Traffic volume and level of urbanization in Germany
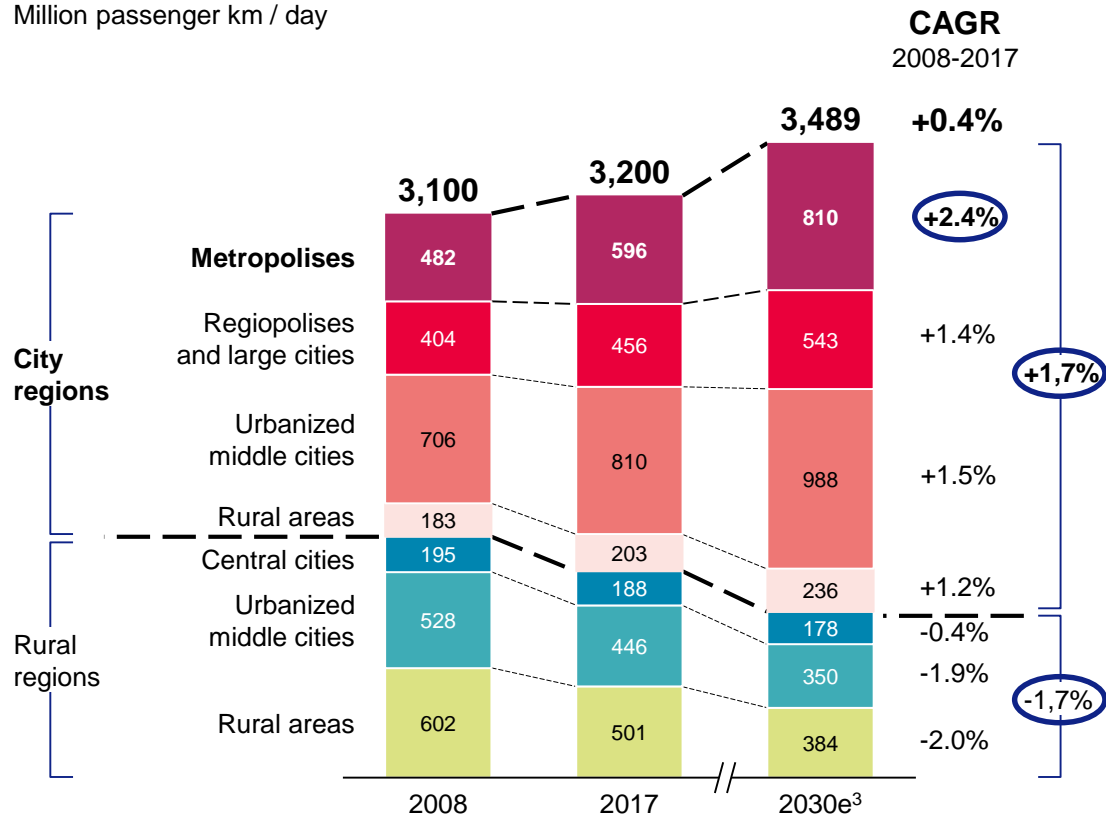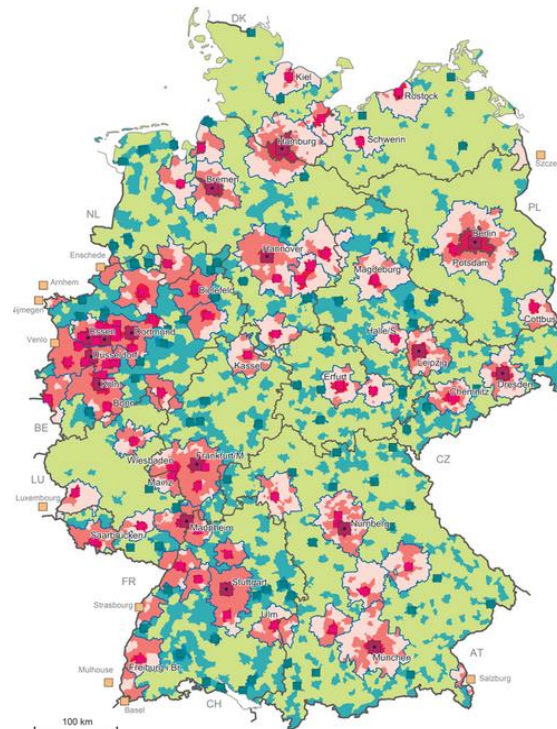
Passenger km have increased and will increase further in city regions, esp. metropolises

Development of daily passenger km by residential areas[1]

Million passenger km / day

CAGR 2008-2017

	2008	2017	2030e[3]	CAGR
			3,489	**+0.4%**
	3,100	**3,200**		
Metropolises	482	596	810	+2.4%
Regiopolises and large cities	404	456	543	+1.4%
Urbanized middle cities	706	810	988	+1.5%
Rural areas	183	203	236	+1.2%
Central cities	195	188	178	-0.4%
Urbanized middle cities	528	446	350	-1.9%
Rural areas	602	501	384	-2.0%

City regions: **+1,7%**

Rural regions: **-1,7%**

Map of residential areas[2]

100 km

Key Insights

- Total passenger miles increasing
- Shift from rural to city regions
- Largest increase in passenger km in metropolises adding up to a total growth of 36.9% from 2017 to 2030
- Resulting traffic density facilitates alternative modes of transport
- City regions will play the leading role in future mobility

1) Based on a survey with 316,361 participants in Germany in the period from May 2016 to September 2017, taking into account all modes of transport   2) see BBSR 2018
3) Development under the assumption of a constant annual growth rate
Source: Infas & DLR "Mobilität in Deutschland" 2018, BBSR "Regionalstatistische Raumtypen" 2018, mm customer strategy
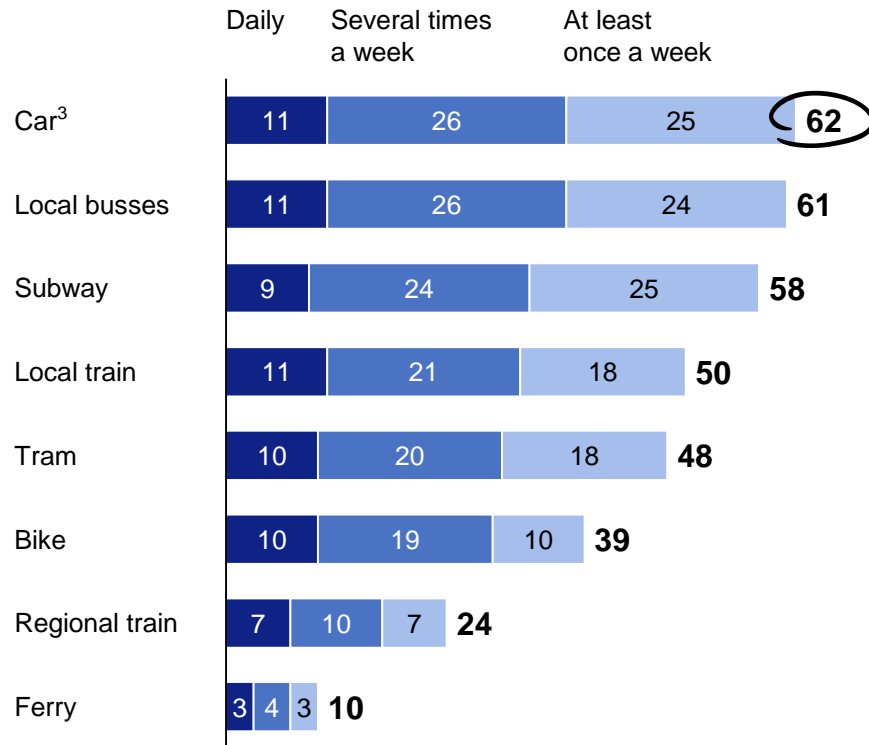
Usage frequency of transport modes and attitudes towards motoring

Cars, local busses and subways are used most frequently in Germany's biggest cities; in general, Germans are still very car-affine, but attitudes are changing over time in society
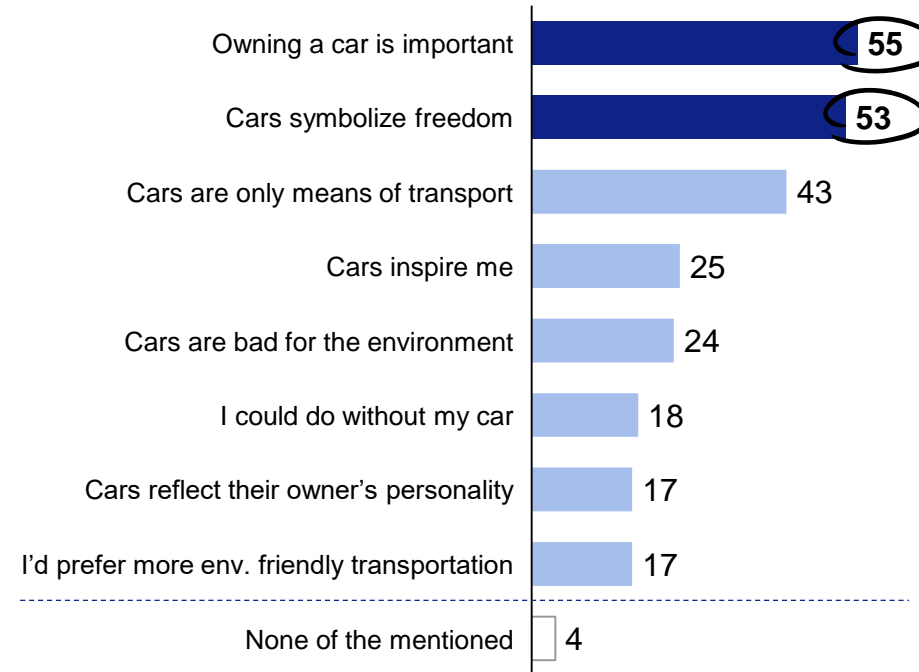
Usage frequency of transport modes

% of participants

	Daily	Several times a week	At least once a week	
Car[3]	11	26	25	**62**
Local busses	11	26	24	**61**
Subway	9	24	25	**58**
Local train	11	21	18	**50**
Tram	10	20	18	**48**
Bike	10	19	10	**39**
Regional train	7	10	7	**24**
Ferry	3	4	3	**10**

Attitudes towards motoring[2]

% of participants agreed

Owning a car is important	**55**
Cars symbolize freedom	**53**
Cars are only means of transport	43
Cars inspire me	25
Cars are bad for the environment	24
I could do without my car	18
Cars reflect their owner's personality	17
I'd prefer more env. friendly transportation	17
None of the mentioned	4

Remarks

- Cars used most often
- Individual transportation stays important and more than 50% of the population still see cars as symbols for freedom
- Individual transportation is generally important source for future premium services
- Importance and emotional relatedness to own car differ between groups: decline among younger and urban population

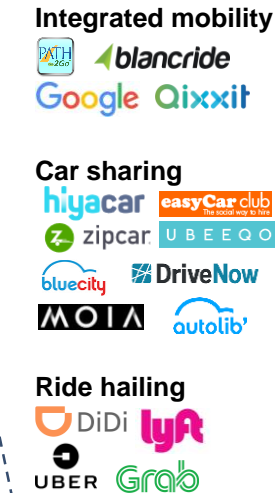# Mobility development: Example travel in high-income metropolises

Metropolises like London: traffic to increase especially at the benefit of shared motoring concepts; beyond this, new transportation modes must be taken into account in the future

Modal split in high-income metropolises[1]

Modal share of passenger miles

	Absolute		Relative	
Index 2016 =100	100	130	100	130

Shared motor / Private motor[2] / Public transit / Soft mode[3]

Absolute:
- 2016: Shared motor 1, Private motor 48, Public transit 42, Soft mode 8
- 2030e: Shared motor 40, Private motor 35, Public transit 45, Soft mode 10

Relative:
- 2016: Shared motor 1, Private motor 48, Public transit 42, Soft mode 8
- 2030e: Shared motor 31, Private motor 27, Public transit 35, Soft mode 8

Transport players

Integrated mobility
PATHm2Go · blancride · Google · Qixxit

Car sharing
hiyacar · easyCar club · zipcar · UBEEQO · bluecity · DriveNow · MOIA · autolib'

Ride hailing
DiDi · lyft · UBER · Grab

Change drivers in metropolises

Environmental footprint
- Higher immediate impact from pollution
- Low emission-zones incentivise electrification

Space restrictions
- Autonomous driving reduces need for parking facilities
- Air and underground offer additional space for intracity transportation

Existing infrastructure
- Higher need for a unified solution for intermodal transportation (integration)
- Better first / last mile solutions for new modes of transport

Remarks

- Importance of non-car modes of transport much higher in metropolises like London
- Traffic density already expels transportation from the road to alternative spaces, effect will be amplified in the future
- Competitors for new modes of transport in metropolises are not only cars but also public transportation services

1) e.g. London, Singapore, Shanghai   2) Including two-wheel   3) Walking and bicycles
Source: McKinsey "An integrated perspective on future mobility" 2016, mm customer strategy

Vertical take-off and landing (VTOL): Existing concepts
Diverse market with a variety of concepts, mostly fully electric (eVTOL)

Attributes   Concepts[1]

Name	Pop.Up Next AIRBUS Italdesign / Audi	VOLOCOPTER 2X	WORKHORSE SureFly	AIRBUS Vahana	EHANG 184	UBER Elevate (AIR)	KITTYHAWK Cora
Max. altitude	n/a	1,650 m	1,200 m	n/a	500 m	305 m	900 m
Max. speed	100 kph	100 kph	120 kph	175 kph	60 kph	241 kph	180 kph
Range	100 km	27 km	60 min	100 km	25 min	96 km	100 km
Propulsion	Fully electric	Fully electric	Gasoline with range ext.	Fully electric	Fully electric	Fully electric	Fully electric
Charging time	15 min.	40 min.	n/a	n/a	60 min.	5-15 min.	n/a
Capacity	2 passengers	2 passengers	2 passengers(180 kg)	1 passenger	1 passenger (100 kg)	4-5 passengers	2 passengers
Costs	n/a	n/a	$200,000	n/a	$200,000 - $300,000	n/a	n/a
Status	n/a	Manned test flight, internat. safety conditions fulfilled	Manned test flight	Prototype	Manned test flight	Still in planning stage, demo flights in 2020, launch planned in 2023	Prototype

1) Exemplary, without multi-modular and long-distance concepts
Source: Developer websites (Airbus & Italdesign, Volocopter, Workhorse Group, A³ by Airbus, Ehang, Uber Technologies, Kitty Hawk) last accessed August 6th 2018, mm customer strategy

mm customer strategy – At a glance
Leading global strategic research in automotive, telecommunication, finance & insurance

TOPICS

- Marketing, brand (portfolio) strategy, positioning
- Market entry / go-to-market strategy
- Market structure & migration; market sizing / forecasts, business cases / business planning
- Strategic segmentations, potentials, personas
- Digital / innovation / co-creation
- Customer experience / journey / touchpoints
- Satisfaction, loyalty, NPS
- B2B, B2C, B2D, B2E[1]

Leading global strategic market research

COUNTRIES

Country coverage (mm-strategy & preferred partners)

SOURCES

- Primary market research (own studies)
  - Quant: Online, CATI, face2face
  - Qual: Focus groups, scrum groups, IDIs, online communities, (C-level) expert interviews
  - All continents / global coverage
  - Renown & specialised field partners
- Customer / CRM data
- Desk research

- Market / customer segmentation
- Regression, factor, cluster, discriminant analyses
- Structural equation models (PLS), driver analyses, FiMix models
- Advanced conjoint analyses, e.g. menu-based conjoint, ACBC
- Behavioural economics

METHODOLOGIES

OUR MANAGEMENT

Yvonne Martini
Managing Partner

- 17 ys top-mgt. strategy consulting
- 14 ys int. market research
- Formerly Roland Berger Strategy Consultants (project manager)

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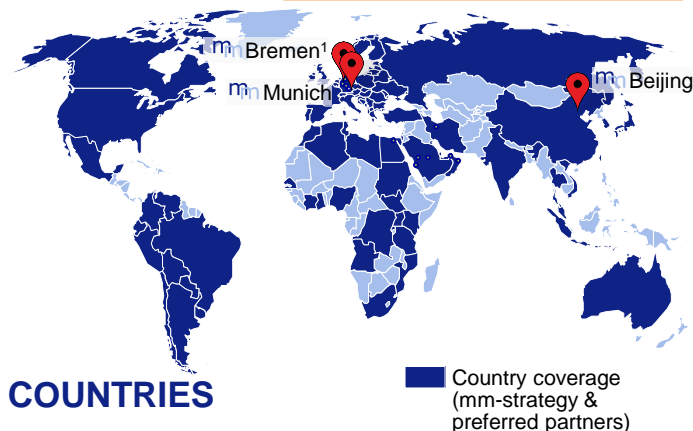Managing Partner

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