Santa Cruz Metro API Cliff Notes

James Dinh

4/25/2023

Data available through the API includes:

• Vehicle locations

• Route data (route lists, stop lists geo-positional route definitions, stop lists, etc.)

• Prediction Data

• Service Bulletins

* Max of 10000 requests available a day, only raised through request
* Request format: http://[host:port]/bustime/api/v3/gettime?key=89dj2he89d8j3j3ksjhdue93j

This section describes all possible requests that can be made to the BusTime® Developer API.

For every request, a complete set of possible arguments is specified, along with the response.

For XML responses, the schema is specified.

Definitions

• Delayed Vehicle – The state entered by a vehicle when it has been determined to be

stationary for more than a pre-defined time period.

• Direction – Common direction of travel of a route.

• Format – The document type of the response. Currently XML and JSON are

supported.

• Locale – A string that represents the language to be used for the request. A list of valid

locales can be retrieved using getlocalelist. They are in ISO form, such as “en”, which

would be English.

• Off-route Vehicle – State entered by a transit vehicle when it has strayed from its

scheduled pattern.

• Pattern – A unique sequence of geo-positional points (waypoints and stops) that

combine to form the path that a transit vehicle will repetitively travel. A route often has

more than one possible pattern.

• Route – One or more set of patterns that together form a single service.

• Service Bulletin – Text-based announcements affecting a set of one or more services

(route, stops, etc.).

• Stop – Location where a transit vehicle can pick-up or drop-off passengers. Predictions

are only generated at stops.

• Waypoint – A geo-positional point in a pattern used to define the travel path of a transit

Vehicle.

**Useful API:**

* Example
  + Input parameter
    - Output schema
* Get time: [http://[host:port]/bustime/api/v3/gettime](about:blank)
  + - tm (time)
* Get vehicles status: http://[host:port]/bustime/api/v3/getvehicles
  + vid - Set of one or more vehicle IDs whose location should be returned. For example: 509,392,201,4367 will return information for four vehicles (if available). A maximum of 10 identifiers can be specified. (not available with rt)
  + rt - A set of one or more route designators for which matching vehicles should be returned. For example: X3,4,20 will return information for all vehicles currently running on those three routes (if available). A maximum of 10 identifiers can be specified. (not available with vid)
    - vehicle (all information for a single vehicle)
      * vid - vehicle ID
      * tmstmp - date and time of last update on vehicle
      * lat - latitude position
      * lon - longitude position
      * hdg - direction heading, 0 degrees is North, 180 degrees is South
      * pid - pattern ID of trip
      * pdist - linear distance vehicle has driven in current pattern
      * rt - current route
      * des - destination
      * dly - true if vehicle delayed (only present if vehicle delayed)
      * spd - speed of vehicle
      * timepointid - timepoint id of current stop
      * sequence - number of sequence of current stop
      * stopstatus - integer representing stop status: 0 = stopped\_at, 1 = incoming\_at, 2 = in\_transit\_to
      * stopid - stop id of current stop
* Get routes: [http://[host:port]/bustime/api/v3/getroutes](about:blank)
  + - * rt - alphanumeric designator of a route (20 or X20)
      * rtnm - common name of route
      * rtclr - color of route line in map
* Get directions of route - : [http://[host:port]/bustime/api/v3/getdirections](about:blank)
  + rt - alphanumeric designator of route
    - dir - json array of directions
      * id - direction designator for use in other requests (ex getpredictions)
* Get stops - : [http://[host:port]/bustime/api/v3/getstops](about:blank)
  + rt - alphanumeric designator of route (required if stpid not provided)
  + dir - single route direction (ex East Bound) [required if stpid not provided[
  + stpid - comma-delimited list of stop ids [required if rt and dir not provided)
    - stop - json array of all information of a stop
      * stpid - unique identifier of stop
      * stpnm - common name of stop
      * lat - latitude position
      * lon - longitude position
* Get predictions - : [http://[host:port]/bustime/api/v3/getpredictions](about:blank)
  + stpid - list of stop IDs, max 10 (not available with vid)
  + rt - list of route designators (optional, available with vid)
  + vid - list of vehicle IDs, max 10 (optional, not available with stpid)
  + top - max num of predictions (optional)
  + tmres - resolution of time stamps, s - seconds, m - minute (default m, optional)
    - prd - predicted arrival or departure time for specified stops or vehicles
      * tmstmp - date and time prediction was generated
      * typ - type of prediction A - arrival, D - departure
      * stpid - stop id
      * vid - vehicle id
      * dstp - distance left before arrival of stop
      * rt - route designator
      * rtdir - direction of travel of route (ex INBOUND)
      * des - final destination of vehicle
      * prdtm - predicted date and time of arrival or departure to stop
      * dly - true if delay
      * prdctdn - time left before arrival at stop
      * nbus - if prediction is last arrival before service gap, this is minutes until next arrival
* Get rtpidatafeeds (retrieve set of external and internal data feeds) - [http://[host:port]/bustime/api/v3/getrtpidatafeeds](about:blank)
  + - rtpidatafeed - json array of a data feed
      * name - alphanumeric designator of feed (ex Nextbus feed) [used in rtpidatafeed parameter in other requests]
      * source - origin of RTPI information (ex NEXTBUS)
      * displayname - TA for which data feed returns info
      * enabled - true if feed enabled
      * visible - true if feed may be displayed to public

**P.S. for rtpidatafeeds - rtpidatafeed is a parameter for Vehicles, Routes, Route Directions, Stops, Patterns, Predictions**

* Get detours - : [http://[host:port]/bustime/api/v3/getdetours](about:blank)
  + rt - route designator (optional)
  + rtdir - direction of travel (optional)
    - dtr - json array of data of detour
      * id - id of detour
      * st - state of detour - 1 = active, 0 = canceled
      * desc - description of detour
      * rtdirs - series of rtdir elements, each with rt and dir
      * startdt - date and time of start of detour
      * enddt - end date and time