



**waag society**

institute for art, science and technology

# Van Amsterdam naar Ataçehir

Open Data & City Services

De evolutie van de City Service Development Kit (CitySDK)

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# CitySDK

- City Services
- Moveable code
- Eén interface voor 8 Europese steden
- Meer en betere open data
  
- Toerisme, participatie & **mobiliteit**



# Open Data

1. Transparantie
2. Sociale en commerciële waarde
3. Participatie en engagement





Overzicht databronnen - G X

www.amsterdam.nl/parkeren-verkeer/open-data/over:

**Amsterdam.nl**

- Wonen
- Werken
- Vrije tijd
- Actueel
- Veel gevraagd
- Bestuur en organisatie
- Alle onderwerpen
- Contact
- English
- Plattegrond
- Nieuwsbrief

Home > Parkeren & verkeer > Zoeken...

## Overzicht databronnen

Dataset	Toelichting	Formaat	Bron	Frequentie	Datum laatste update
<b>Tariefgebieden Parkeren</b> <a href="#">Dataset Parkeren</a>	Tarieven, tijden en grenzen van de parkeergebieden	KML en JSON	DIVV en RDW	Maandelijks	
<b>Parkeergarage</b> Opgenomen in bestand 'Locaties' van <a href="#">dataset 'Parkeren'</a> .	Toegankelijke parkeergarages in Amsterdam met meer dan 200 plekken van o.a. Parkeergebouwen Amsterdam, P1, Qpark, RaiParking, Apcoa.	JSON	Websites Parkeergebouwen Amsterdam, P1, Qpark, RaiParking,	Halfjaarlijks	
<b>OV-data</b> Link: <a href="http://api.openov.nl">api.openov.nl</a>	Real-time informatie over haltes, vertrektijden en vertragingen, via de API van OpenO	API	GOVI	Real-time	Real-time
<b>Elektrisch vervoer</b> <a href="#">Bestand Elektrisch vervoer</a>	Locatie oplaadstations voor elektrisch vervoer.	XML	DIVV	Maandelijks	
<b>Real-time verkeersdata</b> <a href="#">Metadata realtime verkeersdata</a>	DIVV meet voor de wegen op het Hoofdnet Auto de actuele reistijden. In dit JSON bestand wordt voor ieder traject de lengte, de normale reistijd, de actuele reistijd en de actuele snelheid gegeven. De geoinformatie is ook per traject	JSON	DIVV	Iedere minuut	Iedere minuut



# Open data

- **Goed nieuws:** veel open data beschikbaar
- **Slecht nieuws:**



- Incomplete data
- Verouderde data
- Datasets niet gelinkt






# DBpedia

About: Station Amsterdam Centraal

dbpedia.org/page/Amsterdam\_Centraal\_railway\_station

## About: [Station Amsterdam Centraal](#)

An Entity of Type : [architectural structure](#), from Named Graph : <http://dbpedia.org>, within Data Space : [dbpedia.org](http://dbpedia.org)



Amsterdam Centraal is the central railway station of Amsterdam. It is also one of the main railway hubs of the Netherlands and is used by 250,000 passengers a day, excluding transferring passengers. It is the starting point of Amsterdam Metro lines 51, 53 and 54. Amsterdam Centraal's building was designed by Pierre Cuypers and A. L. van Gendt. It first opened in 1889 and features a roof span of approximately 40 metres fabricated in cast iron by Andrew Handyside of Derby, England.

Property	Value
<a href="#">dbpedia-owl:agencyStationCode</a>	<ul style="list-style-type: none"><li>Asd</li></ul>
<a href="#">dbpedia-owl:country</a>	<ul style="list-style-type: none"><li><a href="#">dbpedia:Netherlands</a></li></ul>
<a href="#">dbpedia-owl:openingDate</a>	<ul style="list-style-type: none"><li>1889-10-15 (xsd:date)</li><li>1889-10-15 (xsd:date)</li></ul>
<a href="#">dbpedia-owl:openingYear</a>	<ul style="list-style-type: none"><li>1889-01-01 00:00:00 (xsd:date)</li><li>1889-01-01 00:00:00 (xsd:date)</li></ul>
<a href="#">dbpedia-owl:operatedBy</a>	<ul style="list-style-type: none"><li><a href="#">dbpedia:Nederlandse_Spoorwegen</a></li></ul>
<a href="#">dbpedia-owl:railwayPlatforms</a>	<ul style="list-style-type: none"><li>11</li></ul>
<a href="#">dbpedia-owl:servingRailwayLine</a>	<ul style="list-style-type: none"><li><a href="#">dbpedia:Den_Helder–Amsterdam_railway</a></li><li><a href="#">dbpedia:Amsterdam–Zutphen_railway</a></li><li><a href="#">dbpedia:Amsterdam–Haarlem–Rotterdam_railway</a></li><li><a href="#">dbpedia:Amsterdam–Arnhem_railway</a></li><li><a href="#">dbpedia:Amsterdam–Schiphol_railway</a></li><li><a href="#">dbpedia:Amsterdam–Schiphol_railway</a></li><li><a href="#">dbpedia:Amsterdam–Arnhem_railway</a></li><li><a href="#">dbpedia:Nieuwediep–Amsterdam_railway</a></li><li><a href="#">dbpedia:Amsterdam–Rotterdam_railway</a></li><li><a href="#">dbpedia:Amsterdam–Zutphen_railway</a></li></ul>
<a href="#">dbpedia-owl:thumbnail</a>	<ul style="list-style-type: none"><li><a href="http://upload.wikimedia.org/wikipedia/commons/thumb/f/fc/Centraal.jpg/200px-Centraal.jpg">http://upload.wikimedia.org/wikipedia/commons/thumb/f/fc/Centraal.jpg/200px-Centraal.jpg</a></li></ul>
<a href="#">dbpedia-owl:wikiPageExternalLink</a>	<ul style="list-style-type: none"><li><a href="http://www.ns.nl/servlet/MapServer?station=asd&amp;level=omg&amp;lang=en">http://www.ns.nl/servlet/MapServer?station=asd&amp;level=omg&amp;lang=en</a></li><li><a href="http://www.flickr.com/groups/1419425@N22/">http://www.flickr.com/groups/1419425@N22/</a></li><li><a href="http://www.sporenplan.nl/html_nl/sporenplan/ns/ns_normaal/asd_o.html">http://www.sporenplan.nl/html_nl/sporenplan/ns/ns_normaal/asd_o.html</a></li></ul>
<a href="#">dbpprop:caption</a>	<ul style="list-style-type: none"><li>Amsterdam Centraal Station</li></ul>
<a href="#">dbpprop:company</a>	<ul style="list-style-type: none"><li><a href="#">dbpedia:Nederlandse_Spoorwegen</a></li></ul>
<a href="#">dboorop:hasPhotoCollection</a>	<ul style="list-style-type: none"><li><a href="http://www4.wiwiss.fu-berlin.de/flickrwraoor/photos/Amsterdam_Centraal_railway_station">http://www4.wiwiss.fu-berlin.de/flickrwraoor/photos/Amsterdam_Centraal_railway_station</a></li></ul>





# NS

NS > Actuele Vertrektijden

www.ns.nl/actuele-vertrektijden/

Consumenten Zakelijk Internationaal Over NS Inloggen Mijn NS English Contrast A A A

→ Stel uw vraag aan onze virtuele medewerker

Home Reisinformatie OV-chipkaart Producten Acties en uitjes Klantenservice Mijn NS Winkel

## Actuele Vertrektijden

### Amsterdam Centraal - 19:49

Tijd	Naar	Spoor	Via	Reisdetails
19:47	Rotterdam Centraal	4b	Duivendrecht, Breukelen, Woerden	Sprinter
19:48	Zandvoort aan Zee	1	A'dam Sloterdijk, Haarlem	Sprinter
19:52	Amersfoort	11a	Weesp, Naarden-B, Hilversum	Sprinter
19:53	Nijmegen	5b	Amstel, Utrecht C, De Klomp	Intercity
19:55	Breda	15a	Schiphol, Rotterdam C.	Fyra
19:57	Den Haag Centraal	2a	A'dam Sloterdijk, Haarlem, Heemstede-A.	Intercity
19:59	Vlissingen	14a	A'dam Sloterdijk, Schiphol, Rotterdam C.	Intercity
20:02	Amersfoort	10b	Hilversum	Intercity
20:04	Hoorn	1	A'dam Sloterdijk, Haarlem, Beverwijk	Sprinter
20:07	Lelystad Centrum	10a	Almere C.	Intercity
20:08	Maastricht	4b	Amstel, Utrecht C, s-Hertogenbosch	Intercity
20:09	Enkhuizen	11a	A'dam Sloterdijk, Hoorn	Intercity , Stopt vanaf Hoorn op tussengelegen stations
20:10	Zwolle	11b	Weesp, Almere C., Lelystad C.	Sprinter
20:12	Den Helder	8a	A'dam Sloterdijk, Zaandam, Castricum	Intercity , Stopt vanaf Heiloo op tussengelegen stations
20:12	Dordrecht	2a	A'dam Sloterdijk, Haarlem, Rotterdam C.	Intercity
20:14	Hoofddorp	14a	A'dam Sloterdijk, Schiphol	Sprinter

→ Tijden verversen → Bekijk de voorzieningen op dit station



# Gemeentelijk Vervoersbedrijf

www.gvb.nl/reisinformatie x

www.gvb.nl/reisinformatie/Pages/vertrektijden.aspx

Facebook Waag Foto's Last.fm Torrentz CS KNMI NS SO Blogs Werk Other Bookmarks

- Dienstregeling 2013
- Geplande omleidingen
- Plattegronden
- Reisregels
- Reizen met OV-chipkaart
- Toegankelijk ov
- Veiligheid
- Vergoedingsregeling
- Welke kaart past bij u
- Vertrektijden

Centraal Station, Nieuwezijds Kolk, Dam, Spui, Koningsplein, Keizersgracht, Prinsengracht, Leidsegracht, Hobbemastraat, Van Baerlestraat, Museumplein, Roelof Hartplein, Apollolaan, Germit v.d. Veenstr, Stationsweg, Station Zuid, Parnassusweg, De Boelelaan/VU, Van Boshuizenstraat, Uilenstede, Kronenburg, Zonnebeuk, Oudesteun, Oranjestraat, Binnenhof

● = Rolstoeltoegankelijk  
 ⌚ = Rijtijd opgeteld in min.  
 € = Reiskosten opgeteld (saldoreis voltarief, excl. basistarief 0,86)

Tijden bij benadering. Afwijkingen voorbehouden.

### Halte: Apollolaan

### Tram 5 naar A'veen Binnenhof

Tijden bij benadering. Afwijkingen voorbehouden.

	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0
maandag t/m vrijdag			15	00	01	01	04	04	04	04	04	04	02	02	04	04	03	03	03	03	0
			30	15	07	07	12	12	12	12	12	12	08	09	10	10	14	13	13	13	1
			45	25	13	13	19	19	19	19	19	19	14	15	16	18	23	23	23	23	2
				31	19	19	27	27	27	27	27	27	20	21	22	25	33	33	33	33	3
				37	25	25	34	34	34	34	34	34	26	28	28	33	43	43	43	43	4
				43	31	31	42	42	42	42	42	42	32	34	32	40	53	53	53	53	
				49	37	37	49	49	49	49	49	49	38	40	39	48					
zaterdag				11	11	11	03	03	04	04	02	03	05	00	01	04	04	03	03	03	0
				26	26	26	11	11	12	12	08	09	11	06	07	12	12	13	13	13	1
				41	41	41	18	18	19	19	14	15	17	12	13	19	19	23	23	23	2
				56	56	56	26	27	27	27	20	22	23	18	19	27	27	33	33	33	3
							33	34	34	34	26	29	30	24	25	34	34	43	43	43	4
							41	42	42	42	32	35	36	30	31	42	43	53	53	53	
							48	49	49	49	38	41	42	36	37	49	53				



# Foursquare

The screenshot shows the Foursquare API Explorer interface. The browser address bar displays the URL: `https://developer.foursquare.com/docs/explore#req=venues/4a688balf964a52088calfe3`. The page header includes the Foursquare logo and navigation links: My Apps, Overview, Endpoints, and Forum. A left sidebar contains a navigation menu with sections: Documentation, Resources, and Showcase. The main content area displays a JSON response for a venue.

```
response: {
  venue: {
    id: "4a688balf964a52088calfe3",
    name: "Station Amsterdam Centraal",
    contact: {
      twitter: "ns_online"
    },
    location: {
      address: "Stationsplein 15",
      lat: 52.37861196667141,
      lng: 4.900546073913574,
      postalCode: "1012 AB",
      city: "Amsterdam",
      state: "Noord-Holland",
      country: "The Netherlands",
      cc: "NL"
    },
    canonicalUrl: "https://foursquare.com/v/station-amsterdam-centraal/4a688balf964a52088calfe3",
    categories: [
      {
        id: "4bf58dd8d48988d129951735",
        name: "Train Station",
        pluralName: "Train Stations",
        shortName: "Train Station",
        icon: {
          prefix: "https://foursquare.com/img/categories_v2/travel/trainstation_",
          suffix: ".png"
        },
        primary: true
      }
    ]
  },
  verified: true
}
```



# Weersvoorspellingen

weather amsterdam - Google

https://www.google.nl/search?q=weather+amsterdam&oq=weather+amsterdam&aqs=chrome.0.57j5j0l2.3039j0&s...

+Bert Search Images Maps Play YouTube Gmail Drive Calendar Translate More

Google weather amsterdam Bert Spaan 0

Web Images Maps Shopping More Search tools SafeSearch

About 48,100,000 results (0.25 seconds)

### Amsterdam

Tuesday 19:00  
Clear

21 °C | °F

Precipitation: 10%  
Humidity: 35%  
Wind: 16 km/h

Temperature Precipitation Wind

21  
14 13 12 11 12 12 12

19:00 22:00 01:00 04:00 07:00 10:00 13:00 16:00

Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
20° 10°	13° 10°	16° 11°	18° 11°	14° 8°	14° 8°	14° 9°	17° 10°

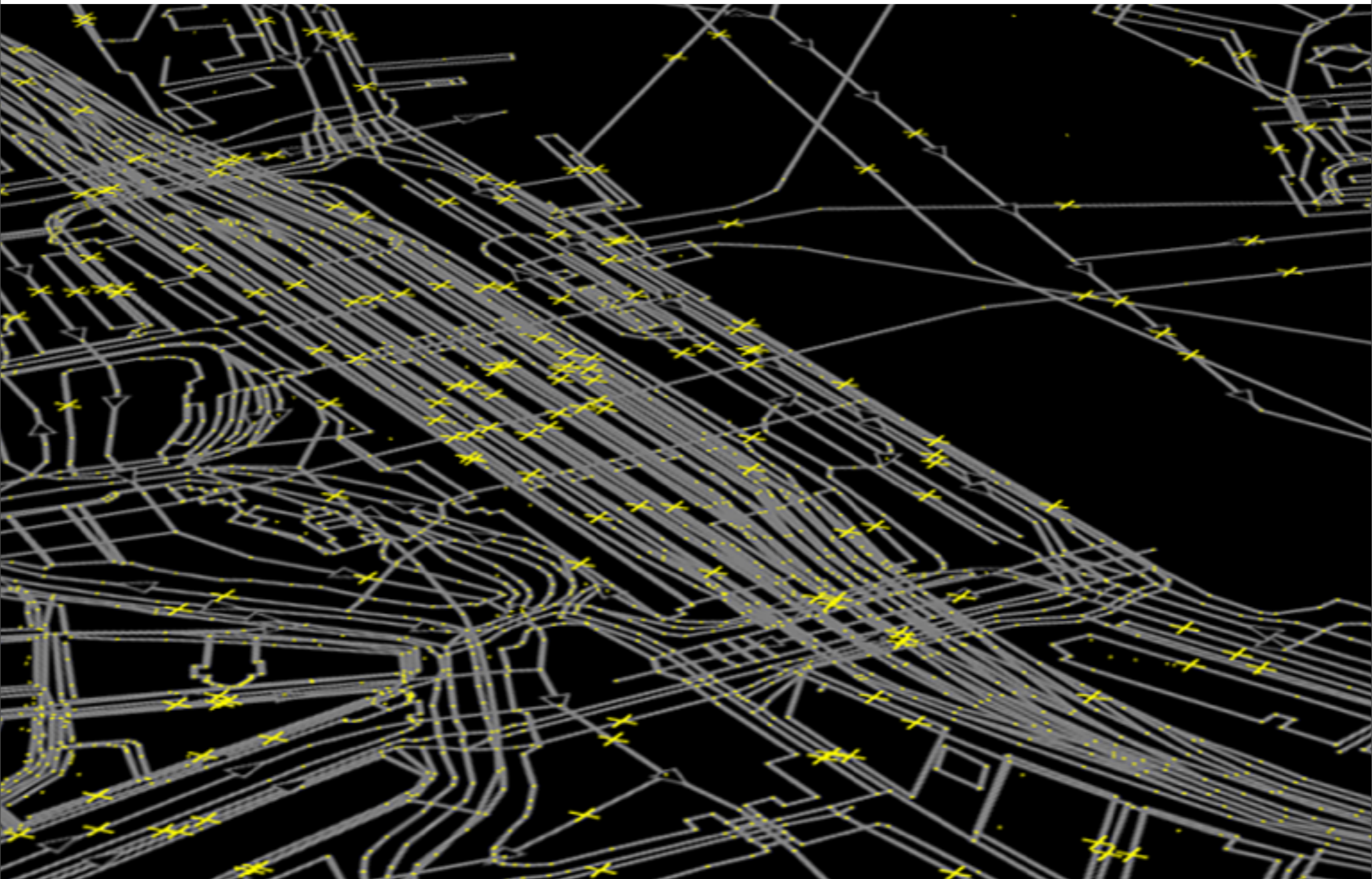
The Weather Channel - Weather Underground - AccuWeather

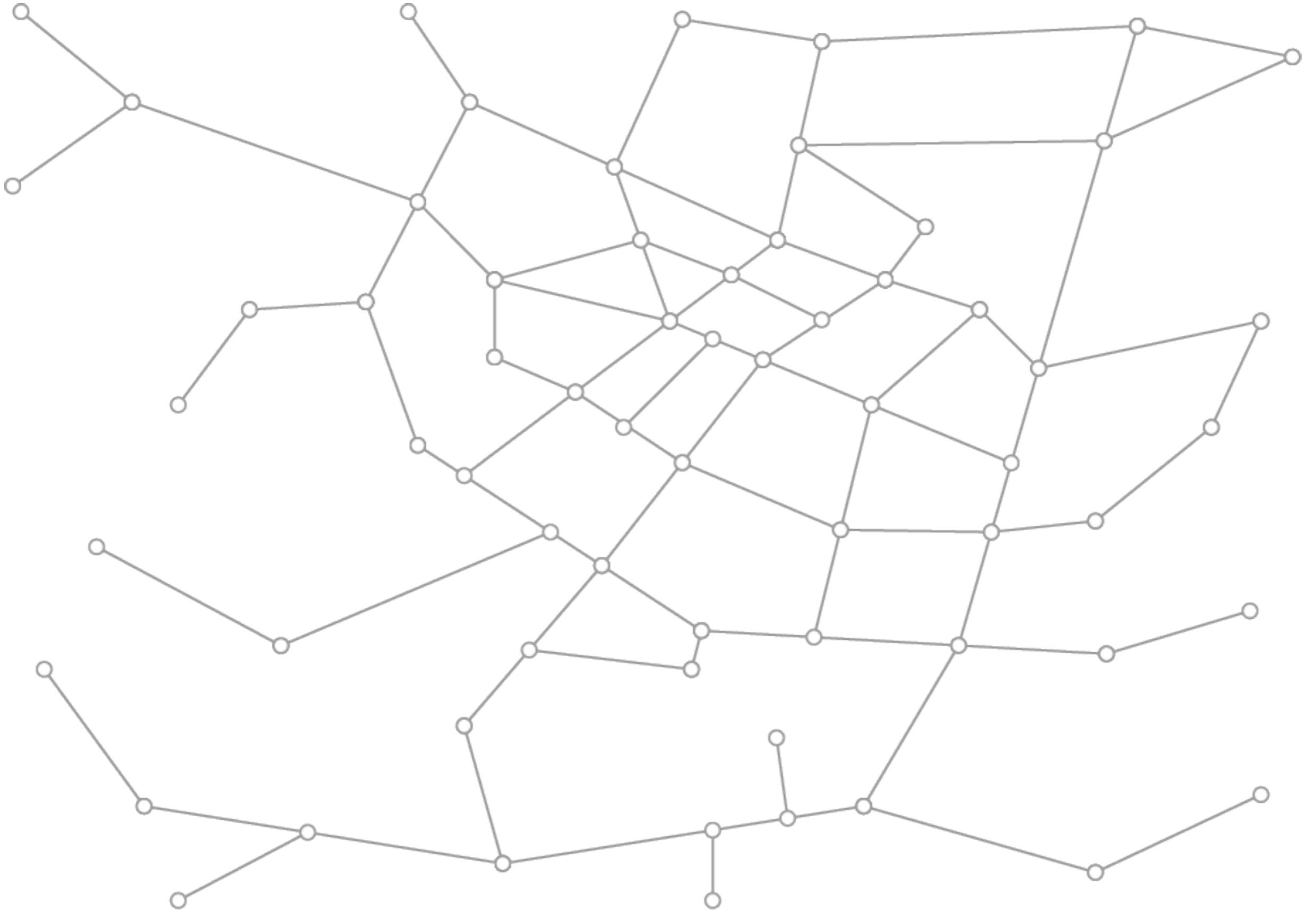


Fragment of the Rosetta Stone showing hieroglyphs and Greek text.

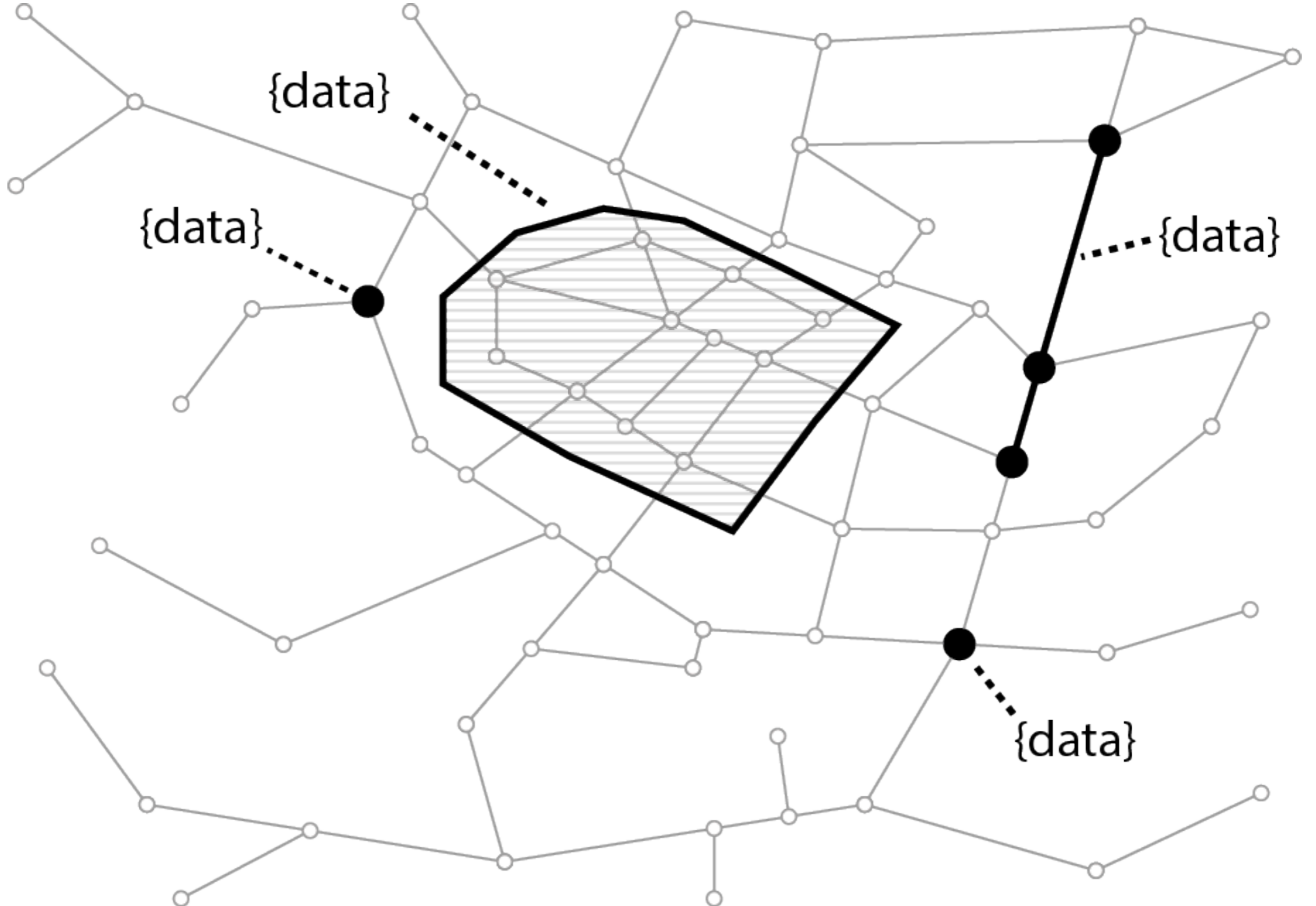
Fragment of the Rosetta Stone showing hieroglyphs and Greek text. The fragment is irregularly shaped and contains several lines of hieroglyphs at the top, followed by a large block of Greek text. The Greek text is arranged in approximately 25 columns, with some lines being shorter than others. The fragment is a well-known piece of the original stone, which was used to decipher hieroglyphs.

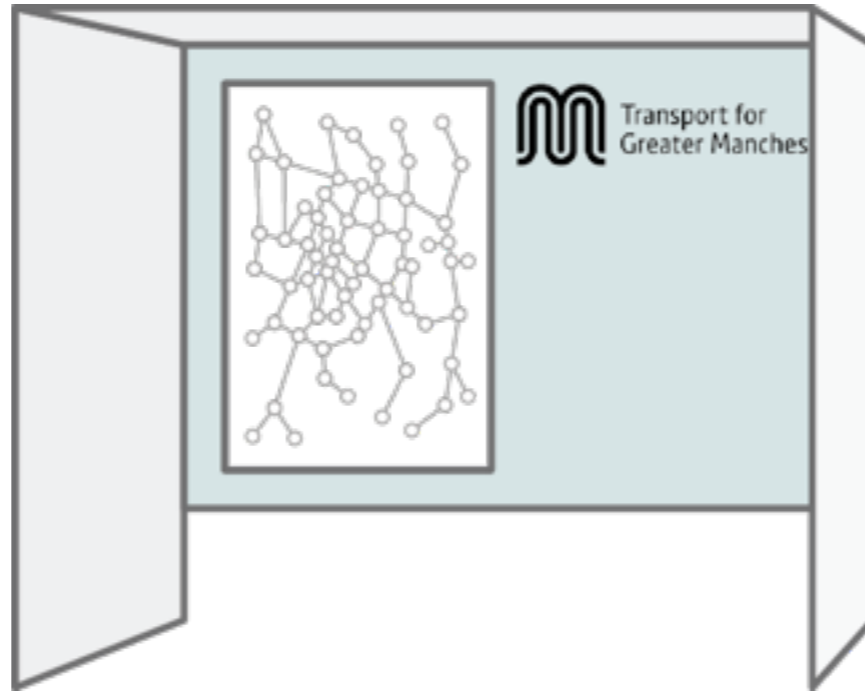








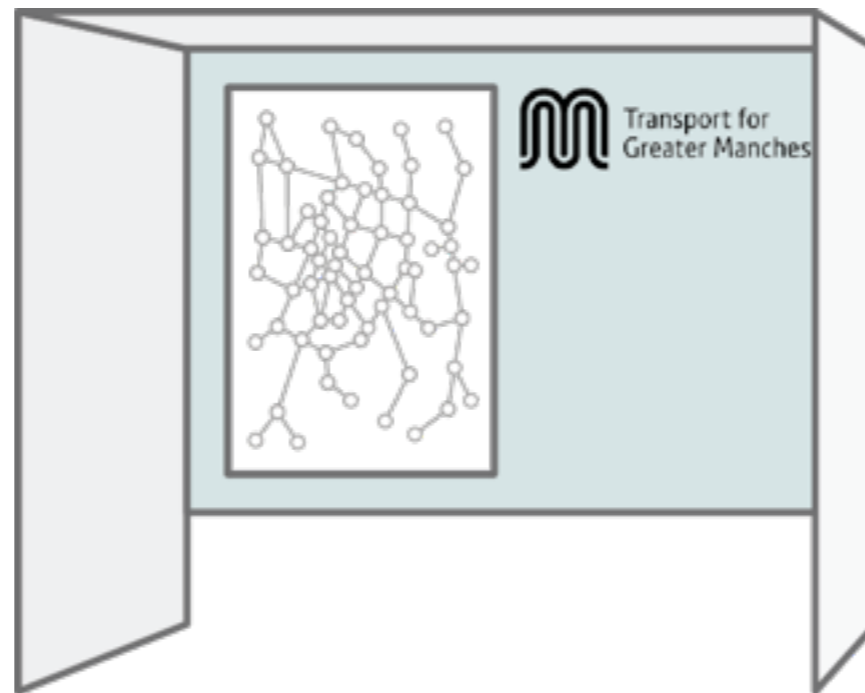






## Bushalte 674

<http://api.manchester.gov.uk/ptstop/674>



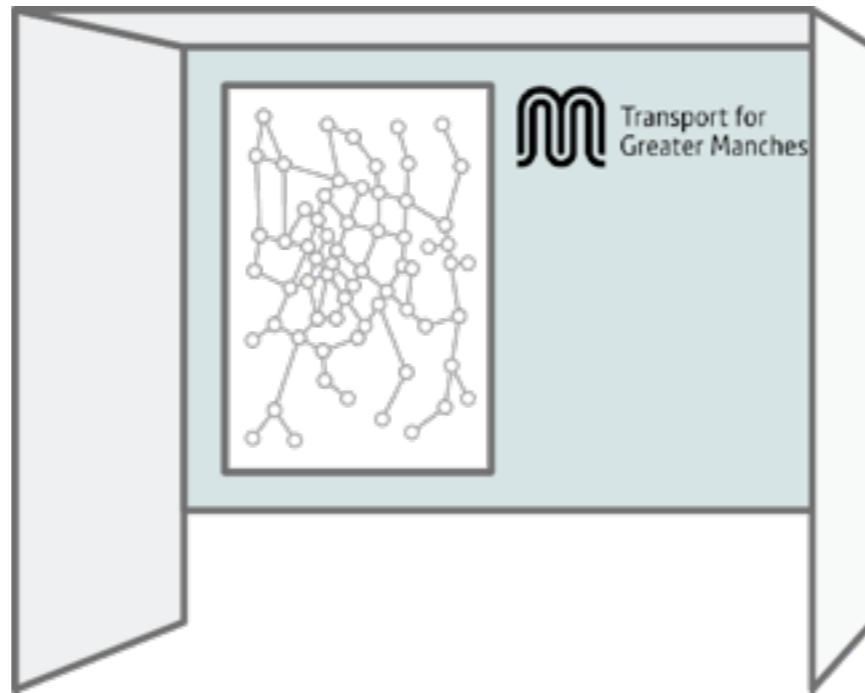


Dienst-  
regeling



**Bushalte 674**

<http://api.manchester.gov.uk/ptstop/674>



Weer



*Open311*

Service  
requests





# OpenStreetMap

The screenshot shows the OpenStreetMap website interface. At the top, there is a browser window with the URL [www.openstreetmap.org](http://www.openstreetmap.org). Below the browser window, there is a navigation bar with links for Facebook, Waag, Foto's, Last.fm, Torrentz, KNMI, NS.nl, Stack Overflow, Blogs, Werk, Fiets, and Other Bookmarks. The main content area is divided into several sections:

- View Edit History Export**: Navigation tabs for the map.
- log in sign up**: User account options.
- OpenStreetMap The Free Wiki World Map**: A logo and introductory text.
- Search**: A search bar with a magnifying glass icon. Below it, there are examples of search queries: 'Alkmaar', 'Regent Street, Cambridge', 'CB2 5AQ', or 'post offices near Lünen' more examples... Where am I?.
- OpenStreetMap is a free worldwide map, created by people like you.**: A paragraph explaining the project's mission.
- The data is free to download and use under its open license. Create a user account to improve the map.**: A paragraph about the data license and user account benefits.
- Help**: A section with links for Help Centre, Documentation, and Copyright & License.
- Community**: A section with links for Community Blogs, Foundation, and User Diaries.
- GPS Traces**: A link to GPS traces.
- Map Key**: A link to the map key.
- Make a Donation**: A green button with a heart icon.
- Hosting is supported by the UCL**: A note about the project's hosting.

The map itself shows a city area with various streets and buildings. The streets are labeled with names like Veemkade, Kattenburgerstraat, and Piet Heinkade. There are also labels for buildings like Europa, Huys Azie, and Jollemanhof. The map is displayed in a satellite view style. A scale bar at the bottom left indicates 50 m and 200 ft. A Permalink Shortlink is visible at the bottom right.



# OpenStreetMap

\* Java OpenStreetMap Editor

File Edit View Tools Presets Imagery Windows Audio Help

Layers

- Data Layer 1

Properties: 4 / Memberships: 0

Man Made/Man Made/Building ...

Key	Value
3dshapes:ggmodelk	21
building	yes
name	Pakhuis De Zwijger
source	3dShapes

Sel.: Rel.:0 / Ways:1 / Nodes:0

Command Stack

- Move 19 nodes

52.3763299 4.9236768 123.0 m building (4 nodes) Release the mouse button to stop moving.











**Weg w728987**  
Wegwerkzaamheden volgende week

**Regio admr.uk.gr.manchester**  
23°C en zonnig!



**Bushalte 1800sb45131**  
5 minuten vertraging

**Weg w789737**  
Gemiddelde snelheid: 19km/h



# API – voorbeelden

The screenshot shows a web browser window with the URL `dev.citysdk.waag.org/map#adm.uk.gr.manchester/ptstops?per_page=999&layer=gtfs&bbox=53.4963,-2.2760,53.4599,-2.1729`. The browser title is "Map Viewer | CitySDK API". Below the browser window is a navigation bar with a city skyline silhouette and buttons for "Home", "Read", "Write", "Match", and "Viewer". A search bar contains the URL `http://api.citysdk.waag.org/admr.uk.gr.manchester/ptstops?per_page=999&layer=gtfs&bbox=53.4963,-2.2760,53.4599,-2.1729`. The main content is a map of Manchester with numerous red dots representing bus stops. A sidebar on the right shows the following JSON data for a selected stop:

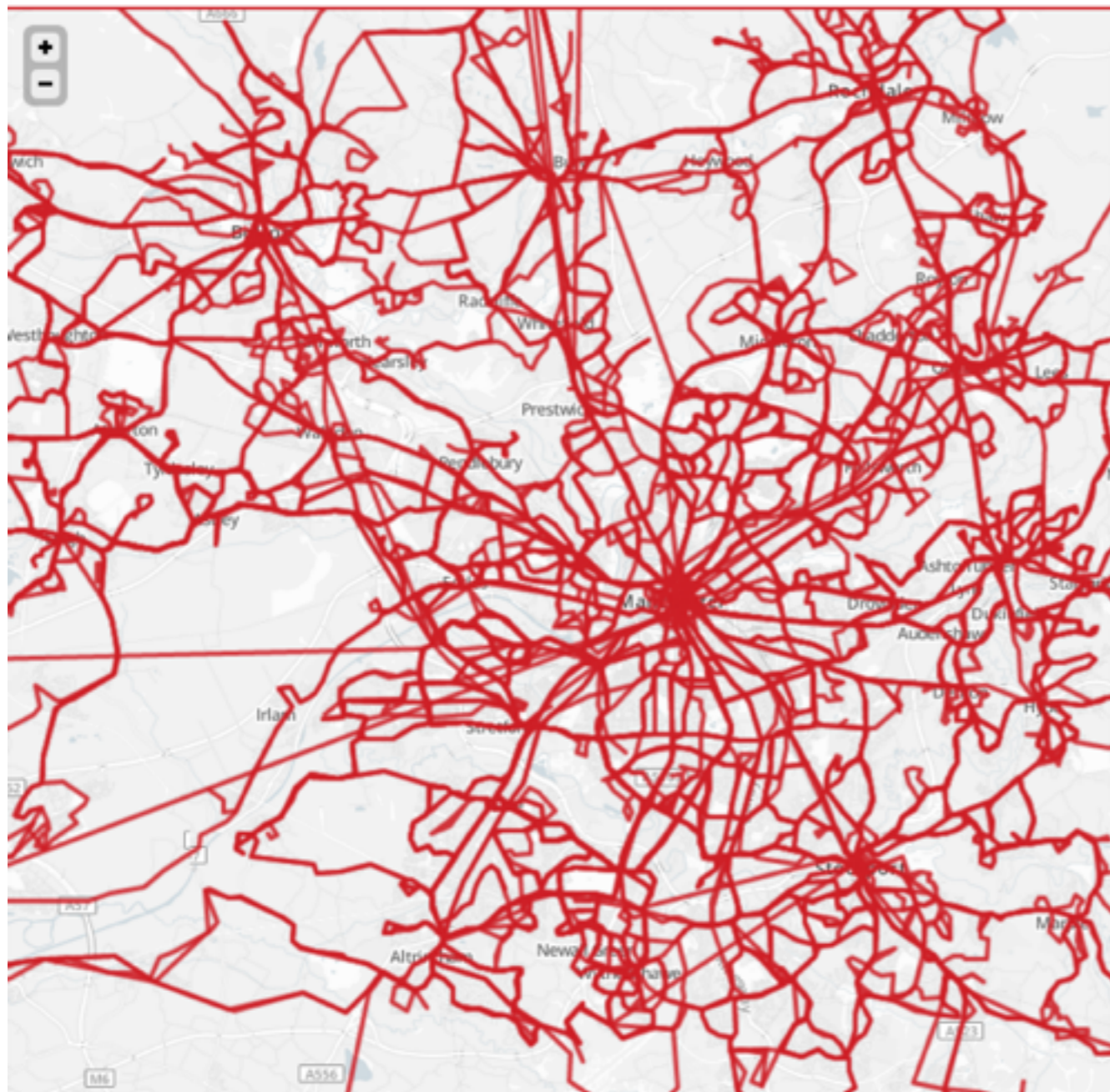
```
{
  "cdk_id": "gtfs.stop.gbmc.1800sb05811",
  "name": "Manchester City Centre, Charlotte St/Mosley Street (Stop Cr)",
  "node_type": "ptstop",
  "layers": {
    "gtfs": {
      "data": {
        "stop_id": "gbmc.1800SB05811",
        "stop_name": "Manchester City Centre, Charlotte St/Mosley Street (Stop Cr)",
        "location_type": "0",
        "platform_code": "",
        "parent_station": "",
        "wheelchair_boarding": "0"
      },
      "modalities": [
        "bus"
      ],
      "validity": [
        "2013-04-26 00:00:00 +0200",
        "2013-04-26 00:00:00 +0200"
      ]
    }
  },
  "layer": "gtfs"
}
```

Map center: 53.4783, -2.2332

Powered by Leaflet - Map data © OpenStreetMap contributors



http://api.citysdk.waag.org/admr.uk.gr.manchester/ptlines?per\_page=999&layer=gtfs



```
{
  "status": "success",
  "url": "http://api.citysdk.waag.org/admr.uk.gr.manchester/ptlines?per_page=999&layer=gtfs&geom",
  "pages": 1,
  "per_page": 999,
  "record_count": 603,
  "next_page": -1,
  "results": [
    {
      "cdk_id": "gtfs.line.wml.178-0",
      "name": "WML bus 178",
      "node_type": "ptline",
      "layers": {
        "gtfs": {
          "data": {
            "route_id": "gbmc.WML: 178:0:",
            "route_to": "Reddish, Broadstone Road/Houldsworth Square (Stop B)",
            "agency_id": "WML",
            "route_from": "Timperley Grange, Woodhouse Lane East/Shops (SE-bound)",
            "route_type": "3",
            "route_long_name": "TIMPERLEY - WYTHENSHAW HOSPITAL - REDDISH",
            "route_short_name": "178"
          },
          "modalities": [
            "bus"
          ],
          "validity": [
            "2013-05-01 00:00:00 +0200",
            "2013-07-01 23:59:00 +0200"
          ]
        }
      },
      "layer": "gtfs"
    },
    {
      "cdk_id": "gtfs.line.wml.177-0",
      "name": "WML bus 177",
      "node_type": "ptline",
      "layers": {
        "gtfs": {
```

Map center: 53.4919, -2.1303



```
Map Viewer | CitySDK API x api.citysdk.waag.org/admr x
api.citysdk.waag.org/admr.uk.gr.manchester/ptlines?layer=gtfs
+ - View source

{
  status: "success",
  url: "http://api.citysdk.waag.org/admr.uk.gr.manchester/ptlines?layer=gtfs",
  pages: "not counted.",
  per_page: 10,
  record_count: "not counted.",
  next_page: 2,
  - results: [
    - {
      cdk_id: "gtfs.line.wml.178-0",
      name: "WML bus 178",
      node_type: "ptline",
      - layers: {
        - gtfs: {
          - data: {
            route_id: "gbmc.WML: 178:0:",
            route_to: "Reddish, Broadstone Road/Houldsworth Square (Stop B)",
            agency_id: "WML",
            route_from: "Timperley Grange, Woodhouse Lane East/Shops (SE-bound)",
            route_type: "3",
            route_long_name: "TIMPERLEY - WYTHENSHAW HOSPITAL - REDDISH",
            route_short_name: " 178"
          },
          - modalities: [
            "bus"
          ],
          - validity: [
            "2013-05-01 00:00:00 +0200",
            "2013-07-01 23:59:00 +0200"
          ]
        }
      },
      layer: "gtfs"
    },
    - {
      cdk_id: "gtfs.line.wml.177-0",
      name: "WML bus 177",
      node_type: "ptline",
      - layers: {
        - gtfs: {
          - data: {
            route_id: "gbmc.WML: 177:0:",
            route_to: "Altrincham, nr Train Station Altrincham Interchange",
            agency_id: "WML",
            route_from: "Gatley, Church Road/Red Lion (SW-bound)",
            route_type: "3",
            route_long_name: "GATLEY - ALTRINCHAM - WYTHENSHAW HOSPITAL",
            route_short_name: " 177"
          },
          - modalities: [
            "bus"
          ],
          - validity: [
            "2013-05-01 00:00:00 +0200",
            "2013-07-01 23:59:00 +0200"
          ]
        }
      },
      layer: "gtfs"
    }
  ]
}
```



http://api.citysdk.waag.org/admr.nl.amsterdam/ptstops?per\_page=999&layer=gtfs

```
{  
  "cdk_id": "gtfs.stop.050141",  
  "name": "Martelaarsgracht",  
  "node_type": "ptstop",  
  "layers": {  
    "gtfs": {  
      "data": {  
        "stop_id": "050141",  
        "stop_name": "Martelaarsgracht",  
        "location_type": "0",  
        "platform_code": "",  
        "parent_station": "",  
        "wheelchair_boarding": "0"  
      },  
      "modalities": [  
        "tram"  
      ],  
      "validity": [  
        "2013-04-26 00:00:00 +0200",  
        "2013-04-26 00:00:00 +0200"  
      ]  
    }  
  },  
  "layer": "gtfs"  
}
```

Map center: 52.3688, 4.8987

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# Datasets linken

- “Centraal Station” = “Amsterdam Centraal”
- “Utrecht” ≠ “Utrecht”
- “Leeuwarden” = “Ljouwert”
  
- Naam? Locatie?



```
Mozilla Firefox
http://webservi...api-stations-v2
webservices.ns.nl/ns-api-stations-v2
- <Stations>
  - <Station>
    <Code>HT</Code>
    <Type>knooppuntIntercitystation</Type>
    - <Namen>
      <Kort>H'bosch</Kort>
      <Middel>'s-Hertogenbosch</Middel>
      <Lang>'s-Hertogenbosch</Lang>
    </Namen>
    <Land>NL</Land>
    <UICCode>8400319</UICCode>
    <Lat>51.69048</Lat>
    <Lon>5.29362</Lon>
    - <Synoniemen>
      <Synoniem>Hertogenbosch ('s)</Synoniem>
      <Synoniem>Den Bosch</Synoniem>
    </Synoniemen>
  </Station>
  - <Station>
    <Code>HTO</Code>
    <Type>stoptreinstation</Type>
    - <Namen>
      <Kort>H'bosch O</Kort>
      <Middel>Hertogenbosch O.</Middel>
      <Lang>'s-Hertogenbosch Oost</Lang>
    </Namen>
    <Land>NL</Land>
    <UICCode>8400320</UICCode>
    <Lat>51.700554</Lat>
    <Lon>5.318333</Lon>
    - <Synoniemen>
      <Synoniem>Hertogenbosch Oost ('s)</Synoniem>
      <Synoniem>Den Bosch Oost</Synoniem>
    </Synoniemen>
  </Station>
- <Station>
```





Map Viewer | CitySDK API x

dev.citysdk.waag.org/map#nodes?layer=ns,osm&per\_page=999

Home Read Write Match Viewer

http://api.citysdk.waag.org/nodes?layer=ns,osm&per\_page=999

```
{
  "cdk_id": "w26602796",
  "name": "Amsterdam Amstel",
  "node_type": "ptstop",
  "layers": {
    "ns": {
      "data": {
        "code": "ASA",
        "name": "Amsterdam Amstel",
        "country": "NL"
      },
      "validity": [
        "2013-05-27 00:00:00 +0200",
        "2013-05-27 00:00:00 +0200"
      ]
    },
    "osm": {
      "data": {
        "name": "Amsterdam Amstel",
        "railway": "station",
        "building": "yes",
        "way_area": "0.000001"
      },
      "validity": [
        "2013-03-26 00:00:00 +0100",
        "2013-03-26 00:00:00 +0100"
      ]
    }
  },
  "layer": "osm"
}
```

Map center: 52.3362, 4.9950

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Map Viewer | CitySDK API x Map Viewer | CitySDK API x

dev.citysdk.waag.org/map#nodes?layer=bag.panden&lat=52.3189&lon=4.9736&per\_page=800

Home What? Apps API Viewer

http://api.citysdk.waag.org/nodes?layer=bag.panden&lat=52.3189&lon=4.9736&per\_page=800

```
{
  "status": "success",
  "url": "http://api.citysdk.waag.org/nodes?
layer=bag.panden&lat=52.3189&lon=4.9736&per_page=800&
"pages": "not counted.",
"per_page": 800,
"record_count": "not counted.",
"next_page": 2,
"results": [
  {
    "cdk_id": "bag.panden.363100012210904",
    "name": "",
    "node_type": "node",
    "layers": {
      "bag.panden": {
        "data": {
          "pand_id": "363100012210904",
          "bouwjaar": "1969"
        }
      }
    },
    "layer": "bag.panden"
  },
  {
    "cdk_id": "bag.panden.363100012210900",
    "name": "",
    "node_type": "node",
    "layers": {
      "bag.panden": {
        "data": {
          "pand_id": "363100012210900",
          "bouwjaar": "1969"
        }
      }
    },
    "layer": "bag.panden"
  }
]
}
```

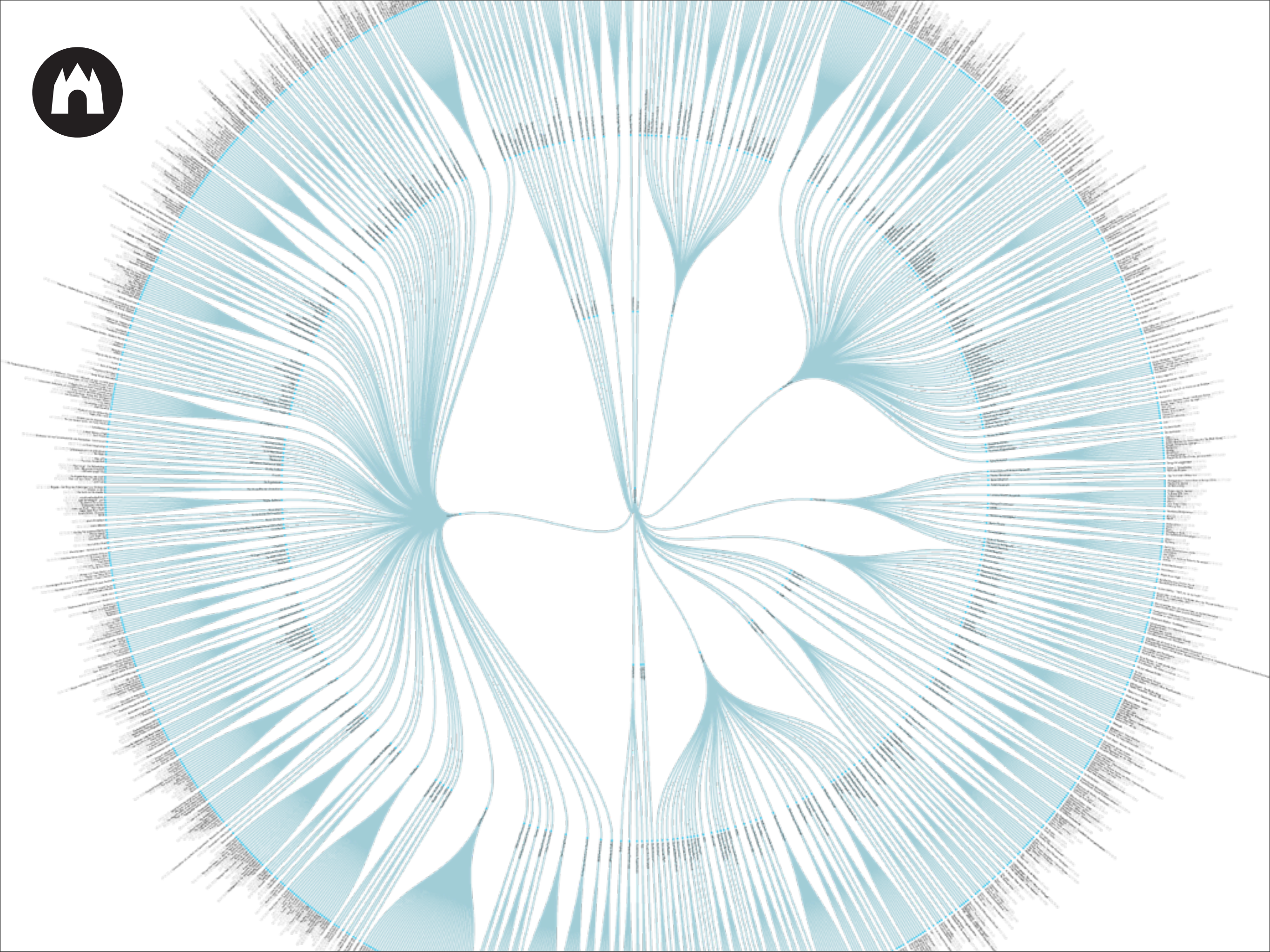
Map center:

- 52.3192, 4.9784
- WKT POINT(4.9784 52.3192)
- ST\_SetSRID(ST\_MakePoint(4.9784, 52.3192), 4326)
- lat=52.3192&lon=4.9784

Bounding box:

- 52.3241, 4.9662, 52.3143, 4.9905
- WKT POLYGON((4.9662 52.3241,4.9905 52.3241,4.9905 52.3143,4.9662 52.3143))
- ST\_SetSRID(ST\_MakeBox2D(ST\_Point(4.9662, 52.3241), ST\_Point(4.9905, 52.3143)), 4326)
- bbox=52.3241,4.9662,52.3143,4.9905

Powered by [Leaflet](#) — Map data © OpenStreetMap contributors







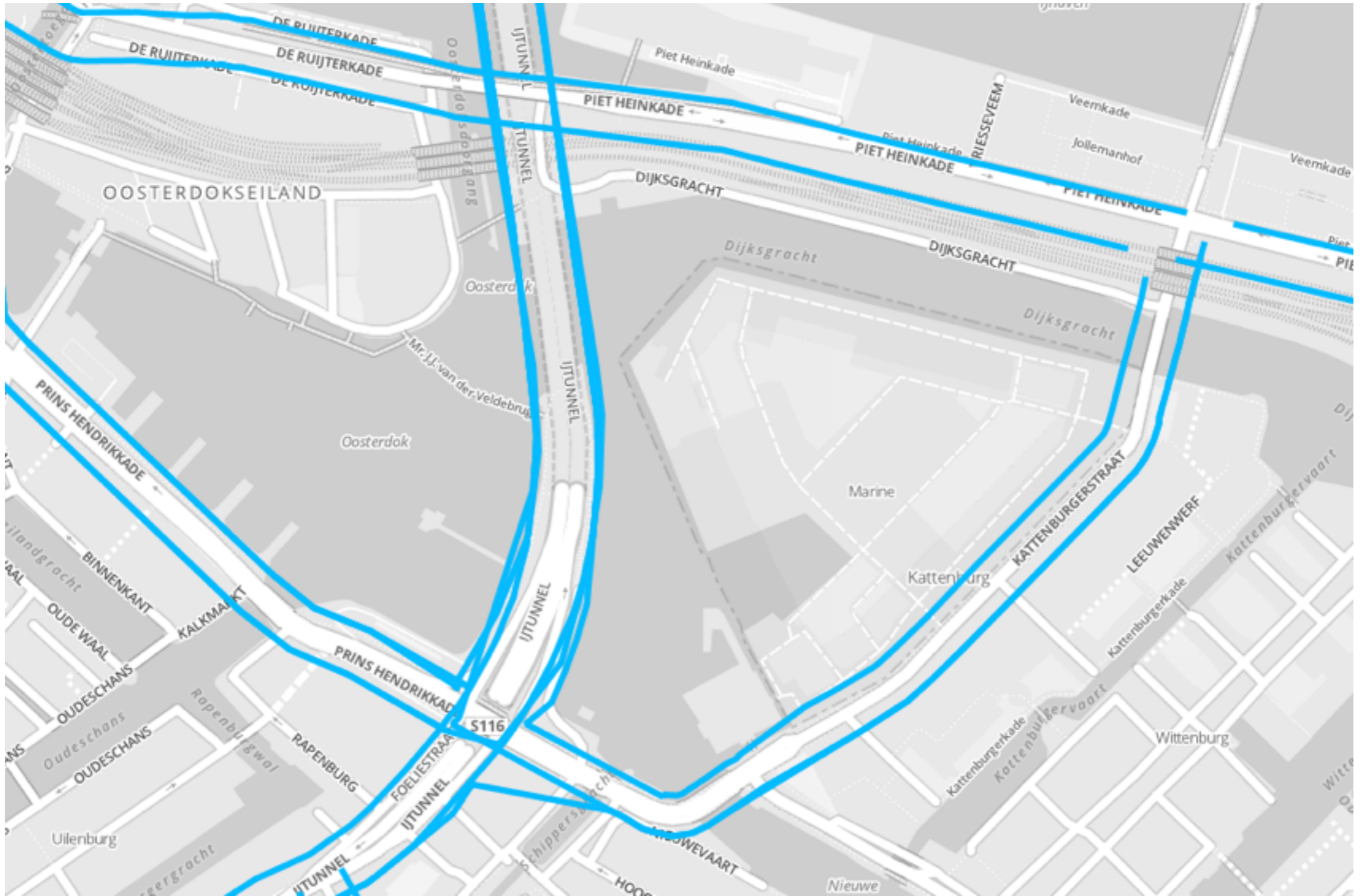
http://api.citysdk.waag.org/admr.nl.amsterdam/nodes?layer=artsholland,osm&per\_page=999

```
{  
  "cdk_id": "w23582563",  
  "name": "Muziekgebouw aan 't IJ",  
  "node_type": "node",  
  "layers": {  
    "artsholland": {  
      "data": {  
        "uri":  
          "http://data.artsholland.com/venue/d3ab90a9-271b-43b0-8078-823fc7ee9a22",  
        "title": "Muziekgebouw aan 't IJ",  
        "website": "http://www.muziekgebouw.nl",  
        "locality": "Amsterdam",  
        "telephone": "020 - 788 20 00",  
        "postal-code": "1019BR",  
        "street-address": "Piet Heinkade 1",  
        "events": [  
          {  
            "title": "Desdemona - Peter Sellars,  
Toni Morrison, Rokia Traor\u00e9",  
            "time": "2013-06-13T18:30:00Z",  
            "event_uri":  
              "http://data.artsholland.com/event/fca2d61fc32fdac622",  
            "production_uri":  
              "http://data.artsholland.com/production/8894b31cdf98a",  
          },  
          {  
            "title": "Brooklyn to Berlin",  
            "time": "2013-06-14T18:30:00Z",  
            "event_uri":  
              "http://data.artsholland.com/event/1bcce1e703394df02",  
            "production_uri":  
              "http://data.artsholland.com/production/d788be4bce6e6",  
          },  
          {  
            "title": "KlankSpeeltu\u00efn",  
            "time": "2013-06-16T13:00:00Z",  
            "event_uri":  
              "http://data.artsholland.com/event/66220e13-323d-42a5-b5cc-650fbfd628aa",  
            "production_uri":  
              "http://data.artsholland.com/production/66220e13-323d-42a5-b5cc-650fbfd628aa",  
          }  
        ]  
      }  
    }  
  }  
}
```

Map center: 52.3699, 4.9132

Powered by [Leaflet](#) - Map data \u00a9 OpenStreetMap contributors







CitySDK - OSM mapper

file:///Users/bert/dev/checkouts/citysdk.git/demo/map/map.html

### OSM mapper

```
{
  "name": "TrajectSensor_Route122_M",
  "osm tags": {
    "highway": [
      "unclassified",
      "road",
      "motorway",
      "motorway_link",
      "trunk",
      "trunk_link",
      "primary",
      "primary_link",
      "secondary",
      "secondary_link",
      "tertiary",
      "tertiary_link"
    ]
  },
  "geometry": {
    "type": "LineString",
    "coordinates": [
      [
        4.971591495792938,
        52.307289091852084
      ],
      [
        4.971902426796805,
        52.30696662372902
      ],
      [
        4.972138532227775,
        52.30680567234075
      ],
      [
        4.972388962488012,
        52.30668072184649
      ],
      [
        4.972712366241287,
        52.3065919776784
      ]
    ]
  }
}
```

Show!

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Map Viewer | CitySDK API

dev.citysdk.waag.org/map#nodes?layer=divv.traffic&per\_page=1000

Home Read Write Match Viewer

http://api.citysdk.waag.org/nodes?layer=divv.traffic&per\_page=1000

```
{
  "cdk_id": "divv.traffic.trajectsensor_route031",
  "name": "TrajectSensor_Route031",
  "node_type": "route",
  "layers": {
    "divv.traffic": {
      "data": {
        "location": "TrajectSensor_Route031",
        "velocity": 37,
        "length": 2489,
        "traveltime": 236,
        "traveltime_freeflow": 179
      },
      "modalities": [
        "car"
      ],
      "validity": [
        "2013-04-29 00:00:00 +0200",
        "2013-04-29 00:00:00 +0200"
      ]
    }
  },
  "layer": "divv.traffic"
}
```

Map center: 52.3598, 4.9988

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Map Viewer | CitySDK API x

dev.citysdk.waag.org/map#nodes?layer=divv.traffic

Home Read Write Match Viewer

http://api.citysdk.waag.org/nodes?layer=divv.traffic

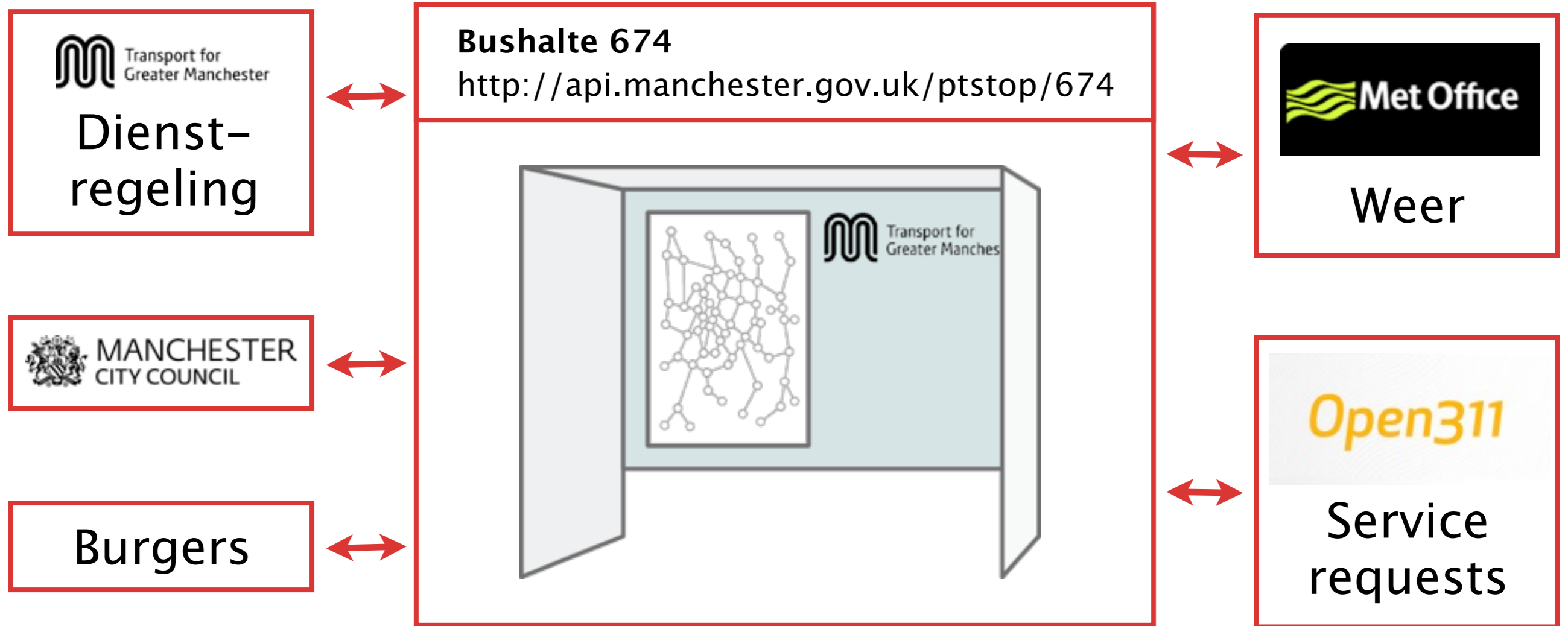
```
{
  "cdk_id": "divv.traffic.trajectsensor_route097",
  "name": "TrajectSensor_Route097",
  "node_type": "route",
  "layers": {
    "divv.traffic": {
      "data": {
        "location": "TrajectSensor_Route097",
        "velocity": 4,
        "length": 2468,
        "traveltime": 2019,
        "traveltime_freeflow": 177
      },
      "modalities": [
        "car"
      ],
      "validity": [
        "2013-04-29 00:00:00 +0200",
        "2013-04-29 00:00:00 +0200"
      ]
    }
  },
  "layer": "divv.traffic"
}
```

Map center: 52.3702, 4.8537

Powered by Leaflet - Map data © OpenStreetMap contributors



# Read-write City





# Data-eigenaren

- CMS
- Makkelijk datasets toevoegen & aanpassen
- Statisch & realtime

The screenshot shows a web browser window titled "CitySDK CMS" with the URL <https://cms.citysdk.waag.org/layer/edit/23>. The page displays the editing interface for a layer named "artsh.culture". The interface includes several sections:

- Organization:** A text input field containing "Waag Society".
- Category:** A dropdown menu set to "cultural" and a text input field containing "museums".
- Description:** A text area containing "Museums and events".
- Datasources:** An empty text input field.
- Webservice:** A section with a checked "enabled" checkbox, a "cache rate (sec):" input field set to "3600", and an empty "url:" input field.

A "save" button is located at the bottom of the form. The footer of the page contains the text "CitySDK - Waag Society 2013; signed in as bert@waag.org" and logos for "waag society", "CitySDK", and "ICTPSP".



# Dataset toevoegen

Rijn bij Lobith 12 meter bo x

www.nrc.nl/nieuws/2013/06/03/rijn-bij-lobith-12-meter-boven-nap-hoogwater-wordt-zichtbaar-in-nederland/

nrc.nl nrc.txt nrc.nieuws.nl m.nrc.nl Webwinkel Adverteren Service en bezorging Neem een abonnement Lees de digitale editie

nrc.nl

Nieuws Blogs Columns In beeld Carrière

Bradley Manning

NU IN HET NIEUWS: BRADLEY MANNING FYRA OVERSTROMINGEN TAKSIMPLEIN TURKIJE

3 juni 2013, 10:55

## Rijn bij Lobith 12 meter boven NAP - 'hoogwater zichtbaar in Nederland'



Koelen grazen in de uiterwaarden bij Driel. Vanwege de hoge waterstand in de Rijn door hevige regen in Duitsland is de verwachting dat de waterstand de komende week richting 13,5 meter boven NAP bij Lobith zal stijgen. Foto ANP / Robin van Lonkhuijsen

### LEES MEER

- 2 JUN Overstromingen in Duitsland, Oostenrijk, Zwitserland en Tsjechië > BUITENLAND
- 31 MEI Hoge waterstand Rijn - gebruikers uiterwaarden moeten alert zijn > BINNENLAND
- 7 MEI Mogelijk duizenden evacuaties meer Wetteren - metingen Westerschelde > BINNENLAND
- 21 JAN Verraderlijke gladheid in de driehoek Rotterdam-Woensdrecht-Eindhoven > BINNENLAND
- 2012 Waterpeil van Rijn bij Lobith stijgt tot boven de 14 meter > BINNENLAND

TOON ALLE GERELATEERDE ARTIKELN

### MEEST GELEZEN OP NRC.NL

- 10:02 Eén 'rode trouwpartij' en Game of Thrones-fans zijn volledig overstuurd > ARTIKEL
- 09:27 KLM-steward in Singapore vast wegens drugsmokkel > BINNENLAND
- 06:00 Mijn feestelijke, jeugdige zelf > RENSKA DE GREEF
- 20:31 Turkse media gooien olie op het vuur door weg te kijken > ARTIKEL
- 14:29 Proces tegen Bradley Manning van start, maar interesse is er nauwelijks > ARTIKEL

BEKIJK REALTIME DE MEEST GELEZEN ARTIKELN



# Dataset toevoegen

Waterstand ten opzichte v: x

www.rijkswaterstaat.nl/geotool/waterhoogte\_tov\_nap.aspx?cookieLoad=true

FB Cal Waag Foto's Last.fm Torrentz CS KNMI NS SO Tr Blogs Werk Fiets Weer Other Bookmarks

Contact Mobiel Abonneren English Help

Rijkswaterstaat  
Ministerie van Infrastructuur en Milieu

Home Water Wegen Actueel RWS-loket Over ons Zakelijk

zoek

Sitemap Uitgebreid zoeken

Home

## Waterstand ten opzichte van NAP

Uw selectie in onderstaand keuzemenu wordt automatisch uitgevoerd.

Andere categorie: Water Selecteer kaart: Waterstand ten opzichte van NAP

Zoek locatie: Adressen Griffioenlaan 2 Utrecht Zoek > Link

Postcode, plaatsnaam en/of adres

Kaart > Satelliet >

OpenStreetMap

Legenda

Volg ons op Twitter  
Volg ons op Facebook  
Volg ons op LinkedIn  
Volg ons op Youtube

### Handleiding

Bekijk de Handleiding Kaarten.pdf (178 Kb)

### Weergave

Tabelweergave

### TAW en NAP

Het Belgische referentievlak TAW ligt 2,33 meter lager dan het NAP. Waterstanden weergegeven ten opzichte van TAW zijn dus juist 2,33 meter hoger dan dezelfde standen ten opzichte van NAP.

### Gerelateerde informatie

- > Watergegevens
- > Waterberichten
- > Statistieken en kengetallen
- > Meetgegevens bij Rijkswaterstaat

### Disclaimer

Gebruik van de informatie op deze kaart is voor eigen risico.



# Dataset toevoegen

The screenshot shows a web browser window with the URL `dev.citysdk.waag.org/map#http://localhost:3000/nodes?layer=rws.nap&per_page=1000`. The browser's address bar also shows `http://api.citysdk.waag.org/http://localhost:3000/nodes?layer=rws.nap&per_page=1000`. The page features a navigation bar with links for Home, Read, Write, Match, and Viewer. The main content area displays a map of the Netherlands with numerous red circular markers representing data points. A JSON data panel on the right side of the map shows the following structure:

```
{
  "cdk_id": "rws.nap.zutp",
  "name": "Zutphen noord",
  "node_type": "node",
  "layers": {
    "rws.nap": {
      "data": {
        "waarde": "630",
        "meetijd": "2013-06-04 10:00:00 +0200"
      },
      "validity": [
        "2013-01-01 00:00:00 +0100",
        "2013-11-11 00:00:00 +0100"
      ]
    }
  },
  "layer": "rws.nap"
}
```

At the bottom of the map panel, it indicates "Map center: 52.0879, 6.0699" and "Powered by Leaflet - Map data © OpenStreetMap contributors".



# Datasets in CitySDK

- OpenStreetMap
- Arts Holland
- DIVV
  - Parkeergarages & -tarieven
  - Verkeersdoorstroming
  - Wegwerkzaamheden
- CBS
- GTFS
  - (Realtime) dienstregeling
  - Haltes
- BAG
  - Gebouwen
  - Adressen
  - Postcodegebieden





# Rijksmonumenten!



Map Viewer | CitySDK API

dev.citysdk.waag.org/map#nodes?layer=rce.rijksmonumenten,bag.vbo,amsterdam.hotels

Home What? Apps API Viewer

http://api.citysdk.waag.org/nodes?layer=rce.rijksmonumenten,bag.vbo,amsterdam.hotels

```
{
  "cdk_id": "bag.vbo.363010000566685",
  "name": "1017ad104",
  "node_type": "node",
  "layers": {
    "rce.rijksmonumenten": {
      "data": {
        "naam": "Pand met ingezwenkte halsgevel",
        "categorie": "Gebouwen, woonhuizen",
        "image url": "http://upload.wikimedia.org/wikipedia/commons/thumb/_Amstel_104.JPG/800px-Amsterdam_-_Amstel_104.JPG",
        "omschrijving": "Pand met ingezwenkte halsgevel (XVIIIC).\n",
        "monumentnummer": "201"
      }
    },
    "amsterdam.hotels": {
      "data": {
        "beds": "24",
        "name": "Amstelzicht Hotel",
        "town": "Amsterdam",
        "wijk": "A",
        "rooms": "12",
        "stars": "3",
        "number": "104",
        "street": "Amstel",
        "camping": "",
        "quarter": "A",
        "postcode": "1017AD",
        "buurt2005": "A03e",
        "buurt2010": "A03e",
        "municipality": "Amsterdam"
      }
    },
    "bag.vbo": {
      "data": {
        "adres": "Amstel 104",
        "plaats": "Amsterdam",
        "vbo id": "363010000566685",
        "pand_ids": "363100012178954",
        "postcode": "1017AD",
        "oppervlakte": "566",
        "gebruiksdoel": "logiesfunctie",
        "postcode_huisnummer": "1017ad104"
      }
    }
  }
}
```

Map center: 52.3700, 4.9045

Powered by Leaflet - Map data © OpenStreetMap contributors



# Beeldbank



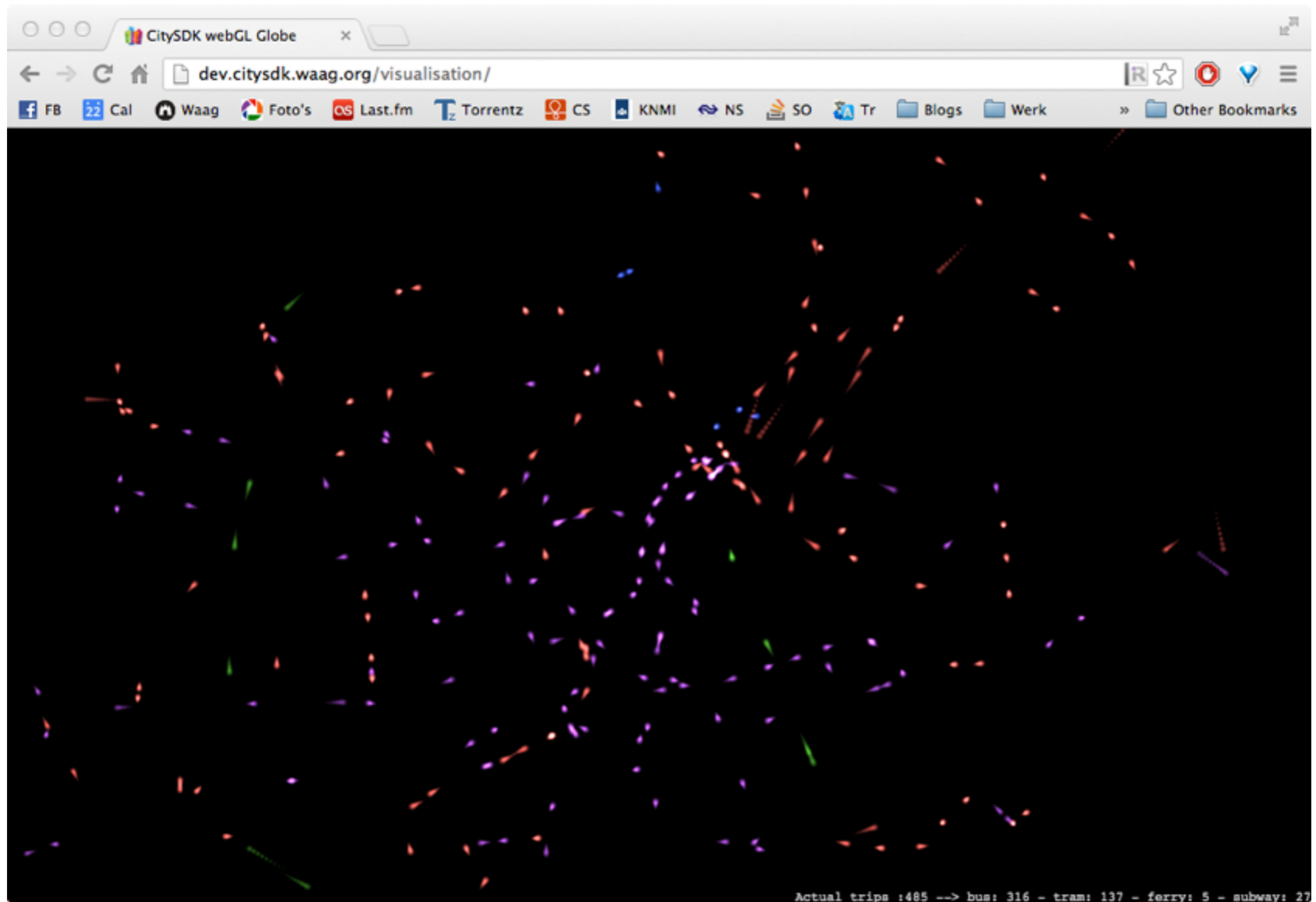


# Visualizing CitySDK

## CitySDK Visualisation



# Visualizing CitySDK



# Dank!

**Bert Spaan**  
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<http://dev.citysdk.waag.org/>



**waag society**

*institute for art, science and technology*