

Innovative approaches to land use and urban development: creating livable communities

Case study : Berlin

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TRANSPORT WITHIN THE CITY



Berlin is served by an attractive, extensive, comprehensive and interlinked network of

- 9 underground lines (U-Bahn)
- 15 suburban railway lines (S-Bahn)
- 185 bus lines
- 23 tram lines
- 6 ferries
- 73 shipping companies.

TRANSPORT WITHIN THE CITY



Suburban and underground trains begin operating at about 4 a.m. and continue running until about 30 minutes after midnight. Many buses, some underground trains and the main suburban railway lines offer a night service. No other European metropolis has more underground lines which operate through the night at weekends and on the eve of public holidays.



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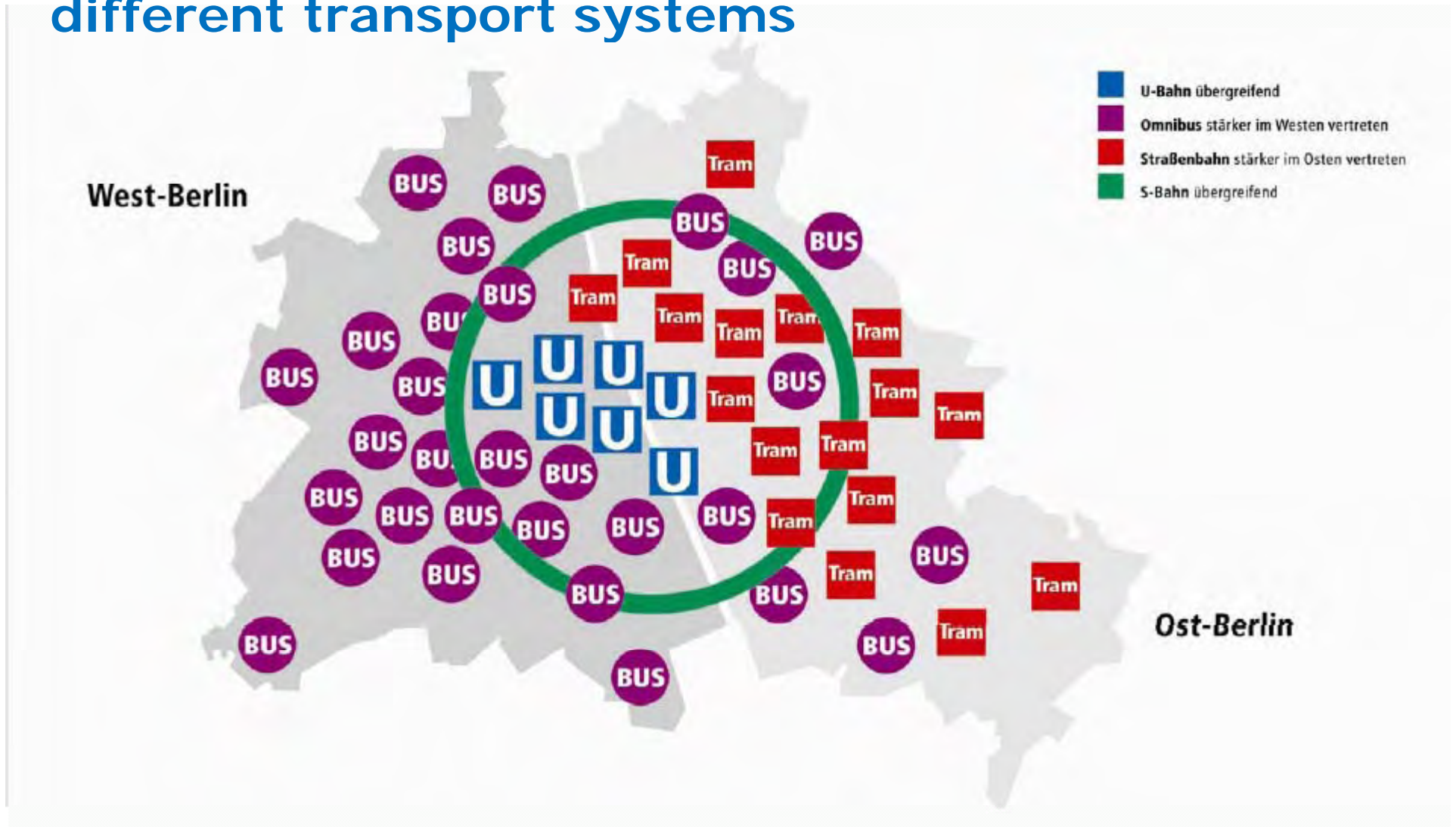
BVG (Berliner Verkehrsbetriebe) – Germany’s largest company of public traffic



- Every day 16 times around the world
- 900 millions of passengers a year
- 2,5 millions of passengers daily
- 12.000 employees



The divided Berlin and its consequences for two different transport systems



Philosophy of the BVG

Based on the „Guidelines for the further development of Berlin as a barrier free city“ (15 September 1992) it is necessary *to construct e.g. subway stations on such a way that the stations themselves, the vehicles and the relevant equipment are accessible and usable by all of the handicaped people without external help.*



Philosophy of the BVG

All the activities for the handicapped people are also helpful for the other passengers



The percentage of mobility impaired people is very low relatively to the total number of passengers but the barrier free design is **good for all!**



Barrier free design of public transport vehicles and infrastructure in Berlin

- 100 % of buses
- 40 % of trams (100 % in 2018)
- 100 % of suburban trains
- 73 % of suburban stations have a guidance system for visually impaired people
- 46 % of subway stations have a guidance system for visually impaired people
- 99 subway stations and 118 suburban train stations are equipped with elevators or ramps



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BVG assistance for mobility impaired people

Authorized person of BVG for mobility impaired people is giving advices in a subway station



Mechanical folding ramp for buses



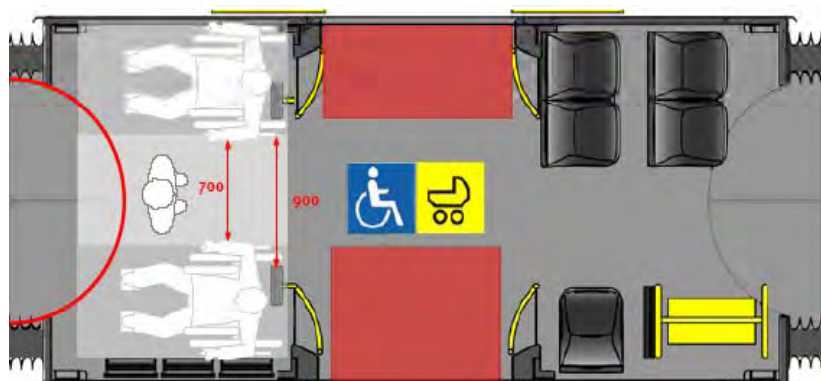
The new double-decker has space for two wheelchairs



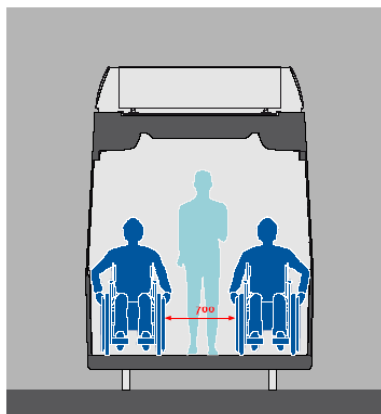
New generation of trams „Flexity Berlin“



The new tram „Flexity Berlin“ has space for two wheelchairs



↗ Sitz f. kleinwüchsige Menschen



Field study: Comparison of an electromechanic and a manual operated folding ramp at regional trains

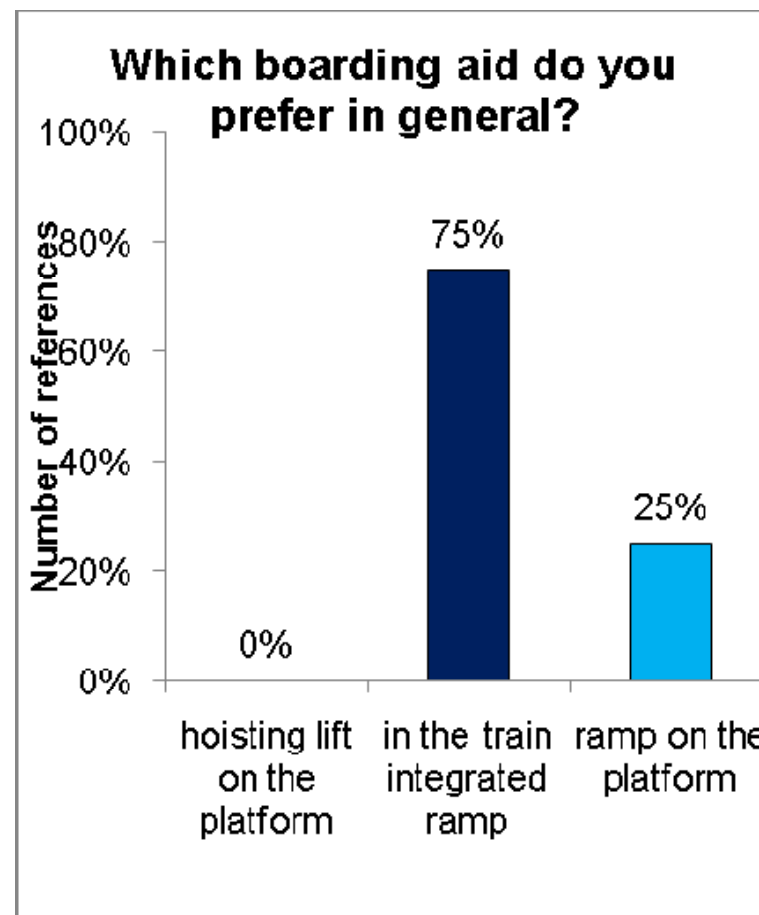
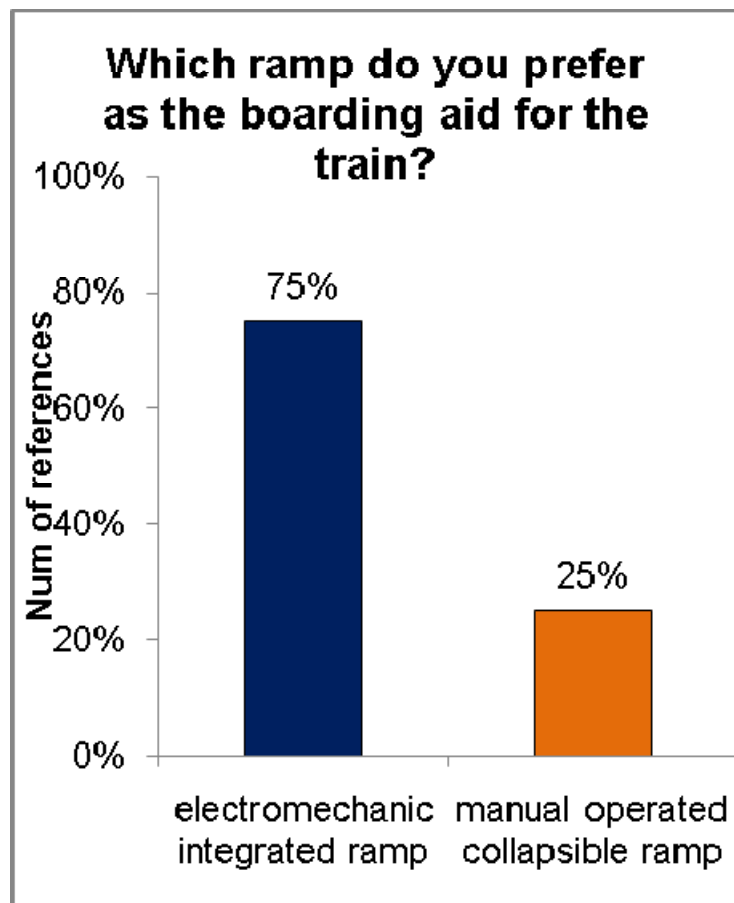
- Hoisting lift on the platform
- In the train integrated electromechanic ramp
- In the train integrated folding ramp



Field study: Comparison of an electromechanic and a manual operated folding ramp at regional trains

	Lift on the platform	Electromec. ramp	Manual oper. ramp
Carrying capacity	260 kg	350 kg	350 kg
Breadth	830 mm	970 mm	820 mm
Length	1650 mm	1000 mm	1200 mm
Height of platform	550 mm	380 – 760 mm	400 mm
Operated by train staff	X	X	X

Field study: Comparison of an electromechanic and a manual operated folding ramp at regional trains



Mechanical folding ramp for subways

(stored on the platform nearly the head of the train)



Information and guidance system for blind and visually impaired people

Accessible Berlin



PUBLIC TRANSPORT

- The trams consist of modern trains with a low floor, which also have ramps that can be lowered. These trams circulate on 14 lines.

-The public transportation of Berlin (BVG) has installed guidance stripes in over 40 subway stations. The surface of these stripes is corrugated to mark the edge of the platforms.

-In the new central station Hauptbahnhof a nearly complete information and guide system for the blind and visually handicapped people is installed.

Link for transfer by car: <http://www.reiseagentur-c-mueller.de/>

High contrast in the interior room and continuous handholds for better orientation of visually impaired people



Emergency module

What is the concept about?

The emergency module consists of three elements:

- the emergency brake
- the emergency egress device and
- the emergency communication system integrated in one module

What is new or special about the concept?

This emergency module was successfully tested by persons with different handicaps (physically impaired, wheelchair user, small stature...)



Periodical training of the mobility of handicapped persons (motivation)

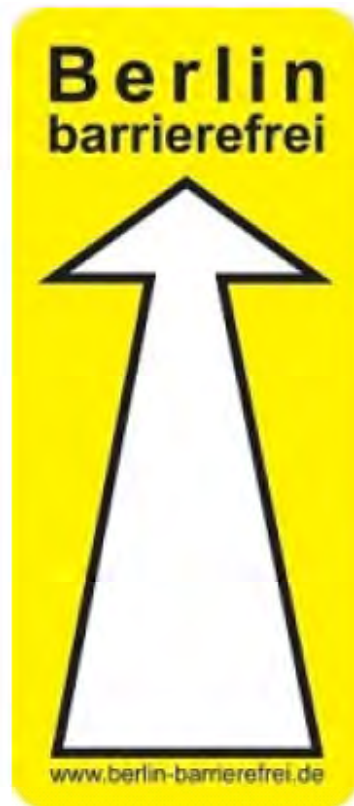


Call center for consultancy activities especially for mobility impaired persons



Berlin on the way to a city without barriers

Accessible Berlin



BERLIN WITHOUT BARRIERS

- Berlin is located on the way to a city without barriers and the logo is the signpost for it
- especially in the last 10 to 15 years there has been much in progress
- The logo has been developed in close cooperation with representatives from industry, commerce, tourism, culture and science
- They create a catalogue with minimum criterias for the award



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Thank you for your attention!



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