



**Gemeente
Amsterdam**

The Amsterdam approach to building a (fast) charging network

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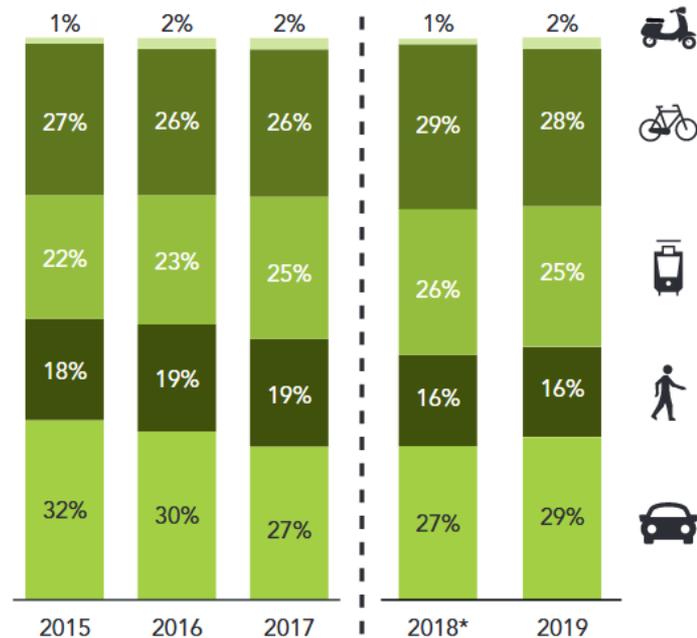




Amsterdam: a brief introduction

Facts and figures

- City, population of ~870.000
- Urban area, population of ~1.6 million
- Number of bikes ~880.000
- Number of private cars ~240.000
- Number of electric private cars ~10.900





Amsterdam: a brief introduction

Commitment to clean air

- Clean Air Action Plan
- -9% CO₂ by 2030

- 2025: taxis, delivery vans, lorries and buses emission-free
- 2030: all urban traffic emission-free

Strategic Plan "Recharge me"





The four strategic lines (1)

Facilitate

- Rollout strategy
- Energy strategy
- Private- and semi-public charging infrastructure
- Public charging infrastructure

Regulate

- Expand current environmental zones and tighten requirements
- Introduction of environmental zone for cars (1 November 2020)
- Introduce zero-emission zone (2025)



The four strategic lines (2)

Stimulate

- Subsidies for various target groups
- Expand privileges for e-drivers (e.g. parking permits)
- Take action in the most highly polluted streets with a package of targeted measures

Communicate

- Public awareness campaigns about clean air and green transportation
- Involve and stimulate business EV market
- City leads by example
- Reach people when they have to make decisions regarding transportation



Where we stand today

Currently...

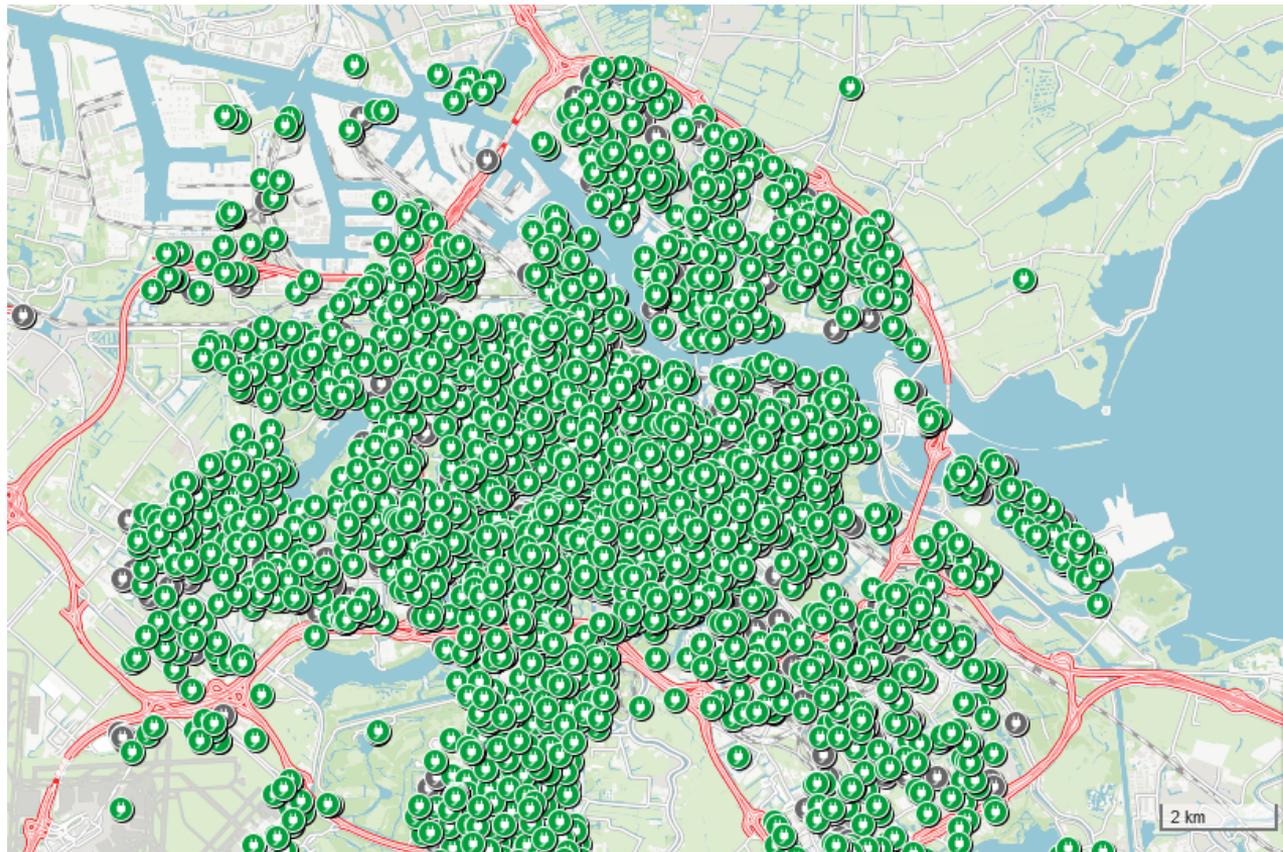
- 32 public fast chargers by the City of Amsterdam
- 24 public fast chargers by commercial parties
- 5.000 regular charging points





Where we stand today

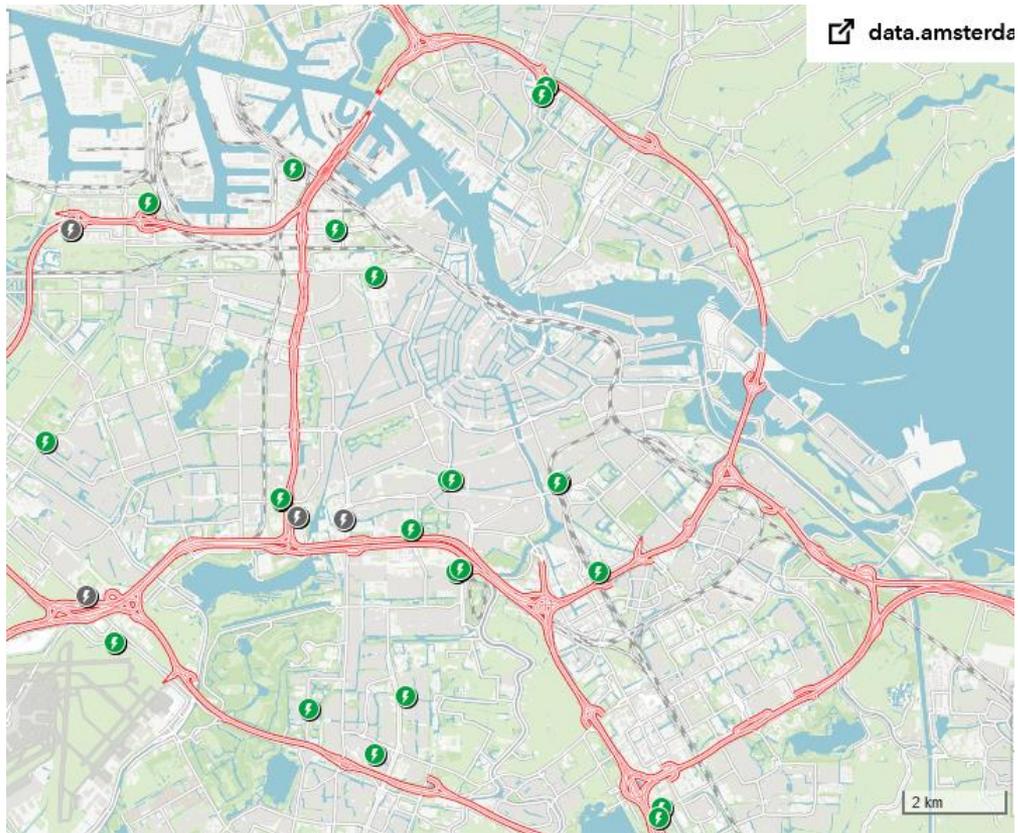
regular charging points





Where we stand today:

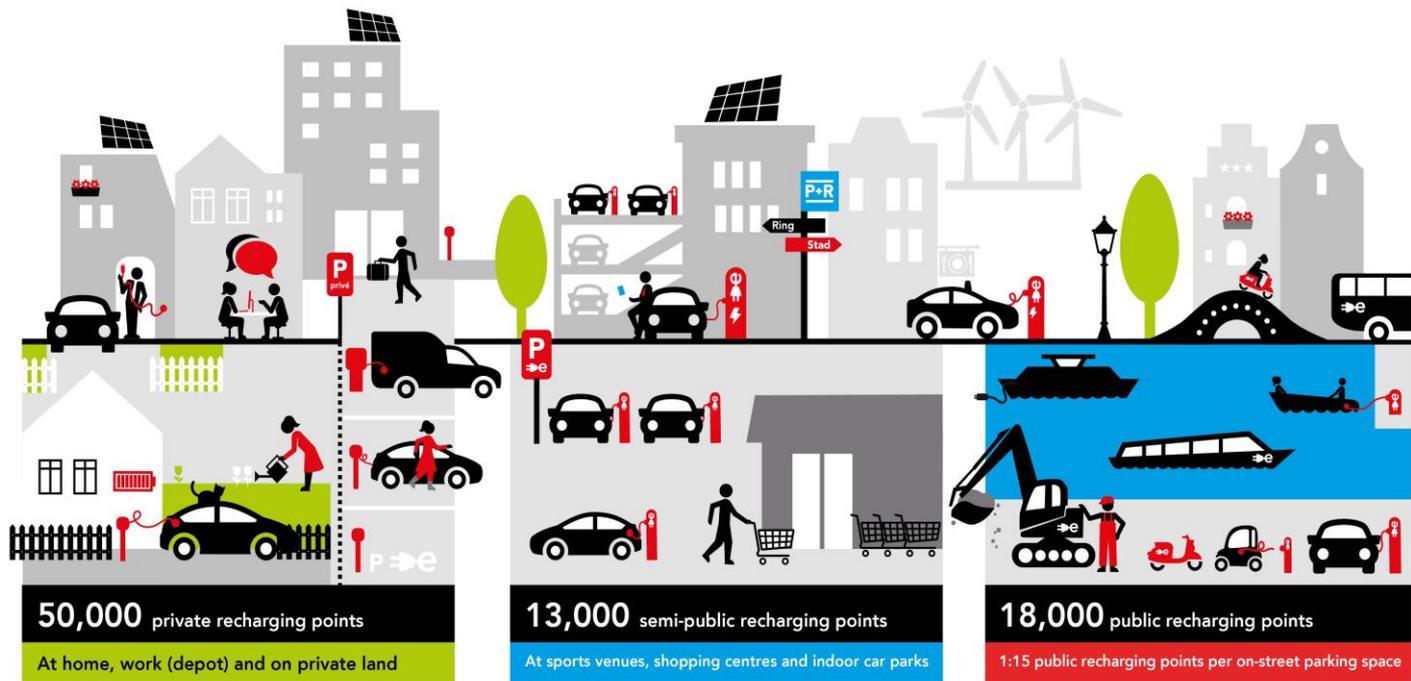
fast charging points





The recharging infrastructure mix in 2030

amsterdam.nl/elektrisch



ONT2020001



Recharging takes place on private land as far as possible



A public recharging infrastructure spread across the district



We facilitate provision of high-power recharging points at strategic locations



Public recharging infrastructure provided on a strategic and data-driven basis



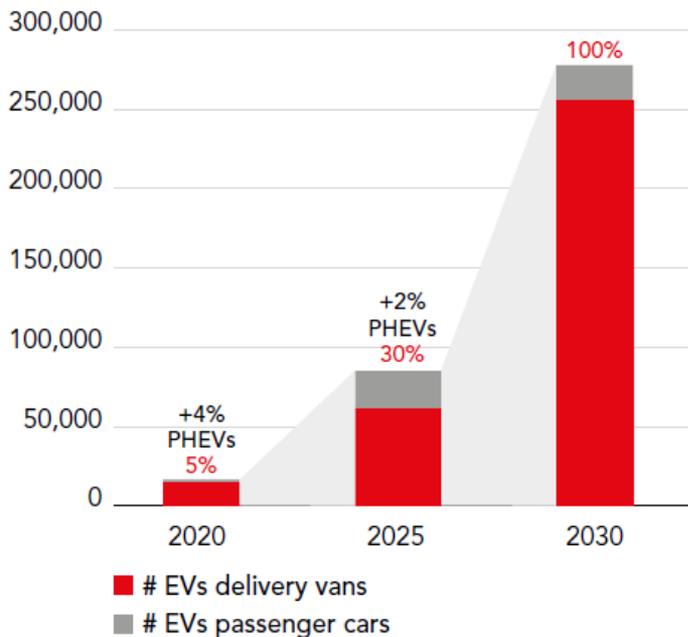
Working together on a city-wide network of hydrogen refuelling stations



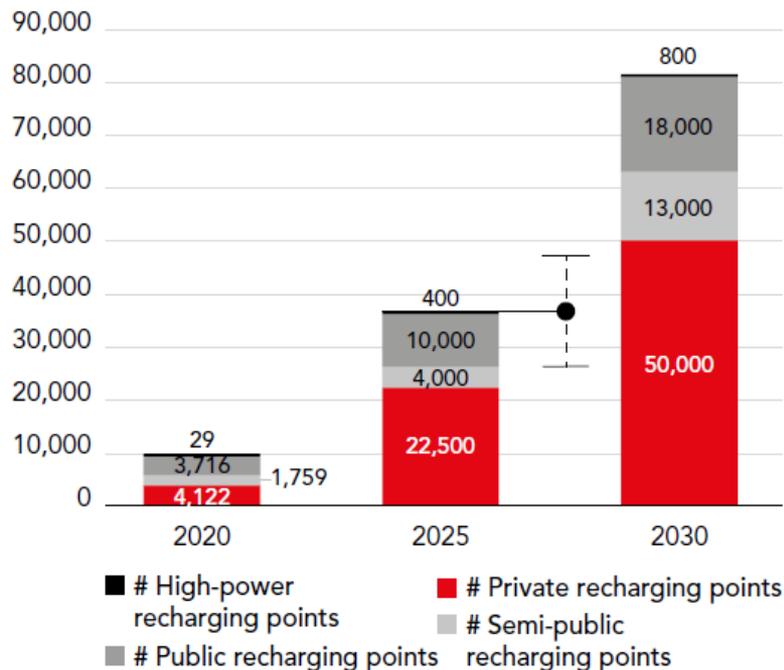
What will we need?

Projections for charging points for cars and vans

Fully electric passenger cars and delivery vans (N1)

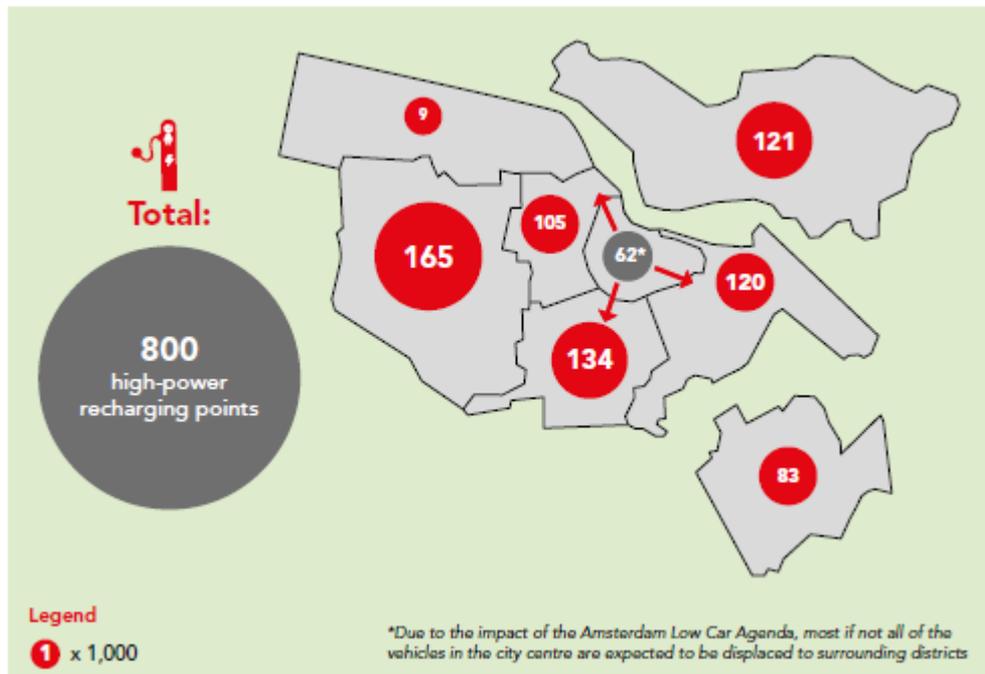


Recharging points



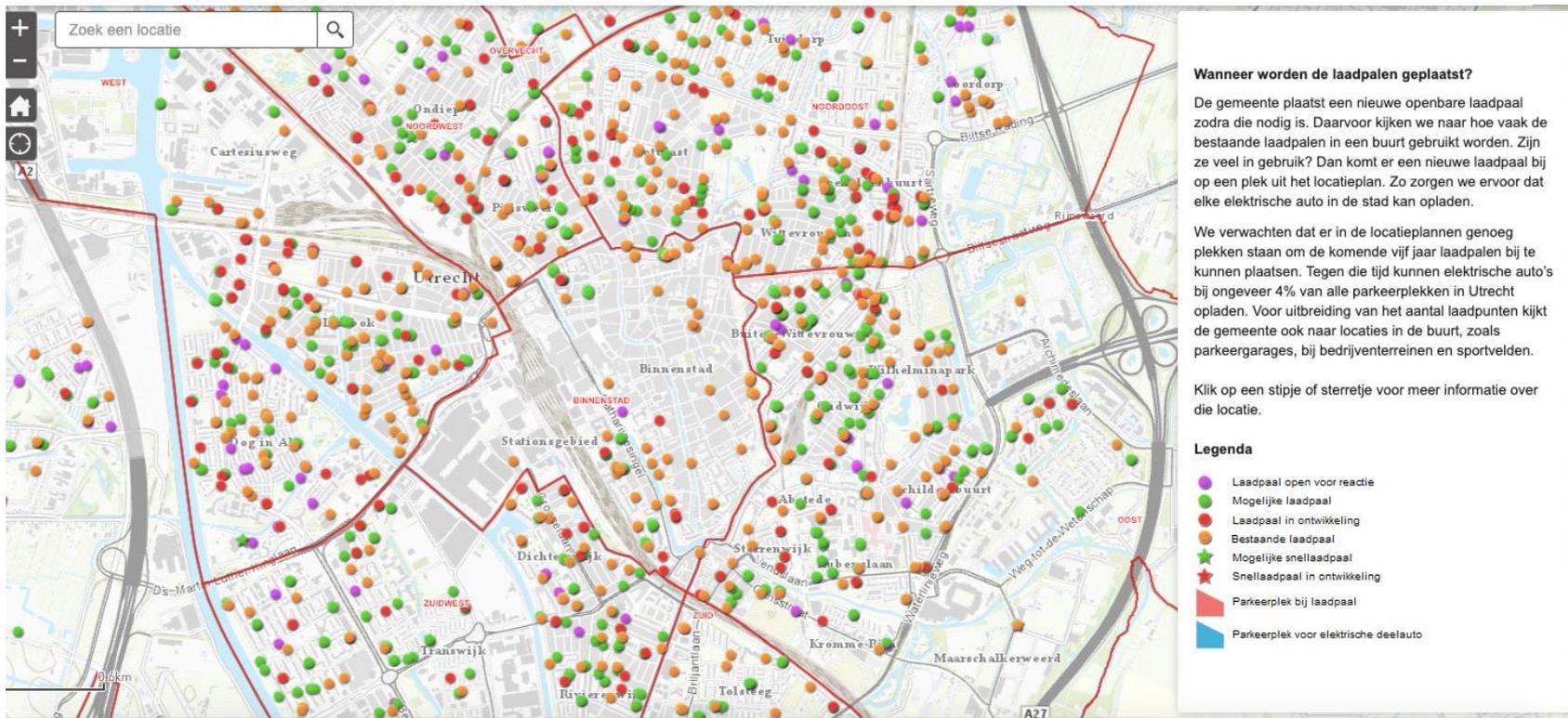
✘✘✘ What will we need?

Projections for fast charging points for cars and vans





Location plans



Wanneer worden de laadpalen geplaatst?

De gemeente plaatst een nieuwe openbare laadpaal zodra die nodig is. Daarvoor kijken we naar hoe vaak de bestaande laadpalen in een buurt gebruikt worden. Zijn ze veel in gebruik? Dan komt er een nieuwe laadpaal bij op een plek uit het locatieplan. Zo zorgen we ervoor dat elke elektrische auto in de stad kan opladen.

We verwachten dat er in de locatieplannen genoeg plekken staan om de komende vijf jaar laadpalen bij te kunnen plaatsen. Tegen die tijd kunnen elektrische auto's bij ongeveer 4% van alle parkeerplekken in Utrecht opladen. Voor uitbreiding van het aantal laadpunten kijkt de gemeente ook naar locaties in de buurt, zoals parkeergarages, bij bedrijventerreinen en sportvelden.

Klik op een stipje of sterretje voor meer informatie over die locatie.

XXX Implementation

Rollout strategy

- Focus on depot chargers (private) and semi-public chargers.
- Focus on fast charging at destinations, not homes/urban streets.
- Leave ultra-fast charging to the market.
- Making it smart:
 - Multi-usage of grid connections
 - Facilitating multiple types of users at fast charging stations
 - Integrating fast charging stations with hubs

XXX Implementation

Energy strategy

- The charging infrastructure facilitates smart charging.
- Close cooperation with grid operator Liander to integrate charging points in the electricity network.
- Renewable generation of all electricity for transport in Amsterdam is a precondition.





Implementation

Private- and semi-public charging infrastructure

- Stimulating the realization of charging infrastructure in private and semi-public parking areas and parking garages
- Use of smart charging and network balancing (V2G and V2X)

Public charging infrastructure

- Strategic placement of charging points on public roads
- Stimulating the realization of charging infrastructure in municipal and public parking areas and parking garages



Wrap up

Lessons learned

- Communication, information and collaboration is key
- Smoothen the placement process
- Follow the user
- Carrot and stick
- "Just do it!"





Wrap up

Challenges for Amsterdam

- High demand for little public space
- Integration into public space, sub surfaces and the energy grid
- Support base for infrastructure roll- out
- Bridging the gap between owner & user
- Numbers and diversity of charging infrastructure
- Vehicle owners' behaviour



