



Research Unit of Infrastructure,
Technology Policy and
Development

7th Conference on Sustainable Mobility #CSuM2024

Kazarma Hotel, Plastira's Lake, Greece
4 - 6 September 2024

Evaluating the effect of transforming public space on customer traffic – Utilization of mobile phone data

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DLR German Aerospace Center – Rethinking Neighborhoods and Transport Infrastructures

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Background

- Many Projects of redesign and redistribution of urban space –active mobility & quality of stay
- Beforehand often criticism by local businesses – most fears do not come true
- Various approaches and indicators to evaluate on site
- Limitations in transferability and comparability
- Require individual conceptualization, survey and analyses
- Individual results for individual projects
- Difficult to merge results and to derive global trends



Research Question using Case Study in Berlin

How can we evaluate the effect of transforming public space on local customer traffic?

Before

After





<https://www.tagesspiegel.de/berlin/wie-der-kreuzberger-stadtrat-schmidt-die-autos-zuruckdrangen-will-4670638.html>

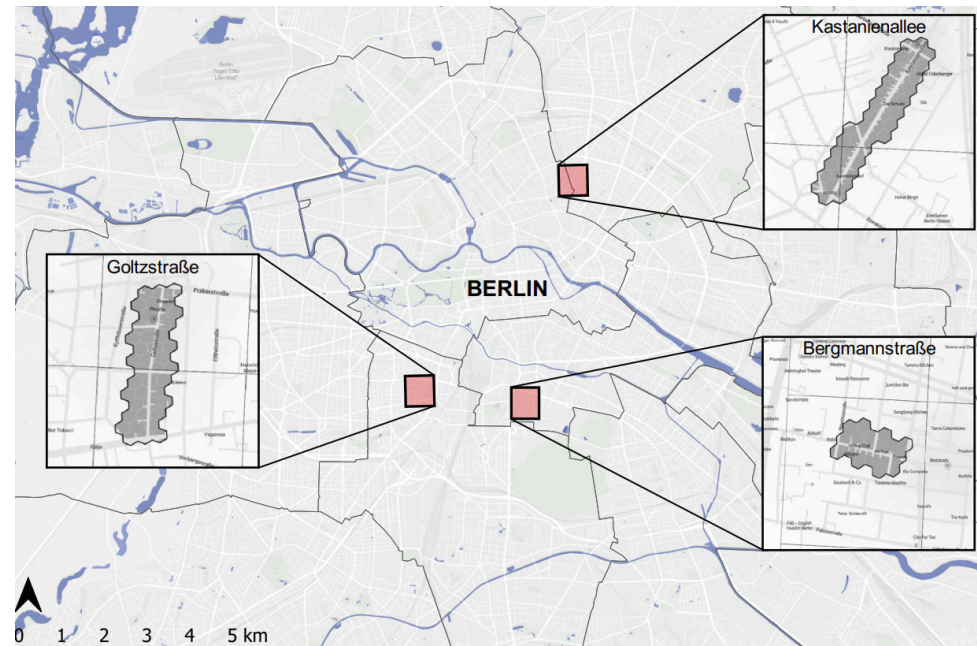


Approach

- Fully transferable method, basis for large scale comparison
- Straightforward method and easy presentation of result for clear communication towards practice
- Temporal and spatial comparison
- Case study: Compare pedestrian frequency in three streets in two years (2019 and 2023)

Comparative Case Studies

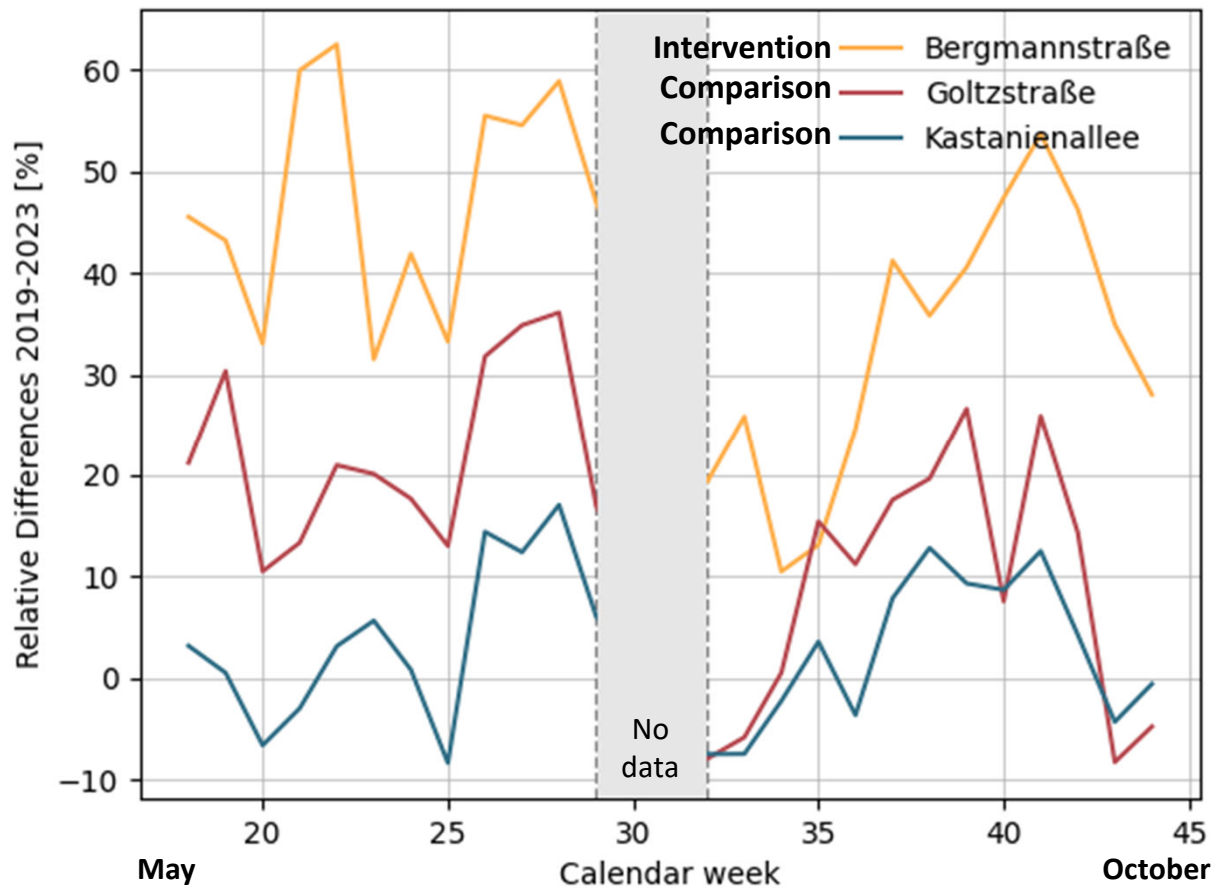
- Three similar streets in Berlin
- Innercity, dense, strong diverse local economy, touristic
- One street was redesigned, two remain unchanged
- Allows for identifying and isolating direct effects



Data & calculation

- Mobility data derived from mobile phones
- Based on Telefonica (24.7% of mobile phones)
- Organized in cellular network cells (~500 x 500m)
- Gender and age of contract holders
- Refined spatial resolution by model using sociodemographic and attraction of all activity locations (50 x 50m; partner: What-a-location)
- based on prior stays: classify local resident, commuter, tourist, daytime visitor
- Sum up visitors per calendar week (May-October)
- Calculate difference between 2019 and 2023

Results: Strongest increase of weekly visitors in redesigned street



Conclusion

- Comparable method as basis for large scale evaluations
- Case study results show overproportionately more visitors in redesigned street
- Limitations
 - No statement about expenses on site
 - Correlation between pedestrian frequency and revenues of local stores not proven
 - Potential effect of unknown factors
- Next steps: develop large sample size by including more streets to statistically validate results



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