## On this page

# Purpose

This service provides information about the speeds and travel times of the road fragment closest to the given coordinates. It is designed to work alongside the Flow Tiles to support clickable flow data visualizations. With this API, the client side can connect any place in the map with flow data on the closest road and present it to the user.

## Run this endpoint

You can easily run this and other endpoints. Go to the TomTom API Explorer page and follow the directions.

## Request data

## HTTPS method: GET

- Constants and parameters enclosed in curly brackets {} must be replaced with their values.
- Please see the following Request parameters section with the required and optional parameters tables for these values. The generic URL format is as follows.

### URL format

GET Request URL

```
_Key}&point={point}&unit={unit}&thickness={thickness}&openLr={boolean}&jsonp={jsonp}
```

### Example

**curl command format**

GET **curl command**

```
curl 'https:/api.tomtom.com/traffic/services/4/flowSegmentData/absolute/10/xml?key={
```

## Request parameters

The following table describes the parameters that can be used in a request.

- Required parameters **must be used** or the call will fail.
- Parameters and values are case-sensitive.
- Optional parameters may be used.

| Required parameters | Description |
| --- | --- |
| `baseURL`<br>*string* | The base URL for calling TomTom services.<br>**Values:**<br>• `api.tomtom.com` : The default global API endpoint.<br>• `kr-api.tomtom.com` : The region-specific endpoint for South Korea. See the region-specific content documentation. |
| `versionNumber`<br>*string* | The version of the service to call.<br>**Value:** The current value is `4` . |
| `style`<br>*string* | The style used with Raster Flow Tiles and Vector Flow Tiles. This has an effect on the coordinates in the response.<br>**Values:**<br>• `absolute`<br>• `relative`<br>• `relative0` |

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|---|---|
| | • reduced sensitivity |
| `zoom`<br>*integer* | The zoom level.<br>This has an effect on the following items:<br>• Traffic flow coordinates: There may be a slight deviation between the provided coordinates on different zoom levels.<br>• Visibility of the particular road: Roads of lower importance are only visible on zoom levels with a higher value.<br>When Flow Segment data is used together with the Traffic Flow service, the `zoom` should be the same in both calls.<br>**Values:** `0..22` |
| `format`<br>*string* | The content type of the response structure. If the content type is `jsonp`, a callback method can be specified at the end of the service call.<br>**Values:**<br>• `xml`<br>• `json`<br>• `jsonp` |
| `key`<br>*string* | The authorization key for access to the API.<br>**Value:** Your valid `API Key`. |
| `point`<br>*float* | The coordinates of the point close to the road segment. They **must be comma-separated** and calculated using EPSG:4326 projection (also known as **WGS84**).<br>**Value:** `latitude,longitude` |

| Optional parameters | Description |
|---|---|
| `unit`<br>*string* | The unit of speed.<br>**Default value:** `kmph` (kilometers per hour)<br>**Other value:** `mph` (miles per hour) |

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|---|---|
| `openLr`<br>*boolean* | Specifies if the response should include OpenLR code.<br>**Default value:** `false`<br>**Other value:** `true` |
| `jsonp`<br>*string* | Specifies the callback method. Only used where the `contentType` parameter value is `jsonp` .<br>**Value:** `jsonp` |

## Request headers

The following data table lists HTTP request headers of particular interest to clients of the Flow Segment Data API endpoint. **Note:** There are no required headers in this endpoint.

| Optional headers | Description |
|---|---|
| Accept-Encoding | Contains the content encoding (usually a compression algorithm), that the client is able to understand.<br>**Value:** `gzip` |
| **Tracking-ID** | Specifies an identifier for the request. It can be used to trace a call. The value must match the regular expression `'^[a-zA-Z0-9-]{1,100}$'` . An example of the format that matches this regular expression is a UUID (e.g., `9ac68072-c7a4-11e8-a8d5-f2801f1b9fd1` ). For details check RFC 4122. If specified, it is replicated in the Tracking-ID response header. It is only meant to be used for support and does not involve tracking of you or your users in any form.<br>**Value:** `<string>` |

## Response data

### XML response body example

An **XSD schema** is available for download. The XML response of the preceding sample request would look like this:

**Response body - XML**

```xml
<flowSegmentData xmlns="http://lbs.tomtom.com/services" version="traffic-servi
  <frc>FRC2</frc>
  <currentSpeed>41</currentSpeed>
  <freeFlowSpeed>70</freeFlowSpeed>
  <currentTravelTime>153</currentTravelTime>
  <freeFlowTravelTime>90</freeFlowTravelTime>
  <confidence>0.59</confidence>
  <roadClosure>true</roadClosure>
  <coordinates>
    <coordinate>
      <latitude>52.40476</latitude>
      <longitude>4.844318</longitude>
    </coordinate>
    <coordinate>
      <latitude>52.411312</latitude>
      <longitude>4.8299975</longitude>
    </coordinate>
    <coordinate>
      <latitude>52.415073</latitude>
      <longitude>4.827327</longitude>
    </coordinate>
  </coordinates>
</flowSegmentData>
```

```
    "-xmlns": "http://tbs.tomtom.com/services",
    "-version": "traffic-service 2.0.004",
    "frc": "FRC2",
    "currentSpeed": 41,
    "freeFlowSpeed": 70,
    "currentTravelTime": 153,
    "freeFlowTravelTime": 90,
    "confidence": 0.59,
    "roadClosure": true,
    "coordinates": {
      "coordinate": [
        {
          "latitude": 52.40476,
          "longitude": 4.844318
        },
        {
          "latitude": 52.411312,
          "longitude": 4.8299975
        },
        {
          "latitude": 52.415073,
          "longitude": 4.827327
        }
      ]
    }
  }
}
```


#### Successful response field structure

The following table describes XML or JSON element fields that can appear in a successful response. The types of the fields refer to a JSON response.

| | |
|---|---|
| `<frc>`<br>*string* | **F** unctional **R** oad **C** lass. This indicates the road type:<br>• `FRC0` : Motorway, freeway or other major road<br>• `FRC1` : Major road, less important than a motorway<br>• `FRC2` : Other major road<br>• `FRC3` : Secondary road<br>• `FRC4` : Local connecting road<br>• `FRC5` : Local road of high importance<br>• `FRC6` : Local road |
| `<currentSpeed>`<br>*integer* | The current average speed at the selected `point` , in the `unit` requested. This is calculated from the `currentTravelTime` and the length of the selected segment. |
| `<freeFlowSpeed>`<br>*integer* | The free flow speed expected under ideal conditions, expressed in the `unit` requested. This is related to the `freeFlowTravelTime` . |
| `<currentTravelTime>`<br>*integer* | Current travel time in seconds based on fused real-time measurements between the defined locations in the specified direction. |
| `<freeFlowTravelTime>`<br>*integer* | The travel time in seconds which would be expected under ideal free flow conditions. |
| `<confidence>`<br>*float* | The confidence is a measure of the quality of the provided travel time and speed. A value ranges between `0` and `1` where `1` means full confidence, meaning that the response contains the highest quality data. Lower values indicate the degree that the response may vary from the actual conditions on the road. |
| `<coordinates>`<br>*object* | This includes the coordinates describing the shape of the segment. Coordinates are shifted from the road depending on the **zoom level** to support high quality visualization in every scale. |

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|---|---|
| `<roadClosure>` *boolean* | This indicates if the road is closed to traffic or not. |

## Error response

The Flow Segment Data API endpoint for an invalid single request returns a response body in JSON format.

### Error response field structure

| Field | Description |
|---|---|
| `detailedError` *object* | Main object of the error response. |
| `code` *string* | One of a server-defined set of error codes. |
| `message` *string* | A human-readable description of the error code. |

**Error response example - JSON**

```
{
  "error": "Missing point parameter.",
  "httpStatusCode": 400,
  "detailedError": {
    "code": "INVALID_REQUEST",
    "message": "Missing point parameter."
  }
}
```

| | |
|---|---|
| 400 | **Bad request** |
| 403 | **Forbidden**: The supplied API Key is not valid for this request. |
| 405 | **Method Not Allowed**: The provided HTTP request method is known by the server, but is not supported by the target resource. |
| 429 | **Too Many Requests**: Too many requests were sent in a given amount of time for the supplied API Key. |
| 500 | **Internal Server Error** |
| 503 | **Service currently unavailable**: The service is currently unavailable. |
| 596 | **Service Not Found**: Unknown version of the service. |

## Response headers

The following data table lists HTTP response headers of particular interest to clients of the Flow Segment Data API endpoint.

| Header | Description |
|---|---|
| Access-Control-Allow-Origin | Indicates that cross-origin resource sharing (CORS) is allowed. **Value:** `*` |
| Allow | Lists the set of supported HTTP methods. The header is sent in case a `405` HTTP response code is returned. **Value:** `GET` , `HEAD` |
| Content-Encoding | Indicates which encodings were applied to the response body. **Value:** `gzip` |

| | |
|---|---|
| Content-Length | Contains information about the size of the response body.<br>**Value:** `<decimal number>` |
| Content-Type | Indicates the media type of the resource returned.<br>**Values:**<br>• `<application/json; charset=utf-8>`<br>• `<application/javascript; charset=utf-8>`<br>• `<text/xml; charset=utf-8>` |
| Date | Contains the date and time when the message was originated.<br>**Value:** `<http-date>` |
| Expires | Contains the date after which the response is considered outdated.<br>**Value:** `<http-date>` |
| **Tracking-ID** | An identifier for the request. If the Tracking-ID header was specified in the request, it is replicated in the response. Otherwise, it is generated automatically by the service. For details check RFC 4122. It is only meant to be used for support and does not involve tracking of you or your users in any form.<br>**Value:** `<string>` |

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