



MBTA

**MBTA-REALTIME DEVELOPER DOCUMENTATION (V 2.0.0)
DRAFT**

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VERSION CONTROL

Version #	Date	Change Author	Description of Change
2.0.0	2014/06/24	Laura Riegel / Ritesh Warade	<ul style="list-style-type: none"> Updated to API version 2 Added 'route_hide' to the following calls: 'Route List', 'Route List by Stop', and all Alerts calls Added two GTFS-realtime feeds for trip updates and vehicle positions for bus, heavy rail, and commuter rail routes. Added format parameter to request data in specific format, and added options to request data in jsonp format Updated parameters in Alerts web services queries (Section 4.4.9-4.4.15) Added predictions web services queries (Section 4.4.16-4.4.18) Added vehicles web services queries (Section 4.4.19 and 4.4.20)
1.0.4	2013/11/05	Ritesh Warade	<ul style="list-style-type: none"> Updated information about Legacy RSS feed (Section 2.4)
1.0.3	2013/09/24	Ritesh Warade	<ul style="list-style-type: none"> Updated Usage Limits (Section 4.3)
1.0.2	2013/06/25	Ritesh Warade	<ul style="list-style-type: none"> Added two new web service queries – Alerts by Route, and Alerts by Stop (Sections 4.5.10 and 4.5.11)
1.0.1	2013/06/06	Ritesh Warade	<ul style="list-style-type: none"> Changed Legacy RSS feed to optionally filter alerts by line (Section Error! Reference source not found.)
1.0	2013/06/04	Ritesh Warade	<p>First Release</p> <ul style="list-style-type: none"> Implemented display of usage details (number of requests for the current day) (Section 4.2.4) Started enforcing usage limits (Section 4.3) Changed route list and stop list by route queries to return routes in MBTA's preferred display order (Sections 4.5.2 and 4.5.3) Changed stop list by user location query to return up to 15 stops in a one-mile radius ordered by distance (Section 4.5.5) Implemented error message when usage limits are exceeded (Section 4.6.6)
0.9.1	2013/05/22	Ritesh Warade	<p>Working Draft (pre launch)</p> <ul style="list-style-type: none"> Added registration for developer accounts and API keys in Section 4.2 Added note about open development api key in Section 4.2 Added query format in Section 4.4 Changed 'date_time' to 'server_dt' in Server Time query (Section 4.5.1) Changed 'sch_arrival_datetime' to 'sch_arr_dt' and 'sch_departure_datetime' to 'sch_dep_dt' in

			Schedule queries (Sections 4.5.6, 4.5.7, and 4.5.8) <ul style="list-style-type: none">Added note on severity in Alerts query (Section 4.5.9)
0.9	2013/05/07	Ritesh Warade	Working Draft (pre launch)

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1. OVERVIEW

MBTA-realtime provides data about MBTA services, including realtime data such as vehicle locations, arrival predictions, and service alerts as well as less frequently-updated data such as routes, stop locations, and schedules. Data are provided via a number of different methods including GTFS-realtime feeds, RSS feeds, and web services, and are intended for developers to use to create applications to deliver such information to the public.

1.1 Use of the Data

Access to the data provided by the GTFS-realtime feeds, RSS feeds, and web services is governed by the language in the MassDOT Developers License Agreement (<http://www.eot.state.ma.us/developers/>).

2. GTFS-REALTIME

GTFS-realtime is a new standard developed by Google for delivering realtime data. The data are in the Protocol Buffer format and need to be combined with General Transit Feed Specification (GTFS) schedule data to be meaningful. (MBTA's GTFS files are available in a ZIP file at (http://www.mbtta.com/uploadedfiles/MBTA_GTFS.zip))

MBTA provides the following GTFS-realtime feeds:

- Service Alerts – this feed includes all service alerts and is available at <http://developer.mbtta.com/lib/GTRTFS/Alerts/Alerts.pb>.
- Trip Updates – this feed includes trip progress and arrival predictions, currently for MBTA bus, heavy rail and commuter rail routes, and is available at <http://developer.mbtta.com/lib/GTRTFS/Alerts/TripUpdates.pb>.
- Vehicle Positions – this feed includes vehicle positions, currently for MBTA bus, heavy rail and commuter rail routes, and is available at <http://developer.mbtta.com/lib/GTRTFS/Alerts/VehiclePositions.pb>.
- Trip Updates (bus only) – this feed includes trip progress and arrival predictions, currently only for MBTA bus routes, and is available at <http://developer.mbtta.com/lib/gtrtfs/Passages.pb>.
- Vehicle Positions (bus only) – this feed includes vehicle positions, currently only for MBTA bus routes, and is available at <http://developer.mbtta.com/lib/gtrtfs/Vehicles.pb>.

2.1 Documentation

The GTFS-realtime specification is detailed at <https://developers.google.com/transit/gtfs-realtime/>. The Protocol Buffer format is detailed at <http://code.google.com/p/protobuf/>.

2.2 Use of the Feed

Access to the MBTA GTFS-realtime feeds is governed by the language in the MassDOT Developers License Agreement (<http://www.eot.state.ma.us/developers/>) in addition to the following conditions:

- The MBTA reserves the right to suspend the data feed, modify the feed, or modify elements of the feed at any time at the MBTA's sole and absolute discretion.
- The MBTA does not guarantee any technical support of any kind to users.
- No user may execute polling commands more often than every 10 seconds. A user that polls more often than that or otherwise overtaxes the MBTA's system may be suspended or terminated from the data feed.

2.3 Example of the Service Alerts Feed

The following is an ASCII representation of an example Alert feed:

```
header {
  gtfs_realtime_version: "1.0"
  timestamp: 1367888430
}
entity {
  id: "780"
  alert {
    active_period {
      start: 1368261000
      end: 1368426600
    }
  }
}
```



```

    informed_entity {
      agency_id: "1"
      route_id: "CR-Fitchburg"
      route_type: 2
      stop_id: "Porter Square"
    }
    cause: CONSTRUCTION
    effect: NO_SERVICE
    header_text {
      translation {
        text: "Porter Square Station closed from Sat May 11, 2013 through Sun May 12,
2013 due to construction"
        language: "en"
      }
    }
    description_text {
      translation {
        text: "Affected services:\r\nFitchburg/South Acton Line"
        language: "en"
      }
    }
  }
}
entity {
  id: "783"
  alert {
    active_period {
      start: 1368046800
      end: 1368108000
    }
    informed_entity {
      agency_id: "1"
      stop_id: "Ruggles"
    }
    cause: MAINTENANCE
    effect: OTHER_EFFECT
    header_text {
      translation {
        text: "Elevator 849 RUGGLES - Commuter Rail Platform to Lobby out of service
from Wed May 08, 2013 at 05:00 PM to Thu May 09, 2013 at 10:00 AM due to electrical
work"
        language: "en"
      }
    }
    description_text {
      translation {
        text: "Please contact station personnel or conductor for assistance. For
inbound commuter rail riders, please disembark at Back Bay and return to Ruggles via
the Orange Line. \r\n\r\nFor outbound customers, please take the Orange Line to Back
Bay and board the commuter rail at Back Bay. Please contact station personnel for
assistance."
        language: "en"
      }
    }
  }
}
}

```

2.4 Example of the Trip Updates Feed

```

header {
  gtfs_realtime_version: "1.0"
  incrementality: FULL_DATASET
}

```

```
    timestamp: 1400527482
  }
  entity {
    id: "1400527482_22559683"
    trip_update {
      trip {
        trip_id: "22559683"
        start_date: "20140519"
        schedule_relationship: SCHEDULED
        route_id: "903_"
      }
      stop_time_update {
        stop_sequence: 17
        arrival {
          time: 1400527524
        }
        departure {
          time: 1400527524
        }
        stop_id: "70004"
      }
      stop_time_update {
        stop_sequence: 18
        arrival {
          time: 1400527621
        }
        departure {
          time: 1400527621
        }
        stop_id: "70002"
      }
    }
    vehicle {
      id: "1224"
      label: "1224"
    }
    timestamp: 1400527479
  }
}
entity {
  id: "1400527482_CR-Fairmount-CR-Weekday-Fairmount-Dec13-765"
  trip_update {
    trip {
      trip_id: "CR-Fairmount-CR-Weekday-Fairmount-Dec13-765"
      schedule_relationship: SCHEDULED
      route_id: "CR-Fairmount"
    }
    stop_time_update {
      stop_sequence: 1
      arrival {
        time: 1400527200
      }
      departure {
        time: 1400527200
      }
      stop_id: "South Station"
    }
    vehicle {
      id: "1703"
      label: "1703"
    }
    timestamp: 1400527409
  }
}
```

```
entity {
  id: "1400527482_23083840"
  trip_update {
    trip {
      trip_id: "23083840"
      start_date: "20140519"
      schedule_relationship: SCHEDULED
      route_id: "108"
    }
    stop_time_update {
      stop_sequence: 28
      arrival {
        delay: 120
      }
      stop_id: "9033"
    }
  }
  vehicle {
    id: "y0748"
    label: "0748"
  }
}
```

2.5 Example of the Vehicle Positions Feed

```
header {
  gtfs_realtime_version: "1.0"
  incrementality: FULL_DATASET
  timestamp: 1400527482
}
entity {
  id: "1400527482_1224"
  vehicle {
    trip {
      trip_id: "22559683"
      start_date: "20140519"
      schedule_relationship: SCHEDULED
      route_id: "903_"
    }
    position {
      latitude: 42.32085
      longitude: -71.10164
      bearing: 210
    }
    timestamp: 1400527477
    vehicle {
      id: "1224"
      label: "1224"
    }
  }
}
entity {
  id: "1400527482_1703"
  vehicle {
    trip {
      trip_id: "CR-Fairmount-CR-Weekday-Fairmount-Dec13-765"
      schedule_relationship: SCHEDULED
      route_id: "CR-Fairmount"
    }
    position {
      latitude: 42.34549
      longitude: -71.05837
    }
  }
}
```

```
    bearing: 206
    speed: 13
  }
  timestamp: 1400527409
  vehicle {
    id: "1703"
  }
}
}
entity {
  id: "1400527482_v2031"
  vehicle {
    trip {
      trip_id: "22803953"
      start_date: "20140519"
      schedule_relationship: SCHEDULED
      route_id: "34"
    }
    position {
      latitude: 42.2900963
      longitude: -71.124176
      bearing: 0
      odometer: 0
      speed: 0
    }
    current_stop_sequence: 26
    timestamp: 1400527364
    stop_id: "638"
    vehicle {
      id: "v2031"
      label: "2031"
    }
  }
}
```

3. RSS

MBTA provides service alerts in RSS feed format. While the API and GTFS-realtime provide richer data sets, RSS can provide an easy way to drop alerts into some existing applications.

Previously, there were two versions of the RSS feed – the Legacy and Standard feeds. (Note: they both contain the same information, but in different formats). The Legacy RSS feed is discontinued. The Standard RSS feed is intended to provide an easy way to add an alerts feed to anything with RSS reader capability, with little or no programming acumen. It is expected that this feed will function indefinitely.

Both feeds conform to version 2.0.11 of the RSS 2.0 specification, as available at <http://www.rssboard.org/rss-specification>.

3.1 Use of the Feed

Access to the MBTA RSS feeds is governed by the language in the MassDOT Developers License Agreement (<http://www.eot.state.ma.us/developers/>) in addition to the following conditions:

- The MBTA reserves the right to suspend the data feed, modify the feed, or modify elements of the feed at any time at the MBTA's sole and absolute discretion.
- The MBTA does not guarantee any technical support of any kind to users.
- No user may execute polling commands more often than every 1 minute. A user that polls more often than that or otherwise overtaxes the MBTA's system may be suspended or terminated from the data feed.

3.2 Feed Format

3.2.1 STANDARD RSS FEED

URL

<http://realtime.mbtta.com/alertsrss/rssfeed4>

Response Fields

Name	Description
Rss	Root element of the response document
Version	Attribute of the root element The version number of the RSS specification that the feed conforms to Data type: String Value: "2.0"
Channel	Child element of the root element Contains information about the channel
Title	Child element of the "channel" element The name of the channel Data type: String Value: "T-Alerts"
Link	Child element of the "channel" element The link for the channel Data type: String representation of a link Value: "http://www.mbtta.com/rider_tools/transit_updates/"

Description	Child element of the “channel” element The description for the channel Data type: String Value: “MBTA Service Alerts”
Language	Child element of the “channel” element The language the channel is written in Data type: String Value: : “en-us”
pubDate	Child element of the “channel” element The time the feed was last updated in RFC 822 format Data type: String representation of a datetime Example: “Sun, 05 May 2013 03:26:17 GMT”
Generator	Child element of the “channel” element The program used to generate the channel Data type: String Value: “MBTA-realtime http://realtime.mbtta.com”
Webmaster	Child element of the “channel” element The email address for person responsible for technical issues relating to channel Data type: String representation of an email address Value: “developer@mbta.com”
Ttl	Child element of the “channel” element Number of minutes that indicates how long the channel can be cached before refreshing from the source Data type: Integer Value: “10”
Item	Child element of the “channel” element Contains information about a single alert

For items representing alerts that are still active:

Title	Child element of the “item” element A brief summary of the situation (GTFS-realtime-compatible) Data type: String Example: “Shuttle buses replacing Red Line service from Sat Jun 01, 2013 to Sun Jun 30, 2013 every Saturday and Sunday from 09:00 PM to end of service due to tie replacement”
Link	Optional Child element of the “item” element The link for the alert Data type: String representation of a link Value: “http://mbta.com/about_the_mbtta/projects/”
Description	Child element of the “item” element Additional details for the alert (GTFS-realtime-compatible) Data type: String (note: tags are added for line breaks) Example: “Affected stops: Alewife Station Davis Station Porter Square Station Harvard Square Station”

Category	Child element of the "item" element The names of the modes or the elevator/escalator type affected Data type: String Example: "Subway", "Elevator"
Guid	Child element of the "item" element The unique identifier for the alert Data type: String Example: "T-Alert ID 781"
isPermaLink	Attribute of the "guid" element Indicates whether the guid can be assumed to a url Data type: String Value: "false"
Pubdate	Child element of the "item" element The time the alert was last updated in RFC 822 format Data type: String representation of a datetime Example: "Fri, 03 May 2013 17:28:05 GMT"

For items representing alerts that are closed (present in the feed for only 15 minutes after closing):

Title	Child element of the "item" element A brief summary of the situation (GTFS-realtime-compatible) Data type: String Example: "All clear (Shuttle buses replacing Red Line service from Sat Jun 01, 2013 to Sun Jun 30, 2013 every Saturday and Sunday from 09:00 PM to end of service due to tie replacement)"
Category	Child element of the "item" element The names of the modes or the elevator/escalator type affected Data type: String Example: "Subway", "Elevator"
Guid	Child element of the "item" element The unique identifier for the alert Data type: String Example: "T-Alert ID 781"
isPermaLink	Attribute of the "guid" element Indicates whether the guid can be assumed to a url Data type: String Value: "false"
Pubdate	Child element of the "item" element The time the alert was last updated in RFC 822 format Data type: String representation of a datetime Example: "Fri, 03 May 2013 17:28:05 GMT"

Example:

Request:

<http://realtime.mbtta.com/alertsrss/rssfeed4>

Response:

```
<rss version="2.0">
  <channel>
```

```

<title>T-Alerts</title>
<link>http://www.mbta.com/rider_tools/transit_updates/</link>
<description>MBTA Service Alerts</description>
<pubDate>Mon, 06 May 2013 21:46:14 GMT</pubDate>
<language>en-us</language>
<generator>MBTA-realtime http://realtime.mbta.com</generator>
<webMaster>developer@mbta.com</webMaster>
<ttl>10</ttl>
<item>
  <title>
Porter Square Station closed from Sat May 11, 2013 through Sun May 12, 2013 due to
construction
  </title>
  <description>Affected services:<br/>Fitchburg/South Acton
Line</description>
  <category>Commuter Rail</category>
  <guid isPermaLink="false">T-Alert ID 780</guid>
  <pubDate>Fri, 03 May 2013 17:27:02 GMT</pubDate>
</item>
<item>
  <title>
Shuttle buses replacing Red Line service from Sat Jun 01, 2013 to Sun Jun 30, 2013
every Saturday and Sunday from 09:00 PM to end of service due to tie replacement
  </title>
  <description>
Affected stops:<br/>Alewife Station<br/>Davis Station<br/>Porter Square
Station<br/>Harvard Square Station
  </description>
  <category>Subway</category>
  <guid isPermaLink="false">T-Alert ID 781</guid>
  <pubDate>Fri, 03 May 2013 17:28:05 GMT</pubDate>
</item>
<item>
  <title>
Elevator 849 RUGGLES - Commuter Rail Platform to Lobby out of service from Wed May 08,
2013 at 05:00 PM to Thu May 09, 2013 at 10:00 AM due to electrical work
  </title>
  <description>
Please contact station personnel or conductor for assistance. For inbound commuter
rail riders, please disembark at Back Bay and return to Ruggles via the Orange Line.
<br/><br/>For outbound customers, please take the Orange Line to Back Bay and board
the commuter rail at Back Bay. Please contact station personnel for assistance.
  </description>
  <category>Elevator</category>
  <guid isPermaLink="false">T-Alert ID 783</guid>
  <pubDate>Fri, 03 May 2013 17:30:01 GMT</pubDate>
</item>
.
.
.
</channel>
</rss>

```


4. WEB SERVICES

MBTA-realtime provides RESTful web services to provide data about MBTA services. Data are provided in XML, JSON, and JSON-P formats.

A basic introduction to RESTful web services can be found at these sites:

- <http://www.infoq.com/articles/rest-introduction>
- <http://en.wikipedia.org/wiki/REST>

Basic summaries of the XML and JSON formats can be found at these sites:

- http://www.w3schools.com/xml/xml_what.asp
- <http://www.w3schools.com/json/default.asp>

4.1 Use of the Web Services

Access to the MBTA-realtime web services is governed by the language in the MassDOT Developers License Agreement (<http://www.eot.state.ma.us/developers/>) in addition to the following conditions:

- The MBTA reserves the right to suspend the web services, modify the web services, or modify elements of the web services at any time at the MBTA's sole and absolute discretion.
- The MBTA does not guarantee any technical support of any kind to users.
- No user may request data using the queries more often than their allowed limits (see Section 4.3). A user that requests data more often than that or otherwise overtaxes the MBTA's system may be suspended or terminated from the web services.

4.2 Developer Accounts and API keys

To access the web services, developers are required to register for accounts and API keys using the MBTA-realtime Developer Portal (<http://realtime.mbtta.com/Portal/>). The use of the Developer Portal is described in the following subsections.

4.2.1 REGISTER FOR AN ACCOUNT

To register an account, visit the Developer Portal (<http://realtime.mbtta.com/Portal/>) and click the "Register" link on the upper right-hand corner. Enter a username, password, email address, and phone number, and then click the "Register" button.

The Developer Portal will send back an email acknowledging the request for registration, along with a confirmation token, and a confirmation URL. Click the URL or visit <http://realtime.mbtta.com/Portal/Account/Confirmation> and enter the token to complete the registration process. The account will be confirmed in the system.

4.2.2 LOG IN

To login to a registered developer account, visit the Developer Portal (<http://realtime.mbtta.com/Portal/>) and click the "Log in" link on the upper right-hand corner. Enter the username and password, and then click the "Log in" button. The "Manage API Keys" page will open.

4.2.3 REGISTER FOR AN API KEY

To register for an API key, visit the "Manage API Keys" page, enter the name and description of the application which will use the API key, and then click the "Register" button.

The Developer Portal will send an email once the API Key has been granted. Note: this may take up to a day.

Note: An open development API key has been provided to all developers for use in development (which can be found at <http://realtime.mbta.com/Portal/Home/Download>). It may change or be discontinued at any time. Do not go into production using the open development key!

4.2.4 MONITOR API KEYS

To monitor API keys, visit the “Manage API Keys” page. The page will show all API keys that have been granted or are pending for the developer account. To see more information for an API key, click the API key. The “API Key Details” page will open to show the account and application linked to the API key, as well as usage details.

4.3 Usage Limits

The MBTA makes this API available because we want people to use it, and we want developers to be able to access it as much as they need to deliver the best benefit to end users. We also want to behave predictably in the event of a usage spike, however, and safeguard the system so that one misbehaving application does not jeopardize the data for all users. So MBTA-realtime does have usage limits, but it is easy for you to increase your limit if you need to.

Initial usage limits are set as up to 10,000 requests per day per API key. This limit can be increased upon request. To request an increase please email developer@mbta.com and include the account username, application name, and API Key.

Developers will receive emails when approaching usage limits – specifically, at 80%, 90%, and 100% of the usage limit.

4.4 Web Services Query Format

This document describes how to access data using the web services API version 2.0.

Note: API version 1.0 is still available, but references to those queries can be found in MBTA-realtime_DeveloperDocumentation_v1.0.4. API version 1 will be discontinued at the end of 2014 and developers using it should transition to other data sources.

To access data using the web services, a query in the form of a URL text string needs to be used, containing the API key, web service name, and any required and/or optional input parameters.

The format for the web services request queries is:

```
http://54.81.189.97/developer/api/<version of the API>/<web service
query>?api_key=<developer's api key>&<parameter>=<required and/or optional parameters>
```

4.4.1 GET DATA IN A SPECIFIC FORMAT

A request parameter “format” needs to be included to get data in a specific format. If the “format” parameter is not included in the URL string, the default format will be JSON.

Get data in JSON format

To get data in JSON format, include the “format” parameter and set to “json”. The format for the web services request queries to get data in JSON format is:

```
http://54.81.189.97/developer/api/<version of the API>/<web service
query>?api_key=<developer's api key>&<parameter>=<required and/or optional parameters>
```

OR

```
http://54.81.189.97/developer/api/<version of the API>/<web service query>?api_key=<developer's api key>&format=<json>&<parameter>=<required and/or optional parameters>
```

Get data in XML format

To get data in XML “format” include the format parameter and set to “xml”. The format for the web services request queries to get data in XML format is:

```
http://54.81.189.97/developer/api/<version of the API>/<web service query>?api_key=<developer's api key>&format=<xml>&<parameter>=<required and/or optional parameters>
```

Get data in JSONP format

To get data in JSONP format include the “format” parameter and set to “json” AND include a “jsonpcallback” parameter and set to name of callback function. The format for the web services request queries to get data in JSONP format is:

```
http://54.81.189.97/developer/api/<version of the API>/<web service query>?api_key=<developer's api key>&format=<jsonp>&jsonpcallback=<name of callback function>&<parameter>=<required and/or optional parameters>
```

4.5 Web Services API

The web services queries offered by MBTA-realtime in version 2 of the API are:

4.5.1 SERVER TIME

This query will return the current server time.

URL

```
http://54.81.189.97/developer/api/v2/servertime?api_key=<developer's api key>&format=<format type>
```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
format (optional)	Format for response Data type: String Possible values: “json”, “xml”, and “jsonp”
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
server_time	Root element of the response document
server_dt	Attribute of the root element Server time, in epoch time Data type: String representation of an Integer Example: “1361996667”

Example:**XML Request:**

```
http://54.81.189.97/developer/api/v2/servertime?api_key=wX9NwuHnZU2To07GmGR9uw&format=xml
```

Note: This example request, as well as all other example requests in the following sections, uses the open development API key as of May 2013. This may change at any time.

XML Response:

```
<server_time xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" server_dt="1361996838"/>
```

JSON Request:

```
http://54.81.189.97/developer/api/v2/servertime?api_key=wX9NwuHnZU2To07GmGR9uw&format=json
```

JSON Response:

```
{
  "server_dt": "1361996838"
}
```

4.5.2 ROUTE LIST

This query will return a complete list of routes for which data can be requested through the web services.

URL

```
http://54.81.189.97/developer/api/v2/routes?api_key=<developer's api key>&format=<format type>
```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp"
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
route_list	Root element of the response document
Mode	Child element of the root element Contains information for a mode
route_type	Attribute of the "mode" element The GTFS-compatible identifier for the type of service (mode) Data type: String representation of an Integer (0-7) Example: "1"

mode_name	Attribute of the “mode” element The human-readable name for the type of service (mode) Data type: String Example: “Subway”
Route	Child element of the “mode” element Contains information for a route
route_id	Attribute of the “route” element The unique GTFS-compatible identifier for the route Data type: String Example: “931_”
route_name	Attribute of the “route” element The human-readable name for the route Data type: String Example: “Red Line”
route_hide (optional)	Attribute of the “route” element Whether this route should be hidden from users Data type: String representation of a Boolean Possible values: “true”. Only included if route_hide is “true”

Notes

- Routes are returned in MBTA's preferred display order: alphabetical by route_id except for bus routes where lettered routes (Silver Line and CT routes) are displayed before numbered routes, and numbered routes are displayed in ascending numerical order (i.e. 1, 2, 3 instead of 1, 10, 100).

Example:**XML Request:**

http://54.81.189.97/developer/api/v2/routes?api_key=wX9NwuHnZU2ToO7GmGR9uw&format=xml

XML Response:

```
<route_list xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <mode route_type="0" mode_name="Subway">
    <route route_id="810_" route_name="Green Line"/>
    .
    .
    <route route_id="882_" route_name="Green Line"/>
    <route route_id="899_" route_name="Mattapan Trolley"/>
  </mode>
  <mode route_type="1" mode_name="Subway">
    <route route_id="946_" route_name="Blue Line"/>
    .
    .
    <route route_id="933_" route_name="Red Line"/>
  </mode>
  <mode route_type="2" mode_name="Commuter Rail">
    <route route_id="CR-Fairmount" route_name="Fairmount Line"/>
    .
    .
    .
  </mode>
</route_list>
```

```

        <route route_id="CR-Providence" route_name="Providence/Stoughton Line"/>
    </mode>
    <mode route_type="3" mode_name="Bus">
        <route route_id="701" route_name="CT1"/>
        .
        .
        .
        <route route_id="2427" route_name="24/27" route_hide="true"/>
        .
        .
        .
    </mode>
    <mode route_type="4" mode_name="Boat">
        <route route_id="Boat-F4" route_name="Charlestown Ferry"/>
        <route route_id="Boat-F1" route_name="Hingham Ferry"/>
        <route route_id="Boat-F3" route_name="Hull Ferry"/>
    </mode>
</route_list>

```

JSON Request:

http://54.81.189.97/developer/api/v2/routes?api_key=wX9NwuHnZU2ToO7GmGR9uw&format=json

JSON Response:

```

{
  mode: [{
    route_type: "0",
    mode_name: "Subway",
    route: [{
      "route_id": "810_",
      "route_name": "Green Line"
    },
    {
      "route_id": "812_",
      "route_name": "Green Line"
    },
    .
    .
    .
  ],
  {
    route_type: "1",
    mode_name: "Subway",
    route: [{
      route_id: "903_",
      route_name: "Orange Line"
    },
    {
      route_id: "913_",
      route_name: "Orange Line"
    },
    .
    .
    .
  ],
  {
    route_type: "3",
    mode_name: "Bus",
    route: [{
      route_id: "701",
      route_name: "CT1"
    }

```

```

    },
    {
      route_id: "747",
      route_name: "CT2"
    },
    {
      route_id: "708",
      route_name: "CT3"
    },
    {
      route_id: "746",
      route_name: "Silver Line Waterfront",
      route_hide: "true"
    },
    .
    .
    .
  ]
}

```

4.5.3 ROUTE LIST BY STOP

This query will return a list of routes that serve a particular stop.

URL

```
http://54.81.189.97/developer/api/v2/routesbystop?api_key=<developer's api key>&stop=<GTFS-compatible stop_id>&format=<format type>
```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
stop	GTFS-compatible stop_id value for which routes should be returned Data type: String Example: "70065"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
route_list	Root element of the response document
stop_id	Attribute of the root element The GTFS-compatible unique identifier for the stop for which routes are returned Data type: String Example: "70065"

stop_name	Attribute of the root element The GTFS-compatible name for the stop for which routes are returned Data type: String Example: "Porter Sq - Inbound"
mode	Child element of the root element Contains information for a mode that serves this stop
route_type	Attribute of the "mode" element The GTFS-compatible identifier for the type of service (mode) Data type: String representation of an Integer (0-7) Example: "1"
mode_name	Attribute of the "mode" element The human-readable name for the type of service (mode) Data type: String Example: "Subway"
route	Child element of the "mode" element Contains information for a route that serves this stop
route_id	Attribute of the "route" element The unique GTFS-compatible identifier for the route Data type: String Example: "931_"
route_name	Attribute of the "route" element The human-readable name for the route Data type: String Example: "Red Line"
route_hide (optional)	Attribute of the "route" element Whether this route should be hidden from users Data type: String representation of a Boolean Possible values: "true". Only included if route_hide is "true"

Notes

- If the GTFS-compatible stop_id value in the stop parameter in the request is for a parent station then all routes that serve that parent station are returned.
- Routes are returned in MBTA's preferred display order: alphabetical by route_id except for bus routes where lettered routes (Silver Line and CT routes) are displayed before numbered routes, and numbered routes are displayed in ascending numerical order (i.e. 1, 2, 3 instead of 1, 10, 100).

Example

XML Request:

http://54.81.189.97/developer/api/v2/routesbystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=70065&format=xml

XML Response:

```
<route_list xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" stop_id="70065" stop_name="Porter Sq -
Inbound">
  <mode route_type="1" mode_name="Subway">
    <route route_id="931_" route_name="Red Line"/>
  </mode>
</route_list>
```



```

        <route route_id="933_" route_name="Red Line"/>
    </mode>
</route_list>

```

JSON Request:

http://54.81.189.97/developer/api/v2/routesbystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=70065&format=json

JSON Response:

```

{
  stop_id: "70065",
  stop_name: "Porter Sq - Inbound",
  mode: [{
    route_type: "1",
    mode_name: "Subway",
    route: [{
      route_id: "931_",
      route_name: "Red Line"
    },
    {
      route_id: "933_",
      route_name: "Red Line"
    }
  ]
}]
}

```

4.5.4 STOP LIST BY ROUTE

This query will return a list of stops for a particular route.

URL

http://54.81.189.97/developer/api/v2/stopsbyroute?api_key=<developer's api key>&route=<GTFS-compatible route_id>&format=<format type>

Parameters

Name	Description
api_key	Unique API key assigned to each developer
route	GTFS-compatible route_id value for which stops should be returned Data type: String Example: "931_"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
------	-------------

stop_list	Root element of the response document
route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which stops are returned Data type: String Example: "931_"
route_name	Attribute of the root element The human-readable name for the route for which stops are returned Data type: String Example: "Red Line"
direction	Child element of the root element Contains information for a direction of the route
direction_id	Attribute of the "direction" element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: "0"
direction_name	Attribute of the "direction" element The human-readable name for the direction Data type: String Example: "Southbound"
stop	Child element of the "direction" element Contains all information for a stop on the direction of the route
stop_order	Attribute of the "stop" element Identifies where the stop comes in the order of stops for this route and direction (note: not guaranteed to be unique) Data type: String representation of an Integer (starting with 1) Example: "1"
stop_id	Attribute of the "stop" element The GTFS-compatible unique identifier for the stop Data type: String Example: "70063"
stop_name	Attribute of the "stop" element The GTFS-compatible name for the stop (not unique) Data type: String Example: "Davis Sq - Inbound"
parent_station	Attribute of the "stop" element The GTFS-compatible unique identifier for the station associated with the stop. (note: can be empty if stop does not have an associated station) Data type: String Example: "place-davis"
parent_station_name	Attribute of the "stop" element The human-readable name for the larger station associated with the stop. (note: can be empty if stop does not have an associated station) Data type: String Example: "Davis Station"

stop_lat	Attribute of the “stop” element The GTFS-compatible latitude of the station. Data type: String representation of a Float Example: “42.3967399597168”
stop_lon	Attribute of the “stop” element The GTFS-compatible longitude of the station. Data type: String representation of a Float Example: “-71.1218185424805”

Notes

- The ‘stop_order’ attribute is not guaranteed to be unique for a route and direction.
- The ‘parent_station’ and ‘parent_station_name’ attributes can be empty if stop does not have an associated parent station.

Example:**XML Request:**

http://54.81.189.97/developer/api/v2/stopsbyroute?api_key=wX9NwuHnZU2To07GmGR9uw&route=931_&format=xml

XML Response:

```
<stop_list xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="931" route_name="Red Line">
  <direction direction_id="0" direction_name="Southbound">
    <stop stop_order="1" stop_id="70061" stop_name="Alewife Station Red Line"
parent_station="place-alfcl" parent_station_name="Alewife Station"
stop_lat="42.3954277038574" stop_lon="-71.1424865722656"/>
    <stop stop_order="2" stop_id="70063" stop_name="Davis Sq - Inbound"
parent_station="place-davis" parent_station_name="Davis Station"
stop_lat="42.3967399597168" stop_lon="-71.1218185424805"/>
    .
    .
    .
  </direction>
  <direction direction_id="1" direction_name="Northbound">
    <stop stop_order="1" stop_id="70094" stop_name="Ashmont Station Red Line
Inbound" parent_station="place-asmnl" parent_station_name="Ashmont Station"
stop_lat="42.2846527099609" stop_lon="-71.0644912719727"/>
    <stop stop_order="2" stop_id="70092" stop_name="Shawmut Station -
Inbound" parent_station="place-smmnl" parent_station_name="Shawmut Station"
stop_lat="42.2931251525879" stop_lon="-71.0657348632813"/>
    .
    .
    .
  </direction>
</stop_list>
```

JSON Request:

http://54.81.189.97/developer/api/v2/stopsbyroute?api_key=wX9NwuHnZU2To07GmGR9uw&route=931_&format=json

JSON Response:

```
{
  direction: [{
    direction_id: "0",
```

```

    direction_name: "Southbound",
    stop: [{
      stop_order: "1",
      stop_id: "70061",
      stop_name: "Alewife Station Red Line",
      parent_station: "place-alfcl",
      parent_station_name: "Alewife Station",
      stop_lat: "42.3954277038574",
      stop_lon: "-71.1424865722656"
    },
    {
      stop_order: "2",
      stop_id: "70063",
      stop_name: "Davis Sq - Inbound",
      parent_station: "place-davis",
      parent_station_name: "Davis Station",
      stop_lat: "42.3967399597168",
      stop_lon: "-71.1218185424805"
    },
    .
    .
    .
    ]
  },
  {
    direction_id: "1",
    direction_name: "Northbound",
    stop: [{
      stop_order: "1",
      stop_id: "70094",
      stop_name: "Ashmont Station Red Line Inbound",
      parent_station: "place-asmnl",
      parent_station_name: "Ashmont Station",
      stop_lat: "42.2846527099609",
      stop_lon: "-71.0644912719727"
    },
    {
      stop_order: "2",
      stop_id: "70092",
      stop_name: "Shawmut Station - Inbound",
      parent_station: "place-smmnl",
      parent_station_name: "Shawmut Station",
      stop_lat: "42.2931251525879",
      stop_lon: "-71.0657348632813"
    },
    .
    .
    .
    ]
  }
}

```

4.5.5 STOP LIST BY USER LOCATION

This query will return a list of the five nearest stops from a particular location.

URL

```

http://54.81.189.97/developer/api/v2/stopsbylocation?api_key=<developer's api key>&lat=<latitude>&lon=<longitude>&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
lat	The latitude for location near which stops should be returned Data type: Float Example: "42.352913"
lon	The longitude for location near which stops should be returned Data type: Float Example: "-71.064648"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
stop_list	Root element of the response document
lat	Attribute of the root element The latitude for location near which stops are returned Data type: String representation of a Float Example: "42.352913"
lon	Attribute of the root element The longitude for location near which stops are returned Data type: String representation of a Float Example: "-71.064648"
stop	Child element of the "root" element Contains all information for a stop near the location
stop_id	Attribute of the "stop" element The GTFS-compatible unique identifier for the stop Data type: String Example: "70158"
stop_name	Attribute of the "stop" element The GTFS-compatible name for the stop (not unique) Data type: String Example: "Boylston Station - Inbound"
parent_station	Attribute of the "stop" element The GTFS-compatible unique identifier for the station associated with the stop (note: can be empty if stop does not have an associated station) Data type: String Example: "place-boyls"

parent_station_name	Attribute of the “stop” element The human-readable name for the larger station associated with the stop (note: can be empty if stop does not have an associated station) Data type: String Example: “Boylston Station”
stop_lat	Attribute of the “stop” element The GTFS-compatible latitude of the station Data type: String representation of a Float Example: “42.3530197143555”
stop_lon	Attribute of the “stop” element The GTFS-compatible longitude of the station Data type: String representation of a Float Example: “-71.0645904541016”
distance	Attribute of the “stop” element The distance of the stop from the location in miles Data type: String representation of a Float Example: “0.00800655130296946”

Notes

- The ‘parent_station’ and ‘parent_station_name’ attributes can be empty if stop does not have an associated parent station.
- Up to 15 stops in a one-mile radius of the location are returned ordered in ascending order of distance from the location.

Example:**XML Request:**

http://54.81.189.97/developer/api/v2/stopsbylocation?api_key=wX9NwuHnZU2ToO7GmGR9uw&lat=42.352913&lon=-71.064648&format=xml

XML Response:

```
<stop_list xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" lat="42.352913" lon="-71.064648">
  <stop stop_id="place-boyls" stop_name="Boylston Station" parent_station=""
parent_station_name="" stop_lat="42.3530197143555" stop_lon="-71.0645904541016"
distance="0.00800655130296946"/>
  <stop stop_id="70159" stop_name="Boylston Station - Outbound"
parent_station="place-boyls" parent_station_name="Boylston Station"
stop_lat="42.3530197143555" stop_lon="-71.0645904541016"
distance="0.00800655130296946"/>
  .
  .
  .
</stop_list>
```

JSON Request:

http://54.81.189.97/developer/api/v2/stopsbylocation?api_key=wX9NwuHnZU2ToO7GmGR9uw&lat=42.352913&lon=-71.064648&format=json

JSON Response:

```
{
  stop: [{
```

```

    stop_id: "place-boyls",
    stop_name: "Boylston Station",
    parent_station: "",
    parent_station_name: "",
    stop_lat: "42.3530197143555",
    stop_lon: "-71.0645904541016",
    distance: "0.00800655130296946"
  },
  {
    stop_id: "70159",
    stop_name: "Boylston Station - Outbound",
    parent_station: "place-boyls",
    parent_station_name: "Boylston Station",
    stop_lat: "42.3530197143555",
    stop_lon: "-71.0645904541016",
    distance: "0.00800655130296946"
  },
  .
  .
  .
]
}

```

4.5.6 SCHEDULED ARRIVALS AND DEPARTURES BY STOP

This query will return up to the next three scheduled arrivals and departures in the next hour for a direction and route for a particular stop.

URL

```

http://54.81.189.97/developer/api/v2/schedulebystop?api_key=<developer's api
key>&stop=<GTFS-compatible stop_id>&route=<GTFS-compatible route_id>&direction=<GTFS-
compatible direction_id>&datetime=<epoch time>&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
stop	GTFS-compatible stop_id value for which schedule should be returned Data type: String Example: "Back Bay"
route (optional)	GTFS-compatible route_id value on the stop for which schedule should be returned If not included then schedule for all routes serving the stop will be returned Data type: String Example: "CR-Providence"
direction (optional)	GTFS-compatible direction_id value on route of the stop for which schedule should be returned If included then route must also be included If not included then schedule for all directions of the route serving the stop will be returned Data type: Bit (0 or 1) Example: "0"

datetime (optional)	Epoch time after which schedule should be returned If included then must be within the next seven (7) days If not included then schedule starting from the current datetime will be returned Data type: Integer Example: "1361989200"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
schedule	Root element of the response document
stop_id	Attribute of the root element The GTFS-compatible unique identifier for the stop for which the schedule is returned Data type: String Example: "Back Bay"
stop_name	Attribute of the root element The GTFS-compatible name for the stop for which the schedule is returned Data type: String Example: "Back Bay"
mode	Child element of the root element Contains information for a mode that serves this stop
route_type	Attribute of the "mode" element The GTFS-compatible identifier for the type of service (mode) Data type: String representation of an Integer (0-7) Example: "2"
mode_name	Attribute of the "mode" element The human-readable name for the type of service (mode) Data type: String Example: "Commuter Rail"
route	Child element of the "mode" element Contains information for a route that serves this stop
route_id	Attribute of the "route" element The unique GTFS-compatible identifier for the route Data type: String Example: "CR-Providence"

route_name	Attribute of the "route" element The human-readable name for the route Data type: String Example: "Providence/Stoughton Line"
direction	Child element of the 'route' element Contains information for a direction of the route
direction_id	Attribute of the "direction" element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: "0"
direction_name	Attribute of the "direction" element The human-readable name for the direction Data type: String Example: "Outbound"
trip	Child element of the 'direction' element Contains information for a trip on a direction of the route
trip_id	Attribute of the "trip" element The unique GTFS-compatible identifier for the trip Data type: String Example: "CR-Providence-CR-Weekday-815"
trip_name	Attribute of the "trip" element The human-readable name for the trip Data type: String Example: "815 (4:35 pm from South Station)"
sch_arr_dt	Attribute of the "trip" element Scheduled arrival time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: "1361989260"
sch_dep_dt	Attribute of the "trip" element Scheduled departure time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: "1361989260"

Example**XML Request:**

http://54.81.189.97/developer/api/v2/schedulebystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=Back%20Bay&route=CR-Providence&direction=0&format=xml

XML Response:

```
<schedule xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" stop_id="Back Bay" stop_name="Back Bay">
  <mode route_type="2" mode_name="Commuter Rail">
    <route route_id="CR-Franklin" route_name="Franklin Line">
      <direction direction_id="0" direction_name="Outbound">
        <trip trip_id="CR-Franklin-CR-Weekday-Franklin-Dec13-717"
trip_name="717 (4:20 pm from South Station)" sch_arr_dt="1403555100"
sch_dep_dt="1403555100"/>
      </direction>
    </route>
  </mode>
</schedule>
```

```

        <trip trip_id="CR-Franklin-CR-Weekday-Franklin-Dec13-715"
trip_name="715 (3:55 pm from South Station)" sch_arr_dt="1403553600"
sch_dep_dt="1403553600"/>
      </direction>
    </route>
    <route route_id="CR-Needham" route_name="Needham Line">
      <direction direction_id="0" direction_name="Outbound">
        <trip trip_id="CR-Needham-CR-Weekday-Needham-Dec13-619"
trip_name="619 (4:00 pm from South Station)" sch_arr_dt="1403553900"
sch_dep_dt="1403553900"/>
      </direction>
      <direction direction_id="1" direction_name="Inbound">
        <trip trip_id="CR-Needham-CR-Weekday-Needham-Dec13-618"
trip_name="618 (3:50 pm from Needham Heights)" sch_arr_dt="1403554920"
sch_dep_dt="1403554920"/>
        <trip trip_id="CR-Needham-CR-Weekday-Needham-Dec13-616"
trip_name="616 (3:05 pm from Needham Heights)" sch_arr_dt="1403552700"
sch_dep_dt="1403552700"/>
      </direction>
    </route>
    <route route_id="CR-Providence" route_name="Providence/Stoughton Line">
      <direction direction_id="0" direction_name="Outbound">
        <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-
813" trip_name="813 (4:08 pm from South Station)" sch_arr_dt="1403554380"
sch_dep_dt="1403554380"/>
        <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-
917" trip_name="917 (4:00 pm from South Station)" sch_arr_dt="1403553900"
sch_dep_dt="1403553900"/>
        <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-
811" trip_name="811 (3:30 pm from South Station)" sch_arr_dt="1403552100"
sch_dep_dt="1403552100"/>
      </direction>
      <direction direction_id="1" direction_name="Inbound">
        <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-
916" trip_name="916 (3:23 pm from Stoughton)" sch_arr_dt="1403553180"
sch_dep_dt="1403553180"/>
      </direction>
    </route>
    <route route_id="CR-Worcester" route_name="Framingham/Worcester Line">
      <direction direction_id="0" direction_name="Outbound">
        <trip trip_id="CR-Worcester-CR-Weekday-Worcester-Mar14-523"
trip_name="523 (4:05 pm from South Station)" sch_arr_dt="1403554260"
sch_dep_dt="1403554260"/>
      </direction>
      <direction direction_id="1" direction_name="Inbound">
        <trip trip_id="CR-Worcester-CR-Weekday-Worcester-Mar14-524"
trip_name="524 (2:50 pm from Worcester / Union Station)" sch_arr_dt="1403554740"
sch_dep_dt="1403554740"/>
      </direction>
    </route>
  </mode>
</schedule>

```

JSON Request:

http://54.81.189.97/developer/api/v2/schedulebystop?api_key=wx9NwuHnZU2To07GmGR9uw&stop=Back%20Bay&route=CR-Providence&direction=0&format=json

JSON Response:

```

{
  stop_id: "Back Bay",
  stop_name: "Back Bay",
  mode: [{

```

```

route_type: "2",
mode_name: "Commuter Rail",
route: [{
  route_id: "CR-Franklin",
  route_name: "Franklin Line",
  direction: [{
    direction_id: "0",
    direction_name: "Outbound",
    trip: [{
      trip_id: "CR-Franklin-CR-Weekday-Franklin-Dec13-717",
      trip_name: "717 (4:20 pm from South Station)",
      sch_arr_dt: "1403555100",
      sch_dep_dt: "1403555100"
    },
    {
      trip_id: "CR-Franklin-CR-Weekday-Franklin-Dec13-715",
      trip_name: "715 (3:55 pm from South Station)",
      sch_arr_dt: "1403553600",
      sch_dep_dt: "1403553600"
    }
  ]
}],
},
{
  route_id: "CR-Needham",
  route_name: "Needham Line",
  direction: [{
    direction_id: "0",
    direction_name: "Outbound",
    trip: [{
      trip_id: "CR-Needham-CR-Weekday-Needham-Dec13-619",
      trip_name: "619 (4:00 pm from South Station)",
      sch_arr_dt: "1403553900",
      sch_dep_dt: "1403553900"
    }
  ]
},
{
  direction_id: "1",
  direction_name: "Inbound",
  trip: [{
    trip_id: "CR-Needham-CR-Weekday-Needham-Dec13-618",
    trip_name: "618 (3:50 pm from Needham Heights)",
    sch_arr_dt: "1403554920",
    sch_dep_dt: "1403554920"
  },
  {
    trip_id: "CR-Needham-CR-Weekday-Needham-Dec13-616",
    trip_name: "616 (3:05 pm from Needham Heights)",
    sch_arr_dt: "1403552700",
    sch_dep_dt: "1403552700"
  }
]
}],
},
{
  route_id: "CR-Providence",
  route_name: "Providence/Stoughton Line",
  direction: [{
    direction_id: "0",
    direction_name: "Outbound",
    trip: [{
      trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-813",
      trip_name: "813 (4:08 pm from South Station)",
      sch_arr_dt: "1403554380",

```

```

        sch_dep_dt: "1403554380"
      },
      {
        trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-
917",
        trip_name: "917 (4:00 pm from South Station)",
        sch_arr_dt: "1403553900",
        sch_dep_dt: "1403553900"
      },
      {
        trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-
811",
        trip_name: "811 (3:30 pm from South Station)",
        sch_arr_dt: "1403552100",
        sch_dep_dt: "1403552100"
      }
    ]
  },
  {
    direction_id: "1",
    direction_name: "Inbound",
    trip: [{
      trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-
916",
      trip_name: "916 (3:23 pm from Stoughton)",
      sch_arr_dt: "1403553180",
      sch_dep_dt: "1403553180"
    }
  ]
},
{
  route_id: "CR-Worcester",
  route_name: "Framingham/Worcester Line",
  direction: [{
    direction_id: "0",
    direction_name: "Outbound",
    trip: [{
      trip_id: "CR-Worcester-CR-Weekday-Worcester-Mar14-
523",
      trip_name: "523 (4:05 pm from South Station)",
      sch_arr_dt: "1403554260",
      sch_dep_dt: "1403554260"
    }
  ]
},
{
  direction_id: "1",
  direction_name: "Inbound",
  trip: [{
    trip_id: "CR-Worcester-CR-Weekday-Worcester-Mar14-
524",
    trip_name: "524 (2:50 pm from Worcester / Union
Station)",
    sch_arr_dt: "1403554740",
    sch_dep_dt: "1403554740"
  }
]
}
}

```

4.5.7 SCHEDULED ARRIVALS AND DEPARTURES BY ROUTE

This query will return the scheduled arrivals and departures for the next three trips (including trips already underway) in a direction for a particular route.

URL

```
http://54.81.189.97/developer/api/v2/schedulebyroute?api_key=<developer's api key>&route=<GTFS-compatible route_id>&direction=<GTFS-compatible direction_id>&datetime=<epoch time>&format=<format type>
```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
route	GTFS-compatible route_id value for which schedule should be returned Data type: String Example: "CR-Providence"
direction (optional)	GTFS-compatible direction_id value on route for which schedule should be returned If not included then schedule for all directions of the route will be returned Data type: Bit (0 or 1) Example: "0"
datetime (optional)	Epoch time after which schedule should be returned If included then must be within the next seven (7) days If not included then schedule starting from the current datetime will be returned Data type: Integer Example: "1361989200"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
schedule	Root element of the response document
route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which the schedule is returned Data type: String Example: "CR-Providence"
route_name	Attribute of the root element The human-readable name for the route for which the schedule is returned Data type: String Example: "Providence/Stoughton Line"
direction	Child element of the root element Contains information for a direction of the route

direction_id	Attribute of the “direction” element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: “0”
direction_name	Attribute of the “direction” element The human-readable name for the direction Data type: String Example: “Outbound”
trip	Child element of the ‘direction’ element Contains information for a trip on a direction of the route
trip_id	Attribute of the “trip” element The unique GTFS-compatible identifier for the trip Data type: String Example: “CR-Providence-CR-Weekday-815”
trip_name	Attribute of the “trip” element The human-readable for the trip Data type: String Example: “815 (4:35 pm from South Station)”
stop	Child element of the ‘trip’ element Contains information for a stop on the trip
stop_sequence	Attribute of the “stop” element Identifies where the stop comes in the sequence of stops for this trip Data type: String representation of an Integer (starting with 1) Example: “2”
stop_id	Attribute of the “stop” element The GTFS-compatible unique identifier for the stop Data type: String Example: “Back Bay”
stop_name	Attribute of the “stop” element The GTFS-compatible name for the stop Data type: String Example: “Back Bay”
sch_arr_dt	Attribute of the “stop” element Scheduled arrival time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: “1361986080”
sch_dep_dt	Attribute of the “stop” element Scheduled departure time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: “1361986080”

Example**Request:**

http://54.81.189.97/developer/api/v2/schedulebyroute?api_key=wX9NwuHnZU2To07GmGR9uw&route=CR-Providence&direction=0&format=xml

XML Response:

```

<schedule xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="CR-Providence"
route_name="Providence/Stoughton Line">
  <direction direction_id="0" direction_name="Outbound">
    <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-811"
trip_name="811 (3:30 pm from South Station)">
      <stop stop_sequence="1" stop_id="South Station" stop_name="South
Station" sch_arr_dt="1403551800" sch_dep_dt="1403551800"/>
      <stop stop_sequence="2" stop_id="Back Bay" stop_name="Back Bay"
sch_arr_dt="1403552100" sch_dep_dt="1403552100"/>
      <stop stop_sequence="3" stop_id="Ruggles" stop_name="Ruggles"
sch_arr_dt="1403552280" sch_dep_dt="1403552280"/>
      <stop stop_sequence="4" stop_id="Hyde Park" stop_name="Hyde Park"
sch_arr_dt="1403552760" sch_dep_dt="1403552760"/>
      <stop stop_sequence="5" stop_id="Route 128" stop_name="Route 128"
sch_arr_dt="1403553120" sch_dep_dt="1403553120"/>
      <stop stop_sequence="6" stop_id="Canton Junction"
stop_name="Canton Junction" sch_arr_dt="1403553480" sch_dep_dt="1403553480"/>
      <stop stop_sequence="9" stop_id="Sharon" stop_name="Sharon"
sch_arr_dt="1403553960" sch_dep_dt="1403553960"/>
      <stop stop_sequence="10" stop_id="Mansfield" stop_name="Mansfield"
sch_arr_dt="1403554500" sch_dep_dt="1403554500"/>
      <stop stop_sequence="11" stop_id="Attleboro" stop_name="Attleboro"
sch_arr_dt="1403555100" sch_dep_dt="1403555100"/>
      <stop stop_sequence="12" stop_id="South Attleboro"
stop_name="South Attleboro" sch_arr_dt="1403555700" sch_dep_dt="1403555700"/>
      <stop stop_sequence="13" stop_id="Providence"
stop_name="Providence" sch_arr_dt="1403556300" sch_dep_dt="1403556300"/>
    </trip>
    <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-917"
trip_name="917 (4:00 pm from South Station)">
      <stop stop_sequence="1" stop_id="South Station" stop_name="South
Station" sch_arr_dt="1403553600" sch_dep_dt="1403553600"/>
      <stop stop_sequence="2" stop_id="Back Bay" stop_name="Back Bay"
sch_arr_dt="1403553900" sch_dep_dt="1403553900"/>
      <stop stop_sequence="3" stop_id="Ruggles" stop_name="Ruggles"
sch_arr_dt="1403554080" sch_dep_dt="1403554080"/>
      <stop stop_sequence="5" stop_id="Route 128" stop_name="Route 128"
sch_arr_dt="1403554740" sch_dep_dt="1403554740"/>
      <stop stop_sequence="6" stop_id="Canton Junction"
stop_name="Canton Junction" sch_arr_dt="1403555160" sch_dep_dt="1403555160"/>
      <stop stop_sequence="7" stop_id="Canton Center" stop_name="Canton
Center" sch_arr_dt="1403555340" sch_dep_dt="1403555340"/>
      <stop stop_sequence="8" stop_id="Stoughton" stop_name="Stoughton"
sch_arr_dt="1403555880" sch_dep_dt="1403555880"/>
    </trip>
    <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-813"
trip_name="813 (4:08 pm from South Station)">
      <stop stop_sequence="1" stop_id="South Station" stop_name="South
Station" sch_arr_dt="1403554080" sch_dep_dt="1403554080"/>
      <stop stop_sequence="2" stop_id="Back Bay" stop_name="Back Bay"
sch_arr_dt="1403554380" sch_dep_dt="1403554380"/>
      <stop stop_sequence="3" stop_id="Ruggles" stop_name="Ruggles"
sch_arr_dt="1403554560" sch_dep_dt="1403554560"/>
      <stop stop_sequence="4" stop_id="Hyde Park" stop_name="Hyde Park"
sch_arr_dt="1403555100" sch_dep_dt="1403555100"/>
      <stop stop_sequence="9" stop_id="Sharon" stop_name="Sharon"
sch_arr_dt="1403556240" sch_dep_dt="1403556240"/>
      <stop stop_sequence="10" stop_id="Mansfield" stop_name="Mansfield"
sch_arr_dt="1403556780" sch_dep_dt="1403556780"/>
    </trip>
  </direction>
</schedule>

```

```

        <stop stop_sequence="11" stop_id="Attleboro" stop_name="Attleboro"
sch_arr_dt="1403557380" sch_dep_dt="1403557380"/>
        <stop stop_sequence="12" stop_id="South Attleboro"
stop_name="South Attleboro" sch_arr_dt="1403557980" sch_dep_dt="1403557980"/>
        <stop stop_sequence="13" stop_id="Providence"
stop_name="Providence" sch_arr_dt="1403558580" sch_dep_dt="1403558580"/>
        <stop stop_sequence="14" stop_id="TF Green Airport" stop_name="TF
Green Airport" sch_arr_dt="1403559480" sch_dep_dt="1403559480"/>
        <stop stop_sequence="15" stop_id="Wickford Junction"
stop_name="Wickford Junction" sch_arr_dt="1403560440" sch_dep_dt="1403560440"/>
    </trip>
</direction>
</schedule>

```

Request:

http://54.81.189.97/developer/api/v2/schedulebyroute?api_key=wX9NwuHnZU2ToO7GmGR9uw&route=CR-Providence&direction=0&format=json

JSON Response:

```

{
  route_id: "CR-Providence",
  route_name: "Providence/Stoughton Line",
  direction: [{
    direction_id: "0",
    direction_name: "Outbound",
    trip: [{
      trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-811",
      trip_name: "811 (3:30 pm from South Station)",
      stop: [{
        stop_sequence: "1",
        stop_id: "South Station",
        stop_name: "South Station",
        sch_arr_dt: "1403551800",
        sch_dep_dt: "1403551800"
      },
      {
        stop_sequence: "2",
        stop_id: "Back Bay",
        stop_name: "Back Bay",
        sch_arr_dt: "1403552100",
        sch_dep_dt: "1403552100"
      },
      {
        stop_sequence: "3",
        stop_id: "Ruggles",
        stop_name: "Ruggles",
        sch_arr_dt: "1403552280",
        sch_dep_dt: "1403552280"
      },
      {
        stop_sequence: "4",
        stop_id: "Hyde Park",
        stop_name: "Hyde Park",
        sch_arr_dt: "1403552760",
        sch_dep_dt: "1403552760"
      },
      {
        stop_sequence: "5",
        stop_id: "Route 128",
        stop_name: "Route 128",
        sch_arr_dt: "1403553120",
        sch_dep_dt: "1403553120"
      }
    ]
  }
]
}

```



```

    },
    {
      stop_sequence: "6",
      stop_id: "Canton Junction",
      stop_name: "Canton Junction",
      sch_arr_dt: "1403553480",
      sch_dep_dt: "1403553480"
    },
    {
      stop_sequence: "9",
      stop_id: "Sharon",
      stop_name: "Sharon",
      sch_arr_dt: "1403553960",
      sch_dep_dt: "1403553960"
    },
    {
      stop_sequence: "10",
      stop_id: "Mansfield",
      stop_name: "Mansfield",
      sch_arr_dt: "1403554500",
      sch_dep_dt: "1403554500"
    },
    {
      stop_sequence: "11",
      stop_id: "Attleboro",
      stop_name: "Attleboro",
      sch_arr_dt: "1403555100",
      sch_dep_dt: "1403555100"
    },
    {
      stop_sequence: "12",
      stop_id: "South Attleboro",
      stop_name: "South Attleboro",
      sch_arr_dt: "1403555700",
      sch_dep_dt: "1403555700"
    },
    {
      stop_sequence: "13",
      stop_id: "Providence",
      stop_name: "Providence",
      sch_arr_dt: "1403556300",
      sch_dep_dt: "1403556300"
    }
  ]
},
{
  trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-917",
  trip_name: "917 (4:00 pm from South Station)",
  stop: [{
    stop_sequence: "1",
    stop_id: "South Station",
    stop_name: "South Station",
    sch_arr_dt: "1403553600",
    sch_dep_dt: "1403553600"
  },
  {
    stop_sequence: "2",
    stop_id: "Back Bay",
    stop_name: "Back Bay",
    sch_arr_dt: "1403553900",
    sch_dep_dt: "1403553900"
  },
  {
    stop_sequence: "3",

```

```

        stop_id: "Ruggles",
        stop_name: "Ruggles",
        sch_arr_dt: "1403554080",
        sch_dep_dt: "1403554080"
    },
    {
        stop_sequence: "5",
        stop_id: "Route 128",
        stop_name: "Route 128",
        sch_arr_dt: "1403554740",
        sch_dep_dt: "1403554740"
    },
    {
        stop_sequence: "6",
        stop_id: "Canton Junction",
        stop_name: "Canton Junction",
        sch_arr_dt: "1403555160",
        sch_dep_dt: "1403555160"
    },
    {
        stop_sequence: "7",
        stop_id: "Canton Center",
        stop_name: "Canton Center",
        sch_arr_dt: "1403555340",
        sch_dep_dt: "1403555340"
    },
    {
        stop_sequence: "8",
        stop_id: "Stoughton",
        stop_name: "Stoughton",
        sch_arr_dt: "1403555880",
        sch_dep_dt: "1403555880"
    }
  ]
},
{
  trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-813",
  trip_name: "813 (4:08 pm from South Station)",
  stop: [{
    stop_sequence: "1",
    stop_id: "South Station",
    stop_name: "South Station",
    sch_arr_dt: "1403554080",
    sch_dep_dt: "1403554080"
  },
  {
    stop_sequence: "2",
    stop_id: "Back Bay",
    stop_name: "Back Bay",
    sch_arr_dt: "1403554380",
    sch_dep_dt: "1403554380"
  },
  {
    stop_sequence: "3",
    stop_id: "Ruggles",
    stop_name: "Ruggles",
    sch_arr_dt: "1403554560",
    sch_dep_dt: "1403554560"
  },
  {
    stop_sequence: "4",
    stop_id: "Hyde Park",
    stop_name: "Hyde Park",
    sch_arr_dt: "1403555100",

```

```

sch_dep_dt: "1403555100"
},
{
  stop_sequence: "9",
  stop_id: "Sharon",
  stop_name: "Sharon",
  sch_arr_dt: "1403556240",
  sch_dep_dt: "1403556240"
},
{
  stop_sequence: "10",
  stop_id: "Mansfield",
  stop_name: "Mansfield",
  sch_arr_dt: "1403556780",
  sch_dep_dt: "1403556780"
},
{
  stop_sequence: "11",
  stop_id: "Attleboro",
  stop_name: "Attleboro",
  sch_arr_dt: "1403557380",
  sch_dep_dt: "1403557380"
},
{
  stop_sequence: "12",
  stop_id: "South Attleboro",
  stop_name: "South Attleboro",
  sch_arr_dt: "1403557980",
  sch_dep_dt: "1403557980"
},
{
  stop_sequence: "13",
  stop_id: "Providence",
  stop_name: "Providence",
  sch_arr_dt: "1403558580",
  sch_dep_dt: "1403558580"
},
{
  stop_sequence: "14",
  stop_id: "TF Green Airport",
  stop_name: "TF Green Airport",
  sch_arr_dt: "1403559480",
  sch_dep_dt: "1403559480"
},
{
  stop_sequence: "15",
  stop_id: "Wickford Junction",
  stop_name: "Wickford Junction",
  sch_arr_dt: "1403560440",
  sch_dep_dt: "1403560440"
}
}]
}]
}

```

4.5.8 SCHEDULED ARRIVALS AND DEPARTURES BY TRIP

This query will return the scheduled arrivals and departures for a particular trip.

URL

```

http://54.81.189.97/developer/api/v2/schedulebytrip?api_key=<developer's api key>&trip=<GTFS-compatible trip_id>&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
trip	GTFS-compatible trip_id value for which schedule should be returned Data type: String Example: "CR-Providence-CR-Weekday-807"
datetime (optional)	Epoch time after which schedule should be returned If included then must be within the next seven (7) days If not included then schedule starting from the current datetime will be returned Data type: Integer Example: "1361989200"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
schedule	Root element of the response document
route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which schedule is returned Data type: String Example: "CR-Providence"
route_name	Attribute of the root element The human-readable name for the route for which schedule is returned Data type: String Example: "Providence/Stoughton Line"
trip_id	Attribute of the root element The unique GTFS-compatible identifier for the trip for which schedule is returned Data type: String Example: "CR-Providence-CR-Weekday-815"
trip_name	Attribute of the root element The human-readable for the trip for which schedule is returned Data type: String Example: "815 (4:35 pm from South Station)"
direction_id	Attribute of the root element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: "0"

direction_name	Attribute of the root element The human-readable name for the direction Data type: String Example: "Outbound"
stop	Child element of the 'trip' element Contains information for a stop on the trip
stop_sequence	Attribute of the "stop" element Identifies where the stop comes in the sequence of stops for this trip Data type: String representation of an Integer (starting with 1) Example: "2"
stop_id	Attribute of the "stop" element The GTFS-compatible unique identifier for the stop Data type: String Example: "Back Bay"
stop_name	Attribute of the "stop" element The GTFS-compatible name for the stop Data type: String Example: "Back Bay"
sch_arr_dt	Attribute of the "stop" element Scheduled arrival time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: "1361986080"
sch_dep_dt	Attribute of the "stop" element Scheduled departure time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: "1361986080"

Example**XML Request:**

http://54.81.189.97/developer/api/v2/schedulebytrip?api_key=wX9NwuHnZU2To07GmGR9uw&trip=CR-Providence-CR-Weekday-Providence-Dec13-813&format=xml

XML Response:

```
<schedule xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="CR-Providence"
route_name="Providence/Stoughton Line" trip_id="CR-Providence-CR-Weekday-Providence-
Dec13-813" trip_name="813 (4:08 pm from South Station)" direction_id="0"
direction_name="Outbound">
  <stop stop_sequence="1" stop_id="South Station" stop_name="South Station"
sch_arr_dt="1403554080" sch_dep_dt="1403554080"/>
  <stop stop_sequence="2" stop_id="Back Bay" stop_name="Back Bay"
sch_arr_dt="1403554380" sch_dep_dt="1403554380"/>
  <stop stop_sequence="3" stop_id="Ruggles" stop_name="Ruggles"
sch_arr_dt="1403554560" sch_dep_dt="1403554560"/>
  <stop stop_sequence="4" stop_id="Hyde Park" stop_name="Hyde Park"
sch_arr_dt="1403555100" sch_dep_dt="1403555100"/>
  <stop stop_sequence="9" stop_id="Sharon" stop_name="Sharon"
sch_arr_dt="1403556240" sch_dep_dt="1403556240"/>
  <stop stop_sequence="10" stop_id="Mansfield" stop_name="Mansfield"
sch_arr_dt="1403556780" sch_dep_dt="1403556780"/>
  <stop stop_sequence="11" stop_id="Attleboro" stop_name="Attleboro"
sch_arr_dt="1403557380" sch_dep_dt="1403557380"/>
```

```

    <stop stop_sequence="12" stop_id="South Attleboro" stop_name="South Attleboro"
sch_arr_dt="1403557980" sch_dep_dt="1403557980"/>
    <stop stop_sequence="13" stop_id="Providence" stop_name="Providence"
sch_arr_dt="1403558580" sch_dep_dt="1403558580"/>
    <stop stop_sequence="14" stop_id="TF Green Airport" stop_name="TF Green
Airport" sch_arr_dt="1403559480" sch_dep_dt="1403559480"/>
    <stop stop_sequence="15" stop_id="Wickford Junction" stop_name="Wickford
Junction" sch_arr_dt="1403560440" sch_dep_dt="1403560440"/>
</schedule>

```

JSON Request:

http://54.81.189.97/developer/api/v2/schedulebytrip?api_key=wx9NwuHnZU2ToO7GmGR9uw&trip=CR-Providence-CR-Weekday-Providence-Dec13-813&format=json

JSON Response:

```

{
  route_id: "CR-Providence",
  route_name: "Providence/Stoughton Line",
  trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-813",
  trip_name: "813 (4:08 pm from South Station)",
  direction_id: "0",
  direction_name: "Outbound",
  stop: [{
    stop_sequence: "1",
    stop_id: "South Station",
    stop_name: "South Station",
    sch_arr_dt: "1403554080",
    sch_dep_dt: "1403554080"
  },
  {
    stop_sequence: "2",
    stop_id: "Back Bay",
    stop_name: "Back Bay",
    sch_arr_dt: "1403554380",
    sch_dep_dt: "1403554380"
  },
  {
    stop_sequence: "3",
    stop_id: "Ruggles",
    stop_name: "Ruggles",
    sch_arr_dt: "1403554560",
    sch_dep_dt: "1403554560"
  },
  {
    stop_sequence: "4",
    stop_id: "Hyde Park",
    stop_name: "Hyde Park",
    sch_arr_dt: "1403555100",
    sch_dep_dt: "1403555100"
  },
  {
    stop_sequence: "9",
    stop_id: "Sharon",
    stop_name: "Sharon",
    sch_arr_dt: "1403556240",
    sch_dep_dt: "1403556240"
  },
  {
    stop_sequence: "10",
    stop_id: "Mansfield",
    stop_name: "Mansfield",
    sch_arr_dt: "1403556780",

```

```

        sch_dep_dt: "1403556780"
      },
      {
        stop_sequence: "11",
        stop_id: "Attleboro",
        stop_name: "Attleboro",
        sch_arr_dt: "1403557380",
        sch_dep_dt: "1403557380"
      },
      {
        stop_sequence: "12",
        stop_id: "South Attleboro",
        stop_name: "South Attleboro",
        sch_arr_dt: "1403557980",
        sch_dep_dt: "1403557980"
      },
      {
        stop_sequence: "13",
        stop_id: "Providence",
        stop_name: "Providence",
        sch_arr_dt: "1403558580",
        sch_dep_dt: "1403558580"
      },
      {
        stop_sequence: "14",
        stop_id: "TF Green Airport",
        stop_name: "TF Green Airport",
        sch_arr_dt: "1403559480",
        sch_dep_dt: "1403559480"
      },
      {
        stop_sequence: "15",
        stop_id: "Wickford Junction",
        stop_name: "Wickford Junction",
        sch_arr_dt: "1403560440",
        sch_dep_dt: "1403560440"
      }
    ]
  }

```

4.5.9 ALERTS

This query will return details for all alerts.

URL

```
http://54.81.189.97/developer/api/v2/alerts?api_key=<developer's api key>&include_access_alerts=true&include_service_alerts=true&format=<format type>
```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
include_access_alerts (optional)	Whether or not alerts pertaining to accessibility (elevators, escalators) should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "false" If not included, then alerts pertaining to accessibility are not returned

include_service_alerts (optional)	Whether or not service alerts should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "true" If not included, then service alerts will be returned
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description	Can be absent	Can be empty
alerts	Root element of the feed	No	No
alert	Child element of the root element Contains information about a single alert	No	No
alert_id	Attribute of the "alert" element The unique identifier for the alert Data type: Integer Example: "2585"	No	No
effect_name	Child element of the "alert" element The human-readable name for the effect Data type: String Example: "Shuttle bus"	No	No
effect	Child element of the "alert" element The GTFS-realtime-compatible code for the effect Data type: String Example: "MODIFIED_SERVICE"	No	No
cause_name (optional)	Child element of the "alert" element The human-readable name for the cause Data type: String Example: "maintenance"	Yes	Yes
cause	Child element of the "alert" element The GTFS-realtime-compatible code for the cause Data type: String Example: "MAINTENANCE"	No	No

Name	Description	Can be absent	Can be empty
header_text	Child element of the “alert” element A brief summary of the situation (GTFS-realtime-compatible) Data type: String Length: 230 characters Example: “Shuttle buses replacing Red Line service from Sat Apr 27, 2013 to Sun May 26, 2013 every Saturday and Sunday from 09:00 PM to end of service due to maintenance”	No	No
short_header_text	Child element of the “alert” element A shortened summary of the situation Data type: String Length: 140 characters Example: “Shuttle buses replacing Red Line service from Sat Apr 27 to Sun May 26 every Saturday and Sunday due to maintenance”	No	No
url (optional)	Child element of the “alert” element A URL for extra detail (optional, GTFS-realtime-compatible) Data type: String Length: 255 characters Example: “http://mbta.com/about_the_mbtat_projects/”	Yes	Yes
description_text (optional)	Child element of the “alert” element Additional details (GTFS-realtime-compatible) Data type: String Length: 3000 characters Example: “Affected stops: Alewife Station Davis Station Porter Square Station Harvard Square Station”	Yes	Yes
severity	Child element of the “alert” element Severity level of the alert Data type: String (“Severe”, “Moderate”, or “Minor”) Example: “Severe”	No	No
created_dt	Child element of the “alert” element Date and time the alert was created, in epoch time Data type: String representation of an Integer Example: “1361395938”	No	No
last_modified_dt	Child element of the “alert” element Date and time the alert was last modified, in epoch time Data type: String representation of an Integer Example: “1361395938”	No	No

Name	Description	Can be absent	Can be empty
service_effect_text	Child element of the “alert” element Summarizes the service and the impact to that service Data type: String Example: “Minor Route 1 delay”	No	No
timeframe_text	Child element of the “alert” element Summarizes when an alert is in effect Data type: String Example: “Saturday”	No	No
alert_lifecycle	Child element of the “alert” element Summarizes when the alert is next effective Data type: String (“Upcoming”, “Ongoing”, “New”, “Ongoing-Upcoming”) Example: “New”	No	No
banner_text (optional)	Child element of the “alert” element Contains text to be included on website banner when option is selected Data type: String Example: “Silver Line – SL4 experiencing minor delays”	Yes	No
effect_periods	Child element of the “alert” element Contains information about all time periods for which the alert will be in effect	No	No
effect_period	Child element of the “effect_periods” element Contains information about a single time period	No	No
effect_start	Attribute of the “effect-period” element Date and time of the start of the effect period, in epoch time Data type: String representation of an Integer Example: “1367110800”	No	No
effect_end	Attribute of the “effect-period” element Date and time of the end of the effect period, in epoch time. Can be empty if effect end is not known. Data type: String representation of an Integer Example: “1367130600”	No	Yes
affected_services	Child element of the “alert” element Contains information about the services or elevators affected by this alert	No	No
services	Child element of the “affected_services” element Contains information about the services affected by this alert	No	Yes, if it is an elevator/escalator alert

Name	Description	Can be absent	Can be empty
service	Child element of the “services” element Contains information about a service affected by this alert	Yes	No
route_type	Attribute of the “service” element GTFS-compatible code for route type (i.e. mode) Data type: Integer (0-7) Example: “1”	Yes	No
mode_name	Attribute of the “service” element Human-readable name for the mode Data type: String Example: “Subway”	Yes	No
route_id	Attribute of the “service” element The unique GTFS-compatible identifier for the route Data type: String Example: “931_”	Yes	No
route_name	Attribute of the “service” element The human-readable name for the route Data type: String Example: “Red Line”	Yes	No
route_hide (optional)	Attribute of the “route” element Whether this route should be hidden from users Data type: String representation of a Boolean Possible values: “true”. Only included if route_hide is “true”	Yes	No
direction_id	Attribute of the “service” element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: “0”	Yes	No
direction_name	Attribute of the “service” element Human-readable direction name Data type: String Example: “Westbound”	Yes	No
trip_id	Attribute of the “service” element The GTFS-compatible unique identifier for the trip Data type: String Example: “CR-Newburyport-CR-Weekday-129”	Yes	No
trip_name	Attribute of the “service” element Human-readable trip name Data type: String Example: “129 (5:00 pm from North Station)”	Yes	No

Name	Description	Can be absent	Can be empty
stop_id	Attribute of the “service” element The GTFS-compatible unique identifier for the stop Data type: String Example: “70061”	Yes	No
stop_name	Attribute of the “service” element The GTFS-compatible name for the stop (not unique) Data type: String Example: “Alewife Station Red Line”	Yes	No
elevators	Child element of the “affected_services” element Contains information about elevators/escalators affected by this alert	No	Yes, if it is a non-elevator/escalator alert
elevator	Child element of the “elevators” element Contains information about an elevator/escalator affected by this alert	Yes	No
elev_id	Attribute of the “elevator” element Unique identifier for the elevator/escalator Data type: String Example: “926”	Yes	No
elev_name	Attribute of the “elevator” element Human-readable name for the elevator/escalator Data type: String Example: “SOUTH STATION – Lobby to Street”	Yes	No
elev_type	Attribute of the “elevator” element Type of the elevator/escalator Data type: String (“Elevator”, “Escalator”, or “Lift”) Example: “Elevator”	Yes	No
stop	Child element of the “elevator” element Contains information about a stop related to this elevator	Yes	No
stop_id	Attribute of the “stop” element The GTFS-compatible unique identifier for the stop Data type: String Example: “70080”	Yes	No
stop_name	Attribute of the “stop” element The GTFS-compatible name for the stop (not unique) Data type: String Example: “South Station – Inbound”	Yes	No

Name	Description	Can be absent	Can be empty
parent_station	Attribute of the “stop” element The GTFS-compatible unique identifier for the larger station associated with the stop, if one exists. Can be empty if parent station does not exist. Data type: String Example: “place_sstat”	Yes	Yes
parent_station_name	Attribute of the “stop” element The human-readable name for the larger station associated with the stop, if one exists. Can be empty if parent station does not exist. Data type: String Example: “South Station”	Yes	Yes

Notes

Severity:

- “Severity” was created with the intent that it could drive presentation of alerts in a variety of ways – ordering, coloring, icons – and not with the intent that the words “severity,” “mild,” “moderate,” or “severe” would necessarily be shown directly to customers.

Effect Periods:

- More than one ‘effect_period’ element can be present.
- ‘effect_end’ can be empty if the end time for an alert is not known.

Affected Services:

- The affected services for an alert can include either services or elevators/escalators but NOT both. If the ‘services’ element is empty (i.e. ‘service’ elements are not present) then the ‘elevators’ element will not be empty (i.e. ‘elevator’ elements will be present) and vice versa.
- More than one ‘service’ element can be present.
- Each ‘service’ element includes combinations of modes (route_type/mode_name), routes (route_id/route_name), directions (direction_id/direction_name), trips (trip_id/trip_name), and stops (stop_id/stop_name). The following configurations are possible:

Mode (route_type/ mode_name)	Route (route_id/ route_name)	Direction (direction_id/ direction_name)	Trip (trip_id/ trip_name)	Stop (stop_id/ stop_name)	Affects
Yes					An entire mode
Yes	Yes				An entire route
Yes	Yes	Yes			A direction of a route
Yes	Yes	Yes	Yes		A trip on a direction of a route
Yes	Yes	Yes	Yes	Yes	A stop on a trip on a direction of a route

Yes	Yes		Yes	Yes	A stop on a trip on a route
Yes	Yes			Yes	A stop on a route

- Currently, the system does not allow creation of an alert that applies to multiple elevators/escalators. Therefore, only one 'elevator' element can be present. This may change in the future.
- For alerts that apply to elevators/escalators, 'parent_station' and 'parent_station_name' attributes on the 'stop' element can be empty if parent station does not exist.

Example

XML Request:

http://54.81.189.97/developer/api/v2/alerts?api_key=wX9NwuHnZU2ToO7GmGR9uw&include_access_alerts=true&include_service_alerts=true&format=xml

XML Response:

```
<alerts xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <alert alert_id="33257">
    <effect name>Delay</effect name>
    <effect>OTHER_EFFECT</effect>
    <cause_name>disabled train</cause_name>
    <cause>TECHNICAL_PROBLEM</cause>
    <header_text>
Red Line experiencing minor southbound delays due to disabled train
    </header_text>
    <short_header_text>
Red Line experiencing minor southbound delays due to disabled train
    </short_header_text>
    <description_text>
Affected stops: Harvard Station - Inbound Central Sq - Inbound
    </description_text>
    <severity>Minor</severity>
    <created_dt>1403548918</created_dt>
    <last_modified_dt>1403548918</last_modified_dt>
    <service_effect_text>Minor Red Line delay</service_effect_text>
    <timeframe_text>later today</timeframe_text>
    <alert_lifecycle>New</alert_lifecycle>
    <banner_text>Red Line experiencing minor southbound delays due to
disabled train</banner_text>
    <effect_periods>
      <effect_period effect_start="1403548917" effect_end="1403568658"/>
    </effect_periods>
    <affected_services>
      <services>
        <service route_type="1" mode_name="Subway" route_id="931_"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70067"
stop_name="Harvard Station - Inbound"/>
        <service route_type="1" mode_name="Subway" route_id="931_"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70069"
stop_name="Central Sq - Inbound"/>
        <service route_type="1" mode_name="Subway" route_id="933_"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70067"
stop_name="Harvard Station - Inbound"/>
        <service route_type="1" mode_name="Subway" route_id="933_"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70069"
stop_name="Central Sq - Inbound"/>
      </services>
    </affected_services>
  </alert>
</alerts>
```

```

        </services>
        <elevators/>
    </affected_services>
</alert>
<alert alert_id="33258">
    <effect_name>Accessibility</effect_name>
    <effect>OTHER_EFFECT</effect>
    <cause_name>maintenance</cause_name>
    <cause>MAINTENANCE</cause>
    <header_text>
Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby unavailable due to
maintenance
    </header_text>
    <short_header_text>
Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby unavailable due to
maintenance
    </short_header_text>
    <description_text/>
    <severity>Minor</severity>
    <created_dt>1403548943</created_dt>
    <last_modified_dt>1403548943</last_modified_dt>
    <service_effect_text>Elevator unavailable</service_effect_text>
    <timeframe_text>later today</timeframe_text>
    <alert_lifecycle>New</alert_lifecycle>
    <effect_periods>
        <effect_period effect_start="1403559660" effect_end="1403568658"/>
    </effect_periods>
    <affected_services>
        <services/>
        <elevators>
            <elevator elev_id="983" elev_name="PORTER SQUARE - Red Line
Platforms to Lobby" elev_type="Elevator">
                <stop stop_id="70065" stop_name="Porter Sq - Inbound"
parent_station="place-portr" parent_station_name="Porter Square Station"/>
                <stop stop_id="70066" stop_name="Porter Sq -
Outbound" parent_station="place-portr" parent_station_name="Porter Square Station"/>
            </elevator>
        </elevators>
    </affected_services>
</alert>
</alerts>

```

JSON Request:

http://54.81.189.97/developer/api/v2/alerts?api_key=wX9NwuHnZU2To07GmGR9uw&include_access_alerts=true&include_service_alerts=true&format=json

JSON Response:

```

{
  alerts: [{
    alert_id: 33257,
    effect_name: "Delay",
    effect: "OTHER_EFFECT",
    cause_name: "disabled train",
    cause: "TECHNICAL_PROBLEM",
    header_text: "Red Line experiencing minor southbound delays due to
disabled train",
    short_header_text: "Red Line experiencing minor southbound delays due to
disabled train",
    description_text: "Affected stops: Harvard Station - Inbound Central Sq -
Inbound",
    severity: "Minor",
    created_dt: "1403548918",

```

```

        last_modified_dt: "1403548918",
        service_effect_text: "Minor Red Line delay",
        timeframe_text: "",
        alert_lifecycle: "New",
        banner_text: "Red Line experiencing minor southbound delays due to
disabled train",
        effect_periods: [{
            effect_start: "1403548917",
            effect_end: "1403568658"
        }],
        affected_services: {
            services: [{
                route_type: "1",
                mode_name: "Subway",
                route_id: "931_",
                route_name: "Red Line",
                direction_id: "0",
                direction_name: "Southbound",
                stop_id: "70067",
                stop_name: "Harvard Station - Inbound"
            },
            {
                route_type: "1",
                mode_name: "Subway",
                route_id: "931_",
                route_name: "Red Line",
                direction_id: "0",
                direction_name: "Southbound",
                stop_id: "70069",
                stop_name: "Central Sq - Inbound"
            },
            {
                route_type: "1",
                mode_name: "Subway",
                route_id: "933_",
                route_name: "Red Line",
                direction_id: "0",
                direction_name: "Southbound",
                stop_id: "70067",
                stop_name: "Harvard Station - Inbound"
            },
            {
                route_type: "1",
                mode_name: "Subway",
                route_id: "933_",
                route_name: "Red Line",
                direction_id: "0",
                direction_name: "Southbound",
                stop_id: "70069",
                stop_name: "Central Sq - Inbound"
            }
        ]},
        elevators: []
    },
    {
        alert_id: 33258,
        effect_name: "Accessibility",
        effect: "OTHER_EFFECT",
        cause_name: "maintenance",
        cause: "MAINTENANCE",
        header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby
unavailable due to maintenance",

```



```

        short_header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to
Lobby unavailable due to maintenance",
        description_text: "",
        severity: "Minor",
        created_dt: "1403548943",
        last_modified_dt: "1403548943",
        service_effect_text: "Elevator unavailable",
        timeframe_text: "",
        alert_lifecycle: "New",
        effect_periods: [{
            effect_start: "1403559660",
            effect_end: "1403568658"
        }],
        affected_services: {
            services: [],
            elevators: [{
                elev_id: "983",
                elev_name: "PORTER SQUARE - Red Line Platforms to Lobby",
                elev_type: "Elevator",
                stops: [{
                    stop_id: "70065",
                    stop_name: "Porter Sq - Inbound",
                    parent_station: "place-portr",
                    parent_station_name: "Porter Square Station"
                },
                {
                    stop_id: "70066",
                    stop_name: "Porter Sq - Outbound",
                    parent_station: "place-portr",
                    parent_station_name: "Porter Square Station"
                }
            ]
        }
    ]
}

```

4.5.10 ALERTS BY ROUTE

This query will return alerts affecting a particular route.

URL

```

http://54.81.189.97/developer/api/v2/alertsbyroute?api_key=<developer's api
key>&route=<GTFS-compatible
route_id>&include_access_alerts=true&include_service_alerts=true&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
route	GTFS-compatible route_id value for which alerts should be returned Data type: String Example: "931_"
include_access_alerts (optional)	Whether or not alerts pertaining to accessibility (elevators, escalators) should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "false" If not included, then alerts pertaining to accessibility are not returned

include_service_alerts (optional)	Whether or not service alerts should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "true" If not included, then service alerts will be returned
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description	Can be absent	Can be empty
alerts	Root element of the feed	No	No
route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which alerts are returned Data type: String Example: "931_"	No	No
route_name	Attribute of the root element The human-readable name for the route for which alerts are returned Data type: String Example: "Red Line"	No	No
alert	Child element of the root element Contains information about a single alert	No	No
alert_id	Attribute of the "alert" element The unique identifier for the alert Data type: Integer Example: "781"	No	No

All other fields are similar to that for Alerts (see Section 4.5.9).

Notes

Similar to Alerts (see Section 4.5.9)

Example**XML Request:**

http://54.81.189.97/developer/api/v2/alertsbyroute?api_key=wX9NwuHnZU2ToO7GmGR9uw&route=931_&include_access_alerts=true&include_service_alerts=true&format=xml

XML Response:

```
<alerts xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="931_" route_name="Red Line">
  <alert alert_id="33257">
```

```

    <effect_name>Delay</effect_name>
    <effect>OTHER_EFFECT</effect>
    <cause_name>disabled train</cause_name>
    <cause>TECHNICAL_PROBLEM</cause>
    <header_text>
Red Line experiencing minor southbound delays due to disabled train
    </header_text>
    <short_header_text>
Red Line experiencing minor southbound delays due to disabled train
    </short_header_text>
    <description_text>
Affected stops: Harvard Station - Inbound Central Sq - Inbound
    </description_text>
    <severity>Minor</severity>
    <created_dt>1403548918</created_dt>
    <last_modified_dt>1403548918</last_modified_dt>
    <service_effect_text>Minor Red Line delay</service_effect_text>
    <timeframe_text>later today</timeframe_text>
    <alert_lifecycle>New</alert_lifecycle>
    <effect_periods>
      <effect_period effect_start="1403548917" effect_end="1403568658"/>
    </effect_periods>
    <affected_services>
      <services>
        <service route_type="1" mode_name="Subway" route_id="931"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70067"
stop_name="Harvard Station - Inbound"/>
        <service route_type="1" mode_name="Subway" route_id="931"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70069"
stop_name="Central Sq - Inbound"/>
        <service route_type="1" mode_name="Subway" route_id="933"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70067"
stop_name="Harvard Station - Inbound"/>
        <service route_type="1" mode_name="Subway" route_id="933"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70069"
stop_name="Central Sq - Inbound"/>
      </services>
    </affected_services>
    </alert>
  <alert alert_id="33258">
    <effect_name>Accessibility</effect_name>
    <effect>OTHER_EFFECT</effect>
    <cause_name>maintenance</cause_name>
    <cause>MAINTENANCE</cause>
    <header_text>
Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby unavailable due to
maintenance
    </header_text>
    <short_header_text>
Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby unavailable due to
maintenance
    </short_header_text>
    <description_text/>
    <severity>Minor</severity>
    <created_dt>1403548943</created_dt>
    <last_modified_dt>1403548943</last_modified_dt>
    <service_effect_text>Elevator unavailable</service_effect_text>
    <timeframe_text>later today</timeframe_text>
    <alert_lifecycle>New</alert_lifecycle>
    <effect_periods>
      <effect_period effect_start="1403559660" effect_end="1403568658"/>
    </effect_periods>
  </alert>

```

```

    <affected_services>
      <services/>
      <elevators>
        <elevator elev_id="983" elev_name="PORTER SQUARE - Red Line
Platforms to Lobby" elev_type="Elevator">
          <stop stop_id="70065" stop_name="Porter Sq - Inbound"
parent_station="place-portr" parent_station_name="Porter Square Station"/>
          <stop stop_id="70066" stop_name="Porter Sq -
Outbound" parent_station="place-portr" parent_station_name="Porter Square Station"/>
        </elevator>
      </elevators>
    </affected_services>
  </alert>
</alerts>

```

JSON Request:

http://54.81.189.97/developer/api/v2/alertsbyroute?api_key=wX9NwuHnZU2ToO7GmGR9uw&route=931&include_access_alerts=true&include_service_alerts=true&format=json

JSON Response:

```

{
  alerts: [{
    alert_id: 33257,
    effect_name: "Delay",
    effect: "OTHER_EFFECT",
    cause_name: "disabled train",
    cause: "TECHNICAL_PROBLEM",
    header_text: "Red Line experiencing minor southbound delays due to
disabled train",
    short_header_text: "Red Line experiencing minor southbound delays due to
disabled train",
    description_text: "Affected stops: Harvard Station - Inbound Central Sq -
Inbound",
    severity: "Minor",
    created_dt: "1403548918",
    last_modified_dt: "1403548918",
    service_effect_text: "Minor Red Line delay",
    timeframe_text: "",
    alert_lifecycle: "New",
    effect_periods: [{
      effect_start: "1403548917",
      effect_end: "1403568658"
    }],
    affected_services: {
      services: [{
        route_type: "1",
        mode_name: "Subway",
        route_id: "931",
        route_name: "Red Line",
        direction_id: "0",
        direction_name: "Southbound",
        stop_id: "70067",
        stop_name: "Harvard Station - Inbound"
      },
      {
        route_type: "1",
        mode_name: "Subway",
        route_id: "931",
        route_name: "Red Line",
        direction_id: "0",
        direction_name: "Southbound",
        stop_id: "70069",

```

```

        stop_name: "Central Sq - Inbound"
      },
      {
        route_type: "1",
        mode_name: "Subway",
        route_id: "933 ",
        route_name: "Red Line",
        direction_id: "0",
        direction_name: "Southbound",
        stop_id: "70067",
        stop_name: "Harvard Station - Inbound"
      },
      {
        route_type: "1",
        mode_name: "Subway",
        route_id: "933 ",
        route_name: "Red Line",
        direction_id: "0",
        direction_name: "Southbound",
        stop_id: "70069",
        stop_name: "Central Sq - Inbound"
      }
    ],
    elevators: []
  },
  {
    alert_id: 33258,
    effect_name: "Accessibility",
    effect: "OTHER_EFFECT",
    cause_name: "maintenance",
    cause: "MAINTENANCE",
    header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby
unavailable due to maintenance",
    short_header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to
Lobby unavailable due to maintenance",
    description_text: "",
    severity: "Minor",
    created_dt: "1403548943",
    last_modified_dt: "1403548943",
    service_effect_text: "Elevator unavailable",
    timeframe_text: "",
    alert_lifecycle: "New",
    effect_periods: [{
      effect_start: "1403559660",
      effect_end: "1403568658"
    }],
    affected_services: {
      services: [],
      elevators: [{
        elev_id: "983",
        elev_name: "PORTER SQUARE - Red Line Platforms to Lobby",
        elev_type: "Elevator",
        stops: [{
          stop_id: "70065",
          stop_name: "Porter Sq - Inbound",
          parent_station: "place-portr",
          parent_station_name: "Porter Square Station"
        },
        {
          stop_id: "70066",
          stop_name: "Porter Sq - Outbound",
          parent_station: "place-portr",
          parent_station_name: "Porter Square Station"
        }
      ]
    }
  }
}

```

```

    }
  }
  },
  route_id: "931_",
  route_name: "Red Line"
}

```

4.5.11 ALERTS BY STOP

This query will return alerts affecting a particular stop.

URL

```

http://54.81.189.97/developer/api/v2/alertsbystop?api_key=<developer's api key>&stop=<GTFS-compatible stop_id>&include_access_alerts=true&include_service_alerts=true&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
stop	GTFS-compatible stop_id value for which alerts should be returned Data type: String Example: "place-portr"
include_access_alerts (optional)	Whether or not alerts pertaining to accessibility (elevators, escalators) should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "false" If not included, then alerts pertaining to accessibility are not returned
include_service_alerts (optional)	Whether or not service alerts should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "true" If not included, then service alerts will be returned
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
alerts	Root element of the feed

Name	Description
stop_id	Attribute of the root element The GTFS-compatible unique identifier for the stop for which alerts are returned Data type: String Example: "place-portr"
stop_name	Attribute of the root element The GTFS-compatible name for the stop for which alerts are returned Data type: String Example: "Porter Square Station"
alert	Child element of the root element Contains information about a single alert
alert_id	Attribute of the "alert" element The unique identifier for the alert Data type: Integer Example: "781"

All other fields are similar to that for Alerts (see Section 4.5.9).

Notes

Similar to Alerts (see Section 4.5.9)

Example

XML Request:

http://54.81.189.97/developer/api/v2/alertsbystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=Porter%20Square&include_access_alerts=true&include_service_alerts=true&format=xml

XML Response:

```
<alerts xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" stop_id="Porter Square" stop_name="Porter
Square">
  <alert alert_id="33258">
    <effect_name>Accessibility</effect_name>
    <effect>OTHER_EFFECT</effect>
    <cause_name>maintenance</cause_name>
    <cause>MAINTENANCE</cause>
    <header_text>
Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby unavailable due to
maintenance
    </header_text>
    <short_header_text>
Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby unavailable due to
maintenance
    </short_header_text>
    <description_text/>
    <severity>Minor</severity>
    <created_dt>1403548943</created_dt>
    <last_modified_dt>1403548943</last_modified_dt>
    <service_effect_text>Elevator unavailable</service_effect_text>
    <timeframe_text>later today</timeframe_text>
    <alert_lifecycle>New</alert_lifecycle>
    <effect_periods>
      <effect_period effect_start="1403559660" effect_end="1403568658"/>
    </effect_periods>
  </alert>
</alerts>
```

```

    </effect_periods>
    <affected_services>
      <services/>
      <elevators>
        <elevator elev_id="983" elev_name="PORTER SQUARE - Red Line
Platforms to Lobby" elev_type="Elevator">
          <stop stop_id="70065" stop_name="Porter Sq - Inbound"
parent_station="place-portr" parent_station_name="Porter Square Station"/>
          <stop stop_id="70066" stop_name="Porter Sq -
Outbound" parent_station="place-portr" parent_station_name="Porter Square Station"/>
        </elevator>
      </elevators>
    </affected_services>
  </alert>
</alerts>

```

JSON Request:

http://54.81.189.97/developer/api/v2/alertsbystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=Porter%20Square&include_access_alerts=true&include_service_alerts=true&format=json

JSON Response:

```

{
  alerts: [{
    alert_id: 33258,
    effect_name: "Accessibility",
    effect: "OTHER_EFFECT",
    cause_name: "maintenance",
    cause: "MAINTENANCE",
    header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby
unavailable due to maintenance",
    short_header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to
Lobby unavailable due to maintenance",
    description_text: "",
    severity: "Minor",
    created_dt: "1403548943",
    last_modified_dt: "1403548943",
    service_effect_text: "Elevator unavailable",
    timeframe_text: "",
    alert_lifecycle: "New",
    effect_periods: [{
      effect_start: "1403559660",
      effect_end: "1403568658"
    }],
    affected_services: {
      services: [],
      elevators: [{
        elev_id: "983",
        elev_name: "PORTER SQUARE - Red Line Platforms to Lobby",
        elev_type: "Elevator",
        stops: [{
          stop_id: "70065",
          stop_name: "Porter Sq - Inbound",
          parent_station: "place-portr",
          parent_station_name: "Porter Square Station"
        },
        {
          stop_id: "70066",
          stop_name: "Porter Sq - Outbound",
          parent_station: "place-portr",
          parent_station_name: "Porter Square Station"
        }
      ]
    }
  ]
}

```



```

    }
  },
  stop_id: "Porter Square",
  stop_name: "Porter Square"
}

```

4.5.12 ALERT BY ID

This query will return details for a particular alert.

URL

```

http://54.81.189.97/developer/api/v2/alertbyid?api_key=<developer's api key>&id=<alert_id>&include_access_alerts=true&include_service_alerts=true&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
id	Unique identifier for the alert Data Type: Integer Example: "781"
include_access_alerts (optional)	Whether or not alerts pertaining to accessibility (elevators, escalators) should be returned. Must be true if searching for an accessibility alert. Data type: String representation of Boolean Possible values: "true" or "false" Default value: "false" If not included, then alerts pertaining to accessibility are not returned
include_service_alerts (optional)	Whether or not service alerts should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "true" If not included, then service alerts will be returned
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description	Can be absent	Can be empty
alert	Root element of the feed	No	No
alert_id	Attribute of the "root" element The unique identifier for the alert Data type: Integer Example: "2585"	No	No

All other fields are similar to that for Alerts (see Section 4.5.9).

Notes

Similar to Alerts (see Section 4.5.9)

Example

XML Request (non accessibility):

http://54.81.189.97/developer/api/v2/alertbyid?api_key=wX9NwuHnZU2ToO7GmGR9uw&include_access_alerts=true&include_service_alerts=true&id=33274&format=xml

XML Response:

```
<alert xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" alert_id="33257">
  <effect_name>Delay</effect_name>
  <effect>OTHER_EFFECT</effect>
  <cause_name>disabled train</cause_name>
  <cause>TECHNICAL_PROBLEM</cause>
  <header_text>
Red Line experiencing minor southbound delays due to disabled train
  </header_text>
  <short_header_text>
Red Line experiencing minor southbound delays due to disabled train
  </short_header_text>
  <description_text>
Affected stops: Harvard Station - Inbound Central Sq - Inbound
  </description_text>
  <severity>Minor</severity>
  <created_dt>1403548918</created_dt>
  <last_modified_dt>1403548918</last_modified_dt>
  <service_effect_text>Minor Red Line delay</service_effect_text>
  <timeframe_text>later today</timeframe_text>
  <alert_lifecycle>New</alert_lifecycle>
  <effect_periods>
    <effect_period effect_start="1403548917" effect_end="1403568658"/>
  </effect_periods>
  <affected_services>
    <services>
      <service route_type="1" mode_name="Subway" route_id="931_"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70067"
stop_name="Harvard Station - Inbound"/>
      <service route_type="1" mode_name="Subway" route_id="931_"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70069"
stop_name="Central Sq - Inbound"/>
      <service route_type="1" mode_name="Subway" route_id="933_"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70067"
stop_name="Harvard Station - Inbound"/>
      <service route_type="1" mode_name="Subway" route_id="933_"
route_name="Red Line" direction_id="0" direction_name="Southbound" stop_id="70069"
stop_name="Central Sq - Inbound"/>
    </services>
  </affected_services>
</alert>
```

JSON Request (non accessibility):

http://54.81.189.97/developer/api/v2/alertbyid?api_key=wX9NwuHnZU2ToO7GmGR9uw&include_access_alerts=true&include_service_alerts=true&id=33274&format=json

JSON Response:

```
{
  alert_id: 33257,
  effect_name: "Delay",
  effect: "OTHER_EFFECT",
  cause_name: "disabled train",
  cause: "TECHNICAL_PROBLEM",
  header_text: "Red Line experiencing minor southbound delays due to disabled
train",
  short_header_text: "Red Line experiencing minor southbound delays due to
disabled train",
  description_text: "Affected stops: Harvard Station - Inbound Central Sq -
Inbound",
  severity: "Minor",
  created_dt: "1403548918",
  last_modified_dt: "1403548918",
  service_effect_text: "Minor Red Line delay",
  timeframe_text: "",
  alert_lifecycle: "New",
  effect_periods: [{
    effect_start: "1403548917",
    effect_end: "1403568658"
  }],
  affected_services: {
    services: [{
      route_type: "1",
      mode_name: "Subway",
      route_id: "931_",
      route_name: "Red Line",
      direction_id: "0",
      direction_name: "Southbound",
      stop_id: "70067",
      stop_name: "Harvard Station - Inbound"
    },
    {
      route_type: "1",
      mode_name: "Subway",
      route_id: "931_",
      route_name: "Red Line",
      direction_id: "0",
      direction_name: "Southbound",
      stop_id: "70069",
      stop_name: "Central Sq - Inbound"
    },
    {
      route_type: "1",
      mode_name: "Subway",
      route_id: "933_",
      route_name: "Red Line",
      direction_id: "0",
      direction_name: "Southbound",
      stop_id: "70067",
      stop_name: "Harvard Station - Inbound"
    },
    {
      route_type: "1",
      mode_name: "Subway",
      route_id: "933_",
      route_name: "Red Line",
      direction_id: "0",
      direction_name: "Southbound",
      stop_id: "70069",
      stop_name: "Central Sq - Inbound"
    }
  ]
}
```

```

        stop_name: "Central Sq - Inbound"
    }],
    elevators: []
}

```

XML Request (accessibility):

http://54.81.189.97/developer/api/v2/alertbyid?api_key=wX9NwuHnZU2To07GmGR9uw&include_access_alerts=true&include_service_alerts=true&id=33274&format=xml

XML Response:

```

<alert xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" alert_id="33258">
  <effect_name>Accessibility</effect_name>
  <effect>OTHER_EFFECT</effect>
  <cause_name>maintenance</cause_name>
  <cause>MAINTENANCE</cause>
  <header_text>
Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby unavailable due to
maintenance
  </header_text>
  <short_header_text>
Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby unavailable due to
maintenance
  </short_header_text>
  <description_text/>
  <severity>Minor</severity>
  <created_dt>1403548943</created_dt>
  <last_modified_dt>1403548943</last_modified_dt>
  <service_effect_text>Elevator unavailable</service_effect_text>
  <timeframe_text>later today</timeframe_text>
  <alert_lifecycle>New</alert_lifecycle>
  <effect_periods>
    <effect_period effect_start="1403559660" effect_end="1403568658"/>
  </effect_periods>
  <affected_services>
    <services/>
    <elevators>
      <elevator elev_id="983" elev_name="PORTER SQUARE - Red Line
Platforms to Lobby" elev_type="Elevator">
        <stop stop_id="70065" stop_name="Porter Sq - Inbound"
parent_station="place-portr" parent_station_name="Porter Square Station"/>
        <stop stop_id="70066" stop_name="Porter Sq - Outbound"
parent_station="place-portr" parent_station_name="Porter Square Station"/>
      </elevator>
    </elevators>
  </affected_services>
</alert>

```

JSON Request (accessibility):

http://54.81.189.97/developer/api/v2/alertbyid?api_key=wX9NwuHnZU2To07GmGR9uw&include_access_alerts=true&include_service_alerts=true&id=33274&format=json

JSON Response:

```

{
  alert_id: 33258,
  effect_name: "Accessibility",
  effect: "OTHER_EFFECT",
  cause_name: "maintenance",
  cause: "MAINTENANCE",

```

```

    header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby
unavailable due to maintenance",
    short_header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby
unavailable due to maintenance",
    description_text: "",
    severity: "Minor",
    created_dt: "1403548943",
    last_modified_dt: "1403548943",
    service_effect_text: "Elevator unavailable",
    timeframe_text: "",
    alert_lifecycle: "New",
    effect_periods: [{
        effect_start: "1403559660",
        effect_end: "1403568658"
    }],
    affected_services: {
        services: [],
        elevators: [{
            elev_id: "983",
            elev_name: "PORTER SQUARE - Red Line Platforms to Lobby",
            elev_type: "Elevator",
            stops: [{
                stop_id: "70065",
                stop_name: "Porter Sq - Inbound",
                parent_station: "place-portr",
                parent_station_name: "Porter Square Station"
            },
            {
                stop_id: "70066",
                stop_name: "Porter Sq - Outbound",
                parent_station: "place-portr",
                parent_station_name: "Porter Square Station"
            }
        ]
    }
}

```

4.5.13 ALERT HEADERS

This query will return headers for all alerts.

URL

```

http://54.81.189.97/developer/api/v2/alertheaders?api_key=<developer's api
key>&include_access_alerts=true&include_service_alerts=true&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
include_access_alerts (optional)	Whether or not alerts pertaining to accessibility (elevators, escalators) should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "false" If not included, then alerts pertaining to accessibility are not returned

include_service_alerts (optional)	Whether or not service alerts should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "true" If not included, then service alerts will be returned
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
alert_headers	Root element of the feed
alert	Child element of the root element Contains information about a single alert
alert_id	Attribute of the "alert" element The unique identifier for the alert Data type: Integer Example: "781"
header_text	Attribute of the "alert" element A brief summary of the situation (GTFS-realtime-compatible) Data type: String Example: "Shuttle buses replacing Red Line service from Sat Jun 01, 2013 to Sun Jun 30, 2013 every Saturday and Sunday from 09:00 PM to end of service due to tie replacement"

Example**XML Request:**

http://54.81.189.97/developer/api/v2/alertheaders?api_key=wX9NwuHnZU2To07GmGR9uw&include_access_alerts=true&include_service_alerts=true&format=xml

XML Response:

```
<alert_headers xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <alert alert_id="33257" header_text="Red Line experiencing minor southbound
delays due to disabled train"/>
  <alert alert_id="33258" header_text="Elevator 983 PORTER SQUARE - Red Line
Platforms to Lobby unavailable due to maintenance"/>
</alert_headers>
```

JSON Request:

http://54.81.189.97/developer/api/v2/alertheaders?api_key=wX9NwuHnZU2To07GmGR9uw&include_access_alerts=true&include_service_alerts=true&format=json

JSON Response:

```
{
  alert_headers: [{
    alert_id: 33257,
    header_text: "Red Line experiencing minor southbound delays due to
disabled train"
  },
  {
    alert_id: 33258,
    header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby
unavailable due to maintenance"
  }]
}
```

4.5.14 ALERT HEADERS BY ROUTE

This query will return headers for alerts affecting a particular route.

URL

```
http://54.81.189.97/developer/api/v2/alertheadersbyroute?api_key=<developer's api
key>&route=<GTFS-compatible
route_id>&include_access_alerts=true&include_service_alerts=true&format=<format type>
```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
route	GTFS-compatible route_id value for which alert headers should be returned Data type: String Example: "931_"
include_access_alerts (optional)	Whether or not alerts pertaining to accessibility (elevators, escalators) should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "false" If not included, then alerts pertaining to accessibility are not returned
include_service_alerts (optional)	Whether or not service alerts should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "true" If not included, then service alerts will be returned
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
alert_headers	Root element of the feed
route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which alert headers are returned Data type: String Example: "931_"
route_name	Attribute of the root element The human-readable name for the route for which alert headers are returned Data type: String Example: "Red Line"
alert	Child element of the root element Contains information about a single alert
alert_id	Attribute of the "alert" element The unique identifier for the alert Data type: Integer Example: "781"
header_text	Attribute of the "alert" element A brief summary of the situation (GTFS-realtime-compatible) Data type: String Example: "Shuttle buses replacing Red Line service from Sat Jun 01, 2013 to Sun Jun 30, 2013 every Saturday and Sunday from 09:00 PM to end of service due to tie replacement"

Example**XML Request:**

http://54.81.189.97/developer/api/v2/alertheadersbyroute?api_key=wX9NwuHnZU2To07GmGR9u&route=931 &include_access_alerts=true&include_service_alerts=true&format=xml

XML Response:

```
<alert_headers xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="931_" route_name="Red Line">
  <alert alert_id="33257" header_text="Red Line experiencing minor southbound
delays due to disabled train"/>
  <alert alert_id="33258" header_text="Elevator 983 PORTER SQUARE - Red Line
Platforms to Lobby unavailable due to maintenance"/>
</alert_headers>
```

JSON Request:

http://54.81.189.97/developer/api/v2/alertheadersbyroute?api_key=wX9NwuHnZU2To07GmGR9u&route=931 &include_access_alerts=true&include_service_alerts=true&format=json

JSON Response:

```
{
  alert_headers: [{
    alert_id: 33257,
    header_text: "Red Line experiencing minor southbound delays due to
disabled train"
```



```

    },
    {
        alert_id: 33258,
        header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby
unavailable due to maintenance"
    }],
    route_id: "931_",
    route_name: "Red Line"
}

```

4.5.15 ALERT HEADERS BY STOP

This query will return headers for alerts affecting a particular stop.

URL

```

http://54.81.189.97/developer/api/v2/alertheadersbystop?api_key=<developer's api
key>&stop=<GTFS-compatible
stop_id>&include_access_alerts=true&include_service_alerts=true&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
stop	GTFS-compatible stop_id value for which alert headers should be returned Data type: String Example: "place-portr"
include_access_alerts (optional)	Whether or not alerts pertaining to accessibility (elevators, escalators) should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "false" If not included, then alerts pertaining to accessibility are not returned
include_service_alerts (optional)	Whether or not service alerts should be returned Data type: String representation of Boolean Possible values: "true" or "false" Default value: "true" If not included, then service alerts will be returned
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
alert_headers	Root element of the feed

Name	Description
stop_id	Attribute of the root element The GTFS-compatible unique identifier for the stop for which alert headers are returned Data type: String Example: "place-portr"
stop_name	Attribute of the root element The GTFS-compatible name for the stop for which alert headers are returned Data type: String Example: "Porter Square Station"
alert	Child element of the root element Contains information about a single alert
alert_id	Attribute of the "alert" element The unique identifier for the alert Data type: Integer Example: "781"
header_text	Attribute of the "alert" element A brief summary of the situation (GTFS-realtime-compatible) Data type: String Example: "Shuttle buses replacing Red Line service from Sat Jun 01, 2013 to Sun Jun 30, 2013 every Saturday and Sunday from 09:00 PM to end of service due to tie replacement"

Example

XML Request:

http://54.81.189.97/developer/api/v2/alertheadersbystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=Porter%20Square&include_access_alerts=true&include_service_alerts=true&format=xml

XML Response:

```
<alert_headers xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" stop_id="Porter Square" stop_name="Porter
Square">
  <alert alert_id="33258" header_text="Elevator 983 PORTER SQUARE - Red Line
Platforms to Lobby unavailable due to maintenance"/>
</alert_headers>
```

JSON Request:

http://54.81.189.97/developer/api/v2/alertheadersbystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=Porter%20Square&include_access_alerts=true&include_service_alerts=true&format=json

JSON Response:

```
{
  alert_headers: [{
    alert_id: 33258,
    header_text: "Elevator 983 PORTER SQUARE - Red Line Platforms to Lobby
unavailable due to maintenance"
  }],
  stop_id: "Porter Square",
```

```

    stop_name: "Porter Square"
  }

```

4.5.16 PREDICTIONS BY ROUTE

This query will return predictions for the next three trips (including trips already underway) in a direction for a particular route.

URL

```

http://54.81.189.97/developer/api/v2/predictionsbyroute?api_key=<developer's api key>&route=<GTFS-compatible route_id>&&direction=<GTFS-compatible direction_id>&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
route	GTFS-compatible route_id value for which predictions should be returned Data type: String Example: "931_"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
predictions	Root element of the feed
route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which predictions are returned Data type: String Example: "CR-Franklin"
route_name	Attribute of the root element The human-readable name for the route for which predictions are returned Data type: String Example: "Franklin Line"
route_type	Attribute of the root element The GTFS-compatible identifier for the type of service (mode) Data type: String representation of an Integer (0-7) Example: "2"

Name	Description
mode_name	Attribute of the root element The human-readable name for the type of service (mode) Data type: String Example: "Commuter Rail"
direction	Child element of the root element Contains information for a direction of the route
direction_id	Attribute of the "direction" element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: "0"
direction_name	Attribute of the "direction" element The human-readable name for the direction Data type: String Example: "Outbound"
trip	Child element of the 'direction' element Contains information for a trip on a direction of the route
trip_id	Attribute of the "trip" element The unique GTFS-compatible identifier for the trip Data type: String Example: "CR-Providence-CR-Weekday-815"
trip_name	Attribute of the "trip" element The human-readable for the trip Data type: String Example: "815 (4:35 pm from South Station)"
trip_headsign	Attribute of the "trip" element The text that identifies the trip's destination to passengers Data type: String Example: "North Station"
vehicle	Child element of the "trip" element Contains information for a vehicle on the trip
vehicle_id	Attribute of the "vehicle" element The GTFS-compatible unique identifier for the vehicle Data type: String Example: "1531"
vehicle_lat	Attribute of the "vehicle" element The GTFS-compatible latitude of the vehicle. Data type: String representation of a Float Example: "42.08997"
vehicle_lon	Attribute of the "vehicle" element The GTFS-compatible longitude of the vehicle. Data type: String representation of a Float Example: "-71.4388"

Name	Description
vehicle_bearing (optional)	Attribute of the “vehicle” element GTFS-compatible bearing of the vehicle. This can be the compass bearing, or the direction towards the next stop or intermediate location Data type: String representation of a Float Example: “259”
vehicle_speed (optional)	Attribute of the “vehicle” element Identifies the vehicle’s momentary speed, in meters per second Data type: Float Example: “21”
vehicle_timestamp	Attribute of the “vehicle” element Identifies the moment at which the vehicle’s real-time progress was measured, in epoch time Data type: String representation of an Integer Example: “1400855704”
stop	Child element of the “trip” element Contains information for a stop on the trip
stop_sequence	Attribute of the “stop” element Identifies where the stop comes in the sequence of stops for this trip Data type: String representation of an Integer (starting with 1) Example: “2”
stop_id	Attribute of the “stop” element The GTFS-compatible unique identifier for the stop Data type: String Example: “Back Bay”
stop_name	Attribute of the “stop” element The GTFS-compatible name for the stop Data type: String Example: “Back Bay”
sch_arr_dt	Attribute of the “stop” element Scheduled arrival time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: “1361986080”
sch_dep_dt	Attribute of the “stop” element Scheduled departure time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: “1361986080”
pre_dt	Attribute of the “stop” element Predicted time at the stop – departure time for origin stop and arrival time for all other stops – for the trip, in epoch time Data type: String representation of an Integer Example: “1400855700”
pre_away	Attribute of the “stop” element Predicted amount of time until the vehicle arrives at the stop, in seconds Data type: String representation of an Integer Example: “339”

Notes**Example****XML Request:**

http://54.81.189.97/developer/api/v2/predictionsbyroute?api_key=wX9NwuHnZU2ToO7GmGR9uw&route=CR-Providence&format=xml

XML Response:

```
<predictions xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="CR-Providence"
route_name="Providence/Stoughton Line" route_type="2" mode_name="Commuter Rail"
stats="197">
  <direction direction_id="0" direction_name="Outbound">
    <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-913"
trip_name="913 (1:20 pm from South Station)" trip_headsign="Stoughton (Train 913)">
      <vehicle vehicle_id="1524" vehicle_lat="42.2373" vehicle_lon="-
71.13411" vehicle_bearing="199" vehicle_speed="38" vehicle_timestamp="1403545441"/>
      <stop stop_sequence="5" stop_id="Route 128" stop_name="Route 128"
sch_arr_dt="1403545620" sch_dep_dt="1403545620" pre_dt="1403545620" pre_away="17"/>
      <stop stop_sequence="6" stop_id="Canton Junction"
stop_name="Canton Junction" sch_arr_dt="1403545980" sch_dep_dt="1403545980"
pre_dt="1403545980" pre_away="377"/>
      <stop stop_sequence="7" stop_id="Canton Center" stop_name="Canton
Center" sch_arr_dt="1403546160" sch_dep_dt="1403546160" pre_dt="1403546160"
pre_away="557"/>
    </trip>
  </direction>
  <direction direction_id="1" direction_name="Inbound">
    <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-818"
trip_name="818 (1:10 pm from Wickford Junction)" trip_headsign="South Station (Train
818)">
      <vehicle vehicle_id="1514" vehicle_lat="41.76116" vehicle_lon="-
71.42993" vehicle_bearing="15" vehicle_speed="38" vehicle_timestamp="1403545438"/>
      <stop stop_sequence="3" stop_id="Providence"
stop_name="Providence" sch_arr_dt="1403545260" sch_dep_dt="1403545260"
pre_dt="1403545860" pre_away="257"/>
      <stop stop_sequence="4" stop_id="South Attleboro" stop_name="South
Attleboro" sch_arr_dt="1403545920" sch_dep_dt="1403545920" pre_dt="1403546520"
pre_away="917"/>
    </trip>
  </direction>
</predictions>
```

JSON Request:

http://54.81.189.97/developer/api/v2/predictionsbyroute?api_key=wX9NwuHnZU2ToO7GmGR9uw&route=CR-Providence&format=json

JSON Response:

```
{
  route_id: "CR-Providence",
  route_name: "Providence/Stoughton Line",
  route_type: "2",
  mode_name: "Commuter Rail",
  direction: [{
    direction_id: "0",
    direction_name: "Outbound",
    trip: [{
```

```

trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-913",
trip_name: "913 (1:20 pm from South Station)",
trip_headsign: "Stoughton (Train 913)",
vehicle: {
  vehicle_id: "1524",
  vehicle_lat: "42.22306",
  vehicle_lon: "-71.14098",
  vehicle_bearing: "199",
  vehicle_speed: "45",
  vehicle_timestamp: "1403545530"
},
stop: [{
  stop_sequence: "5",
  stop_id: "Route 128",
  stop_name: "Route 128",
  sch_arr_dt: "1403545620",
  sch_dep_dt: "1403545620"
},
{
  stop_sequence: "6",
  stop_id: "Canton Junction",
  stop_name: "Canton Junction",
  sch_arr_dt: "1403545980",
  sch_dep_dt: "1403545980",
  pre_dt: "1403545980",
  pre_away: "266"
},
{
  stop_sequence: "7",
  stop_id: "Canton Center",
  stop_name: "Canton Center",
  sch_arr_dt: "1403546160",
  sch_dep_dt: "1403546160",
  pre_dt: "1403546160",
  pre_away: "446"
}
]]
},
{
  direction_id: "1",
  direction_name: "Inbound",
  trip: [{
    trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-818",
    trip_name: "818 (1:10 pm from Wickford Junction)",
    trip_headsign: "South Station (Train 818)",
    vehicle: {
      vehicle_id: "1514",
      vehicle_lat: "41.77901",
      vehicle_lon: "-71.42352",
      vehicle_bearing: "10",
      vehicle_speed: "39",
      vehicle_timestamp: "1403545543"
    },
    stop: [{
      stop_sequence: "3",
      stop_id: "Providence",
      stop_name: "Providence",
      sch_arr_dt: "1403545260",
      sch_dep_dt: "1403545260",
      pre_dt: "1403545860",
      pre_away: "146"
    },
    {

```

```

        stop_sequence: "4",
        stop_id: "South Attleboro",
        stop_name: "South Attleboro",
        sch_arr_dt: "1403545920",
        sch_dep_dt: "1403545920",
        pre_dt: "1403546520",
        pre_away: "806"
      },
      {
        stop_sequence: "5",
        stop_id: "Attleboro",
        stop_name: "Attleboro",
        sch_arr_dt: "1403546520",
        sch_dep_dt: "1403546520",
        pre_dt: "1403547120",
        pre_away: "1406"
      }
    ]
  },
  stats: "173"
}

```

4.5.17 PREDICTIONS BY STOP

This query will return up to the next three predicted arrivals and departures in the next hour for a direction and route for a particular stop.

URL

```

http://54.81.189.97/developer/api/v2/predictionsbystop?api_key=<developer's api key>&stop=<GTFS-compatible stop_id>&route=<GTFS-compatible route_id>&direction=<GTFS-compatible direction_id>&format=<format type>

```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
stop	GTFS-compatible stop_id value for which predictions should be returned Data type: String Example: "Back Bay"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
prediction	Root element of the response document

stop_id	Attribute of the root element The GTFS-compatible unique identifier for the stop for which the predictions are returned Data type: String Example: "Back Bay"
stop_name	Attribute of the root element The GTFS-compatible name for the stop for which the predictions are returned Data type: String Example: "Back Bay"
mode	Child element of the root element Contains information for a mode that serves this stop
route_type	Attribute of the "mode" element The GTFS-compatible identifier for the type of service (mode) Data type: String representation of an Integer (0-7) Example: "2"
mode_name	Attribute of the "mode" element The human-readable name for the type of service (mode) Data type: String Example: "Commuter Rail"
route	Child element of the "mode" element Contains information for a route that serves this stop
route_id	Attribute of the "route" element The unique GTFS-compatible identifier for the route Data type: String Example: "CR-Providence"
route_name	Attribute of the "route" element The human-readable name for the route Data type: String Example: "Providence/Stoughton Line"
direction	Child element of the 'route' element Contains information for a direction of the route
direction_id	Attribute of the "direction" element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: "0"
direction_name	Attribute of the "direction" element The human-readable name for the direction Data type: String Example: "Outbound"
trip	Child element of the 'direction' element Contains information for a trip on a direction of the route
trip_id	Attribute of the "trip" element The unique GTFS-compatible identifier for the trip Data type: String Example: "CR-Providence-CR-Weekday-815"

trip_name	Attribute of the “trip” element The human-readable for the trip Data type: String Example: “815 (4:35 pm from South Station)”
trip_headsign	Attribute of the “trip” element The text that identifies the trip's destination to passengers Data type: String Example: “North Station”
sch_arr_dt	Attribute of the “trip” element Scheduled arrival time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: “1361989260”
sch_dep_dt	Attribute of the “trip” element Scheduled departure time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: “1361989260”
pre_dt	Attribute of the “stop” element Predicted time at the stop – departure time for origin stop and arrival time for all other stops – for the trip, in epoch time Data type: String representation of an Integer Example: “1400855700”
pre_away	Attribute of the “stop” element Predicted amount of time until the vehicle arrives at the stop, in seconds Data type: String representation of an Integer Example: “339”
vehicle	Child element of the “trip” element Contains information for a vehicle on the trip
vehicle_id	Attribute of the “vehicle” element The GTFS-compatible unique identifier for the vehicle Data type: String Example: “1531”
vehicle_lat	Attribute of the “vehicle” element The GTFS-compatible latitude of the vehicle. Data type: String representation of a Float Example: “42.08997”
vehicle_lon	Attribute of the “vehicle” element The GTFS-compatible longitude of the vehicle. Data type: String representation of a Float Example: “-71.4388”
vehicle_bearing (optional)	Attribute of the “vehicle” element GTFS-compatible bearing of the vehicle. This can be the compass bearing, or the direction towards the next stop or intermediate location Data type: String representation of a Float Example: “259”

vehicle_speed (optional)	Attribute of the "vehicle" element Identifies the vehicle's momentary speed, in meters per second Data type: Float Example: "21"
vehicle_timestamp	Attribute of the "vehicle" element Identifies the moment when the content of this feed has been created, in epoch time Data type: String representation of an Integer Example: "1400855704"

Example**XML Request:**

http://54.81.189.97/developer/api/v2/predictionsbystop?api_key=wX9NwuHnZU2ToO7GmGR9uw&stop=Providence&format=xml

XML Response:

```
<predictions xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" stop_id="Providence"
stop_name="Providence" >
  <mode route_type="2" mode_name="Commuter Rail">
    <route route_id="CR-Providence" route_name="Providence/Stoughton Line">
      <direction direction_id="1" direction_name="Inbound">
        <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-
818" trip_name="818 (1:10 pm from Wickford Junction)" trip_headsign="South Station
(Train 818)" sch_arr_dt="1403545260" sch_dep_dt="1403545260">
          <vehicle vehicle_id="1514" vehicle_lat="41.82758"
vehicle_lon="-71.41731" vehicle_bearing="295" vehicle_speed="1"
vehicle_timestamp="1403546159"/>
        </trip>
      </direction>
    </route>
  </mode>
</predictions>
```

JSON Request:

http://54.81.189.97/developer/api/v2/predictionsbystop?api_key=wX9NwuHnZU2ToO7GmGR9uw&stop=Providence&format=json

JSON Response:

```
{
  stop_id: "Providence",
  stop_name: "Providence",
  mode: [{
    route_type: "2",
    mode_name: "Commuter Rail",
    route: [{
      route_id: "CR-Providence",
      route_name: "Providence/Stoughton Line",
      direction: [{
        direction_id: "1",
        direction_name: "Inbound",
        trip: [{
          trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-
818",
          trip_name: "818 (1:10 pm from Wickford Junction)",
          trip_headsign: "South Station (Train 818)",
```

```
sch_arr_dt: "1403545260",  
sch_dep_dt: "1403545260",  
vehicle: {  
    vehicle_id: "1514",  
    vehicle_lat: "41.83049",  
    vehicle_lon: "-71.41402",  
    vehicle_speed: "2",  
    vehicle_timestamp: "1403546265"  
}  
  
}]  
  
}]  
  
}
```

4.5.18 PREDICTIONS BY TRIP

This query will return the predicted arrivals and departures for a particular trip.

URL

http://54.81.189.97/developer/api/v2/predictionsbytrip?api_key=<developer's api key>&trip=<GTFs-compatible trip id>&format=<format type>

Parameters

Name	Description
api_key	Unique API key assigned to each developer
trip	GTFS-compatible trip_id value for which predictions should be returned Data type: String Example: "CR-Providence-CR-Weekday-807"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
prediction	Root element of the response document
route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which predictions are returned Data type: String Example: "CR-Providence"
route_name	Attribute of the root element The human-readable name for the route for which predictions are returned Data type: String Example: "Providence/Stoughton Line"

route_type	Attribute of the “mode” element The GTFS-compatible identifier for the type of service (mode) Data type: String representation of an Integer (0-7) Example: “2”
mode_name	Attribute of the “mode” element The human-readable name for the type of service (mode) Data type: String Example: “Commuter Rail”
trip_id	Attribute of the root element The unique GTFS-compatible identifier for the trip for which predictions are returned Data type: String Example: “CR-Providence-CR-Weekday-815”
trip_name	Attribute of the root element The human-readable for the trip for which schedule is returned Data type: String Example: “815 (4:35 pm from South Station)”
trip_headsign	Attribute of the “trip” element The text that identifies the trip's destination to passengers Data type: String Example: “North Station”
direction_id	Attribute of the root element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: “0”
direction_name	Attribute of the root element The human-readable name for the direction Data type: String Example: “Outbound”
vehicle	Child element of the “trip” element Contains information for a vehicle on the trip
vehicle_id	Attribute of the “vehicle” element The GTFS-compatible unique identifier for the vehicle Data type: String Example: “1531”
vehicle_lat	Attribute of the “vehicle” element The GTFS-compatible latitude of the vehicle. Data type: String representation of a Float Example: “42.08997”
vehicle_lon	Attribute of the “vehicle” element The GTFS-compatible longitude of the vehicle. Data type: String representation of a Float Example: “-71.4388”
vehicle_bearing (optional)	Attribute of the “vehicle” element GTFS-compatible bearing of the vehicle. This can be the compass bearing, or the direction towards the next stop or intermediate location Data type: String representation of a Float Example: “259”

vehicle_speed (optional)	Attribute of the “vehicle” element Identifies the vehicle’s momentary speed, in meters per second Data type: Float Example: “21”
vehicle_timestamp	Attribute of the “vehicle” element Identifies the moment when the content of this feed has been created, in epoch time Data type: String representation of an Integer Example: “1400855704”
stop	Child element of the ‘trip’ element Contains information for a stop on the trip
stop_sequence	Attribute of the “stop” element Identifies where the stop comes in the sequence of stops for this trip Data type: String representation of an Integer (starting with 1) Example: “2”
stop_id	Attribute of the “stop” element The GTFS-compatible unique identifier for the stop Data type: String Example: “Back Bay”
stop_name	Attribute of the “stop” element The GTFS-compatible name for the stop Data type: String Example: “Back Bay”
sch_arr_dt	Attribute of the “stop” element Scheduled arrival time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: “1361986080”
sch_dep_dt	Attribute of the “stop” element Scheduled departure time at the stop for the trip, in epoch time Data type: String representation of an Integer Example: “1361986080”
pre_dt	Attribute of the “stop” element Predicted time at the stop – departure time for origin stop and arrival time for all other stops – for the trip, in epoch time Data type: String representation of an Integer Example: “1400855700”
pre_away	Attribute of the “stop” element Predicted amount of time until the vehicle arrives at the stop, in seconds Data type: String representation of an Integer Example: “339”

Example

XML Request:

http://54.81.189.97/developer/api/v2/predictionsbytrip?api_key=wX9NwuHnZU2ToO7GmGR9uw&trip=CR-Providence-CR-Weekday-Providence-Dec13-913&format=xml

XML Response:

```
<predictions xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="CR-Providence"
route_name="Providence/Stoughton Line" route_type="2" mode_name="Commuter Rail"
trip_id="CR-Providence-CR-Weekday-Providence-Dec13-913" trip_name="913 (1:20 pm from
South Station)" trip_headsign="Stoughton (Train 913)" direction_id="0"
direction_name="Outbound">
  <vehicle vehicle_id="1524" vehicle_lat="42.15686" vehicle_lon="-71.14577"
vehicle_bearing="121" vehicle_speed="24" vehicle_timestamp="1403546372"/>
  <stop stop_sequence="7" stop_id="Canton Center" stop_name="Canton Center"
sch_arr_dt="1403546160" sch_dep_dt="1403546160"/>
  <stop stop_sequence="8" stop_id="Stoughton" stop_name="Stoughton"
sch_arr_dt="1403546640" sch_dep_dt="1403546640" pre_dt="1403546640" pre_away="160"/>
</predictions>
```

JSON Request:

http://54.81.189.97/developer/api/v2/predictionsbytrip?api_key=wX9NwuHnZU2To07GmGR9uw&trip=CR-Providence-CR-Weekday-Providence-Dec13-913&format=json

JSON Response:

```
{
  route_id: "CR-Providence",
  route_name: "Providence/Stoughton Line",
  route_type: "2",
  mode_name: "Commuter Rail",
  trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-913",
  trip_name: "913 (1:20 pm from South Station)",
  trip_headsign: "Stoughton (Train 913)",
  direction_id: "0",
  direction_name: "Outbound",
  vehicle: {
    vehicle_id: "1524",
    vehicle_lat: "42.14926",
    vehicle_lon: "-71.13107",
    vehicle_bearing: "121",
    vehicle_speed: "36",
    vehicle_timestamp: "1403546463"
  },
  stop: [{
    stop_sequence: "7",
    stop_id: "Canton Center",
    stop_name: "Canton Center",
    sch_arr_dt: "1403546160",
    sch_dep_dt: "1403546160"
  },
  {
    stop_sequence: "8",
    stop_id: "Stoughton",
    stop_name: "Stoughton",
    sch_arr_dt: "1403546640",
    sch_dep_dt: "1403546640",
    pre_dt: "1403546640",
    pre_away: "53"
  }]
}
```

4.5.19 VEHICLES BY ROUTE

This query will return vehicle positions for the next three trips (including trips already underway) in a direction for a particular route.

URL

```
http://54.81.189.97/developer/api/v2/vehiclesbyroute?api_key=<developer's api key>&route=<GTFS-compatible route_id>&&direction=<GTFS-compatible direction_id>&format=<format type>
```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
route	GTFS-compatible route_id value for which vehicle positions should be returned Data type: String Example: "931_"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
vehicles	Root element of the feed
route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which vehicle positions are returned Data type: String Example: "CR-Franklin"
route_name	Attribute of the root element The human-readable name for the route for which vehicle positions are returned Data type: String Example: "Franklin Line"
route_type	Attribute of the "mode" element The GTFS-compatible identifier for the type of service (mode) Data type: String representation of an Integer (0-7) Example: "2"
mode_name	Attribute of the "mode" element The human-readable name for the type of service (mode) Data type: String Example: "Commuter Rail"
direction	Child element of the root element Contains information for a direction of the route

Name	Description
direction_id	Attribute of the “direction” element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: “0”
direction_name	Attribute of the “direction” element The human-readable name for the direction Data type: String Example: “Outbound”
trip	Child element of the ‘direction’ element Contains information for a trip on a direction of the route
trip_id	Attribute of the “trip” element The unique GTFS-compatible identifier for the trip Data type: String Example: “CR-Providence-CR-Weekday-815”
trip_name	Attribute of the “trip” element The human-readable for the trip Data type: String Example: “815 (4:35 pm from South Station)”
trip_headsign	Attribute of the “trip” element The text that identifies the trip’s destination to passengers Data type: String Example: “North Station”
vehicle	Child element of the “trip” element Contains information for a vehicle on the trip
vehicle_id	Attribute of the “vehicle” element The GTFS-compatible unique identifier for the vehicle Data type: String Example: “1531”
vehicle_lat	Attribute of the “vehicle” element The GTFS-compatible latitude of the vehicle. Data type: String representation of a Float Example: “42.08997”
vehicle_lon	Attribute of the “vehicle” element The GTFS-compatible longitude of the vehicle. Data type: String representation of a Float Example: “-71.4388”
vehicle_bearing (optional)	Attribute of the “vehicle” element GTFS-compatible bearing of the vehicle. This can be the compass bearing, or the direction towards the next stop or intermediate location Data type: String representation of a Float Example: “259”
vehicle_speed (optional)	Attribute of the “vehicle” element Identifies the vehicle’s momentary speed, in meters per second Data type: Float Example: “21”

Name	Description
vehicle_timestamp	Attribute of the "vehicle" element Identifies the moment when the content of this feed has been created, in epoch time Data type: String representation of an Integer Example: "1400855704"

Notes**Example****XML Request:**

http://54.81.189.97/developer/api/v2/vehiclesbyroute?api_key=wX9NwuHnZU2To07GmGR9uw&route=CR-Providence&format=xml

XML Response:

```
<vehicles xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="CR-Providence"
route_name="Providence/Stoughton Line" route_type="2" mode_name="Commuter Rail">
  <direction direction_id="0" direction_name="Outbound">
    <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-913"
trip_name="913 (1:20 pm from South Station)" trip_headsign="Stoughton (Train 913)">
      <vehicle vehicle_id="1524" vehicle_lat="42.133" vehicle_lon="-
71.12097" vehicle_bearing="156" vehicle_speed="37" vehicle_timestamp="1403546582"/>
    </trip>
  </direction>
  <direction direction_id="1" direction_name="Inbound">
    <trip trip_id="CR-Providence-CR-Weekday-Providence-Dec13-818"
trip_name="818 (1:10 pm from Wickford Junction)" trip_headsign="South Station (Train
818)">
      <vehicle vehicle_id="1514" vehicle_lat="41.85787" vehicle_lon="-
71.4068" vehicle_bearing="20" vehicle_timestamp="1403546580"/>
    </trip>
  </direction>
</vehicles>
```

JSON Request:

http://54.81.189.97/developer/api/v2/vehiclesbyroute?api_key=wX9NwuHnZU2To07GmGR9uw&route=CR-Providence&format=json

JSON Response:

```
{
  route_id: "CR-Providence",
  route_name: "Providence/Stoughton Line",
  route_type: "2",
  mode_name: "Commuter Rail",
  direction: [{
    direction_id: "0",
    direction_name: "Outbound",
    trip: [{
      trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-913",
      trip_name: "913 (1:20 pm from South Station)",
      trip_headsign: "Stoughton (Train 913)",
      vehicle: {
        vehicle_id: "1524",
```

```

        vehicle_lat: "42.133",
        vehicle_lon: "-71.12097",
        vehicle_bearing: "156",
        vehicle_speed: "37",
        vehicle_timestamp: "1403546582"
      }
    ]
  },
  {
    direction_id: "1",
    direction_name: "Inbound",
    trip: [{
      trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-818",
      trip_name: "818 (1:10 pm from Wickford Junction)",
      trip_headsign: "South Station (Train 818)",
      vehicle: {
        vehicle_id: "1514",
        vehicle_lat: "41.85787",
        vehicle_lon: "-71.4068",
        vehicle_bearing: "20",
        vehicle_timestamp: "1403546580"
      }
    }
  ]
}

```

4.5.20 VEHICLES BY TRIP

This query will return the predicted vehicle positions for a particular trip.

URL

```
http://54.81.189.97/developer/api/v2/vehiclesbytrip?api_key=<developer's api key>&trip=<GTFS-compatible trip_id>&format=<format type>
```

Parameters

Name	Description
api_key	Unique API key assigned to each developer
trip	GTFS-compatible trip_id value for which vehicle positions should be returned Data type: String Example: "CR-Providence-CR-Weekday-807"
format (optional)	Format for response Data type: String Possible values: "json", "xml", and "jsonp" Default value: "json" If not included, then response is in json format
jsonpcallback (optional)	Function call requested Data type: String

Response Fields

Name	Description
vehicles	Root element of the response document

route_id	Attribute of the root element The unique GTFS-compatible identifier for the route for which vehicle positions are returned Data type: String Example: "CR-Providence"
route_name	Attribute of the root element The human-readable name for the route for which vehicle positions are returned Data type: String Example: "Providence/Stoughton Line"
route_type	Attribute of the "mode" element The GTFS-compatible identifier for the type of service (mode) Data type: String representation of an Integer (0-7) Example: "2"
mode_name	Attribute of the "mode" element The human-readable name for the type of service (mode) Data type: String Example: "Commuter Rail"
trip_id	Attribute of the root element The unique GTFS-compatible identifier for the trip for which vehicle positions are returned Data type: String Example: "CR-Providence-CR-Weekday-815"
trip_name	Attribute of the root element The human-readable for the trip for which schedule is returned Data type: String Example: "815 (4:35 pm from South Station)"
trip_headsign	Attribute of the "trip" element The text that identifies the trip's destination to passengers Data type: String Example: "North Station"
direction_id	Attribute of the root element The GTFS-compatible identifier for the direction Data type: String representation of a Bit (0 or 1) Example: "0"
direction_name	Attribute of the root element The human-readable name for the direction Data type: String Example: "Outbound"
vehicle	Child element of the "trip" element Contains information for a vehicle on the trip
vehicle_id	Attribute of the "vehicle" element The GTFS-compatible unique identifier for the vehicle Data type: String Example: "1531"

vehicle_lat	Attribute of the “vehicle” element The GTFS-compatible latitude of the vehicle. Data type: String representation of a Float Example: “42.08997”
vehicle_lon	Attribute of the “vehicle” element The GTFS-compatible longitude of the vehicle. Data type: String representation of a Float Example: “-71.4388”
vehicle_bearing (optional)	Attribute of the “vehicle” element GTFS-compatible bearing of the vehicle. This can be the compass bearing, or the direction towards the next stop or intermediate location Data type: String representation of a Float Example: “259”
vehicle_speed (optional)	Attribute of the “vehicle” element Identifies the vehicle’s momentary speed, in meters per second Data type: Float Example: “21”
vehicle_timestamp	Attribute of the “vehicle” element Identifies the moment when the content of this feed has been created, in epoch time Data type: String representation of an Integer Example: “1400855704”

Example**XML Request:**

http://54.81.189.97/developer/api/v2/vehiclesbytrip?api_key=wX9NwuHnZU2To07GmGR9uw&trip=CR-Providence-CR-Weekday-Providence-Dec13-818&format=xml

XML Response:

```
<vehicles xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" route_id="CR-Providence"
route_name="Providence/Stoughton Line" route_type="2" mode_name="Commuter Rail"
trip_id="CR-Providence-CR-Weekday-Providence-Dec13-818" trip_name="818 (1:10 pm from
Wickford Junction)" trip_headsign="South Station (Train 818)" direction_id="1"
direction_name="Inbound">
  <vehicle vehicle_id="1514" vehicle_lat="41.85787" vehicle_lon="-71.4068"
vehicle_bearing="20" vehicle_timestamp="1403546776"/>
</vehicles>
```

JSON Request:

http://54.81.189.97/developer/api/v2/vehiclesbytrip?api_key=wX9NwuHnZU2To07GmGR9uw&trip=CR-Providence-CR-Weekday-Providence-Dec13-818&format=json

JSON Response:

```
{
  route_id: "CR-Providence",
  route_name: "Providence/Stoughton Line",
  route_type: "2",
  mode_name: "Commuter Rail",
  trip_id: "CR-Providence-CR-Weekday-Providence-Dec13-818",
  trip_name: "818 (1:10 pm from Wickford Junction)",
  trip_headsign: "South Station (Train 818)",
```

```
direction_id: "1",
direction_name: "Inbound",
vehicle: {
  vehicle_id: "1514",
  vehicle_lat: "41.85787",
  vehicle_lon: "-71.4068",
  vehicle_bearing: "20",
  vehicle_timestamp: "1403546776"
}
```

4.6 Errors

The following error messages may be returned by the web services:

4.6.1 INVALID QUERY

This error occurs when the query string is incorrectly formatted.

Example

Request

```
http://54.81.189.97/developer/api/v2/routesstop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=place-portr
```

XML Response:

```
<error xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <message>The requested resource is not found</message>
</error>
```

4.6.2 INVALID API KEY

This error occurs when an invalid API key is used.

Example

Request

```
http://54.81.189.97/developer/api/v2/routesbystop?api_key=1234567890&stop=place-portr
```

XML Response:

```
<error xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <message>Invalid API Key</message>
</error>
```

4.6.3 MISSING REQUIRED QUERY PARAMETER

This error occurs when a required parameter is not provided.

Example

Request

```
http://54.81.189.97/developer/api/v2/routesbystop?api_key=wX9NwuHnZU2To07GmGR9uw
```

XML Response:

```
<error xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <message>Missing required query parameter: stop</message>
</error>
```

4.6.4 INVALID QUERY PARAMETER

This error occurs when an invalid query parameter is provided.

Example**Request**

```
http://54.81.189.97/developer/api/v2/routesbystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=
place-portr&id=1
```

XML Response:

```
<error xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <message>Invalid query parameter: id</message>
</error>
```

4.6.5 DATA NOT AVAILABLE

This error occurs when data is not available, or when an incorrect parameter is used.

Example**Request**

```
http://54.81.189.97/developer/api/v2/routesbystop?api_key=wX9NwuHnZU2To07GmGR9uw&stop=
place-port
```

XML Response:

```
<error xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <message>Routes data is not available for stop place-port</message>
</error>
```

4.6.6 DATA USAGE LIMIT EXCEEDED

This error occurs when the usage limit for a particular API key has been exceeded.

XML Response:

```
<error xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <message>Invalid API Key</message>
</error>
```

Note: The error message is anticipated to be changed to "Data usage limit exceeded" in June 2013.

4.6.7 INSUFFICIENT PRIORITY

This error occurs when the API key does not have sufficient priority (this is possible only when available bandwidth is insufficient to handle all user requests and requests are being prioritized).

Note: not currently implemented, but is anticipated to be done in June 2013.

4.7 Field and Attribute Definitions

The following table contains definitions of the fields and attributes found in the web services. The “In GTFS/GTFS-realtime” column indicates if the field is found in the GTFS or GTFS-realtime specification (see <https://developers.google.com/transit/gtfs/reference> and <https://developers.google.com/transit/gtfs-realtime/reference>).

Field or attribute	Definition	Data Type	Example	In GTFS/ GTFS-realtime
alert_id	A unique identifier for each alert	Integer	781	No
alert_lifecycle	Summarizes when the alert is next effective	Text	New	No
banner_text	Contains text to be included on website banner when option is selected	Text	Silver Line – SL4 experiencing minor delays”	No
cause	GTFS-realtime code for cause	Text	TECHNICAL_PROBLEM	Yes
cause_name	Human-readable name for cause	Text	fire	No
created_dt	Date/time created (in epoch time)	Integer	1346770368	Yes (as “timestamp”)
description_text	Additional details for the alert	Text	Affected services: 62 76 77	Yes
direction_id	An identifier for the direction of the route or trip	Bit (0 or 1)	0	Yes
direction_name	A human-readable name for the direction	Text	Eastbound	No
distance	The distance in miles of a stop from a given location	Float	.5	No
effect	GTFS-realtime code for effect	Text	NO_SERVICE	Yes
effect_end	Date/time of effect end (in epoch time; empty if no specified end time)	Integer	1346788059	Yes (as “active_period end”)
effect_name	Human-readable name for effect	Text	Station closure	No
effect_start	Date/time of effect start (in epoch time)	Integer	1346770260	Yes (as “active_period start”)
elev_id	Unique identifier for elevator (typically a 3-digit number)	Text	802	No

Field or attribute	Definition	Data Type	Example	In GTFS/ GTFS-realtime
elev_name	Human-readable name for elevator	Text	STATE STREET - Oak Grove Platform to Forest Hills and Wonderland Platforms	No
elev_type	Type for elevator (text: "Elevator", "Escalator", or "Lift")	Text	Elevator	No
header_text	A brief summary of the alert	Text	Route 62 and 2 other routes experiencing moderate delays due to traffic	Yes
last_modified_dt	Date/time last modified (in epoch time)	Integer	1346770368	No
mode_name	Human-readable mode name	Text	Subway	No
parent_station	The stop_id of the parent station	Text	place-portr (Porter Square including all Red Line and Commuter Rail platforms as well as bus stops)	Yes
parent_station_name	The stop_name of the parent station	Text	Porter Square Station	Yes (as the stop_name for the stop_id that corresponds to the parent_station)
pre_away	Predicted amount of time until the vehicle arrives at the stop (in seconds)	Integer	180	No
pre_dt	Predicted time at the stop – departure time for origin stop and arrival time for all other stops – for the trip, in epoch time	Integer	1346770367	No
route_id	Unique identifier for route	Text	931_	Yes
route_hide	Whether the route should be hidden from users	String representation of Boolean	true	No
route_name	Human-readable route name (text)	Text	Red Line	No

Field or attribute	Definition	Data Type	Example	In GTFS/ GTFS-realtime
route_type	GTFS code for route type	Integer	1	Yes
sch_arr_dt	Date/time of scheduled arrival (in epoch time)	Integer	1346770368	Yes (as arrival_time, but in different format)
sch_dep_dt	Date/time of scheduled departure (in epoch time)	Integer	1346770368	Yes (as departure_time, but in different format)
server_dt	Date/time of the server (in epoch time)	Integer	1346770368	No
service_effect_text	Summarizes the service and the impact to that service	Text	Minor Route 1 delay	No
severity	Severity of the alert ("Mild", "Moderate", or "Severe")	Text	Moderate	No
short_header_text	Shortened summary of the Situation	Text	Shuttle buses replacing Red Line service from Sat Apr 27 to Sun May 26 every Saturday and Sunday due to maintenance	No
stop_id	Unique identifier for stop	Text	70065 (inbound Red Line platform at Porter Square)	Yes
stop_lat	The latitude of the stop	Float	42.329788	Yes
stop_lon	The longitude of the stop	Float	-71.083885	Yes
stop_name	Human-readable stop name	Text	Porter Square - Inbound	Yes
stop_order	A number indicating where the stop falls on the route (starting at "1" for the first stop). Not unique within routes if variant routes exist.	Integer	3	No
stop_sequence	A number indicating where the stop falls on the trip (starting at "1" for the first stop). Unique for a particular trip.	Integer	3	No

Field or attribute	Definition	Data Type	Example	In GTFS/ GTFS-realtime
timeframe_text	Summarizes when an alert is in effect	Text	Saturday	No
trip_id	Unique identifier for trip	Text	CR-Newburyport-CR-Weekday-133	Yes
trip_headsign	Text that identifies the trip's destination to passengers	Text	"North Station"	Yes
trip_name	Human-readable trip name	Text	133 (departing North Station 6:15 pm)	No
url	A URL for extra detail	Text	http://mbta.com/about_the_mbtat_projects/	Yes
vehicle_bearing	Bearing of the vehicle. This can be the compass bearing, or the direction towards the next stop or intermediate location	Integer	249	Yes
vehicle_id	Unique identifier for vehicle	Text	1531	Yes
vehicle_lat	The latitude of the vehicle	Float	42.35062	Yes
vehicle_lon	The longitude of the vehicle	Float	-71.05551	Yes
vehicle_speed	Speed of vehicle (in meters per second)	Integer	21	Yes
vehicle_timestamp	Moment at which the vehicle's real-time progress was measured (in epoch time)	Integer	1400860853	Yes