TRA2022

TRANSPORT RESEARCH ARENA
LISBON 2022

POSTER SESSION

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Integrated mobility concepts – instruments and effect

RESEARCH QUESTION

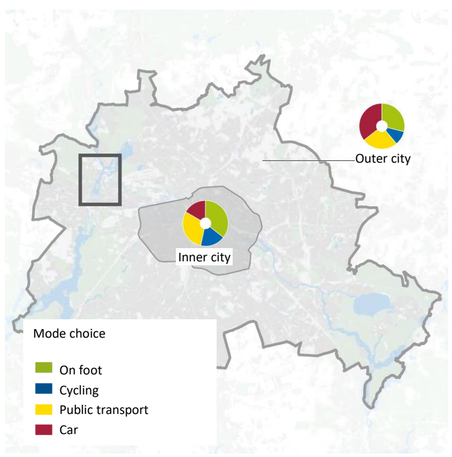
Can integrated mobility concepts contribute to more sustainable mobility and transport in new residential areas and if so, how?

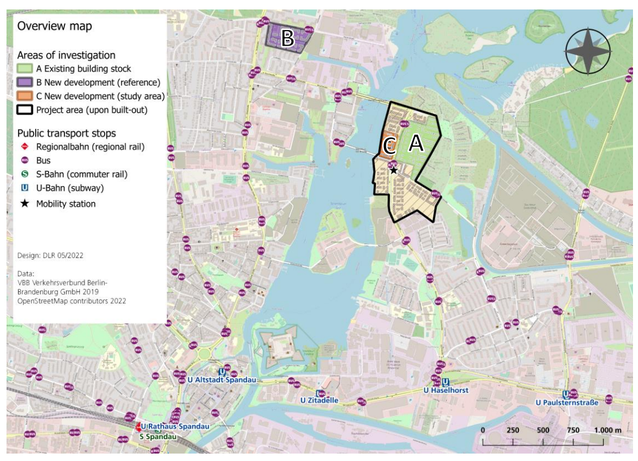
What is an integrated mobility concept?

Coordinated plan of urban development and transport to achieve sustainable mobility. Usually consists of a range of measures aiming at providing alternatives to private cars.

STUDY AREA: Berlin, Germany

- Low density area with little infrastructure nearby and next mass transit in 2 km
- New area (C) for 2.000 new housing units, at the time of investigation 360 units rented + two comparison sites (A, B)





Source: altered from: Senatsverwaltung für Umwelt, Verkehr und Klimaschutz (2017): Mobilität der Stadt. Berliner Verkehr in Zahlen 2017. Berlin. S.16f.

Mobility concept

- At build-out: 0,4 parking spaces per dwelling unit (at the time of investigation about 0.3)
- Improved bus frequency, bike houses, parking garage
- Mobility station: carsharing, e-kickscooter-sharing, info



RESEARCH APPROACH

- Surveys of residents (response rate in area C 12.8%)
- Simulation of three mobility concept scenarios:

	Scenario 1	Scenario 2	Scenario 3
Public transport	New bus line	+ Bus lane	+ Stops at additional urban rail track connecting with the city center
Bike	Protected bike stands in WATERKANT and closest subway station (1min reduction of travel time)	+ Cross-free bike lane to closest subway station (additional one-minute reduction of travel time)	+ Bike highway (bike speed increased by 2 km/h)
Car		+ Parking fee of 1 € per hour for non-residents	+ Reduction of residential parking permits in study area (0.5 cars per household)
Further measures	Mobility station with car sharing, e-scooters and an information monitor		

RESULTS

According to our survey, findings for area C :

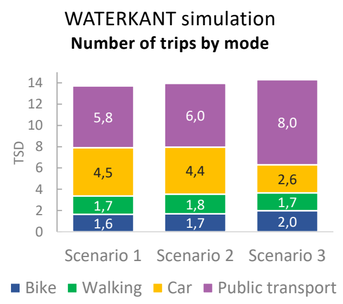
- People brought three times more cars than planned for (1, 2).
- Highest ranked measures are: stores nearby, cost reduction and service improvements in public transport and for cycling, parcel lockers. Shared mobility was rarely assessed useful (4).
- ¼ did not know the new services and 6% considered them in their location decision, while 2-33% used them.

Transport models show:

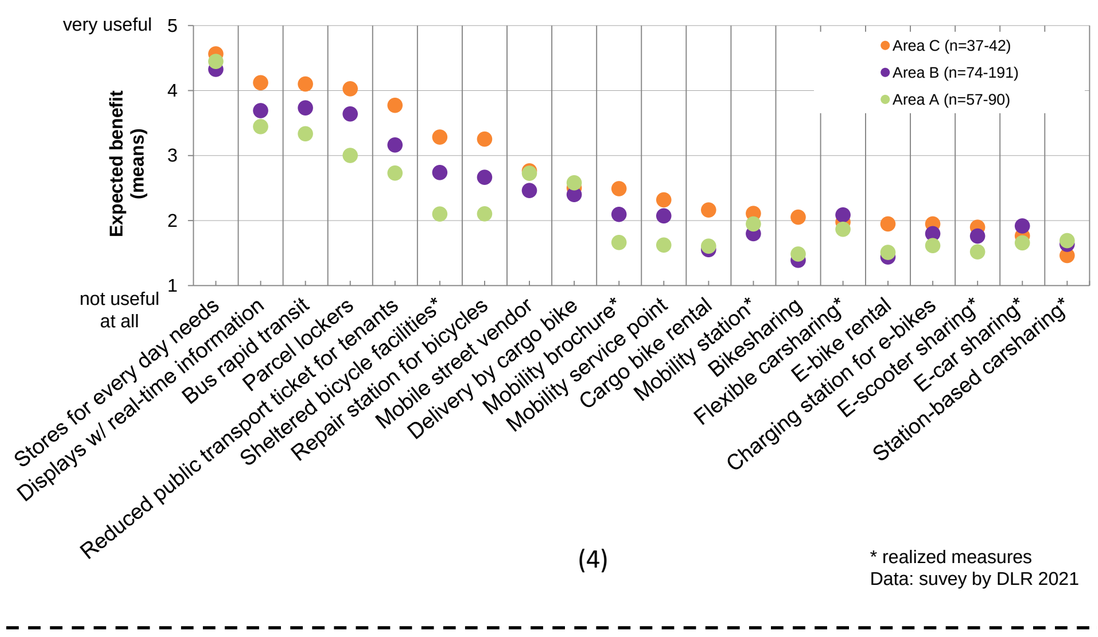
- Only strong measures such as in scenario 3 change the modal split significantly (3).
- An extra bus lane, though assessed as useful by residents, does not significantly improve travel times.
- The excessive parking space in the area equals the size of a small park or soccer field.

(1)

(2)



(3)



(4)

* realized measures
Data: suvey by DLR 2021

CONCLUSION

- Planning ideal and lived reality differ often.
- Direct and active communication of new mobility services is of crucial importance for usage.
- Local supply combined with attractive alternatives to private cars is key to promote sustainable mobility

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