

Module 1 - Video 1.4

Inside of the jams data



Full jams data structure

```
{  
  "jams": [ ... ],  
  "alerts": [ ... ],  
  "irregularities": [ ... ],  
  "startTime": "2018-09-20 23:55:00:000",  
  "endTime": "2018-09-20 23:56:00:000",  
  "startTimeMillis": 1537487700000,  
  "startTimeMillis": 1537487760000  
}
```

Data categories full structure to alerts

General

uuid
pubMillis

Location

country
city
street

Traffic Status

level
delay
speedKMH
speed
type
startNode
endNode
blockingAlertUuid

Road Characteristics

line
segments
length
roadType
turnType

<div>General</div>	{ "jams": [
	"uuid": 54515950,
<div>Location</div>	"pubMillis": 1537581410449,
	"country": "BR",
	"city": "São Bernardo do Campo",
	"street": "R. Zurich",
	"level": 3,
	"delay": 85,
<div>Traffic Status</div>	"speedKMH": 6.07,
	"speed": 1.6861111111111111,
	"type": "NONE",
	"startNode": ,
<div>Road Characteristics</div>	"endNode": "R. Guilherme Tell",
	"blockingAlertUuid": ,
	"line": [{ "x": -46.600797, "y": -23.655255},
	{"x": -46.599729, "y": -23.654906},
	{"x": -46.598651, "y": -23.654557}]],
	"segments": [{ }, { }],
	"length": 233,
	"roadType": 1,
	"turnType": "NONE",
	}

```
{
  "jams": [
    {
      "uuid": 54515950,
      "pubMillis": 1537581410449,
      "country": "BR",
      "city": "São Bernardo do Campo",
      "street": "R. Zurich",
      "level": 3,
      "delay": 85,
      "speedKMH": 6.07,
      "speed": 1.6861111111111111,
      "type": "NONE",
      "startNode": ,
      "endNode": "R. Guilherme Tell",
      "blockingAlertUuid": ,
      "line": [{ "x": -46.600797, "y": -23.655255 },
               { "x": -46.599729, "y": -23.654906 },
               { "x": -46.598651, "y": -23.654557 } ],
      "segments": [{ }, { } ],
      "length": 233,
      "roadType": 1,
      "turnType": "NONE",
    }
  ]
}
```

uuid

General

Type

integer

Description

unique value of a jam

```
{
  "jams": [
    {
      "uuid": 54515950,
      "pubMillis": 1537581410449,
      "country": "BR",
      "city": "São Bernardo do Campo",
      "street": "R. Zurich",
      "level": 3,
      "delay": 85,
      "speedKMH": 6.07,
      "speed": 1.6861111111111111,
      "type": "NONE",
      "startNode": ,
      "endNode": "R. Guilherme Tell",
      "blockingAlertUuid": ,
      "line": [ { "x": -46.600797, "y": -23.655255 },
                { "x": -46.599729, "y": -23.654906 },
                { "x": -46.598651, "y": -23.654557 } ],
      "segments": [ { }, { } ],
      "length": 233,
      "roadType": 1,
      "turnType": "NONE",
    }
  ]
}
```

pubMillis

General

Type

integer

Description

milliseconds since 1st of January of 1970

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              { "x": -46.599729, "y": -23.654906},
              { "x": -46.598651, "y": -23.654557} ] ,
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

country

Location

Type

string

Description

country name

```
{
  "jams": [
    {
      "uuid": 54515950,
      "pubMillis": 1537581410449,
      "country": "BR",
      "city": "São Bernardo do Campo",
      "street": "R. Zurich",
      "level": 3,
      "delay": 85,
      "speedKMH": 6.07,
      "speed": 1.6861111111111111,
      "type": "NONE",
      "startNode": ,
      "endNode": "R. Guilherme Tell",
      "blockingAlertUuid": ,
      "line": [{ "x": -46.600797, "y": -23.655255 },
               { "x": -46.599729, "y": -23.654906 },
               { "x": -46.598651, "y": -23.654557 } ],
      "segments": [{ }, { } ],
      "length": 233,
      "roadType": 1,
      "turnType": "NONE",
    }
  ]
}
```

city
Location

Type
string

Description
city name


```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              { "x": -46.599729, "y": -23.654906},
              { "x": -46.598651, "y": -23.654557} ] ,
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

street

Location

Type

string

Description

street name

```
{
  "jams": [
    {
      "uuid": 54515950,
      "pubMillis": 1537581410449,
      "country": "BR",
      "city": "São Bernardo do Campo",
      "street": "R. Zurich",
      "level": 3,
      "delay": 85,
      "speedKMH": 6.07,
      "speed": 1.6861111111111111,
      "type": "NONE",
      "startNode": ,
      "endNode": "R. Guilherme Tell",
      "blockingAlertUuid": ,
      "line": [ { "x": -46.600797, "y": -23.655255 },
                { "x": -46.599729, "y": -23.654906 },
                { "x": -46.598651, "y": -23.654557 } ],
      "segments": [ { }, { } ],
      "length": 233,
      "roadType": 1,
      "turnType": "NONE",
    }
  ]
}
```

level

Traffic Status

Type

integer

Description

refers to the percentage of difference between the current speed to free flow-speed

- 0 -> Free flow speed to 80% of free flow speed,
- 1 -> 80% to 61%,
- 2 -> 60% to 41%,
- 3 -> 40% to 21%,
- 4 -> 20% to 1% and
- 5 -> blocked road

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              { "x": -46.599729, "y": -23.654906},
              { "x": -46.598651, "y": -23.654557} ],
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

delay

Traffic Status

Type

integer

Description

time to travel the jam length
minus the free flow time

In case of block the value returns
-1.

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              { "x": -46.599729, "y": -23.654906},
              { "x": -46.598651, "y": -23.654557} ],
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

speedKMH

Traffic Status

Type

float

Description

current speed on jammed segments in km/h

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              {"x": -46.599729, "y": -23.654906},
              {"x": -46.598651, "y": -23.654557} ] ,
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

speed

Traffic Status

Type

float

Description

current speed on jammed
segments in m/s

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              {"x": -46.599729, "y": -23.654906},
              {"x": -46.598651, "y": -23.654557} ] ,
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

type

Traffic Status

Type

string

Description

traffic jam type description

ex: "type": "Medium"

```
{
  "jams": [
    {
      "uuid": 54515950,
      "pubMillis": 1537581410449,
      "country": "BR",
      "city": "São Bernardo do Campo",
      "street": "R. Zurich",
      "level": 3,
      "delay": 85,
      "speedKMH": 6.07,
      "speed": 1.6861111111111111,
      "type": "NONE",
      "startNode": ,
      "endNode": "R. Guilherme Tell",
      "blockingAlertUuid": ,
      "line": [{ "x": -46.600797, "y": -23.655255 },
               { "x": -46.599729, "y": -23.654906 },
               { "x": -46.598651, "y": -23.654557 } ],
      "segments": [{ }, { } ],
      "length": 233,
      "roadType": 1,
      "turnType": "NONE",
    }
  ]
}
```

startNode

Traffic Status

Type

string

Description

Nearest junction (street name) to the jam start

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              { "x": -46.599729, "y": -23.654906},
              { "x": -46.598651, "y": -23.654557} ] ,
    "segments": [{ }, { }],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

endNode

Traffic Status

Type

string

Description

Nearest junction (street name) to the jam end


```
{
  "jams": [
    {
      "uuid": 54515950,
      "pubMillis": 1537581410449,
      "country": "BR",
      "city": "São Bernardo do Campo",
      "street": "R. Zurich",
      "level": 3,
      "delay": 85,
      "speedKMH": 6.07,
      "speed": 1.6861111111111111,
      "type": "NONE",
      "startNode": ,
      "endNode": "R. Guilherme Tell",
      "blockingAlertUuid": ,
      "line": [ { "x": -46.600797, "y": -23.655255 },
                { "x": -46.599729, "y": -23.654906 },
                { "x": -46.598651, "y": -23.654557 } ],
      "segments": [ { }, { } ],
      "length": 233,
      "roadType": 1,
      "turnType": "NONE",
    }
  ]
}
```

blockingAlertUuid

Traffic Status

Type

string

Description

uuid of block alert if the jam is connected to a block

ex:

"1064e72c-0d3b-332d-95c6-1dcab524aa5c"

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              { "x": -46.599729, "y": -23.654906},
              { "x": -46.598651, "y": -23.654557} ],
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

line

Road Characteristics

Type

array

Description

array of location objects with the geographical position of the jammed segments

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255},
              {"x": -46.599729, "y": -23.654906},
              {"x": -46.598651, "y": -23.654557} ] ,
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  }
```

length

Road Characteristics

Type

integer

Description

jam segment length in meters

```
{
  "jams": [
    {
      "uuid": 54515950,
      "pubMillis": 1537581410449,
      "country": "BR",
      "city": "São Bernardo do Campo",
      "street": "R. Zurich",
      "level": 3,
      "delay": 85,
      "speedKMH": 6.07,
      "speed": 1.6861111111111111,
      "type": "NONE",
      "startNode": ,
      "endNode": "R. Guilherme Tell",
      "blockingAlertUuid": ,
      "line": [{ "x": -46.600797, "y": -23.655255 },
        { "x": -46.599729, "y": -23.654906 },
        { "x": -46.598651, "y": -23.654557 } ],
      "segments": [{ }, { } ],
      "length": 233,
      "roadType": 1,
      "turnType": "NONE",
    }
  ]
}
```

roadType

Road Characteristics Information

Type

integer

Description

road type code

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

```
{  "jams": [
    "uuid": 54515950,
    "pubMillis": 1537581410449,
    "country": "BR",
    "city": "São Bernardo do Campo",
    "street": "R. Zurich",
    "level": 3,
    "delay": 85,
    "speedKMH": 6.07,
    "speed": 1.6861111111111111,
    "type": "NONE",
    "startNode": ,
    "endNode": "R. Guilherme Tell",
    "blockingAlertUuid": ,
    "line": [{ "x": -46.600797, "y": -23.655255 },
              { "x": -46.599729, "y": -23.654906 },
              { "x": -46.598651, "y": -23.654557 } ],
    "segments": [{ }, { } ],
    "length": 233,
    "roadType": 1,
    "turnType": "NONE",
  ]
}
```

turnType

Road Characteristics Information

Type

string

Description

kind of turn

left, right, exit R or L, continue straight or NONE

In the next video...

```
{  
  "jams": [ ... ],  
  "alerts": [ ... ],  
  "irregularities": [ ... ],  
  "startTime": "2018-09-20 23:55:00:000" ,  
  "endTime": "2018-09-20 23:56:00:000" ,  
  "startTimeMillis": 1537487700000,  
  "startTimeMillis": 1537487760000  
}
```

See you in the
next video!

