

# CitySDK

## *Uniform Development Toolkit for City Services*

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# City Service Development Kit



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# What is SDK?

SDK = Service Development Kit



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apps & games  
WINDOWS PHONE & XBOX 360



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Windows Phone  
Camp!



## Get the Windows Phone SDK 7.1 RTW Now!

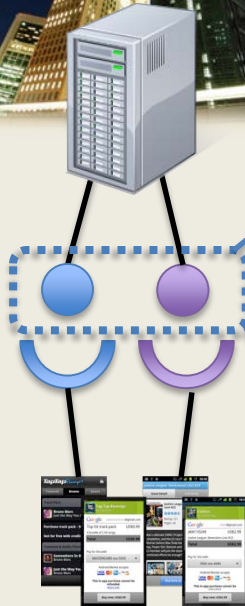
Now's the time to create or update  
apps for Windows Phone 7.5



12:38

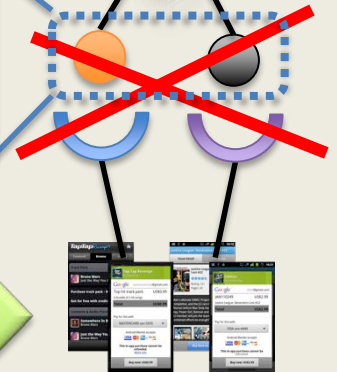
2

# Problem: Lack of Interoperability



## Formats and APIs vary between cities

- 'Open' interfaces to existing systems are not uniform even within cities
- Documentation is lacking as well



Scaling an app from one city to another =



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# Solution: CityAPIs



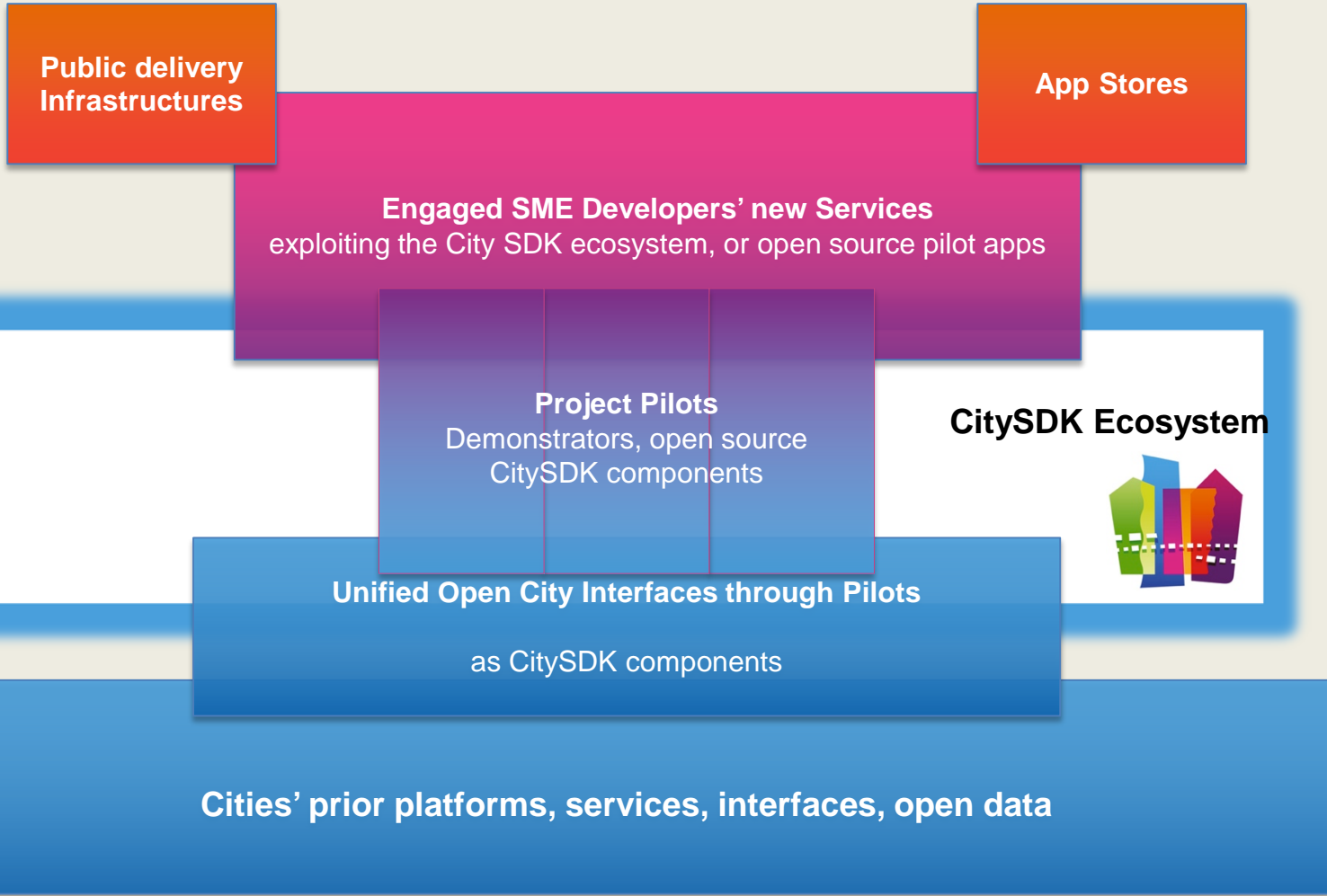
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# CitySDK Ecosystem



**CitySDK**



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# CitySDK coverage



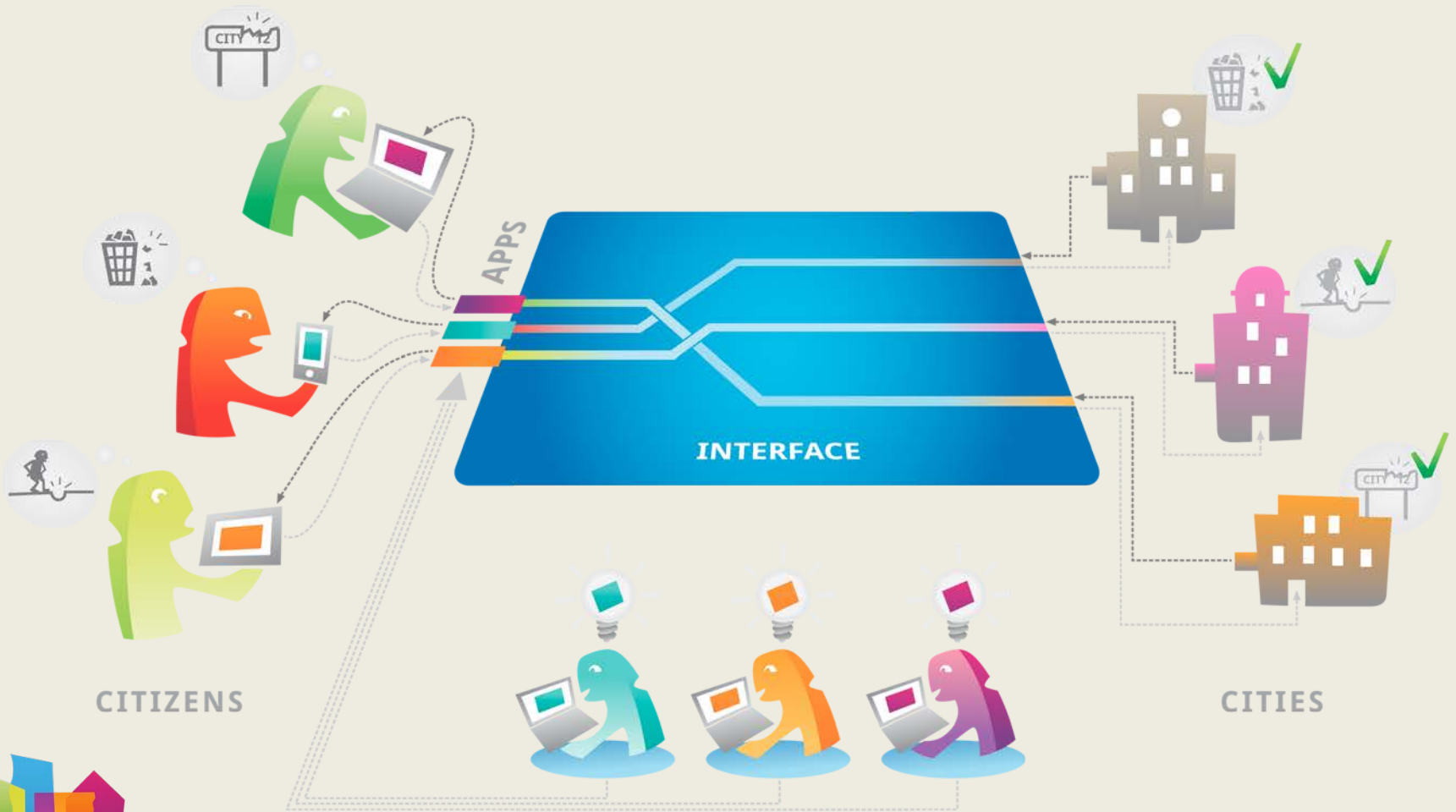
The Lead Pilots  
are replicated in  
other CitySDK  
Partner cities

2012 Preparation stage

01/2013 Lead Pilots

06/2013 Replication Pilots

# 1. Smart Participation



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DEVELOPERS



# Applications using Participation API

**Pitäiskö fiksata** (Should this be fixed):  
[metro.fi/fiksaus](http://metro.fi/fiksaus)

**PITÄISKÖ FIKSATA**

**Työn alla juuri nyt!**

Alla olevista linkeistä löydät tietoa Helsingin kaupungin silvouttoimista keväällä 2012.

- [Kivien 2012 katusuodatus](#)
- [Liity puistokummeihin!](#)
- [Järjestä kevätseurustalkoot!](#)

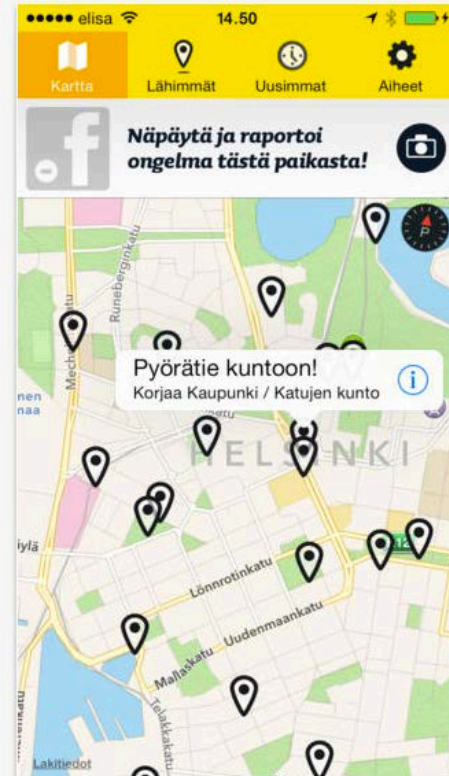
**Uusimmat** | Ilkivalta | Roskaaminen | **Katujen kunto** | Liikenne | Muu epäkohta

**Pyäkinlaist rikottu**

**Riisat rokasäkät**

**Lataa ...**

Powered by Grafatee



**Korjaa Kaupunki** (Fix the City):  
<http://korjaakaupunki.fi/>

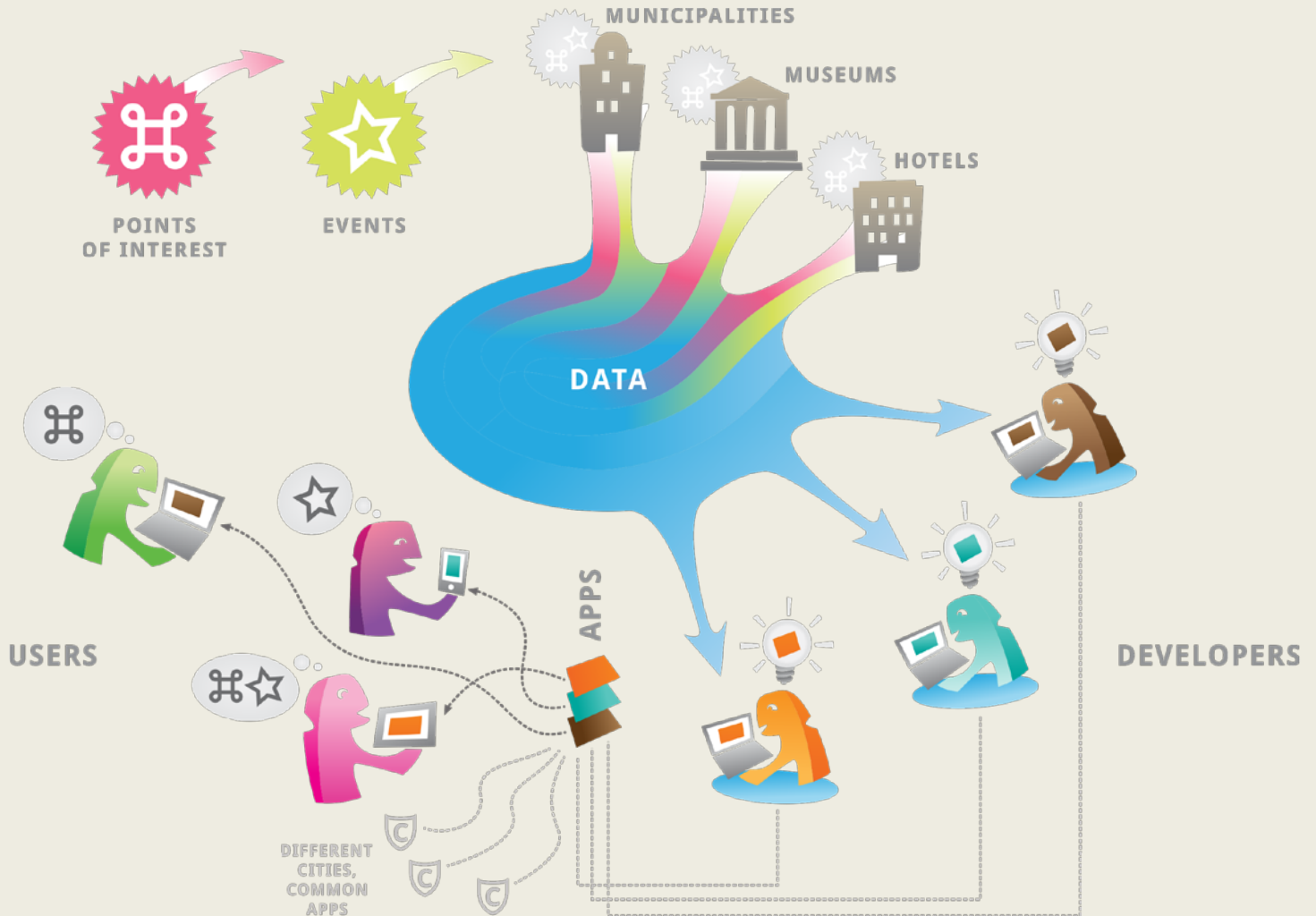


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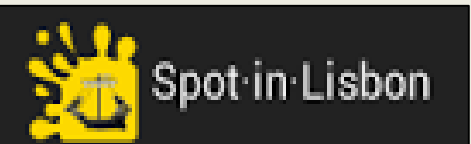
# 2. Tourism



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# Applications using Tourism API



**Spot-in-Helsinki**

SPOTS (26)    EVENTS (32)    SEARCH

**Radio Symphony Orchestra**

May 08 2013    Helsinki Music Centre  
 19:00    Music

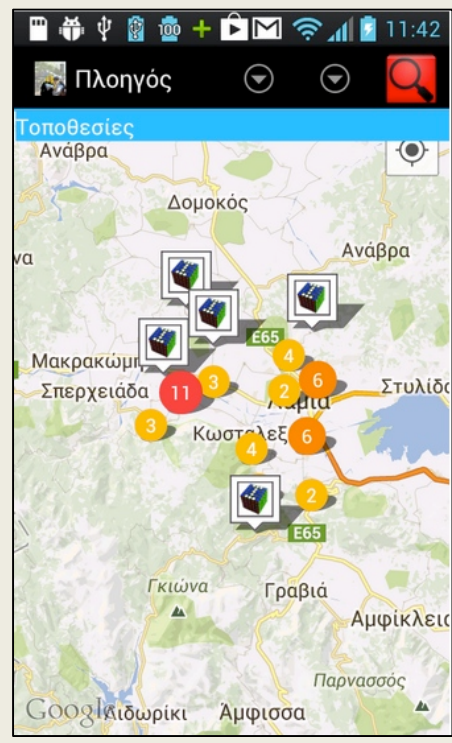
Concert, cond. Hannu Lintu, Nikolai Lugansky, piano (Stravinsky, Chopin, Sibelius).  
[www.yle.fi/rso](http://www.yle.fi/rso)

**Nijinsky-Elo-Inqer**

May 08 2013    Finnish National Opera  
 19:00    Culture

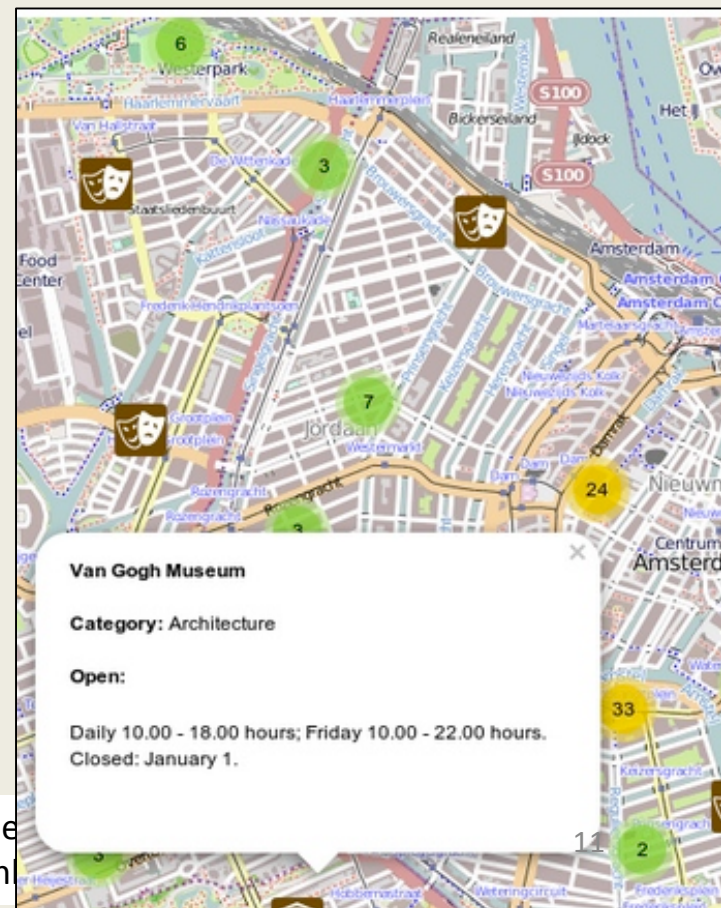
This triple bill from the spring brings together three highly popular productions in a new combination. Tonight we will be touched by dance three times over.  
[www.operafin.fi](http://www.operafin.fi)

**Rock The Ballet**



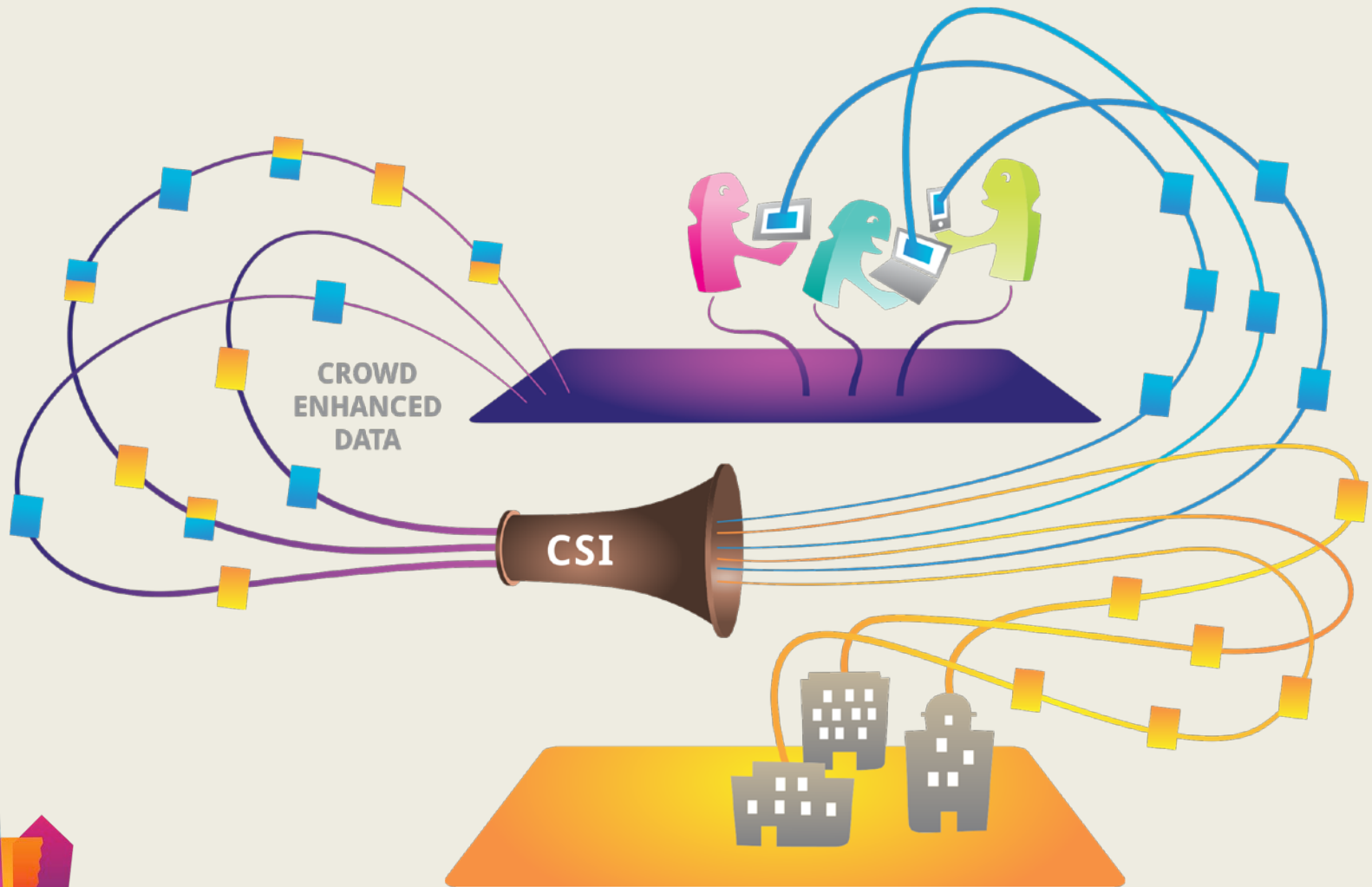
**Lamia Tour Guide:**  
<https://play.google.com/store/apps/details?id=com.smarts.tourguide>

**POIs and Events in Amsterdam:**  
<http://citysdk.dmci.hva.nl/map/>



**Spot in Lisbon:** <https://play.google.com/store/apps/details?id=in.spotinlis&hl=en>  
**Spot in Helsinki:** <https://play.google.com/store/apps/details?id=in.spotinhki&hl=en>

# 3. Smart Mobility



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# Smart Mobility

- services on **real-time traffic data** from **multiple sources**
- Results: **open source travel assistant application**,
- **several harmonized cities' backend systems**,
- **cluster of SME developers working on value-added services for Smart Mobility**



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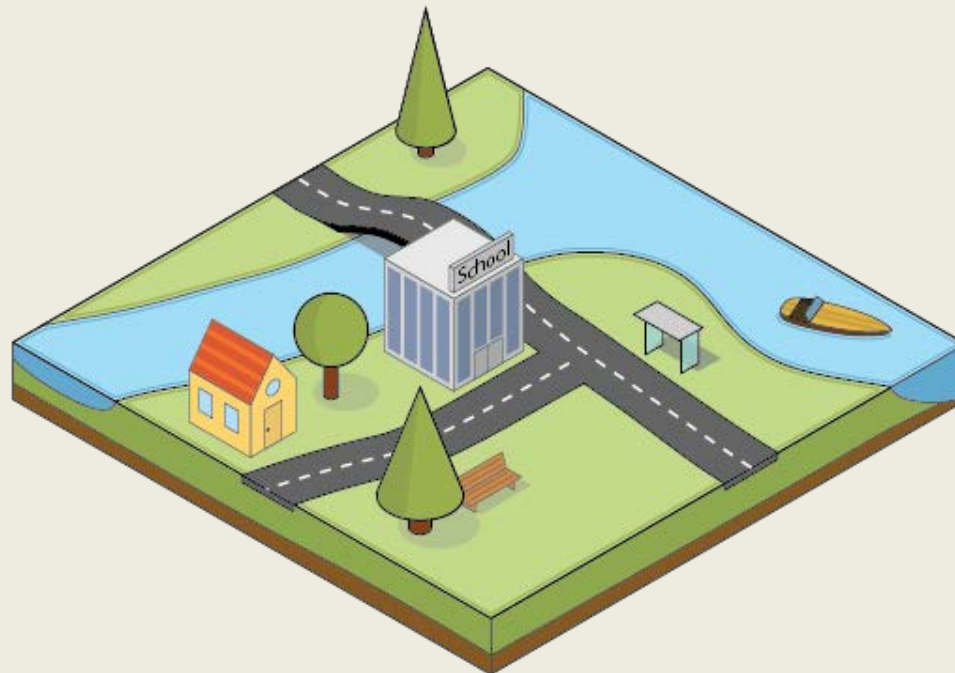


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# Multimodal World

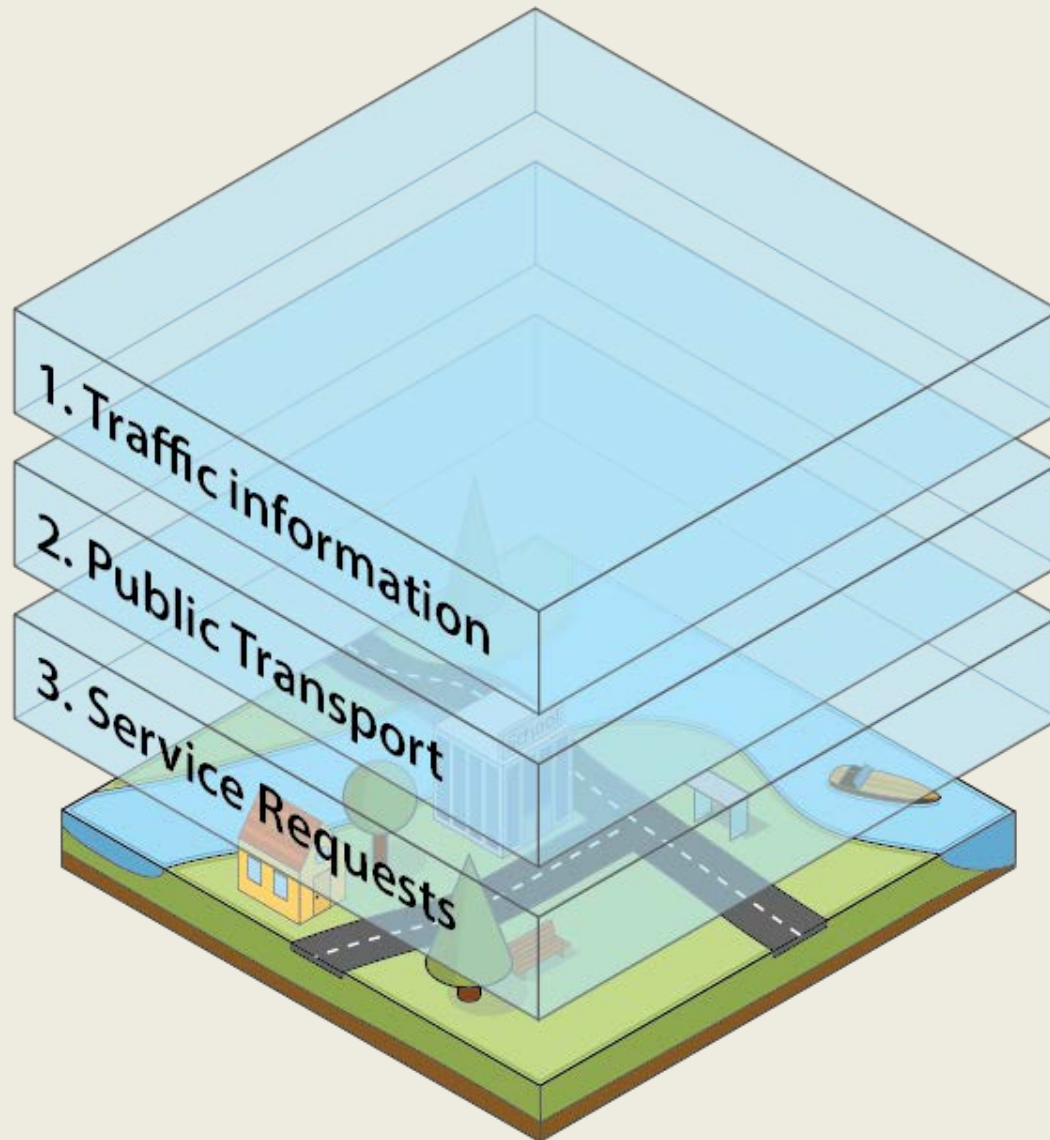




**City Service Development Kit**



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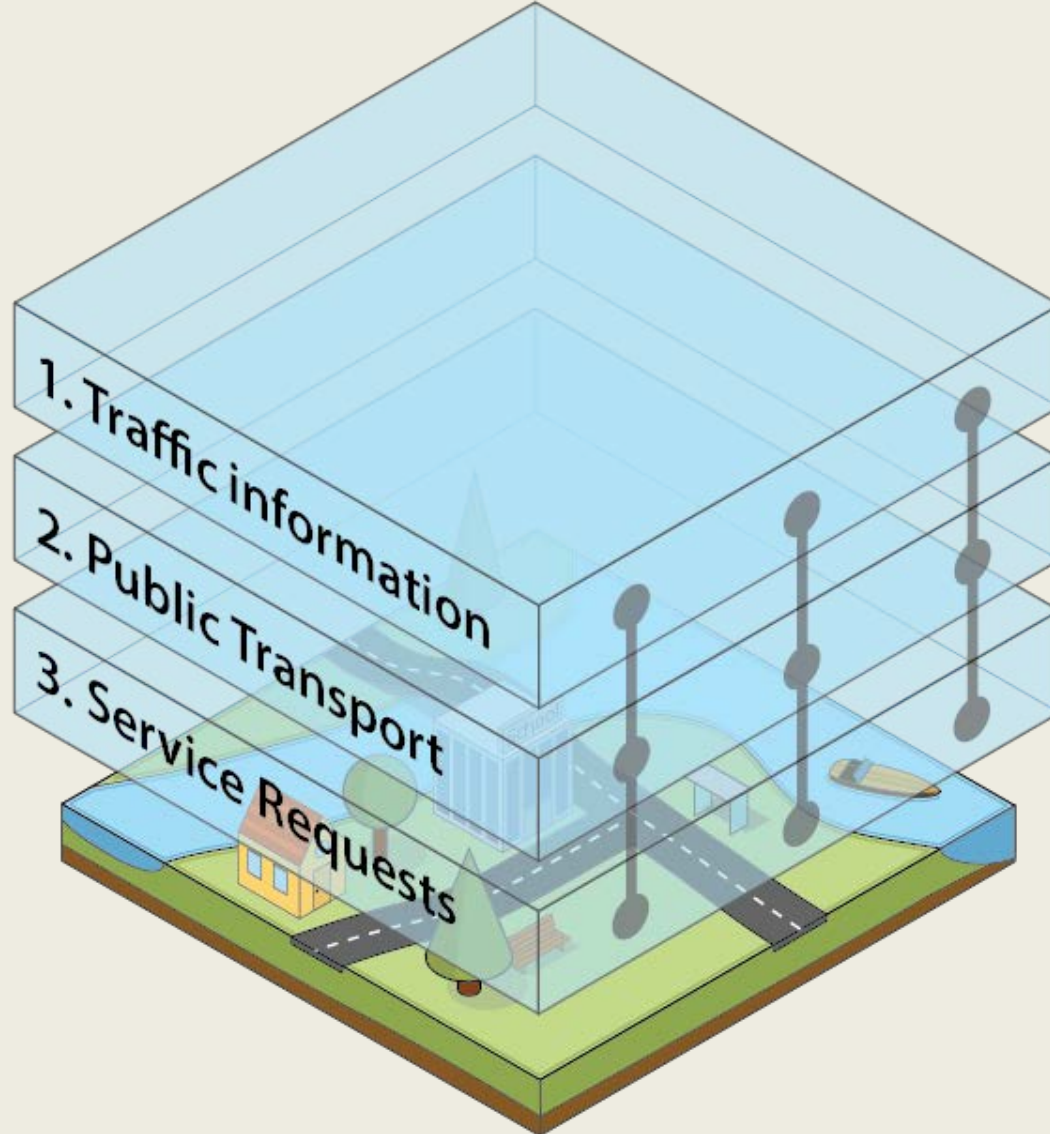


City Service Development Kit



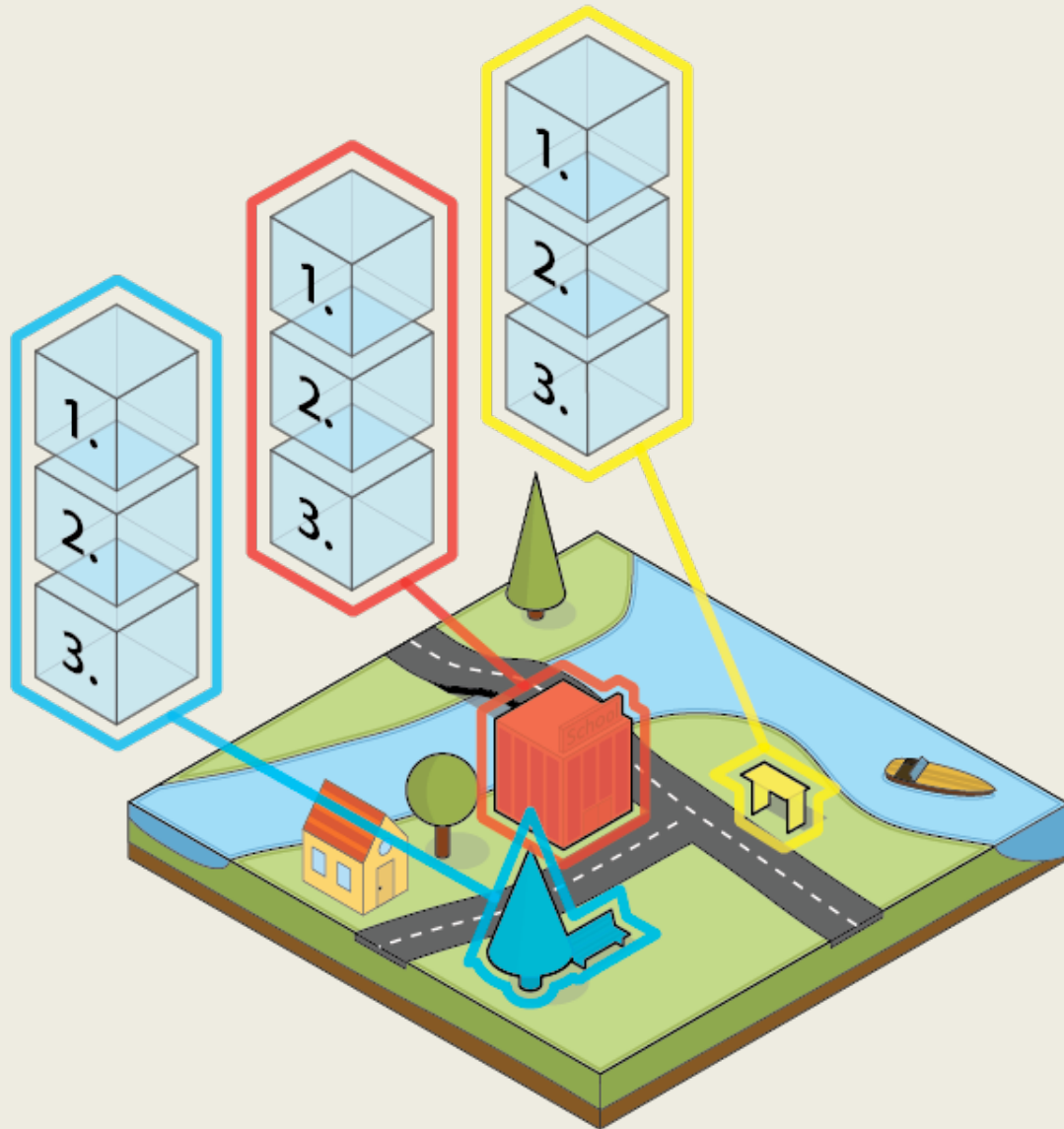
Co-funded by the  
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**City Service Development Kit**

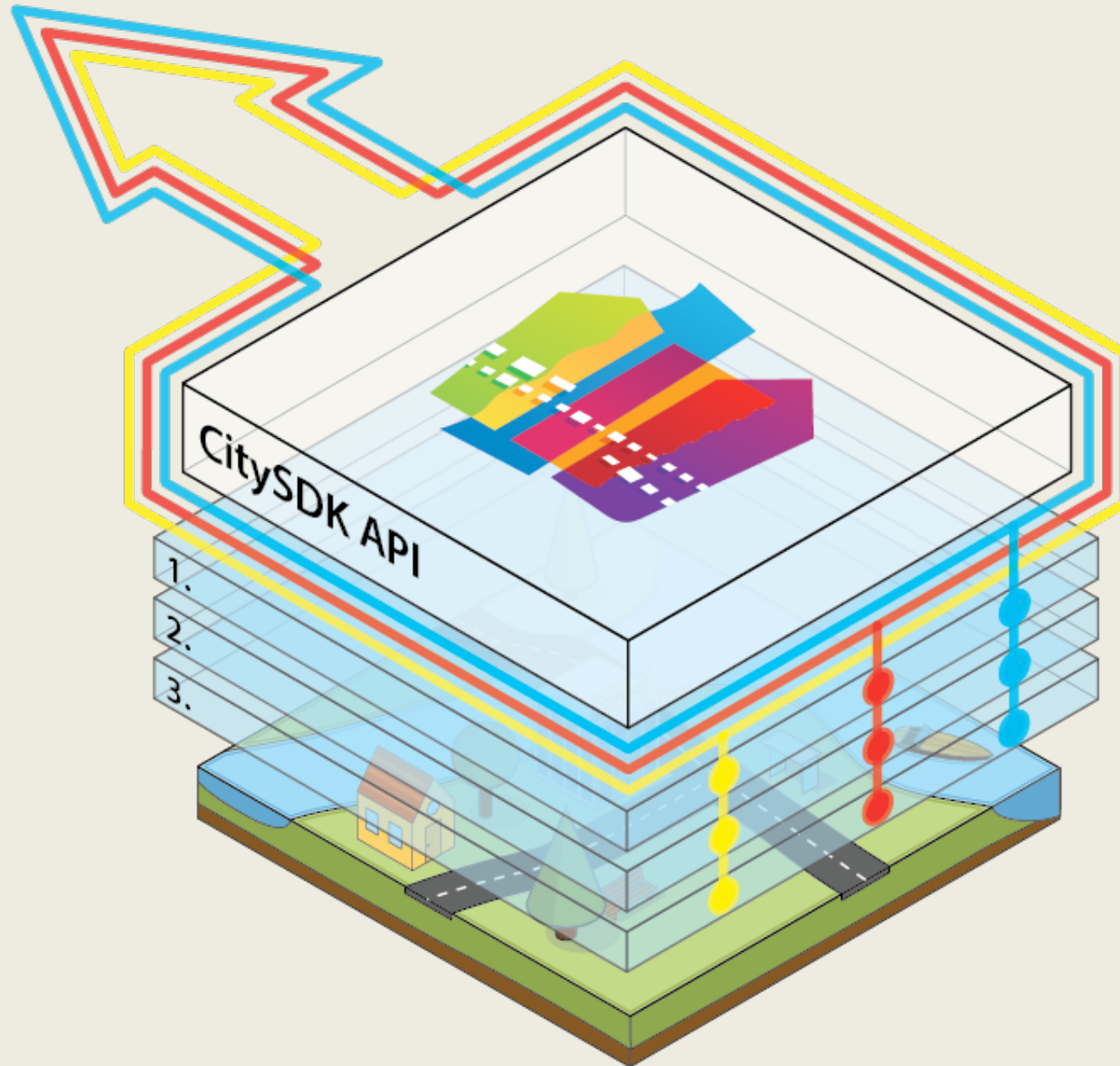




City Service Development Kit



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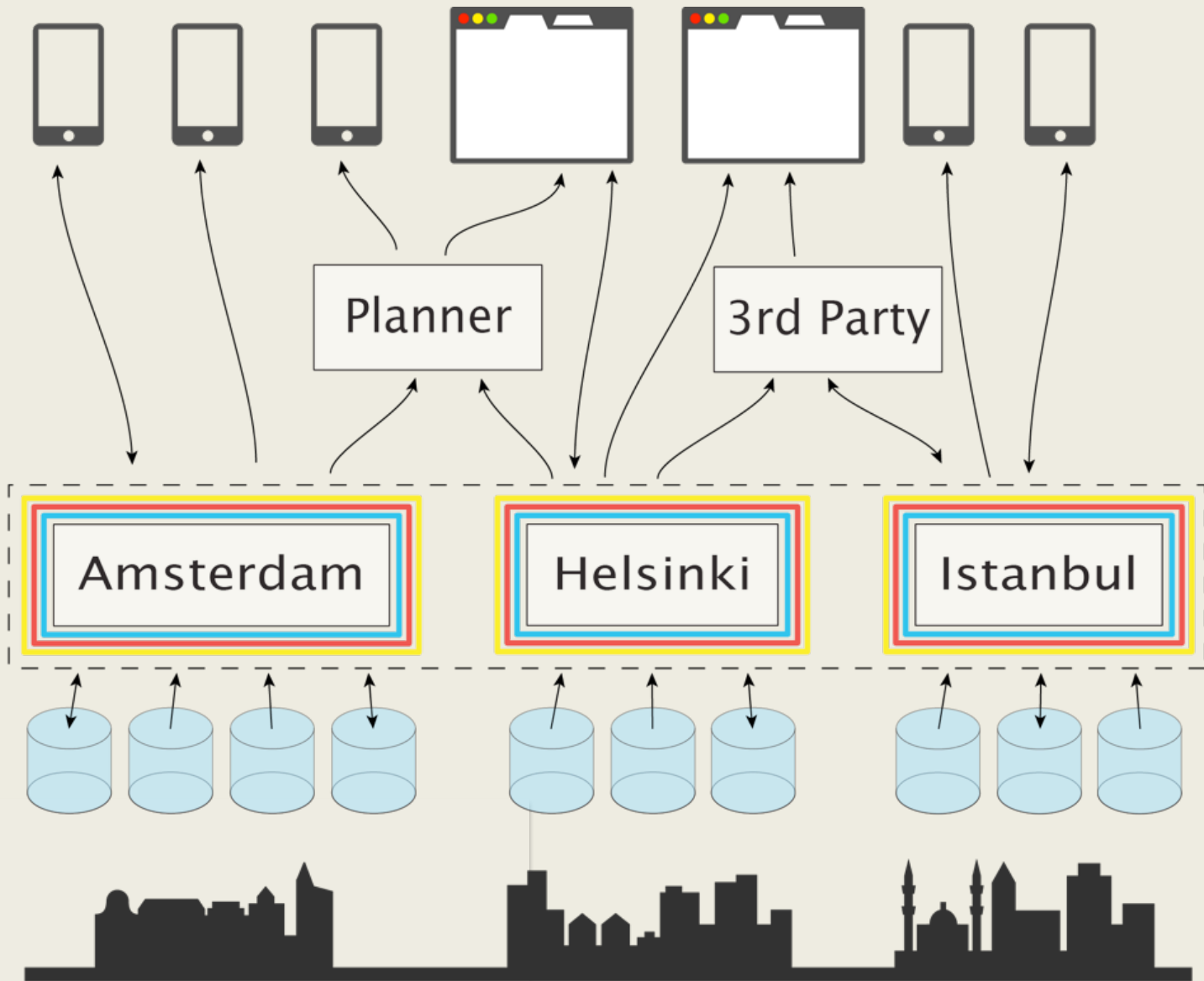


**City Service Development Kit**



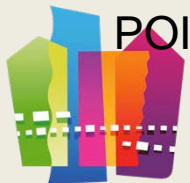
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# LD Architecture



# 5 ★ LOD - 60+ data sets - 60+ mln. data points

	<u>Amsterdam</u>	<u>Netherlands</u>	<u>Helsinki</u>	<u>Istanbul</u>	<u>Lamia</u>	<u>Manchester</u>	<u>Rome</u>
Open Street Map	●	●	●	●	●	●	●
PT	●	●	●	●	●	●	(●)
RT trafic	●	●					(●)
Statistics	●	●					
Kadaster	●	●	(●)				
Parking	●			●			
Electricity	●	●					
POI	●	●	●	●	(●)	●	●



# CitySDK Linked Open Data Distribution API



[Home](#) [About](#) [FAQ](#) [Apps](#) [Data](#) [API](#) [Read](#) [Write](#) [Match](#) [Map viewer](#)

## About CitySDK Linked Open Data Distribution API

The CitySDK Linked Open Data Distribution API is a linked data distribution platform. Developed by Waag Society, the distribution API is a component of the [CitySDK toolkit](#). This toolkit supports the development of open and interoperable interfaces for open data and city services in eight European cities (Amsterdam, Helsinki, Manchester, Lisbon, Istanbul, Lamia, Rome and Barcelona). The CitySDK Linked Open Data Distribution API enables the distribution and linking of open data sets and city services. This website explains the distribution API. For a comprehensive overview of the complete CitySDK toolkit have a look at the [CitySDK project homepage](#).

## Benefits

1. CitySDK Linked Open Data Distribution API is a one-stop-shop for developers. With standardized interfaces, developers can build better apps and services for end users and governments.
2. *Moveable code* – developers can use the same interface for open data, in Amsterdam, Helsinki and Istanbul alike.
3. The API enables the *Read/Write City*: per layer, data can be added to objects the city, using URIs.
4. Data exchange between citizens and the city will become open, more efficient and more transparent data.
5. The API enables innovation for businesses, media and citizens, and Manages the constant technological change: adding new datasets and services is made easy.

## Links

- › [CitySDK project site](#)
- › [CitySDK Linked Open Data Distribution API endpoint](#)
- › [Visualization of CitySDK Mobility data](#)
- › [Map with building and address data](#)
- › [Additional APIs in the CitySDK toolkit](#)

Most important data sources currently available:

- › Public transport, schedules and real-time – GTFS, [openOV](#)
- › Amsterdam infrastructure and transportation data – [DIVV](#)
- › Dutch addresses and buildings – [BAG](#)
- › [OpenStreetMap](#) data.
- › More information about available data sets on the [data page](#), via the [/layers](#) API or in the [CMS](#).

## API examples

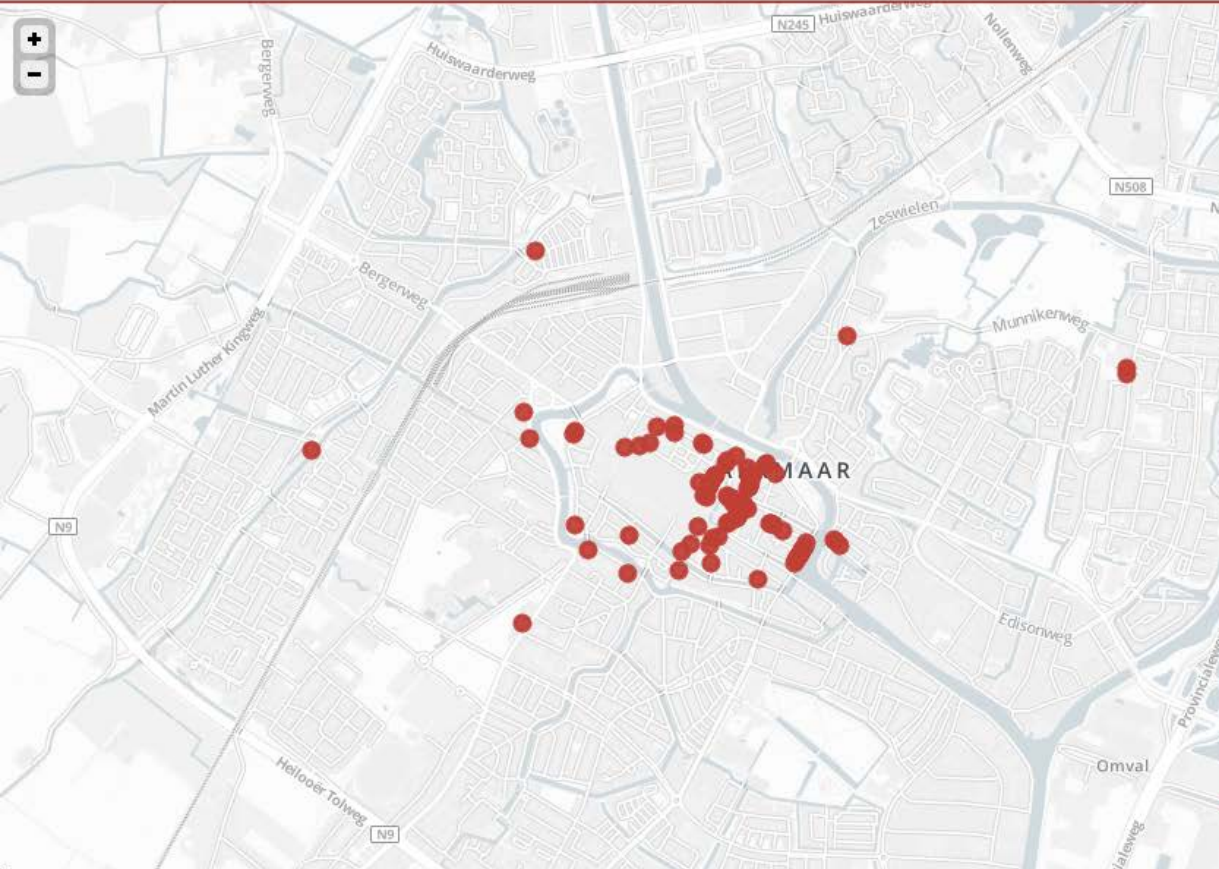
- › [Statistical data of all neighbourhoods in Zwolle](#)
- › [Rain forecast per neighbourhood in Groningen](#)

# CitySDK Linked Open Data Distribution API



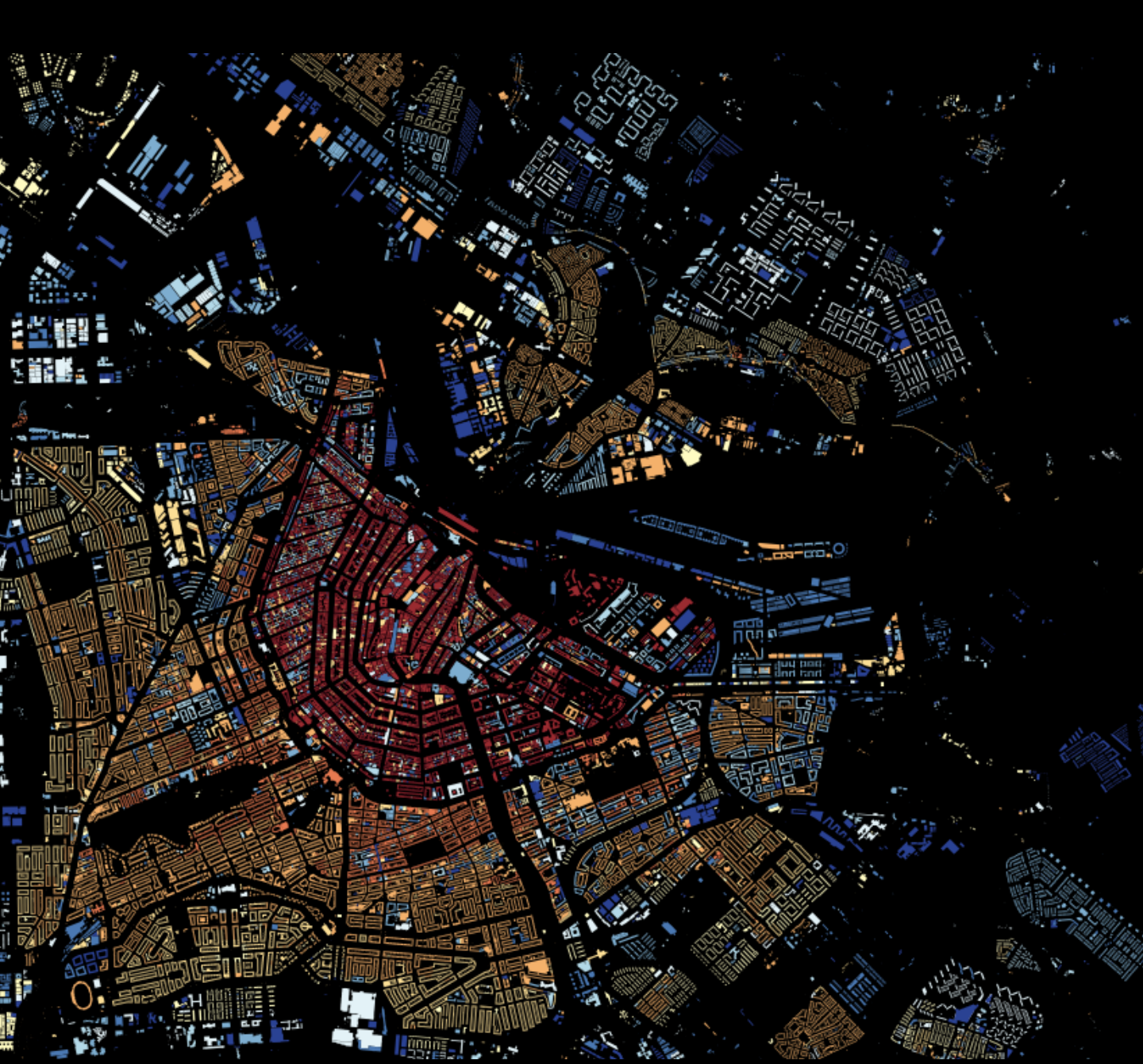
[Home](#) [About](#) [FAQ](#) [Apps](#) [Data](#) [API](#) [Read](#) [Write](#) [Match](#) [Map viewer](#)

<http://api.citysdk.waag.org/admr.nl.alkmaar/nodes?layer=rce.rijksmonumenten>



```
{
  "status": "success",
  "url":
  "http://api.citysdk.waag.org/admr.nl.alkmaar/nodes?layer=rce.rijksmonumenten&geom&per_page=100",
  "pages": "not counted.",
  "per_page": 100,
  "record_count": "not counted.",
  "next_page": 2,
  "results": [
    {
      "cdk_id": "bag.vbo.361010000000298",
      "name": "1811md7",
      "node_type": "node",
      "layers": {
        "rce.rijksmonumenten": {
          "data": {
            "naam": "Pand met onbelangrijke
            gevel aan de achterdam",
            "categorie": "Gebouwen,
            woonhuizen",
            "omschrijving": "Pand met
            onbelangrijke gevel aan de Achterdam. Aan de
            achterzijde afgeknotte tuitgevel met
            vlechtingen, oprijzend uit het water van de
            Kooltuin. Houten puibalk, bakstenen lijsten,
            negenruitsschuifvensters. Afgewolfd zadeldak.
            XVIII-XIX.\n",
            "monumentnummer": "7137"
          }
        }
      },
      "layer": "bag.vbo"
    }
  ],
  "Map center: 52.6331, 4.7644"
```

Powered by Leaflet - Map data © OpenStreetMap contributors






## ~ Info ~

All 9,866,539 [buildings](#) in the Netherlands, shaded according to year of construction. Data from [BAG](#), via [CitySDK](#). Map made with [TileMill](#) by [Bert Spaan](#), [Waaq Society](#), inspired by [BKLYNR](#).

If you encounter incorrect building data, don't hesitate to [inform the Kadaster](#).

High-res [prints and images](#) are available!

## ~ Legend ~

	< 1800		1960 - 1975
	1800 - 1850		1975 - 1985
	1850 - 1900		1985 - 1995
	1900 - 1930		1995 - 2005
	1930 - 1945		> 2005
	1945 - 1960		

## ~ Data ~

**City** (click on building for data)

Name:

Population:

Area:

**Building**

Constructed:

Address:

Area:

Function:





# OpenData Globe

## ▼ Live public transport

- Amsterdam
  - tram
  - bus
  - subway
  - ferry
- Utrecht
- Den Haag
- Rotterdam
- Tampere
- Helsinki
- Manchester
- Istanbul
- Lamia

## ▼ Realtime traffic flow

- Amsterdam

## ▶ Arts Holland

## ▶ Public transport (static)

## ▶ Census data

## ▼ Settings

- Toggle 2D-3D projection

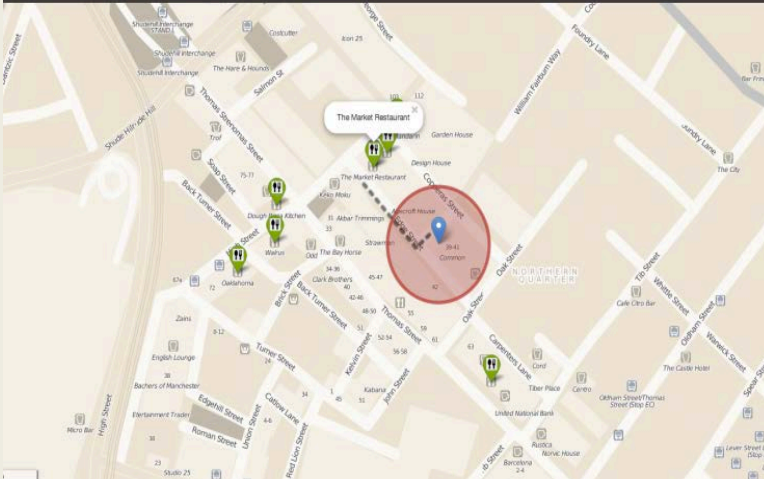
## ▶ About CitySDK

Waag society © 2013

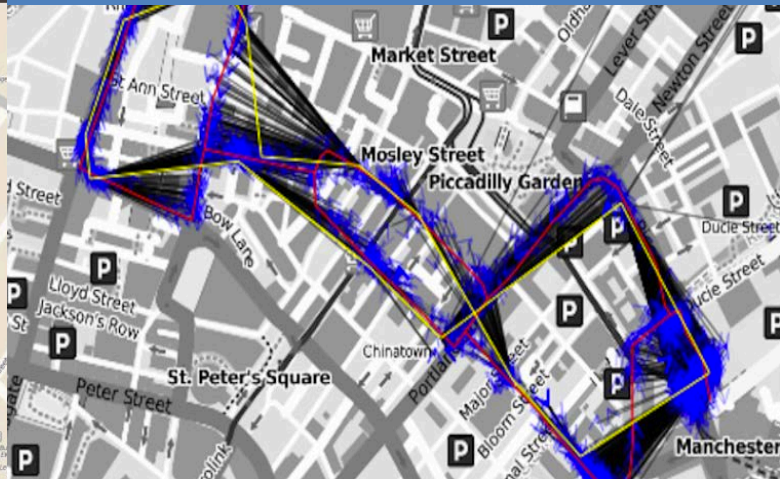


Actual trips

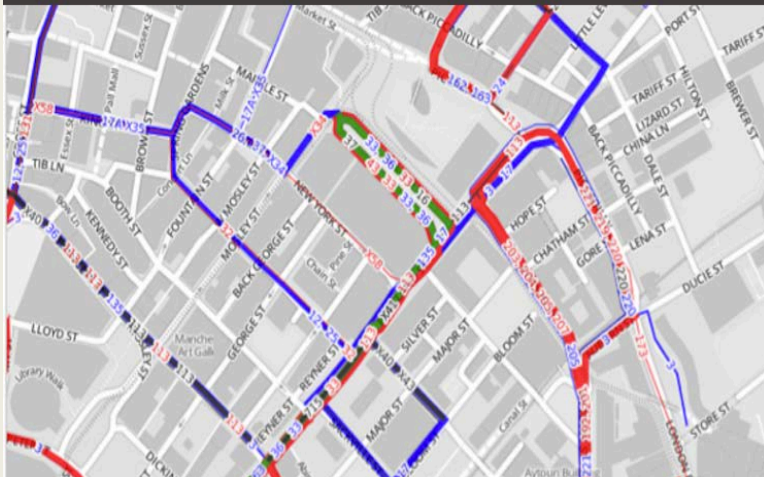
### City Navigator



### Greater Manchester Real Time Scheduling



### Who Runs That Bus?



### Pac-MANchester



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Go to the **GLIMWORM APPS** page to see all of our apps

## Other apps by Glimworm

Park Shark Amsterdam is a Glimworm IT BV App powered by the Park Shark API winner Apps for Amsterdam 2012 For more information about Glimworm visit our [website](#)



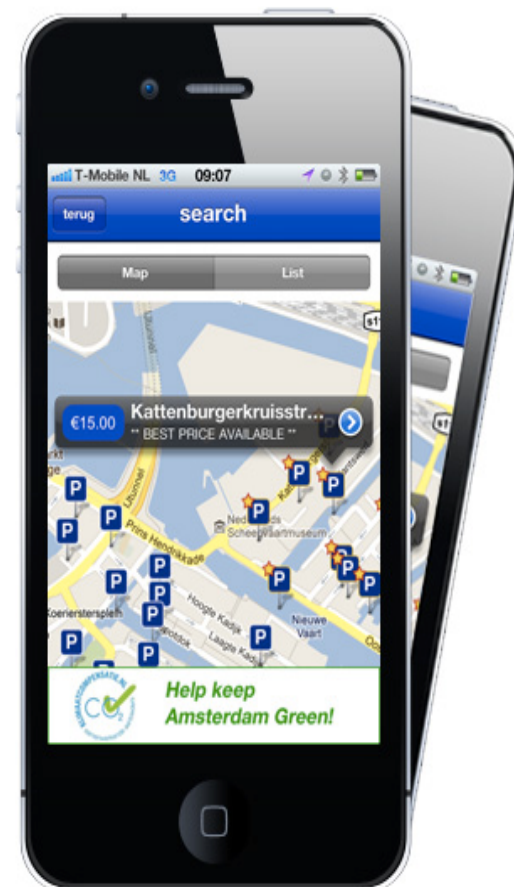
## Get the button!

Powered by the Park Shark API- Put the button on your contact page to help your visitors find the cheapest place to park near you.



## How ParkShark works:

- ✓ Find the nearest parking meters in Amsterdam
- ✓ Filter search results based on:
  - Payment method
  - Location
  - Duration of parking
  - Date & time of parking
- ✓ Calculate the cheapest parking near the desired location.
- ✓ FREE



Gratis download voor de iPhone

# City Dashboard

## Amsterdam



map



graph



menu

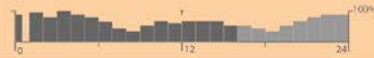
### Transport



Avg speed 23 km/u (63 %)  
 Parking 7635 (87 %)  
 Blocks 12



Total 56 of 64 lines  
 on time 89 %  
 avg delay 185 sec



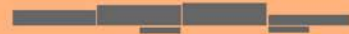
### € Economy



New 8 companys  
 Lifted 1  
 Total 4006



AEX 389 +0.03%  
 AMX 344 -3.06%  
 € / \$ 1.36 +3.06%



### Environment



temp 14.5 °C  
 humm. 92.2 %  
 Online 26



Na 14.5  
 CO 45.2  
 O2 26



smog



### Tourism



Checked in 1254  
 Checked out 703  
 avg 87 %



# CitySDK Factsheet

Co-funding: CIP ICT-PSP  
Total budget: 6,8 MEUR  
EU-contribution: 3,4 MEUR  
Partners: 23 from 9 countries  
Duration: 01/2012-06/2014

Coordinator: Forum Virium Helsinki  
Marja Mattila  
+358 40 7440067  
[marja.mattila@forumvirium.fi](mailto:marja.mattila@forumvirium.fi)

Comms: Manchester City Council  
Adrian Slatcher  
[A.Slatcher@manchesterdda.com](mailto:A.Slatcher@manchesterdda.com)

## Smart Participation:

Hanna Niemi-Hugaerts, Forum Virium  
[hanna.niemi-hugaerts@forumvirium.fi](mailto:hanna.niemi-hugaerts@forumvirium.fi)

Jaakko Rajaniemi, City of Helsinki  
[jaakko.rajaniemi@hel.fi](mailto:jaakko.rajaniemi@hel.fi)

## Smart Mobility:

Job Spierings, Waag Society  
[job@waag.org](mailto:job@waag.org)

## Smart Tourism:

Nuno Xavier, Lisbon Municipality  
[nuno.xavier@cm-lisboa.pt](mailto:nuno.xavier@cm-lisboa.pt)



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# JOIN US ?

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