

Waze Traffic-data

Specification Document

Version 2.8

Revision History

The following revision table presents the changes made for each version of this document.

Revision	Date	State/Description
1.5	February 2014	Creation based on GeoRSS API spec-doc (Chen Barshai)
2.0	August 2014	Updated (Noam Reshef)
2.5	November 2014	Updated - removed fields, separated JSON and XML tables, added reliability score instead of confidence
2.6	November 2014	updates every 2 min
2.7	November 2015	Unusual events, New url, new examples
2.7.1	May 2016	Updated-confidence and reliability scores
2.7.2	June 2016	Updated linqmap:speed units
2.8	March 2017	Added configuration options, and specified irregularity parameters
2.8	August 2017	Added broken traffic light alert, receive number of thumbs up by users, get image of irregularity

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Introduction

Overview

This document details the structure and content of the Waze real-time traffic data feed.

Waze maps provide information about specific routes to assist motorists in avoiding traffic jams. Our maps and traffic are dynamically updated by a continually expanding network of drivers worldwide. This, of course, reduces the importance of predefined routes. The most accurate representations are through poly-lines – where the traffic is geographically-based, independent of specific map attributes.

We provide information about traffic jams and events that affect road conditions, either from drivers using Waze, a.k.a. Wazers, or from external sources. Wazers provide road reports, or UGIs (User-Generated Incidents), which include detailed information about specific traffic and road conditions. They may issue reports from the location at which they are currently located or, if no longer at the location, within 30 minutes after the event occurred. We are also able to provide automatic alerts for what we call Unusual Traffic - incidents that affect a large number of users and fall outside the normal traffic patterns for a given day and time.

The time period that affects the results can be internally adjusted by the Waze server configuration to provide best results, based upon local conditions. These include weather conditions, a car stopped at the shoulder, etc.

Terms and Acronyms

The following table provides a list of terms and acronyms used in this document.

Term or Acronym	Definition
GPS	Global Positioning System
TMC	Traffic Message Channel
UGI	User-Generated Incident
Wazer	An active member of the Waze network
Wazer level	1-6, 1 being the entry level - indicating a user's level of experience and trustworthiness
WGS 84	World Geodetic System (1984)
GeoRSS	a standard for encoding location as part of a Web feed .
JSON/XML	A format used to transmit data between a server and web application

Retrieving Waze traffic-data

Waze uses the GeoRSS API to internally-retrieve traffic data.

We provide CCP partners with an XML/JSON file containing all the data approved for sharing, as per the CCP partner agreement.

The feed is provided by URL.

- **What we need:** A polygon of no more than 10 points, or a bounding box (you can use this [tool](#) as an example)
- **What the URL looks like:**
- https://world-georss.waze.com/rtserver/web/TGeoRSS?tk=?&ccp_partner_name=Test&polygon=34.582214,32.581065;35.389709,32.460638;35.760498,31.998286;35.364990,31.341432;34.326782,31.496128;34.582214,32.581065;34.582214,32.581065&format=XML&types=traffic,alerts,irregularities
- **What you can configure (please wait 20 seconds before requesting data after making a change):**
 - The lat-lon parameters in polygon or bounding box, format (JSON or XML), and adjust type of the data you would like to get: alerts, jams or irregularities.
 - View only partner alerts - if added muao=true to URL
 - Filter out all feed alerts by adding fa=false
 - See only feed alerts by adding ofa=true
 - Receive live map image of irregularities by adding irmie=true
 - Receive number of thumbs up by users by adding acotu=true

Using Waze traffic-data

Waze traffic data consists of the following information:

1. *General information*: time-stamp of the file, geographic area from which the data was retrieved, etc.
2. *Traffic alerts*: traffic incidents reported by users.
3. *Traffic jams*: traffic slowdown information generated by the service based on a user's location and speed.
4. *Unusual Traffic (Irregularities)*: alerts and traffic jams that affect an exceptionally large number of users.

Note: From time-to-time new fields may be added to the feed. Once those fields are permanently available -- this document will be modified and redistributed to the relevant partners.

Traffic Alerts

The 'Alerts' section includes all traffic data reported by Waze users through the Waze mobile application.

Reliability

Each alert gets a **reliability** score based on other user's reactions ('Thumbs up', 'Not there' etc.) and the level of the reporter (Wazers gain levels by contributing to the map, starting at level 1 and reaching up to level 6. The higher the level, the more experienced and trustworthy the Wazer.) The score (0-10) indicates how reliable the report is.

Confidence

Each alert gets a **confidence** score based on other user's reactions ('Thumbs up', 'Not there'). The score ranges between 0 and 10. A higher score indicates more positive feedback from Waze users.

The data include an array of alerts with the following attributes:

XML

Element	Value	Description
pubDate	Time	Publication date
georss:point	Coordinates	Location per report (Lat long)
linqmap:uuid	String	Unique system ID
linqmap:magvar	Integer (0-359)	Event direction (Driver heading at report time. 0 degrees at North, according to the driver's device)
linqmap:type	See alert type table	Event type
linqmap:subtype	See alert sub types table	Event sub type - depends on atof parameter
linqmap:reportDescription	String	Report description (supplied when available)
linqmap:street	String	Street name (as is written in database, no canonical form, may be null)
linqmap:city	String	City and state name [City, State] in case both are available, [State] if not associated with a city. (supplied when available)
linqmap:country	String	(see two letters codes in http://en.wikipedia.org/wiki/ISO_3166-1)
linqmap:roadType	Integer	Road type (see road types table in the appendix)
linqmap:reportRating	Integer	User rank between 1-6 (6 = high ranked user)
linqmap:jamUuid	string	If the alert is connected to a jam - jam ID
linqmap:Reliability (new)	0-10	How reliable is the report, 10 being most reliable. Based on reporter level and user responses
linqmap:reportByMunicipality User	Boolean	Alert reported by municipality user (partner) Optional.
linqmap:nThumbsUp	integer	Number of thumbs up by users

JSON

Element	Value	Description
pubMillis	Timestamp	Publication date (Unix time – milliseconds since epoch)
location	Coordinates	Location per report (X Y - Long-lat)
uuid	String	Unique system ID
magvar	Integer (0-359)	Event direction (Driver heading at report time. 0 degrees at North, according to the driver's device)
type	See alert type table	Event type
subtype	See alert sub types table	Event sub type - depends on atof parameter
reportDescription	String	Report description (supplied when available)
street	String	Street name (as is written in database, no canonical form, may be null)
city	String	City and state name [City, State] in case both are available, [State] if not associated with a city. (supplied when available)
country	String	(see two letters codes in http://en.wikipedia.org/wiki/ISO_3166-1)
roadType	Integer	Road type (see road types table in the appendix)
reportRating	Integer	User rank between 1-6 (6 = high ranked user)
jamUuid	string	If the alert is connected to a jam - jam ID
Reliability (new)	0-10	How reliable is the report.....
reportByMunicipalityUser	Boolean	Alert reported by municipality user (partner) Optional.
nThumbsUp	integer	Number of thumbs up by users

Traffic Alerts - example

XML format

```

<item>
  <pubDate>Thu Nov 26 14:02:29 +0000 2015</pubDate>
  <georss:point>45.02395420471421 7.670893079148089</georss:point>
  <linqmap:uuid>9fd1ee98-7b56-37e9-a2d4-72e9478dd838</linqmap:uuid>
  <linqmap:magvar>6</linqmap:magvar>
  <linqmap:type>WEATHERHAZARD</linqmap:type>
  <linqmap:subtype>HAZARD_ON_ROAD_CONSTRUCTION</linqmap:subtype>
  <linqmap:reportDescription>
    scambio di carreggiata causa lavori dalle 00:00 del 16 novembre 2015 alle 23:59 del 21
    gennaio 2016
  </linqmap:reportDescription>
  <linqmap:city>Torino</linqmap:city>
  <linqmap:country>IT</linqmap:country>
  <linqmap:roadType>4</linqmap:roadType>
  <linqmap:reportRating>0</linqmap:reportRating>
  <linqmap:reliability>10</linqmap:reliability>
</item>
<item>
  <pubDate>Thu Nov 26 14:02:26 +0000 2015</pubDate>
  <georss:point>45.02395420471421 7.670893079148089</georss:point>
  <linqmap:uuid>ed06a695-53ee-347c-a6eb-133bf8746880</linqmap:uuid>
  <linqmap:magvar>6</linqmap:magvar>
  <linqmap:type>WEATHERHAZARD</linqmap:type>
  <linqmap:subtype>HAZARD_ON_ROAD_CONSTRUCTION</linqmap:subtype>
  <linqmap:reportDescription>
    chiusura notturna causa lavori di manutenzione dalle 23:00 alle 05:30, solo nei giorni
    feriali dalle 23:00 del 9 novembre 2015 alle 05:30 del 5 dicembre 2015
  </linqmap:reportDescription>
  <linqmap:city>Torino</linqmap:city>
  <linqmap:country>IT</linqmap:country>
  <linqmap:roadType>4</linqmap:roadType>
  <linqmap:reportRating>0</linqmap:reportRating>
  <linqmap:reliability>7</linqmap:reliability>
</item>

```

JSON format

```
{
  "country": "IT",
  "roadType": 1,
  "magvar": 258,
  "subtype": "",
  "reportRating": 0,
  "reliability": 6,
  "reportDescription": "
blocco del traffico per alcuni veicoli nella ZTL (Zona Traffico Limitato) Non possono circolare Veicoli per
il trasporto persone Dal lunedì al venerdì, dalle ore 8 alle ore 19 - veicoli benzina
Eur",
  "location": {
    "x": 7.6800935614336545,
    "y": 44.9991565694201
  },
  "type": "WEATHERHAZARD",
  "uuid": "39
d9dc07-bd74-3b35-ba6b-833f5cbd1ce1",
  "pubMillis": 1448546704610,
  {
    "country": "IT",
    "magvar": 0,
    "subtype": "ROAD_CLOSED_EVENT",
    "city": "Nichelino",
    "street": "Via
Fenestrelle",
    "reportRating": 0,
    "reliability": 9,
    "reportDescription": "lavori",
    "location": {
      "x": 7.627331910061528,
      "y": 45.00419885851123
    },
    "type": "ROAD_CLOSED",
    "uuid": "1064e72c-0d3b-332d-95c6-1dcab524aa5c",
    "pubMillis": 1446918728242
  },
}
```

Alert Types

Waze currently supports the following types and subtypes of user-generated alerts:

ID	Alert type	Alert Subtype	
	ACCIDENT	<ul style="list-style-type: none"> • ACCIDENT_MINOR • ACCIDENT_MAJOR • NO_SUBTYPE 	
	JAM	<ul style="list-style-type: none"> • JAM_MODERATE_TRAFFIC • JAM_HEAVY_TRAFFIC • JAM_STAND_STILL_TRAFFIC • JAM_LIGHT_TRAFFIC • NO_SUBTYPE 	
	WEATHERHAZARD / HAZARD	<ul style="list-style-type: none"> • HAZARD_ON_ROAD • HAZARD_ON_SHOULDER • HAZARD_WEATHER • HAZARD_ON_ROAD_OBJECT • HAZARD_ON_ROAD_POT_HOLE • HAZARD_ON_ROAD_ROAD_KILL • HAZARD_ON_SHOULDER_CAR_STOPPED • HAZARD_ON_SHOULDER_ANIMALS • HAZARD_ON_SHOULDER_MISSING_SIGN • HAZARD_WEATHER_FOG • HAZARD_WEATHER_HAIL • HAZARD_WEATHER_HEAVY_RAIN • HAZARD_WEATHER_HEAVY_SNOW • HAZARD_WEATHER_FLOOD • HAZARD_WEATHER_MONSOON • HAZARD_WEATHER_TORNADO • HAZARD_WEATHER_HEAT_WAVE • HAZARD_WEATHER_HURRICANE • HAZARD_WEATHER_FREEZING_RAIN • HAZARD_ON_ROAD_LANE_CLOSED • HAZARD_ON_ROAD_OIL • HAZARD_ON_ROAD_ICE • HAZARD_ON_ROAD_CONSTRUCTION • HAZARD_ON_ROAD_CAR_STOPPED • HAZARD_ON_ROAD_TRAFFIC_LIGHT_FAULT • NO_SUBTYPE 	
	MISC	<ul style="list-style-type: none"> • NO_SUBTYPE 	
	CONSTRUCTION	<ul style="list-style-type: none"> • NO_SUBTYPE 	
	ROAD_CLOSED	<ul style="list-style-type: none"> • ROAD_CLOSED_HAZARD • ROAD_CLOSED_CONSTRUCTION • ROAD_CLOSED_EVENT 	

		• NO_SUBTYPE	
--	--	--------------	--

Traffic Jams information

The jams section includes data gathered in real time about traffic slowdowns on specific road segments.

The URL includes an array of jams and the start time and date of the report. Each jam includes the parameters detailed below.

Waze generates traffic jam information by processing the following data-sources:

- GPS location-points sent from users phones (users who drive while using the app) and calculations of the actual speed vs. average speed (on specific time-slot) and free-flow speed (maximum speed measured on the road-segment)
- User-generated reports - reports shared by Waze users who encounter traffic-jams. These appear as regular alerts, and also affect the way we identify and present traffic jams.

Traffic jam parameters are described in the following table:

XML

Element	Value	Description
pubDate	Time	Publication date
linqmap:type	String	TRAFFIC_JAM
georss:line	List of Longitude and Latitude coordinates	Traffic jam line string (supplied when available)
linqmap:speed	Float	Current average speed on jammed segments in Km/h
linqmap:length	Integer	Jam length in meters
linqmap:delay	Integer	Delay of jam compared to free flow speed, in seconds (in case of block, -1)
linqmap:street	String	Street name (as is written in database, no canonical form. (supplied when available)
linqmap:city	String	City and state name [City, State] in case both are available, [State] if not associated with a city (supplied when available)
linqmap:country	String	available on EU (world) server (see two letters codes in http://en.wikipedia.org/wiki/ISO_3166-1)
linqmap:roadType	Integer	Road type (see road types table in the appendix)
linqmap:startNode	String	Nearest Junction/steet/city to jam start (supplied when available)
linqmap:endNode	String	Nearest Junction/steet/city to jam end (supplied when available)
linqmap:level	0 - 5	Traffic congestion level (0 = free flow 5 = blocked).
linqmap:uuid	Long integer	Unique jam ID
linqmap:turnLine	Coordinates	A set of coordinates of a turn - only when the jam is in a turn (supplied when available)
linqmap:turnType	String	What kind of turn is it - left, right, exit R or L, continue straight or NONE (no info) (supplied when available)
linqmap:blockingAlertUuid	string	if the jam is connected to a block (see alerts)

JSON

Element	Value	Description
pubMillis	Timestamp	Publication date (Unix time – milliseconds since epoch)
type	String	TRAFFIC_JAM
line	List of Longitude and Latitude coordinates	Traffic jam line string (supplied when available)
speed	Float	Current average speed on jammed segments in Km/h
length	Integer	Jam length in meters
delay	Integer	Delay of jam compared to free flow speed, in seconds (in case of block, -1)
street	String	Street name (as is written in database, no canonical form. (supplied when available)
city	String	City and state name [City, State] in case both are available, [State] if not associated with a city. (supplied when available)
country	String	available on EU (world) server (see two letters codes in http://en.wikipedia.org/wiki/ISO_3166-1)
roadType	Integer	Road type (see road types table in the appendix)
startNode	String	Nearest Junction/steet/city to jam start (supplied when available)
endNode	String	Nearest Junction/steet/city to jam end (supplied when available)
level	0 - 5	Traffic congestion level (0 = free flow 5 = blocked).
uuid	Long integer	Unique jam ID
turnLine	Coordinates	A set of coordinates of a turn - only when the jam is in a turn (supplied when available)
turnType	String	What kind of turn is it - left, right, exit R or L, continue straight or NONE (no info) (supplied when available)
blockingAlertUuid	string	if the jam is connected to a block (see alerts)

Traffic jam results - example*JSON Format*

```
{
  "jams": [
    {
      "country": "US",
      "city": "New York, NY",
      "level": 1,
      "line": [
        { "x": -74.004695, "y": 40.680629 },
        { "x": -74.005537, "y": 40.681749 },
        { "x": -74.005947, "y": 40.682689 },
        { "x": -74.00628, "y": 40.683742 },
        { "x": -74.006569, "y": 40.684477 },
        { "x": -74.006994, "y": 40.685214 },
        { "x": -74.007391, "y": 40.686049 },
        { "x": -74.009512, "y": 40.688904 },
        { "x": -74.011508, "y": 40.690987 },
        { "x": -74.015145, "y": 40.700833 }
      ],
      "length": 2433,
      "turnType": "NONE",
      "uuid": "52cf216f-799e-3b62-9b72-5cb6a15e9c67",
      "endNode": "Hugh L. Carey Tunnel",
      "speed": 15.145160840685994,
      "segments": [{}],
      "roadType": 3,
      "delay": 63,
      "street": "Hugh L. Carey"
    }
  ]
}
```

Tunnel","pubMillis":1448801864174}}}

XML Format

```
<item>
  <pubDate>Sun Nov 29 12:57:44 +0000 2015</pubDate>
  <linqmap:uuid>52cf216f-799e-3b62-9b72-5cb6a15e9c67</linqmap:uuid>
  <linqmap:type>Medium</linqmap:type>
  <georss:line>
    40.680629 -74.004695 40.681749 -74.005537 40.682689 -74.005947 40.683742
    -74.00628 40.684477 -74.006569 40.685214 -74.006994 40.686049 -74.007391
    40.688904 -74.009512 40.690987 -74.011508 40.700833 -74.015145
  </georss:line>
  <linqmap:speed>15.3629673206283</linqmap:speed>
  <linqmap:length>2433.0</linqmap:length>
  <linqmap:delay>61</linqmap:delay>
  <linqmap:endNode>Hugh L. Carey Tunnel</linqmap:endNode>
  <linqmap:street>Hugh L. Carey Tunnel</linqmap:street>
  <linqmap:city>New York, NY</linqmap:city>
  <linqmap:country>US</linqmap:country>
  <linqmap:roadType>3</linqmap:roadType>
  <linqmap:level>1</linqmap:level>
  <linqmap:turnType>NONE</linqmap:turnType>
</item>
```


Irregularities (Unusual traffic jams)

These are traffic jams identified by the system as irregular by taking into account historical speed data. It includes the following attributes:

XML

Element	Value	Description
linqmap:id	Long integer	Irregularity Identifier
detectionDate	Date timestamp	Date of irregularity
detectionDateMillis	Unix date in milliseconds	Date of irregularity
updateDate	Date timestamp	Last update
updateDateMillis	Unix date in milliseconds	Last update
georss:line	List of Longitude and Latitude coordinates	Traffic jam line string (supplied when available)
linqmap:type	String	Irregularity type - NONE(0, "NONE"), SMALL(1, "Small"), MEDIUM(2, "Medium"), LARGE(3, "Large"), HUGE(4, "Huge");
linqmap:speed	Float number	Traffic speed in irregularity
linqmap:regularSpeed	Float number	Historical regular speed in segment
linqmap:delaySeconds	Number	Delay in seconds from regular speed
linqmap:seconds	Number	Current traffic speed
linqmap:length	Number	Irregularity length
linqmap:trend	Number	-1 improving, 0 constant, 1 getting worse
linqmap:street	String	Street name
linqmap:city	String	City name

JSON

Element	Value	Description
id	Long integer	Irregularity Identifier
detectionDate	Date timestamp	Date of irregularity
detectionDateMillis	Unix date in milliseconds	Date of irregularity
updateDate	Date timestamp	Last update
updateDateMillis	Unix date in milliseconds	Last update
line	List of Longitude and Latitude coordinates	Traffic jam line string (supplied when available)
type	String	Irregularity type - NONE(0, "NONE"), SMALL(1, "Small"), MEDIUM(2, "Medium"), LARGE(3, "Large"), HUGE(4, "Huge");
speed	Float number	Traffic speed in irregularity
regularSpeed	Float number	Historical regular speed in segment
delaySeconds	Number	Delay in seconds from regular speed
seconds	Number	Current traffic speed
length	Number	Irregularity length
trend	Number	-1 improving, 0 constant, 1 getting worse
street	String	Street name
city	String	City name
country	String	Country name
severity	Float number	Calculated severity of irregularity 0-5 (5 = most severe)
jamLevel	Number	1-4, 4 being worst jam level
driversCount	Number	Number of Wazers in irregularity
alertsCount	Number	How many alerts from Wazers in irregularity segments

Irregularity example:

```
<title>irregularity</title>
<description>LineString consists of lat, lon pairs</description>
<guid>urn:uuid:d496f4e3-7fd8-4169-ac6208e36dffa7f0</guid>
<link>http://georss.org/example/simple/point</link>
<author>LinQmap</author>
<linqmap:id>120742770</linqmap:id>
<detectionDate>Wed Mar 15 12:22:18 +0000 2017</detectionDate>
<detectionDateMillis>1489580538138</detectionDateMillis>
<updateDate>Wed Mar 15 12:27:50 +0000 2017</updateDate>
<updateDateMillis>1489580870567</updateDateMillis>
<georss:line>
-33.3767 -70.656673 -33.377921 -70.65339 -33.379652 -70.648736 -33.37997 -70.647886 -33.38044
-70.646657 -33.381017 -70.64513 -33.381244 -70.644564 -33.381506 -70.643949 -33.382137
-70.642744 -33.382773 -70.641687 -33.383395 -70.640793 -33.383692 -70.640355 -33.384082
-70.639751 -33.38476 -70.638786 -33.38533 -70.638015
</georss:line>
<linqmap:type>Small</linqmap:type>
<linqmap:speed>13.82</linqmap:speed>
<linqmap:regularSpeed>22.0</linqmap:regularSpeed>
<linqmap:delaySeconds>355</linqmap:delaySeconds>
<linqmap:seconds>519</linqmap:seconds>
<linqmap:length>1995</linqmap:length>
<linqmap:trend>0</linqmap:trend>
<linqmap:endNode>Acceso Autopista Vespucio Norte</linqmap:endNode>
```

```
<linqmap:street>Av. Américo Vespucio</linqmap:street>
<linqmap:city>Recoleta</linqmap:city>
<linqmap:country>CL</linqmap:country>
<linqmap:severity>1.493503420502874</linqmap:severity>
<linqmap:jamLevel>3</linqmap:jamLevel>
<linqmap:driversCount>335</linqmap:driversCount>
<linqmap:alertsCount>4</linqmap:alertsCount>
<linqmap:alerts>
<linqmap:alert>
<item>
<title>alert</title>
<pubDate>Wed Mar 15 12:18:23 +0000 2017</pubDate>
<georss:point>-33.377246 -70.655208</georss:point>
<linqmap:uuid>df2cf70e-f6e9-3f16-b64e-8fc440d81789</linqmap:uuid>
<linqmap:magvar>113</linqmap:magvar>
<linqmap:type>JAM</linqmap:type>
<linqmap:subtype>JAM_HEAVY_TRAFFIC</linqmap:subtype>
<linqmap:street>Av. Américo Vespucio</linqmap:street>
<linqmap:city>Recoleta</linqmap:city>
<linqmap:country>CL</linqmap:country>
<linqmap:roadType>2</linqmap:roadType>
```

Ruslan • 3 mins

Appendix

Road types table

Value	Type
1	Streets
2	Primary Street
3	Freeways
4	Ramps
5	Trails
6	Primary
7	Secondary
8, 14	4X4 Trails
15	Ferry crossing
9	Walkway
10	Pedestrian
11	Exit
16	Stairway
17	Private road
18	Railroads
19	Runway/Taxiway
20	Parking lot road
21	Service road