



SFMTA Taxi APIs

The following document outlines the APIs to be used by Payment System Providers and Dispatch Companies to send to Taxi Trip and Telemetry data to the SFMTA in order to comply with the San Francisco Transportation Code data requirements.

Version: 2.5

Date: [December 14, 2018](#)

Version	Date	Editor	Notes
2.0	March 4, 2016	dcorliss	Created
2.1	March 16 th , 2016	dcorliss	Added Driver Status in Telemetry
2.2	April 4, 2016	dcorliss	Added new data elements into trips
2.3	April 14, 2016	dcorliss	Fixed the JSON sample formats for trips and telemetry
2.4	April 18, 2016	dcorliss	Timestamplocal made to required field in telemetry API
2.5	December 18, 2018	kristine.krupp on behalf of Phil Cranna/Samantha Rebolos	1) Changed “optional” fields to “required”, going forward 2) Taxi company “name” to be used for normal data transmission, replacement month files, and for sending test data (via normal transmission method)

Taxi Trips API

Introduction

The Taxi Trip API allows you to post one or more trips to the SFMTA. In addition to the required fields, any valid JSON may be sent, as long as the values are of data type *String*, *Number*, or *Boolean*. Dates are also supported if formatted correctly and sent as a *String*.

Authorization

The API uses Basic Authentication. To use the API, you must have a valid username and password in the HTTP header which the SFMTA will provide to you upon request.

Request

Method	URL	HTTP Version
POST	https://services.sfmta.com/taxi/api/TaxiTrips/	1.1

Request Header

Attribute	Value	Description
Accept	application/json	
Content-Type	application/json	
Authorization	Basic	

Parameters

Field	Description	Required	Type
ProviderName	Name of the payment provider or dispatcher sending this data	Y	String
TaxiCompany	Name of the Taxi Company	Y	String
VehicleId	The vehicle medallion number.	Y	String, usually a four digit number 1824
TripNumber	The id from the taxi company or payment provider to be used from troubleshooting purposes	Y	String
TripType	How the trip was ordered: street hail, dispatched, mobile app	Y	String, values: "Street", "Dispatch", or "Mobile"
DriverId	The driver's license number.	Y	String
StartTimeLocal	The local time when the trip started.	Y	String
EndTimeLocal	The local time when the trip ended.	Y	String
PickupLocationAddress	The address of the pickup location.	Y	String
PickupLocationLatitude	The geo latitude of the pickup location.	Y	Number (7 digits of precision) Example: 37.7763652
PickupLocationLongitude	The geo longitude of the pickup location.	Y	Number (7 digits of precision) Example: -123.7763652
DropOffLocationAddress	The address of the drop off location.	Y	String
DropOffLocationLatitude	The geo latitude of the drop off location.	Y	Number (7 digits of precision) Example: 37.7763652
DropOffLocationLongitude	The geo longitude of the drop off location.	Y	Number (7 digits of precision) Example: -123.7763652

DriverRating	The driver rating. An integer value between 1 and 5.	Y	Number
PassengerCount	The number of passengers.	Y	Number
IsWheelChairTransported	A flag indicating whether a wheelchair was transported.	Y	Boolean
FareAmount	The fare amount.	Y	Number
Tolls	Amount of any tolls charged for the trip	Y	Number
Fees	Amount of any fees like Airport fees for the trip	Y	Number
Tip	Amount of tip	Y	Number
PaymentType	How the trip was paid - cash to driver, credit card processed on board, or mobile app payment	Y	String (Values: "Cash", "CreditCard", "Mobile", "Voucher")
MeterTripTime	Trip time as reported by the taxi meter in	Y	String (in m:s)
TripDistance	The trip distance in miles.	Y	Number

Request Example

```
{
  "TaxiTrip" : [ {
    "ProviderName" : "ABCPayments",
    "TaxiCompany" : "123TaxiCompany",
    "VehicleId" : "1811",
    "DriverId" : "B5471749",
    "TripNumber" : "14565",
    "TripType" : "Street",
    "StartTimeLocal" : "2016-01-06T09:53:05.29",
    "EndTimeLocal" : "2016-01-06T09:59:06.123",
    "PickupLocationAddress" : "123 Main Street",
    "PickupLocationLatitude" : 37.5656564,
    "PickupLocationLongitude" : -123.5656565,
    "DropOffLocationAddress" : "1 S Van Ness Ave",
    "DropOffLocationLatitude" : 37.5656564,
    "DropOffLocationLongitude" : -123.5656565,
    "DriverRating" : 5,
    "PassengerCount" : 2,
    "IsWheelChairTransported" : false,
    "FareAmount" : 27.73,
    "Tolls" : 2.00,
    "Fees" : 5.00,
    "Tip" : 10.00,
    "PaymentType" : "Cash",
    "MeterTripTime" : "17.22",
    "TripDistance" : 3.73
  } ]
}
```

```
}

```

If sending data to SFMTA for test purposes, use the approved “Taxi Company” name (listed on the site: <https://www.sfmta.com/getting-around/taxi/directory>), preceded by the letters “Test-” to indicate the data is for testing purposes only. These will NOT be rejected based on TAXI_COMPANY name but will be rejected for any other normal data quality reason(s).

Example:

Test-SFMTA (this example is how SFMTA will push test data through the API)

All data received with such a “Test-” TAXI CO name will not be used for any reporting purpose.

Response

Fields

Field	Description	Type
Success	Indicates if the request was process successfully.	String
Message	Request message	String
PayloadId	Id of payload which may be used to reference the specific request	Number
Code	Error Code	String
Summary	Description of error	

Examples

Success Response

```
{
  "Success" : "True",
  "Message": "Payload received",
  "PayloadId": 1
}
```

Error Response

```
{
  "RestFaultElement": {
    "code": "invalidVariables",
    "summary": ""
  }
}
```

Telemetry API

Introduction

The Telemetry API allows you to send one or more vehicle location data to the SFMTA's data warehouse. In addition to the required fields, any valid JSON may be sent, as long as the values are of data type *String*, *Number*, or *Boolean*. Dates are also supported if formatted correctly and sent as a *String*.

Authorization

The API uses Basic Authentication. To use the API, you must have a valid username and password in the HTTP header which the SFMTA will provide to you upon request.

Request

Method	URL	HTTP Version
POST	https://services.sfmta.com/taxi/api/Telemetries/	1.1

Request Header

Attribute	Value	Description
Accept	application/json	
Content-Type	application/json	
Authorization	Basic	

Parameters

Field	Description	Required	Type
PaymentProvider	Name of the payment provider or dispatcher sending this data	Y	String
TaxiCompany	Name of taxi company	Y	String
VehicleID	The vehicle medallion number	Y	String
DriverLicense	The driver license of the current driver	Y	String
DriverStatus	Indicates if this telemetry event represents the start of a driver shift, continuation of current shift, or end of shift.	Y	Number Options: 1 – Driver Starting Shift 2 – Driver On Shift 3 – Driver Ending Shift
Latitude	The geographic latitude of the current location in the WGS84 coordinate system	Y	Number (7 digits of precision) Example: 37.7763652
Longitude	The geographic longitude of the current location in WGS84	Y	Number (7 digits of precision) Example: -122.435387
VehicleStatus	The vehicle status	Y	Number

			Options: <ul style="list-style-type: none"> • 1 – Off Duty • 2 – Available • 3 – Hired
TimeStampLocal	Date and time vehicle reported this location	Y	DateTime

If sending data to SFMTA for test purposes, use the approved “Taxi Company” name (listed on the site: <https://www.sfmta.com/getting-around/taxi/directory>), preceded by the letters “Test-” to indicate the data is for testing purposes only. These will NOT be rejected based on TAXI_COMPANY name but will be rejected for any other normal data quality reason(s).

Example:

Test-SFMTA (this example is how SFMTA will push test data through the API)

All data received with such a “Test-” TAXI CO name will not be used for any reporting purpose.

Request Example

```
{
  "Telemetry": [{
    "PaymentProvider": "Test-SFMTA",
    "TaxiCompany": "123TaxiCompany ",
    "VehicleID": "1811",
    "DriverLicense": "B6495611",
    "Latitude": 37.5656564,
    "Longitude": -123.5655667,
    "VehicleStatus": 2,
    "TimeStampLocal": "2016-01-06T09:53:05.296"
  }]
}
```

Response

Fields

Field	Description	Required	Type
Success	Indicates if the request was process successfully.	Y	String
Message	Description of failure	N	String

Example

Success Response

```
{
  "Success" : "True",
  "Message": "Payload received",
  "PayloadId": 1
}
```

Error Response

```
{
  "RestFaultElement": {
    "code": "invalidVariables",
    "summary": "Unknown Shuttle Company Id"
  }
}
```

Appendix A: Authentication Sample

.Net C# Sample Code

```
WebRequest request = WebRequest.Create(url);
request.Method = "POST";
request.ContentType = "application/json";
String encoded = Convert.ToBase64String(
    Encoding.GetEncoding("ISO-8859-1").GetBytes("<username>" + ":" + "<password>"));
request.Headers[HttpRequestHeader.Authorization] = "Basic " + encoded;
```

Or

```
WebRequest request = WebRequest.Create(url);
request.Method = "POST";
request.ContentType = "application/json";
request.Credentials = new NetworkCredential(<username>, <password>);
```

Appendix B: FTP'd Files

Newly Required fields

In Version 4.4 of this document, some fields were optional.

As of Version 4.5, all fields that were listed in Version 4.4 are required, including the following:

- TRIPS data:
 - TRIP_TYPE (can be "Street", Dispatch", or 'Mobile"). Do not send spaces, blanks, or null.

- DRIVER_RATING (can be values from 1 through and including 5). Do not send 0, spaces, blanks, or null.
- PASSENGER_COUNT (the actual number of passengers transported on that trip). Do not send 0, spaces, blanks, or null.
- TOLLS Do not send negative amounts.
- FEES Do not send negative amounts.
- TIP (Do not include this amount in with FARE_AMOUNT; do not send negative amounts.)
- PAYMENT_TYPE (can be “Cash”, CreditCard”, “Mobile”, “Voucher”, “Paratransit”, as of Dec 12, 2018; other forms of payment might be added, as needed). Do not send spaces, blanks, or null.
- METER_TRIP_TIME (in minutes and seconds; do not send spaces, blanks, or null.)
- TRIP_DISTANCE (in miles; decimals are allowed; Do not send spaces, blanks, or null.)
- TELEMETRY data:
 - All were required in version 4.4.

No fields have been added.

File Naming

Files uploaded to the FTP site must have the following file naming convention:

TaxiCompanyName_DATATYPE_YYYY_MM.csv

Examples:

- SFMTA_TRIP_2018_11.csv
- SFMTA_TELEM_2018_11.csv

File Contents

1) TRIP and TELEM records must be sent with the contents of the field TAXI_COMPANY must match one of the taxi company names listed on the SFMTA Taxi web page:

Link: TBD

Records received that do not have a taxi company name that matches that list will be rejected.

If your taxi company name is not on that list, is misspelled, or changes, notify SFMTA immediately of the change(s)/correction(s).

2) The TRIPS transmitted data (or CSV file) must represent actual trips; if there is no change in PICKUP longitude and latitude to the DROPOFF longitude and latitude, that is not a trip. The TELEM file is to include all the associated telemetry for each trip in the TRIPS file.

PICKUP_LOCATION_LATITUDE and PICKUP_LOCATION_LONGITUDE are expected to correspond to one record in TELEM, plus have all the records after that, through and including TELEM for DROPOFF_LOCATION_LATITUDE and DROPOFF_LOCATION_LONGITUDE (both in TRIPS).

TIME_STAMP_LOCAL (in TELEM) is expected to correspond to START_TIME_LOCAL (in TRIPS data).

3) PROVIDER_NAME is expected to be the name of the data provider sending each individual record.

NOTE: SFMTA needs a contact name and phone number for a technical representative at each data provider (for contacting in the event of possible problems).

4) Each transmitted trip (or trip that is FTP'd) is to have a TRIP_NUMBER that is unique to that one trip within your company. Two (2) or more trips cannot have the same TRIP_NUMBER. Uniqueness of TRIP_NUMBER will be verified upon loading.

5) VEHICLE_ID is the medallion number. Send it as four (4) numbers with leading zeros (0) as needed.

In data back to Dec 2017, S-Series medallion numbers are to be sent as 5000s. Example: S-Series medallion number "S-49" is to be converted to "5049". Do not send the letter "s" or "S", nor spaces or hyphens.

6) All data fields must be "pipe" (|) delimited, as shown below,

```
21051050|122.41705000|37.78224413|37.78224413|116 Domestic Terminals Arrivals Level, San Francisco, CA 94128,"|37.61767185|-122.38561479|5|1|"N"
```

where the “|” separates the contents of each data field from the next data field.

7) All FTP'd files must include field headers that are appropriate to the file “type” (TRIPS or TELEM, respectively).

Sample from TRIPS (truncated):

```
PROVIDER_NAME,TAXI_COMPANY,VEHICLE_ID,TRIP_NUMBER,TRIP_TYPE,DRIVER_ID,START_TIME_LOCAL,END_TIME_LOCAL,PICKUP_LOCATION_ADDRESS,DROPOFF_LOCATION_ADDRESS
```

8) All columns cited in this document must be included in all respective FTP'd files.

9) A LineFeed character is required at the end of each record that is included in the file.

Example of expected LineFeed character use/placement:

```
"-122.4112600","1","N","9.00","0.00","0.00","0.00"," ", "0:0","1.0"LF
```

Records within files will be reject if those records contain LineFeed characters anywhere within the record.

Example of incorrect LineFeed character use/placement:

```
12:11:55 AM","10/01/2018 12:24:09 AM","525 Castro St, San Francisco, CA 94114\LF
```

where, in the above example, the LineFeed is part of the PICKUP_LOCATION_ADDRESS.

10) Do not send records with extra spaces at either the beginning nor the end of the field. An example of what is **not** to be transmitted is shown below:

```
"68-70 4th Street"|37.7849808|-122.4048945|"314 Domestic Terminals Departures Level"|37.6154853|-122.3845097|null  
AM|"155 Jackson St, San Francisco, CA 94111, USA  
"1433 Leavenworth Street"|37.7942699325358|-122.416394996991|"308 Domestic Terminals Departures Level"|37.61499461
```

where there are spaces after the PICKUP_LOCATION_ADDRESS content of “USA”.

11) PICKUP_LOCATION_ADDRESS and DROPOFF_LOCATION_ADDRESS must include the street, city, state, and zip code of each location, such as shown in the below:

28|"116 Domestic Terminals Arrivals Level, San Francisco, CA 94128,"|37.61767185|-122.38561479|5|1|"N"|57.95|

When either or both PICKUP_LOCATION_ADDRESS and DROPOFF_LOCATION_ADDRESS are incomplete, as shown below,

0000 AM|"1433 Leavenworth Street"|37.7942699325358|-122.416394996991|"308 Domestic Terminals Departures Level"|37.7942699325358|-122.416394996991

or

000000 AM|"570 Castro Street"|37.7629300|-122.4200000 AM|"450 Jones St"|37.7851000000 AM|"2006 Washington St"|37.791983

or

0000 AM|"2180 Post St, 94115, San Francisco, California"|37.7629300|-122.4200000

(in the above: zip code after “street” and before “city”)

these records will be rejected.

12) The fields:

- PICKUP_LOCATION_LATITUDE,
- PICKUP_LOCATION_LONGITUDE,
- DROPOFF_LOCATION_LATITUDE, and
- DROPOFF_LOCATION_LONGITUDE

must consist of “reasonable” California latitudes and longitudes. Trips with out-of-state latitudes and longitude, such as Michigan, Philadelphia, and Arizona, will be rejected.

13) FARE_AMOUNTs, TIPS, TOLLS, and FEES must not be negative.

14) FARE_AMOUNT must not include the TIP amount. There is a separate field for TIP.

15) FARE_AMOUNT must be reasonable, relative to TRIP_DISTANCE and to METER_TRIP_TIME.

16) DRIVER_ID (in TRIPS) and DRIVER_LICENSE (in TELEM) are to be the driver’s current (valid) license number, in California driver’s license

format (A1234567; that is: alpha in the first position, followed by 7 numbers). This is not to be a phone number, the driver's name, nor the medallion number.

- 17) DRIVER_STATUS and VEHICLE_STATUS (both in TRIPS) must reflect at least some of all three (3) statuses each can have. These must not be blank.
- 18) PASSENGER_COUNT must rarely be 0 (zero).
- 19) TRIP_DISTANCE must not be blank.
- 20) METER_TRIP_TIME must not be blank.