

# Mobility Packages to Promote MaaS – Approaches & Experiences

**Prof. Ulrike Stopka**

TU Dresden

**Schweizer Mobilitätsarena**

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Hauptbühne

# Agenda



**1. MaaS – What Does it Mean?**

**2. What's Going on in the MaaS-Markets?**

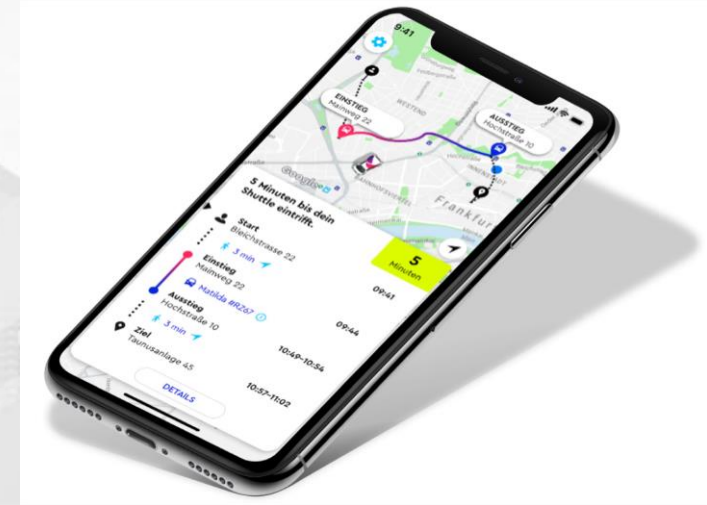
**3. How to Create Mobility Packages  
Based on the MaaS Concept?**

**4. Conclusions**



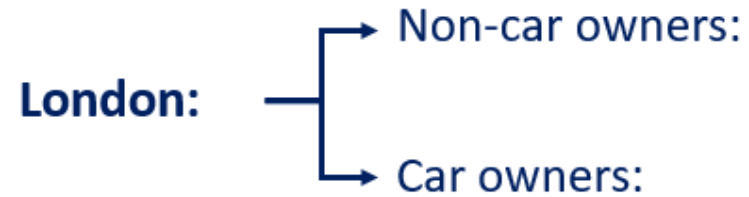
# MaaS – What Does it Mean?

- **One-stop access** to different public and private transport modes on demand based on consumer's preferences
- Information, registration, journey planning, booking and payment via a **single smartphone app**
- Customer makes a **contract with a mobility operator/integrator** → registration, information, booking and payment via the appropriate operator's platform
- Customer receives only **one invoice**, the operator handles the clearing between the mobility providers
- **Choice between different tariff options** (bundled mobility packages with a special price structure or “pay-as-you-go” scheme)



Reference:  
<https://www.autoflotte.de/nachrichten/artikel/the-mobility-house-prepaid-karte-fuer-s-oeffentlich-laden-1573271.html>

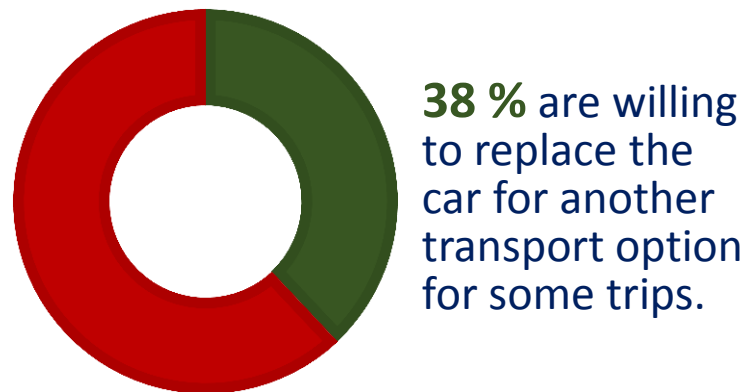
# MaaS = Reshaping how Urbanities get Around in Cities: Less Private Car Ownership?



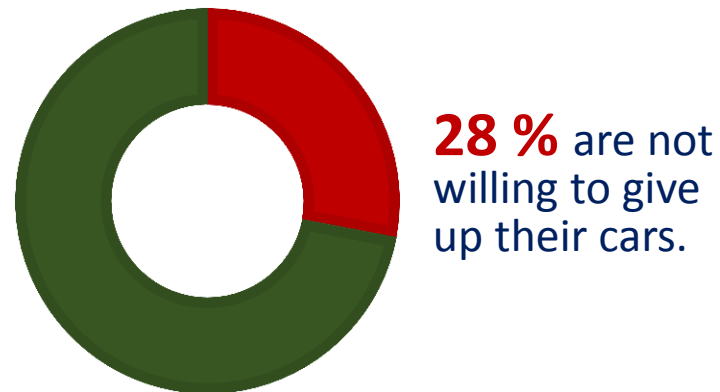
- **67 %** believe there is **no need to own a private car**
- **40 %** would **not purchase a car at all**
- **25 %** would be **willing to sell their cars** for unlimited access to carsharing

Kamargianni et al.: London MaaS Study, 2018

## Birmingham/Amsterdam/Vienna:

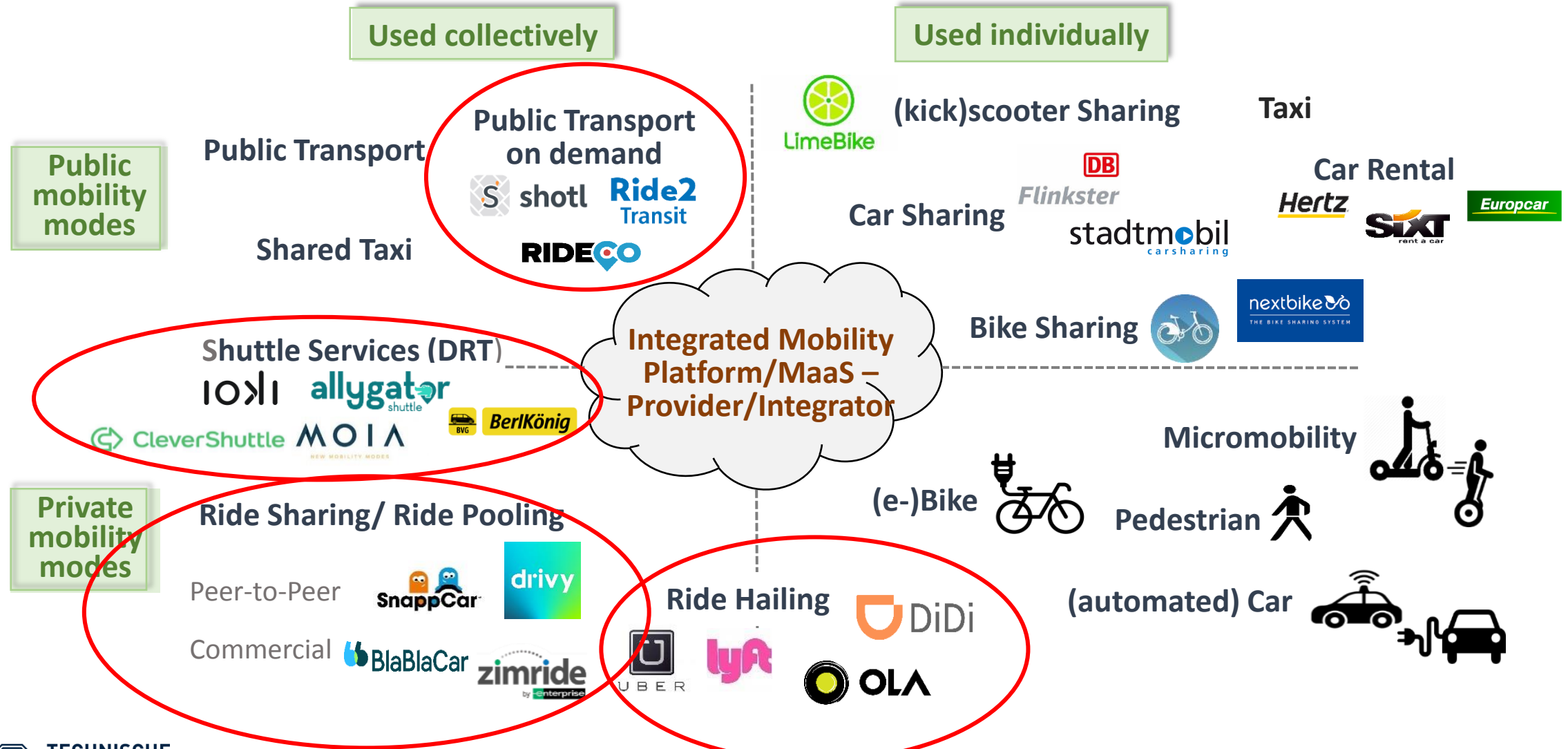


Kantar TNS Market potential: Whim User Study, 2018

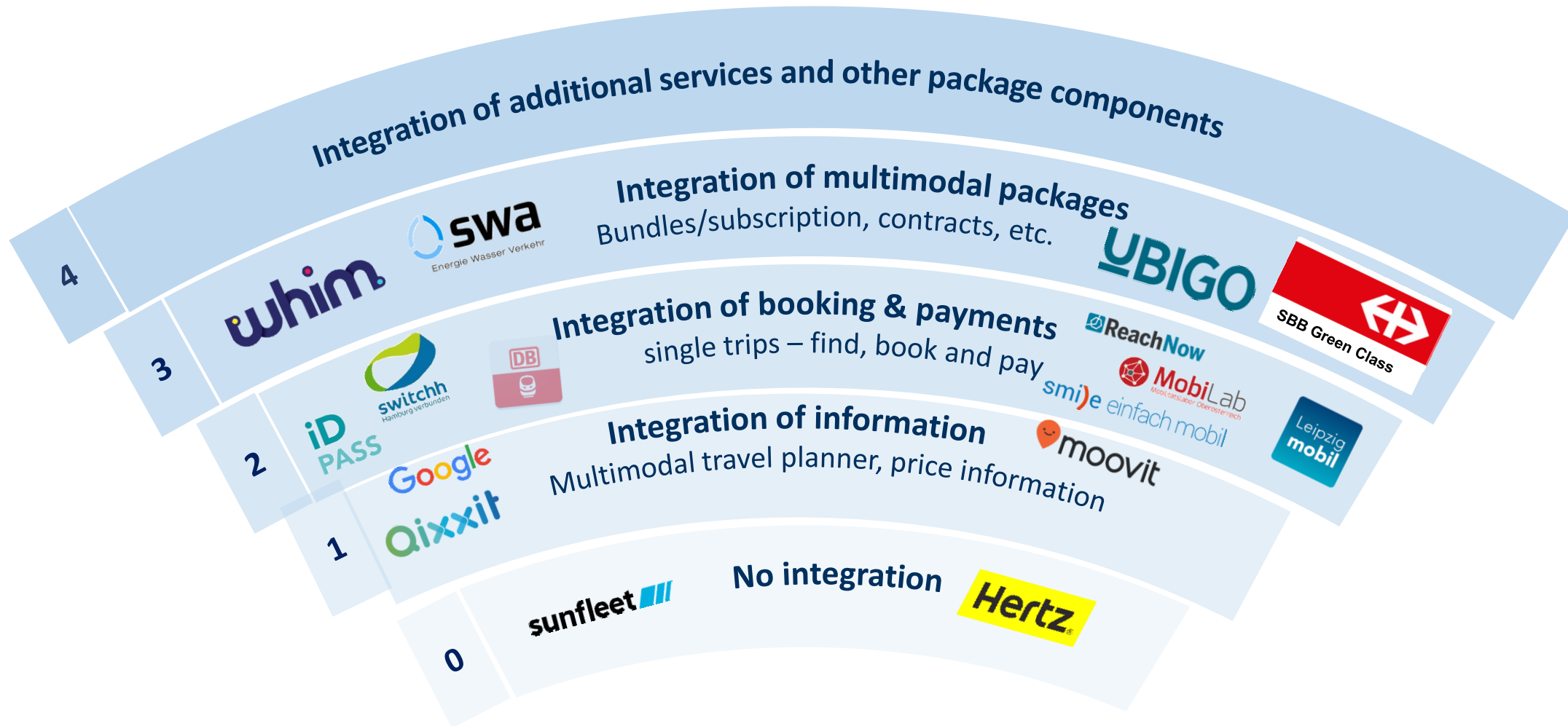


# More and More Options for Urban Mobility

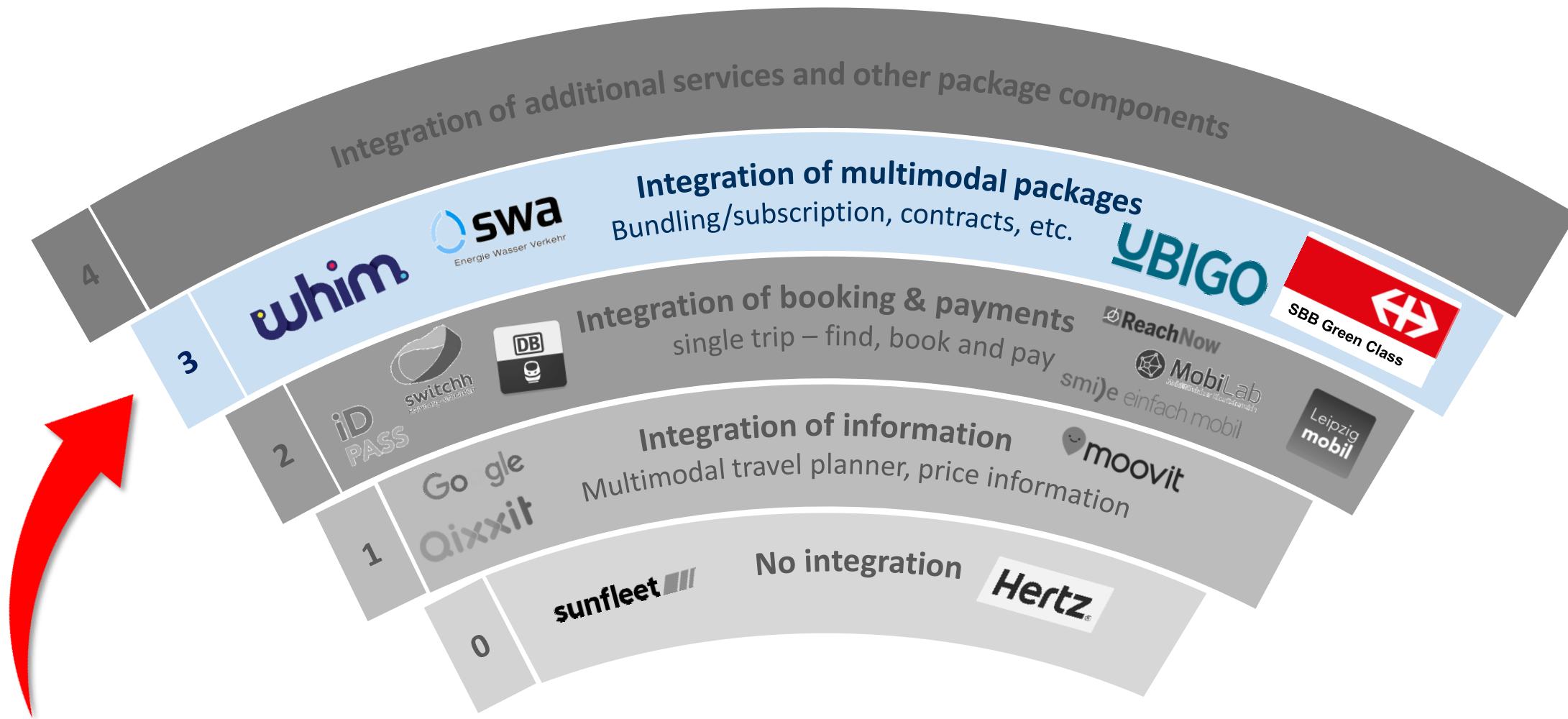
Relating to: Mobility as a Service, UITP, April 2019.



# MaaS – Level of Integration



# MaaS – Level of Integration









# What's Going on in the MaaS-Markets (Level 3)?



## Helsinki (Finland)

- Start up “MaaS Global” launched monthly mobility packages in late 2016, **full launch in Nov 2017**
- Whim operates also in **Birmingham (UK)** and **Antwerp (Belgium)**
- late 2019 **over 100.000 registered users**

			
Whim Urban 30	Whim Weekend	Whim Unlimited	Whim to Go
€59,7 / 30 days	€249 / 30 days	€499 / month	Pay as you go
A 30-day <b>HSL ticket</b> , unlimited 30-minute trips with <b>city bikes</b> , 10€/5km <b>taxi rides</b> , <b>car rental</b> 49€/day	<b>Car rentals</b> for any weekend from Friday to Monday, a <b>15 % discount</b> on all <b>taxi rides</b> , 30-day <b>HSL ticket</b> , unlimited 30-min <b>city bike rides</b>	Choose daily whether you'll go for <b>unlimited taxi rides up to 5 km</b> , or <b>rent a car</b> . Unlimited <b>HSL-ticket</b> , unlimited 30-min <b>city bike rides</b>	Each trip is paid separately with <b>No subscription fee</b> , no surcharges, and Whim always gives you the <b>price up front</b> .

Reference: <https://whimapp.com/>



# Pricing Schemes



**Production based**  
„Pay-as-you-go“



**Service-level based**  
bundles with fixed  
monthly subscription

Price calculation in meters, minutes or  
tariffs to the customer

Price calculation for delivering a specific  
mobility service level to the customer



**Purchased and accounted as used**  
from the transport service provider



**Purchase of fixed contingents**  
**without single accounting**



**Profitability** depends on ...

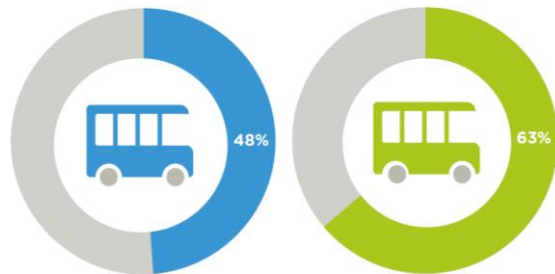
- the **difference** between **package pricing** and **purchase costs**
- the level of **utilization** of the mobility **package quotas** by users

Reference: <https://www.campaignlive.co.uk/article/ad-agencies-increase-profit-margins-despite-lower-fees-higher-staff-costs/1451159>

# Key Insights from the Daily Service Operations in Helsinki (01-12/2018)



## Public Transport Rides



PT Modal share in Helsinki metropolitan area 48%

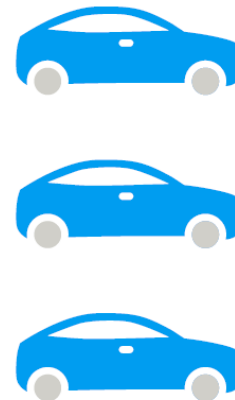
PT Modal share with Whim 63%\*

## Taxi Rides

Whim users travel by taxi **2.1** times more often than the typical Helsinki resident

## Replacement of Daily Car Trips

New Mobility options can replace up to **38%** of daily car trips



## Combination PT + Taxi

Whim users combine taxis **3x** more often with public transport compared to the typical Helsinki resident

## Average City Bike Trip Distances



\*Whim data have been normalized for comparison purposes with Helsinki metropolitan area residents in the Travel behavior survey

# What is Going on in the MaaS-Markets (Level 3)?

- **6-month Field Operational Test in the city of Gothenburg 2013/14** (195 individuals and 83 households)
- Free choice for the combination of various modes of transport within **pre-paid packages on the customers need**
- **Minimum household subscription level was 1.200 SEK/month ( $\triangleq$  135€)** in prepaid credit
- Findings:
  - **44% of UbiGo participants decreased use of private cars significantly,**
  - **25% relinquished their car** during the pilot



Reference: Karlsson; Sochor; Strömberg: Developing the “Service” in Mobility as a Service: experiences from a field trial of an innovative travel brokerage, 2016



# What is Going on in the MaaS-Markets (Level 3)? **UBIGO**

UbiGo-MaaS launched in Stockholm in 3 city districts in 2018/2019

- Partner: City of Stockholm, Public Transport AB Storstockholms Lokaltrafik
- **Subscription** via the UbiGo App (based on Fluidtime's platform technology) for **PT** and defined days/hours for the use of **car rental, carsharing, bikesharing, taxi** according to customers' needs
- **Simple price models**
- Prepaid **levels** can be **updated each month**
- **What is not used** during the month can be **saved for the next month**
- Each family has a **shared account** accessible to all members via the UbiGo App, which also includes scheduling, booking, ticketing functions



**The potential is estimated at 30% of the total number of households, i.e. 250.000 families.**

Reference: <https://www.via-id.com/en/via-id-invests-in-maas-with-ubigo>, 03/2019

# Stadtwerke Augsburg - Pilot-Project swa Mobility Flatrate (10/2018 – 10/2019)



## Design

- 50 participants
- Price **75 Euro/month** for:
  - **Monthly subscription to public transport** (inner city of Augsburg)
  - **30 hours car sharing** without mileage limit
  - swa **bike as often as you like** for up to 30 minutes (then 1€/30 min)
  - Customers keep a **mobility diary**



Reference: <https://www.sw-augsburg.de/>

Reference: Casazza, W., (2019). Ziele und Herausforderungen einer Mobilität-Flatrate aus dem Testfeld Augsburg, p. 8.

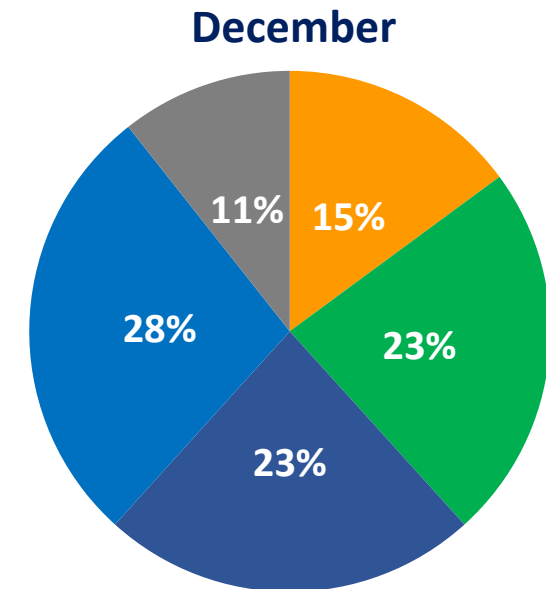
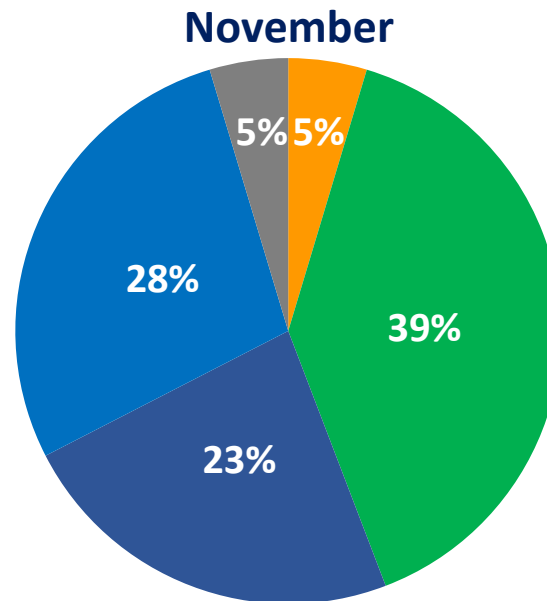
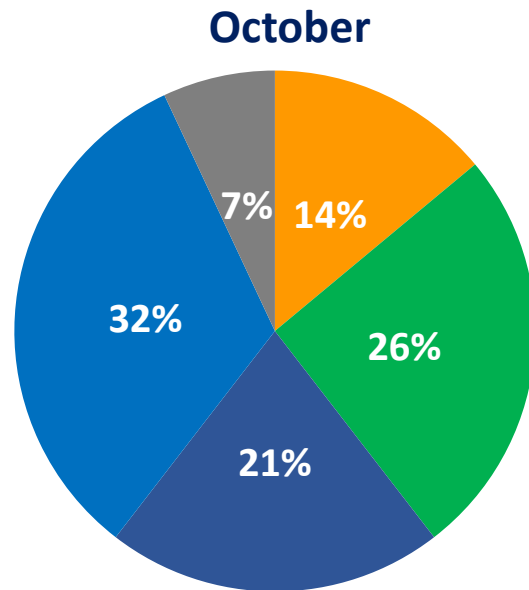
# Pilot Experiences: Use of Free Car Sharing Hours



The use of the swa City Bike is extremely low and is disregarded when looking at the usage data.



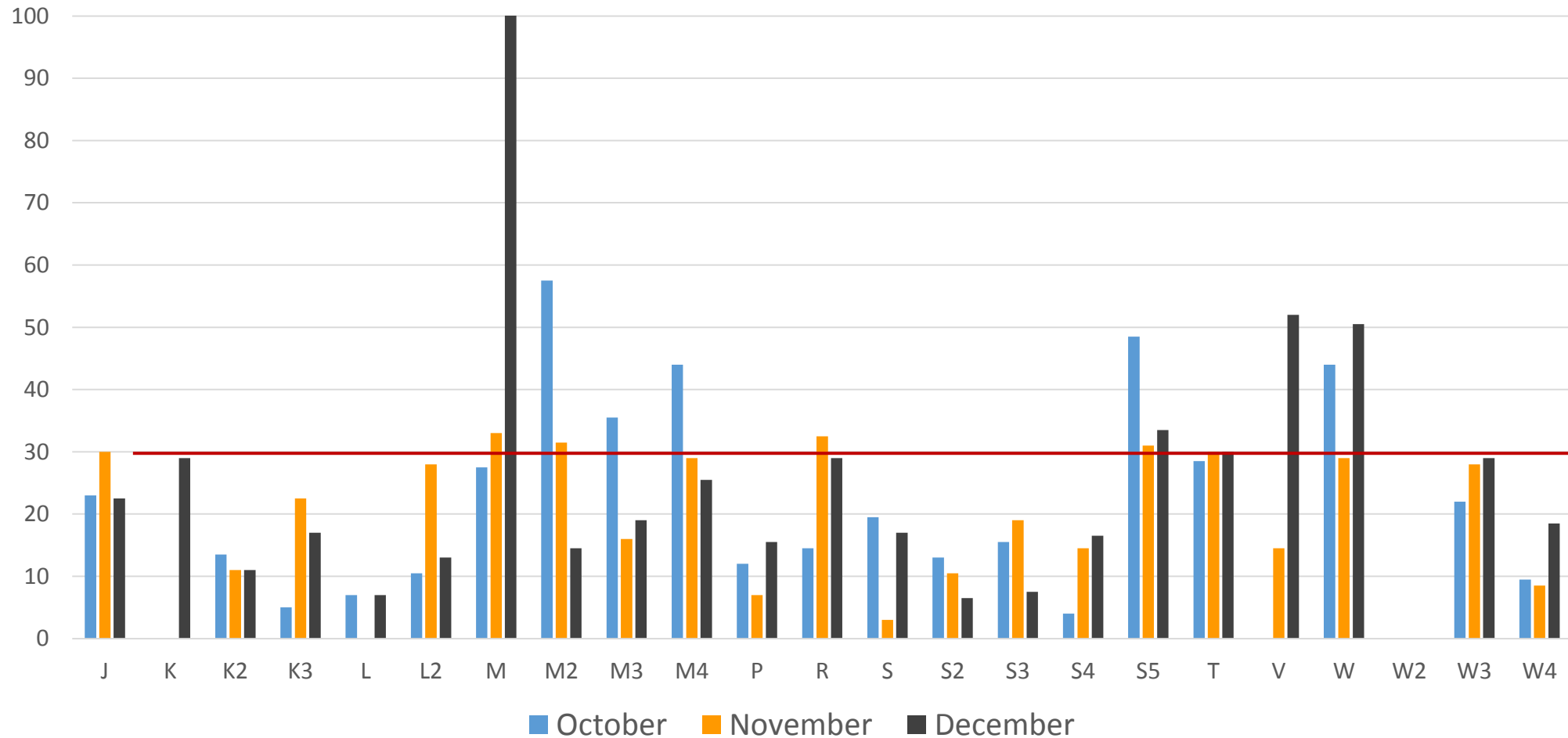
The proportion of those who use less than 50% of their quotas for car sharing is between 30% and 40%.



■ >35 ■ 35-25 ■ 25-15 ■ <15 ■ 0 hours per month



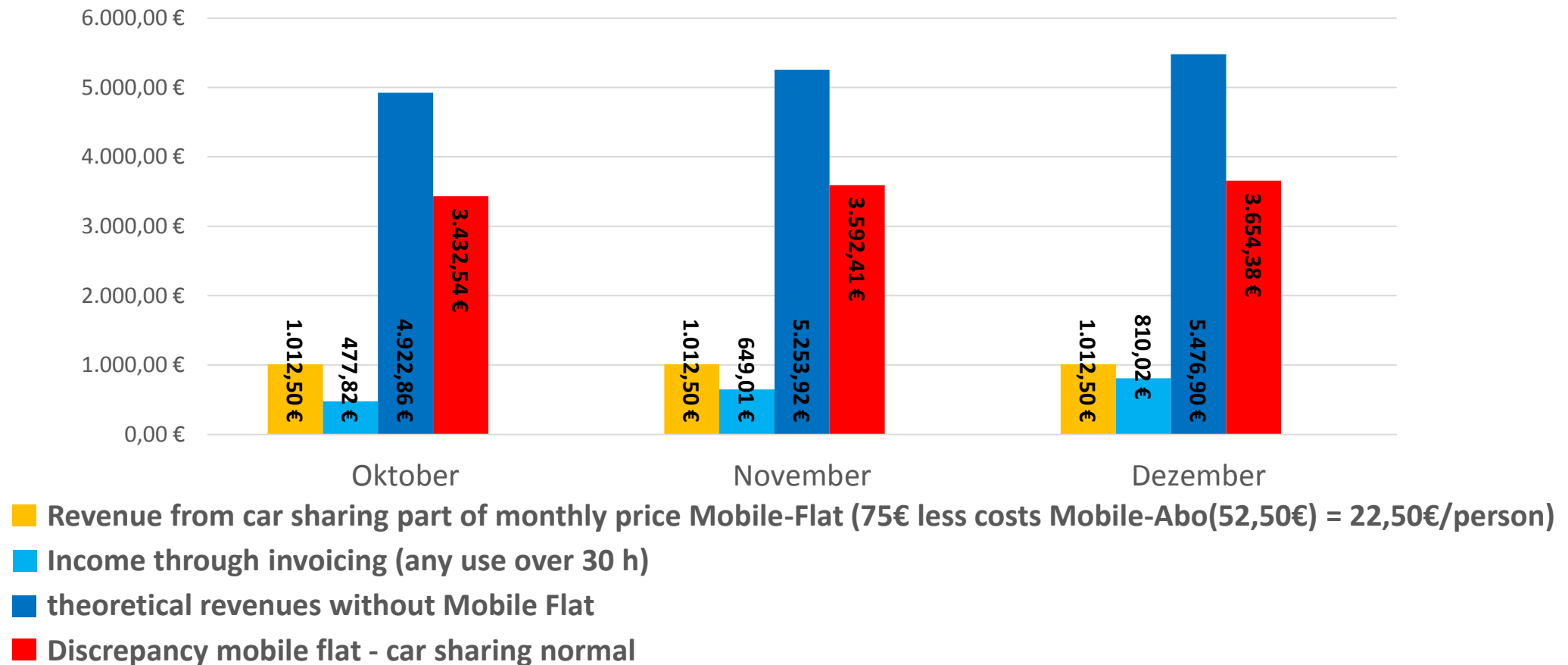
# Pilot Experiences: Individual Use of Car Sharing (3rd Quarter of 2018)



Reference: Casazza, W., (2019). Ziele und Herausforderungen einer Mobilität-Flatrate aus dem Testfeld Augsburg, p. 13.

# Pilot Experience: Profitability

Due to the extremely favorable tariff, the swa in the pilot project miss out on monthly income of 3500 euros **between 75 – 80 € per customer.**



Reference: Casazza, W., (2019). Ziele und Herausforderungen einer Mobilität-Flatrate aus dem Testfeld Augsburg, p. 18.

# What are the Next Steps?

Roll-out of initially 2 ready-to-sell packages at the end of 2019 → attract 2.000 customers

Mobil-Flat flat <b>Small</b>	Mobil-Flat <b>Medium</b>	Mobil-Flat <b>Large</b> (Start from 2021)
PT monthly ticket	PT monthly ticket	PT monthly ticket
Car sharing 15 h, 150 km	Car sharing 30 h, unlimited km	Car sharing
no differentiation according to vehicle classes		Bike sharing
If a quota (hours or kilometres) is exceeded, the general tariff for the booked vehicle applies.		E-Scooter sharing in the outer city areas
swa bike (bike sharing nextbike) unlimited up to 30 minutes (then €1/30 min)		Ride sharing/Ride hailing
79,- €/month		<ul style="list-style-type: none"> <li>service offered by the swa in cooperation with the local taxi community</li> <li>using White-Label solution from the for door2door company</li> <li>dynamic pricing depending on time and local distances to offered PT rides</li> </ul>
109,- €/month		

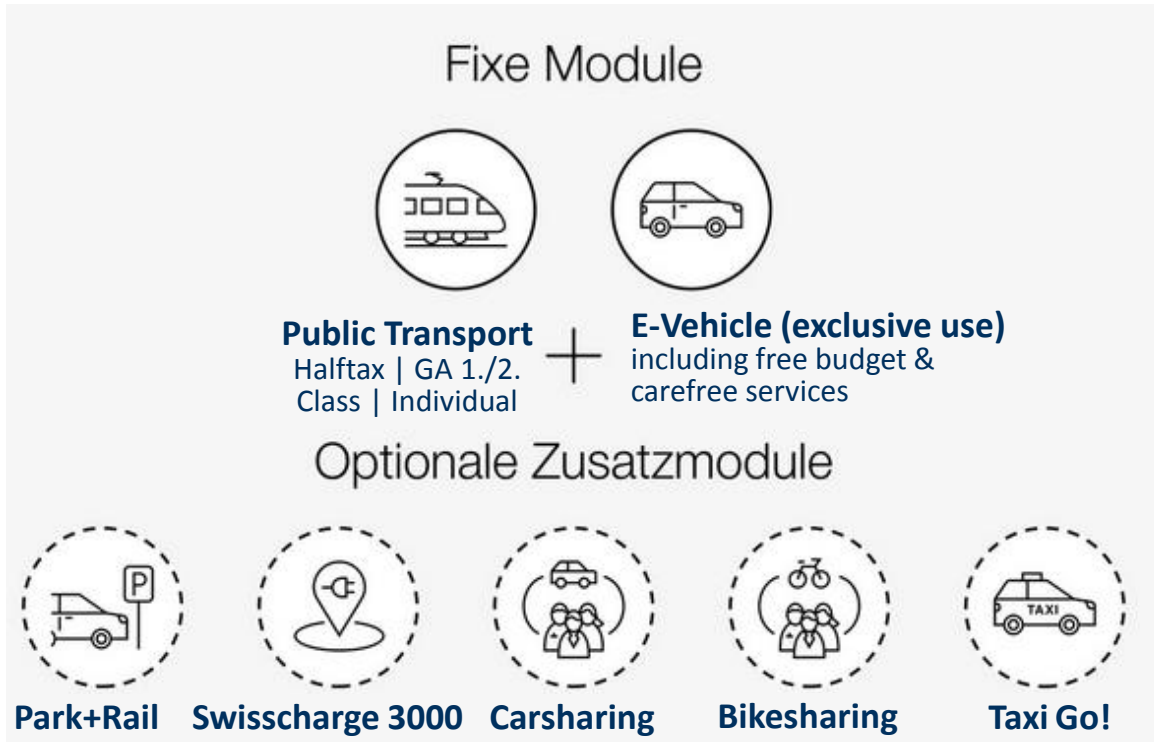
Reference: Interview with Dr. Cassaza, CEO swa, September 2019.





# SBB Green Class

## Configurator of Packages









- Separate Apps for the various modules
- SBB purchases and invoices the packages from the mobility partners at fixed conditions; the use-dependent charges are collected directly by the partners

Ihr persönliches Mobilitäts-Abo.




Preis pro Monat:  
**CHF 726.–**  
zzgl. individuelles ÖV-Abo




**Fixe Module:**




  Individuelles ÖV-Abo   
... ..




  BMW i3 (120 Ah)   
... ..




**Optionale Zusatzmodule:**

☐   P+Rail 150   
... ..




☐   Swisscharge 3000 

☐   Mobility Jahresabo 

☐   PubliBike EasyBike   
... ..

☐   Taxi go! 




**Vertragsdauer:**




  48 Monate   
... ..

Ihr persönliches Mobilitäts-Abo.




Preis pro Monat:  
**CHF 2'304.–**




**Fixe Module:**




  GA 1. Klasse   
... ..




  Tesla Model S (75D)   
... ..




**Optionale Zusatzmodule:**

☐   P+Rail 220   
... ..




☐   Swisscharge 3000 

☐   Mobility Jahresabo 

☐   PubliBike FreeBike   
... ..

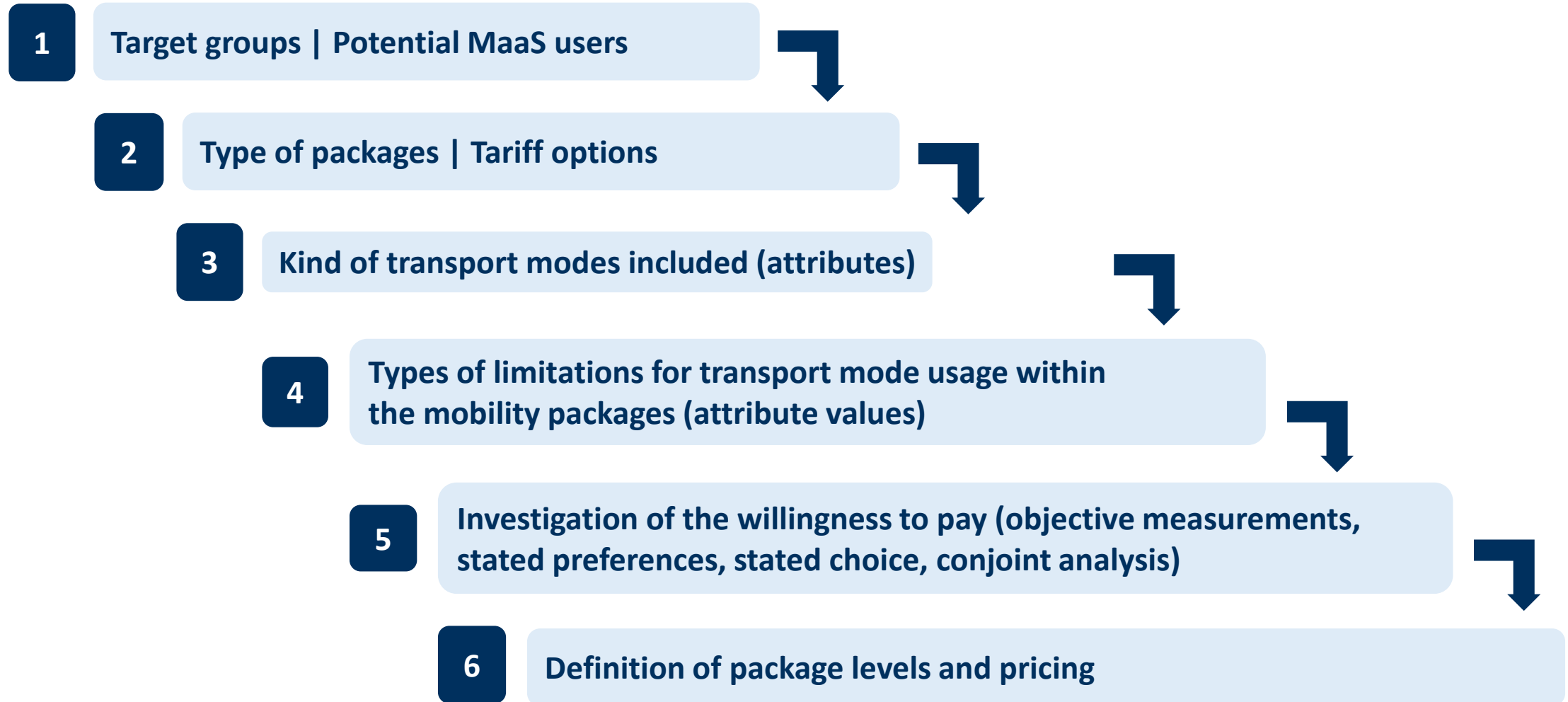
☐   Taxi go! 

**Vertragsdauer:**

  24 Monate   
... ..

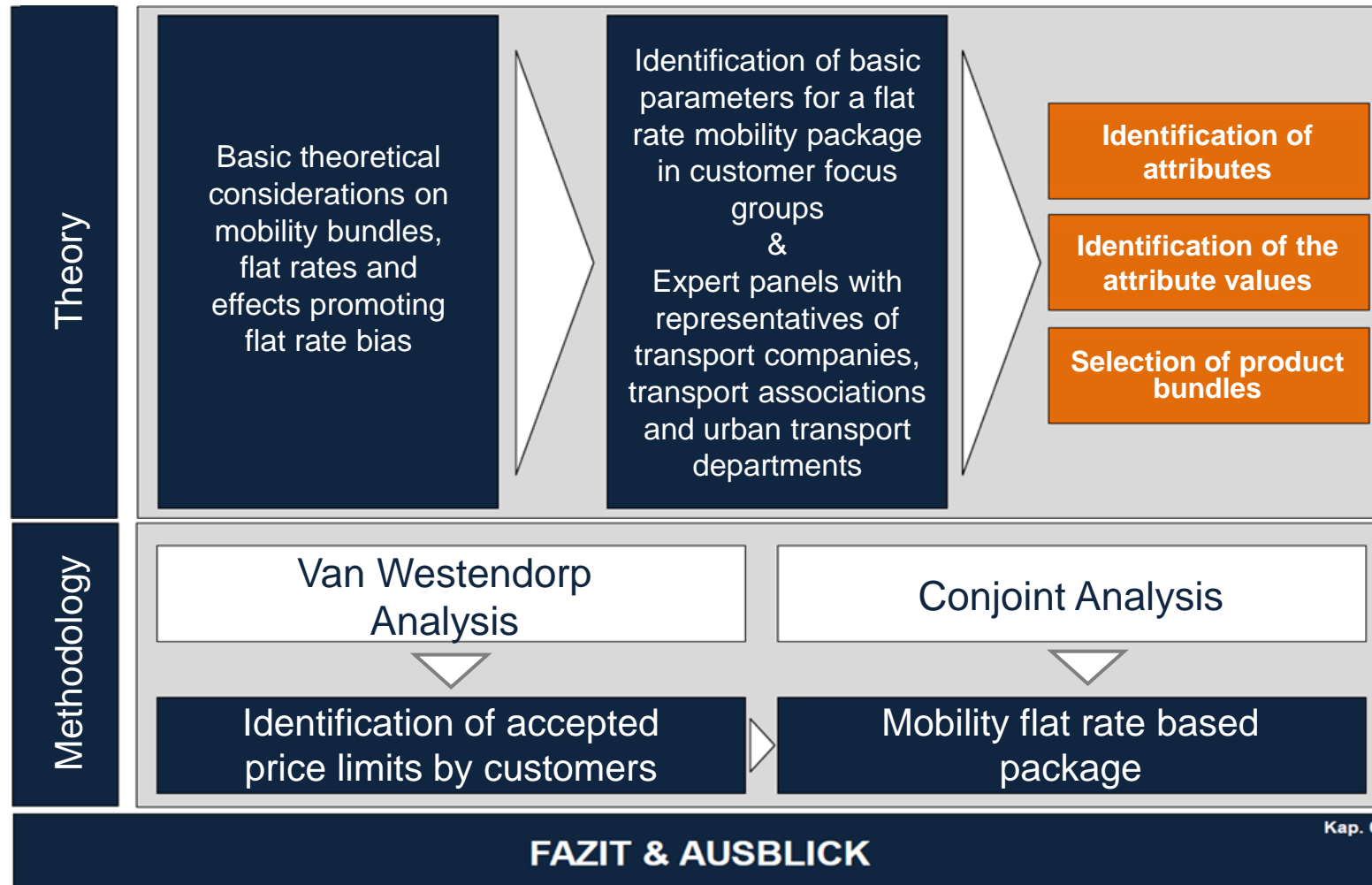
Reference: <https://www.sbb.ch/de/abos-billette/abonnemente/greenclass.html>

# How to Create Mobility Packages Based on the MaaS Concepts?



# Approach for Creating Mobility Packages in the Rhine-Main Transport Association Area and the City of Leipzig





















## Research Study (TU Dresden 2017/18)





# Design of 4 Test Bundles

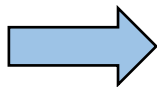
5 attributes, various attribute values (e.g. time, distance, discounts, number of rides etc.)

Mobility S The Entry Into Mobility	Mobility M More Mobility	Mobility L Mobile & Carefree On The Go	Mobility XL Unlimited Mobility
 <b>Flexible Car Sharing</b> 30 minutes/month, freely dividable ✓	 <b>Flexible Car Sharing</b> 5 rides of 45 minutes each ✓	 <b>Flexible Car Sharing</b> 10 rides of 30 minutes each ✓	 <b>Flexible Car Sharing</b> Unlimited flat rate for the first 30 minutes of each ride ✓
 <b>Station-Based Car Sharing</b> 1 x 3 hours incl. 15 km ✓	 <b>Station-Based Car Sharing</b> 3 x 3 hours incl. 15 km per ride ✓	 <b>Station-Based Car Sharing</b> 10 x 3 hours incl. 30 km per ride ✓	 <b>Station-Based Car Sharing</b> 48 hours with 500 free km ✓
 <b>Bike Sharing</b> Drive 5 x up to 1 hour per month ✓	 <b>Bike Sharing</b> 10 x 30 minutes per month ✓	 <b>Bike Sharing</b> Flat rate for trips under one hour ✓	 <b>Bike Sharing</b> Flat rate for unlimited rides, 12 hours free per ride ✓
 <b>Taxi*</b> 1 ride per month ✓	 <b>Taxi*</b> 5 rides per month ✓	 <b>Taxi*</b> 50 % on every taxi ride ✓	 <b>Taxi*</b> Flat rate for unlimited rides, daily 21:00 – 5:00 h ✓
 <b>Local Public Transport</b> 4 single tickets ✓	 <b>Local Public Transport</b> 10 single tickets ✓	 <b>Local Public Transport</b> 50 % on every single ticket ✓	 <b>Local Public Transport</b> Monthly subscription in the urban area ✓

# Van Westendorp's Price Sensitivity Meter - Approaching the Willingness-to-Pay

The test persons were asked **four price related questions**:

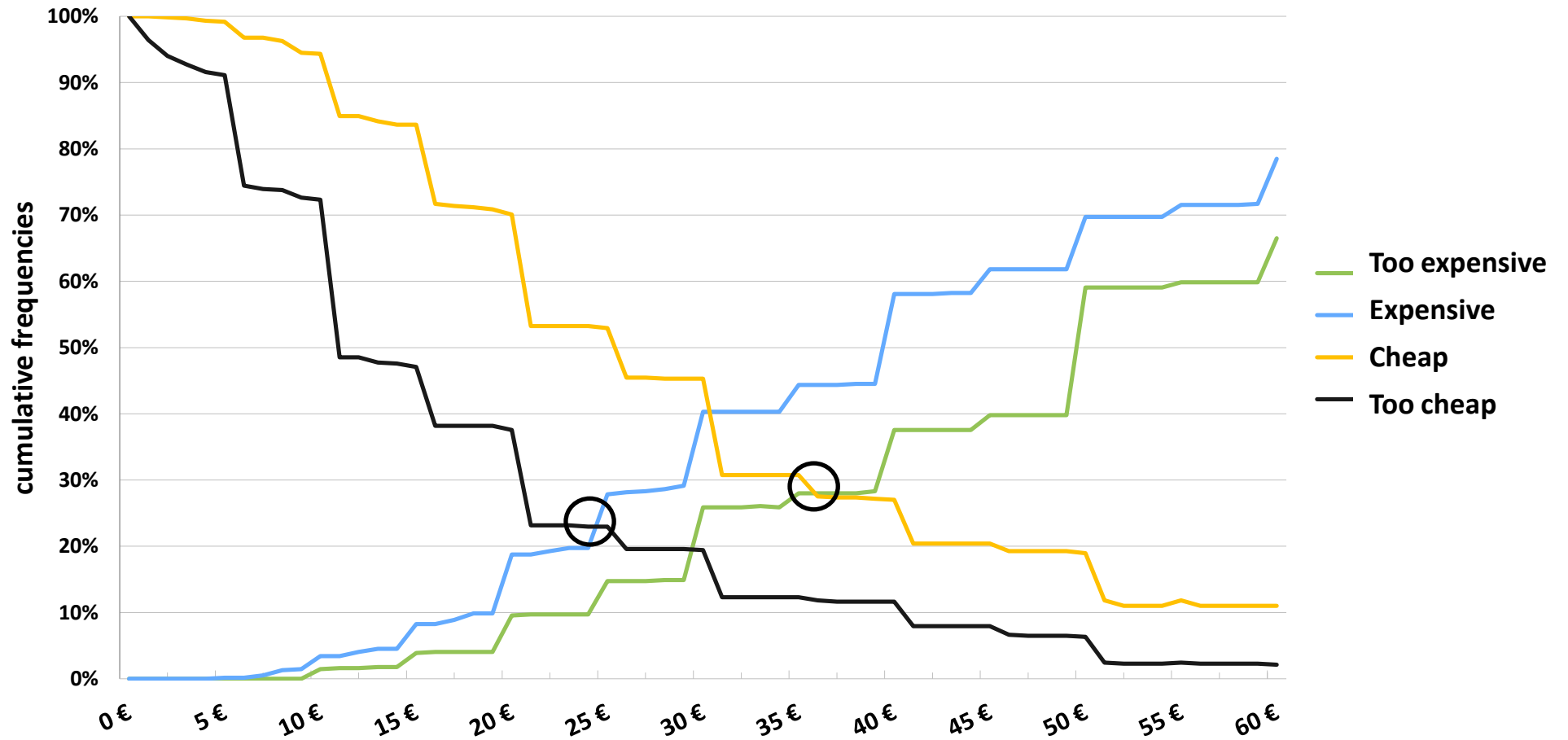
1. At what price would you consider the product **to be too expensive**, i.e. not buying it at all?
2. At what price would you consider the product to be **too cheap**, i.e. you would have doubts about the quality of the product (dirty vehicles, broken bicycles)?
3. At what price would you evaluate the product to be **expensive, but possibly to buy it** after careful consideration?
4. At **what price** would you **consider the product to be a bargain** – a great buy for the money?



**The individual price points are aggregated and plotted in a coordinate plane with four intersections.**

# Van Westendorp Analysis - Price Corridor

## Mobility Package „Small“



# Van Westendorp Analysis - Identified Price Corridors for Mobility Packages

Tariffs	Price Range
Tariff S	25 € - 40 €
Tariff M	45 € - 50 €
Tariff L	50 € - 60 €
Tariff XL	80 € - 105 €

- **willingness to pay is below the total costs** of the individual mobility offers, especially for large-volume tariffs
- **reduction or time limitation of "expensive" characteristic values**, e.g. for flexible Carsharing, taxi, necessary due to the identified low willingness to pay

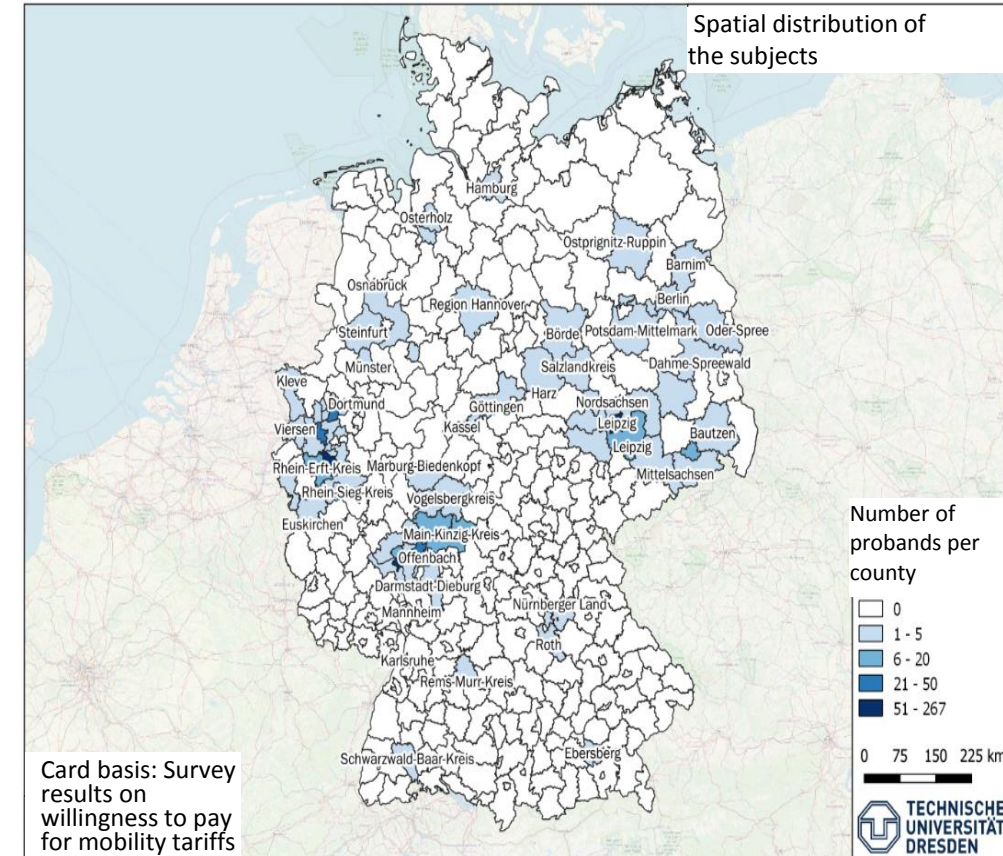
# Conjoint-Analysis

## Target:

Design of an **optimized mobility product that largely meets the needs of customers for multimodal mobility packages in terms of price and scope**

## Design:

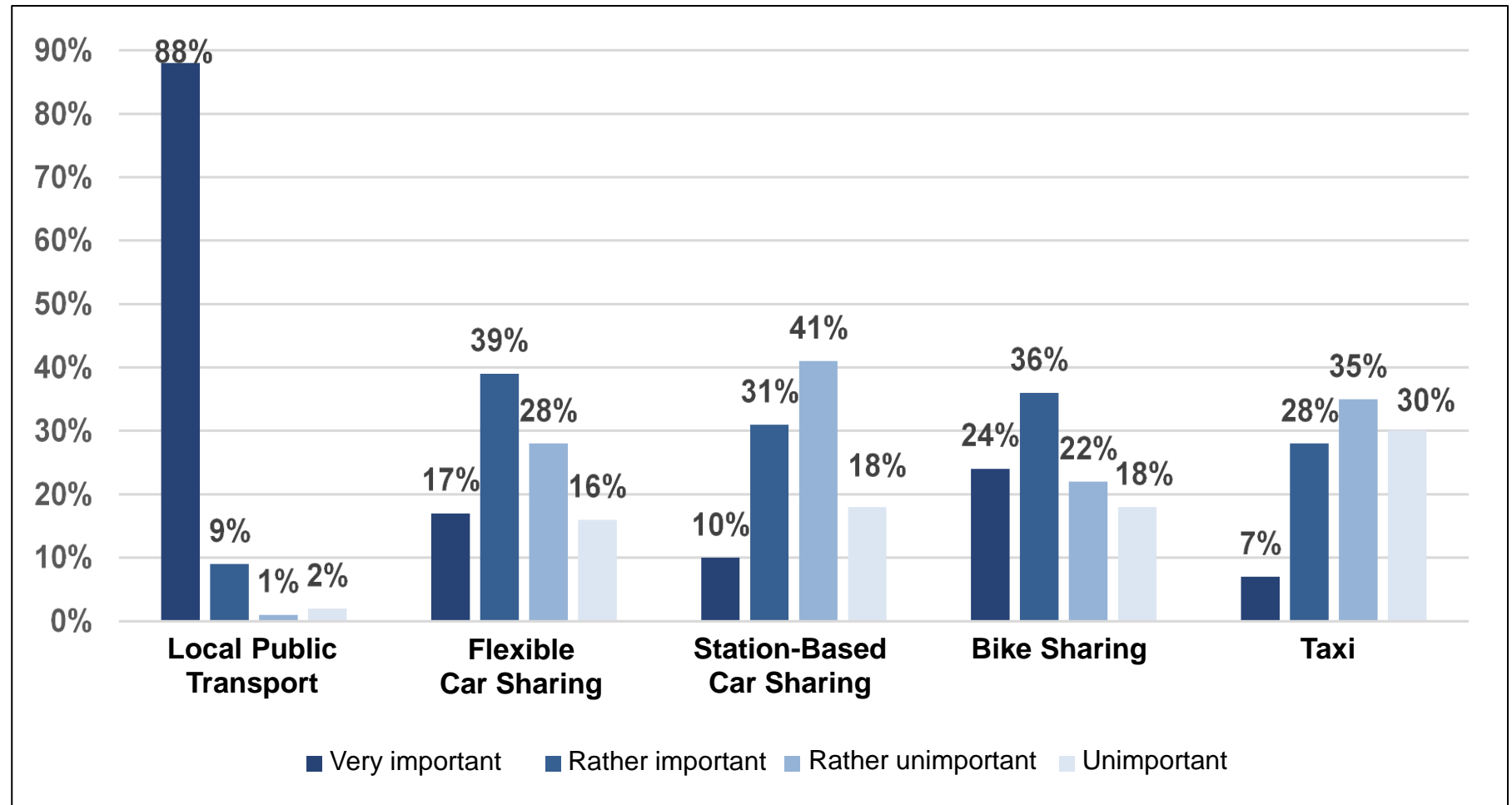
- Online survey in August/September 2018
  - 862 subjects; response rate 70.4 %
  - primarily public transport-affine (64 % have a monthly PT ticket)
- 3 parts:
  - **Mobility behavior of the subjects**
  - **Attitudes towards combined mobility products**
  - **Payment preferences**



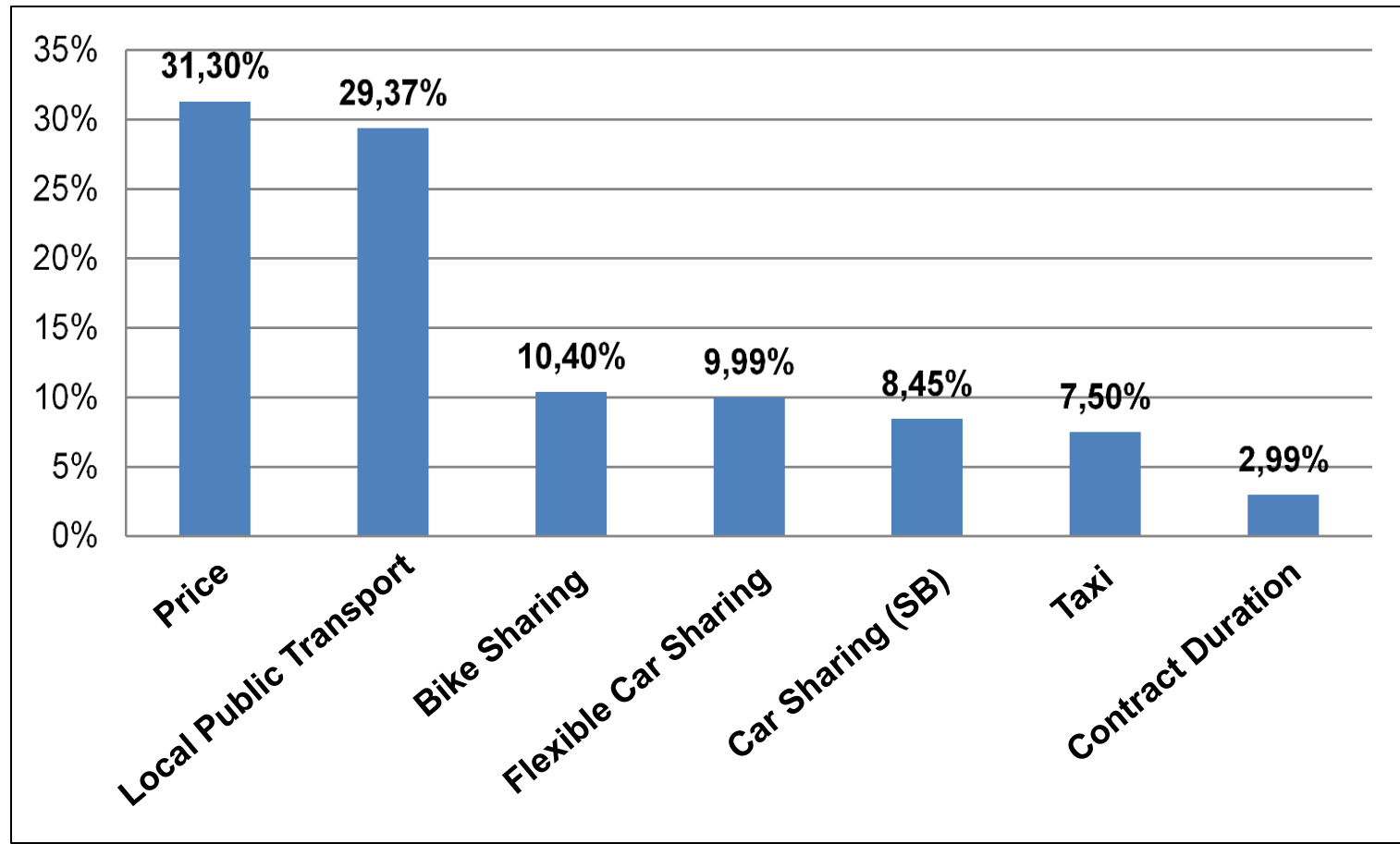


# Relevance of the Transport Modes of a Bundled Mobility Product (n = 862)

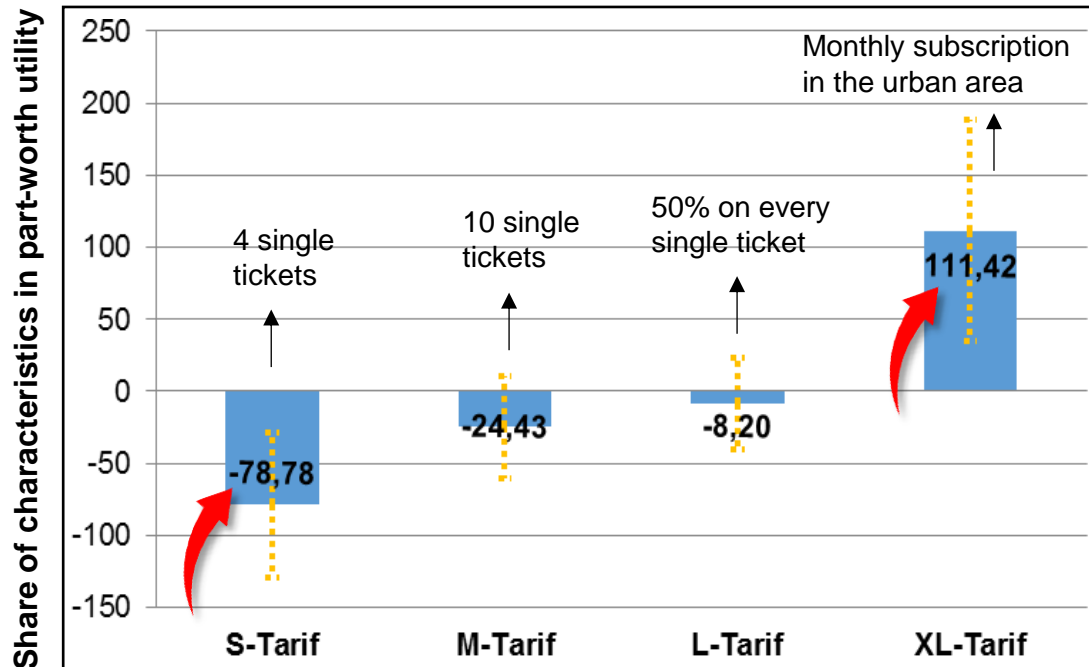
- 83% like the idea of mobility bundles
- 10 % do not like the concept
- 7 % have no opinion on such offers



# Relative Importance of the Bundle Attributes for the Subjects

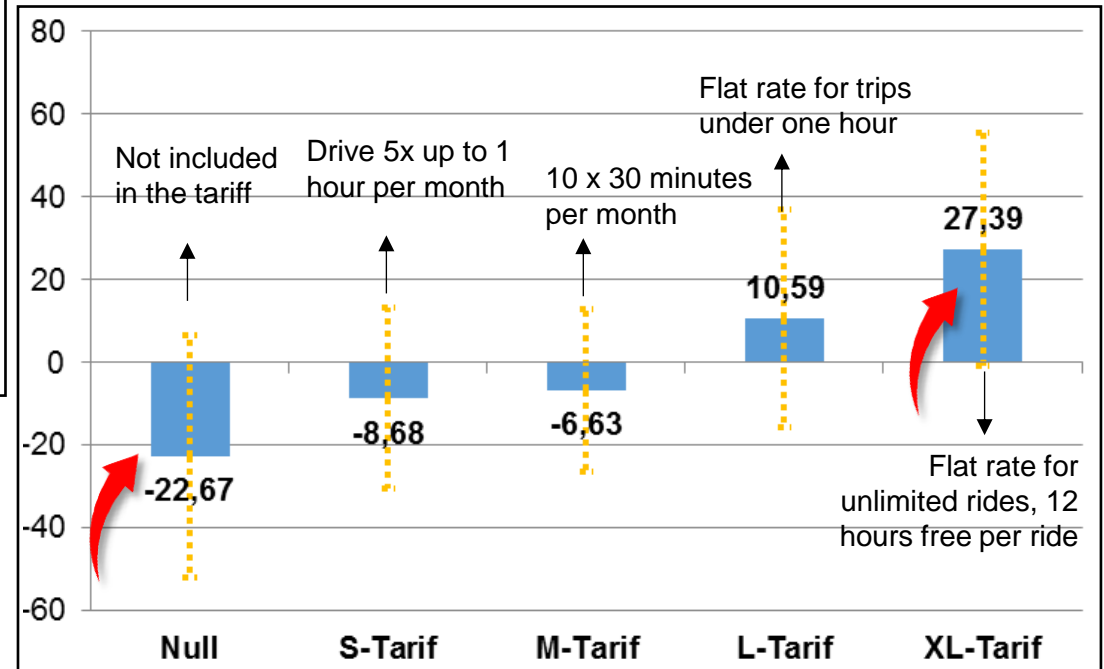


# Results of the Conjoint-Analysis for PT and Bike Sharing Within Different Tariffs/Packages – Part-Worth Utility


















Bike Sharing →

← Local Public Transport



# Recommendation for an “Implementable” and “Accepted” Mobility Package for 75 €/month

Mobility <b>S</b> The Entry Into Mobility	Mobility <b>M</b> More Mobility	Mobility <b>L</b> Mobile & Carefree On The Go	Mobility <b>XL</b> Unlimited Mobility
 <b>Flexible Car Sharing</b> 30 minutes/month, freely dividable ✓	 <b>Flexible Car Sharing</b> 5 rides of 45 minutes each ✓	 <b>Flexible Car Sharing</b> 10 rides of 30 minutes each ✓	 <b>Flexible Car Sharing</b> Unlimited flat rate for the first 30 minutes of each ride ✓
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 <b>Local Public Transport</b> 4 single tickets ✓	 <b>Local Public Transport</b> 10 single tickets ✓	 <b>Local Public Transport</b> 50 % on every single ticket ✓	 <b>Local Public Transport</b> Monthly subscription in the urban area ✓
<a href="#">Information Sheet</a>	<a href="#">Information Sheet</a>	<a href="#">Information Sheet</a>	<a href="#">Information Sheet</a>
Select Tarif	Select Tarif	Select Tarif	Select Tarif

\* within the city area

# Conclusions / Findings

01

**Customers are very price sensitive**

02

**Calculation of packages** requires a stepwise **demand-oriented approach**

03

**Public Transport as a core** → MaaS should be built around PT

04

**Integration of monthly PT-tickets** in the bundles is seen as a core component

05

**Taxi** trips should **not increase the price**

06

**Customers need experiences from car-/bikesharing**

07

**Optimize the interfaces between mobility service providers**

**Supply creates demand!**