS10: Vehicle Class 10
- VEHCLASS11: Vehicle Class 11
- VEHCLASS12: Vehicle Class 12
- VEHCLASS13: Vehicle Class 13

<table>
<thead>
<tr>
<th>—lane-type</th>
<th>Enum</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lane Type for the restriction. Value list:
- ALL: All Lanes
- LEFTLANE: Left Lane
- LEFTLANE2: Two left lanes
- LEFTLANE3: Three left lanes
- MIDDLELANE: Middle Lane
- MIDDLELANE2: Two middle lanes
- MIDDLELANE3: Three middle lanes
RIGHTLANE: Right lane
RIGHTLANE2: Two Right Lanes
RIGHTLANE3: Three Right Lanes
CARPOOLLANE: Carpool lanes

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Mandatory/Optional</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>—general</td>
<td>String</td>
<td>Optional</td>
<td>General restriction. This is a free-form text field.</td>
</tr>
<tr>
<td>Id</td>
<td>String</td>
<td>Mandatory</td>
<td>Unique ID for the toll sign within a toll program.</td>
</tr>
<tr>
<td>geography</td>
<td>Geospatial</td>
<td>Mandatory</td>
<td>Geographical coordinates for this toll sign which is represented by standard EPSG:4326 (latitude/longitude) spatial reference system. For XML output a subset of GML v3 will be used. For JSON, this will be present using GeoJSON.</td>
</tr>
<tr>
<td>Name</td>
<td>String</td>
<td>Optional</td>
<td>Name for the toll sign.</td>
</tr>
<tr>
<td>Toll-sign-status</td>
<td>Enum</td>
<td>Optional</td>
<td>The sign status represents whether the toll sign is currently operational (live) or not. Possible value range is 1-4. 1 = operational 2 = offline 3 = failed 4 = unknown</td>
</tr>
<tr>
<td>Description</td>
<td>String</td>
<td>Optional</td>
<td>Toll sign description</td>
</tr>
<tr>
<td>toll-sign-image-link</td>
<td>String</td>
<td>Optional</td>
<td>URL to actual toll sign image.</td>
</tr>
<tr>
<td>raw-sign-message</td>
<td>Collection</td>
<td>Optional</td>
<td>Collection of the raw text message lines in sequential order as it appears on the toll sign from top to bottom. This is to help replicate the exact sign content in a display.</td>
</tr>
<tr>
<td>—message-line</td>
<td>String</td>
<td>Optional</td>
<td>Text in one line of the raw sign message from top to bottom. First message-line provides the content of the first line on the sign, second message-line provides the content of the second line on the sign, etc.</td>
</tr>
<tr>
<td>additional-info</td>
<td>Collection</td>
<td>Optional</td>
<td>Collection of additional information as it appears on the actual sign.</td>
</tr>
<tr>
<td>—info</td>
<td>String</td>
<td>Optional</td>
<td>One informational line. This line can also include references and links.</td>
</tr>
<tr>
<td>Toll-destinations</td>
<td>Collection</td>
<td>Mandatory</td>
<td>Collection of toll destinations that are part of this toll sign.</td>
</tr>
</tbody>
</table>

**Toll-sign structure**

The Toll-sign structure provides information on the individual toll signs supported by the toll program.

**Toll-destination structure**

The Toll-destination structure provides information on the individual toll destinations within a toll sign.
<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Mandatory/Optional</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Id</td>
<td>String</td>
<td>Mandatory</td>
<td>Unique ID for the toll destination under a toll program.</td>
</tr>
<tr>
<td>Name</td>
<td>String</td>
<td>Mandatory</td>
<td>Name for the toll destination.</td>
</tr>
<tr>
<td>Description</td>
<td>String</td>
<td>Optional</td>
<td>Additional details about the toll destination.</td>
</tr>
<tr>
<td>destination-type</td>
<td>Enum</td>
<td>Optional</td>
<td>Type of destination. Values are: Tunnel, Bridge, Freeway.</td>
</tr>
<tr>
<td>additional-info</td>
<td>Collection</td>
<td>Optional</td>
<td>Collection of additional information as it appears on the actual sign for this destination.</td>
</tr>
<tr>
<td>—info</td>
<td>String</td>
<td>Optional</td>
<td>One informational line. This line can also include references and links.</td>
</tr>
<tr>
<td>Travel-time</td>
<td>Integer</td>
<td>Optional</td>
<td>Travel time (in minutes) from the toll-sign location to the toll destination.</td>
</tr>
<tr>
<td>Toll-rates</td>
<td>Collection</td>
<td>Mandatory</td>
<td>One or more toll-rate structures that provide toll rates and additional exemptions, restrictions and schedule that may apply to the toll rate.</td>
</tr>
<tr>
<td>Order</td>
<td>Integer</td>
<td>Mandatory</td>
<td>Sequence/order number of the toll destination, along direction of travel. The order number shall begin with 1 for the first toll destination and should be incremented by 1 for subsequent destinations within a sign.</td>
</tr>
</tbody>
</table>

**Toll-rate structure**

The Toll-rate structure provides toll rates and additional exemptions, restrictions and schedule that may apply to the toll rate.

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Mandatory/Optional</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toll-price</td>
<td>Decimal</td>
<td>Mandatory</td>
<td>The toll price for this current sign for the specified destination. The price is specified in a decimal format without currency information or a symbol, such as “2.00”, “1.35”. When there is no toll is applicable, the toll price is specified as “0”.</td>
</tr>
<tr>
<td>Last-updated</td>
<td>DateTime (UTC)</td>
<td>Mandatory</td>
<td>Specifies when the toll price was last updated.</td>
</tr>
<tr>
<td>Toll-periods</td>
<td>Collection</td>
<td>Optional</td>
<td>This element provides the list of toll periods for which the toll rate is applicable. Toll periods are toll schedule definitions based on times of day and days of week.</td>
</tr>
<tr>
<td>—toll-period</td>
<td>Container</td>
<td>Mandatory</td>
<td>A toll period is defined by a combination of times of the day and day(s) of the week. This is particularly useful where the toll information changes during</td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Mandatory</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>Mandatory</td>
<td>Unique identifier for the toll period within a toll program.</td>
</tr>
<tr>
<td>start-time</td>
<td>Time</td>
<td>Mandatory</td>
<td>Start time of the toll-period as HH:mm (For example, 16:00)</td>
</tr>
<tr>
<td>end-time</td>
<td>Time</td>
<td>Mandatory</td>
<td>End time of the toll-period as HH:mm (For example, 19:00)</td>
</tr>
<tr>
<td>days-of-week</td>
<td>String</td>
<td>Mandatory</td>
<td>Free text that specifies the days of the week. (For example, Monday to Friday, All days, Daily)</td>
</tr>
</tbody>
</table>

**toll-vehicles**

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Optional</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vehicle-type</td>
<td>Enum</td>
<td>Optional</td>
<td>Vehicle type. Value list:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AV: All Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SOV: Single Occupancy Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HOV2: HOV 2+: High Occupancy Vehicles, 2 or more people</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HOV2OC: HOV 2 for vehicles that have maximum of 2 seats.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HOV3: HOV 3+: High Occupancy Vehicles, 3 or more people</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HOV4: HOV 4+: High Occupancy Vehicles, 4 or more people</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HYBCARS: Hybrid Cars</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MOTORBIKE: Motor bikes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BUS: Bus/Buses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VANPOOL: Vanpools</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LOWEV: Low Emission Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HIGHEV: High Emission Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TRAILER: Trailers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AXLE2: 2-Axle Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AXLE3: 3-Axle Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AXLE4: 4-Axle Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AXLE5: 5-Axle Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AXLE6: 6-Axle Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MULTIAXLE: Multi-Axle Vehicles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS1: Vehicle Class 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS2: Vehicle Class 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS3: Vehicle Class 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS4: Vehicle Class 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS5: Vehicle Class 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS6: Vehicle Class 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS7: Vehicle Class 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS8: Vehicle Class 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS9: Vehicle Class 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS10: Vehicle Class 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS11: Vehicle Class 11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS12: Vehicle Class 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VEHCLASS13: Vehicle Class 13</td>
</tr>
<tr>
<td><strong>tolling-methods</strong></td>
<td>Collection</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td><strong>—tolling-method</strong></td>
<td>Enum</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td><strong>Payment-options</strong></td>
<td>Collection</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td><strong>—payment-option</strong></td>
<td>Enum</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td><strong>Toll-exemptions</strong></td>
<td>Collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>—vehicle-type</strong></td>
<td>Enum</td>
<td>Optional</td>
<td></td>
</tr>
</tbody>
</table>

The list of tolling methods that are applicable to this toll rate. A tolling method is a means by which the toll is collected. Example of tolling methods are “FasTrak,” “Pay by Plate,” and “Toll Booth.” When this element is included, the element must have at least one tolling methods specified under it. The tolling methods specified under toll-rate take precedence over tolling methods provided under the general-toll-info element.

Tolling method. Value list:
- CASH: Cash
- PAYBYPLATE: Pay by (License) Plate
- FASTRAK: FasTrak
- TOLLBOOTH: Toll Booth

The list of payment options that are applicable for this toll rate. A payment option represents a mode of payment. Examples of payment options are “invoice,” “cash”, “credit cards”, etc. The payment options specified under toll-rate take precedence over payment options provided under the general-toll-info element.

Payment option. Value list:
- CASH: Cash
- CC: Credit Card
- FASTRAK: FasTrak
- INVOICE: Invoice
- PREPAID: Pre-Paid

The toll-exemptions element specifies the vehicle types and lanes or contains general information about where this toll rate is exempted. This list will be omitted if there are no exemptions. When the list is included, there must be at least one toll exemption provided. The toll exemptions specified under toll-rate take precedence over toll restrictions provided under the general-toll-info element.

Specifies the types and classes of vehicles that are exempted from providing the toll. Value list:
- AV: All Vehicles
- SOV: Single Occupancy Vehicles
- HOV2: HOV 2+: High Occupancy Vehicles, 2 or more people
- HOV2OC: HOV 2 for vehicles that have maximum of 2 seats.
- HOV3: HOV 3+: High Occupancy Vehicles, 3 or more people
- HOV4: HOV 4+: High Occupancy Vehicles, 4 or more people
- HYBCARS: Hybrid Cars
- MOTORBIKE: Motor bikes
- BUS: Bus/Buses
- VANPOOL: Vanpools
- LOWEV: Low Emission Vehicles
###lane-type
<table>
<thead>
<tr>
<th>Enum</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifies the toll lanes that are exempted from collecting the toll. Value list:</td>
<td>ALL: All Lanes</td>
</tr>
<tr>
<td>LEFTLANE: Left Lane</td>
<td>LEFTLANE2: Two left lanes</td>
</tr>
<tr>
<td>LEFTLANE3: Three left lanes</td>
<td>MIDDLELANE: Middle Lane</td>
</tr>
<tr>
<td>MIDDLELANE2: Two middle lanes</td>
<td>MIDDLELANE3: Three middle lanes</td>
</tr>
<tr>
<td>RIGHTLANE: Right lane</td>
<td>RIGHTLANE2: Two Right Lanes</td>
</tr>
<tr>
<td>RIGHTLANE3: Three Right Lanes</td>
<td>CARPOOLLANE: Carpool lanes</td>
</tr>
</tbody>
</table>

###general
<table>
<thead>
<tr>
<th>String</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifies any general information about the toll rate where the toll is exempted. This is free-form text field.</td>
<td></td>
</tr>
</tbody>
</table>

###Toll-restrictions
<table>
<thead>
<tr>
<th>Collection</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>The toll-restrictions specify the vehicle types that are restricted from toll lanes, toll lanes that are restricted from any particular type of toll traffic and any other general toll restriction information. This list can be omitted if there are no restrictions. When the list is included, there must be at least one toll restriction provided. The toll restrictions specified under toll-rate take precedence over toll restrictions provided under the general-toll-info element.</td>
<td></td>
</tr>
</tbody>
</table>

###vehicle-type
<table>
<thead>
<tr>
<th>Enum</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle type for the restriction. Value list:</td>
<td>AV: All Vehicles</td>
</tr>
<tr>
<td>SOV: Single Occupancy Vehicles</td>
<td>HOV2: HOV 2+: High Occupancy Vehicles, 2 or more people</td>
</tr>
</tbody>
</table>
|           |            | HOV2OC: HOV 2 for vehicles that have maximum of 2 seats.  
|           |            | HOV3: HOV 3+: High Occupancy Vehicles, 3 or more people  
|           |            | HOV4: HOV 4+: High Occupancy Vehicles, 4 or more people  
|           |            | HYBCARS: Hybrid Cars  
|           |            | MOTORBIKE: Motor bikes  
|           |            | BUS: Bus/Buses  
|           |            | VANPOOL: Vanpools  
|           |            | LOWEV: Low Emission Vehicles  
|           |            | HIGHEV: High Emission Vehicles  
|           |            | TRAILER: Trailers  
|           |            | AXLE2: 2-Axle Vehicles  
|           |            | AXLE3: 3-Axle Vehicles  
|           |            | AXLE4: 4-Axle Vehicles  
|           |            | AXLE5: 5-Axle Vehicles  
|           |            | AXLE6: 6-Axle Vehicles  
|           |            | MULTIAXLE: Multi-Axle Vehicles  
|           |            | VEHCLASS1: Vehicle Class 1  
|           |            | VEHCLASS2: Vehicle Class 2  
|           |            | VEHCLASS3: Vehicle Class 3  
|           |            | VEHCLASS4: Vehicle Class 4  
|           |            | VEHCLASS5: Vehicle Class 5  
|           |            | VEHCLASS6: Vehicle Class 6  
|           |            | VEHCLASS7: Vehicle Class 7  
|           |            | VEHCLASS8: Vehicle Class 8  
|           |            | VEHCLASS9: Vehicle Class 9  
|           |            | VEHCLASS10: Vehicle Class 10  
|           |            | VEHCLASS11: Vehicle Class 11  
|           |            | VEHCLASS12: Vehicle Class 12  
|           |            | VEHCLASS13: Vehicle Class 13  
|   ---  |  ---  | Lane Type for the restriction. Value list:  
|   ---  |  ---  | ALL: All Lanes  
|   ---  |  ---  | LEFTLANE: Left Lane  
|   ---  |  ---  | LEFTLANE2: Two left lanes  
|   ---  |  ---  | LEFTLANE3: Three left lanes  
|   ---  |  ---  | MIDDLELANE: Middle Lane  
|   ---  |  ---  | MIDDLELANE2: Two middle lanes  
|   ---  |  ---  | MIDDLELANE3: Three middle lanes  
|   ---  |  ---  | RIGHTLANE: Right lane  
|   ---  |  ---  | RIGHTLANE2: Two Right Lanes  
|   ---  |  ---  | RIGHTLANE3: Three Right Lanes  
|   ---  |  ---  | CARPOOLLANE: Carpool lanes  
|   ---  |  ---  | General restriction. This is a free-form text field.  

*Sample request endpoint for operators*

| Request Type | GET |
Request EndPoint Example

For e.g. http://api.511.org/toll/programs

Parameters and Filters

Parameters and filters supported with the request are shown in the table below. The Toll Program response for XML is shown in Appendix A Section A.1.1. The Toll Program response for JSON is shown in Appendix B Section B.1.1.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mandatory/Optional</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format</td>
<td>Optional</td>
<td>The response format (json/xml) desired. If none specified, then default response would be JSON.</td>
</tr>
<tr>
<td>api_key</td>
<td>Mandatory</td>
<td>Unique key assigned to a user after they signup for Open511.</td>
</tr>
<tr>
<td>geography</td>
<td>Optional</td>
<td>Filter toll programs with toll signs around a point. The geography value should be provided as a WKT string in WGS84 latitude/longitude. Example: ...geography=POINT (-73.64 45.52). The geography must be used in conjunction with the tolerance filter.</td>
</tr>
<tr>
<td>tolerance</td>
<td>Conditional</td>
<td>Provide a tolerance of radius in meters around a POINT when used as filtering parameter. For example ...geography=POINT+(-73.64+45.52)&amp;tolerance=50 would retrieve all the toll programs with toll signs within a circle of 50m radius around the selected point.</td>
</tr>
<tr>
<td>jurisdiction</td>
<td>Optional</td>
<td>The ID or URL of a jurisdiction, in order to show only toll programs from a given jurisdiction. Use a comma-separated list to make OR queries. Example: jurisdiction=511.org.</td>
</tr>
<tr>
<td>Toll-sign-id</td>
<td>Conditional</td>
<td>Returns only toll sign with the provided toll-sign-id. Use a comma-separated list to make ‘OR’ queries. The toll-sign-id must be used in conjunction with the Toll-program-name.</td>
</tr>
<tr>
<td>Toll-destination-id</td>
<td>Conditional</td>
<td>Returns only toll destination containing the provided toll-destination-id. Use a comma-separated list to make ‘OR’ queries. The Toll-destination-id must be used in conjunction with the Toll-program-name and toll-sign-id.</td>
</tr>
</tbody>
</table>

Possible Errors

Listed below are HTTP status code and message returned for certain common errors:

- 500 - Internal Server Error (System has issues processing your request)
- 401 – Unauthorized (Invalid API key)
• 404 – Not found (If an individual Toll Program resource cannot be located).

3 Appendix A: API Response Messages- XML

3.1 Toll Program XML

A.1.1 Example Toll Program Response (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
  <toll-programs>
    <toll-program>
      <id>3199</id>
      <link rel="self" href="/toll/programs/511.org/3199"/>
      <link rel="jurisdiction" href="http://api.511.org/jurisdictions/511.org/"/>
      <toll-authority-info>
        <toll_program-name>BAIFA</toll_program-name>
        <toll-authority>BAIFA</toll-authority>
      </toll-authority-info>
      <general-toll-info>
        <tolled-vehicles/>
        <tolling-methods/>
        <payment-options/>
        <toll-exemptions/>
        <toll-restrictions/>
        <maximum-toll>0.00</maximum-toll>
        <minimum-toll>0.00</minimum-toll>
        <toll-currency>USD</toll-currency>
      </general-toll-info>
      <toll-signs>
        <toll-sign>
          <id>5209</id>
          <geography>
            <gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
            <gml:pos>37.839588999999997 -122.016575000000003</gml:pos>
          </gml:Point>
        </geography>
        <name>I-680 NB - Livorna - 5</name>
        <toll-sign-status>0</toll-sign-status>
        <description>VTMS Being Reported</description>
        <toll-sign-image-link/>
        <additional-info>
          <info/>
        </additional-info>
        <raw-sign-message>
          <message-line>ML1:6.75 ML3:FASTRAK REQUIRED</message-line>
        </raw-sign-message>
        <toll-destinations>
          <toll-destination>
            <id>4211</id>
            <name>Livorna - 6</name>
            <order>1</order>
            <description>End Of Zone</description>
            <destination-type/>
            <travel-time>0</travel-time>
            <additional-info>
              <info/>
            </additional-info>
          </toll-destination>
        </toll-destinations>
      </toll-sign>
    </toll-program>
  </toll-programs>
</open511>
```
<toll-rates>
  <toll-rate>
    <toll-price>6.75</toll-price>
    <last-updated>2020-02-05T15:18:31.662875-08:00</last-updated>
    <tolling-methods/>
    <payment-options/>
    <toll-exemptions/>
    <toll-restrictions/>
  </toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<toll-sign>
  <id>5103</id>
  <geography>
    <gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
      <gml:pos>37.752468 -121.960616999999999</gml:pos>
    </gml:Point>
  </geography>
  <name>I-680 SB - Alcosta - 4</name>
  <toll-sign-status>0</toll-sign-status>
  <description>VTMS Being Reported</description>
  <toll-sign-image-link/>
  <additional-info>
    <info/>
  </additional-info>
  <raw-sign-message>
    <message-line>ML1:0.50 ML3:FASTRAK REQUIRED</message-line>
  </raw-sign-message>
</toll-sign>
<toll-destinations>
  <toll-destination>
    <id>4100</id>
    <name>Alcosta - 5</name>
    <order>1</order>
    <description>End Of Zone</description>
    <destination-type/>
    <travel-time>0</travel-time>
    <additional-info>
      <info/>
    </additional-info>
    <toll-rates>
      <toll-rate>
        <toll-price>0.50</toll-price>
        <last-updated>2020-02-05T15:18:31.678476-08:00</last-updated>
        <tolling-methods/>
        <payment-options/>
        <toll-exemptions/>
        <toll-restrictions/>
      </toll-rate>
    </toll-rates>
  </toll-destination>
</toll-destinations>
</toll-sign>
</toll-sign>
</toll-rates>
</toll-rates>
</toll-sign>
</toll-destinations>
</toll-sign>
<toll-sign>
  <id>5104</id>
  <geography>
    <gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
      <gml:pos>37.760038999999999 -121.966723000000002</gml:pos>
    </gml:Point>
<name>I-680 SB - Alcosta - 3</name>
<toll-sign-status>0</toll-sign-status>
<description>VTMS Being Reported</description>
<toll-sign-image-link/>
<additional-info>
</additional-info>
<raw-sign-message>
<message-line>ML1:0.50 ML3:FASTRAK REQUIRED</message-line>
</raw-sign-message>
<toll-destinations>
<toll-destination>
<id>4100</id>
<name>Alcosta - 5</name>
<order>1</order>
<description>End Of Zone</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>0.50</toll-price>
<last-updated>2020-02-05T15:18:31.694078-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>

<name>I-680 SB - Alcosta - 1</name>
<toll-sign-status>0</toll-sign-status>
<description>VTMS Being Reported</description>
<toll-sign-image-link/>
<additional-info>
</additional-info>
<raw-sign-message>
<message-line>ML1:0.50 ML3:FASTRAK REQUIRED</message-line>
</raw-sign-message>
<toll-destinations>
<toll-destination>
<id>4100</id>
<name>Alcosta - 5</name>
<order>1</order>
<description>End Of Zone</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>0.50</toll-price>
<last-updated>2020-02-05T15:18:31.694078-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<info/>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>0.50</toll-price>
<last-updated>2020-02-05T15:18:31.709679-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-sign>
<id>5106</id>
<geography>
<gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
<gml:pos>37.804625999999999 -121.990058000000005</gml:pos>
</gml:Point>
</geography>
</toll-sign>
<name>I-680 SB - Crow Canyon - 8</name>
<toll-sign-status>0</toll-sign-status>
<description>VTMS Being Reported</description>
<toll-sign-image-link/>
<additional-info>
<info/>
</additional-info>
<raw-sign-message>
<message-line>ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED</message-line>
</raw-sign-message>
</toll-destinations>
</toll-destination>
<id>4105</id>
<name>Crow Canyon - 9</name>
<order>1</order>
<description>End Of Zone</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
<info/>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>0.50</toll-price>
<last-updated>2020-02-05T15:18:31.725281-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destination>
<id>4100</id>
<name>Alcosta - 5</name>
<order>2</order>
<description>End Of Segment</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
  <info/>
</additional-info>
<toll-rates>
  <toll-rate>
    <toll-price>1.00</toll-price>
    <last-updated>2020-02-05T15:18:31.740882-08:00</last-updated>
    <tolling-methods/>
    <payment-options/>
    <toll-exemptions/>
    <toll-restrictions/>
  </toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<toll-sign>
  <id>5109</id>
  <geography>
    <gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
      <gml:pos>37.839275000000001 -122.016664000000006</gml:pos>
    </gml:Point>
  </geography>
  <name>I-680 SB - Crow Canyon - 5</name>
  <toll-sign-status>0</toll-sign-status>
  <description>VMTS Being Reported</description>
  <toll-sign-image-link/>
  <additional-info>
    <info/>
  </additional-info>
  <raw-sign-message>
    <message-line>ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED</message-line>
  </raw-sign-message>
</toll-sign>
</toll-destinations>
</toll-destination>
  <id>4105</id>
  <name>Crow Canyon - 9</name>
  <order>1</order>
  <description>End Of Zone</description>
  <destination-type/>
  <travel-time>0</travel-time>
  <additional-info>
    <info/>
  </additional-info>
  <toll-destinations>
    <toll-destination>
      <id>4100</id>
      <name>Alcosta - 5</name>
      <order>2</order>
  </toll-destination>
<description>End Of Segment</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
<info/>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>1.00</toll-price>
<last-updated>2020-02-05T15:18:31.772085-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<toll-sign>
<id>5205</id>
<geography>
<gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
<gml:pos>37.792375 -121.982876000000005</gml:pos>
</gml:Point>
</geography>
<name>I-680 NB - Livorna - 2</name>
<toll-sign-status>0</toll-sign-status>
<description>VTMS Being Reported</description>
<additional-info>
<info/>
</additional-info>
<raw-sign-message>
<message-line>ML1:6.75 ML3:FASTRAK REQUIRED</message-line>
</raw-sign-message>
</toll-destinations>
<toll-destination>
<id>4211</id>
<name>Livorna - 6</name>
<order>1</order>
<description>End Of Zone</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
<info/>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>6.75</toll-price>
<last-updated>2020-02-05T15:18:31.787687-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<toll-sign>
  <id>5207</id>
  <geography>
    <gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
      <gml:pos>37.8188400000000002 -121.993073999999993</gml:pos>
    </gml:Point>
  </geography>
  <name>I-680 NB - Livorna - 3</name>
  <toll-sign-status>0</toll-sign-status>
  <description>VTMS Being Reported</description>
  <raw-sign-message/>
  <toll-destinations>
    <toll-destination>
      <id>4211</id>
      <name>Livorna - 6</name>
      <order>1</order>
      <description>End Of Zone</description>
      <travel-time>0</travel-time>
      <toll-rates>
        <toll-rate>
          <toll-price>6.75</toll-price>
          <last-updated>2020-02-05T15:18:31.81889-08:00</last-updated>
          <tollled-vehicles/>
          <tolling-methods/>
          <payment-options/>
          <toll-exemptions/>
          <toll-restrictions/>
        </toll-rate>
      </toll-rates>
    </toll-destination>
  </toll-destinations>
</toll-sign>

<toll-sign>
  <id>5208</id>
  <geography>
    <gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
      <gml:pos>37.829462999999997 -122.000286000000003</gml:pos>
    </gml:Point>
  </geography>
  <name>I-680 NB - Livorna - 4</name>
  <toll-sign-status>0</toll-sign-status>
  <description>VTMS Being Reported</description>
  <raw-sign-message/>
  <toll-destinations>
    <toll-destination>
      <id>4211</id>
      <name>Livorna - 6</name>
      <order>1</order>
      <description>End Of Zone</description>
      <travel-time>0</travel-time>
      <toll-rates>
        <toll-rate>
          <toll-price>6.75</toll-price>
          <last-updated>2020-02-05T15:18:31.81889-08:00</last-updated>
          <tollled-vehicles/>
          <tolling-methods/>
          <payment-options/>
          <toll-exemptions/>
          <toll-restrictions/>
        </toll-rate>
      </toll-rates>
    </toll-destination>
  </toll-destinations>
</toll-sign>
<name>Livorna - 6</name>
<order>1</order>
<description>End Of Zone</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>6.75</toll-price>
<last-updated>2020-02-05T15:18:31.850093-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<toll-sign>
<id>5211</id>
<geography>
<gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
<gml:pos>37.856923999999999 -122.030360999999999</gml:pos>
</gml:Point>
</geography>
<name>I-680 NB - Livorna - 6</name>
<toll-sign-status>0</toll-sign-status>
<description>VTMS Being Reported</description>
<additional-info>
</additional-info>
<raw-sign-message>
<message-line>ML1:6.75 ML3:FASTRAK REQUIRED</message-line>
</raw-sign-message>
<toll-destinations>
<toll-destination>
<id>4211</id>
<name>Livorna - 6</name>
<order>1</order>
<description>End Of Zone</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>6.75</toll-price>
<last-updated>2020-02-05T15:18:31.881296-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<toll-destinations>
  <toll-destination>
    <id>4300</id>
    <name>Dixon Landing - 5</name>
    <order>1</order>
    <description>End Of Zone</description>
    <destination-type/>
    <travel-time>0</travel-time>
    <additional-info/>
    <toll-rates>
      <toll-rate>
        <toll-price>1.00</toll-price>
        <last-updated>2020-02-05T15:18:31.896897-08:00</last-updated>
        <tollled-vehicles/>
        <tolling-methods/>
        <payment-options/>
        <toll-exemptions/>
        <toll-restrictions/>
      </toll-rate>
    </toll-rates>
  </toll-destination>
</toll-destinations>
<toll-destination>
  <id>4410</id>
  <name>Decoto/84 - 3</name>
  <order>2</order>
  <description>End Of Segment</description>
  <destination-type/>
  <travel-time>0</travel-time>
  <additional-info>
    <info/>
  </additional-info>
  <toll-rates>
    <toll-rate>
      <toll-price>1.50</toll-price>
      <last-updated>2020-02-05T15:18:31.959303-08:00</last-updated>
      <tolled-vehicles/>
      <tolling-methods/>
      <payment-options/>
      <toll-exemptions/>
      <toll-restrictions/>
    </toll-rate>
  </toll-rates>
</toll-destination>

<toll-sign>
  <id>5221</id>
  <geography>
    <gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
      <gml:pos>37.713417 -121.931557999999995</gml:pos>
    </gml:Point>
  </geography>
  <name>I-680 NB - Crow Canyon - 1</name>
  <toll-sign-status>0</toll-sign-status>
  <description>VTMS Being Reported</description>
  <toll-sign-image-link/>
  <additional-info>
    <info/>
  </additional-info>
  <raw-sign-message>
    <message-line>ML1:0.50 ML2:7.25 ML3:FASTRAK REQUIRED</message-line>
  </raw-sign-message>
</toll-sign>

<toll-destination>
  <id>4203</id>
  <name>Crow Canyon - 5</name>
  <order>1</order>
  <description>End Of Zone</description>
  <destination-type/>
  <travel-time>0</travel-time>
  <additional-info>
    <info/>
  </additional-info>
  <toll-rates>
    <toll-rate>
      <toll-price>0.50</toll-price>
      <last-updated>2020-02-05T15:18:31.974905-08:00</last-updated>
      <tolled-vehicles/>
      <tolling-methods/>
      <payment-options/>
      <toll-exemptions/>
    </toll-rate>
  </toll-rates>
</toll-destination>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
<toll-destination>
<id>4211</id>
<name>Livorna - 6</name>
<order>2</order>
<description>End Of Segment</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
</additional-info>
</toll-rates>
<toll-rate>
<toll-price>7.25</toll-price>
<last-updated>2020-02-05T15:18:31.990506-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<toll-sign>
<id>5110</id>
<geography>
<gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
<gml:pos>37.850803999999997 -122.028783000000004</gml:pos>
</gml:Point>
</geography>
<name>I-680 SB - Crow Canyon - 4</name>
<toll-sign-status>0</toll-sign-status>
<description>VTMS Being Reported</description>
<toll-sign-image-link/>
<additional-info>
</additional-info>
</raw-sign-message>
</raw-sign-message>
</toll-destinations>
<toll-destination>
<id>4105</id>
<name>Crow Canyon - 9</name>
<order>1</order>
<description>End Of Zone</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
</additional-info>
</toll-rates>
<toll-rate>
<toll-price>0.50</toll-price>
<last-updated>2020-02-05T15:18:32.006108-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<toll-rate>
  <toll-price>1.00</toll-price>
  <last-updated>2020-02-05T15:18:32.021709-08:00</last-updated>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
</toll-signs>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
<toll-destination>
  <id>4100</id>
  <name>Alcosta - 5</name>
  <order>2</order>
  <description>End Of Segment</description>
  <destination-type/>
  <travel-time>0</travel-time>
  <additional-info>
    <info/>
  </additional-info>
  <toll-rates>
    <toll-rate>
      <toll-price>1.00</toll-price>
      <last-updated>2020-02-05T15:18:32.052912-08:00</last-updated>
      <tolled-vehicles/>
      <tolling-methods/>
      <payment-options/>
      <toll-exemptions/>
      <toll-restrictions/>
    </toll-rate>
  </toll-rates>
</toll-destination>

<toll-destination>
  <id>4105</id>
  <name>Crow Canyon - 9</name>
  <order>1</order>
  <description>End Of Zone</description>
  <destination-type/>
  <travel-time>0</travel-time>
  <additional-info>
    <info/>
  </additional-info>
  <toll-rates>
    <toll-rate>
      <toll-price>1.00</toll-price>
      <last-updated>2020-02-05T15:18:32.052912-08:00</last-updated>
      <tolled-vehicles/>
      <tolling-methods/>
      <payment-options/>
      <toll-exemptions/>
      <toll-restrictions/>
    </toll-rate>
  </toll-rates>
</toll-destination>
<toll-price>0.50</toll-price>
<last-updated>2020-02-05T15:32.068514-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
<toll-destination>
<id>4100</id>
<name>Alcosta - 5</name>
<order>2</order>
<description>End Of Segment</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
<info/>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>1.00</toll-price>
<last-updated>2020-02-05T15:32.084115-08:00</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
<toll-sign>
<id>5107</id>
<geography>
<gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
  <gml:pos>37.821708999999998 -121.993415999999996</gml:pos>
</gml:Point>
</geography>
<name>I-680 SB - Crow Canyon - 7</name>
<toll-sign-status>0</toll-sign-status>
<description>VTMS Being Reported</description>
<toll-sign-image-link/>
<additional-info>
<info/>
</additional-info>
<raw-sign-message>
<message-line>ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED</message-line>
</raw-sign-message>
</toll-destinations>
<toll-destination>
<id>4105</id>
<name>Crow Canyon - 9</name>
<order>1</order>
<description>End Of Zone</description>
<destination-type/>
<travel-time>0</travel-time>
<additional-info>
<info/>
</additional-info>
<toll-rates>
  <toll-rate>
    <toll-price>0.50</toll-price>
    <last-updated>2020-02-05T18:32.115318-08:00</last-updated>
    <tolled-vehicles/>
    <tolling-methods/>
    <payment-options/>
    <toll-exemptions/>
    <toll-restrictions/>
  </toll-rate>
</toll-rates>

<toll-destination>
  <id>4100</id>
  <name>Alcosta - 5</name>
  <order>2</order>
  <description>End Of Segment</description>
  <destination-type/>
  <travel-time>0</travel-time>
  <additional-info/>
</toll-destination>

<toll-rates>
  <toll-rate>
    <toll-price>1.00</toll-price>
    <last-updated>2020-02-05T18:32.13092-08:00</last-updated>
    <tolled-vehicles/>
    <tolling-methods/>
    <payment-options/>
    <toll-exemptions/>
    <toll-restrictions/>
  </toll-rate>
</toll-rates>

<toll-sign>
  <id>5202</id>
  <geography>
    <gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
      <gml:pos>37.748026000000003 -121.957348999999994</gml:pos>
    </gml:Point>
  </geography>
  <name>I-680 NB - Crow Canyon - 4</name>
  <toll-sign-status>0</toll-sign-status>
  <description>VTMS Being Reported</description>
  <toll-sign-image-link/>
  <additional-info/>
</toll-sign>

<toll-destinations>
  <toll-destination>
    <id>4203</id>
    <name>Crow Canyon - 5</name>
    <order>1</order>
    <description>End Of Zone</description>
    <destination-type/>
    <travel-time>0</travel-time>
    <additional-info/>
  </toll-destination>
</toll-destinations>
<info/>
</additional-info>
<toll-rates>
<toll-rate>
<toll-price>0.50</toll-price>
<last-updated>2020-02-05T18:32:16Z</last-updated>
<tolled-vehicles/>
<tolling-methods/>
<payment-options/>
<toll-exemptions/>
<toll-restrictions/>
</toll-rate>
</toll-rates>
</toll-destination>
</toll-destinations>
</toll-sign>
	<toll-sign>
	{id>4211</id>
	<name>Livorna - 6</name>
	<order>2</order>
	<description>End Of Segment</description>
	<destination-type/>
	<travel-time>0</travel-time>
	<additional-info>
	<info/>
</additional-info>
</toll-sign>
</toll-destinations>
</toll-sign>
	<toll-sign>
	{id>5200</id>
	<geography>
	<gml:Point srsName="urn:ogc:def:crs:EPSG::4326">
	<gml:pos>37.731665999999997 -121.946335000000005</gml:pos>
	</gml:Point>
	</geography>
	<name>I-680 NB - Crow Canyon - 2</name>
	<description>VTMS Being Reported</description>
	<additional-info>
	<info/>
</additional-info>
</toll-sign>
</toll-sign-message>
<message-line>ML1:0.50 ML2:7.25 ML3:FASTRAK REQUIRED</message-line>
</raw-sign-message>
</toll-destinations>
</toll-destination>
	<toll-destination>
	{id>4203</id>
	<name>Crow Canyon - 5</name>
	<order>1</order>
	<description>End Of Zone</description>
	<destination-type/>
</toll-destination>
4 Appendix B: API Response Messages- JSON

4.1 Toll Program JSON

B.1.1 Example Toll Program Response (JSON)
{ "toll-programs": [ 
{ "toll-authority-info": { 
"toll-authority": "BAIFA",
"toll-program-name": "BAIFA"
},
"general-toll-info": { 
"minimum-toll": 0.0, 
"maximum-toll": 0.0, 
"toll-currency": "USD", 
"tolled-vehicles": {}, 
"tolling-methods": {}, 
"payment-options": {}, 
"toll-exemptions": {}, 
"toll-restrictions": {} 
},
"toll-signs": [ 
{ "id": "5209", 
"name": "I-680 NB - Livorna - 5", 
"toll-sign-status": 0, 
"description": "VTMS Being Reported", 
"toll-sign-image-link": "", 
"additional-info": null, 
"raw-sign-message": { 
"message-line": [ 
"ML1:6.75 ML3:FASTRAK REQUIRED"
] },
"toll-destinations": [ 
{ "id": "4211", 
"order": 1, 
"name": "Livorna - 6", 
"description": "End Of Zone", 
"destination-type": "", 
"travel-time": 0, 
"additional-info": null, 
"toll-rates": [ 
{ "toll-price": 6.75, 
"last-updated": "2020-02-05T15:20:31.669613-08:00", 
"tolled-vehicles": {}, 
"tolling-methods": {}, 
"payment-options": {}, 
"toll-exemptions": {}, 
"toll-restrictions": {} 
} 
] } 
},
{ "id": "5103", 
"name": "I-680 SB - Alcosta - 4", 
"toll-sign-status": 0, 
"description": "VTMS Being Reported", 
"toll-sign-image-link": "" 
} 
]}
"additional-info": null,
"raw-sign-message": {
  "message-line": [
    "ML1:0.50 ML3:FASTRAK REQUIRED"
  ]
},
"toll-destinations": [
  {
    "id": "4100",
    "order": 1,
    "name": "Alcosta - 5",
    "description": "End Of Zone",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
      {
        "toll-price": 0.5,
        "last-updated": "2020-02-05T15:20:31.685214-08:00",
        "tolled-vehicles": {},
        "tolling-methods": {},
        "payment-options": {},
        "toll-exemptions": {},
        "toll-restrictions": {}
      }
    ]
  },
  {
    "id": "5104",
    "name": "I-680 SB - Alcosta - 3",
    "toll-sign-status": 0,
    "description": "VTMS Being Reported",
    "toll-sign-image-link": "",
    "additional-info": null,
    "raw-sign-message": {
      "message-line": [
        "ML1:0.50 ML3:FASTRAK REQUIRED"
      ]
    },
    "toll-destinations": [
      {
        "id": "4100",
        "order": 1,
        "name": "Alcosta - 5",
        "description": "End Of Zone",
        "destination-type": "",
        "travel-time": 0,
        "additional-info": null,
        "toll-rates": [
          {
            "toll-price": 0.5,
            "last-updated": "2020-02-05T15:20:31.700816-08:00",
            "tolled-vehicles": {},
            "tolling-methods": {},
            "payment-options": {},
            "toll-exemptions": {},
            "toll-restrictions": {}
          }
        ]
      }
    ]
  }
]
{
  
},
],
],
{
  "id": "5105",
  "name": "I-680 SB - Alcosta - 1",
  "toll-sign-status": 0,
  "description": "VTMS Being Reported",
  "toll-sign-image-link": "",
  "additional-info": null,
  "raw-sign-message": {
    "message-line": [
      "ML1:0.50 ML3:FASTRAK REQUIRED"
    ]
  },
  "toll-destinations": [
    {
      "id": "4100",
      "order": 1,
      "name": "Alcosta - 5",
      "description": "End Of Zone",
      "destination-type": "",
      "travel-time": 0,
      "additional-info": null,
      "toll-rates": [
        {
          "toll-price": 0.5,
          "last-updated": "2020-02-05T15:20:31.716417-08:00",
          "toll-edges": {}
        }
      ],
      "toll-methods": {}
    }
  ]
},
{
  "id": "5106",
  "name": "I-680 SB - Crow Canyon - 8",
  "toll-sign-status": 0,
  "description": "VTMS Being Reported",
  "toll-sign-image-link": "",
  "additional-info": null,
  "raw-sign-message": {
    "message-line": [
      "ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED"
    ]
  },
  "toll-destinations": [
    {
      "id": "4105",
      "order": 1,
      "name": "Crow Canyon - 9",
      "description": "End Of Zone",
      "destination-type": ""
    }
  ]
}
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
"toll-price": 0.5,
"last-updated": "2020-02-05T15:20:31.74762-08:00",
"tolled-vehicles": {},
"tolling-methods": {},
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
}
},
{
"id": "4100",
"order": 2,
"name": "Alcosta - 5",
"description": "End Of Segment",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
"toll-price": 1.0,
"last-updated": "2020-02-05T15:20:31.74762-08:00",
"tolled-vehicles": {},
"tolling-methods": {},
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
}
]
},
{
"id": "5109",
"name": "I-680 SB - Crow Canyon - 5",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
"message-line": [
"ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED"
]
},
"toll-destinations": [
{
"id": "4105",
"order": 1,
"name": "Crow Canyon - 9",
"description": "End Of Zone",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{}]}
"toll-price": 0.5,
"last-updated": "2020-02-05T15:20:31.763222-08:00",
"tolled-vehicles": {},
"tolling-methods": {},
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
}
},
{
"id": "4100",
"order": 2,
"name": "Alcosta - 5",
"description": "End Of Segment",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
"toll-price": 1.0,
"last-updated": "2020-02-05T15:20:31.778823-08:00",
"tolled-vehicles": {},
"tolling-methods": {},
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
}
]
},
{
"id": "5205",
"name": "I-680 NB - Livorna - 2",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
"message-line": [
"ML1:6.75 ML3:FASTRAK REQUIRED"
]
},
"toll-destinations": [
{
"id": "4211",
"order": 1,
"name": "Livorna - 6",
"description": "End Of Zone",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
"toll-price": 6.75,
"last-updated": "2020-02-05T15:20:31.794425-08:00",
"tolled-vehicles": {},
"tolling-methods": {},
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
}
]
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
]
]
{
"id": "5207",
"name": "I-680 NB - Livorna - 3",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
"message-line": [
"ML1:6.75 ML3:FASTRAK REQUIRED"
]
},
"toll-destinations": [
{
"id": "4211",
"order": 1,
"name": "Livorna - 6",
"description": "End Of Zone",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
"toll-price": 6.75,
"last-updated": "2020-02-05T15:20:31.810026-08:00",
"tollled-vehicles": {},
"tolling-methods": {},
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
}
]
}
],
"id": "5208",
"name": "I-680 NB - Livorna - 4",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
"message-line": [
"ML1:6.75 ML3:FASTRAK REQUIRED"
]
},
"toll-destinations": [
{
"id": "4211",
"order": 1,
"name": "Livorna - 6",
"description": "End Of Zone",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [ 
  { 
    "toll-price": 6.75,
    "last-updated": "2020-02-05T15:20:31.825628-08:00",
    "tolled-vehicles": {},
    "tolling-methods": {},
    "payment-options": {},
    "toll-exemptions": {},
    "toll-restrictions": {}
  }
}
],
"toll-destinations": [ 
  { 
    "id": "5211",
    "name": "I-680 NB - Livorna - 6",
    "toll-sign-status": 0,
    "description": "VTMS Being Reported",
    "toll-sign-image-link": "",
    "additional-info": null,
    "raw-sign-message": { 
      "message-line": [ 
        "ML1:6.75 ML3:FASTRAK REQUIRED"
      ]
    },
    "toll-destinations": [ 
      { 
        "id": "4211",
        "order": 1,
        "name": "Livorna - 6",
        "description": "End Of Zone",
        "destination-type": "",
        "travel-time": 0,
        "additional-info": null,
        "toll-rates": [ 
          { 
            "toll-price": 6.75,
            "last-updated": "2020-02-05T15:20:31.841229-08:00",
            "tolled-vehicles": {},
            "tolling-methods": {},
            "payment-options": {},
            "toll-exemptions": {},
            "toll-restrictions": {}
          }
        ]
      }
    ]
  },
  { 
    "id": "5301",
    "name": "I-880 SB - Dixon Landing - 4",
    "toll-sign-status": 0,
    "description": "VTMS Being Reported",
    "toll-sign-image-link": "",
    "additional-info": null,
    "raw-sign-message": { 
      "message-line": [ 
        "ML1:6.75 ML3:FASTRAK REQUIRED"
      ]
    }
  }
]
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
  "message-line": [
    "ML1:TEST ML3:TEST 1 - NO TOLLS"
  ],
},
"toll-destinations": [
  {
    "id": "4300",
    "order": 1,
    "name": "Dixon Landing - 5",
    "description": "End Of Zone",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
      {
        "toll-price": 1.0,
        "last-updated": "2020-02-05T15:20:31.856831-08:00",
        "tolled-vehicles": {},
        "tolling-methods": {},
        "payment-options": {},
        "toll-exemptions": {},
        "toll-restrictions": {}
      }
    ]
  },
  {
    "id": "5302",
    "name": "I-880 SB - Dixon Landing - 3",
    "toll-sign-status": 0,
    "description": "VTMS Being Reported",
    "toll-sign-image-link": "",
    "additional-info": null,
    "raw-sign-message": {
      "message-line": [
        "ML1:TEST ML3:TEST 1 - NO TOLLS"
      ],
    },
    "toll-destinations": [
      {
        "id": "4300",
        "order": 1,
        "name": "Dixon Landing - 5",
        "description": "End Of Zone",
        "destination-type": "",
        "travel-time": 0,
        "additional-info": null,
        "toll-rates": [
          {
            "toll-price": 1.0,
            "last-updated": "2020-02-05T15:20:31.872432-08:00",
            "tolled-vehicles": {},
            "tolling-methods": {},
            "payment-options": {},
            "toll-exemptions": {},
            "toll-restrictions": {}
          }
        ]
      }
    ]
  }
]
"toll-restrictions": {}
"id": "5221",
"name": "I-680 NB - Crow Canyon - 1",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
  "message-line": [
    "ML1:0.50 ML2:7.25 ML3:FASTRAK REQUIRED"
  ]
},
"toll-destinations": [
  {
    "id": "4203",
    "order": 1,
    "name": "Crow Canyon - 5",
    "description": "End Of Zone",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
      {
        "toll-price": 0.5,
        "last-updated": "2020-02-05T15:20:31.919237-08:00",
        "tolled-vehicles": {},
        "tolling-methods": {},
        "payment-options": {},
        "toll-exemptions": {},
        "toll-restrictions": {}
      }
    ]
  },
  {
    "id": "4211",
    "order": 2,
    "name": "Livorna - 6",
    "description": "End Of Segment",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
      {
        "toll-price": 7.25,
        "last-updated": "2020-02-05T15:20:31.919237-08:00",
        "tolled-vehicles": {},
        "tolling-methods": {},
        "payment-options": {},
        "toll-exemptions": {},
        "toll-restrictions": {}
      }
    ]
  }
],
"id": "5110",
"name": "I-680 SB - Crow Canyon - 4",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
  "message-line": [
    "ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED"
  ]
},
"toll-destinations": [
  {
    "id": "4105",
    "order": 1,
    "name": "Crow Canyon - 9",
    "description": "End Of Zone",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
      {
        "toll-price": 0.5,
        "last-updated": "2020-02-05T15:20:31.934838-08:00",
        "tolled-vehicles": {},
        "tolling-methods": {},
        "payment-options": {},
        "toll-exemptions": {},
        "toll-restrictions": {}
      }
    ],
  },
  {
    "id": "4100",
    "order": 2,
    "name": "Alcosta - 5",
    "description": "End Of Segment",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
      {
        "toll-price": 1.0,
        "last-updated": "2020-02-05T15:20:31.95044-08:00",
        "tolled-vehicles": {},
        "tolling-methods": {},
        "payment-options": {},
        "toll-exemptions": {},
        "toll-restrictions": {}
      }
    ],
  }
],
"id": "5112",
"name": "I-680 SB - Crow Canyon - 2",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": ""
"additional-info": null,
"raw-sign-message": {
  "message-line": [
    "ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED"
  ]
},
"toll-destinations": [
  {
    "id": "4105",
    "order": 1,
    "name": "Crow Canyon - 9",
    "description": "End Of Zone",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
      {
        "toll-price": 0.5,
        "last-updated": "2020-02-05T15:20:31.966041-08:00",
        "tolled-vehicles": {},
        "tolling-methods": {},
        "payment-options": {},
        "toll-exemptions": {},
        "toll-restrictions": {}
      }
    ]
  },
  {
    "id": "4100",
    "order": 2,
    "name": "Alcosta - 5",
    "description": "End Of Segment",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
      {
        "toll-price": 1.0,
        "last-updated": "2020-02-05T15:20:31.981643-08:00",
        "tolled-vehicles": {},
        "tolling-methods": {},
        "payment-options": {},
        "toll-exemptions": {},
        "toll-restrictions": {}
      }
    ]
  }
],
"id": "5113",
"name": "I-680 SB - Crow Canyon - 1",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
  "message-line": [
    "ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED"
  ]
}
"toll-destinations": [
{
  "id": "4105",
  "order": 1,
  "name": "Crow Canyon - 9",
  "description": "End Of Zone",
  "destination-type": "",
  "travel-time": 0,
  "additional-info": null,
  "toll-rates": [
    {
      "toll-price": 0.5,
      "last-updated": "2020-02-05T15:20:31.997244-08:00",
      "tolled-vehicles": {},
      "tolling-methods": {},
      "payment-options": {},
      "toll-exemptions": {},
      "toll-restrictions": {}
    }
  ]
},
{
  "id": "4100",
  "order": 2,
  "name": "Alcosta - 5",
  "description": "End Of Segment",
  "destination-type": "",
  "travel-time": 0,
  "additional-info": null,
  "toll-rates": [
    {
      "toll-price": 1.0,
      "last-updated": "2020-02-05T15:20:31.997244-08:00",
      "tolled-vehicles": {},
      "tolling-methods": {},
      "payment-options": {},
      "toll-exemptions": {},
      "toll-restrictions": {}
    }
  ]
}
],
{
  "id": "5107",
  "name": "I-680 SB - Crow Canyon - 7",
  "toll-sign-status": 0,
  "description": "VTMS Being Reported",
  "toll-sign-image-link": "",
  "additional-info": null,
  "raw-sign-message": {
    "message-line": [
      "ML1:0.50 ML2:1.00 ML3:FASTRAK REQUIRED"
    ]
  }
},
"toll-destinations": [
]
"id": "4105",
"order": 1,
"name": "Crow Canyon - 9",
"description": "End Of Zone",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
  "toll-price": 0.5,
  "last-updated": "2020-02-05T15:20:32.012846-08:00",
  "tolling-methods": {},
  "payment-options": {},
  "toll-exemptions": {},
  "toll-restrictions": {}
}
},
{
  "id": "4100",
  "order": 2,
  "name": "Alcosta - 5",
  "description": "End Of Segment",
  "destination-type": "",
  "travel-time": 0,
  "additional-info": null,
  "toll-rates": [
  {
    "toll-price": 1.0,
    "last-updated": "2020-02-05T15:20:32.028447-08:00",
    "tolling-methods": {},
    "payment-options": {},
    "toll-exemptions": {},
    "toll-restrictions": {}  
  }
  ]
}  
],
"toll-destinations": [
  {
    "id": "5202",
    "name": "I-680 NB - Crow Canyon - 4",
    "toll-sign-status": 0,
    "description": "VTMS Being Reported",
    "toll-sign-image-link": "",
    "additional-info": null,
    "raw-sign-message": {
      "message-line": [
        "ML1:0.50 ML2:7.25 ML3:FASTRAK REQUIRED"
      ]
    }
  }
],
"toll-destinations": [
]
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
"toll-price": 0.5,
"last-updated": "2020-02-05T15:20:32.044049-08:00",
"tolled-vehicles": {},
"tolling-methods": {},
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
}
],
{
"id": "4211",
"order": 2,
"name": "Livorna - 6",
"description": "End Of Segment",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
"toll-price": 7.25,
"last-updated": "2020-02-05T15:20:32.044049-08:00",
"tolled-vehicles": {},
"tolling-methods": {},
"payment-options": {},
"toll-exemptions": {},
"toll-restrictions": {}
}
]
],
{
"id": "5200",
"name": "I-680 NB - Crow Canyon - 2",
"toll-sign-status": 0,
"description": "VTMS Being Reported",
"toll-sign-image-link": "",
"additional-info": null,
"raw-sign-message": {
"message-line": [
"ML1:0.50 ML2:7.25 ML3:FASTRAK REQUIRED"
]
},
"toll-destinations": [
{
"id": "4203",
"order": 1,
"name": "Crow Canyon - 5",
"description": "End Of Zone",
"destination-type": "",
"travel-time": 0,
"additional-info": null,
"toll-rates": [
{
    "toll-price": 0.5,
    "last-updated": "2020-02-05T15:20:32.05965-08:00",
    "tolled-vehicles": {},
    "tolling-methods": {},
    "payment-options": {},
    "toll-exemptions": {},
    "toll-restrictions": {}
}
],
{
    "id": "4211",
    "order": 2,
    "name": "Livorna - 6",
    "description": "End Of Segment",
    "destination-type": "",
    "travel-time": 0,
    "additional-info": null,
    "toll-rates": [
        {
            "toll-price": 7.25,
            "last-updated": "2020-02-05T15:20:32.075252-08:00",
            "tolled-vehicles": {},
            "tolling-methods": {},
            "payment-options": {},
            "toll-exemptions": {},
            "toll-restrictions": {}
        }
    ]
}
]
],
"ProgramID": 3199,
"ProgramName": null
},
"pagination": {
    "offset": 0
},
"meta": {
    "url": "/toll/programs?api_key=18044823-70f2-401c-bd8b-057c4f615f11&format=json",
    "up_url": "/",
    "version": "v1"
}