

THE POTENTIAL OF THE MOBILITY TRANSITION TO TACKLE THE HOUSING CRISIS (EXCERPT)

London
Livable Cities 2024

1 Challenge: Housing Crisis



Source: <https://www.tagesspiegel.de/berlin/150-meter-lange-schlange-in-berlin-charlottenburg-offentliche-wohnungsbesichtigung-muss-abgebrochen-werden-9610940.html>; Image: Twitter: Mischa Heuer

1 Challenge: Mobility Transition



Source: <https://www.tagesschau.de/ausland/europa/tote-luftverschmutzung-101.html>

BerlinTREND Januar 2023

Wichtigste Probleme in Berlin

Summierte Auswertung wichtigstes + zweitwichtigstes Problem


Berliner  Morgenpost

Wohnen / Mieten	-8	39
Mobilität / Verkehr	-6	29
Bildung / Schule / Ausbildung	+3	21
Flüchtlinge / Einwanderung / Asylpolitik / Integration	+6	15
innere Sicherheit / Kriminalität / Terror/ Silvester-Vorfälle	+6	15
Umweltschutz / Klimawandel	-2	9
Berliner Verwaltung / Politik: dysfunktional, schlecht arbeitend	+2	9
soziale Ungerechtigkeit / Armut / Bürgergeld	+1	9
Inflation / steigende Preise / Energiekosten	+4	4
Gesundheitswesen / medizinische Versorgung / Pflege	+2	4

Welches ist Ihrer Meinung nach das wichtigste politische Problem in Berlin, das vordringlich gelöst werden muss? Und welches ist das zweitwichtigste?

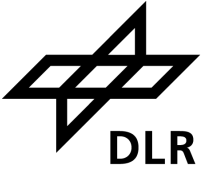
Grundgesamtheit: Wahlberechtigte im Bundesland
Werte in Prozent / Veränderungen in Prozentpunkten zu Juni 2021
Fehlende Werte: Anderes / keine Nennung

infratest dimap 

Source: <https://www.infratest-dimap.de/umfragen-analysen/bundeslaender/berlin/laendertrend/2023/januar/>

What are the solutions?

Solution?



Solution for tackling the housing crisis?

Olaf Scholz: *"For Germany as a whole, we probably need 20 new neighbourhoods in the most sought-after cities and regions - just like in the 1970s"*

Source: <https://www.tagesschau.de/inland/innenpolitik/baupolitik-wohnungsbau-100.html>

Solution?

Solution for tackling the housing crisis?



Source: Sabine Kraft, DIE GROSSSIEDLUNGEN, ein gescheitertes Erbe der Moderne?; Berlin-GROPIUSSTADT, 1962 – 1975

Solution?



Solution for the mobility transition?

Promotion for e-cars through purchase premium: Government expenditure: Since 2016: "around 10 billion euros paid out as part of the environmental bonus for around 2.1 million electric vehicles."

Source: <https://www.bundesregierung.de/breg-de/schwerpunkte/klimaschutz/eenergie-und-mobilitaet/faq-umweltbonus-1993830#:~:text=Mit%20dem%20Umweltbonus%20hatte%20die,2%2C1%20Millionen%20Elektrofahrzeuge%20ausgeza hlt.>

Average cost of an electric car in Germany 2023: 52,700 €

Source: Center of Automotive Management (CAM). 2023

Increased land consumption and new sealing (urban sprawl), increase in journey lengths and increased dependence on cars, goals of the mobility transition and stopping land sealing thwarted

If the (genuine) mobility transition is implemented with a switch to active mobility and PT, this will free up land in cities that can contribute to solving the housing crisis and stopping land sealing

Mobility Transition on-street: Example Karl-Marx-Allee Berlin



Source: Google Earth 2018 Alexander Czeh, Institut for Transport Research, 06.2024



Source: Google Earth 2023

Mobility Transition on-street: Example Super Blocs Barcelona



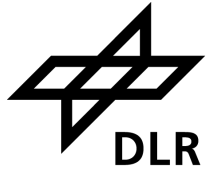
On-Street Automobile Infrastructure: Redistribution from automobile towards active mobility and public transport required

- **Science:** Gössling et al. (2016) Freiburg, Nello-Deakin (2019) Amsterdam, Colville-Andersen (2018) Kopenhagen, Creutzig et al. (2020) Berlin, Guzman et al. (2021) Bogota, De Gruyter (2022) Melbourne
- **Civil Society:** Mobilitätsgesetz (Berlin, MobG 2018; Brandenburg 2024)
- **Administration:** redistribution of street land (e.g. Amsterdam, Barcelona, Oslo, Paris)

Research Gap: Off-Street Automobile Infrastructure (OSAI)

1. **Land consumption OSAI?**
(petrol stations, car dealerships, garages, car rental, parking)
2. **Potential of the mobility transition (MT)?** for the redistribution of land; especially for the housing market?

1 Big Picture



Status-quo

- Housing Crisis

[Madeddu, Manuela, Ben Clifford 2023]

- Soil Sealing (52 ha p day)

[Federal Statistical Office of Germany 2023]

- Non-Sustainable Transport

[Statistical Office Berlin-Brandenburg 2023]

Normative World

- More Land for Housing

[Voigtländer, 2018]

- Stop Sprawl (30 ha p day)

[DNS Bundesregierung 2018]

- Modal Shift to AM + PT

[IÖW, EWG Bln, 2021]

Consequences

1. Holistic approach
spatial + urban & transport
planning

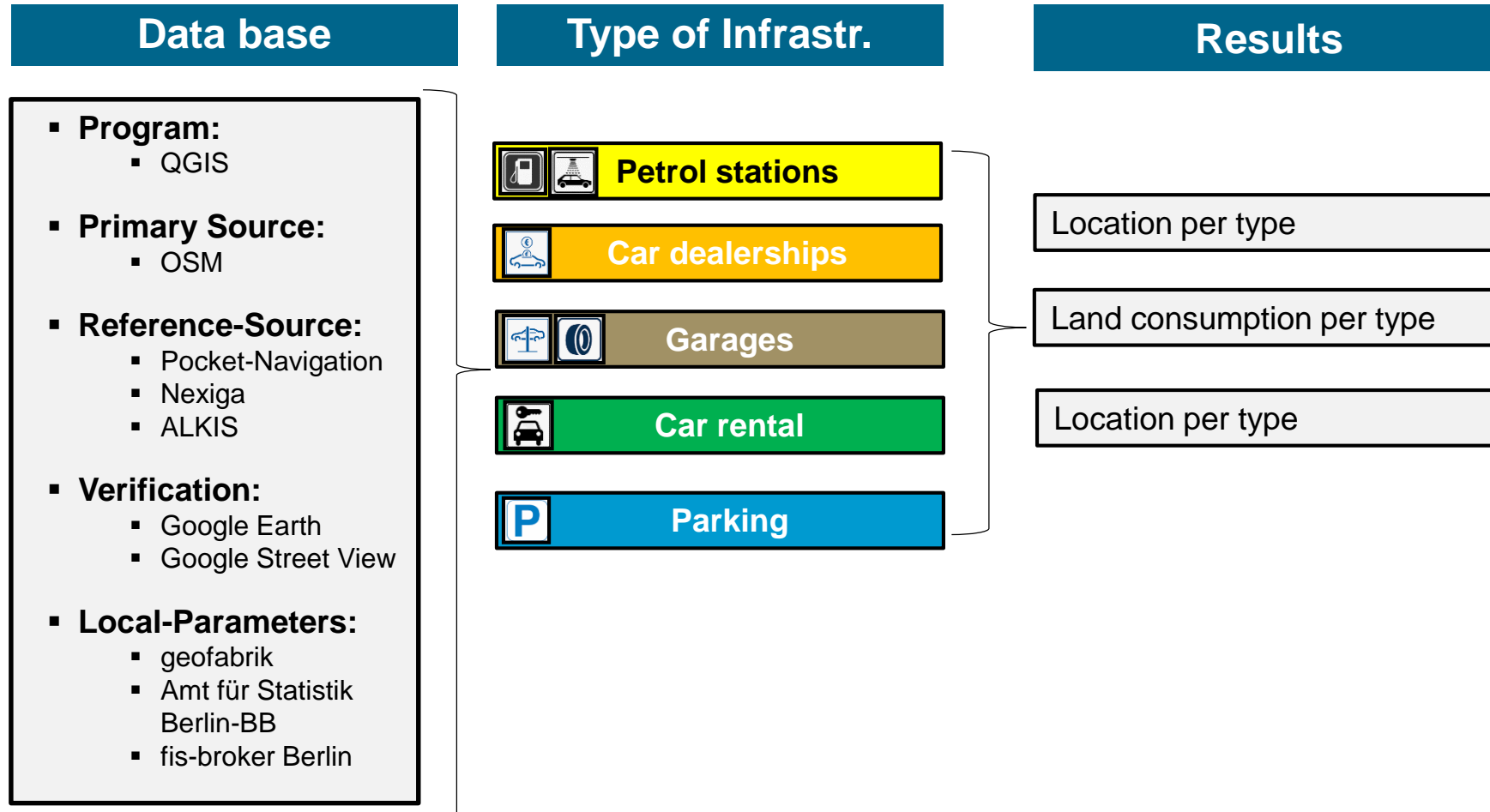
2. Assessment of land
consumption

3. Calculation of the effects of
MT for land consumption

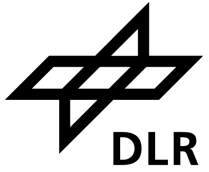
4. Awareness raising + policy
recommendations

Bottom Line: CO2-neutrality: 1,5C + Local reduction targets (e.g. Berlin 2045)

2 Status-Quo: Assessment of land consumption through OSAI



2 Status-Quo-Analysis: Moabit (~80k inhabitants)



Scale 1 : 1.875

- ▭ Districts Berlin
- OSAI per Type**
 - Petrol stations
 - Car dealerships
 - Garages
 - Car Rentals
- Parking**
 - Parking area
 - Parking car park
 - Parking rooftop
 - Parking underground
 - Parking garage
 - Land parcels Berlin



0 500 1,000 m









Figure 4: Example of detailed assessment for the borough Moabit; Source: my own GIS analysis

2 Status-Quo-Analysis



Scale 1 : 1.875

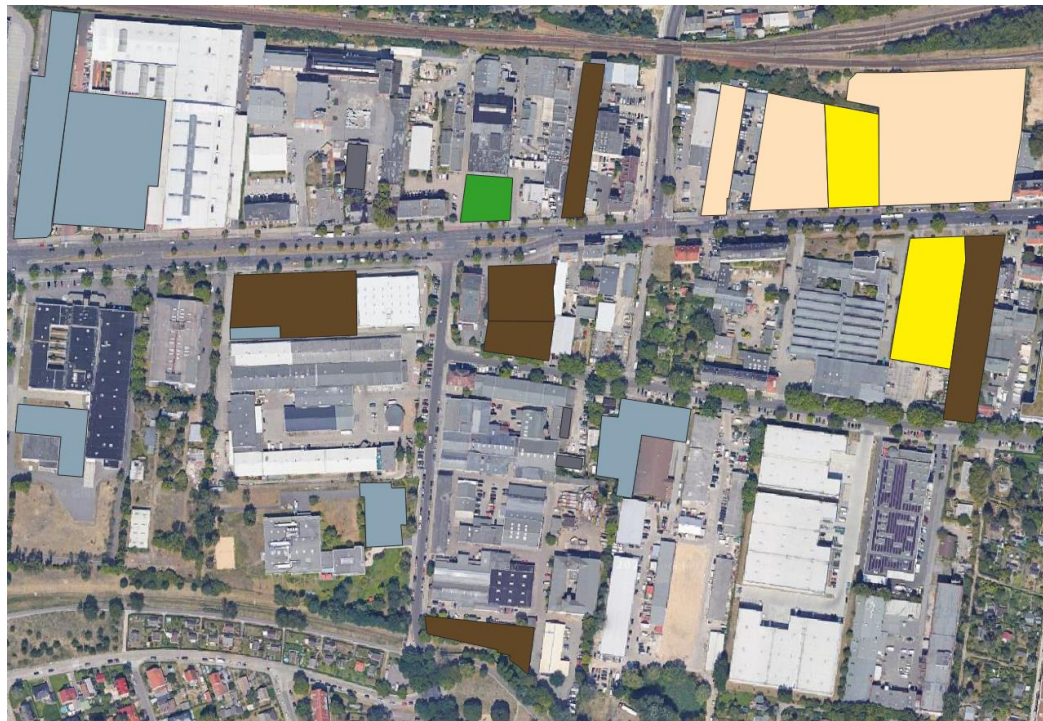
- ✓  Filling St.
- ✓  Car Dealer
- ✓  Car Repair
- ✓  Car Rental
- ✓  Parking
- ✓  Parking area
- ✓  Parking car park
- ✓  Parking rooftop
- ✓  Parking underground
- ✓  Parking Garage
-  Parking onstreet lane



Example of detailed assessment for the borough Moabit; Source: my own GIS analysis, Google Earth

3 Summary Spatial Analysis

Example of the most dominating building type (30), commercial and industrial area, large retail, low building density



OSAI in Berlin (Scale: 1:2,500): my own GIS analysis



Source: Senatsverwaltung für Stadtentwicklung und Wohnen, Flächennutzung und Stadtstruktur 2020

3 Summary Spatial Analysis

Example of commercial and industrial area, large retail, dense development



OSAI in Berlin (Scale: 1:2,500): my own GIS analysis



Car dealership in Berlin-Charlottenburg; Source: <https://group.mercedes-benz.com/karriere/ueber-uns/standorte/standort-detailseite-5063.html>

5 Examples of Redistribution

Petrol station



Figure 28: Former petrol station rededicated in 2019; date: 07/2012; Source: Google (2024)



Figure 29: Housing on land parcel of a former petrol station; Source: authors own (2024)

Location	Area of the land plot	Year of rededication	New use	Conversion of existing OSAI	Number of flats generated	Gross floor area after rededication (in m2)
Mommsenstr. 15, 10629	1,044 m ²	2019	Housing	No	36 flats	3,270 m ² for living

5 Examples of Redistribution

Car dealerships



Figure 32: Former car dealership rededicated 2020; date: 07/2012; Source: Google (2024)



Figure 33: Housing, commercial and kindergarten on a land plot of a former car dealership; Source: authors own (2024)

Location	Area of the land plot	Year of rededication	New use	Conversion of existing OSAI	Number of flats generated	Gross floor area after rededication (in m2)
Hasenheide 74-76, 10967	~7,000 m ²	2021	Housing + commercial + public infrastructure (kindergarten)	No	238 flats	26.200 m ²

5 Examples of Redistribution

Garages

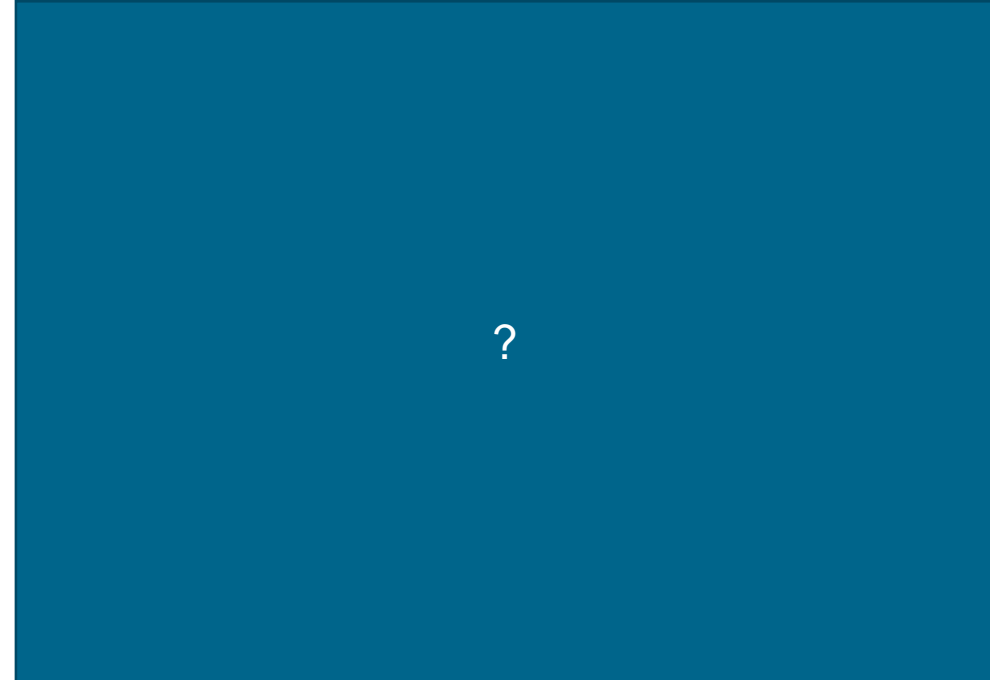


Figure 34: Existing garages; Source: authors own (2024)

Location	Area of the land plot	Year of rededication	New use	Conversion of existing OSAI	Number of flats generated	Gross floor area after rededication (in m ²)
Böttgerstraße, 13357	Unknown	Not defined	Housing + commercial + public infrastructure (kindergarten)	No	Inter alia 160 flats for social housing planned	Unknown

5 Examples of Redistribution

Parking



Figure 30: Former car park rededicated 1984; Source: Internationale Bauausstellung (2010)



Figure 31: Kindergarten in the building of former car park; Source: authors own (2024)

Location	Area of the land plot	Year of rededication	New use	Conversion of existing OSAI	Number of flats generated	Gross floor area after rededication (in m2)
Dresdener Straße 128, 10999	~2,0000 m ²	1984-1987	Public infrastructure (kindergarten)	Yes	0 flats	Unknown

5 Examples of Redistribution

Car rental



Figure 35: Former car rental rededicated 2021; date 07/2012; Source: Google (2024)



Figure 36: Commercial and art use on a land plot of a former car rental service; Source: authors own (2024)

Location	Area of the land plot	Year of rededication	New use	Conversion of existing OSAI	Number of flats generated	Gross floor area after rededication (in m2)
Prinzenstraße 89, 10969	~5,000 m ²	2021	Commercial, art	No	0 flats	18,000 m ² for commercial area

The Potential of the Mobility Transition to Tackle the Housing Crisis



Stay in touch!

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