Refining parking management strategies to respond to urban growth and support sustainable mobility behaviour

Examples of new parking policies from Munich and Stockholm

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Strong population growth as a major challenge for urban development, transport and mobility

+ 200,000 inhabitants until 2030 in Stockholm

+ 300,000 inhabitants until 2035 in Munich

Source: City of Stockholm

Source: City of Munich
Growth of population and urban area (example Munich)

Increasing population = increasing demand for transport

But limited urban space

Source: City of Munich, Department of Urban Planning and Building Regulations
The power of parking policies

Sources of photos: M. Lindenau, M. Nagy, City of Munich, City of Stockholm
Munich, Germany

Source: M. Nagy, City of Munich
Extension of parking management scheme

- Parking management scheme in the City of Munich since 1999
  - Parking time restrictions
  - Parking pricing
  - Parking permits for residents

- Parking management zones previously mostly inside inner ring road

- Now extension to areas outside the city centre based on needs assessment

Source: City of Munich, Department of Urban Planning and Building Regulations
A model for future-oriented urban development

ECCENTRIC Living Lab „Domagkpark & Parkstadt Schwabing“

ca. 8,000 inhabitants
ca. 3,100 housing units
ca. 200 companies, 12,000 workplaces
• Underground resident parking to create liveable and tidy public space

• But: commuter traffic from the region to the business hub causes local parking pressure and produces ‘wild’ and ‘creative’ parking

• Parking behaviour degrades quality of public space, reduces safety of crossings, junctions and side walks and reduces accessibility of the neighbourhood

→ Necessity to introduce on-street parking management in the district
Introduction of first parking time restrictions (spring 2018)
Pricing of parking – how powerful can parking be?

• **Low charges for parking** (max. 2,60€/hour) and **residential permits** (30€/year) due to **legal frameworks** on federal and national levels are a major restraint.

• Indications that the **amount to be paid** as a parking charge **looses power** → how effective would pricing be in a business hub like the ECCENTRIC Living Lab?

• But: innovation project **City2Share** will be testing an **increase of parking charges** in their **inner city living lab** (day ticket increase from 6€ to 10€ and hourly charge after 6pm increase from 1€ to 2€), complemented by **e-sharing stations** and new technologies for **parking detection**
How to influence the amount of parking and level of car ownership in a residential neighbourhood?

- Testing of **reduced parking requirements** in Munich in model neighbourhoods → ECCENTRIC Living Lab area “Domagkpark”
  - Regular standard: 1,0    Reduced standard: 0,6 up to 0,3

- Requirement for developers to provide a **mobility concept** when wanting to reduce parking requirements

- City administration is currently developing an **assessment scheme** for this

- **Parking policies** need to be complemented by **quality alternatives**
How to influence the amount of parking and level of car ownership in a residential neighbourhood?

Example: ECCENTRIC Living Lab „Domagkpark & Parkstadt Schwabing“

- Public transport
- E-sharing station
- Mobility stations
- Bicycle parking
- Sharing of private parking
- Cross-company ride sharing
- New MM product to be developed!
- MM for residents
- MM for companies
- MM for children
- App for mobility & air quality
- Concierge logistics service
- Preventive road safety analysis
Parking management in Stockholm

140,000 new apartments in Stockholm until 2030

• Minimum parking standard since the 50s
• 1 parking space per apartment (2007 – 2011)
• 0.5 cars per apartment

Parking:
• Is expensive
• Takes up space
• May hinder new apartments
• Gives incentives to car use

Off-street parking is expensive

• Surface parking around 30,000 SEK per space (ca. 3,000 €)
• Underground parking 300,000-600,000 SEK (ca. 30,000-60,000 €)

And contributes to inequity

• Parking charges covers 50 % of cost*

Project specific and green parking standards

Public transit, distance to city centre, access to service and urban amenities

Adjust according to size of apartment, and solutions for visitor parking

Reduction for mobility services

Initial interval
Location specific
Project specific
Green standard

0.6 – 0.3
10 – 25 %
Extension of parking charges in Stockholm

- New fee areas (2017-18)
- Flexible parking requirements (2014/15-)
- Vacant spaces daytime
  - Spring 2016: 15%
  - Spring 2017: 44%
- Vacant spaces evenings
  - Spring 2016: 8%
  - Spring 2017: 21%
- Move away from residential parking permits
- Fees 7am-7pm (2017-)

- Vacant spaces daytime
- Vacant spaces evenings

ECOMM • 31 May 2018 • Uppsala • Lindenau, Johansson, Sjöström
Innovative Parking – a research project

- Two residential houses with flexible parking requirements
- Pre- and post evaluations
- Some results from pre-evaluation
Bonava, On Track in Älvsjö

- (cargo) Bike club
- Car club – no fixed fees
- Accessible visible Bike parking
- Public transport cards
Project specific and green parking standards

Source: Sunfleet, cykelpool

Source: https://rawbike.se/produkt/rawbike-2/
Blicken in Haninge

- Personal Travel Planning
- (cargo) Bike club
- Discounts taxi, rental cars
- Car club – no fixed fees

Riksbyggen Brf Blicken in Haninge
**Some tentative results**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
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<tbody>
<tr>
<td>Car ownership and travel habits</td>
<td>Similar to comparable population</td>
</tr>
<tr>
<td>Localisation</td>
<td>Important for reduced car ownership</td>
</tr>
<tr>
<td>Mobility services</td>
<td>Limited experience</td>
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<td></td>
<td>Did not affect decision to move</td>
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<td></td>
<td>Positive attitude</td>
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<td></td>
<td>Information and trail needed</td>
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<td>Retired people</td>
<td>May affect car ownership</td>
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<td></td>
<td>An interesting target group</td>
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</tbody>
</table>

*These results have also been submitted to Polis Conference, 22-23 November in Manchester*
CIVITAS ECCENTRIC pilot
Pop-up reuse and recycling station

- Infrequent errands can also give rise to car ownership
- Few services to transport stuff away from the apartment
- Pilot project with a pop-up reuse and recycle station in Årsta (southern part of Stockholm)
- Pick up service by cargo bike
Conclusions (1/2)

• **Population growth** and **densification** increase demand for parking but also **expectations** towards the **quality of public realm**

• **Parking management** becomes more and more relevant also for **peri-urban areas** at the edge of cities

• Demand for parking will only decrease in the long-term if the **level of car ownership** decreases – we need to help this trend to happen!

• **Pricing of parking** is a powerful tool. But in many cases costs for parking do not correspond to the actual user costs.

• **Parking restrictions** in any form are only **effective** and **accepted** if adequate alternatives are **provided** and **communicated**

• If parking is restricted or reduced, alternatives need to be **convenient**, **pragmatic**, **easy to use** and need to cover **several types of transport** (passenger transport, private freight, waste…).
Conclusions (2/2)

- **Mobility management** can decrease the need for parking, reinforce success of parking policies and enhance compliance with these:
  - Reduced parking standards (off-street)
  - Mobility management
  - Parking privileges for e-mobility and sharing
  - Reinforcement
  - Parking management (on-street)

- Collaboration of **transport, land-use and real-estate market** is getting stronger, requiring **new ways of cooperation** and **new partnership** models.

- It is recommended to develop a **standardised practice** for assessing **mobility concepts** of new developments.

- Implementation of mobility concepts need to be **monitored** and **evaluated**.

- How will the currently **dynamic transport & mobility market** impact **parking supply and demand**? Is there the risk that we develop costly parking infrastructure that will not be needed anymore in future?
Thank you!

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