

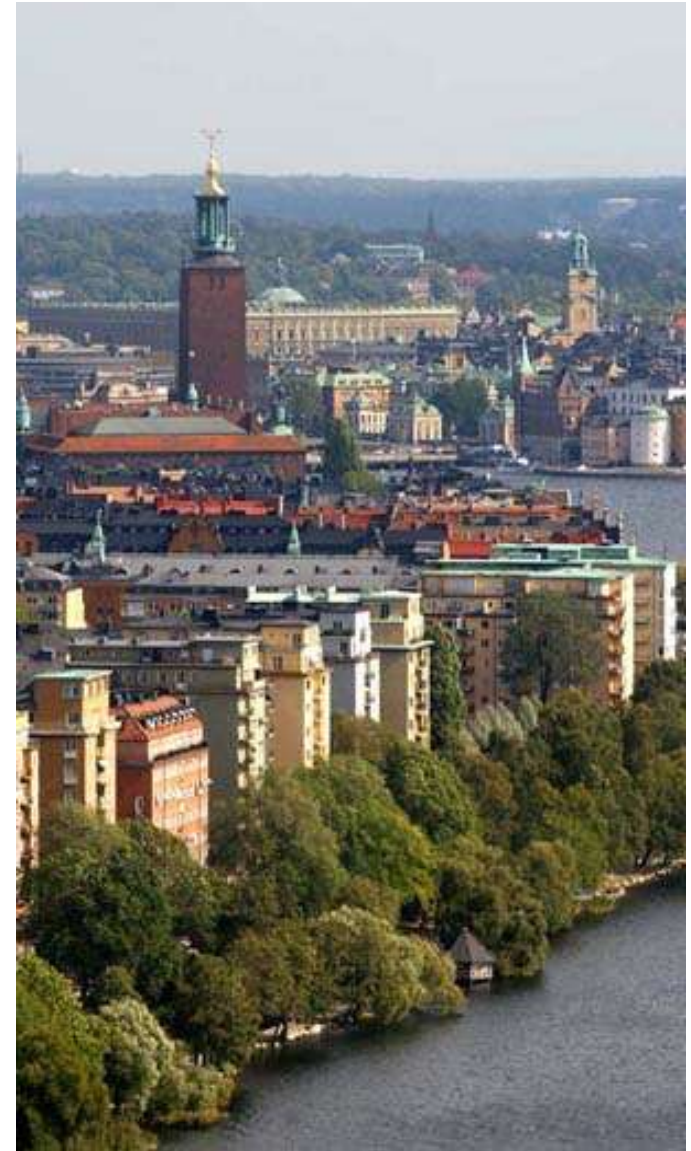
# Experiences from establishing public & home charging infrastructure in Stockholm



Eva Sunnerstedt, City of Stockholm

# Stockholm – Capital of Sweden

- 940 000/2,3 million inhabitants
- 330 000/920 000 cars
- Built on 14 islands connected with 54 bridges
- 50 % public transport (80 % in peak hours)
- Congestion charging zone
- Environmental zone for heavy vehicles
- Improved air quality
- Green Capital of Europe 2010
- Fossil Fuel Free Organisation 2030
- Fossil Fuel Free City by 2040
  - Climate strategy/road map



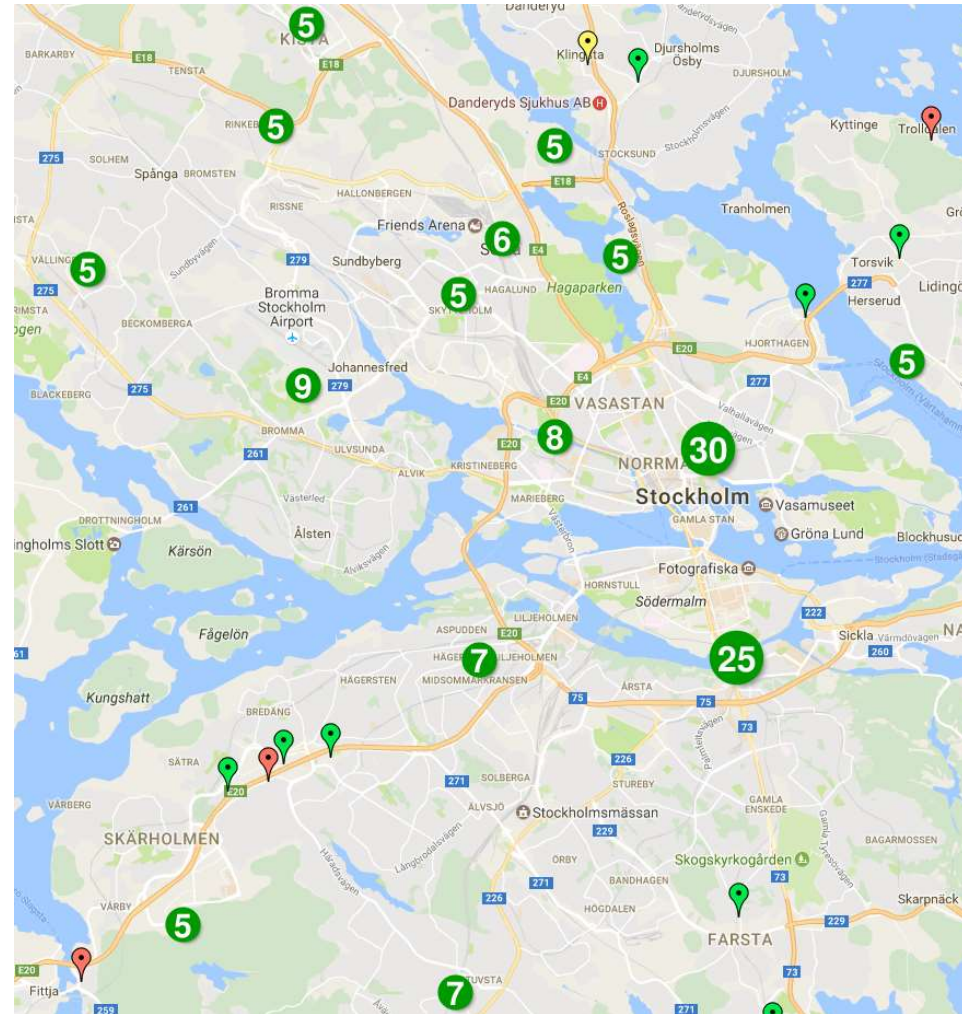


# Public charging, April 2018

- [www.uppladdning.nu](http://www.uppladdning.nu)
- [www.eniro.se](http://www.eniro.se)

**1 300** locations in Sweden  
- in total 5 000 units

**180** locations in Stockholm  
- In total 1 270 units





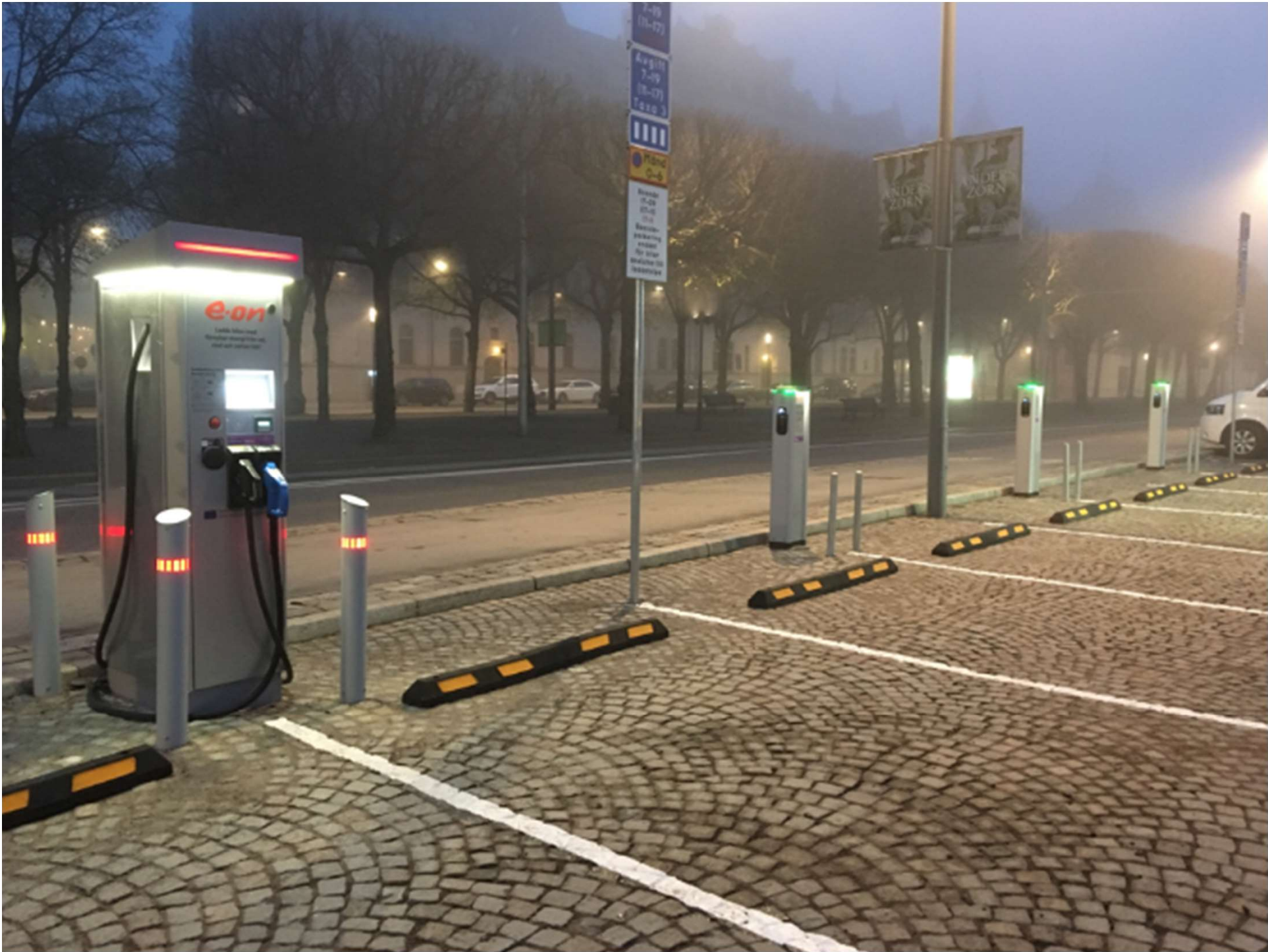












# Public charging – on street

## Access right agreements

- 3 – 5 years
- Fast charging standards: CHAdeMO, CCS and AC 43
- Normal charging: 3,7 – 22 kW
- Give data to the city – possible to evaluate





## Lessons learnt on street charging

- Possible to add more charging later, at the chosen locations
- The fast charger has to be placed so that the car has its front or back towards the charger
- Close to trees can be problematic
- Lights? Close to coffee?
- What colour? Grey!
- In operation at least 90 % of the time or the 5 year contract can be lost
- Enough room to clean the sidewalks
- Signs and legal aspects are complicated!



# Pricing on street....

- Fast charging
  - Free parking (30 min)
  - Electricity 3 – 3,40 SEK/minute
  - mobile app, RFID-badge, sms, special card, credit card
- Normal charging
  - Regular parking fee
  - 3 SEK/kWh

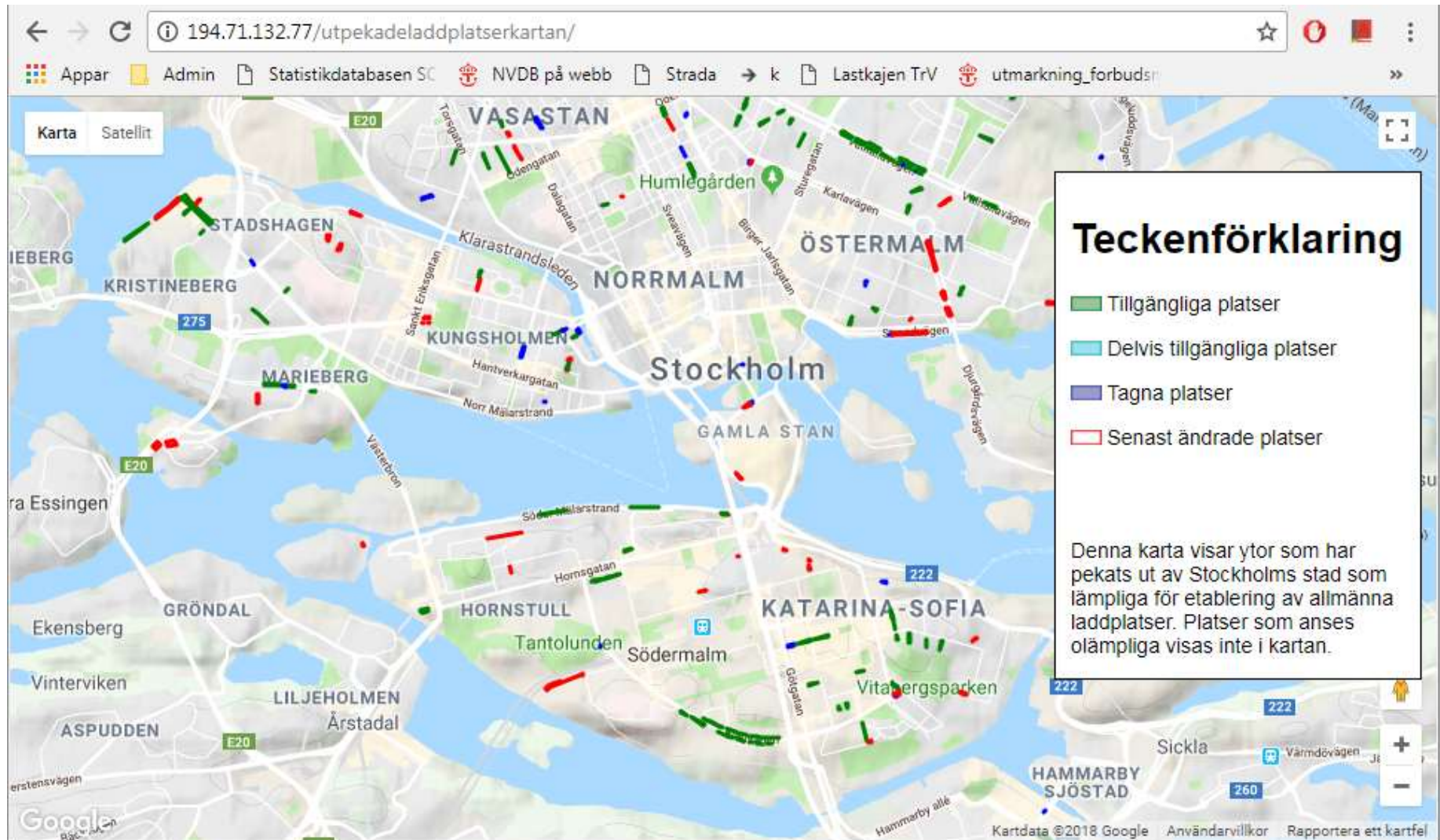




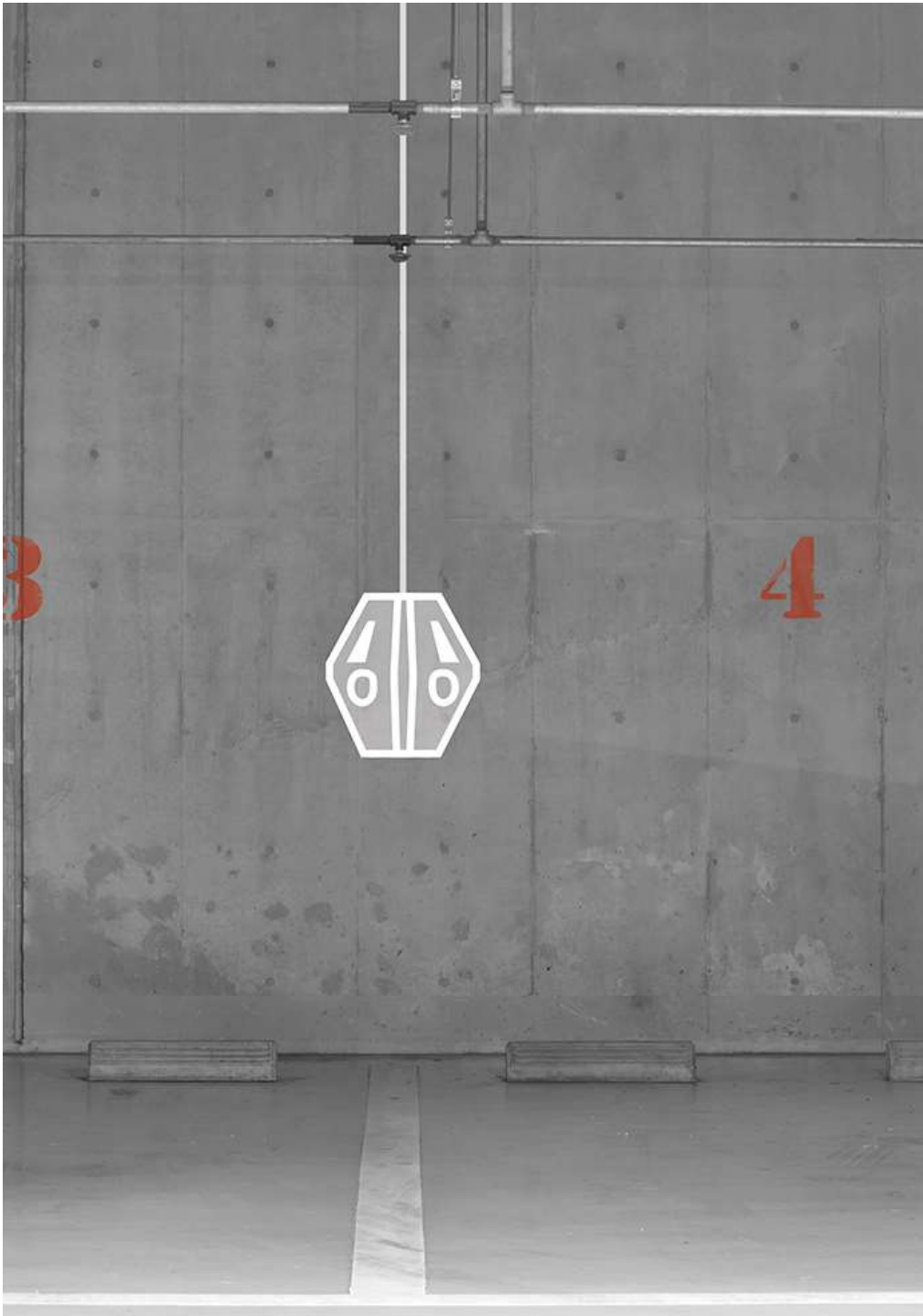
# Mapping good locations where private operators may establish public charging on street



# [www.stockholm.se/laddgator](http://www.stockholm.se/laddgator)











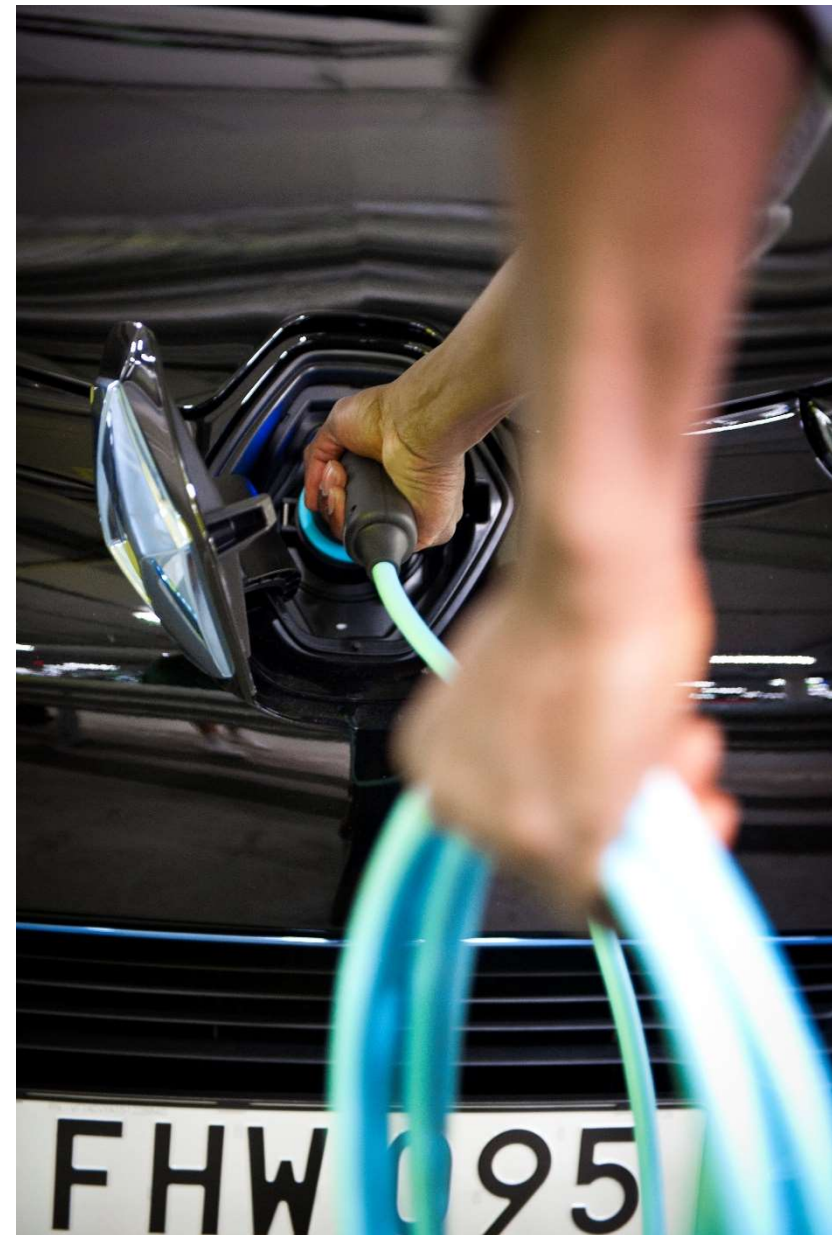
- Web-site:
  - Step-by step guide
  - Handbook
  - Films
  - Good Examples
  - FAQ
- Seminars with exhibition
  - 12 events 2017
  - Over 1 100 participants
- Many other cities are copying the campaign!





## Other initiatives

- At least 20 % charging in new parking facilities built on land owned by the city
- EVs are first priority when new vehicles are purchased
  - 23 % EVs in the City of Stockholms own vehicle fleet
  - Procurement of transportation services



## 3 advice to other cities

- **Knowledge about EVs**
  - Available, well-functioning, realistic etc.
  - Test driving!
- **Signals from society**
  - "Walk the talk"
  - Public procurements, regulations etc
- **Access to charging**
  - Home charging most important





# Thanks!

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