



# Sustainable Urban Mobility Plan Bremen 2025

Der Senator für Umwelt,  
Bau und Verkehr



Freie  
Hansestadt  
Bremen



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Bau und Verkehr



**Freie  
Hansestadt  
Bremen**



## Dear Reader,

Transport planning is the subject of intense political debate in many places. With the sustainable urban mobility plan (SUMP) 2025 a transport plan has been created for Bremen for the next 10 to 15 years.

The different aspects of Bremen's transport planning were analysed in an interdisciplinary fashion and current and future trends were studied. The SUMP should ensure well-functioning and environmentally-friendly mobility in Bremen. Bremen already displays a high level of environmentally-friendly mobility: a 25% cycling mode share is a good starting point. We want to build on this.

Innovative approaches to participation were employed in the planning process. The SUMP is the product of intensive collaboration among a wide range of actors. There was comprehensive and ongoing citizen participation, which included the use of new online tools. There was also a project committee that included representatives of associations, the administration and decision makers which was consulted on an ongoing basis. This cooperation contributed significantly to the high quality of the plan.

Key goals that we wish to achieve through the SUMP are:

- An increase in social inclusion
- A higher level of traffic safety
- Optimisation of commercial traffic and accessibility of Bremen as a regional centre
- More and better services for environmentally-friendly modes of transport
- Linking of transport systems
- Strengthening of walking, cycling and public transport — including between the city and the surrounding region
- Fewer negative effects on people, health and the environment

The SUMP has achieved a fine balance between the necessary degree of planning detail and maintaining sight of the big picture. It is a work in progress. The measures must be concretised and verified. In this way, the SUMP will be continually updated so as to be able to react to future developments. Despite the comprehensive and complex issues and the extensive participation, we managed to prepare and politically pass the SUMP in a 2.5 year project period. We hope such active participation from the public (both lay and professional) will continue in the future.

I am pleased that the Bremen sustainable urban mobility plan has met with such international interest and received the European SUMP Award. Many cities have similar challenges to overcome. With this English summary, we hope to inspire other cities — both in content and in process — to take innovative roads to the mobility of the future.



Dr Joachim Lohse  
Senator for Environment, Construction and Transport Bremen



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# Planning Dialogue and Participation Plan



## Motivation, Project Definition and Participation

The Sustainable Urban Mobility Plan (SUMP) is intended to set the strategic framework for the future development of transport in Bremen. Questions that were addressed included, e. g. “How will people get around in Bremen in the future? Which infrastructure measures should be tackled in the future? Which priorities should be set?” The SUMP addresses all journey purposes (work, leisure, shopping, etc.), all modes of travel and all transport networks for non-motorised modes and for motorised travel on roads and rails.

Social and spatial conditions have changed considerably in recent years. New housing facilities, changes in values, more flexible working hours, the concentration of small business in shopping centres and the extended opening hours of small businesses, Internet, e-mail, growth in commercial and goods transport, increased use of small delivery vehicles, demographic change, electric mobility or car sharing are just a few of the keywords that describe this multi-faceted change.

This also leads to changes in travel behaviour and to the need to examine related questions surrounding the future conception of Bremen’s transport activity in order to deploy the city’s limited financial resources in a targeted and efficient way, maintaining the attractiveness and high quality of life for Bremen’s citizens, workers and visitors; for industry, trade and services; as well as for research, rejuvenation and recreation.

The goal of the SUMP is to develop a mid- to long-term strategy for the development and regulation of mobility behaviour and transport in the City of Bremen. The interaction of the movement of people and commercial transport with land use will be analysed keeping in mind existing goals and strategy documents (climate protection and energy programme,

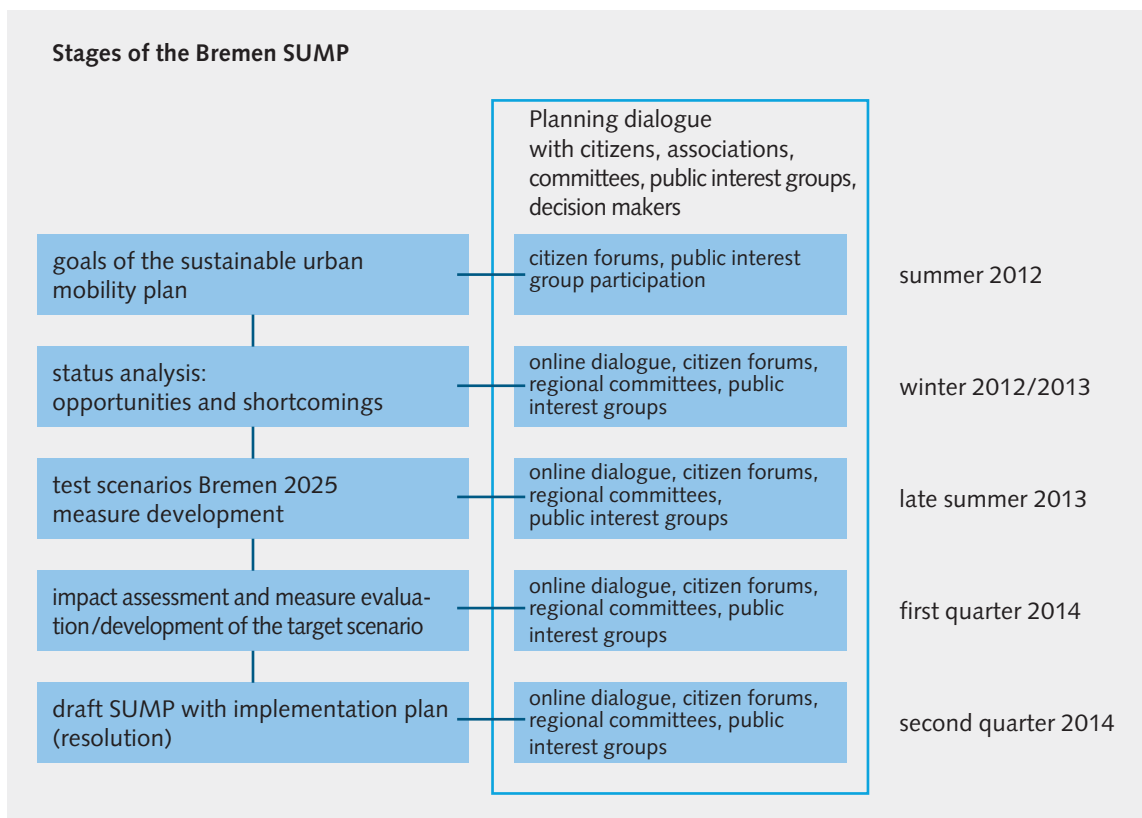
Guiding Principles of Urban Development 2020, etc.) and their present and future opportunities and shortcomings. Measures and packages of measures that could optimise these existing strategies will be examined to assess their effects on the achievement of the goals, and an implementation plan will be developed.

Given the financial situation in Bremen, measures were to be developed that are particularly efficient and offer high return for modest investment. Apart from infrastructure measures, the SUMP should also include the spectrum of cost-effective measures offered by traffic and mobility management. The questions of future maintenance and financing of transport infrastructure were also to be examined in the SUMP.

Following an EU-wide tendering process, the company Planersocietät (Dortmund and Bremen) and the Ingenieurgruppe IVV GmbH & Co. KG (Aachen) were assigned the task of drafting the SUMP. This team was supplemented by the Büro für Verkehrsökologie, which was responsible for moderating the citizens’ forums, and the Institute of Urban and Transportation Planning at the University of Aachen for their academic expertise and for the creation of the evaluation plan. Nexthamburg Plus UG (Hamburg) set up the online participation portal [www.bremen-bewegen.de](http://www.bremen-bewegen.de). The firm Protze + Theiling carried out the goal development process and supervised the first two public forums.

A new SUMP was needed as many changes had taken place in settlement and infrastructure in Bremen over the previous 15—20 years (since the last planning document), and it was time to adjust to the future demographic, ecological and economic challenges in the area of transport planning.

# Development Process of the SUMP



The development of the SUMP took place in five phases, including a broad participation process.

## Phase 1: Goals

The first step was to define the goals to be achieved through the SUMP. The goals serve as the basic orientation of the SUMP, providing direction for the subsequent steps. They resulted from a public discussion in the summer of 2012. The goals are listed in chapter 3.

## Phase 2: Status Analysis

The second phase of the SUMP was the analysis of the current situation, including a detailed analysis of opportunities and shortcomings. The current transport network was examined in detail in this phase. Where are the problems? Where is there often congestion? Which areas are not well connected to the bus or tram? Where are the gaps in the bicycle and pedestrian networks? Bremen's strengths were also looked at, as well as how they could be further built upon. Along with studies by transport professionals, numerous citizens provided input through the citizens' forums and online dialogue. The results of the opportunity and shortcoming analysis can be found in chapter 4.

## Phase 3: Test Scenarios

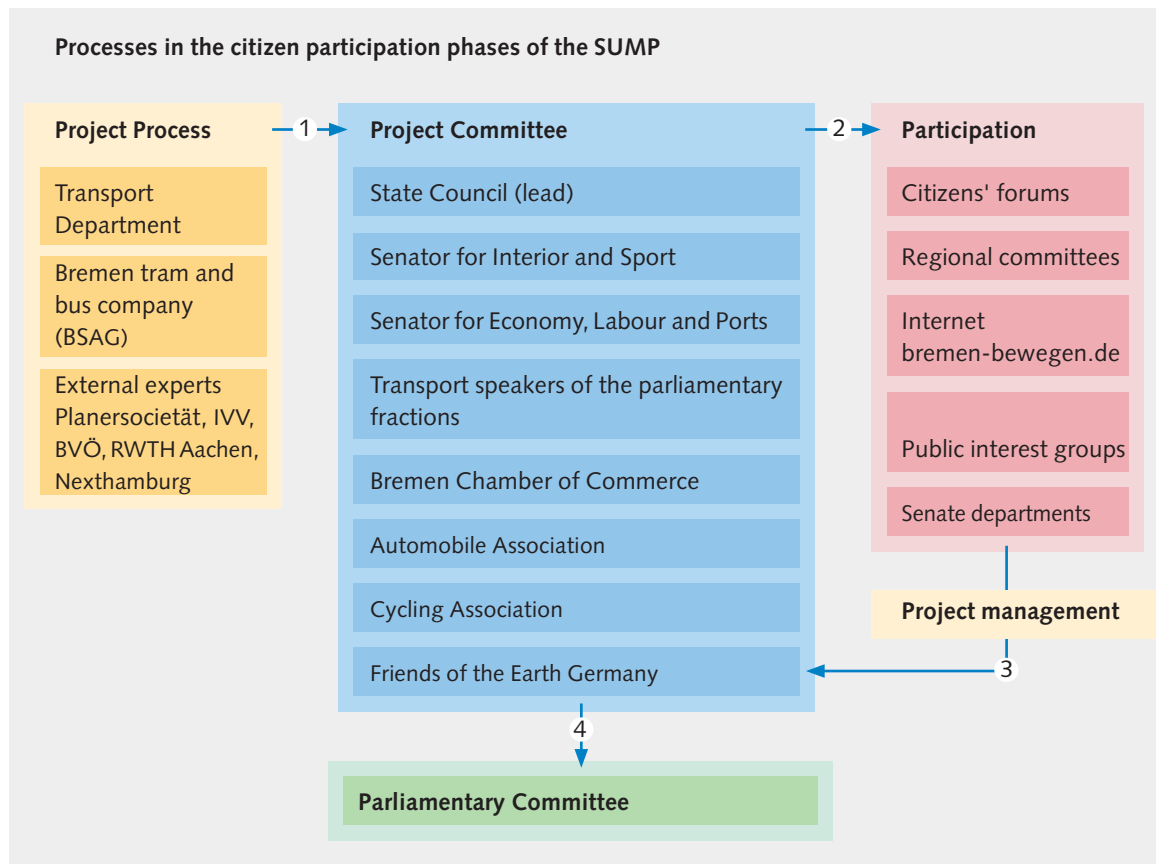
In the third step, five future scenarios were developed. These offered a glimpse into various packages of measures which might play a role in solving future transport problems. The idea was to think about which measures could play a role in solving future transport problems. The effects of the proposed measures and packages of measures were examined and evaluated on the basis of the goals of the SUMP to determine whether they would be effective, if they might bring unwanted side effects and what their financial consequences would be. The test scenarios are described in more detail in chapter 5.

## Phase 4: Measure Evaluation and Target Scenario

Based on this, an impact assessment and measure evaluation were built. The five test scenarios were examined to identify their effects. From this, possible future mobility provisions were derived. The costs associated with various measures were also identified, as well as whether the established goals could be reached through these measures. The scenario methodology is a proven instrument in urban mobility planning to assess the effectiveness of ideas and the consequences and actions they imply. In order to determine whether a measure should or should not be recommended for inclusion in the target scenario, a specific evaluation methodology was developed. In each case, a determination was made whether a measure generally made sense or whether alternative measures might be more effective or less costly. The measures receiving the best evaluation in each topic area were compiled in the target scenario. Measure evaluation and the target scenario are described in more detail in chapter 5.

## Phase 5: Implementation Plan

The final step was the creation of the implementation plan. The implementation plan presents a plan in which the realisation of measures from the base and the target scenarios are put into a time sequence. In this way, priorities are defined and planning phases and time dependencies are taken into account. Against a backdrop of financial possibilities, three financing paths were laid out, including the ordering of the measures, packages of measures and measure programmes. Because of the uncertainty of federal funding to the states for transport development as well as the unclear development of Bremen's transport budget, the three financing paths are presented along with their corresponding assumptions. At its session on 23 September 2014, the city parliament approved Bremen's sustainable urban mobility plan including the implementation plan and annexes. It also decided to use the SUMP as a frame of orientation for the further development of urban mobility in Bremen. The implementation plan is described in more detail in chapter 6.







*Project committee meeting in Bremen North, 7/8.5.2014*

## The Project Committee

The entire development process of the SUMP was carried out in close collaboration between the administration, the local public transport provider (BSAG) and the consultant, with regular input from the project committee throughout the process. This committee brought together the main actors from the transport sector at one table in order to achieve as broad a consensus as possible on the development of mobility in Bremen. The main task of the project committee was quality control of the entire process, including the balance of the project work in general. The composition of the committee was intended to ensure that the interests of the various actors and groups were appropriately represented in the conceptual development, leading to a well-balanced SUMP. The project committee was consulted at all fundamental decision points. It also dealt with the statements submitted during the individual project phases. The project committee was characterised by an open and tolerant

atmosphere, even in moments of conflict. Decisions were made by consensus.

The tasks of the project committee were:

- Quality assurance of the entire process
- Ensuring that the interests of the different actors were appropriately represented in the development of the plan
- Contribution to the definition of strategic goals
- Assessment of the documented interim results of established milestones
- Consultation at fundamental decision points

Through their personal involvement and at times significant amounts of work, those involved ensured that the SUMP was completed in a comparatively short two years, that it was comprehensive and enduring, and that it was achieved by consensus. Over the two years, a total of 27 project committee meetings, including a two-day meeting, were held.

## Integrated Planning

The Bremen SUMP was developed in consultation with, and linking back to, ongoing or parallel planning processes and plans that also had a transport-relevant scope from the fields of urban development, the environment and transport:

- The Land Use Plan 2025
- The Industrial Development Programme 2020
- The Industry Master Plan Bremen
- The Inner City Plan Bremen 2025
- Guiding Principles on Urban Development 2020 "Come with us to tomorrow!"
- The Housing Construction Plan
- The Noise Reduction Action Plan
- The Clean Air Plan
- The Climate Protection and Energy Programme 2020
- The Local Public Transport Plan



*Image from the Guiding Principles on Urban Development, "Come with us to tomorrow!"*

## Project Execution and Citizen Participation: The Planning Dialogue

Bremen is a citizens' city and a Hanseatic city with a sense of tradition. Citizens have always taken responsibility for their city. The city parliament of the Free Hanseatic City of Bremen therefore wanted to find ways to include citizen engagement in the development of the SUMP.

It was a key condition that citizen participation play an important role. It was equally clear that a participation process meant much more than publicly presenting an almost-finished draft but rather that the public should have the opportunity to bring their desires and visions into every phase of the planning process.

To this end, a planning dialogue was conceived that would follow the process through all of its phases from developing the goals to drafting the implementation plan. The target groups for the planning dialogue were citizens, politicians from the 22 neighbourhood councils as well as public interest groups. There were specific forms of participation for each of these groups.

When involving citizens, it was important from the outset to inform participants about the scope and the limits of the process in order to avoid false expectations. While the Bremen SUMP 2025 left room for negotiation in the planning of future urban transport, this did not mean that past transport decisions were up for discussion. Many processes had already been passed by the city parliament or the relevant parliamentary committee or were already in binding planning. Questioning the measures included in the base scenario was not part of the SUMP and therefore not part of the participation process.

During the course of the planning process, different participation formats were employed. There were four evening events in each of Bremen's five boroughs; these were the forums where citizens could speak directly with the consultants leading the process and with the local administration. There was also an interactive participation portal at [www.bremen-bewegen.de](http://www.bremen-bewegen.de). In the planning dialogue, Bremen developed an innovative toolkit to offer citizens a range of ways to bring their personal experience and suggestions into the process.

*Introduction by Senator Dr. Lohse at the Bremen North citizens' forum*



*Discussion at thematic stands at the citizens' forum in Bremen Mitte*



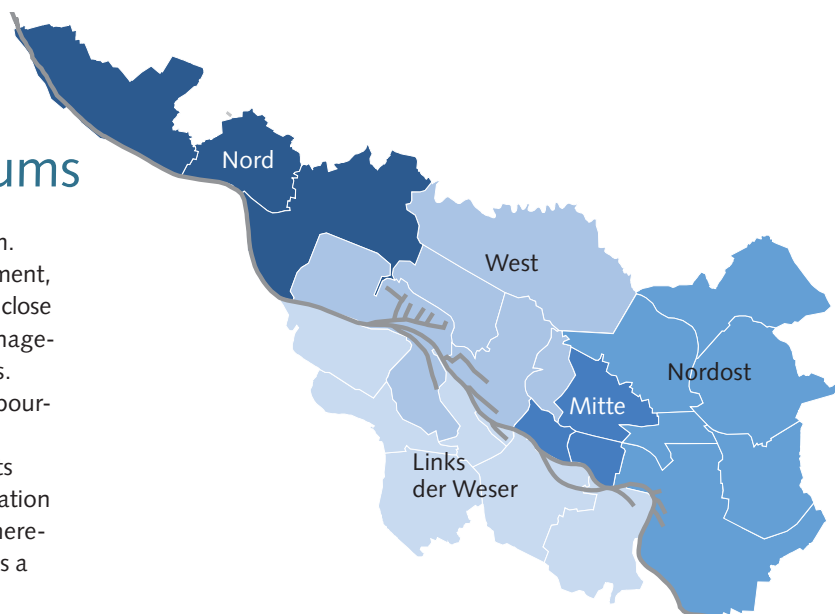
*Discussion on goals in working groups*

## Regional Citizens' Forums

Bremen has 22 neighbourhoods and spans 40 km. Although the SUMP is a city-wide planning document, a compromise had to be found between venues as close as possible to various neighbourhoods and a manageable number of evening events for the organisers. A solution also had to be found for the 22 neighbourhood councils. If the usual process of individual consultation had been followed, almost 90 events would have been necessary. Both citizen participation and neighbourhood council participation were therefore organised at the level of the five boroughs as a compromise among the various demands.

The so-called regional citizens' forums took place in each project phase. In the goal identification stage at the beginning, there were two central citizens' forums in the city centre. The regional forums were generally evening events of roughly three hours. The events took place in community centres or similar, which were always barrier free and accessible by public transport. The forums were run by an external moderator.

*Invitation to the first citizens' forum*



*Five regional citizens' forums in Bremen*

The methodology employed in each project phase generally combined participation elements with introductory presentations. The latter were important to bring all the participants to a common basis and to introduce them to the topic because without a shared knowledge base, discussion is difficult. Afterward, visitors had the opportunity to participate directly in the drafting process of the SUMP in small groups and in an informal atmosphere or to express questions, desires and opinions either orally or by leaving them behind in written form. The citizens' forums alternated between discussions and presentations in plenary and times of small group work, such as at thematic "market stands".

The regional citizens' forums were characterised by constructive discussion, lively participation and good resonance. There were however also critical discussions, which lent the SUMP a certain local grounding.

## Online Participation

It was clear even during the early conceptual phase of the citizen participation plan that the Internet could play an important role in citizen participation. The web portal [www.bremen-bewegen.de](http://www.bremen-bewegen.de) was created in collaboration with the firm Nexthamburg as the central participation platform. This was used during four of the development phases, although the focus and the participation methodology changed to meet the particular needs of each phase. The basic approach of the City of Bremen was to make participation as easy as possible so that the portal would be used by as

broad an audience as possible. There was a lively discussion around the use of social media such as Twitter, Tumblr or Facebook but these were rejected in favour of a "traditional" Internet portal because of potential problems (data protection, user expectations vs. affordability of support and supervision). The portal built on a system that was already on the market but which was modified for the Bremen process. The participation portal was premiered in the context of the competition "Landmarks in the Land of Ideas 2013/2014".



## Project phase: Opportunity and Shortcoming Analysis

The Internet portal was first put to use in the second project phase. The process was accompanied by active media and publicity work that drew attention to the possibilities for participation. Posters, free post-cards and hanging cards in buses and trams were created. Multipliers were also used to reach a wider audience, for example through messages on other websites (e. g. the transport association or the city's own website) or through e-mail distribution lists of associations and organisations.

The processing phase included an extensive analysis of the existing transport network and infrastructure with the goal of identifying the opportunities and shortcomings of future solutions. The participation started from two simple questions: "Where are things running badly?" and "Where are things running smoothly?" These were linked to the request, "Tell us your opinion". Users of [www.bremen-bewegen.de](http://www.bremen-bewegen.de) could respond directly in a text field on the homepage without needing to register. Entries could also be placed on a map and assigned to a transport mode category. Through a map view, through lists that could be filtered by topic, and through a search function, previous entries could be read and commented on.

In addition, there was a voting function to enable users to agree or disagree with previously-expressed opinions. The participation portal was very well received. Results show that significantly more people than expected joined the participation process. All entries were evaluated.

Despite the unusually high response rate, it must be noted that the participation was by no means representative. It was clear that the number of responses from the individual neighbourhoods corresponded with the social structure of the city. For this reason — and also because the Internet cannot replace face-to-face dialogue — the online tool was only one component among several. Further, the organisers always had the entire city in mind independent of the volume of participation and the voting so as to ensure that everyone's transport interests were taken into account in the SUMP regardless of social status and the active representation of legitimate interests. The participants at the citizens' forums were also not representative of the population, but the combination of the citizens' forums and the online participation led to a balanced representation of citizen interests.

The results of the participation phase were prepared in an atlas format in order to record the phase in the synopsis. The documentation was geared toward the general public and contained all entries, even when the high number of contributions prevented them from being presented in full detail.



Home page of [www.bremen-bewegen.de](http://www.bremen-bewegen.de) during the second project phase



Poster on participation

## Project Phase: Test Scenarios Bremen 2025

The third project phase was about presenting and discussing the basic options for transport in the city of the future. Here, the different measure suggestions — mainly collected in the participation stage — were fed into five different thematic scenarios. In the citizen participation process of this phase, the difficulty arose that the test scenarios were highly abstract and, because each represented an extreme situation, it would not have made sense to ask for a preference. [www.bremen-bewegen.de](http://www.bremen-bewegen.de) was therefore used mainly as an information medium to make the different scenarios and their content understandable and easier to visualise. It also allowed citizens to suggest further measures that should be included in one of the scenarios.

To do this a simple registration was necessary. Because of the higher level of abstraction and the higher complexity, there was a much lower resonance in this round. But the high quality of the entries submitted showed that this phase — as expected — received interest from a more professional audience. On the other hand, the clear and understandable presentation of the overview pages of the individual scenarios enabled the use of the Internet platform at the citizens' forums. This participation phase allowed a view into the laboratory in which the different measure suggestions are tested. This required a high level of complexity, but contributed to the transparency of the overall process.



Poster on the scenario building blocks

## Project Phase: Target Scenario

The easy access to the process was intended to motivate broad groups of users to actively participate. There were two main goals to the online participation in this phase: first, people were to be well informed about the target scenario and the selection process was to be made transparent. Second, citizens were to be consulted on the measure selection for the target scenario.

The evaluation of the input allowed statements about the preference of particular measures, which was particularly helpful for the implementation plan.

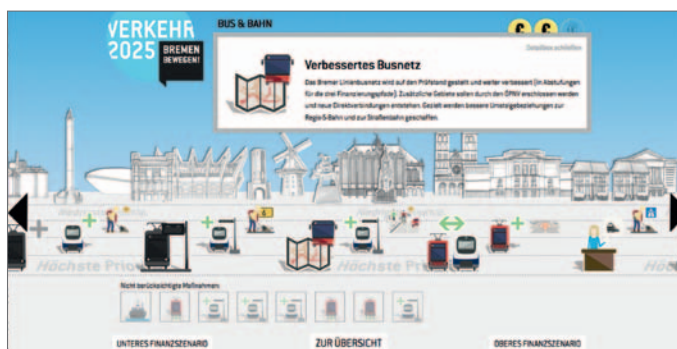
In addition, in cooperation with the Senator for Education and Science, a guide was created for teachers on how to use the participation tools in school. Classes and groups of pupils from four schools participated in the process.

Screenshot of a citizen's scenario

[www.bremen-bewegen.de](http://www.bremen-bewegen.de) put citizens in the role of city planners. Citizens could put together their own scenarios from a set of over 100 measures. In doing so, they were required to stick to a budget and keep the goals of the target scenario in mind. They could then find out the effects of their measures. The measures were a selection from roughly 160 recommended by the consultants and the city.



Overview presentation of a test scenario with clickable elements



Screenshot of a citizen's scenario

## Project Phase: Implementation Plan

The focus of the online citizen participation in the last phase lay in transmitting information about the Implementation Plan and the financing paths. Good use was made of [www.bremen-bewegen.de](http://www.bremen-bewegen.de) as a participation portal. Following the guiding question "Which measure comes when?" citizens could find out about

the three financing paths and their effects and make suggestions on the order of implementation of the measures. For this, a trade-off principle was used. For each measure that was given a higher priority, another had to be pushed down the list. This trade-off process was intended to make clear that for financial reasons and because of planning capacity, only a limited number of measures could be implemented quickly.

## Outreach Participation

The format "Bremen Bewegen (Moving Bremen) on Tour" presented the SUMP at several locations in Bremen. The goal was to make people aware of the possibility to try out the scenario building blocks and to offer access to citizens without Internet. "Moving Bremen on Tour" was conceived as a stand that could be set up for a day in various shopping centres. Staffed by three people at a time, the current phase would be explained, the measures presented and the opportunity offered to use the tool box on site. Offering "Moving Bremen on Tour" in five shopping centres served to increase the reach of the scenario building blocks.

*Scenario building blocks in the Waterfront shopping centre*



*Citizen participation in the Roland Center shopping centre*



## Participation of Neighbourhood Councils and Public Interest Groups

Along with citizens, elected neighbourhood councils and various public interest groups were involved in all phases of the process. As the SUMP is a plan for the entire city, the neighbourhood councils were involved in the same spatial composition as the citizens' forums. For this there were roughly 20 events, or four per borough. After each of these events, the individual councils had the opportunity to submit a written statement.

In all five phases, the public interest groups could submit a statement on the process. This is also a first. Public interest groups include:

- Other branches of the local authority (e. g. other senate departments)
- Neighbouring regional bodies (counties, communities, the state of Lower Saxony)
- Chambers, associations, and organisations
- Bremen's 22 neighbourhood councils



*"Moving Bremen on Tour" in the Berliner Freiheit neighbourhood*

# Goals



## Goals of the Sustainable Urban Mobility Plan

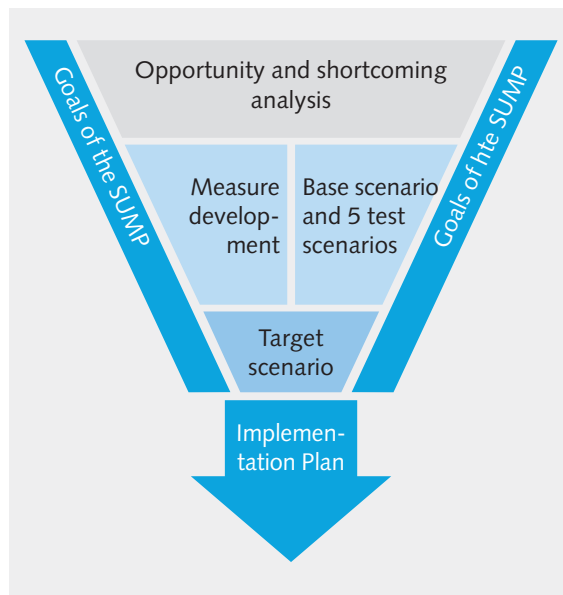
Through the SUMP, strategic agenda setting for non-motorised and motorised transport on road and rail, for movement of people and goods and for all journey purposes will be undertaken using the time horizon of 2025.

In order to ensure that these strategic decisions are made purposefully and take into consideration all relevant interests, one of the first steps of the process was to develop goals for the SUMP. These goals are to be achieved in an effective and enduring way through the measures of the SUMP. The goals serve initially as a set of criteria in the opportunity and shortcoming analysis. They are subsequently used as guidelines for the development of the measures and then as a basis for evaluation in the implementation of the SUMP. The goals of the SUMP are thus the central guidelines which set the framework for the entire SUMP process.

The goals were developed at two public forums in collaboration with citizens, representatives of organisations, political bodies and administration. In this way, a broad discourse was held over the roles and tasks of mobility and transport in the future.

The catalogue of goals was revised based on the input from the citizens' forums as well as on the statements submitted by the public interest groups and the senate departments. Minor editorial amendments were made and the project committee reached a consensus on the document, which they recommended to parliamentary committee for approval.

*Development process of the SUMP*



There are six overarching goals, each with several sub-goals.

### Goal 1:

**To enable social inclusion of all people and to strengthen the equality of all transport users**

- Develop a strategy for the planning of footpaths
- Improve the quality of sojourning for pedestrians
- Foster bicycle transport
- Increase the attractiveness of local public transport
- Improve accessibility of public space and of local public transport by providing for the needs of pedestrians, in particular older people, people with disabilities and people with small children
- Win back public space and link and make more attractive streets and paths for all users so as to increase the quality of sojourning
- Enhance and attractively design public space
- Strengthen local mobility

### Goal 2:

**Increase transport safety and security**

- Work toward Vision Zero (no traffic fatalities)
- Improve physical safety for users of all transport modes and facilities
- Improve the safety of pedestrians, including vis-à-vis cyclists
- Improve the safety of cyclists vis-à-vis motorised transport

### Goal 3:

**Offer and optimise alternative transport options in the entire city**

- Strengthen the mobility chain and the mobility mix
- Improve tangential links for walking, cycling and public transport
- Integrate the neighbourhood centres to the periphery for walking, cycling and public transport
- Improve services for walking, cycling and public transport based on the location of the neighbourhoods
- Improve public relations, marketing and information systems. Uniform, comprehensive and understandable tariff systems, including alternative transport systems (also in the surrounding region)
- Develop innovative concepts and take into account (and when appropriate support) existing innovative concepts
- Foster alternative propulsion technologies
- Improve water transport on the river



**Goal 4:****Improve the connection of the systems and services for walking, cycling and public transport between Bremen and the surrounding region**

- Improve the infrastructure appropriate to the location of each neighbourhood in the settlement pattern of Bremen
- Foster the accessibility of the city centre of Bremen in its capacity as a regional centre by all modes of transport
- Improve the infrastructure for bicycle transport and further develop the cycle network (routes), including away from busy roads
- Shift car journeys to public transport journeys and improve the connections between Bremen's neighbourhoods and neighbouring cities and communities to rail links (including park and ride and bike and ride in Bremen and in the surrounding region)
- Optimise the connections between Bremerhaven and Bremen both by road and rail
- Comprehensive and better connections between walking, cycling and public transport
- Strengthen cooperation with the other local authorities of the region

**Goal 5:****Strengthen Bremen as an economic centre by optimising commercial transport**

- Reliable and effective commercial transport for businesses
- Ensure optimal accessibility for goods transport and for business travel both by walking, cycling and public transport and by car as a basic requirement for Bremen in its role as a regional centre in northwest Germany
- Ensure the flow of traffic to and from the ports
- Enable the handling of goods transport by high-capacity rail with high access — away from housing areas and, if necessary, with effective noise protection
- Minimise/make effective delivery traffic in the city, being aware of individual purchasing patterns
- Improve the accessibility of industry and business areas for walking, cycling and public transport
- Better management and bundling of long-distance traffic
- Reliable and binding network hierarchy in the road network
- Test and, if appropriate, foster alternative transport systems

**Goal 6:****Reduce the effects of transport on people, health and the environment in a lasting and perceptible way**

- Reduce carbon dioxide, nitrogen oxide and particulate emissions in line with climate and environmental protection goals
- Reduce transport noise
- Reduce the space consumption of transport. Improve the ecological function of unused space on transport routes (urban biotope networking and air quality).
- Reduce the separating effect of transport routes (road and rail)
- Reduce the need for travel through the use of densification in city planning, by strengthening neighbourhood and local centres and by fostering mixed-use development.
- Reduce the various stresses on residents in populated areas
- Better use of the capacity of existing transport modes and infrastructure



# Opportunity and Shortcoming Analysis



## Opportunity and Shortcoming Analysis

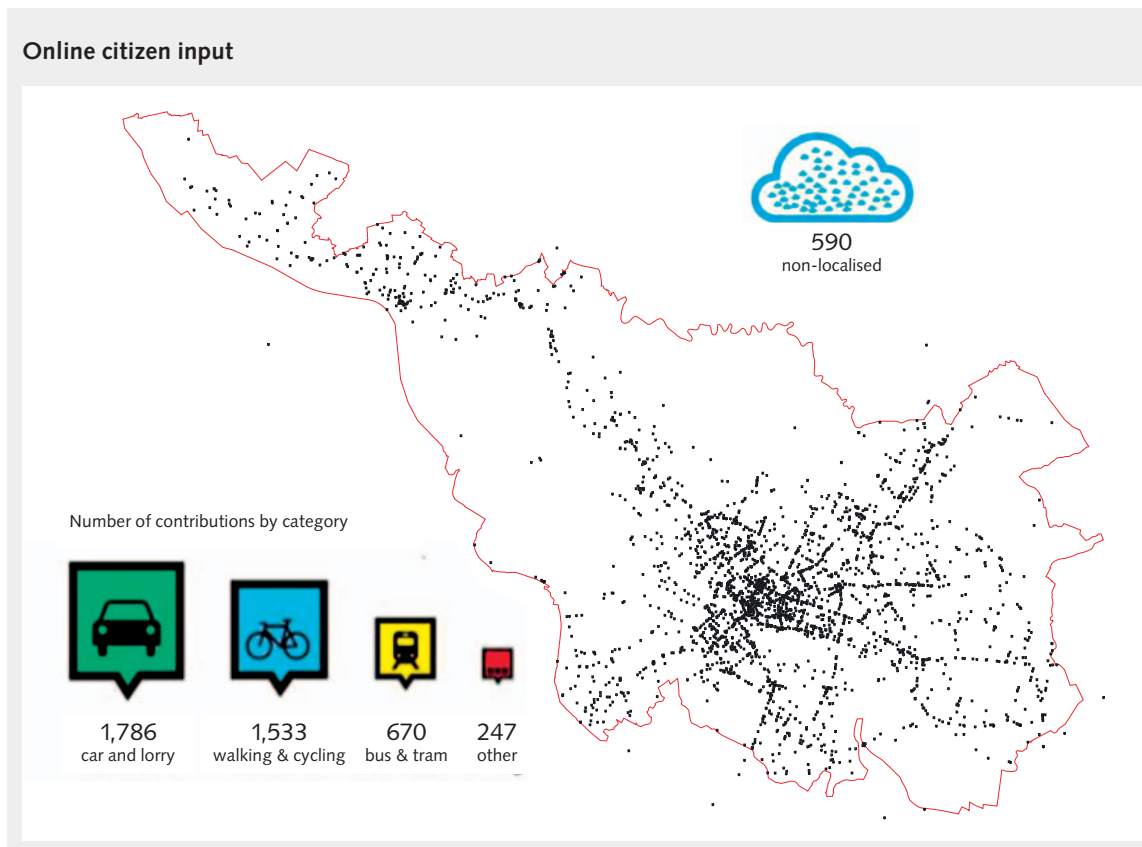
The opportunity and shortcoming analysis presents Bremen's current transport situation as compared to its established goals, which are to be achieved by 2025 by means of the measures developed.

The focus was on the following questions:

- Considering the established goals, which areas present opportunities and should be further developed?

- Considering the established goals, what shortcomings are there in the transport system?
- How can these shortcomings be evaluated?

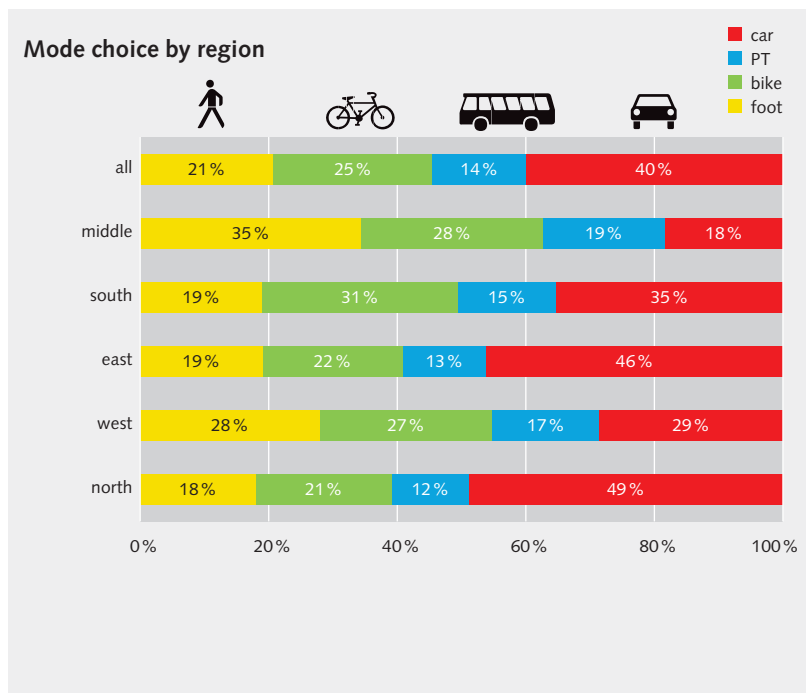
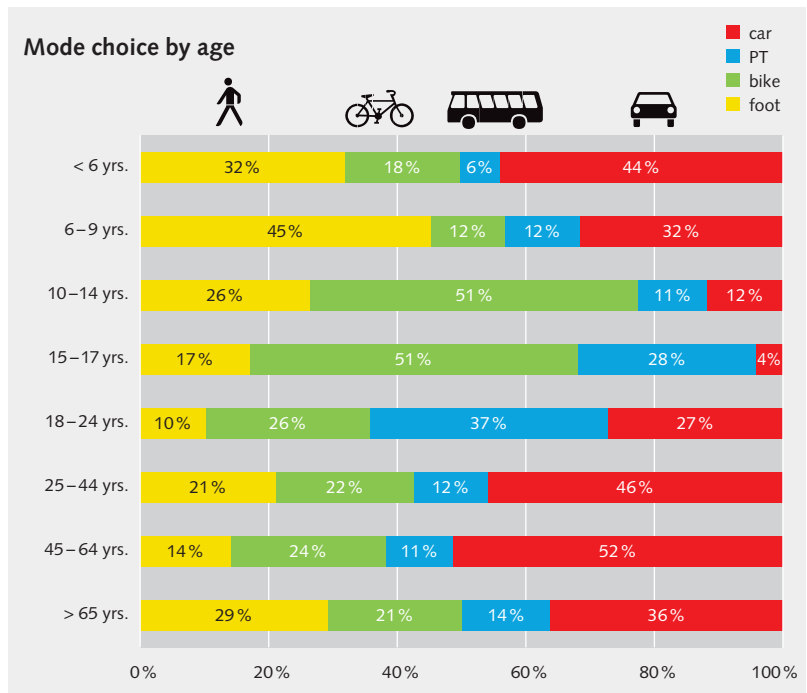
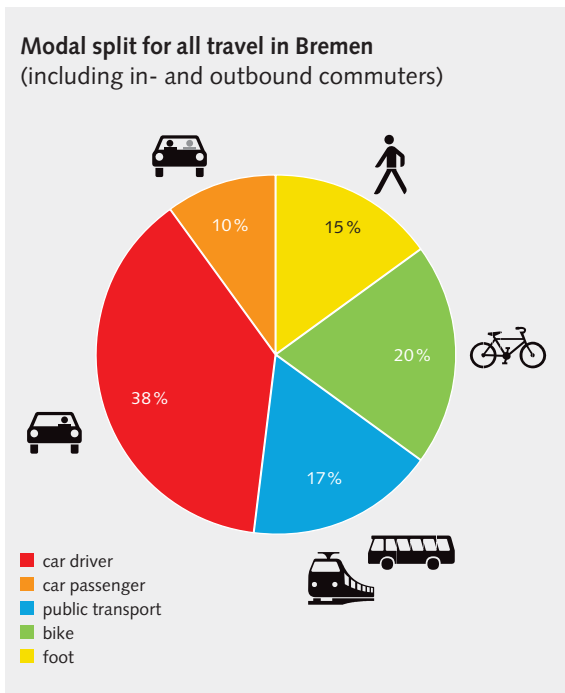
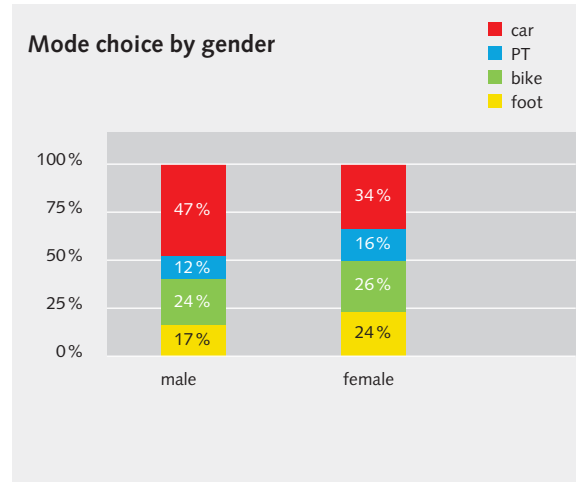
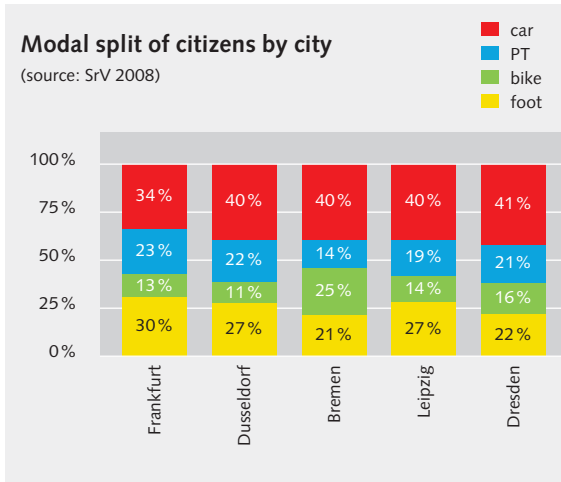
During the opportunity and shortcoming analysis, a comprehensive study was carried out by the consultant group and over four thousand comments and suggestions submitted by the public via the participation portal [www.bremen-bewegen.de](http://www.bremen-bewegen.de) were evaluated.



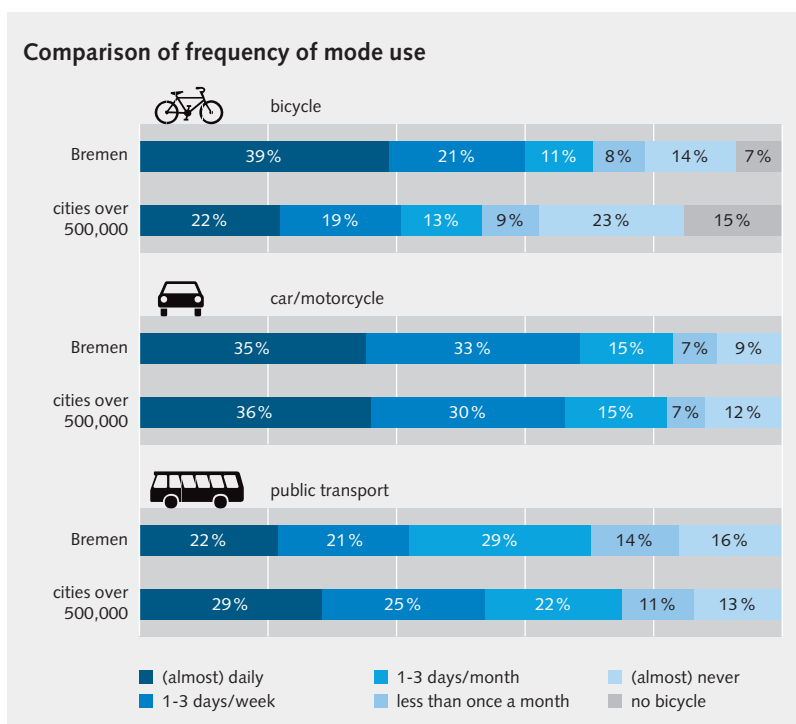
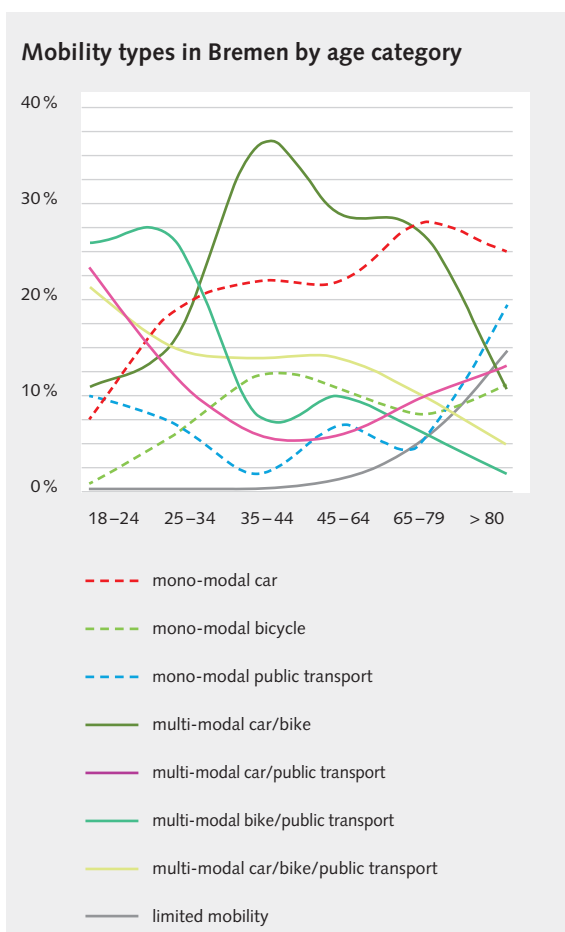
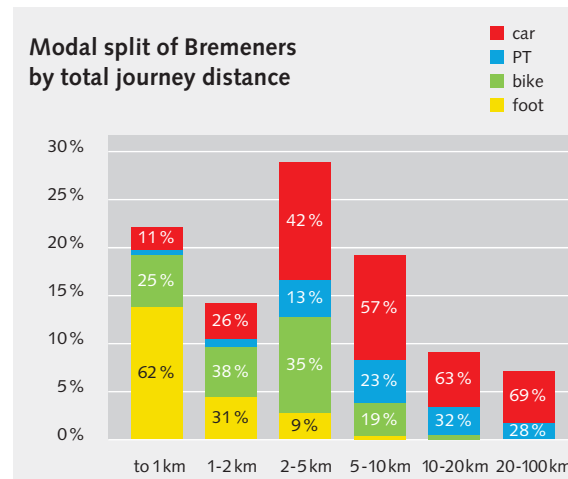
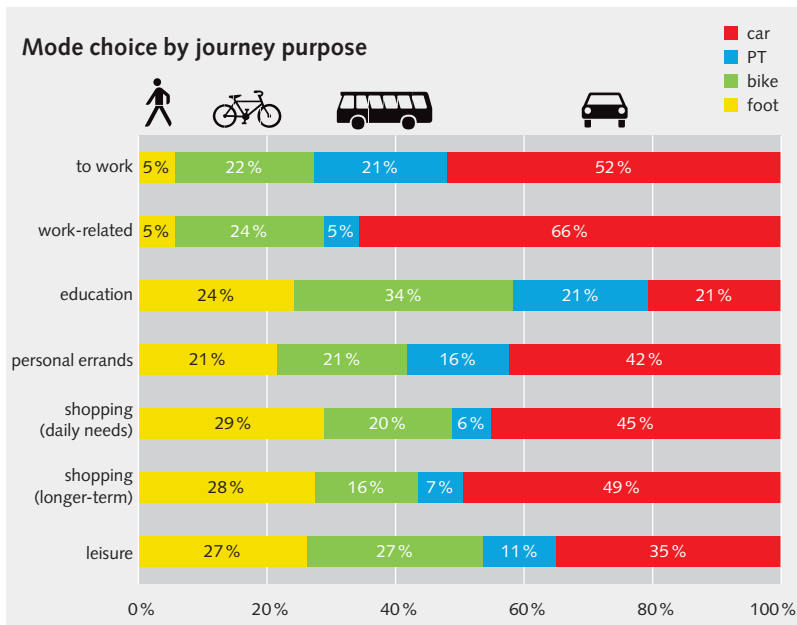
## The Mobility of Bremeners

Two household surveys carried out in 2008, the System Repräsentativer Verkehrserhebung (SrV) and the Mobility in Germany Survey, provide a detailed picture of Bremeners' transport behaviour. Both surveys are representative and were carried out over the course of an entire year.

In comparison with other selected major cities in the SrV, it became clear that Bremen stands out mainly for its high bicycle mode share. A quarter of journeys are taken by bicycle, equaling 420,000 bicycle trips per day. The pedestrian and public transport shares are comparatively small. With the exception of Frankfurt, the share of private car use in all of the cities in the study was 40—41%.



Vehicle access	all	middle	south	east	west	north
Households with a car	71 %	49 %	72 %	73 %	58 %	84 %
Car-free households	29 %	51 %	28 %	27 %	42 %	16 %
Cars per household	0.82	0.53	0.83	0.89	0.66	1.03



## Conclusions about Bremeners' Mobility

It became clear that bicycle transport plays a major role in Bremen. However in the cross-city comparison on the use of public transport, Bremen shows room for improvement. One reason for the relatively low use of public transport — apart from the settlement pattern of the city — is the comparatively slow travel speeds in public transport.

In order to further strengthen the sustainable modes over car travel, the attractiveness of walking and cycling needs to be improved and optimised for short distances and that of public transport for mid- and long distances through the measures developed in the SUMP.

Bremen is a city of short distances, meaning it has great potential to strengthen walking and cycling. If only one in ten car journeys of under 5 km could be shifted to a bicycle journey, the cycling mode share would see

a 2% increase, bringing it to 27%. The current boom in the pedelec market will also make bicycle use more interesting for journeys of more than 5 or even 10 km.

In order to support the change to more environmentally friendly transport behaviour, particular attention should be paid to actively supporting multi- and inter-modal transport behaviour to increase the share of public transport use and to reduce car use — including in the over-thirty age category. Similar to other major cities, the young generation in Bremen demonstrates more multi-modal transport behaviours and lower car dependence than the older generations. All of the chauffeuring of young children (so-called “parent taxis”) leads away from independent mobility for children; depending on the distance to be travelled, this could be an opportunity to shift to walking, cycling and public transport.

## Urban Structure, Accessibility Analyses

### Urban Structure

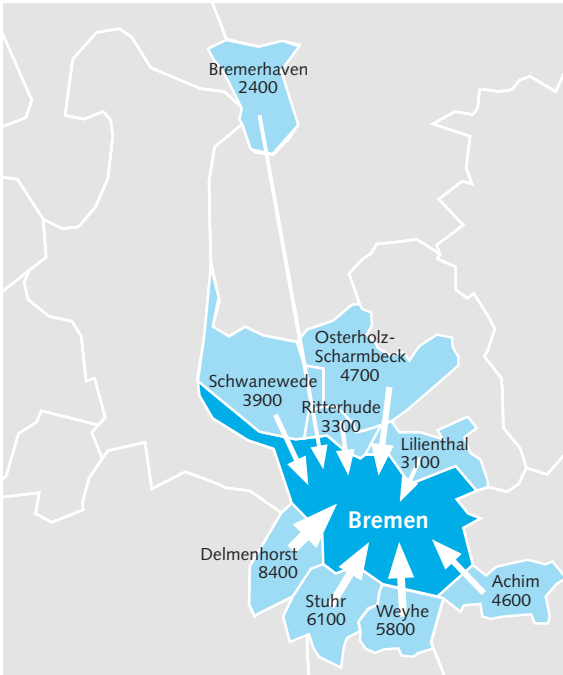
The relatively high density of housing and workplaces, the tendency to trans-regional transport (particularly goods transport) and Bremen's role as a regional centre in the northwest of the state of Lower Saxony have decidedly shaped transport activity in Bremen.

As the tenth largest city in Germany, Bremen is the cornerstone of the registered European metropolitan region Bremen/Oldenburg in the Northwest, where it serves as a regional centre. Bremen also has international importance as a seaport.

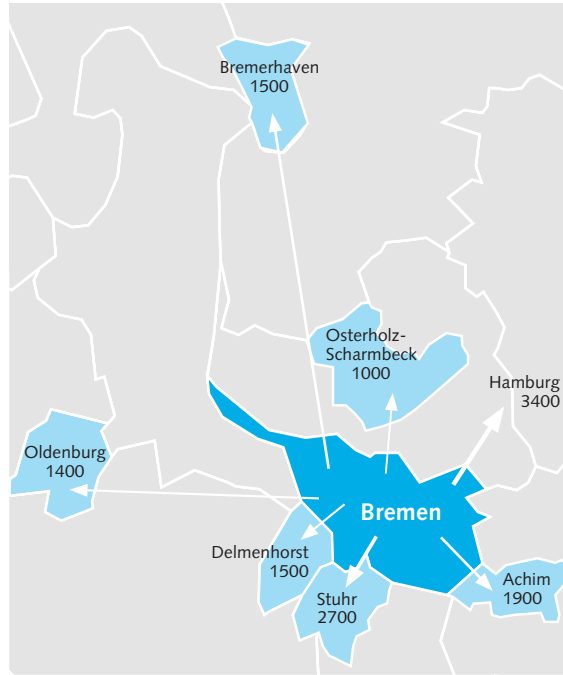
Bremen is also the central transport node within the transport association Bremen/Lower Saxony. The lines of both regional and trans-regional rail traffic are aligned with this node. Bremen is connected to long-distance rail travel via its main station. Bremen also serves as a central node in the network of national motorways.

The Bremen metropolitan area of roughly 325 km<sup>2</sup> lies on both sides of the Weser River and stretches almost 38 km from southeast to northwest. The urban structure is distinguished by its form as a linear city. As is characteristic of linear cities, the settlement areas of Bremen are oriented along the major roads, along the rail line and along the Weser River so that the accessibility (including by public transport) is relatively easy to provide. Also typical of linear cities, the green spaces and open areas in Bremen are closely associated to the individual settlement areas.

Along with the city centre (the historic, economic and cultural centre of Bremen), the city has a polycentric structure, as is typical of a linear city. As compared to cities with a compact urban structure, Bremen has relatively long travel times for connections between its settlement areas (see the accessibility analyses below).



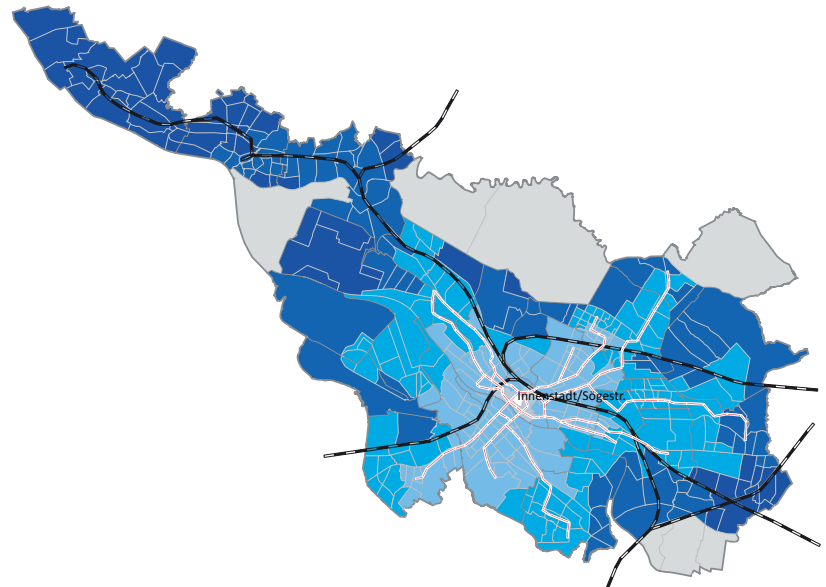
*Inbound commuters to Bremen in 2010  
(communities with more than 3,000 inbound commuters)*



*Outbound commuters from Bremen in 2010  
(communities receiving more than 1,000 outbound commuters)*

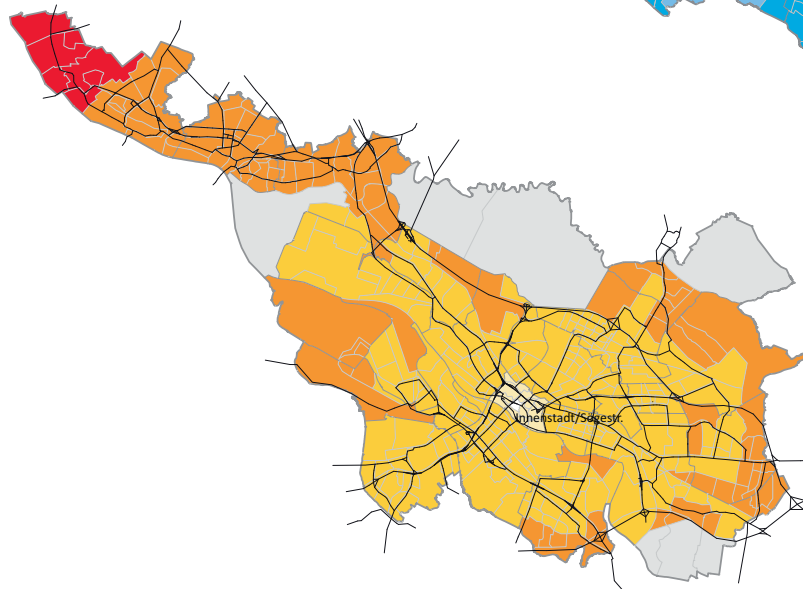
*Travel times by public transport to the city centre*

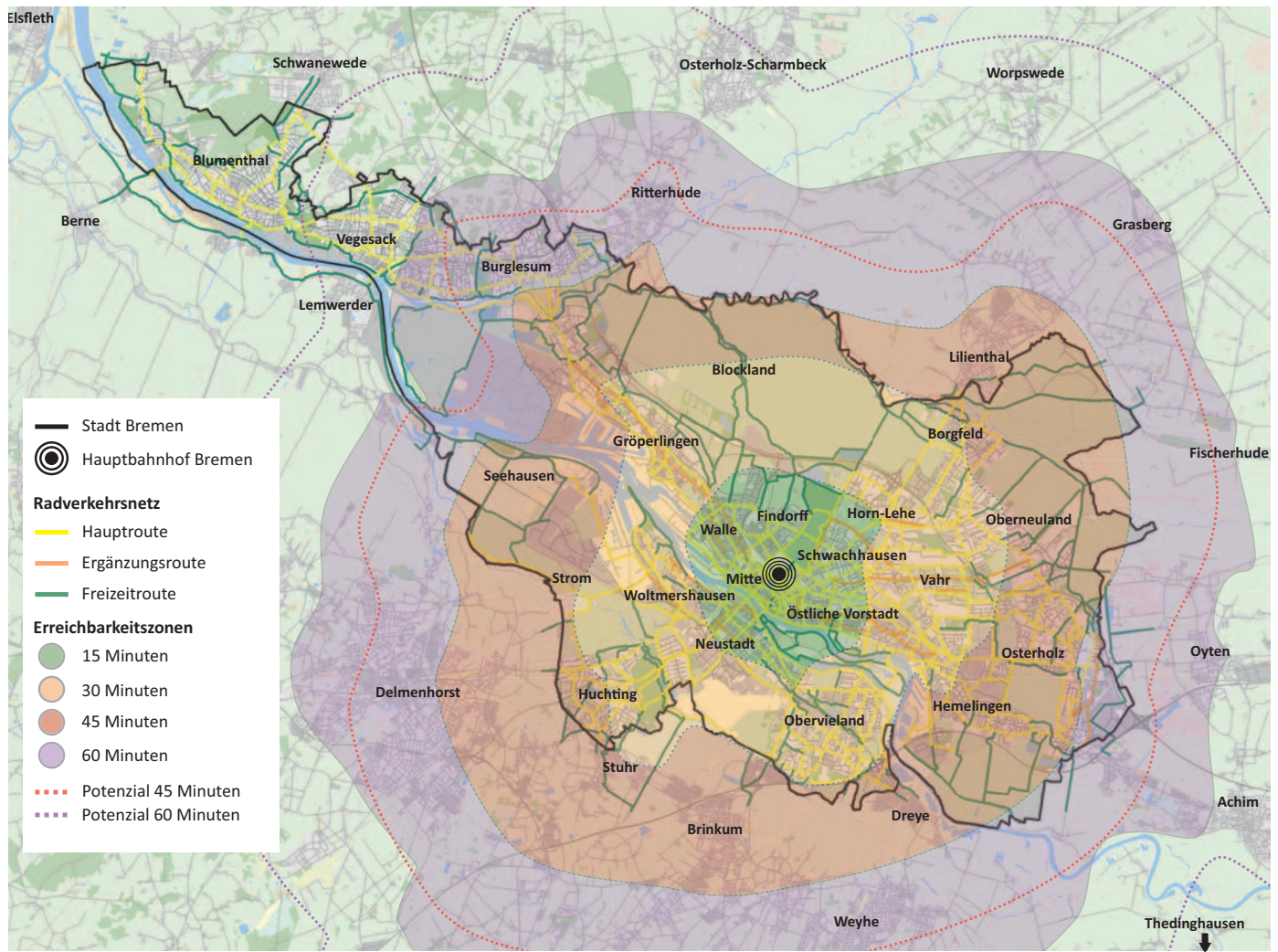
- not included, low density
  - 0 – 15 min
  - 15 – 30 min
  - 30 – 45 min
  - 45 – 60 min
  - > 60 min
- door to door  
(daily mean value);  
travel time > 45 minutes



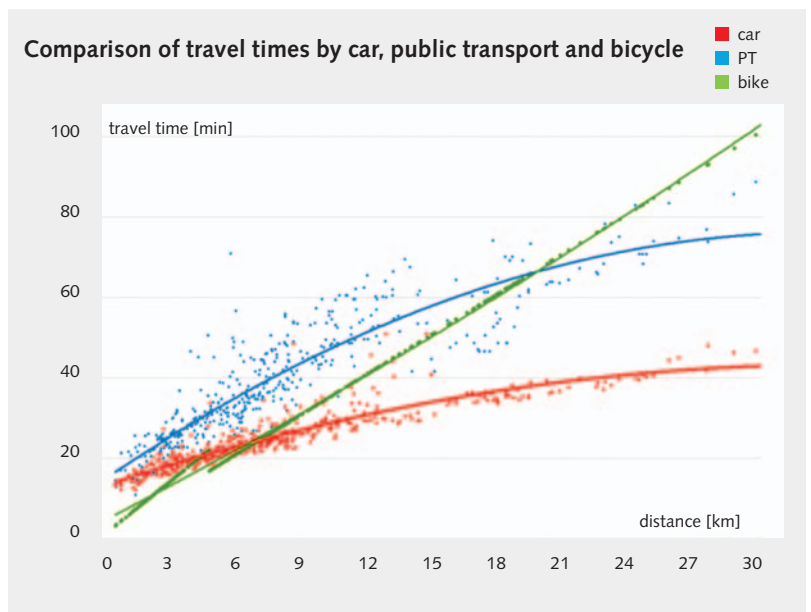
*Travel times by car to the city centre*

- not included, low density
  - target
  - 0 – 15 min
  - 15 – 30 min
  - 30 – 45 min
  - > 45 min
- door to door  
(daily mean value);  
travel time > 45 minutes

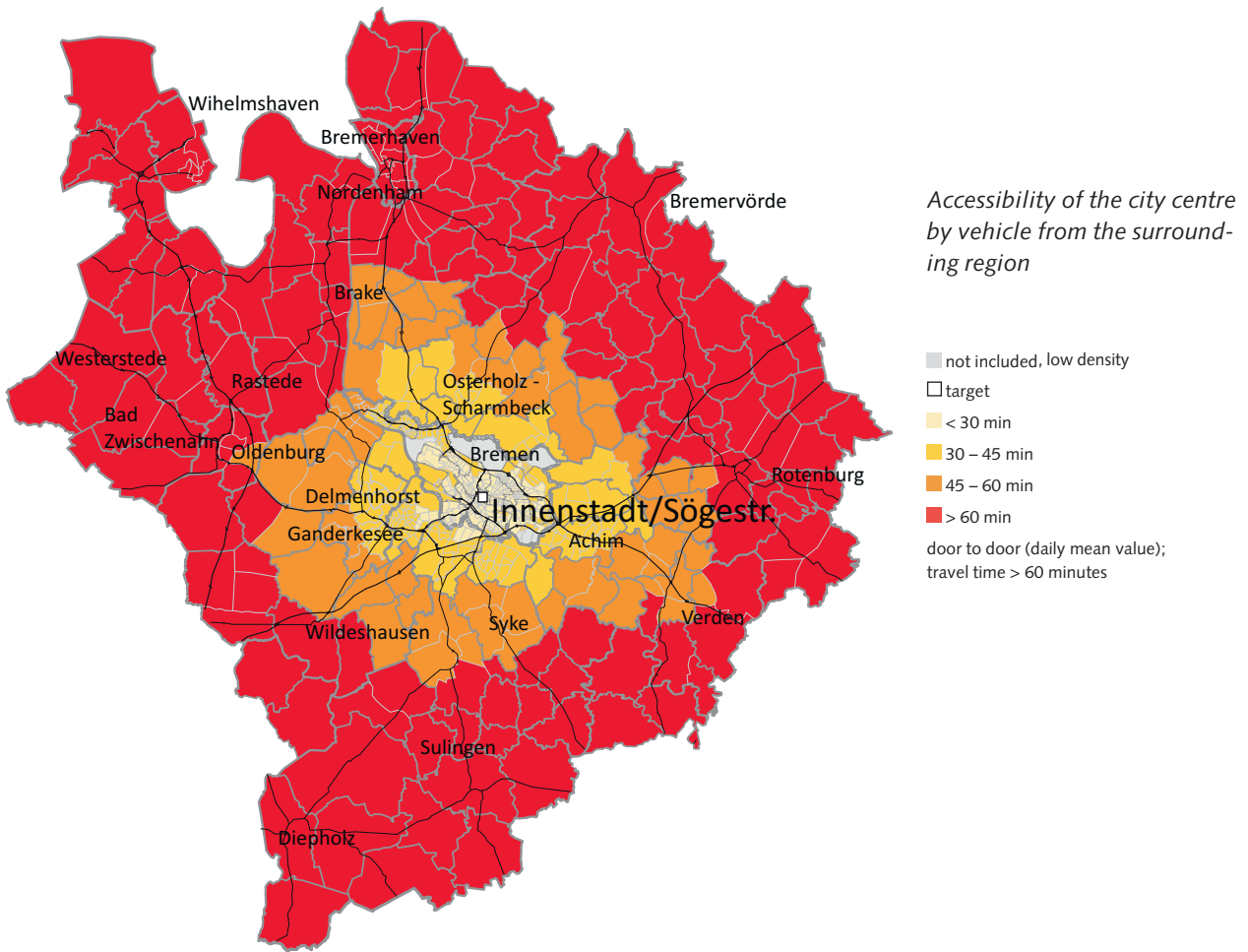




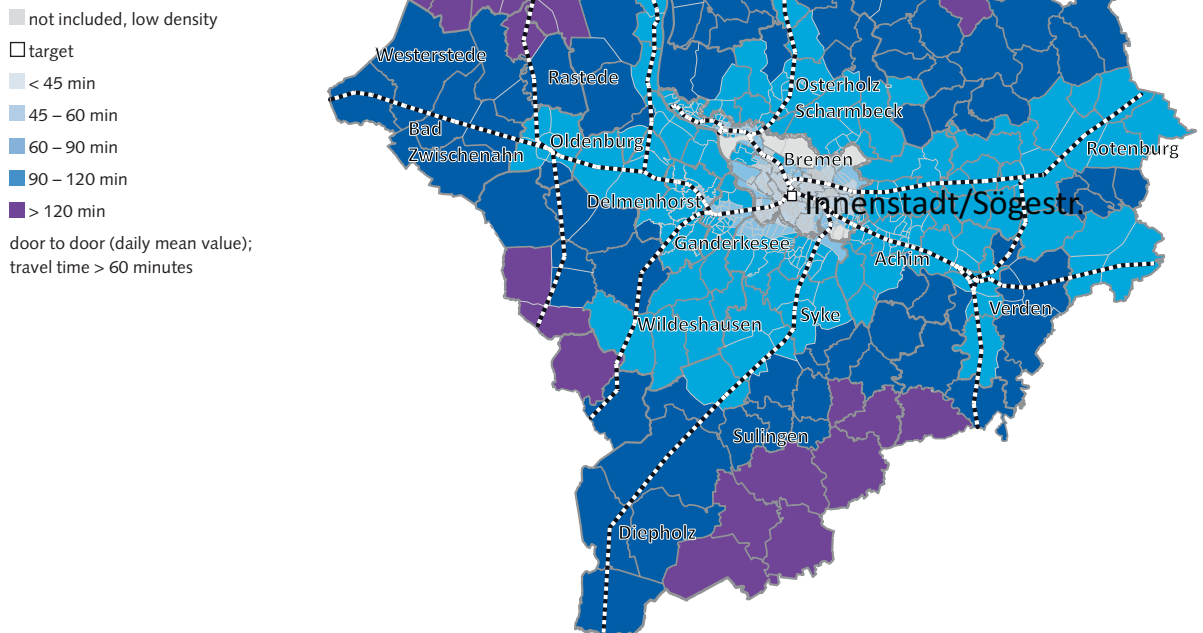
Accessibility of the main train station by bicycle







*Accessibility of the city centre by public transport (including regional passenger rail) from the surrounding region*



## Motor Vehicle Traffic

### Road Network Infrastructure

Bremen has a graduated, hierarchically-subdivided road network made up of national motorways, national roads, and major urban roads. These roads serve different functions within the urban area. They serve to connect the settlement areas to each other, as access routes and also for sojourning.

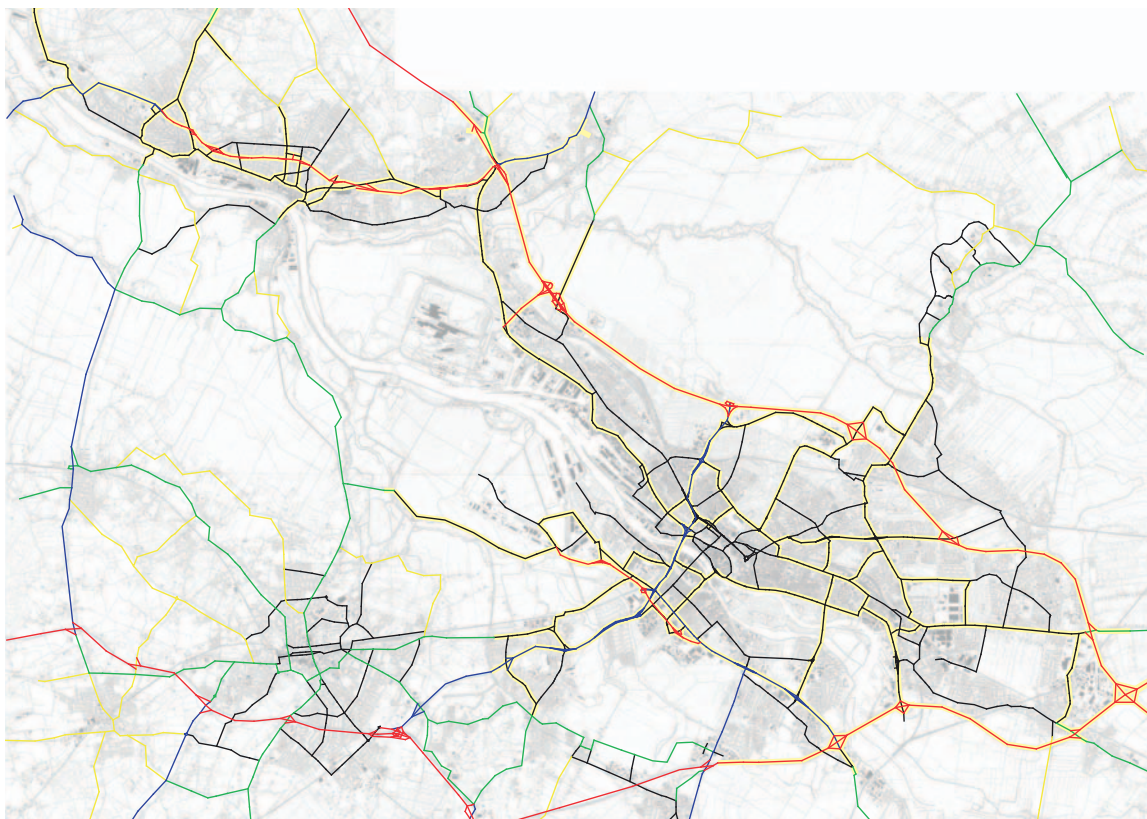
But the scale of Bremen's major road network is not uniform. While roughly half of the roads in the major road network (including the national long-distance roads) have two or more lanes, the scale is not continuous. The national motorway connector connects not to a four-lane radial or to a high-capacity city ring road but leads directly to city streets.

These generally have a very different character and much lower capacity but do not have a corresponding reduction in traffic load. This highlights the non-homogeneous nature of the road network and reflects the inconsistency in development philosophy since the 1960s and the early 1970s. Because of the intrusion into existing development it would entail, a road expansion in the central city is now unthinkable both from a transport planning and an urban planning perspective.

The limitation created by the five bridges over the Weser in the metropolitan area means that traffic that is simply crossing the Weser River (not bound for the city centre) mixes with traffic coming and going from the city centre. The central Weser bridges create clear "pinch points" in the network.

*Bremen's major road network (2010) including truck routing network*

- motorway
- national road
- regional road
- county road
- major road
- element of the truck routing network (2006)

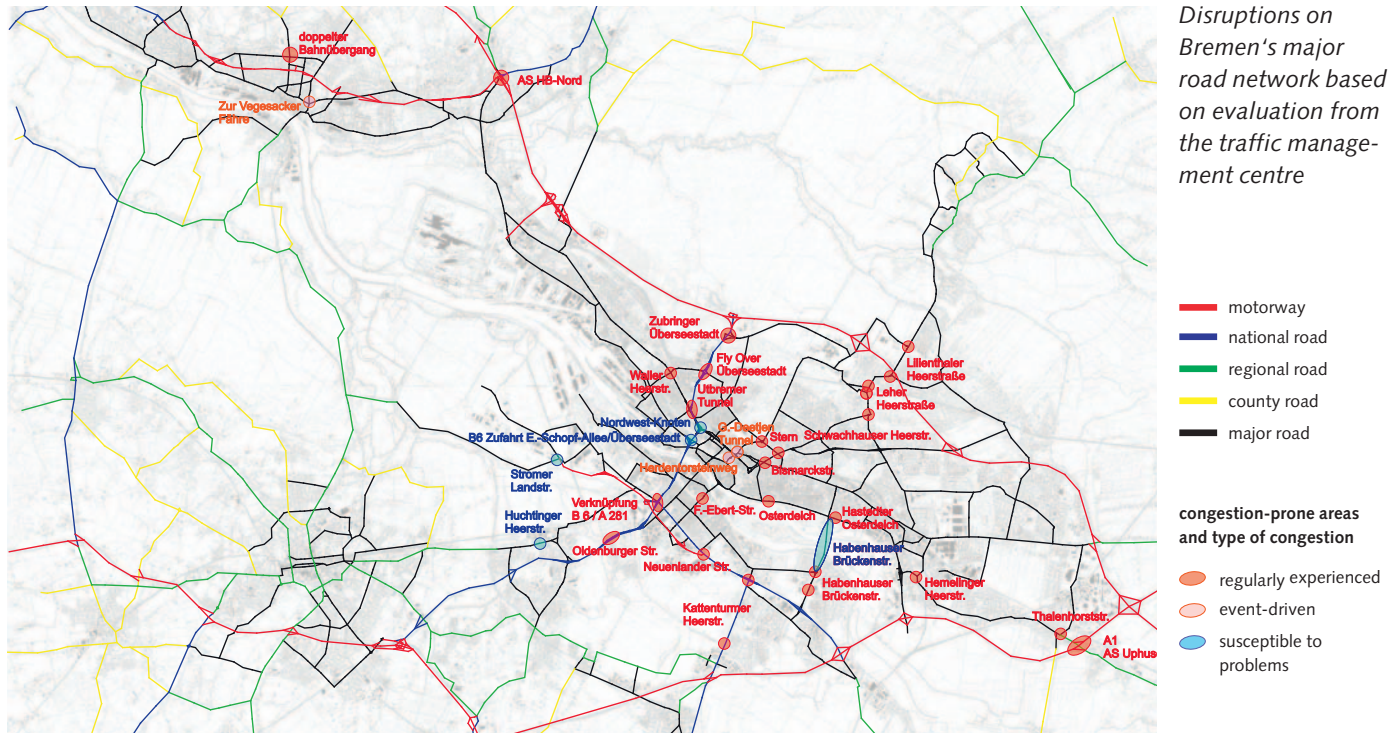


## Opportunity and Shortcoming Analysis: Motor Vehicle Traffic

### Capacity in the Major Road Network

The evaluation of the capacity of Bremen's major road network is based on the data on disruptions in the network provided by the Traffic Management Centre and on the analysis of the network's capacity as it appears in Bremen's transport model.

Disruptions in the major road network are concentrated in specific areas but there are no systemic problems with regard to the capacity of the major road network. A strategy to reduce the disruption in traffic flow in the affected areas is needed to improve the overall traffic flow, to optimise accessibility and to reduce congestion-related emissions.



### Commercial Traffic and the Road Network

As a port city and a commercial and industrial centre, commercial traffic is of particular importance for Bremen. The management of commercial traffic on the road network and the accessibility of commercial centres are key factors.

With 26% of traffic on the road being commercial traffic and 10% of all traffic being heavy-duty vehicles, the volume of commercial traffic in Bremen is disproportionately high.

### Traffic Safety on the Major Road Network

Bremen's accident commission regularly analyses traffic safety issues in the individual areas of the city, develops location-specific measures to solve the problems and monitors whether the measures have reduced the safety problems.

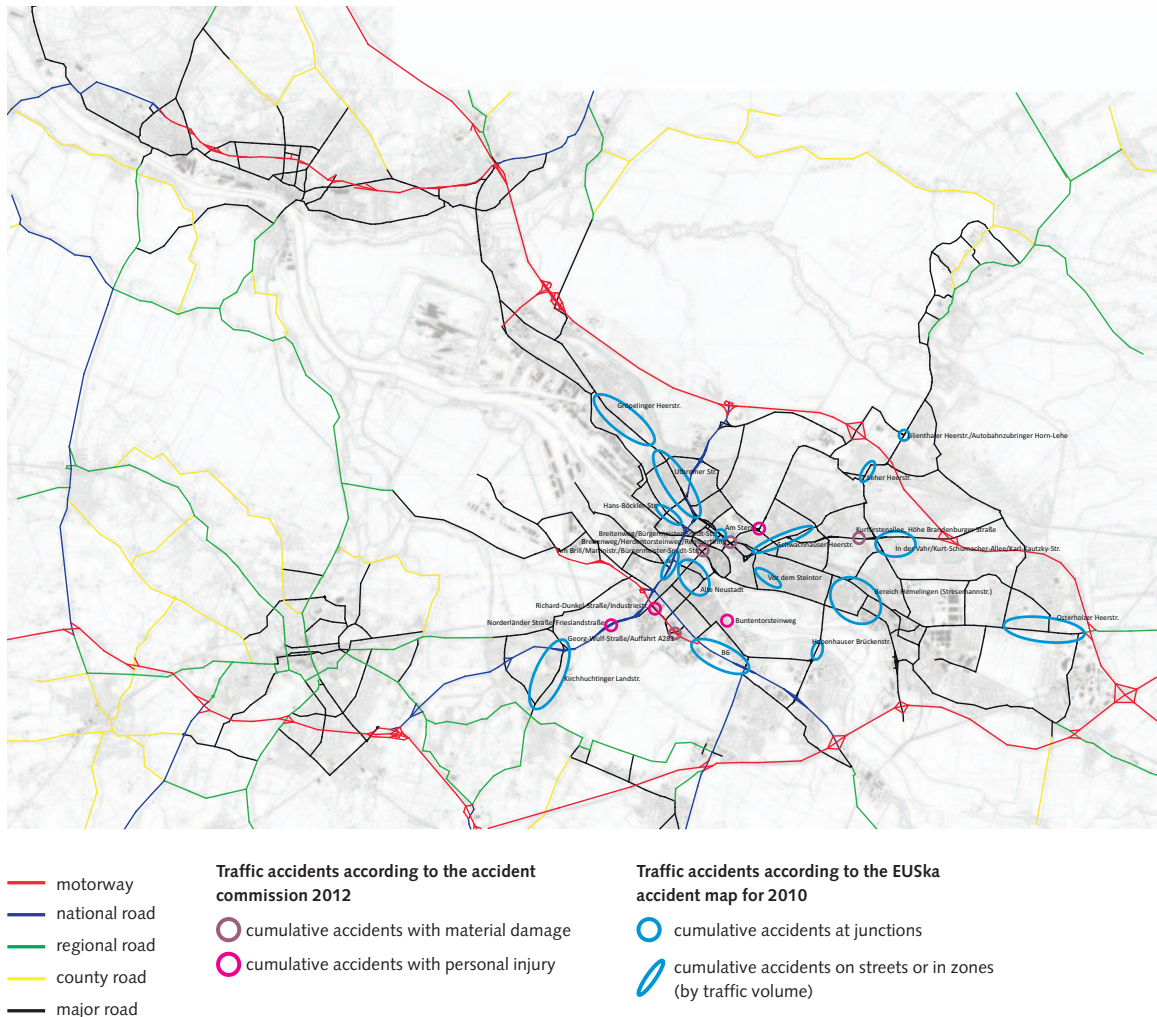
The traffic safety problems on Bremen's major road network are not generalised, but occur at individual nodes and in particularly busy road sections. These problems are thus rather a result of local conditions (high traffic volumes, lack of space, confusing traffic routing, etc.)

From 2007 to 2012, roughly 15,300 to 16,800 traffic accidents were registered annually. The share of accidents with personal injury was approximately the same in each of those years (15—18%).

According to the accident statistics, in 25% of all traffic accidents in 2012 the main cause was excessive speed or not keeping a safe distance. Children were involved in less than 2% of all traffic accidents. 16% of all traffic accidents involved senior citizens.

Number of traffic accidents in the City of Bremen						
	2007	2008	2009	2010	2011	2012
total traffic accidents	15,321	15,399	15,707	16,085	16,229	16,809
without personal injury	12,625	9,891	10,074	10,887	10,486	10,896
with personal injury	2,696	2,551	2,583	2,363	2,624	2,688
casualties	3,094	2,957	3,050	2,835	3,119	3,225
fatalities	11	10	11	9	14	15
serious injuries	301	339	326	275	318	351
minor injuries	2,782	2,551	2,713	2,551	2,787	2,859

Areas with traffic safety problems in Bremen's major road network (2010/2012)



## TOP 5

Where are things running smoothly?  
Where are things running badly?

Online participation results  
Top 5 comments on the topic:

## Congestion

- 1 Congestion on Lilienthaler Heerstraße
- 2 Daily congestion on the Überseestadt motorway connector
- 3 Daily congestion on the Utbremer Ring
- 4 Traffic overload in the Huckelriede neighbourhood
- 5 The priority given to buses and trams at traffic signals



Congestion warning through the virtual traffic guidance centre on the A1



Congestion in commuter traffic on Lilienthaler Heerstraße

## Urban Planning and Major Roads

Together with their transport function (connection and access), developed urban street space serves a series of other functions. They are the living space of residents, a place to sojourn or stroll, for children to play, for neighbours to meet, and for driving and parking. Commercial streets have an economic importance for the adjacent businesses and restaurants.

Urban street space is required to satisfy a wide range of demands at the same time. But many major roads — not only in Bremen — have been shaped for decades by the needs of cars.

The daily vehicle capacity statistics only tell part of the story of how well a street does justice to its functions. A major road in an industrial area, for example, faces different demands than a street in a neighbourhood centre with shopping and sojourning functions.

In the context of the street space compatibility analysis, the systematic conflicts are evaluated that arise between the causes (vehicle traffic, public transport) and those affected (often pedestrians, cyclists and residents) in the local circumstances.

*Friedrich-Ebert-Straße – important major road with significant restrictions for the streetscape and for walking and cycling*



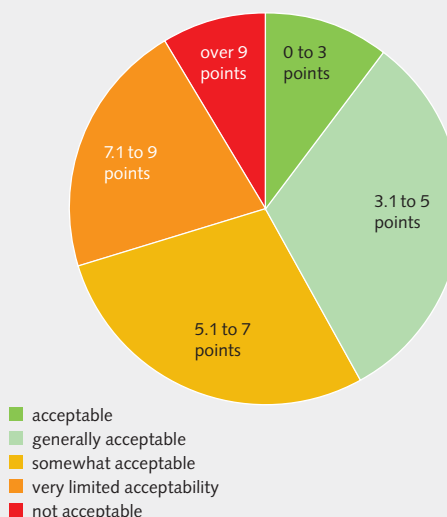
*Am Dobben – narrow road cross-section leads to conflict between road users*



*Lively neighbourhood centre despite transport compromises – Vor dem Steintor*



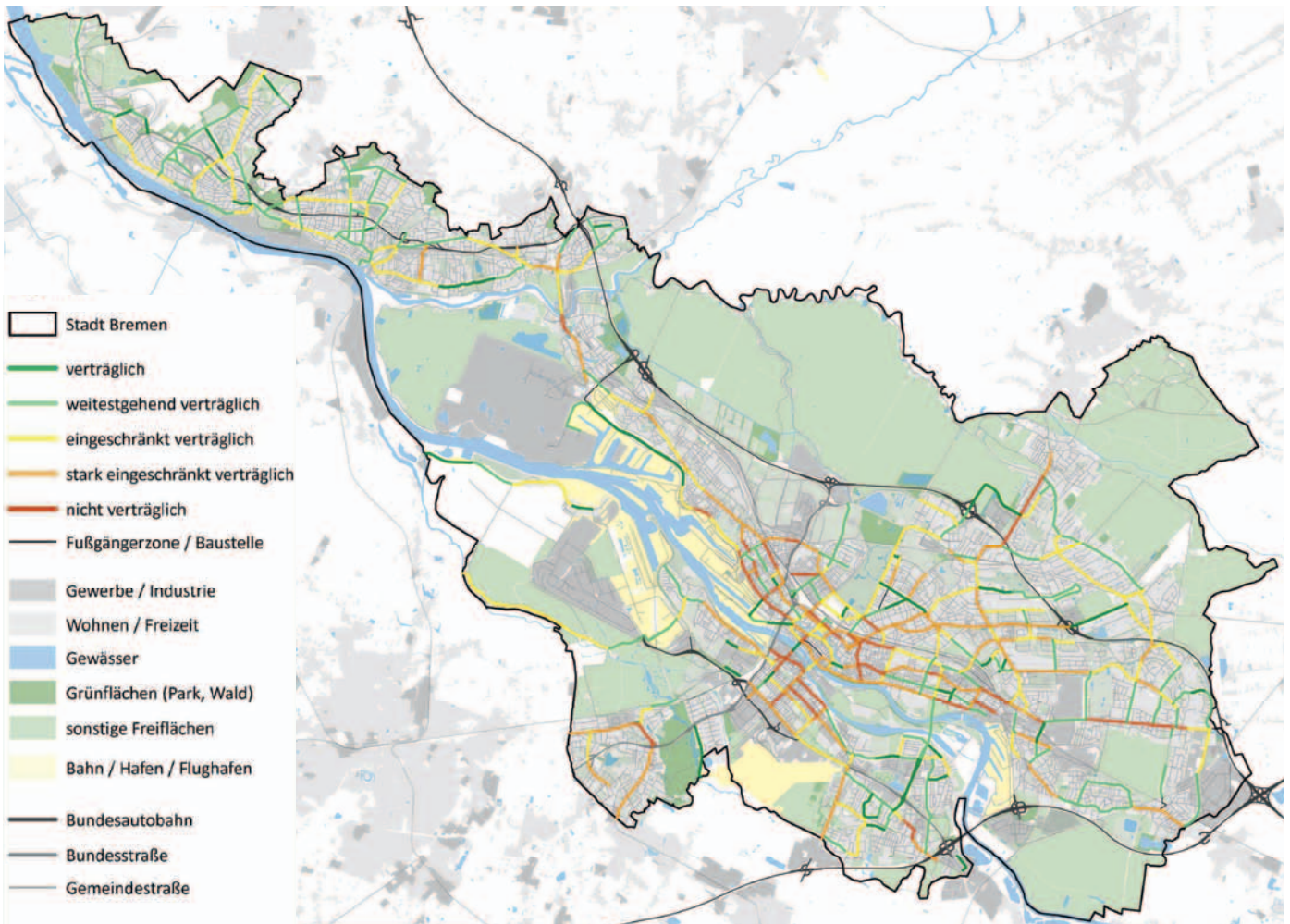
Classification of the analysed streets by acceptability



## Results of the Compatibility Analysis

The evaluation of the functional and street space compatibility is context-specific. The needs of the various users of the space, the exploitation of the space, the urban design and the traffic and environmental burden are incorporated in order to disclose possible conflicts. Conflicts occur in all areas of the city, although the lion's share of the streets with compatibility issues is in neighbourhoods close to the city centre, where a wide range of user needs come together. But particularly in busy areas, cooperation from all users is important to avoid dangerous situations and not to impede adjacent uses. It is important to maintain an overarching perspective spanning all transport modes.

In Bremen, it is in the narrow streets where a balance between the different user needs (vehicle traffic, public transport, pedestrians, cyclists, small businesses, restaurants and residents) is difficult to find. Here, the rule is: put the available space to optimal use, ideally with appropriate consideration for all users, and strive for compromise solutions.



Street space compatibility analysis

Narrow street without bike lane – Habenhauser Landstraße



Poor condition of the cycle track in Huchtinger Heerstraße

High parking pressure in many areas with old Bremen houses – Walsroder Straße



Redesign necessary: Bgm.-Smidt-Straße

## Parked cars

In a city-wide SUMP, the analysis of parked cars can only be looked at in very general terms. The parking supply and parking management in the city centre were analysed, the park+ride locations in Bremen were incorporated and a model-based analysis of the parking pressure in the neighbourhoods was undertaken. Further in-depth studies were defined in the implementation plan.

There are enough parking spaces in Bremen's city centre. The majority of these are in publicly-owned parking garages, which is fundamentally positive. The street parking spaces are likewise almost entirely pay parking. Many parking garages built in the 1950s and 60s are located very centrally in the old town —

with all of the associated advantages and disadvantages. The real-time parking information showing available spaces is well established. However these centrally-located garages create a great deal of traffic in the central area of the old town. Because of its location and the unsatisfactory accessibility of the central parking garage — particularly at busy shopping times — there are tailbacks and delays for both pedestrians and car drivers. Many improvement options were examined within the city centre plan (Bremen City Centre 2020). The parking supply in city centre garages and the price of parking in Bremen are comparable to other similar-sized cities. In some cases other cities charge more. In relation to its retail space, Bremen is well supplied with parking.

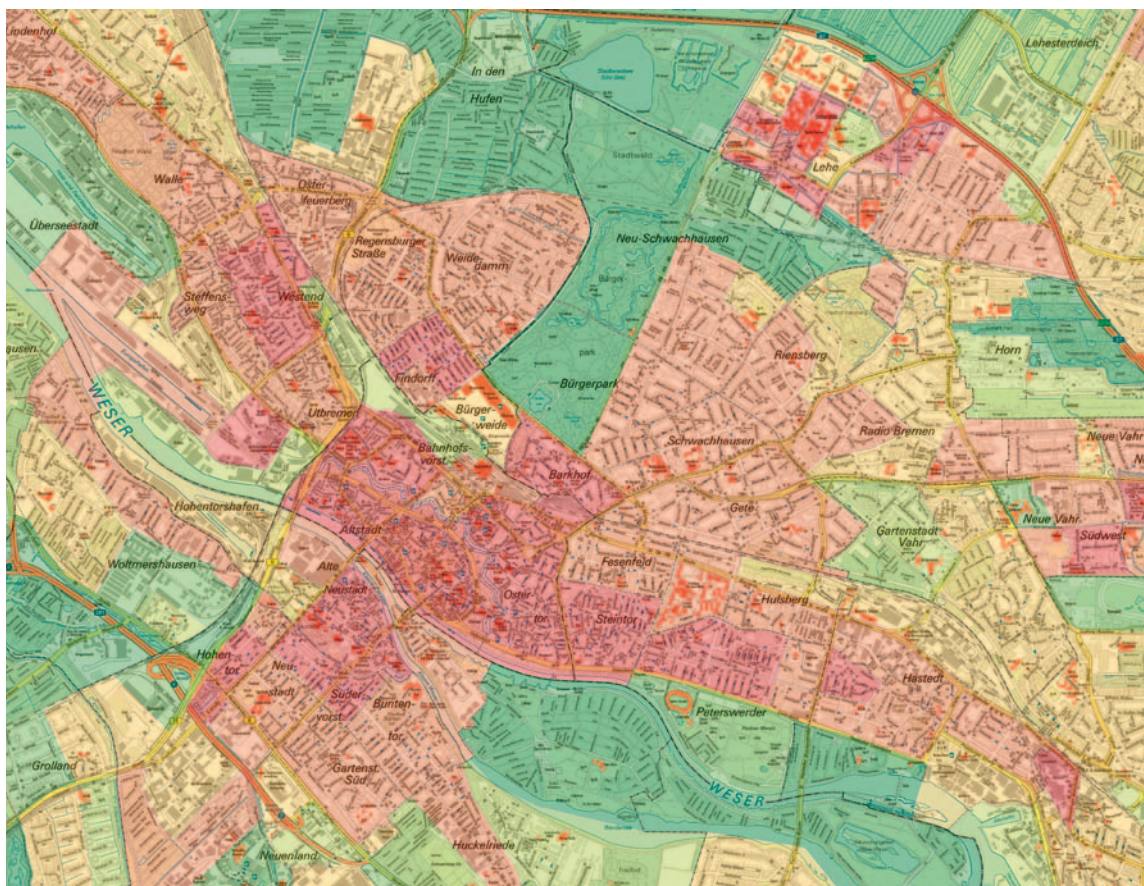
Comparison of parking supply with similar-sized cities						
	Population (2010)	City centre retail space in m <sup>2</sup>	Spaces in parking garages	Retail space per parking space in m <sup>2</sup>	Parking fees City	Extended centre
Bremen	547,000	136,000	6,338	21.5	€1.40/hr	€1.00 – 1.70/hr
Hanover	523,000	244,000	9,400	26.0	€1.00 – 2.00/hr	€1.10/hr
Leipzig	523,000	170,000	5,500	30.9	€1.00 – 2.00/hr	€0.50 – 1.50/hr
Nuremberg	506,000	190,000	5,500	34.5	€1.30 – 1.80/hr	€1.00 – 1.40/hr



Street parking regulations







*Specific parking demand in areas around the city centre, 15:00 – 16:00*

In Bremen there are over 4,310 parking spaces at park+ride stations, which can be increased to as many as 10,900 for major events such as football games. There is however not enough supply at all access points. The occupancy rate of the various locations is variable. At times even more spaces are needed even in locations where there is already a large supply.

Particularly in the areas near the city centre, Bremen is characterised by dense and small-scale construction. This applies in particular in areas with so-called “Bremen houses” (tall, narrow row houses with very small or no front gardens) as are found in the new town or the eastern periphery. These areas have a high population density and very limited parking on private property. This results in high parking pressure in these neighbourhoods to the extent that emergency access, pavements and intersections are blocked. In some neighbourhoods high parking demand is caused by users from outside the neighbourhood such as workers, customers or visitors. In such cases, the adverse effect on pedestrians or other local needs (e.g. resident parking regulations) must be evaluated.

Resident parking regulations currently exist in several neighbourhoods of the city, mainly near the city centre but also in two more distant neighbourhood centres.



*Park+ride at Farge station*



*Car-blocked streets impede emergency vehicles*

# Car Sharing

Car sharing offers a mobility service that focuses on the environmentally-friendly use of cars and puts car use ahead of ownership.

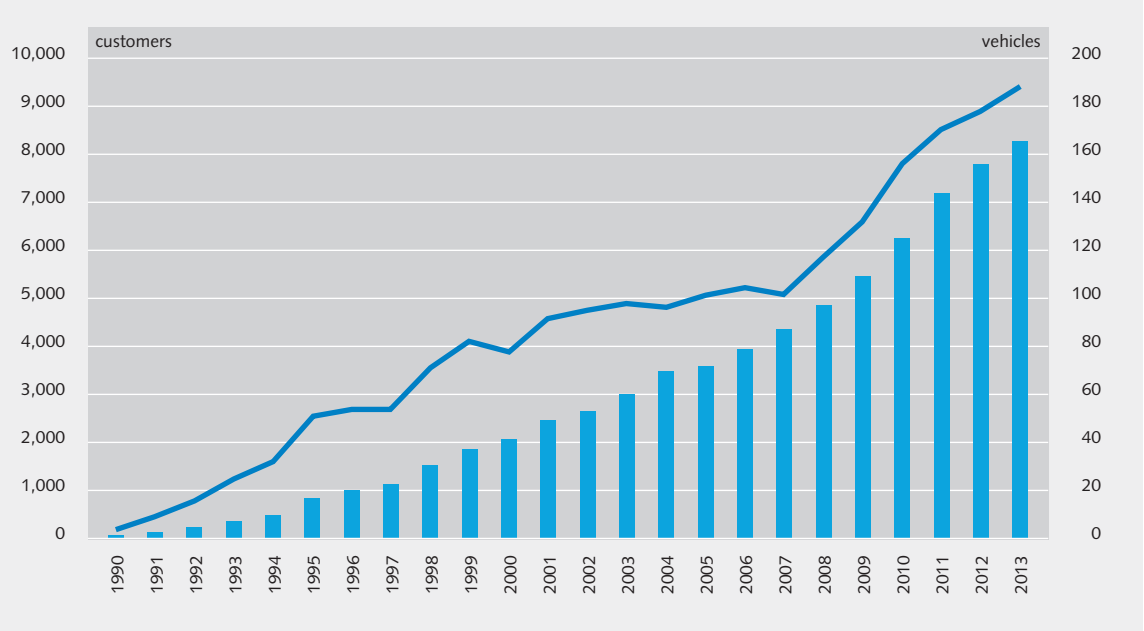
A distinct advantage of car sharing is that it relieves public street space of parked cars — thus promoting higher quality local mobility in densely built neighbourhoods. Regular customer surveys of the car sharing operator cambio have shown that 30% of those surveyed had got rid of a personal car. Given the statistical average of 40 users per car sharing vehicle, this means roughly 12 private cars are replaced by each car sharing vehicle.<sup>1</sup> Car sharing offers a comparatively inexpensive means to reduce parking pressure, particularly in central neighbourhoods, and to help create better conditions for local mobility.<sup>2</sup> The planned “mini mobility points” should enhance this approach on a small scale through a dense network of 2-car stations in densely built neighbourhoods.

The growth rate and the interest from car manufacturers show that car sharing is gaining in importance, above all at the local level. Analogue to the national development of car sharing, cambio has become an important player in Bremen over the past 20 years.

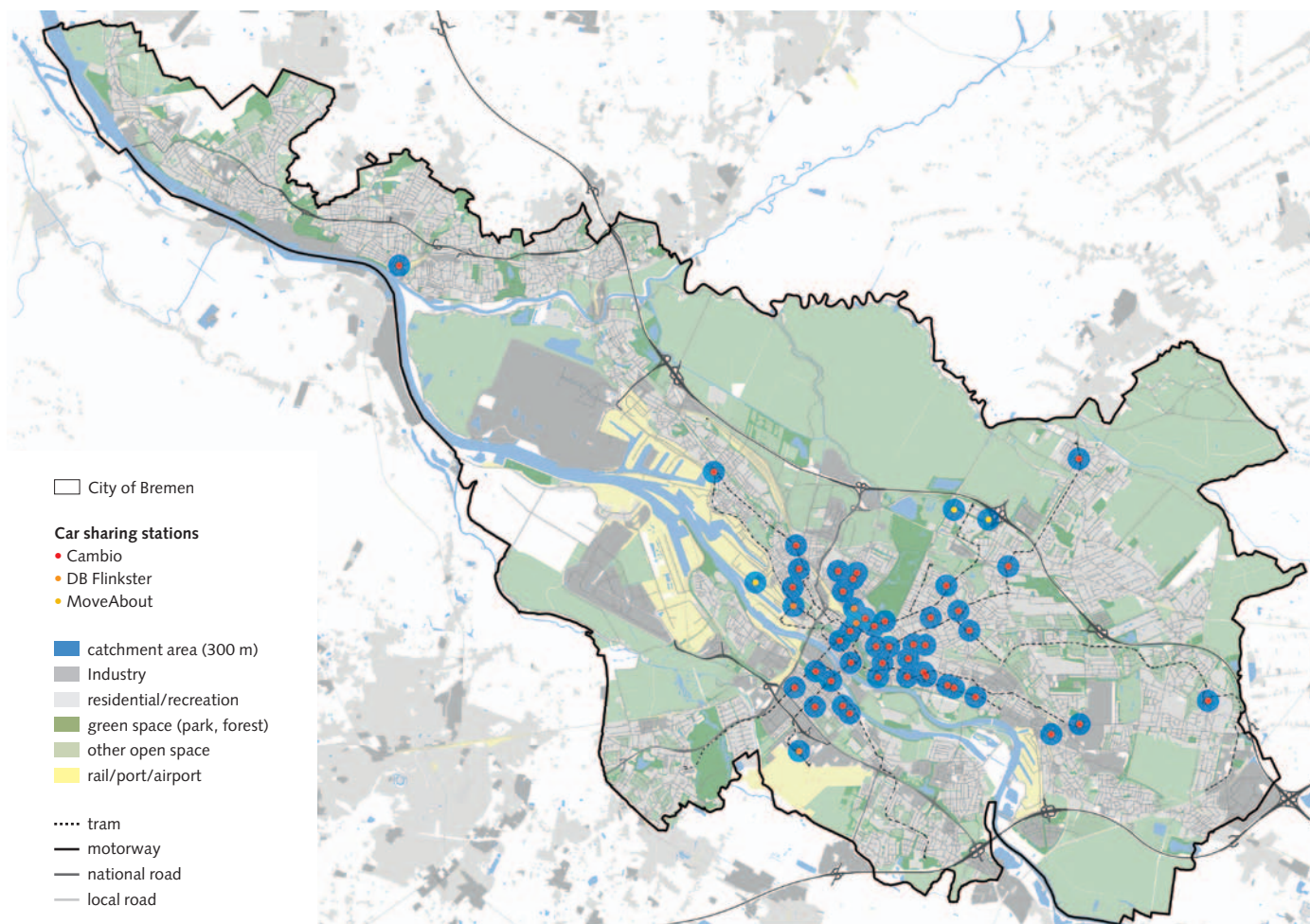
Car sharing promotion campaign  
("Would you buy a cow for a glass of milk?")



Development of cambio car sharing in Bremen (May 2013)



1 Source: Conference: 10 Jahre Mobil. Punkt in Bremen (May 2013)  
2 For further information on reclaiming public space through car sharing, see also: Huwer (2003); BCS (2009)



With its Car Sharing Action Plan, the City of Bremen supports the further development of car sharing and has set itself an ambitious goal of 20,000 car sharing users by 2020 (as compared to 11,000 in 2015). Through new stations in public street space, the station network will be further developed and densified. The action plan is independent of any car sharing operator, however any operator that would like to use parking spaces in public street space must fulfil the standards of the German Blue Angel environmental label and provide proof that they are relieving the car burden in public space. The amendment of the parking regulations is an important step toward being able to integrate car sharing into new construction projects from the beginning.

The existing station distribution and planned network densification are geared toward neighbourhoods close to the city centre, whereas neighbourhoods in the outskirts are connected selectively or not at all to car sharing. The car sharing network in Bremen is not yet comprehensive, but expansion is planned.<sup>3</sup>

Based on the characteristics of the well-connected car sharing neighbourhoods (high resident density, low car density), some areas that are not yet developed show potential for car sharing stations. In these neighbourhoods, the potential stations should be oriented toward important destinations such as neighbourhood centres or full-service grocery stores in combination with good public transport accessibility so that accessibility of the vehicles can be ensured, even over comparatively large catchment areas.

*Car sharing locations  
(December 2012)*

<sup>3</sup> Decision of the city parliament from 14.06.2013 (Drs. 18/351 S)

# Local Public Transport

As a central hub in the regional transport area, Bremen is served by three express train lines, four regional lines and five regional interurban lines. Particularly important for city centre traffic is the north-west to south-east regional interurban line that has its mid-point in Bremen.

The tram lines of the BSAG create a radial network, with a focus on the city centre and three central transfer points (the main station and two city centre locations). The lines are for the most part at grade and either east-west (3 lines) or north-south (5 lines) oriented.

The city bus lines fulfil different transport tasks. The radial lines that focus on the city centre have a connecting function whereas the tangential lines predominantly serve an access function.

The regional bus network is entirely radial with a focus on the Bremen city centre. Buses are routed along the most direct route to the central transfer point at the main station. In doing so, it is accepted that the service often runs parallel to the city buses and tram lines.



Regional passenger rail network in the Bremen region (2010/2011)



## Traffic Volume and Demand in the Network

By far the highest public transport demand is served by the regional rail and local tram networks. The transport volumes on the routes that are only served by city and regional buses are inherently significantly

smaller than in rail transport as — particularly in the regional network — the bus often serves a more local access and feeder function.

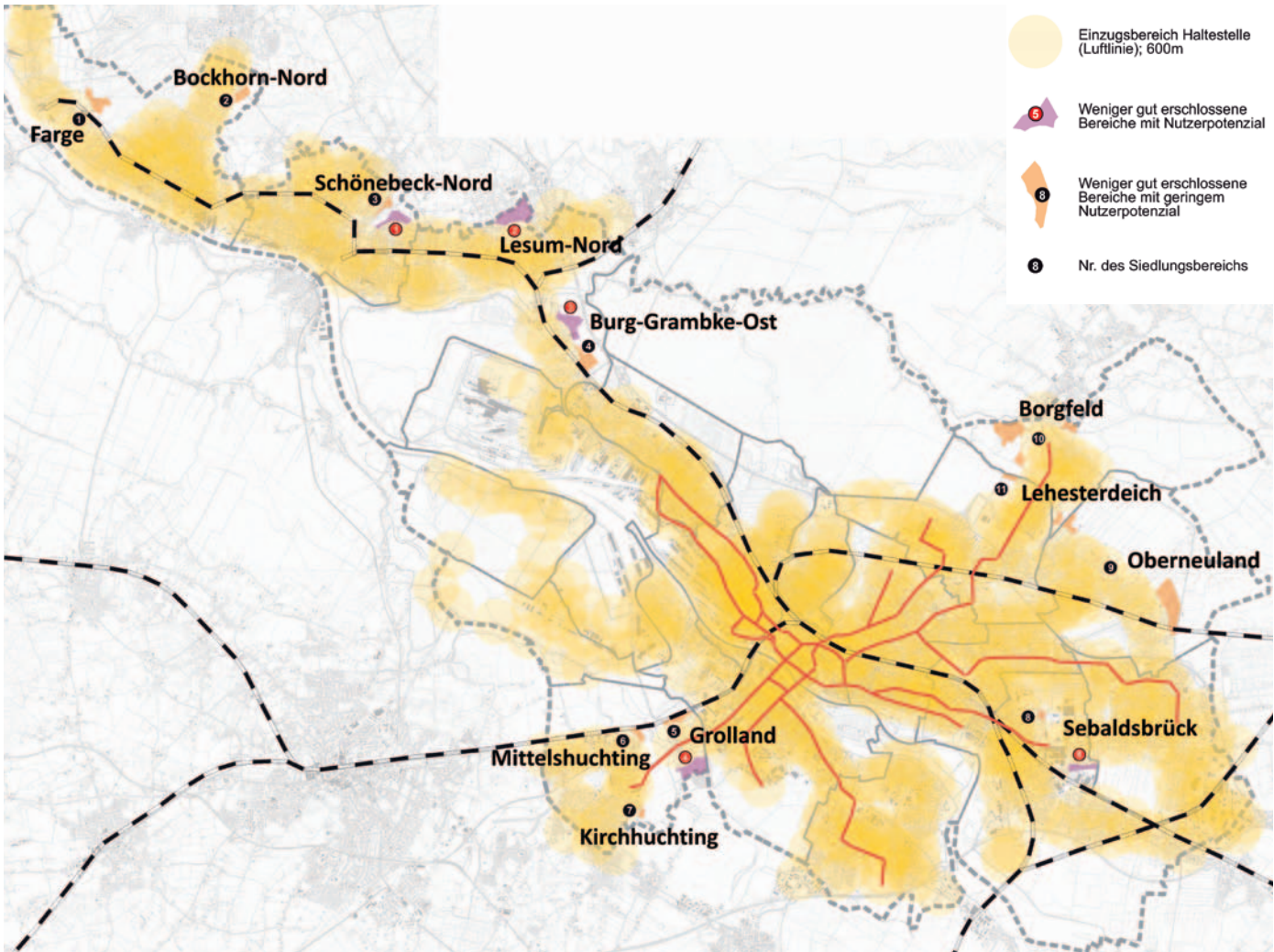
## Opportunity and Shortcoming Analysis: Rail-Based Local Public Transport

Regional rail-based public transport accounts for about 19% of motorised traffic, whereas within the City of Bremen, at roughly 26%, it is significantly higher. The public transport market share is both an expression of the quality of the service provided by rail-based transport and a reflection of the public transport/car travel time relationship — and thus of the competition between the two modes. For the most part, Bremen's figures lie within the normal range.

In relation to demand, the seating capacity in rail transport is generally well dimensioned, although capacity bottlenecks in individual trips are still possible. High passenger numbers are found in particular on one route leading to the northwest and on one to the west.

Opportunities lie particularly in an expansion of the regional interurban network and in optimisation of the connections with tram and bus lines. Integrated real-time information and increased marketing of local public transport as a system would be two helpful elements.

Catchment area and connectivity by stop



## Opportunity and Shortcoming Analysis: Road-Based Local Public Transport

Road-based local public transport is understood to be trams and buses, whose accessibility and potential necessarily involve local and regional rail transport. All studies are limited to the City of Bremen. In addition the local tram and bus operator provided a list of impediments to tram and bus operations. An accessibility analysis of the current situation and an analysis of potential were carried out.

It is clear that local public transport in Bremen has identifiable demand potential, which, under certain conditions, could be capitalised on. The demand potential is overwhelmingly in the traffic cells which are served by regional rail transport or the tram.

### Impediments to Operations

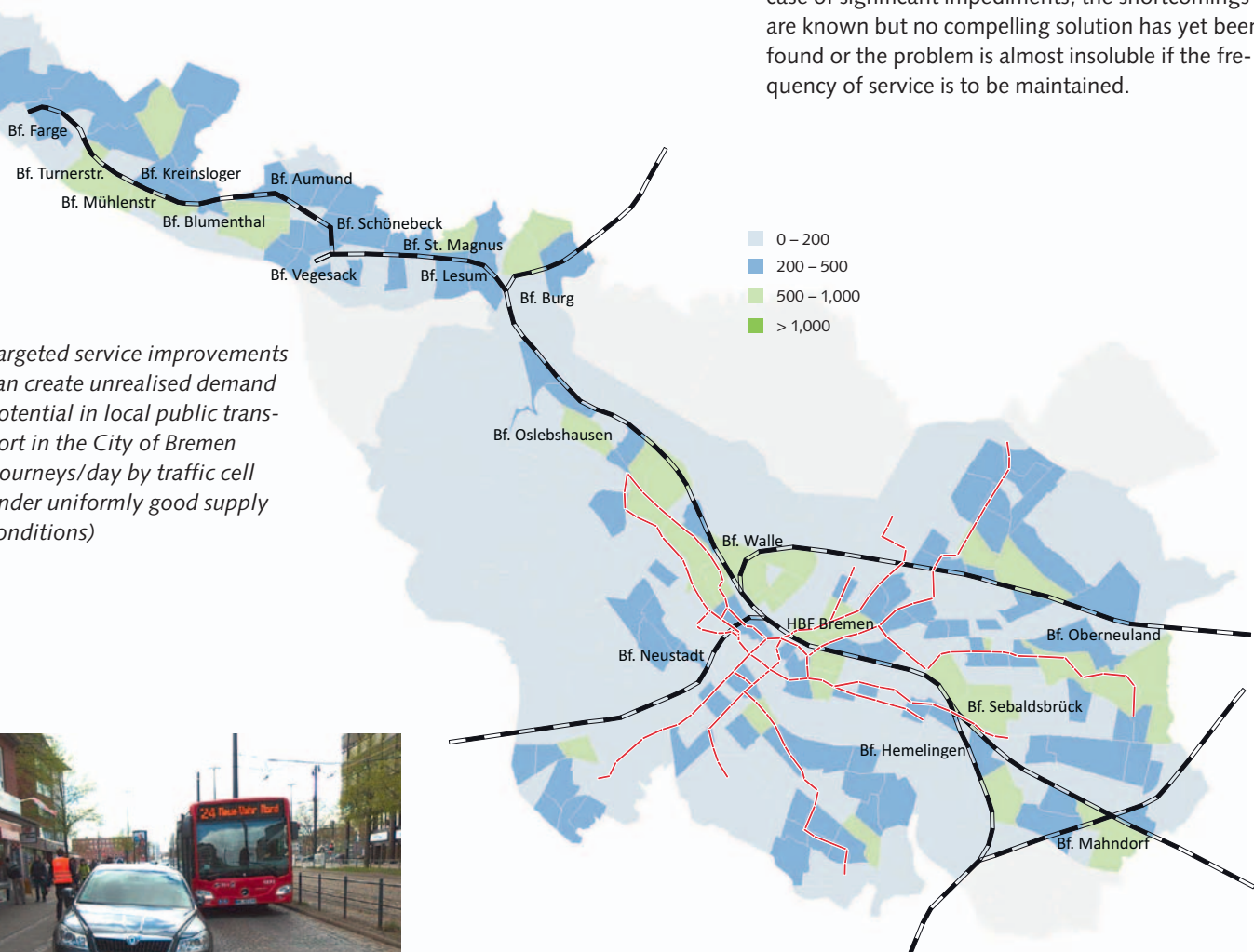
The BSAG has identified more than 60 forms of impediments to the operation of trams and buses in spite of extensive prioritisation already given to tram traffic. These impediments lead to an increase in travel time in public transport, have a negative effect on mode choice and increase operating costs. Particular challenges are:

- Time loss at traffic signals (approximately 40% of all impediments), mainly caused by signal programming unfavourable to public transport
- Reduced speeds on routes (approximately 30% of all impediments); caused mainly by insufficient space due to parked cars or poor road surface conditions
- One public transport vehicle impeding another because of high service frequency (approximately 10% of all delays)
- In addition, there are spot impediments caused by delivery vehicles, long wait times at rail crossings, traffic congestion or high passenger numbers leading to long standing times at stops. Particularly in the case of significant impediments, the shortcomings are known but no compelling solution has yet been found or the problem is almost insoluble if the frequency of service is to be maintained.

*Targeted service improvements can create unrealised demand potential in local public transport in the City of Bremen (journeys/day by traffic cell under uniformly good supply conditions)*



*An illegal parker blocks the city bus*



**TOP 5**

Where are things running smoothly?  
Where are things running badly?

Online participation results  
Top 5 comments on the topic:

**Local public transport**

- 1 Better connection from Osterholz to the bus network is needed
- 2 Build the Föhrenstraße regional rail station
- 3 A tram for the Findorff neighbourhood
- 4 Lack of a direct connection from Sebaldsbrück to Weserpark
- 5 New line 45 needed: Weserwehr — Hemelingen station — Mahndorf station — Weserpark — Bremen East hospital — Schweizer Eck

*The Am Brill stop is not barrier free*



*Crowds at Bremen main station*



*The bus is also caught in traffic – Habenhauser Brückenstraße*



*Convenient cycling in the redesigned Humboldtstraße*



## Analysis of Bicycle Traffic

Cyclists characterise Bremen's cityscape. Cycling is a part of the daily culture of Bremen. The bicycle is a natural choice for old and young, for workers and shoppers, for school children and holiday-makers and also as a form of sport. For every 1000 residents there are 916 bicycles. The bicycle facilities in Bremen are better than in most comparable cities but the potential for bicycle use in Bremen is far from exhausted.

## The Bremen Bicycle Network

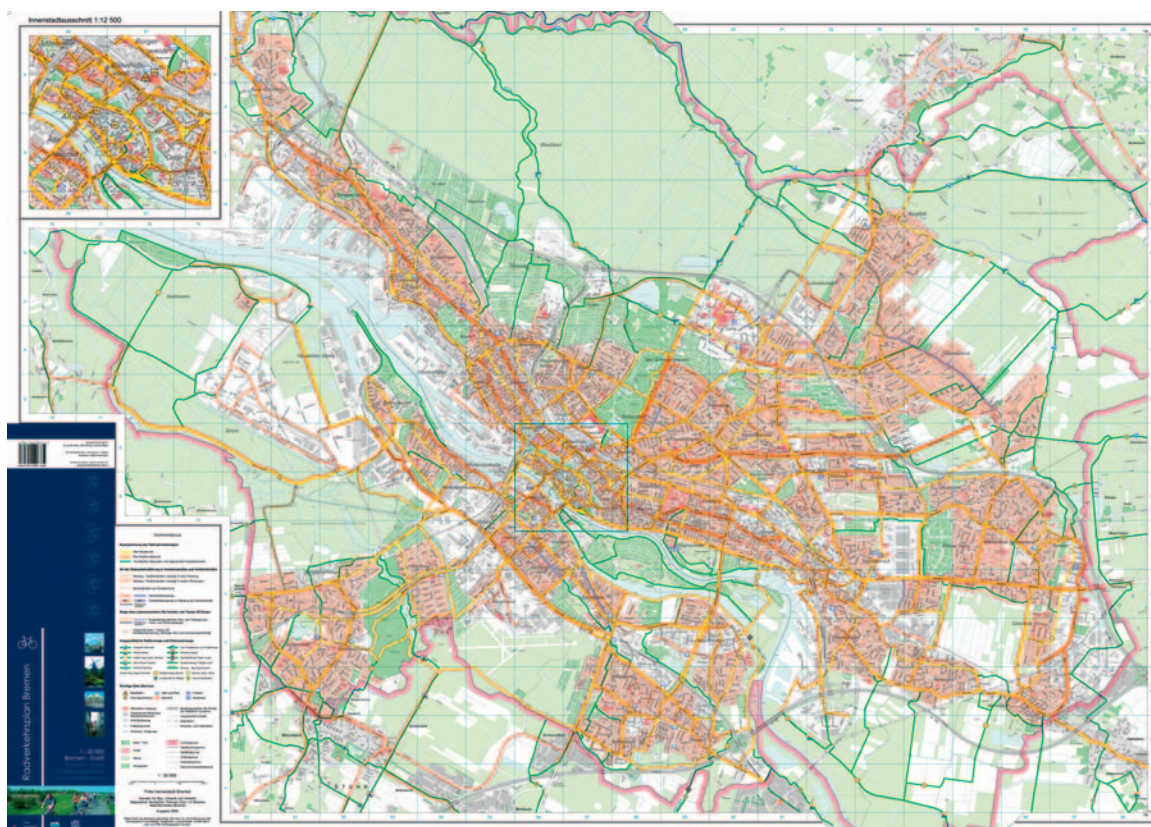
With the 2003 document Targeted Planning for Bicycles, a bicycle network was developed as a basis for securing and further developing bicycle infrastructure. In total, the network is made up of 390 km of main routes, whose purpose is to meet the needs of daily cycling. Further important connections have been integrated as supplementary routes (44 km) or recreational routes (270 km). Any route classified as a main bicycle route in future planning should have high importance placed on the needs of bicycle traffic.

A densification of the bicycle route network to the neighbourhood level through, for example, the inclusion of the Green Network (recreational areas) or the green connections included in the land use plan was already recommended in the Targeted Planning for Bicycles document and was followed up on in the context of the SUMP.

When the bicycle network was conceived in the context of the Targeted Planning for Bicycles document, the bicycle wayfinding system was also redesigned from the ground up. Today a uniform, comprehensive wayfinding system provides orientation for cyclists. A system of maintenance is, however, not in place.

The network philosophy at the time was limited to the development of main routes as a means of channeling bicycle traffic city wide. Network development beyond that to include high quality, fast connections was not considered. Thus cyclists should not expect to be able to travel faster on the current network. In this respect, the network has potential for optimisation.

*Bremen's bicycle map, main route network marked in yellow, 2012 edition*





## Bicycle Traffic Volumes

A comparison with older counts shows that bicycle traffic over the past ten or twenty years has increased significantly. Because of limited crossing options, the highest cycling numbers are found at known pinch points (crossings of the Weser River, rail crossings and crossings of the green belt along the former city wall) as well as in the city centre area and along connections to the university.

Since 2011, the number of cyclists has been counted by permanent counters at strategically important points that gather data on the ongoing development of cycling demand.



## Bicycle Infrastructure

Cycling has a long tradition in Bremen. The comprehensive infrastructure attests to this. The existing separated cycle paths parallel to almost all main roads and many secondary roads as well, together with the narrow lane widths, are the reason for the relatively modest use of on-street painted cycle lanes to date.

### Bicycle Routes — Opportunities and Shortcomings

In a review carried out in 2010, 674 km of separated bicycle lanes next to roads were recorded. There were only 19 km of on-street cycle lanes or bicycle streets.

The majority of the bicycle lanes in Bremen are not mandatory-use. The only lanes that are mandatory-use are those that meet the standards described in the highway code and are appropriately signed. Everywhere else cyclists have the choice to use the street or the separated cycle tracks.

The standard for cycle tracks in Bremen is 1.6 m plus a safety stripe. In many sections these widths are not met. The standard width allows overtaking but leaves the cyclists little leeway. Increasing speed differences between cyclists because of the range of bicycle types and the trend toward pedelecs, as well as wider vehicles such as bike trailers and cargo bikes, give this problem a new relevance. The available infrastructure has reached its limits in many places and is not future-ready. In addition the quality of many bicycle tracks is compromised by the roots of street trees and the shifting of the paving stones over time.

### Bicycle-Friendly Elements — Opportunities and Shortcomings

A wide repertoire of bicycle-friendly elements is used in Bremen's infrastructure. Most one-way streets in Bremen are open to bicycle traffic in the contra-flow direction. Wachmannstraße and Hamburger Straße are good examples of successful allocation of street space despite limited overall width. Both were made comfortable for cycling by a bicycle lane. Bicycle streets have been implemented in Bremen, but there is no uniformity in their design or their role in the network. The use of the legally-defined bicycle street can and should be strategically and consistently expanded to improve the quality of the bicycle network. Unified standards will help to make bicycle streets recognisable as such.

Overall, significant improvements are possible through a consistent and comprehensive application of bicycle-friendly elements.

### Cobblestones — Opportunities and Shortcomings

With their uneven surface and their lack of grip, cobblestone streets fundamentally do not fit with encouraging cycling. Cobblestones — particularly large stones — should be avoided on the main bicycle network. But even in secondary routes, creative solutions should be sought that balance historic preservation and city image with the needs of a modern city (rideable surfaces for cycling, order for parked cars) to make streets usable and safe.



*Cycle lanes in narrow streets –  
Hamburger Straße*



*The Lothringer Straße cycle street is not part of the bicycle network and is dominated by parked cars*



*High cycling volumes with limited waiting space at the junction Wilhelm-Kaisen Bridge/Tiefer*



*Cycle track in Lindenstraße*

## Shortcoming Analysis

The attractiveness of the bicycle network is, among other things, dependent on the quality of the infrastructure. Infrastructure shortcomings are manifold and are often found in the details. Limitations can be found in cycling comfort, in traffic safety or in cycling speed. The impact can be felt in the acceptance of a route by cyclists or in their compliance with regulations.

In the context of the sustainable urban mobility plan, a shortcoming analysis was carried out that looked in detail at individual shortcomings along the main routes of the bicycle network. Gaps in the network, lack of capacity, shortcomings at intersections, shortcomings or needs for improvement at crossing aids and poor rideability of sections were identified. Individual shortcomings in the condition of the routes were not collected, however in the online participation process, 23% of all comments in the area of walking and cycling (213 of 938) were about the poor condition of bicycle

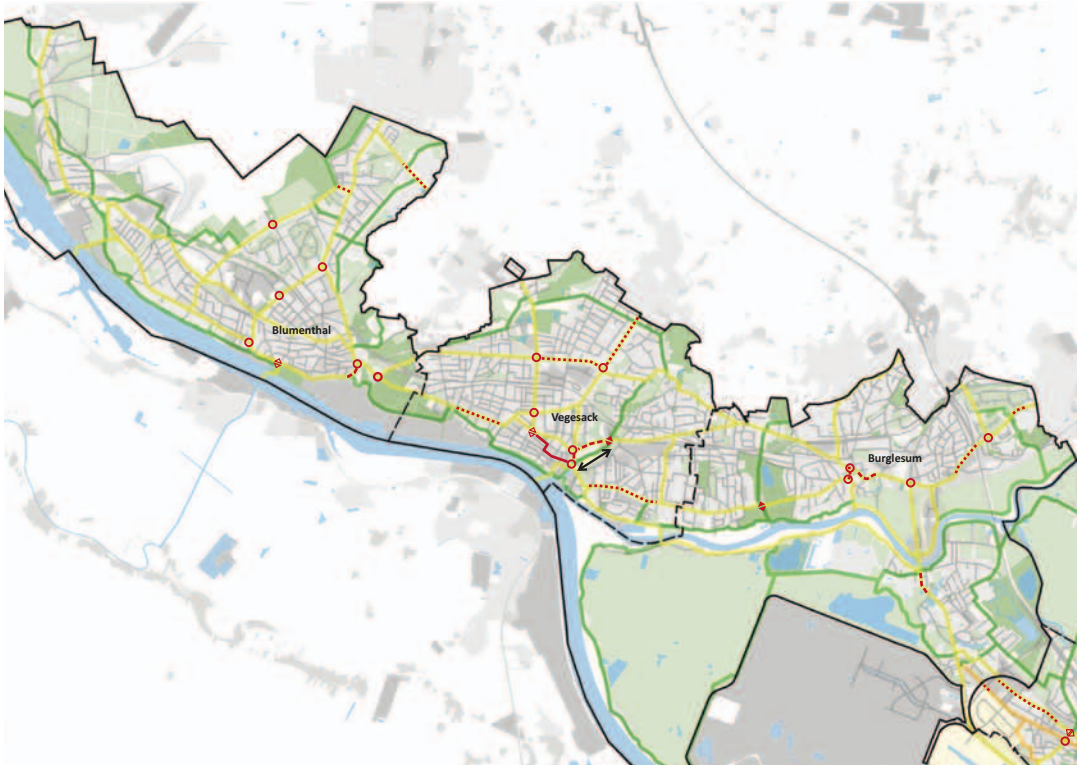
tracks, which points out the relevance of the topic of bicycle route maintenance and the need for improvement.

The results made clear that there are still many shortcomings in cycling infrastructure in many locations.<sup>4</sup> Improvement remains a long-term and ongoing task which requires effective strategies.

As an interdisciplinary committee, the bicycle working group deals with the improvement of infrastructure on an ongoing basis. At the time of the opportunity and shortcoming analysis, an intersection programme was being updated. The bicycle-friendly optimisation of signalised intersections will be implemented in coordination with the bicycle working group. This is an example of the systematic approach of the bicycle working group toward the improvement of cycling infrastructure.

<sup>4</sup> It should be noted that the analysis of shortcomings does not claim to be comprehensive. This registration is an ongoing process.

### Bicycle network Bremen North and City of Bremen

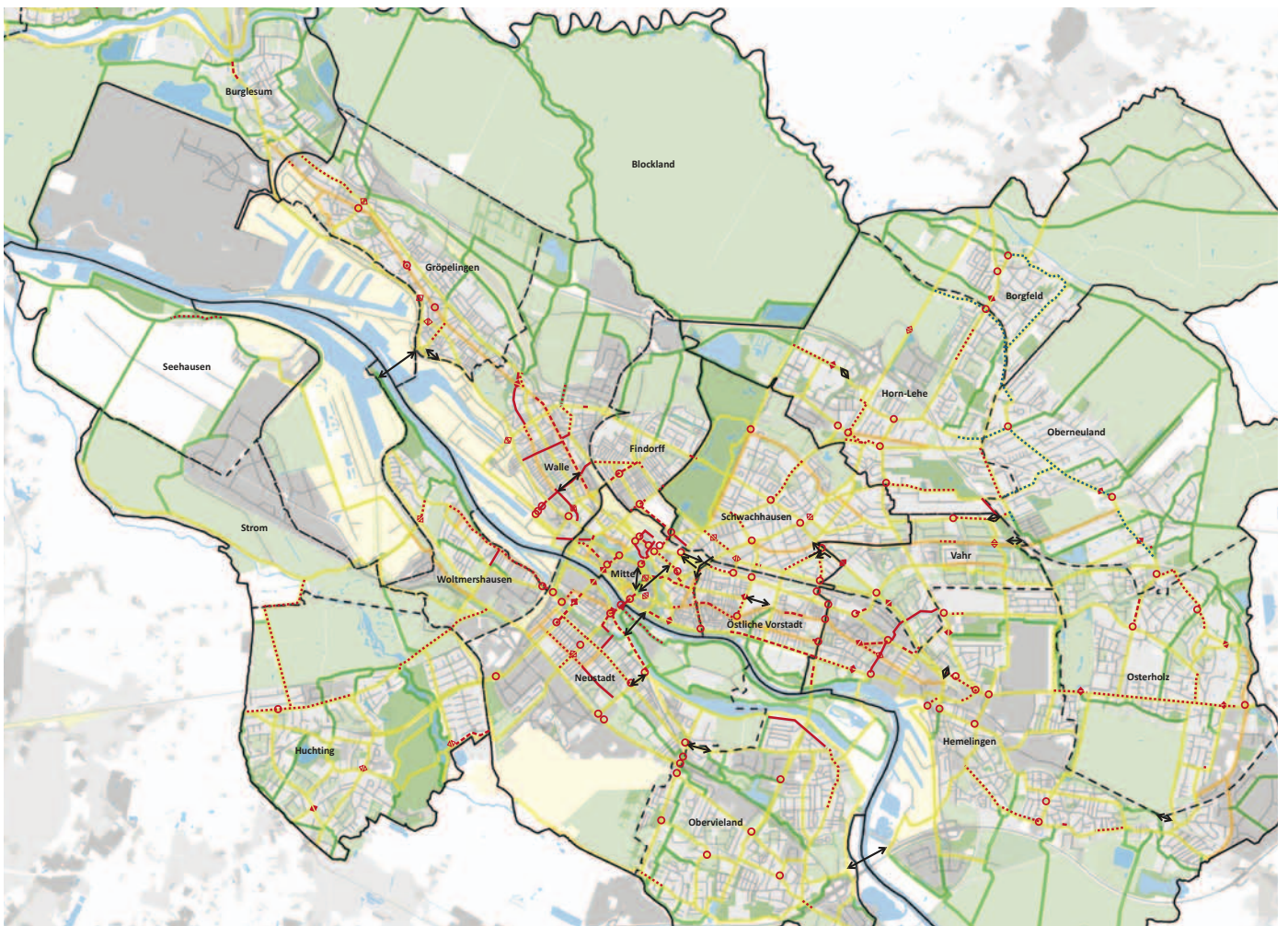


#### Chancen und Mängel

- Radfahrer/innen prägen das Stadtbild von Bremen. Der Radverkehrsanteil ist mit 25% aller Wege bereits relativ hoch - kann aber noch weiter gesteigert werden.
- Bremen verfügt über ein flächendeckendes Radwegenetz. Auch ohne Benutzungspflicht werden die Radwege zu 99% genutzt. Radfahren auf der Fahrbahn hat sich noch nicht durchgesetzt.
- An vielen Knotenpunkten und Strecken gibt es Optimierungsbedarf für ein komfortables und sicheres Radfahren.
- Radverkehrsförderung in Bremen sollte mit Blick auf andere Fahrradstädte couragierter und innovativer werden.

#### Legende

- Hauptroute
- Ergänzungsrouten
- Freizeitroute
- Netzlücke
- Mangel am Knotenpunkt
- Querungsbedarf, keine Querungshilfe
- Verbesserungsbedarf Querung
- Kapazitätsengpass
- schlechte Streckenbefahrbarkeit
- Ergänzung Radverkehrsrouten
- mangelhafte bzw. unbefestigte Seitenanlage
- Grenzen der VEP-Stadtbezirke
- Grenzen der Stadtteile



*Bicycle station at  
the Bremen main  
station*



*Bike+ride at the  
Roland-Center  
shopping centre in  
Huchting*



*Cycle parking: large supply but  
even larger demand*

## Bicycle Parking and Intermodal Interfaces in Bremen

A lack of secure and weather-protected bicycle parking at origins and destinations can have an inhibiting effect on cycling. A sufficient supply of good quality parking is an important component of cycling infrastructure.

### **Bicycle Parking near Local Amenities and Neighbourhood Centres**

In the city and neighbourhood centres there are numerous permanent parking spaces, supplemented by racks provided by individual businesses. However large accumulations of randomly parked bikes are evidence that parking can still be increased and improved. This problem affects mainly the neighbourhood centres closest to the city centre. In the city centre itself, the demand for public bike parking is also not met. This affects particularly the areas around the pedestrian zone and around the main train station.

### **Bicycle Parking in Residential Areas**

Particularly in densely built areas of narrow row houses there are many demands on and conflicts over the use of available street space. Many basements have been built out into living space and front gardens are small, leading to the situation that bicycles are often chained to fences and/or on the pavements where they hinder pedestrian traffic. This is a particular problem for those who need barrier-free access.

In the 1990s some individual car parking spaces were reallocated in the context of model projects as bicycle parking spaces, and similar initiatives have been taken again in recent years in two neighbourhoods, although systematic support of such action does not currently exist. An important factor for bicycle parking in residential areas is the regular removal of so-called "bicycle corpses" or bikes which have clearly been abandoned and are not road-worthy.

### **Bike and Ride**

At almost all rail stops in Bremen there is a bike+ride station. The quality of these 22 stations is no more than average and they are, in general, at about 52% of capacity.<sup>5</sup> According to a study carried out by the Zweckverband Verkehrsverbund Bremen/Niedersachsen (ZVBN, transport association of Bremen/Lower Saxony), the quality of the bike parking at train stations is not representative of a bicycle-friendly city. While the parking facilities in Bremen North have a good to average quality, the assessment in other areas is poorer.<sup>6</sup>

<sup>5</sup> See ZVBN 2012

<sup>6</sup> The facilities were evaluated using standard German school grades (1 – 6) for the criteria quality, quantity (capacity) and level of use.

At the main train station, there is an attractive, modern bicycle station that offers safe parking together with a bicycle shop, a repair shop and a range of cycling-related information. There is however a lack of free bike parking at the station.

Along the network of the tram and bus operator in the City of Bremen there is a well-established network of bike+ride stations. The quality of the stations is generally good and many of them have weather protection (e. g. they have a roof or are built under a bridge).<sup>7</sup> The stations are found mainly at tram stops and only rarely at bus stops. Often their capacity does not meet the rising demand.

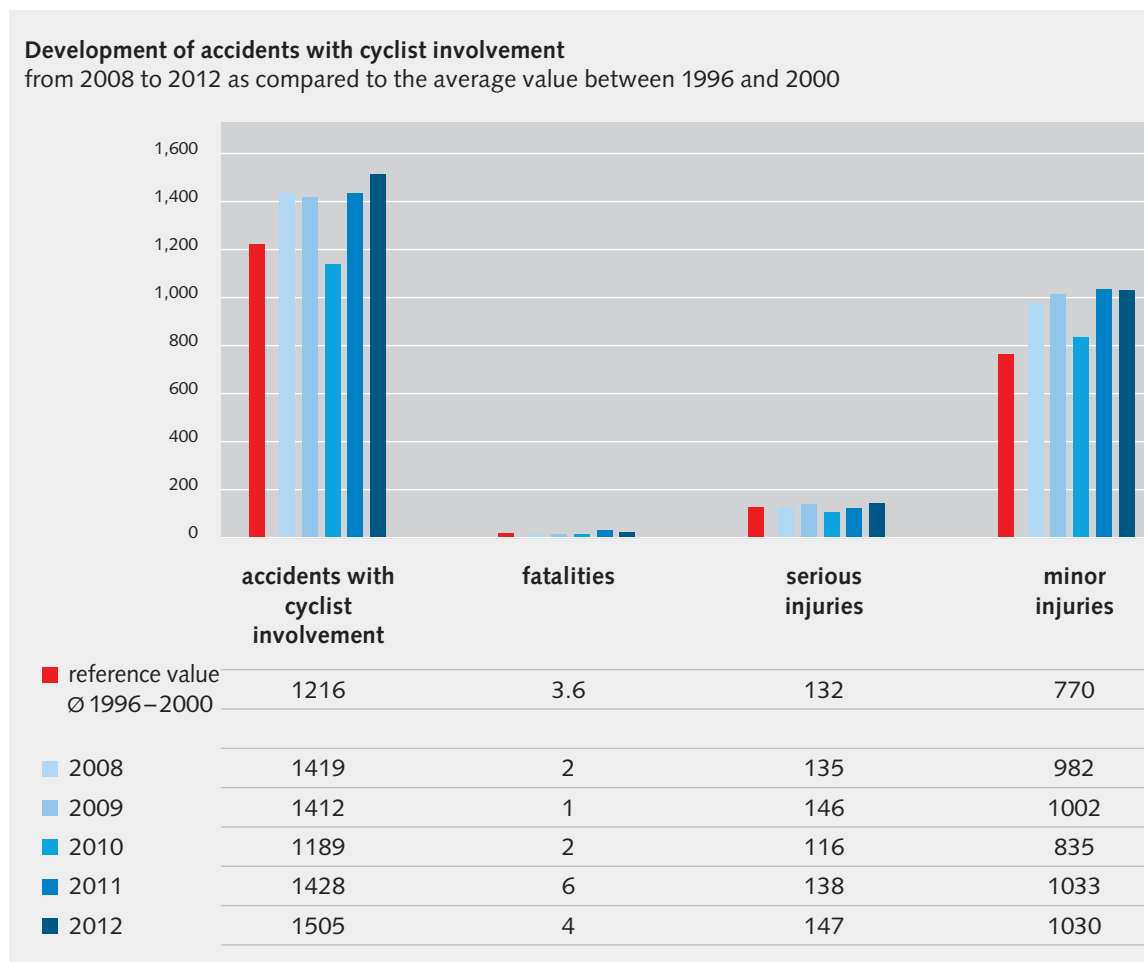
Apart from the bicycle station at the train station there are only two other bike+ride locations that offer secure bike parking (bike boxes).

## Traffic Safety and Bicycle Traffic

The number of accidents involving cyclists remained more or less the same between 2008 and 2011, but increased by 6% in 2012. Compared to accident statistics from 1996—2000, the number of cycling accidents in the last decade has gone up by roughly 17—24%

There was however a change in the modal split for this time period, with an increase in the cycling mode share from 22 to 25% (a 14% increase). In this context, the increase in accidents with cyclist involvement is not a massive deterioration, but also certainly not an improvement.

In relation to cars, cyclists are vulnerable and relatively unprotected and, as such, are particularly affected. Measured against a modal share of 25%, cyclists are over-represented as injured persons in traffic accidents at 38% of the total.



<sup>7</sup> See plan-werkStadt/VIA Köln 2013



“Bike it”: the online presence of the City of Bremen, [www.bremen.de](http://www.bremen.de)

## Marketing, Public Relations and Services

### Marketing and Public Relations

The aspect of communication is receiving more and more recognition as an important and cost-effective means of encouraging cycling. Communication includes everything from public relations and campaigns to cycling education addressing particular target groups.

In Bremen, bicycle-friendly communication already exists. “Bike it” is presented on the City of Bremen’s website ([www.bremen.de](http://www.bremen.de)). The traffic management centre makes important information on cycling infrastructure available online (e.g. brochures on bike parking or bike+ride). The Green Ring, a cycle route in the region surrounding Bremen, which was conceived as part of the national Bicycle Plan, is effectively marketed.

Societal actors such as the German Cycling Association also contribute significantly to a bicycle-friendly atmosphere.

Events such as the autofreier StadTraum (a play on words meaning both “car-free urban space” and “car-free urban dream”) and the annual open-air music festival Breminale are accompanied by bicycle-oriented activities (the “Flyover Bike Tour”, the bicycle festival).<sup>9</sup> The protestant church congress that took place in Bremen in 2009 was conceived as a

### Primary Causes of Accidents

According to police statistics, 50% of accidents involving cyclists in Bremen are caused by the cyclist him- or herself.<sup>8</sup> This includes the accidents between cyclists and pedestrians as well as single-vehicle accidents. The causes of cyclist accidents in Bremen correspond to the experience of accident research. Junction areas are particularly dangerous, where cyclists are endangered by cars due to turning errors or not ceding the right of way. The poor sight lines between car driver and cyclist are particularly problematic on separated cycle tracks (shifting of the bike lane in the junction area, poor visibility due to parked cars or urban greening). Where accidents are caused by cyclists in Bremen, three main causes can be identified: cycling the wrong way on a cycle track, cycling under the influence of alcohol and/or drugs and not yielding the right of way. Cycling the wrong direction on cycle tracks has been found in nation-wide research to be an important cause of accidents, and often leads to — sometimes serious — personal injury.

bicycle-friendly event and received the 2009 German bicycle prize.<sup>10</sup>

Nonetheless, the communication is not continuous and it is not unified. There is considerable potential for more quality and continuity. Other societal actors — such as the University of Bremen, the Bremen University of Applied Sciences or the chamber of commerce — could also become more active in systematically supporting and encouraging cycling in Bremen.

### Services

Together with infrastructure and communication, services for cycling are the third pillar of the bicycle system. A range of approaches is needed to make daily cycling more attractive.

In the bicycle station at the main station, safe and convenient parking (bike+ride) is combined with a shop, repair services and information — providing everything needed for cycling in and around Bremen. The network of bicycle shops in Bremen is dense and covers a wide range of needs (from warehouse to specialist). Businesses offer mobile bicycle repair services. The existing wayfinding is also an important service for orientation.

The services provided in Bremen with regard to public visibility can still be further developed.

<sup>8</sup> This corresponds to the general findings of accident research on bicycle traffic safety — problems and solutions. Unfallforschung der Versicherer

<sup>9</sup> See [www.autofreibremen.de](http://www.autofreibremen.de)

<sup>10</sup> See [www.der-deutsche-fahrradpreis.de/der-deutschen-fahrradpreis/rueckblick/2009.html](http://www.der-deutsche-fahrradpreis.de/der-deutschen-fahrradpreis/rueckblick/2009.html)

TOP 5

Where are things running smoothly?  
Where are things running badly?

Online participation results  
Top 5 comments on the topic:

### Shortcomings in cycling infrastructure

- 1 No bike route to the Mahndorf station
- 2 No bike route in Kirchweg
- 3 Poor crossability for cyclists at Domsheide (city centre)
- 4 Cycle tracks in Humboldtstraße
- 5 Cycle tracks between Sielwall intersection and Ziegenmarkt



Delivery traffic blocks the cycle path – Vor dem Steintor

No space – Hulsberg



Cycle track with structural shortcomings – Kurfürstenallee



Bischofsnadel: an attractive connection and a bottleneck for cyclists and pedestrians

## Analysis of Pedestrian Traffic

Walking is the most natural and elemental means of transport for humans. In the end, every journey begins and ends on foot — whether it be the walk to and from the car park, to the bus stop, to the car sharing station or to the bike rack. Thus whatever else we may be, we are all pedestrians.

As natural as walking is, for a long time it was not seen in transport planning as an independent mode of transport and has been underrepresented over the past decades. The loss in importance of walking has been reflected in the declining numbers of pedestrians, in Bremen as elsewhere. The result of the competition among different uses for space has been the “leftover” space going to pedestrians. But retail has also increasingly spread to large sites on the outskirts, which, in turn has resulted in their being most easily reached by car.

Pedestrians contribute in particular to urbanity and revitalisation of cities. Lively city centres today are unimaginable without pedestrian zones. Walking allows many groups independent mobility in neighbourhoods at a limited cost and with limited space requirement, and of course that movement promotes health.

In comparison to other cities of similar size, walking has a comparatively low status in Bremen. The opportunities for local mobility are being re-discovered — as an example in the new Hulsberg neighbourhood. The goal is to win back public space for sojourning and to allow barrier-free access for pedestrians. For this, a basic rethinking of priorities in both planning and practice is required.

“Green Network  
Obervieland” map





## Pedestrian Connections

The Green Network presents a comprehensive review of the pedestrian connections and also illustrates the need for their expansion. Connecting sections away from major roads and connections to residential areas are also pointed out. With the land use plan, green connections are being established as axes of local mobility.

There are already school route plans for individual neighbourhoods, which, starting in 2003, have been developed neighbourhood by neighbourhood by the German Cycling Association in collaboration with each school and supported financially by Bremen's transport department. In other participation projects such as the "Neighbourhood Checker" or "Brilliant City", young people are also brought into the planning processes of city design and encouraged to give thought to their environment, their perceptions and their requirements of public space.

In the city centre area a pedestrian guidance system enables tourist — and other — destinations to be shown and provides good orientation in the immediate area.



*"Dark signals" are provided for pedestrian comfort – Mahndorfer Heerstraße*

## Dividing Effects and Crossings at Major Roads

Because of their function for vehicle transport, the quality of local mobility on major roads is constrained by traffic noise and air pollution. Crossing these roads generally presents a major problem for pedestrians. Accident situations with pedestrians occur for the most part when they are crossing the street.

In the context of the street space compatibility analysis, the dividing effect of major roads was qualitatively assessed. Existing crossing facilities were entered and further crossing needs were identified. Based on this analysis, at each of the identified crossing points that displays a deficit, measures to improve the crossing and appropriate forms of crossing assistance will be studied.

It became clear that Bremen has a high number of signalised crossings, especially around schools, day care centres and senior citizens' residences. A need for change was identified in approximately 10% of all cases. In the participation process for the SUMP, the topic of long waits at pedestrian lights was often brought up.



*Poor accessibility of the stop Am Dobben*



As the likelihood of crossing on a red light increases when the wait time is longer than 30 seconds, this is also a safety issue. Increasingly pedestrian signals are installed as “dark signals”, which are only activated on demand. Waiting time is reduced for all parties as crossing without the signal is allowed — but the option is available for those who choose to use it. Confident pedestrians can choose the size of the gap in traffic they need to cross the street. Others, for example children or older people, can request a green phase for a safe crossing. There is significant potential for the conversion of existing signals.

Pedestrian crossings and other crossing aids such as centre islands or widened pavements are much less frequent in the city area. Pedestrian crossings were removed in Bremen over decades in favour of other solutions, but in more recent years new crossings have been installed and this solution should be used more widely.<sup>11</sup> Fundamentally, a variety of possibilities exist to improve the situation at locations with crossing needs. Apart from pedestrian crossings, there are also structural crossing supports such as centre islands and/or narrowing of the lanes or the use of an appropriate pedestrian signal. The most appropriate measure will be decided on a case-by-case basis.

A dividing effect can also occur at junctions with wide traffic lanes, separate right-turn lanes (and thus many crossings), a lack of a marked crossing on individual arms of a junction, pedestrian barriers or other elements that are particularly pedestrian unfriendly.

<sup>11</sup> Based on a decision of the city parliament, 16.10.2012

*No access on over-filled pavements – Isarstraße*

*Problematic: high pedestrian volumes crossing to the Waterfront shopping centre and heavy vehicle traffic to the industry ports*



## Qualities of Local Mobility and Shortcomings in the Neighbourhood Centres

Qualities for local mobility are determined by an attractive network, opportunities to rest and, above all, a high sojourning quality. In addition to the previously listed shortcomings, limitations occur mainly through limited space for movement. Here, the quality of design of the street space is relevant, bearing in mind the various demands. Together with walking, cycling is another form of mobility that is attractive to many for short distances. Sometimes there are overlaps in the needs for street design or in the shortcomings (e. g. dividing effect of major roads or spaces that create fear).

Conflicts occur mainly through the competition among the various demands for limited available space. Particularly the demand for space for car parking puts limitation on walking. Apart from trees, lampposts, sign posts, etc., merchandise displays and advertising signs, outside dining and rubbish bins also reduce pavement space so that walking freely side-by-side or passing is not possible. Particularly for people with mobility limitations, these are nearly insurmountable obstacles.



*Design friendly to local mobility in Pappelstraße*

Street furniture elements can also significantly improve sojourning in public space. Seating enhances public space and also makes it more useful. Seating can be found in Bremen in green areas as well as in the neighbourhood centres.

Similarly, play elements are significant attraction points for children. Apart from the playgrounds identified in the Green Network, there are also individual play elements in pedestrian zones.

A conceptual approach to the development of routes (e. g. seating routes, play routes, health paths) does not yet exist and presents itself as a potential improvement in the quality of local mobility at the neighbourhood level.

## Conflicts with Bicycle Traffic

Conflicts with cyclists in the cycling city of Bremen are a daily occurrence for pedestrians. Against a backdrop of the expected increase in cycling mode share, thought needs to be given to the associated potential conflict with pedestrian.

The causes of possible conflicts lie in different patterns of perception and action. With this in mind, the close physical proximity of pedestrian and bicycle traffic plays a crucial role.

An insufficient cycling infrastructure increases the potential for conflict between cyclists and pedestrians. The use of the same or adjacent space creates high potential for danger, particularly given the speed difference between cyclists and pedestrians. This also affects paths in green areas, which are often not suitable for cycling. This raises the question as to whether cycling should be banned on certain routes.

Conceptual approaches to the avoidance of conflict and to the separation of pedestrian and cycle traffic should be accompanied by measures to strengthen the quality of local mobility.

## Accessibility

The barrier-free design of transport space has taken on increasing importance in transport planning. It is not only people with physical disabilities who depend on the removal of barriers in public space to be able to get around independently. With an ageing society and the corresponding physical limitations, the goal of accessibility needs to be steadily and comprehensively integrated into transport planning.

In Bremen, important cornerstones for this have been laid.<sup>12</sup> Nonetheless, for future development it is necessary to take on the challenge of making all public

space accessible so that people with mobility limitations can use it without being dependent on an accompanying person.

Pavements that are full of bicycles or rubbish bins or restricted in their width by parked cars in the neighbourhoods (see competition for space through parked cars and various other uses) are still problematic.

In order to guarantee people with physical limitations both barrier-free foot travel and wider mobility, it is also necessary to look at both the barrier-free access to public transport and the supply of parking spaces for people with disabilities. Parking spaces for people with disabilities are available in all neighbourhoods in Bremen. To date, a systematic review has only been undertaken for the city centre and for Bremen North. A comprehensive plan for disabled parking with consideration for the needs of people with disabilities in cars does not exist.

The barrier-free design of public space is an ongoing task, made more urgent particularly given the demographic change.

### Security and Fear-Inducing Spaces

The topic of personal security in public space plays an important role particularly in the mobility behaviour of women. The perception of spaces as fear-inducing is dependent on objective criminality and on the subjective feeling of safety. Not only women are affected. Fear-inducing spaces are also an issue for children and young people as well as for their parents and for older people. Other groups, such as immigrants or disabled or homeless people, may also feel vulnerable to attack.

In Bremen the connection between some neighbourhoods is by poorly lit tunnels that offer very few "eyes on the street" and are perceived as fear-inducing spaces. The cycle routes located away from streets also feel unsafe in the dark due to lack of lighting.

In order to guarantee social inclusion to all and, with this in mind, equal and free choice of transport modes, strategies are needed for dealing with places that are perceived as fear-inducing.

*Not welcoming:  
Findorff tunnel*



*Fear-inducing  
space: walking and  
cycling path below  
the Stephani Bridge*



<sup>12</sup> List of measures "Bremen removes barriers", 2005; Guidelines for barrier-free design of structural facilities in public transport space, public green space and public play spaces, 2008; City Guide "Barrier-free Bremen", 2009

TOP 5

Where are things running smoothly?

Where are things running badly?

Online participation results

Top 5 comments on the topic:

### Conflicts between different modes

- 1 Conflicts between bicycles and cars in the Viertel neighbourhood
- 2 The Domsheide and Schlüsselkorb stops: not enough caution around passengers exiting trams and buses
- 3 Right-of-way conflicts at the Stern roundabout
- 4 Bicycle parking blocks the north exit of the main station
- 5 Conflict between cyclists and pedestrians at the Findorff market

Trams, buses, pedestrians, cyclists – the Domsheide bus and tram stop is chaotic



Square design with guidance system: Schweizer Eck market square



No guidance for the visually impaired: square design in Vegesack



Barrier-free bus stop: Hansestraße

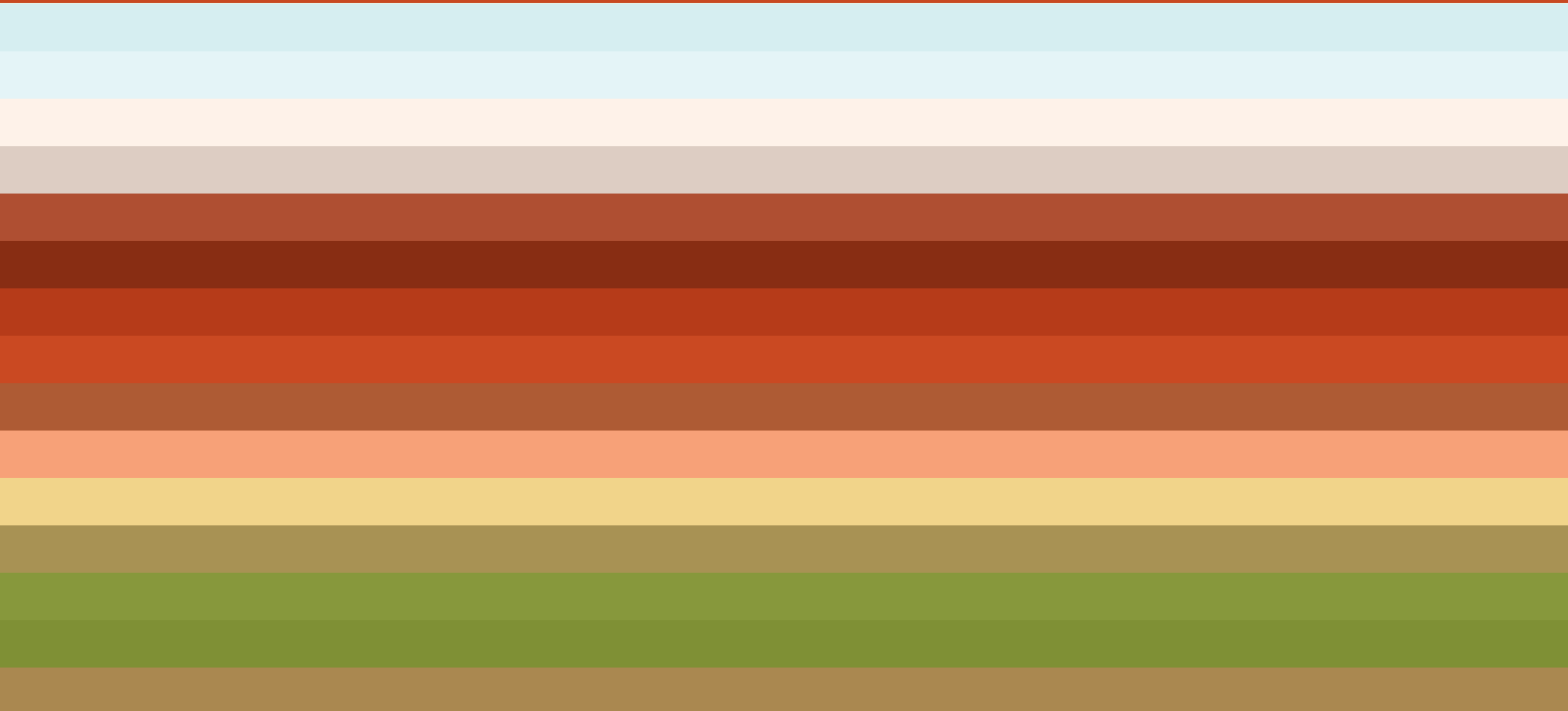


predestined conflict – central bus station at Breitenweg



Bus stop with no orientation point for the visually impaired: Fürther Straße

# Urban Mobility Scenarios



**What are scenarios and what purpose do they serve?**

In developing a future-focussed urban mobility plan, in addition to looking at current opportunities and shortcomings, future challenges must be analysed and conclusions drawn about how to achieve the goals of the SUMP. A focus is put on the questions:

- What measures are required in order to reach the established goals of the SUMP?
- What development options does Bremen have to reach these goals by 2025?

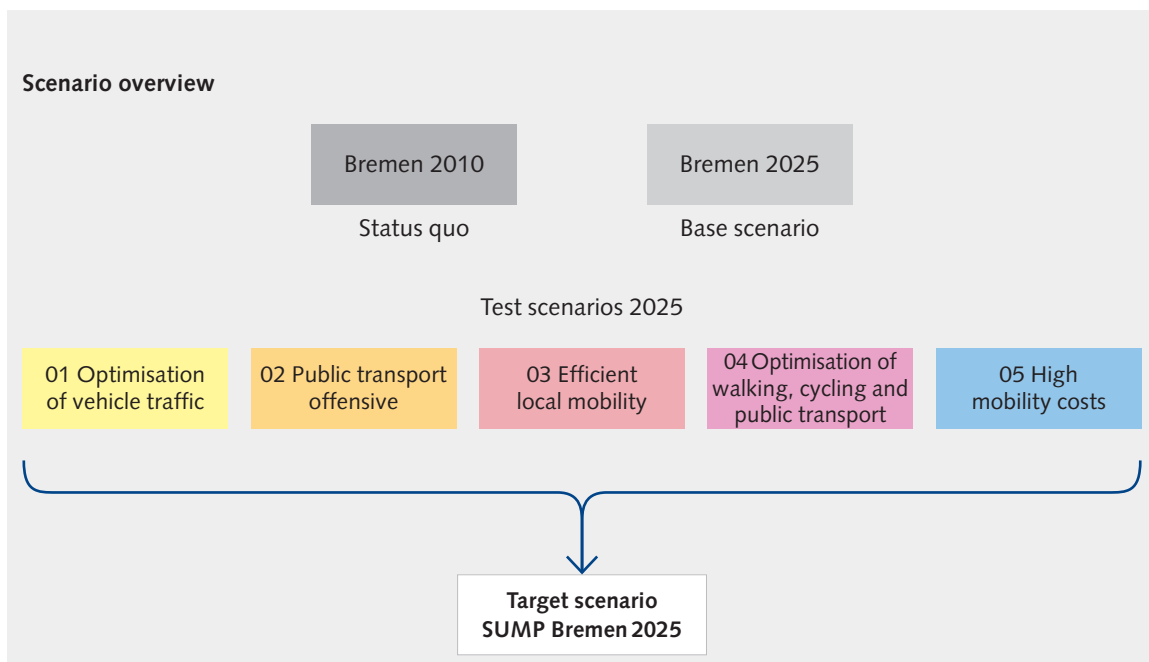
The following conditions, all of which affects future developments and changes, will be examined:

- The population and economic structure
- The urban and settlement structure
- The transport options (road and path networks, local and regional bus, tram and passenger rail networks)
- The number of registered cars
- Mobility costs (fuel prices, public transport fares, etc.)

The future development of these local and global influences is unpredictable and faces unknowns such as economic fluctuations, limited energy resources, increasing energy costs and global climate change. The same applies for demographic change and for changing social conditions and mobility needs. Sustainable financing of transport infrastructure is another open question given the ever more limited public funding at the national, state and local levels.

In order to account for the many unpredictable aspects of future urban mobility, a series of scenarios was developed with a time horizon of 2025.

The base scenario is the foundation for the other scenarios that build upon it. Scenarios are used in planning to illustrate possible futures using specific assumptions. Because the future alternatives include various extremes (so as to highlight the effects of the measures), the scenarios are called test scenarios.



## 2025 Base Scenario — How Will Mobility Develop if No New Measures are Taken?

The foundation for the development of a base scenario was the analysis of the current mobility situation, the evaluation of current national trends, the measures that are already certain and the foreseeable developments and changes in the City of Bremen up to 2025.

### Conditions for Future Mobility — National Trends

#### Population Development and Demographic Change

Population development and demographic change are important determining factors for future mobility. Demographic development that includes a population decrease and a change in age and sociodemographic structure can be predicted to 2025 with a good degree of certainty.

#### Employment

In the prognosis of mobility behaviours, employment is an important factor. Based on foreseeable demographic developments, a long-term assumption can be made that fewer people will be capable of working, but an increase in the number of women and older people working presupposes an increase in the employment rate and thus a slowdown of the decline. The coming extended employment life (retirement at 67) is accounted for. Further changes and increasing flexibility in working hours (less extreme peak travel times) as well as part-time and tele-working are anticipated.

#### Changing Attitudes and Mobility Habits

The change in mobility behaviour is mainly characterised by a change in the mobility demands of older people and a change in the mobility habits of younger adults:

The growing number of older people in urban society brings changes in mobility needs (leisure and shopping traffic take on increased importance); in the choice of transport modes (the modal split changes); and in the timing and routing of journeys (the daily load curve is flattened so that the afternoon peak is less extreme but there is more demand at other times of day).

However future generations of senior citizens will be more car-focussed than the current one. This is because of the higher number of driving licenses among future older women and an overall higher level of car socialisation. For younger city dwellers, an orientation toward multi-modality and away from the car is a new development. Young adults (up to age 44) use public transport significantly more often.

In all age groups, there is an increase in cycling and walking.

#### Motorisation and Vehicle Types

Due to the increasing number of driving license holders, car availability will increase for older people, but for all adults, an overall stagnation is anticipated. Only under the conditions of moderate price increases in transport, increasing wealth and (continuing) urbanisation is a further increase predicted (TRAMP, Difu, IWH, 2006). A corresponding increase appears in the car kilometres driven.

It can be assumed that in 2025 the upgrading of vehicles will continue including a higher share of fuel-efficient vehicles, fewer vehicles using today's fuels (petrol, diesel) but more hybrid, natural gas, fuel cells and electric vehicles. If energy prices are higher, this will lead to a higher level of adaptation to more efficient vehicles.

#### Electric Mobility

Germany is a strong supporter of electric mobility. Together with the change in vehicle types (electric cars and bicycles), the integration of electric propulsion technology into public transport should also open up new possibilities. The current trend toward e-bikes and pedelecs will continue, resulting in an increase in cycling — including for distances over 5 km. This will lead to a need for improved quality and safety in cycling facilities.

### Shopping Behaviour and Internet Shopping

In the past, motorised traffic increased in the periphery because of the increasing concentration of retail in peripheral locations through shopping centres or specialty shops. A further factor influencing the development of shopping traffic is Internet shopping. This has in part replaced shopping that previously took place in the “real” world. This change has led to a shift from personal trips to delivery trips (express package delivery). For the most part, these developments balance one another out, meaning only a minor drop is expected in the traffic volume from shopping. Despite current trends (e.g. discounters in the city centre area), journey distances are increasing due to suburbanisation and the tendency toward large-scale forms of retail.

### ICT Technologies and Media Use

Information and communication technologies (ICT) have developed rapidly in the past 10 years. The increasingly easy access to information and the networking of data allow easier mobility planning. The increase in smart phone use, etc. enables this planning to be carried out anywhere and anytime. These are accompanied by new information services (often in real time), which further improve mobility planning. The further development of these possibilities (real-time information, e-ticketing, combining mobility services) can serve to reduce barriers to, for example, public transport.

### Economic Development and the Development of Commercial Transport

For the federal transport infrastructure plan (BVWP 2015), the national government has currently set an annual growth rate of 1.1%. As there is no specific prognosis for Bremen, the SUMP base scenario uses gross domestic product (GDP) development set to the federal transport infrastructure plan.

Goods transport is very dependent on the economy. This was underlined during the international economic crisis of 2008 and after the economic recovery in 2010. The Shell study (Shell-LKW-Studie 2010) and the Zukunft der Mobilität study (ifmo 2010) assume a continued growth in commercial transport, which will mainly affect road-based goods movement. This will also have an impact on transiting traffic and traffic on the motorway network.

### Energy Prices and Mobility Costs

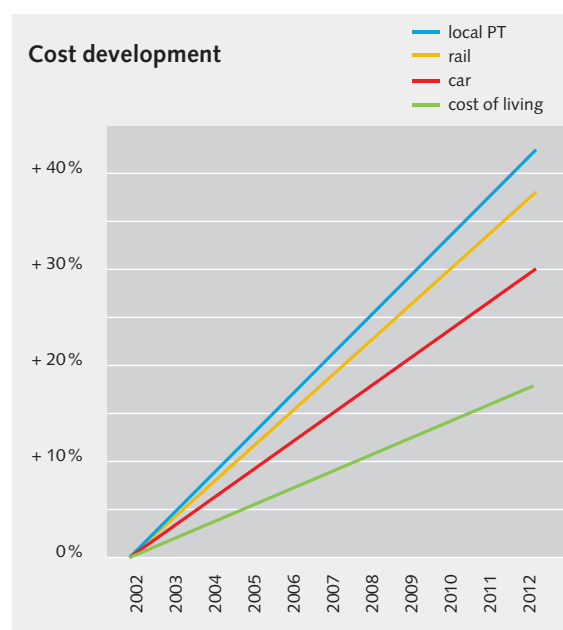
Between 2002 and 2012 mobility costs increased disproportionately as compared to the cost of living (car travel +30%, public transport +42%, train +38%, cost of living +18%; destatis 2012). The prognoses of different studies also predict a continued increase in mobility costs in the future, although to varying degrees.

Energy consumption faces an oil price increase, but this consumption should sink in the coming years. Despite these savings, higher energy prices will further increase the cost of car travel. Cost developments in public transport are determined mainly by personnel costs (+60% between 2002 and 2012) and material costs (+30% between 2002 and 2012). Changes in energy prices play only a minor role here, meaning they affect public transport less. Most studies assume that public transport costs will rise more significantly than will the overall price trend or the costs of car travel.

The price trend in transport is seen in most studies as the main influencing factor in future mobility behaviour.

### Changes in Scope for Action of Public Authorities

High public debt levels together with the age and condition of transport infrastructure present new challenges for infrastructure financing. The increasing number of responsibilities and expenditures combined with reduced funding available lead to perpetual financial bottlenecks. At the same time, funding programmes for urban infrastructure such as the Gemeindeverkehrsfinanzierungsgesetz (Municipal Transport Financing Law) run out in 2019. Thus new means of financing infrastructure are being examined and politically debated nation-wide (see Daehre Commission 2012). Options at the forefront include an expansion of road tolling to include cars, an expansion of truck tolls and an overall increase in user financing through the users directly or through third-party financing combined with the earmarking of the revenues for transport projects.





## Presentation of the Base Scenario

The 2025 base scenario depicts the changes already planned up until 2025 as well as the relevant foreseeable changes for the City of Bremen and for the other cities and communities in the Bremen-Oldenburg-Bremerhaven region.

Changes in long-distance transport and approaches to growth in commercial transport were adopted for the Bremen SUMP following the input data for the 2015 federal transport infrastructure plan.

### Settlement Development

Settlement development in Bremen and the region follows the foreseeable developments in residents, age distribution, employment and job availability. The projection of the structural data for the planning horizon of 2025 takes into account the foreseeable settlement developments in accordance with the current draft of the Land Use Plan, the Industrial Development Programme 2020, the Inner City Plan 2025 and the Guiding Principles on Urban Development 2020.

From the changes to the settlement structures for the City of Bremen and the region between 2010 and 2025, emerging changes in transport activity can be described as follows:

Bremen's population numbers remain almost unchanged but there is significant change in age distribution. There are fewer school-aged children and fewer university-aged young people, meaning less education-related travel is expected.

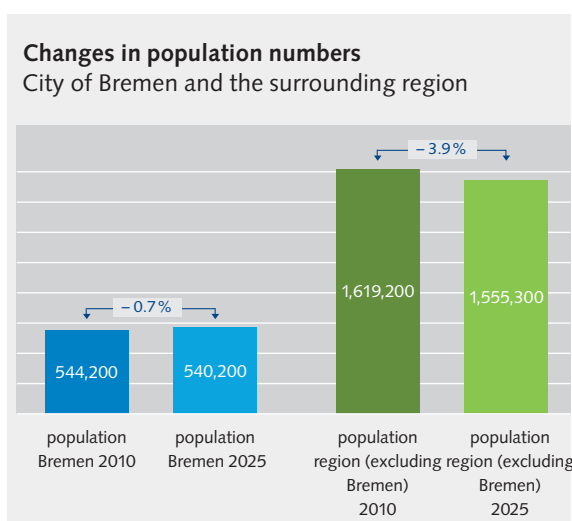
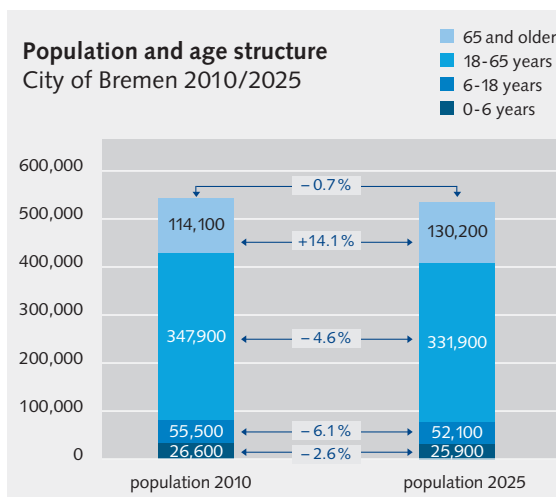
The increase in the workforce in Bremen means more motorised travel and more work and business travel can be expected, but less travel for other purposes.

Shifts in workplace locations in and around Bremen indicate a tendency to more work travel within Bremen itself but fewer commuters between Bremen and the surrounding region.

### Development of Transport Infrastructure

All planned or foreseeable changes in the motorway network, in national roads and in local roads have been included in the base scenario. This also includes the continuation of ongoing bicycle-friendly changes and the changes in signalling at junctions of the major road network for cycle traffic. The extension and reconstruction of Bremen's road network includes roughly 60 measures.

For public transport, all established and foreseeable changes in regional and local passenger rail travel, in the tram network and in the bus network are taken into account. The extension and reconstruction of regional and local passenger rail and of the bus and



tram networks in Bremen encompass roughly 40 measures.

### Changes in Mobility Behaviour

The national trends and developments in mobility behaviour are used as the foundation for Bremen's 2025 SUMP base scenario. The main overall changes are:

- Transport development will be characterised by a small increase in the number of journeys
- The rate of car ownership and driving license possession will sink in the middle age groups but increase in the older age groups
- Public transport use will increase in the middle age groups
- Bicycle use will increase in all age groups
- Walking will increase in all age groups

Attention should be paid to the use of different modes among the individual age groups. These general changes are overlaid on the demographic changes in Bremen and the region described above.

## Results of the Base Scenario

For Bremen-related person-journeys (of Bremeners and non-Bremeners),<sup>1</sup> the distribution in modal split between non-motorised (walking and cycling together approximately 35%) and motorised travel (car and public transport roughly 65%) in the base scenario are practically unchanged as compared to 2010. The analysis of the modal split of person-trips of Bremeners from 2010 shows an equally small change from the base scenario results. The established urban development and transport goals to increase the share of non-motorised transport will thus not be reached through the base scenario.

Between the 2010/2011 analysis and the 2025 base scenario, some significant changes in transport activity result for the City of Bremen. This is particularly so for congestion on the related transport network.

The motor vehicle journey volumes in the 2025 base scenario are approximately 2.8% over those of 2010. It appears that the growth in car traffic between 2010 and 2025 is smaller than in lorry traffic. For car traffic this occurs predominantly in Bremen-internal traffic whereas for lorry traffic, it is journeys crossing Bremen's borders with their source or destination outside of Bremen that will grow significantly between 2010 and 2025.

Thus it appears that the development of transport demand related to the City of Bremen between the analysis and the 2025 base scenario follows the settlement structure developments in Bremen and the region. Despite structural effects leading in another direction, it is possible to maintain the public transport share of motorised traffic by expanding public transport services.

Taking into account the planned or foreseeable road network measures in the 2025 base scenario, several of the deficits identified in the 2010/2011 review of the road network in the areas of network structure, capacity, accessibility and traffic safety could be minimised or eliminated.

The central problem of the road network structure — the three Weser bridges in the old town, where an overlap occurs between city-centre-bound traffic and traffic skirting the centre — would be defused by the completion of the motorway ring around Bremen. The further expansion of the A281, with the construction of an additional Weser crossing, would relieve the city's major road network at a series of network elements that have deficiencies in capacity in the base scenario and would also significantly improve the accessibility of several important local facilities (the freight village, the city centre, the airport area).

Taking into account the planned or foreseeable road network measures in the 2025 base scenario, several of the deficits identified in the 2010/2011 review of the public transport network in local and regional passenger rail, public transport accessibility and public transport demand potential could be minimised.

In this way, a significant increase in passenger numbers could be achieved through the main regional passenger rail measures from the 2025 base scenario and therewith a higher passenger rail share on routes between certain destinations.

As a result of the improvement in service in passenger rail, the extension of tram lines 1/8 and 4 and the creation of the tangential bus connections over the Weser along the A281, a shorter travel time could be achieved on a series of public transport routes as compared to the 2010 review, which would contribute to perceptible improvements in public transport accessibility and lead to the development of additional public transport demand potential.

With the 2025 base scenario, a basis will be established for comparing the test scenarios (and the measures to be derived from them) developed within the framework of the SUMP with the planned measures and foreseeable changes in transport up to 2025. This also includes their related impacts on the choice of transport modes, route choice or distances travelled. Using the interim step of a base scenario it is possible to delineate transport effects independent of the test scenarios (presented in the next sections). This serves to identify both the effects of planned and completed structural changes between 2010 and 2025 and of the established and foreseeable measures.

<sup>1</sup> A sum of the Bremen-internal and the origin and destination traffic

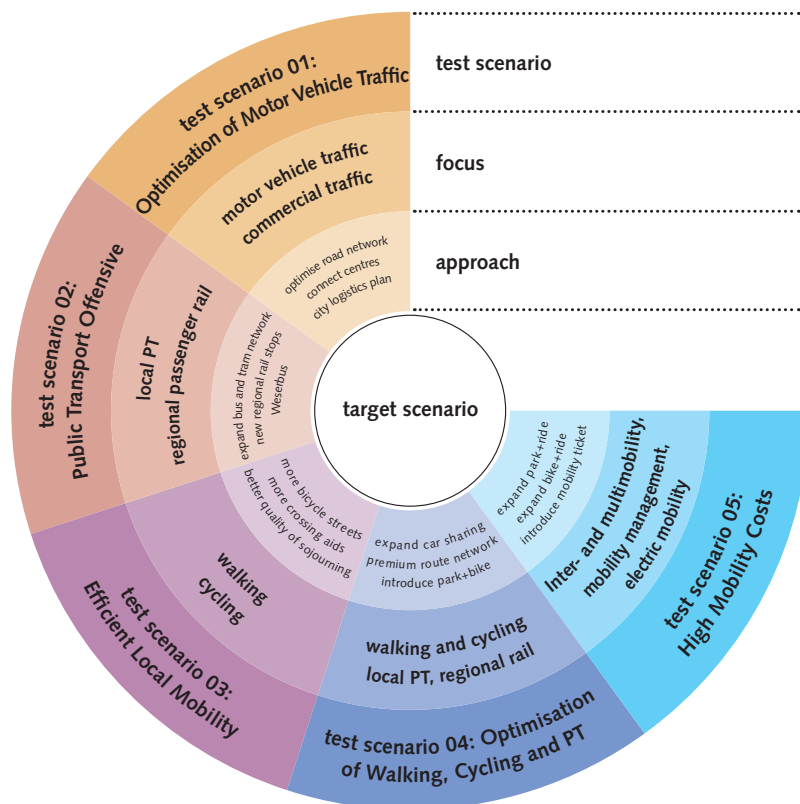
# Test Scenarios

The test scenarios make it possible to work through the possible development directions under different conditions and to compare the effects across scenarios and with the base scenario. They do not describe an implementation strategy but rather present five cases, each with a different focus. The test scenarios are based on defined basic assumptions, e. g. in financial terms. By evaluating the calculation results of the scenarios, insights should be gained and conveyed about what effects will result from which transport planning measures and to what extent ranking of the established goals can be reached. All test scenarios build on the base scenario.

A multitude of possible versions of the future are possible up to the prognosis horizon of 2025 (population, structure, settlement and measure scenarios). Apart from the 2025 base scenario, five different test scenarios are developed to illustrate as wide a spectrum of conceivable measure options as possible:

- Test Scenario 01: Optimisation of Motor Vehicle Traffic
- Test Scenario 02: Public Transport Offensive
- Test Scenario 03: Efficient Local Mobility
- Test Scenario 04: Optimisation of Walking, Cycling and Public Transport
- Test Scenario 05: High Mobility Costs

In order to ensure a large range of measure options, test scenarios can be weighted differently by focus. Each main focus is supplemented through further measure fields. The measures are oriented toward the established goals.



**X** Focus areas  
**X** Additional measures

	PT/ regional passenger rail	cycling	walking	motor vehicle traffic	commer- cial traffic	street space design, accessibility	parked cars	inter- and multi- modality	traffic and mobility management	electric mobility	traffic safety	mobility culture and public relations
01 Optimisation of Motor Vehicle Traffic				<b>X</b>	<b>X</b>		<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>	
02 Public Transport Offensive	<b>X</b>				<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
03 Efficient Local Mobility		<b>X</b>	<b>X</b>			<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
04 Optimisation of Walking, Cycling and PT	<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
05 High Mobility Costs								<b>X</b>	<b>X</b>	<b>X</b>		



## Test Scenario 01: Optimisation of Motor Vehicle Traffic

The focus of test scenario 01 is on optimising the road network in favour of motor vehicle and commercial traffic. It assumes that technological progress will have a positive effect on traffic safety and capacity (e. g. intelligent traffic lights) and on environmentally clean urban traffic flow (e. g. air and noise pollution).

Further focus areas are:

- Bottlenecks in the road network will be removed and the road network expanded.
- Disruptions in commercial traffic will be reduced.
- The connection of relevant industrial areas and individual centres will be improved.
- Parking will be created through neighbourhood parking garages.
- Traffic management will be improved through a multi-modal traffic management centre.
- Electric mobility will be considerably expanded and supported as an environmentally clean urban transport technology.
- Industrial and public fleets will be replaced by hybrid and electric vehicles.
- Measures to increase traffic safety between motor vehicles and bicycles will be implemented.



## Test Scenario 02: Public Transport Offensive

The focus in test scenario 02 is on public transport which, through an increase in passenger numbers, will become more economically viable.

Passenger rail travel and tram and bus transport will be optimised and expanded. This test scenario is based on the assumption that the municipality will have access to enough financial resources to actively optimise and expand the public transport network.

Further focus areas are:

- The tram and bus network will be expanded and optimised.
- Street space will be enhanced for higher sojourning quality and designed with barrier-free access.
- Linking of the transport modes will be optimised and transferring will be made more attractive.
- Business centres will be quickly and easily reached by public transport.
- The bus fleet will be changed to electric vehicles.
- Traffic safety will be improved.
- Bus and tram travel will be promoted through communication measures.
- Trams and buses will travel more often and more quickly.
- There will be new regional and local passenger rail stops and the frequency of passenger rail will be increased.



## Test Scenario 03: Efficient Local Mobility

The focus of test scenario 03 is on walking and cycling. Short-distance mobility will be supported by comparatively inexpensive but effective measures with a goal to shift as many short car journeys as possible to walking or cycling. This focus is based on the assumption that the municipality has access to limited funds as the follow-up financing over the Entflechtungsgesetz (Act on the Unbundling of Joint Tasks and Financial Assistance; Unbundling Act) ceases to apply. In the context of the increasing cost of maintaining existing services, no cost-intensive (structural) measures will be implemented in scenario 03.

Further focus areas are:

- Street space will be enhanced for higher sojourning quality and designed with barrier-free access.
- Pedestrian-friendly, innovative transport ideas such as shared space will be increasingly introduced.
- The bicycle network will be further developed and bicycle travel sped up.
- Conflicts between pedestrians and cyclists will be reduced.
- The supply of public bicycle parking facilities and bike+ride will be expanded.
- 30 km/h zones will be introduced, including on large sections of the major road network.
- The crossing of major roads will be simplified.
- Pay parking will be introduced on a large scale.
- Short-distance mobility will be promoted through communication measures.
- Traffic safety for pedestrians and cyclists will be improved and fear-inducing spaces will be made safe.



## Test Scenario 04: Optimisation of Walking, Cycling and Public Transport

Test scenario 04 presents a combination of scenarios 02 and 03. The focus is on optimising walking, cycling and public transport. In contrast to scenario 03, it is based on the assumption that the municipality has the necessary available resources to strongly support walking, cycling and public transport.

New infrastructure financing instruments are also assumed (e. g. tolls for cars, public transport levy). In this way structural and cost-intensive infrastructure measures are also conceivable.

Further focus areas are:

- Street space will be enhanced for better sojourning quality. Pedestrian-friendly, innovative transport ideas such as shared space will be increasingly introduced.
- The bicycle network will be rigorously expanded and bicycle travel sped up.
- The tram and bus networks will be expanded and optimised. Trams and buses will travel more frequently and faster.
- There will be new regional and local passenger rail stops and the frequency of passenger rail will be increased.
- The supply of public bicycle parking facilities and bike+ride will be expanded.
- Linking of the transport modes will be optimised and transferring will be made more attractive.
- 30 km/h zones will be implemented in small sections of the major road network
- The crossing of major roads will be simplified.
- Pay parking will be introduced on a large scale.
- Environmentally-friendly mobility will be promoted through communication measures.
- Traffic safety for pedestrians and cyclists will be improved, conflicts between pedestrians and cyclists will be reduced and fear-inducing spaces will be made safe.
- Electric mobility will be used in buses, car sharing and pedelecs.



## Test Scenario 05: High Mobility Costs

Test scenario 05 differs from the other scenarios with regard to its structure. It assumes that energy and fuel prices will increase and mobility will thus become more expensive. Whereas the other scenarios focus on particular modes, in this case the changing context conditions and the emerging adaptation strategies are in the foreground. The focal points of this test scenario are the support for electric mobility, inter- and multi-mobility and mobility management.

High fuel prices will result in a range of adaptation strategies:

- Fewer journeys will be made by motor vehicle.
- Car occupancy levels will increase, e. g. through the creation of carpools in the surrounding region.
- More and more shopping will be done in places that are reachable on foot or by bike.

The City of Bremen must react in a targeted way to the new developments:

- The linking of transport modes will be optimised.
- Electric mobility will be supported.
- Mobility consultancy services for different target groups will be strengthened.

## Comparison of the Test Scenarios

First the test scenarios were worked out with the help of the transport model and parameters were identified through evaluation of the modelling results. In comparison with the base scenario, the effects of the measures could be distinguished and quantified. The sum of the effects of all measures in each test scenario was also qualitatively assessed with regard to the goals of the SUMP.

### Comparison of the Test Scenarios Using Model Parameters

The quantitative comparison of the test scenarios with one another and with the base scenario was carried out using Bremen's transport model and the parameters established for the prognosis.

#### Modal Split in Passenger Transport<sup>2</sup>

In comparison to the modal split distribution, the test scenarios show the spectrum of potential for change achievable. This makes it very clear where the strengths and weaknesses of the individual measure focus areas are. The potential for change in all test scenarios is more strongly pronounced for the passenger transport demand of Bremeners than for the total passenger transport demand as non-Bremeners are more strongly oriented toward motorised modes of transport than Bremeners.

Depending on the design of the test scenarios — as defined in the goals of the Bremen SUMP — the share of car journeys taken by Bremeners will hold steady or drop significantly. This can be seen particularly in test scenario 04, where the car share drops (by approximately 15%) to roughly 34% and walking, cycling and public transport are correspondingly strengthened. This would bring it to a level that has only been achieved in a small number of German cities of comparable size (for example Frankfurt am Main). But also with the test scenario 01 measure packages, practically no negative effects can be seen on the potential for change in the modal split.

<sup>2</sup> Apart from mapping the modal split for total transport (both Bremeners and non-Bremeners), which takes into account the journeys of Bremeners and commuters into Bremen (relevant for the study of journeys taken on the road and public transport networks), the modal split also illustrates the effect of measures on the transport behaviour of Bremeners and allows a comparison with other cities.

In ranking the results, attention should be paid to the (possibly limited) potential for change given the specific characteristics of Bremen. Its linear city structure along the Weser, its high share of (passenger) commercial transport, its strong interdependencies with the region, its high cycle share and its road-bound public transport create limits. Depending on the design of the measures or of the test scenarios, strong reciprocal effects can also be observed between the various environmental modes.

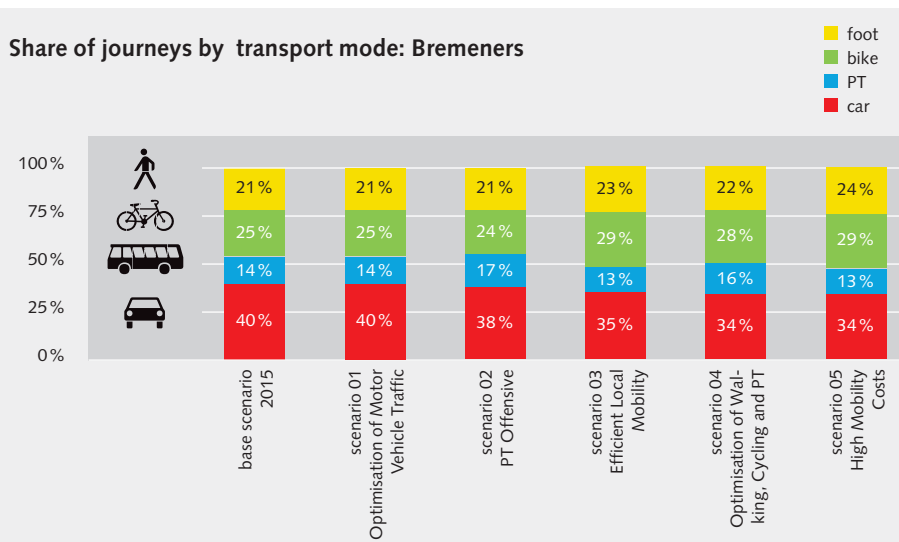
Based on the parameters of the transport model, the test scenario 01 measures would bring a relatively small change in motorised transport for the City of Bremen. Whereas motorised traffic would be channelled and flow somewhat faster on the higher levels roads, this would result in almost no negative effect on public transport or on vehicle-related CO<sub>2</sub> emissions.

The test scenario 02 parameters show significantly more positive effects in favour of public transport. Its strengths are an increase in public transport demand, improved public transport flow and a contribution to the reduction of motor vehicle-related CO<sub>2</sub> emissions.

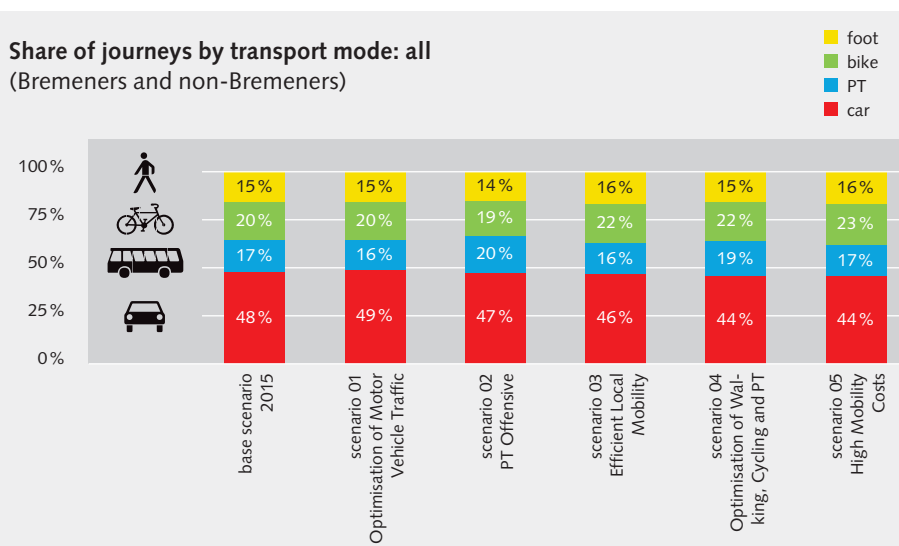
The reduction effect on motor vehicle traffic of test scenario 03 is more strongly pronounced than for test scenario 02, whereas for motor vehicle traffic the average speed on major roads sinks somewhat due to the 30 km/h zone measure. Test scenario 03 also delivers a reduction in demand for public transport and an undesired reduction in the average speed of buses and trams.

With test scenario 04 significantly larger reductions in motor vehicle traffic can be achieved than in any of the other three measure-oriented test scenarios. The number of journeys taken by public transport would increase significantly. It is closest to the transport aspects of the established goals of the SUMP.

Share of journeys by transport mode: Bremeners



Share of journeys by transport mode: all  
(Bremeners and non-Bremeners)



Test scenario 05 may achieve the largest motor vehicle reduction potential but it also has negative effects on public transport. This test scenario entails foregoing activities, which contradicts the goal of social inclusion and equality. As an "adaptation scenario", it cannot serve the design of transport activity in Bremen although the transport behaviour change measures serve as building blocks for the design of transport in Bremen.

## Comparison Based on the Target Indicators

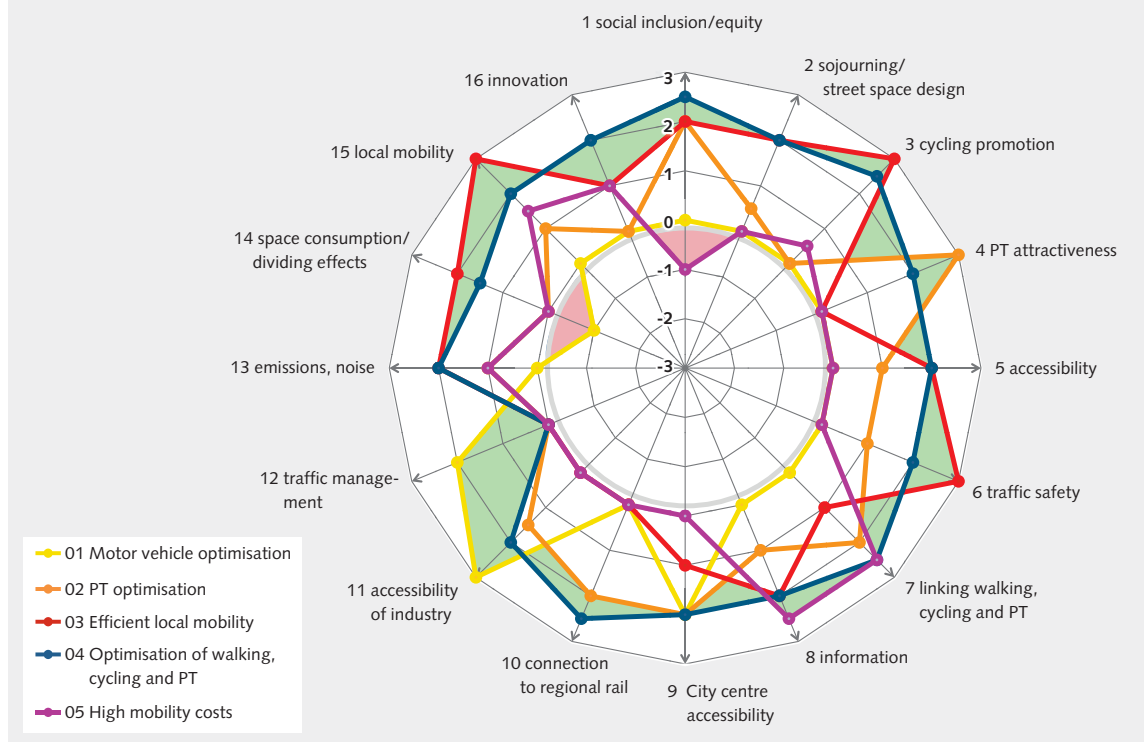
Along with results derived from the transport model — e. g. changes in mode choice — the analysis of the model based on the target indicators makes it possible to identify both strengths and weaknesses of the test scenarios in the context of the target system established for the SUMP.

For the qualitative comparison of the packages of measure from the test scenarios, 16 target indicators were developed from the 6 goals and 42 sub-goals. As overlaps were found, similar points were combined into one indicator.

Indicator	Title	Goal/ Subgoal
1	Social inclusion, equal rights: enable the social inclusion of all people. Strengthen the equality of all transport actors, increase security during use	1.2
2	Sojourning, design of street space: improve the quality of sojourning for pedestrians through enhancements and attractive design of public space	1.2, 1.6, 1.7, 1.8
3	Promotion of cycling: support cycling, improvement of the infrastructure and further development of the cycling network (routes), including away from major roads and through improved tangential connections	1.3, 4.3
4	Public transport attractiveness: increase the attractiveness of public transport through optimised and efficient services, improved tangential connections and improved connections across the river	1.4, 3.2, 3.8
5	Accessibility: improve the accessibility in public space and in public transport	1.5
6	Traffic safety: improve traffic safety	2.1, 2.2, 2.3, 2.4
7	Connection of walking, cycling and public transport: better/more comprehensive connections of walking, cycling and public transport and strengthening of the mobility chain and the mobility mix	3.1, 3.3, 3.4, 4.6
8	Information: improve the public relations and information systems, uniform, comprehensive and comprehensible tariff system, including for alternative transport systems and including the surrounding region	3.5
9	Accessibility of the city centre: improve the accessibility of the city centre of Bremen for all modes of transport	4.2
10	Regional and local passenger rail: improve the connection of Bremen's neighbourhoods and the neighbouring cities and communities to regional and local passenger rail connections (including park+ride and bike+ride in Bremen and the region) and shift car traffic to public transport	4.4
11	Accessibility of industry and commerce: ensure optimal accessibility of industry and commerce and the ports with all transport modes	5.2, 5.3, 5.6
12	Steering of transport: improve the infrastructure appropriate to the settlement pattern of Bremen, reliable and binding network hierarchy in the road network, improved control and channelling of long-distance journeys, flow of commercial traffic over high capacity routes away from residential areas.	4.1, 5.4, 5.7, 5.8
13	Emissions and noise: reduce emissions in line with climate and environmental protection goals. Reduce traffic-related noise and related burden in residential areas.	6.1, 6.2, 6.5
14	Land use and dividing effects: improve the usage levels of existing transport modes and infrastructure, reduce land use and reduce the dividing effects of roads and rails.	6.3, 6.6
15	Local mobility: encourage densification in urban development planning, strengthen neighbourhood centres, support mixed use areas and strengthen local mobility	6.4, 1.8
16	Innovation: support innovative ideas, integrated transport solutions and alternative transport systems	3.6, 3.7, 5.5, 5.9



## Comparison of the test scenarios



The 16 impact indicators create a unified evaluation schema for the five test scenarios so that a basis is set that allows a goal-focussed comparison of the effects of the test scenarios. According to the effect (positive or negative) of the individual indicators, the strengths and weaknesses or the differences between the test scenarios can be identified and conclusions drawn on the degree of achievement of the SUMP goals.

For each test scenario, strengths can be identified with regard to the degree of achievement of the scenario and its package of measures. Test scenario 02, Public Transport Offensive, shows a particularly strong effect for the indicator “public transport attractiveness”, which can be traced back to, among other things, measures for a concentrated expansion of public transport services. With its focus on walking and cycling and safety and a generous expansion of the 30 km/h regulations, test scenario 03, Efficient Local Mobility, demonstrates a particular effect for the indicators “local mobility”, “promotion of cycling” and “traffic safety”. Only test scenario 04, Optimisation of Walking, Cycling and Public Transport, shows an equally pronounced degree of achievement for almost all indicators. Test scenario 01, Motor Vehicle Optimisation, stands out as the only scenario that has a significant effect on the indicator “steering of transport”. “Accessibility of industry and commerce” is particularly strongly supported based on the concentration of infrastructure measures and optimised traffic flow on the road network. The strengths of test scenario 05, High Mobility Costs, which assumes adaptation strategies based on a disproportionate increase in mobility costs, stands out in the indicators “information” and “connection of walking, cycling and public transport” as the scenario

foresees provision of information and mobility options in place of investment measures.

Conflicts in goals exist in two cases. Through measures to expand infrastructure, Optimisation of Motor Vehicle Traffic (test scenario 01) has a negative effect on the “land use/dividing effect” indicator, whose orientation is on careful use of space and better use of existing infrastructure capacity. The assumption in test scenario 05 that mobility costs will climb disproportionately — meaning motorised mobility will become much more cost intensive — leads to a goal conflict with the indicator “social inclusion/equality”. It can be expected that some of the population will not be able to bear these costs and will be fundamentally limited in their mobility.

As different financial framework conditions were assumed in each of the test scenarios, it is necessary to reflect the degree of achievement of the test scenario with an eye on the costs of the packages of measures. The cost of the base scenario must also be taken into account in order to calculate the costs of the already-planned measures in the total financial volume up to 2025.

With regard to cost, test scenario 03 is the least expensive.<sup>3</sup> By taking into account the financially strained situation of the public coffers and assuming the discontinuation of follow-up financing to the Entflechtungsgesetz (Unbundling Act), this scenario includes mainly low-cost and effective measures for walking and cycling, leading to a comparatively small budget.

<sup>3</sup> As test scenario 05 differs from the other scenarios with its focus on the altered framework conditions instead of investment measures, only test scenarios 01—04 will be looked at with regard to costs.

With a €1.4 billion total investment, test scenario 01 is the most cost intensive scenario. This is explained, among other things, by the fact that for the optimisation of motor vehicle traffic, mainly infrastructure measures are proposed (e. g. new construction of highway B6n) in order to channel car traffic and ensure traffic flow with few disruptions. The cost-intensive structural measures for local public transport and regional passenger rail (e. g. new rail stops, expansion of the tram network) also bring a corresponding increase in the budget for test scenarios 02 and 04. Nonetheless it should be noted that the entire cost of car, public transport and regional passenger rail measures need not be covered by the City of Bremen. Depending on the plan, parts of the cost will be taken over by the national government or third parties. Of the total costs of the base scenario (approximately €551 million), roughly 19% would be paid by the City of Bremen and 81% by the national government and third parties. The consequences of the different cost distribution were taken into account in the conception of the implementation plan.

Test scenario 04, with its high degree of target achievement and high effectiveness radius, ranks best. But test scenarios 02 and 03 show positive effects in many areas. There are, however, also goals that are only covered by test scenario 01. From an integrated cost effective-

ness perspective, test scenario 03 stands out. It is a comparatively inexpensive package of measures with a good degree of target achievement for effectiveness indicators.

## Summary of the Comparison of Scenarios

Given the strengths and weaknesses of the (rather extreme) test scenarios, it is necessary to select a combination of measures from the test scenarios that makes sense for the target scenario, which will serve as the foundation for the implementation plan and the draft sustainable urban mobility plan. In the following sections, the methods of evaluation of the individual measures are explained and their results presented. The results of the 5 test scenarios show clearly that only a focus on measures that strengthen walking, cycling and public transport can lead to a high degree of target achievement in the target scenario. Supplementary are the central measures for improved channelling of road traffic onto roads planned for that purpose and for disruption-free flow of commercial traffic because, as the results of test scenario 01 show, they are appropriately goal-focussed. Accompanying measures should be employed to counteract the negative effect in the area of land use.

## Measure Evaluation and Methodology

To be able to recommend — or not recommend — measures for inclusion in the target scenario, a specific evaluation methodology was developed.

The evaluation occurs in several steps. To evaluate the achievement of the goals or the sub-goals of the SUMP and to quantify the degree of achievement of the individual measures, 16 qualitative evaluation indicators were developed. In a second step, further necessary criteria such as goal conflicts, transport effectiveness, structural feasibility, political acceptance, etc. that were not covered by the 16 evaluation indicators were brought into the evaluation through a plausibility and weighting process.

In the first step, the measures developed were qualitatively evaluated according to the following grid:

- Effectiveness contribution with 7 levels of effectiveness (plus 3 to minus 3)
- Space impact: weighting of the effectiveness with 3 factors
- Assignment of the results in 5 effectiveness classes according to use points

For each of the 16 evaluation indicators, the effectiveness contribution of each individual measure was qualitatively determined using the Delphi method.

A ranking of effectiveness, impact and cost classes and then of plausibility was carried out by four independent evaluators for each measure.

The evaluation result (use points) is presented as a product of effectiveness and impact and was categorised into one of five effectiveness classes (1=weak to 5=strong).

The annual costs of a measure are composed of investment, planning and operating costs, with the life cycle taken into account for each measure. The costs must be annualised for the evaluation in order to have a consistent measuring stick for the different types of costs and similarly to be able to evaluate investment and also non-investment measures. The annual cost decides the assignment of each individual measure into one of five cost categories.

The intersection of effectiveness and cost categories in the results are presented in a cost effectiveness matrix.

Measures with a strong effect and low costs have a very high degree of target achievement. A high or middle degree of target achievement is represented in intermediate levels. The degree of target achievement of measures with low effectiveness but high costs is classified as low.

### Results of the Measure Evaluation

299 individual measures are included in the measure evaluation. The fact that very few of the measures (16 of the 299) had a low degree of target achievement is explained by the fact that the measure development was already strongly oriented toward the goals and sub-goals of the SUMP.

### Goal Conflicts

If an individual measure shows a negative classification based on one or several evaluation indicators, but is classified as positive for other evaluation indicators, goal conflicts exist.

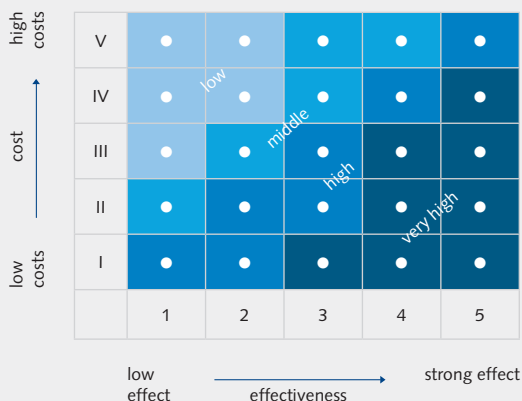
Goal conflicts were identified for 15% of the measures spread across all target achievement levels.

The conflicting measures are found particularly in the following goals:

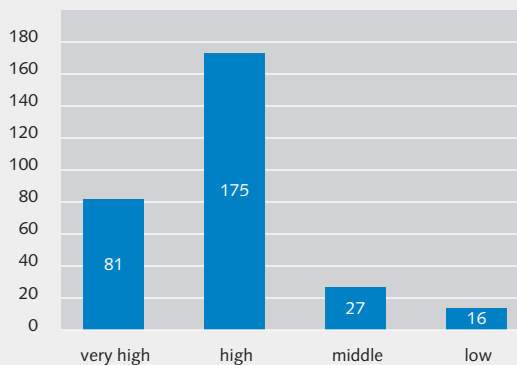
- Improved sojourning/design of street space (13 conflicts)
- Improved accessibility of the city centre (13 conflicts)
- Reduction of land use/decrease of dividing effects (12 conflicts)
- Better guidance/channelling of long-distance and commercial traffic (7 conflicts)

In these cases a downstream plausibility and weighting process was necessary, in which the advantages and disadvantages were weighed and discussed. From this, another classification of the measure in the cost-effectiveness matrix could result in individual cases.

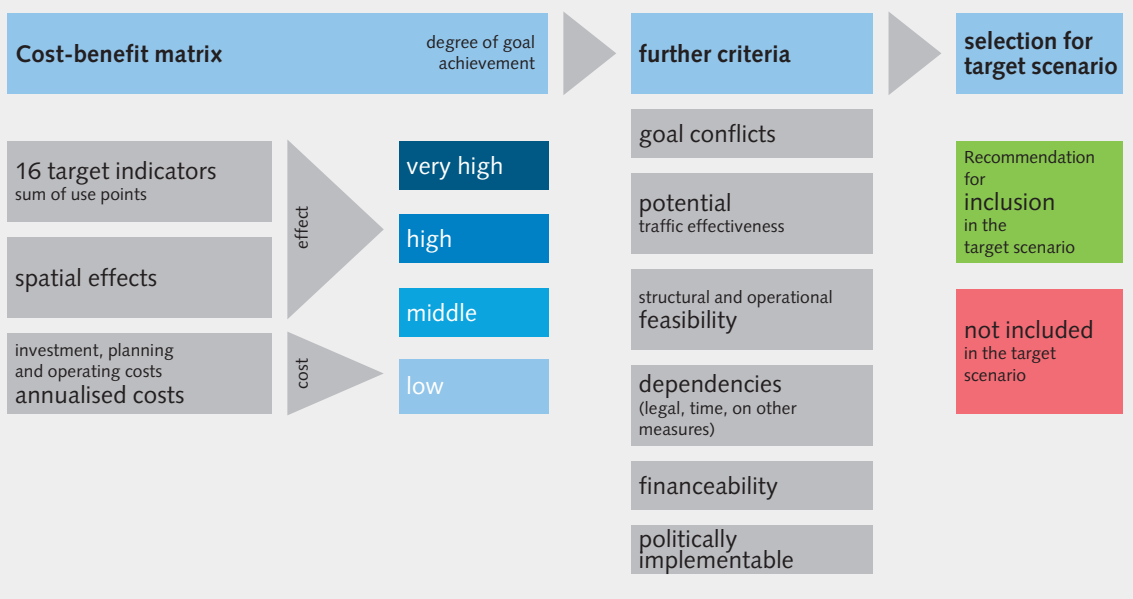
Cost-benefit matrix to determine the level of attainment of aims by the measures



Number of measures by degree of achievement 299 measures



### Plausibility and weighting process for the inclusion of measures in the target scenario



### Supplementary Evaluation for Further Criteria

The first level evaluation methodology delivers consistent and transparent results. However, in this goal-focussed methodology, some criteria that must necessarily be taken into account in the decision process from a technical, commercial, administrative or political perspective are not included. These include, among other things:

- Goal conflicts
- Traffic effectiveness (demand potential)
- Structural feasibility
- Operational viability
- Legal and temporal dependence on other measures
- Balanced cost-benefit ratio
- Jurisdiction of the City of Bremen
- Political acceptance

The evaluation of the measures based on these criteria follows in the second level through a plausibility and weighting process.

This plausibility and weighting are carried out for each individual measure in a laborious interactive process by the administration, the bus and tram operator and the external consultants — all working independent from one another. This process was supported through detailed observation in the context of the model simulation, operational evaluations and detailed examinations of other current transport reports such as the Bremen Rail Node Report and the Inner City Plan. The evaluation by all parties was then consolidated by the external consultants and discussed in the project committee.

## Definition of the Target Scenario and Results

### Definition of the Target Scenario

On the basis of the evaluation results, a combination of measures was selected for a proposed target scenario to optimally fulfil the goals of the SUMP. The target scenario is an interim step toward the implementation plan. From 3 March to 28 April 2014, the public interest groups involved in the process had the opportunity to make submissions on the results of the test scenarios and the measure evaluation and to give measure suggestions for the target scenario.

In consultation with the city administration, the consultant team developed recommendations on how to deal with the submissions, which were discussed in detail by the project committee, the city administration and the consultant team at a two-day meeting in May 2014.

In the context of the evaluation roughly 300 measures were examined for the City of Bremen. The set of measures for the target scenario includes roughly 160 individual measures taken from the test scenarios and from the base scenario. Approximately half of the suggested measures affect the city as a whole (e. g. in the form of a programme), the other half rather affect particular neighbourhoods.

### Non-Accepted Measures

The target scenario measures are reflected in the implementation plan. Roughly 140 measures that were examined in the context of the test scenarios were not recommended for use in the target scenario. The non-accepted measures either did not contribute to the target or were not efficient from a cost-benefit perspective as compared to other measures. In the course of the evaluation, several measures were classified as not feasible, e. g. for particular structural reasons. Measures that were not accepted will only be pursued in future if the decisive conditions for non-acceptance have significantly changed.

### Results of the Target Scenario

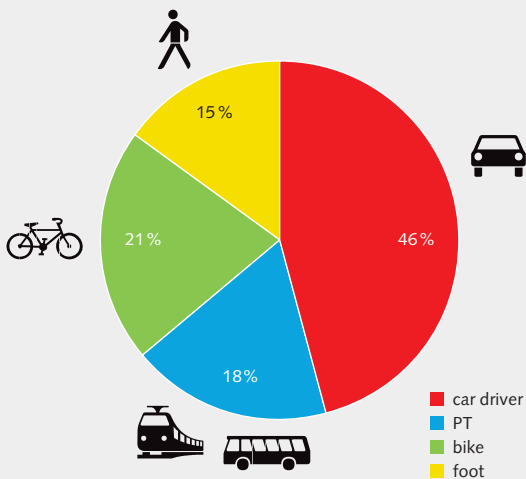
Through transport modelling, the effects that could be achieved by the measures included in the target scenario were determined. The measure composition of the target scenario assumes optimal and realistic funding as it is presented in the so-called “optimistic financing path” of the implementation plan whereby all measures of the base and target scenarios can be implemented.

#### Modal Split in Passenger Transport

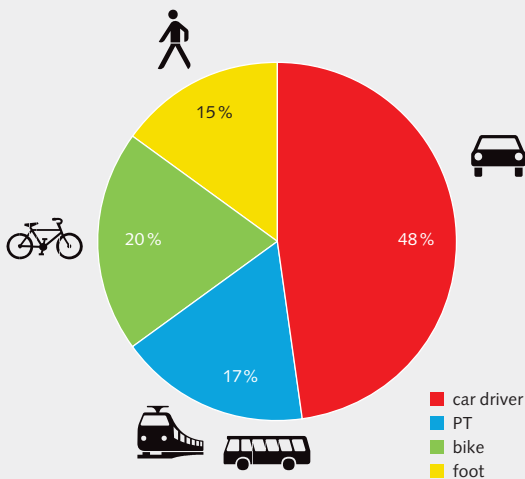
As compared to the base scenario, the target scenario total modal split (Bremeners and non-Bremeners for city-internal travel and origin or destination traffic) shows increases in public transport and cycling of one percentage point each and a reduction in car traffic of 2 percentage points.<sup>4</sup> This results in an increase of 5.8% in local public transport and 5% in cycling, and a decrease of 4.2% in motor vehicle traffic.

<sup>4</sup> Total of the city-internal traffic and the origin and destination traffic

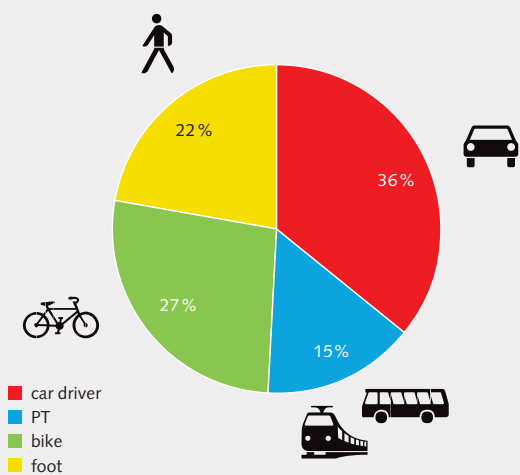
**Modal split for total movement of people in Bremen (Bremeners and non-Bremeners) estimate for the target scenario**



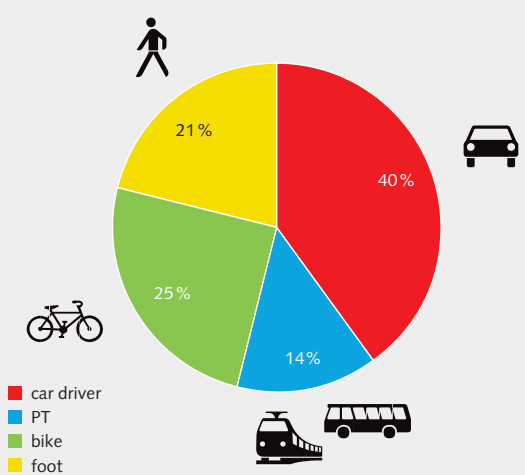
**Modal split for total movement of people in Bremen (Bremeners and non-Bremeners) estimate for the 2025 base scenario**



**Modal split for movement of Bremeners estimate for the target scenario**



**Modal split for movement of Bremeners estimate for the 2025 base scenario**



**Comparison between the target scenario and the base scenario changes in modal split for total person movements (Bremeners and non-Bremeners) as compared to the 2025 base scenario**



**Comparison between the target scenario and the base scenario changes in modal split for person movements of Bremeners as compared to the 2025 base scenario**



The modal split of Bremeners shows a clear shift in target scenario journeys in favour of walking, cycling and public transport (4 percentage points). An increase of 7.1% occurs in local public transport and 8% in cycling and a significant decrease of 11.1% in motor vehicle traffic.

The modal split shifts between the base scenario and the target scenario are more strongly pronounced in the journeys of Bremeners than for total transport (Bremeners and non-Bremeners together) as the non-Bremeners show a stronger tendency toward the car.

**Transport Volumes on the Road Network**

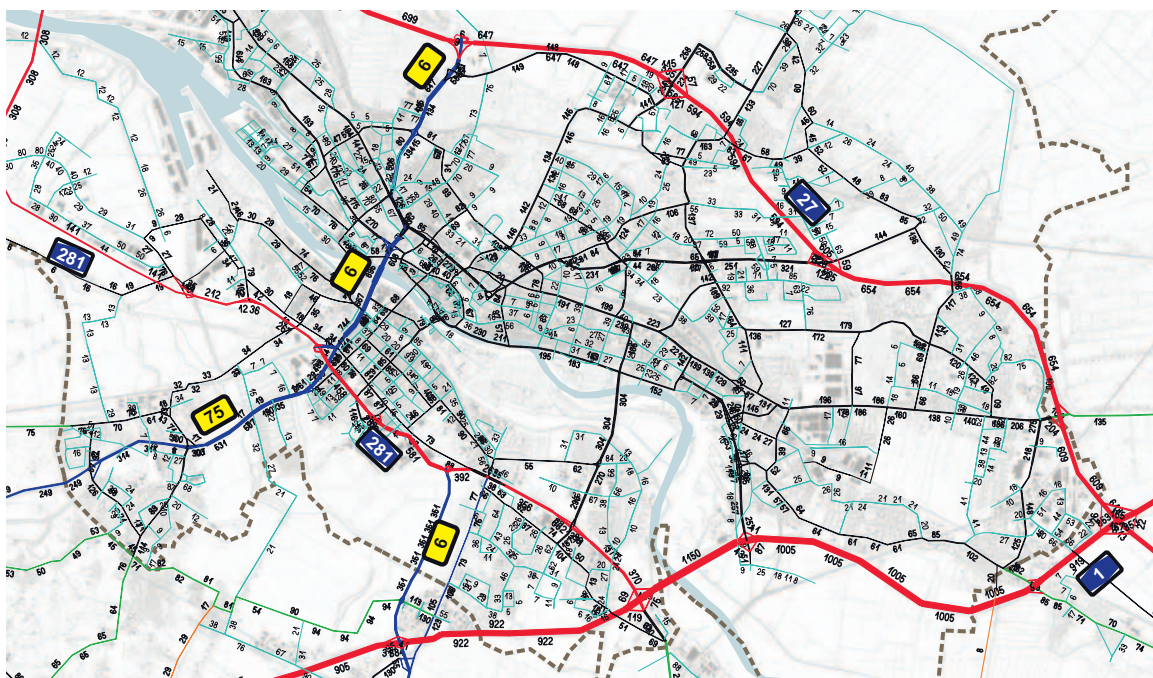
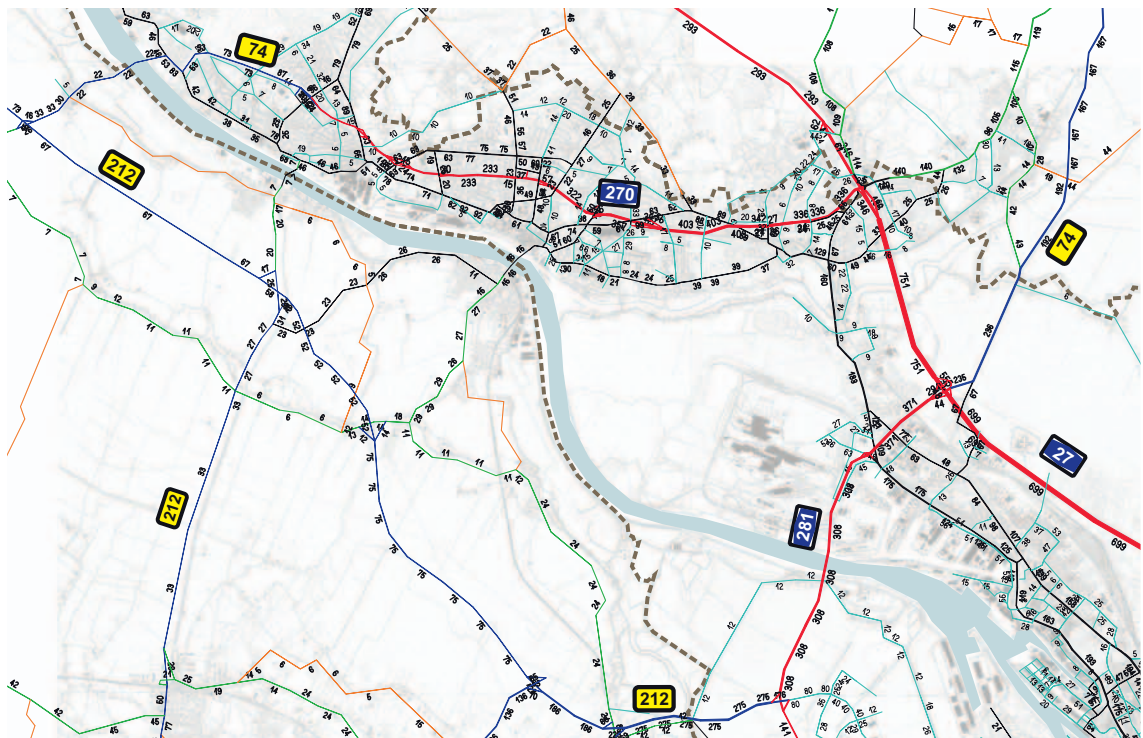
The change in the burden on Bremen’s road network from the base scenario to the target scenario shows a combination of:

- The reduction in demand for car travel as a result of improved services in public transport and in walking and cycling
- The shifting of the burden due to changes in the road network (including the expansion of the motorways and national roads, optimisation of road sections, optimisation of crossings and improvements in traffic signal timing on individual roads)

Average daily vehicle traffic on the road network in Bremen North and Bremen City in the target scenario.

— motorway  
— national road  
— state road  
— county road  
— major road  
— other road

vehicles/day  
 values over 500 displayed,  
 two zeros removed  
 example: 789 = 78,900  
 vehicles/day



As a result, an extensive decrease in load appears on Bremen's major road network between the base and target scenarios.

The decrease in motor vehicle burden in the target scenario is disproportionate (in comparison to the decrease in demand) where, as a result of new construction, by-passes are built or where reconstruction or dismantled roads are included.

Increases in burden occur where the increase of the shift in load/channelling is larger than the effect of the demand reduction. It is mainly parallel roads in the surrounding network that are relieved by the channelling.

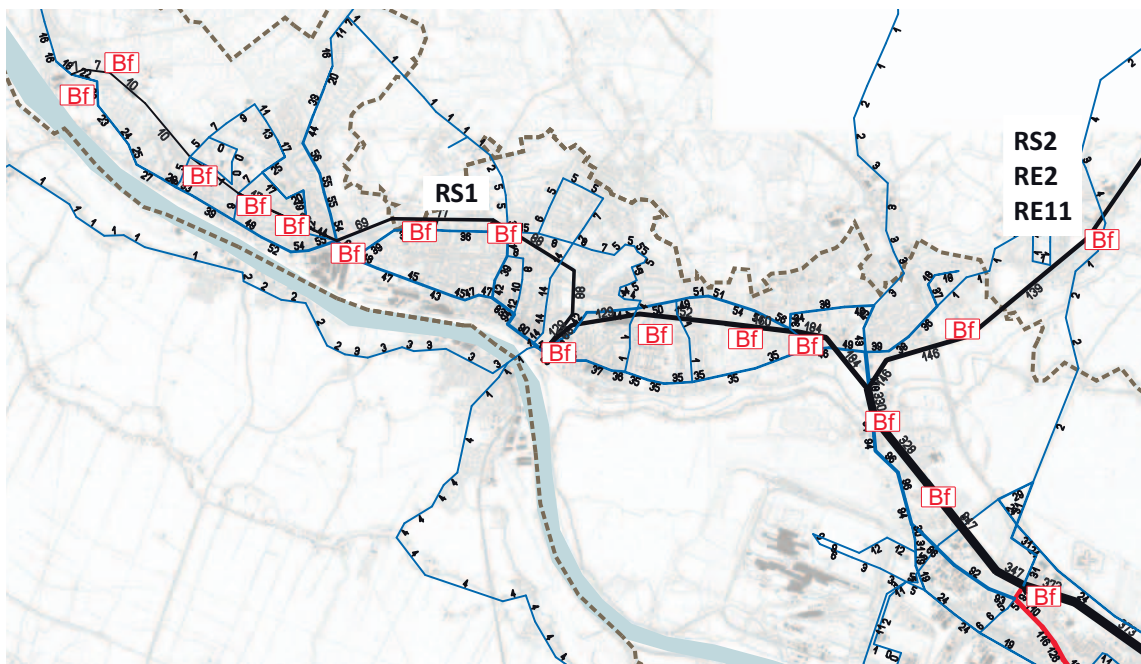
**Traffic Volumes in the Public Transport Network**

Bremen's public transport network will be expanded in the target scenario in passenger rail, in trams and in the bus network as compared to the base scenario.<sup>5</sup>

The change in burden on Bremen's public transport network between the base scenario and the target scenario are made up of a combination of:

- The significant increase in demand for public transport resulting from improved public transport services
- The shift of the burden due to the increase in local and regional passenger rail service, in tram service and in the bus network.

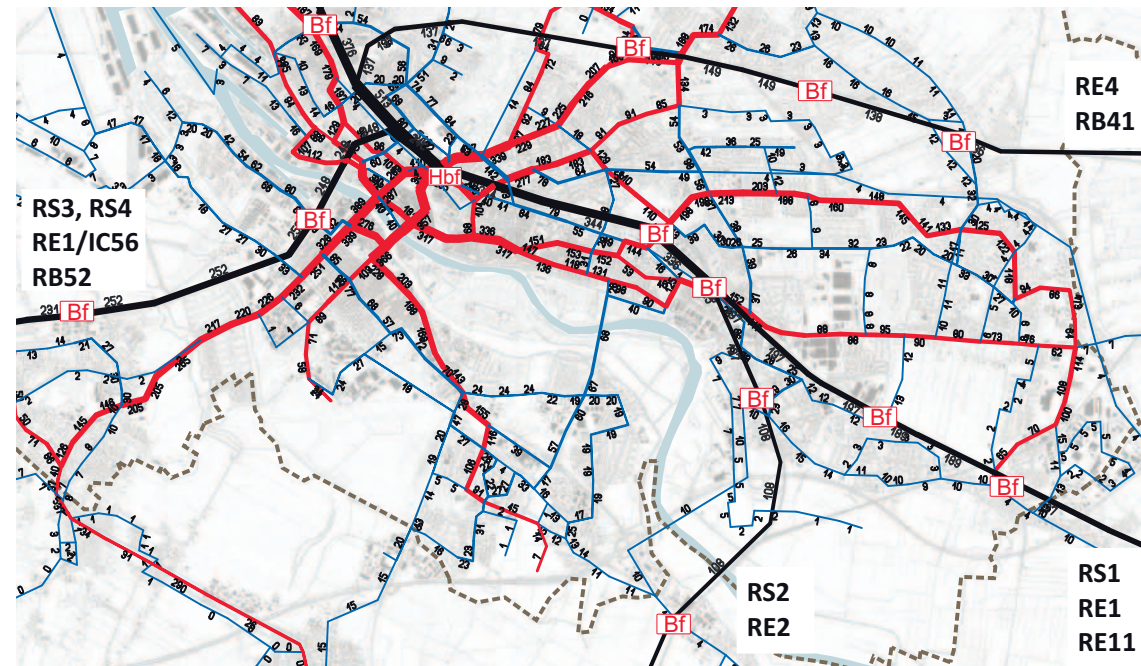
<sup>5</sup> See interim report on scenario and measure evaluation, May 2014, Appendix 4

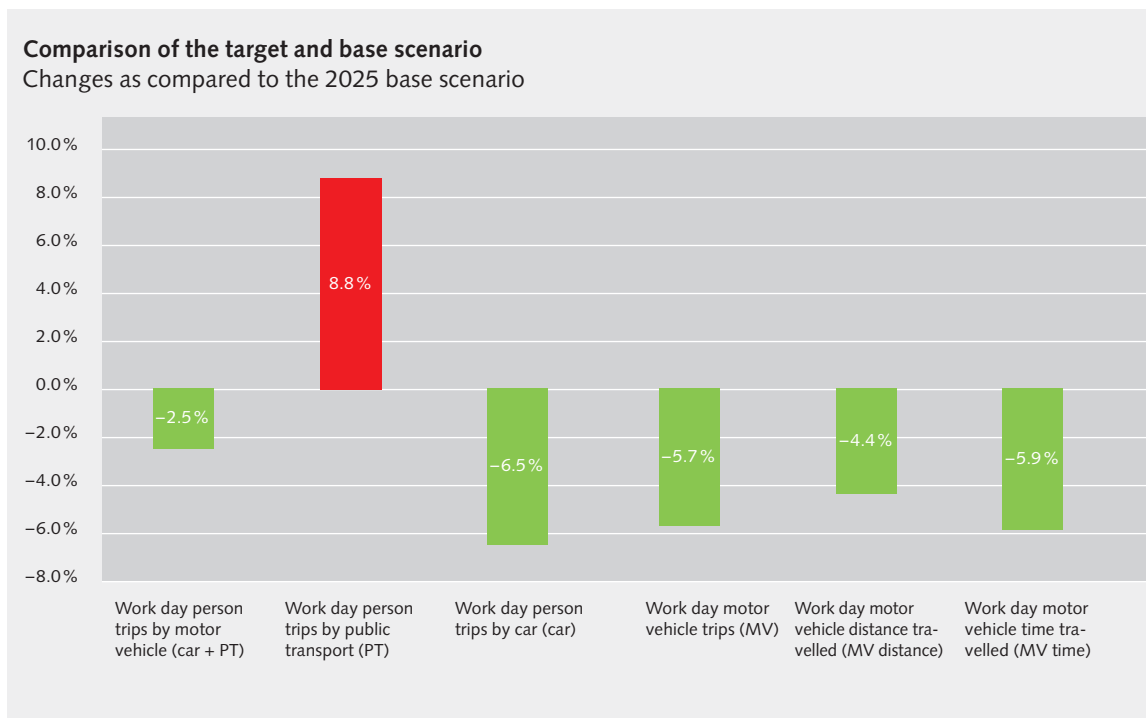


*Public transport volumes on the network on a work day in Bremen North and Bremen City in the target scenario.*

— tram  
— bus  
— regional passenger rail

Person trips/day, two zeros removed  
example: 261 = 26,100 person trips/day





The main changes in load on the public transport network are the increased load on passenger rail service and on the tram and bus networks in all areas. But the change also manifests itself as a decreased load on individual public transport routes where the decrease from the load shift is larger than the effect of the growth in demand.

Load reductions appear in particular where changes in service in the neighbouring network have taken place.

Growth in public transport volumes on work days is disproportionate (i. e. increases beyond the growth in demand in the target scenario) where growth from the increase in demand is amplified by network changes.

### Summary of the Modelling Results of the Target Scenario

The summary of the modelling results of the target scenario takes place on the basis of the change of the modelling parameters as compared to the base scenario.

For passenger transport demand, the target scenario shows a significant decrease in motor vehicle traffic as compared to the base scenario, with a shift in favour of non-motorised transport and public transport.

The decrease in motorised transport capacity is somewhat smaller than the demand decrease in motor vehicle transport as the traffic channelling takes place on higher-level roads whereas the shift to cycling and walking takes place for shorter distances. Motor vehicle wait times drop between the base scenario and the target scenario roughly proportionately to the decrease in motor vehicle demand.

The set of measures for the target scenario:

- Puts the expansion of walking, cycling and public transport in the focus and strengthens these in particular
- Increases the channelling of motor vehicle traffic to the major road network, relieving the lower-level roads
- Brings about the removal of deficits in individual areas of the major road network and in the connection to relevant commercial centres

It focusses fully on the goals of the Bremen SUMP, thus serving the goal-focussed design of future transport activity in Bremen. The set of measures of the target scenario will — together with the measures of the base scenario — be presented in the implementation plan in terms of their temporal and financial viability.



# Implementation Plan and Measures



## Implementation Plan and Measures

All measures cannot be implemented at the same time. Attention needs to be paid to mutual dependencies and interactions. Time and attention must be given to planning, participation, approval and consultation processes, political decisions and financial and human resources for the coordination, planning, drafting, building and operation of individual measures by the responsible departments. The implementation plan presents the plan of action for the SUMP by taking all of these factors into account. The realisation of the measures from the base and target scenarios is put into a time plan.

In doing this, priorities are defined and planning flows and time dependencies between measures are accounted for. Against a backdrop of various financial possibilities, three financing scenarios — called financing paths — are delineated with the following questions at the forefront:

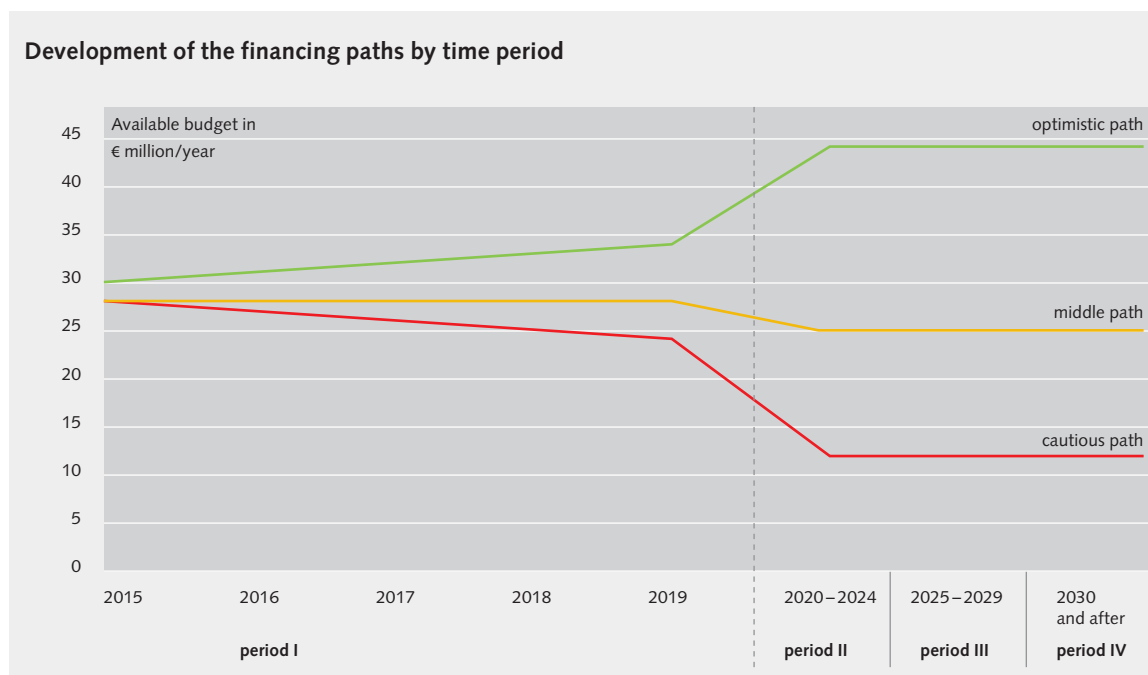
- Keeping in mind all of the above factors, which measures will help to achieve the goals of the SUMP?
- What order makes the most sense based on the effectiveness of the measures?
- Which measures can be cut or postponed in case of a reduction in financial resources?

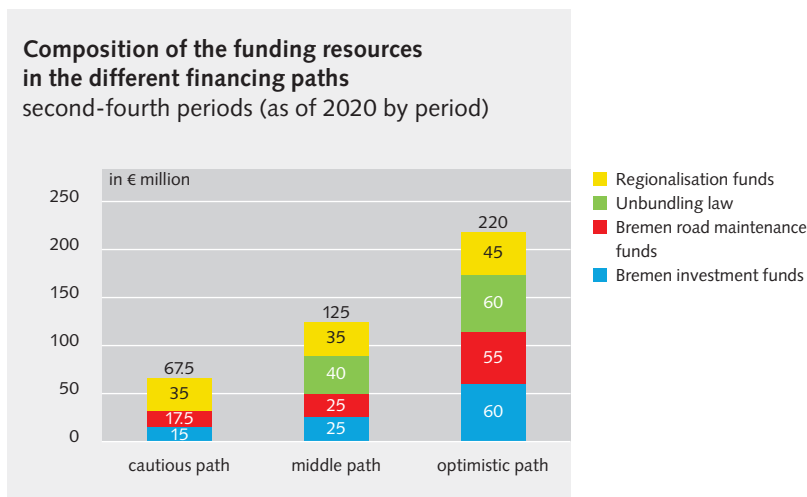
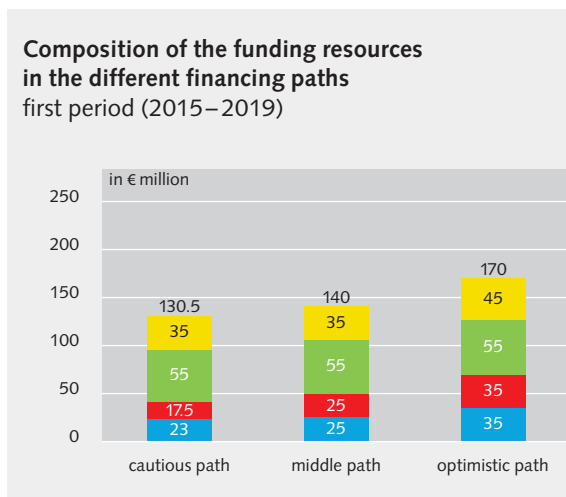
## Financial Framework for the Sustainable Urban Mobility Plan

Because of the uncertainty of future transport funding from the national government to the states and the unclear development of Bremen's own transport budget, three financing paths are presented, each with very different assumptions.

For each path — a higher (optimistic) path, a stagnating (middle) path or a reduced (cautious) path — different financial resource levels are assumed. This includes both local and national sources (whose extent is the topic of ongoing negotiation).

The implementation plan defines four 5-year periods, which are called Period I (2015—2019), Period II (2020—2024), Period III (2025—2029) and Period IV (2030 and after).





### Requirements of the Implementation Plan: Priorities and Time Mapping

The 2025 base scenario depicts the planned — and in some cases already politically resolved — changes as well as all relevant foreseeable changes in Bremen and the other cities and communities in the Bremen/Oldenburg Metropolitan Region with regard to settlement development, transport infrastructure, behaviour change, economic growth and long-distance transport. The base scenario thus encompasses the established measures for which implementation is not in doubt. While the implementation of the measures of the base scenario is important, that alone is not enough to achieve the

goals of the SUMP — which is why they must be supplemented by further measures.

All measure fields should be accounted for in a balanced way over all periods, i.e. they cannot be implemented all at once in one or two periods because planning time-lines, planning capacity and financing options must be taken into account.

The assignment of the measures to the time periods reflects the probable planning, construction and operation time periods from today's perspective and expected financial situation. This could change as a result of ongoing planning processes. This ordering is thus not certain.

## Financing Paths

Because of the assumptions around the financial framework, the three financing paths differ in scope and in the sequencing of the measures.

### Optimistic Path

The optimistic path encompasses the implementation of all measures of the base and target scenarios and presents the optimal situation for the implementation of the SUMP and for the achievement of the associated goals.

### Middle Path

Under the conditions of the middle path, which correspond roughly to a continuation of the current financial situation, cuts and delays in implementation of the measures of the target scenario would be necessary.

### Cautious Path

The lower path presents a cautious financing scenario, wherein the national Entflechtungsgesetz (Unbundling Act) and the GVFG-Großvorhaben (the projects based on the Municipal Transport Financing Law) would end with no replacement as of 2020. The consequence would be that measures that today are 80% covered by national public transport financing — such as measures on street space design, walking/local mobility and cycling (particularly premium cycle routes) — would have to be covered entirely by Bremen's own funds. These would however also be significantly reduced in the lower path, meaning cancellations in the measure fields in question.

Assuming the cancellation of the major municipal transport projects financing programme in 2020, the lower path would entail foregoing all of the tram measures in the target scenario.

## Measures

The implementation plan is introduced in the following sections. It includes all of the measures from the base and target scenarios.

The fundamental principles of the measure fields are introduced and the links to the SUMP goals are described.

### Measure Fields A/B: Motor Vehicle Traffic/Commercial Traffic

Bremen is the centre of the European metropolitan region Bremen/Oldenburg in north western Germany. It is also the largest housing, labour and economic centre of the region with strong connections to the surroundings and is a (sea)port city with international importance. But because of its linear structure along the Weser River, motor vehicle and commercial traffic play a prominent role in transport activity. Even if the measures from the target scenario perceptibly reduce the number of car and lorry journeys, those remaining motor vehicle journeys should flow with impairments reduced to the greatest extent possible.

The measures from the measure field Motor Vehicle Traffic/Commercial Traffic contribute mainly to SUMP goals 5 (Strengthen Bremen as an economic centre by optimising commercial transport) and 6 (Reduce the effects of transport) although the aspects of traffic safety and traffic guidance play an important role in the conception of the measures.

The road network measures in the implementation plan, which include the measures in the base and target scenarios, can be divided into four measure groups:

- Expansion of national long distance roads (motorways and national roads)
- Optimisation of specific road sections
- Optimisation of junctions
- Improvement of the traffic signal timing on individual roads

The projects in the area of national long distance roads (motorways and national roads) — in particular the completion of the ring along the A281 motorway — serve to channel motor vehicle traffic and ease currently overloaded urban roads.

Larger expansion measures in the urban road network are proposed selectively.

The measures include junction reconstructions on the major road network with a partial expansion of existing lanes in order to eliminate traffic deficits. This also reduces the danger of drivers choosing to use lower-level roads.

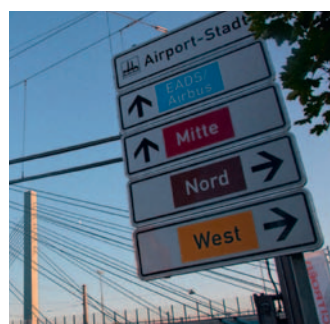
One focus of the measures contained in the implementation plan is the improvement of traffic light timing on individual roads of the major road network to increase traffic flow, and thereby reduce the use of lower-level roads. Dynamic traffic management on the motorways around Bremen and the improvement of wayfinding to commercial areas also serve this goal.

A further central element in the measure field Motor Vehicle Traffic is the intensification of road maintenance so that existing damage can be repaired and the road infrastructure kept in good condition for a longer period of time. This measure benefits not only motor vehicle traffic but also other modes (e. g. buses and bicycles). It also contributes to a reduction in the number of accidents.

Together with measures to improve traffic flow on the major road network, excessive speed and the lorry ban will both be more tightly controlled. In this way, traffic safety is improved and dividing effects — and their adverse effects on neighbourhood residents — will be reduced.

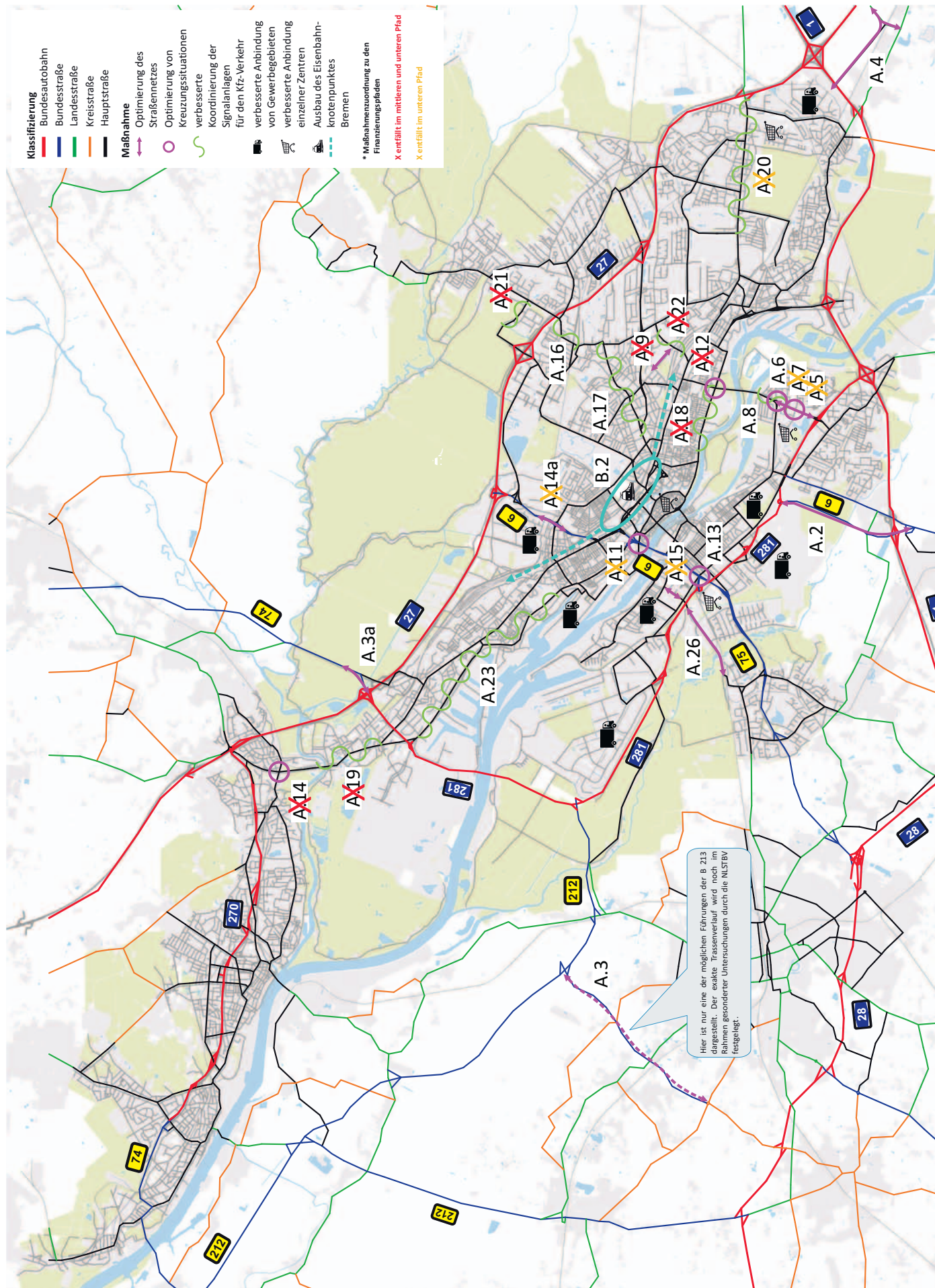
The expansion of the Bremen rail hub has a unique position for commercial transport. This can be understood as the removal of capacity bottlenecks around Bremen main station that were identified in a special report. This will make goods movement coming and going from the Bremen ports more efficient and also create capacity for the planned expansion of local and regional passenger rail (see below). This measure — as with the national long-distance roads — is treated separately in the implementation plan because the expansion of the Bremen main station implies a special planning process and financing from the national government and German Rail.

*Improved accessibility of the city centre and the industrial areas and reduced burden in residential areas: ring connection of the A281*



*Better wayfinding to industrial locations*

Measures from the measure field Motor Vehicle and Commercial Traffic in the target scenario



## Measure Field C: Walking/Local Mobility

In past decades, the significance of walking as a fundamental means of movement and a chance to enliven the city was not fully appreciated in transport planning. Accordingly, there are fundamental shortcomings in the streetscape and shrinking pedestrian numbers. Decisive is the competition for space among different users and modes, which has resulted in pedestrians being given the “leftovers” when all else had been allocated. Opportunities for local mobility are currently being re-discovered. The goal is to reclaim public spaces for sojourning and barrier-free walking. For this, fundamental rethinking is needed, with new priorities in planning and in practice.

In accordance with its goals, the SUMP promotes short distance and local mobility, particularly in goal 1 (Enable social inclusion of all people and strengthen the equality of all transport users). By encouraging walking, goals 2 (Increase transport safety and security) and 6 (Reduce the effects of transport on people, health and the environment in a lasting and perceptible way) are also addressed.

The target scenario contains 17 measures for the promotion of walking and local mobility. Measures that improve local mobility are generally small scale and detail-oriented. The SUMP, with its city-wide, strategic approach, does not allow concretisation of the numerous individual measures. For this reason, programmatic approaches are named as measures; their implementation necessitates concretisation and consolidation at the neighbourhood level. Many of the measures from this measure field are given top priority and are included over several time periods for ongoing implementation.

The measures contribute to pedestrian-friendly design of street spaces and improved quality of sojourning in public space.

In order to strengthen short distance and local mobility, pedestrian-friendly street spaces and an attractive route network should be created. Because of the small scale of pedestrian measures, pedestrian plans are prioritised at the neighbourhood level in the implementation plan. Maintaining and expanding the Green Network should thus be facilitated and measures for the design of pedestrian-friendly routes and street spaces should be implemented. Shared space should be tested in residential areas and neighbourhood centres — while avoiding conflicts with public transport — as a further pedestrian-friendly idea. This should improve the attractiveness of street space, traffic security and local mobility.

In order to reduce the dividing effect of major roads, to strengthen local mobility and to increase traffic safety, a programme for more and better crossing aids is planned, including pedestrian crossings, pedestrian traffic signals, sidewalk bulges and centre islands. The dividing effect of heavily used junctions should be eliminated through local mobility-friendly design with direct and safe connections for pedestrians and cyclists so as to strengthen city centres.

The shortcomings identified in the first phase of the SUMP in the form of gaps in the network and unsafe or circuitous routing should be removed through appropriate network adaptations to the benefit of local mobility.

For pedestrian-friendly design, the demands and the space requirement of different groups must be taken into account (e.g. people with baby buggies, wheelchairs or walkers). This mainly affects routes with a high number of pedestrians, such as neighbourhood centres. Because of the shared — and often too narrow for both — peripheral space, conflicts occur between pedestrians and cyclists. Wherever possible, a physical separation between them should be introduced, either through markings on the street, by making the cycle network on side streets more attractive or by widening the space allocated to cycling and walking. Because of the significance of the subject for Bremen (as identified in the participation process and the opportunity and shortcoming analysis), optimisation should be evaluated and ensured on an ongoing basis.

With site-specific programmatic approaches, the quality of sojourning in street space should also be improved. The wide range of barriers to walking, mainly through parked cars, but also through parked bicycles, advertising signs, merchandise displays, etc. on pavements should be removed to ensure that space is (re)gained for pedestrians. More greening in street space contributes to a more agreeable urban climate. Street furniture to create, for example, seating or playing routes offers something for different age groups and serves as an invitation to sojourn. Barrier-free design of street space must be taken into account and continually improved.

*Temporary reallocation of street space:  
picnic on the Osterdeich during the  
Breminale music festival*



*Seating invites pedestrians to linger –  
Reeder-Bischoff-Straße*



*Pedestrian crossings are finding  
their way back into the cityscape –  
Lachmundsdamm*



*Attractive pedestrian zone with  
high sojourning quality – Vegesack centre*



*Humboldtstraße after the renewal  
process – pedestrian-friendly and  
barrier free*

## Measure Field D: Bicycle Traffic

The bicycle as a transport mode is particularly well suited to the city. It plays a key role in cities across Europe in the implementation of future-ready urban transport planning. Bremen is a leader in Europe in cities over 500,000 with its high share of cycling. The results of the opportunity and shortcoming analysis make evident that because of its ageing, non-state-of-the-art cycling infrastructure, Bremen must take stronger and more goal-oriented action.

In accordance with cycling's high importance as an affordable mode of transport well suited to the city of the future, the encouragement of cycling is addressed in the SUMP — primarily in goals 1 (Enable social inclusion of all people and strengthen the equality of all transport users) and 4 (Improve the connection of the systems and services for walking, cycling and public transport between Bremen and the surrounding region). Cycling also receives particular attention from the safety perspective in goal 2 (Increase transport safety and security). In addition, cycling contributes to the ongoing reduction of the effects of traffic on people, the environment and health (goal 6).

The task of the cycling measures is not only to maintain Bremen's high level of cycling but to increase it through focussed, effective and visible support. To this end, effective and easily implementable measures should be carried out in a timely manner in order to raise awareness of the support for cycling and thus increase cycling. Along with infrastructure improvements and the further development of the cycling network, the recommendations of the National Cycling Plan 2020 relating to services and communication also come into play (see also measure field L: Mobility Culture and Public Relations). In addition, measure fields F: Design of Street Space, Accessibility, H: Inter- and Multimodality and K: Traffic Safety also have a relationship to cycling.

In the context of the 2003 document Targeted Planning for Bicycles, the Bremen cycling network was conceived of main, secondary and recreational routes. This will be further developed through the SUMP. In addition, the dividing effect of the Weser River will be reduced through better connections between the neighbourhoods. Two new pedestrian and cycling bridges have been proposed in the implementation plan: one between the Neustadt and central neighbourhoods and another linking more peripheral neighbourhoods. The connections will relieve currently heavily-used and conflict-ridden routes (the justification for a priority implementation) and save time as more direct routes are created and neighbourhoods are better connected. These bridges also have high importance for recreational traffic in and around Bremen.

The implementation plan foresees a continual increase in the budget for the upkeep of cycling infrastructure and the introduction of quality management for the improvement of shortcomings. A range of measures contribute to improved cycling infrastructure and these should have priority for implementation.

The implementation plan includes a programme for the expansion of cycle parking in public space. This contains both a qualitative improvement of the current supply and the assurance of systematic upkeep and maintenance of public cycle parking (e.g. regular removal of so-called "bicycle corpses"). Services on important sections (e.g. along premium routes) could make cycling in Bremen appreciably more attractive. The systematic upkeep of bicycle wayfinding is also ensured.







*Reconstruction for all modes despite a narrow cross-section – Hamburger Straße*



*More bicycle streets in Bremen – example: Rembertistraße*

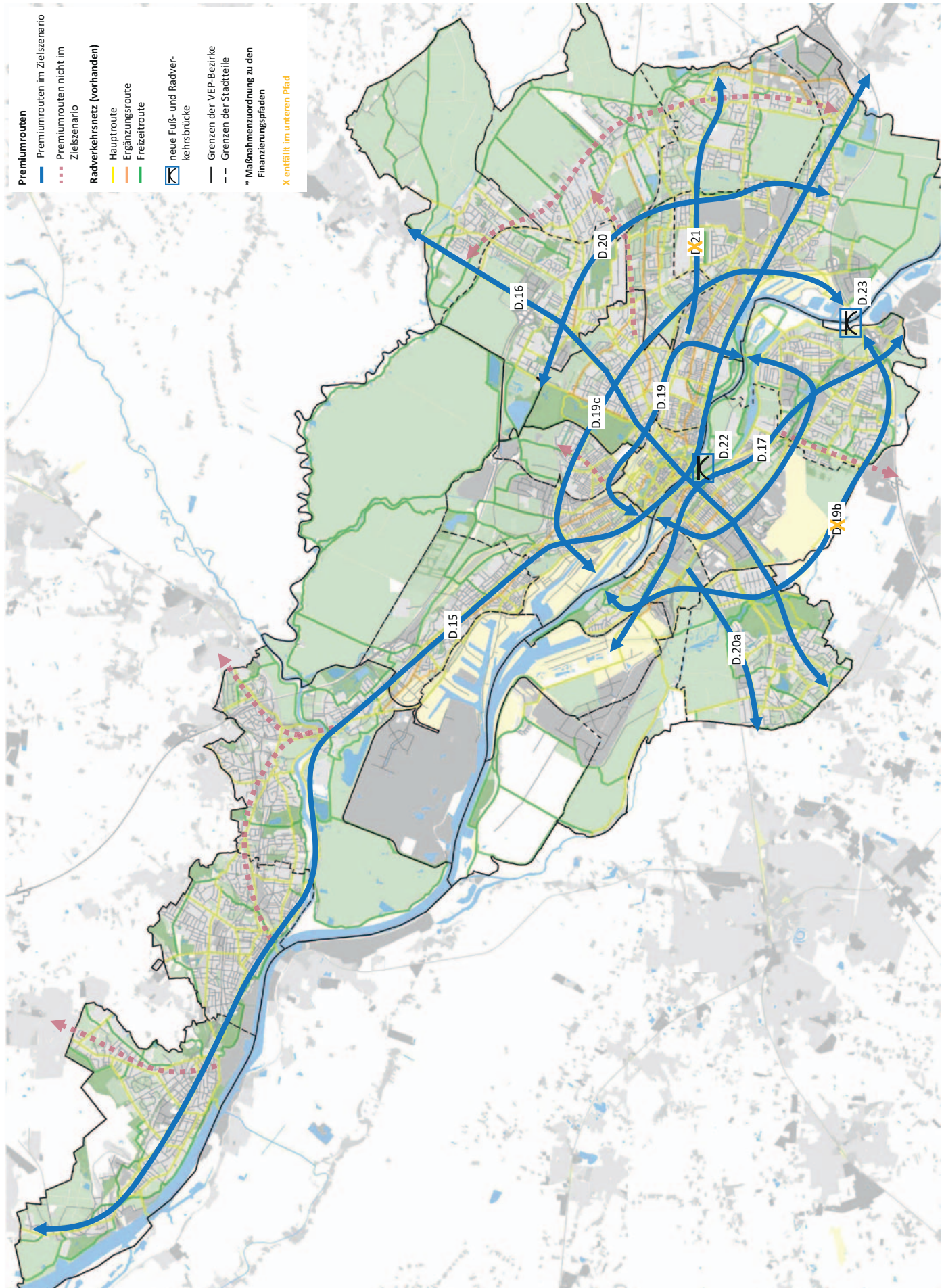


*Already redesigned: direct and convenient cycle routing at the Herdentorsteinweg/Breitenweg junction*

*Bgm.-Hildebrand-Straße: safe and convenient tram track crossing rather than cycle barriers*



## Cycling measures in the target scenario



## Measure Field E: Local Public Transport, Regional and Local Passenger Rail

The local public transport law of the city-state of Bremen requires that conditions for public transport — in combination with pedestrian and bicycle traffic — should be developed as a high-quality alternative to car travel in the interest of environmental and health protection, of traffic safety, of the improvement of transport infrastructure and of the creation and protection of equitable living conditions for all.

The opportunity and shortcoming analysis shows a modal share for local public transport of 14% of all Bremeners' journeys in comparison to 40% for car journeys, indicating that local public transport has a good deal of room for development.

The local public transport and regional passenger rail measures in the implementation plan aim to:

- Take the best possible advantage of the existing scope for action
- Counteract the known service deficits to create new user potential
- Improve the attractiveness of public transport
- Further improve cycling, walking and public transport services specific to neighbourhood location
- Better link services for walking, cycling and public transport

- Improve the accessibility of commercial and industrial areas for walking, cycling and public transport
- Ensure that Bremen is optimally accessible by walking, cycling and public transport
- Strengthen the transport connections across the river through attractive services
- Reduce the negative impact of noise and emissions on residents

The measures in local public transport and regional and local passenger rail deliver a positive contribution to almost all goals. Goal 1 (Enable social inclusion of all people and strengthen the equality of all transport users), goal 3 (Offer and optimise alternative transport options in the entire city), goal 4 (Improve the connection of the systems and services for walking, cycling and public transport between Bremen and the surrounding region) as well as goal 5 (Strengthen Bremen as an economic centre by optimising commercial transport) and goal 6 (Reduce the effects of transport on people, health and the environment in a lasting and perceptible way) should be highlighted.

*Challenging design  
of the Huckelriede  
tram stop*



**Expansion of Regional and Local Passenger Rail**

Service improvements in regional and local passenger rail depend in part on the previously-mentioned expansion of the rail hub in Bremen (see measure field A/B). Several of the increases in service frequency and the new stops can only be implemented after the realisation of measures related to the Bremen rail hub.

New stops, increased frequency and expansion of the network are planned for regional rail.

These measures in regional passenger rail will result in improved access from peripheral neighbourhoods and the surrounding region to the city centre and to commercial centres at the train stations.

*Modern, barrier-free regional train stop at Aumund*



*Success story: extension of tram line 1 from Huchting to the Mahndorf train station*



**Expansion of the Tram Network**

In addition to extensions of the Bremen tram network that are part of the base scenario and are already in the planning stage, a further network extension of five sections is foreseen. This integrates many important transport nodes and creates new tram connections such as the second connection to the university and to the technology park and to various neighbourhoods. A prerequisite for the financing of the tram is a positive result from a cost-benefit study that follows the national government's standardised evaluation process.

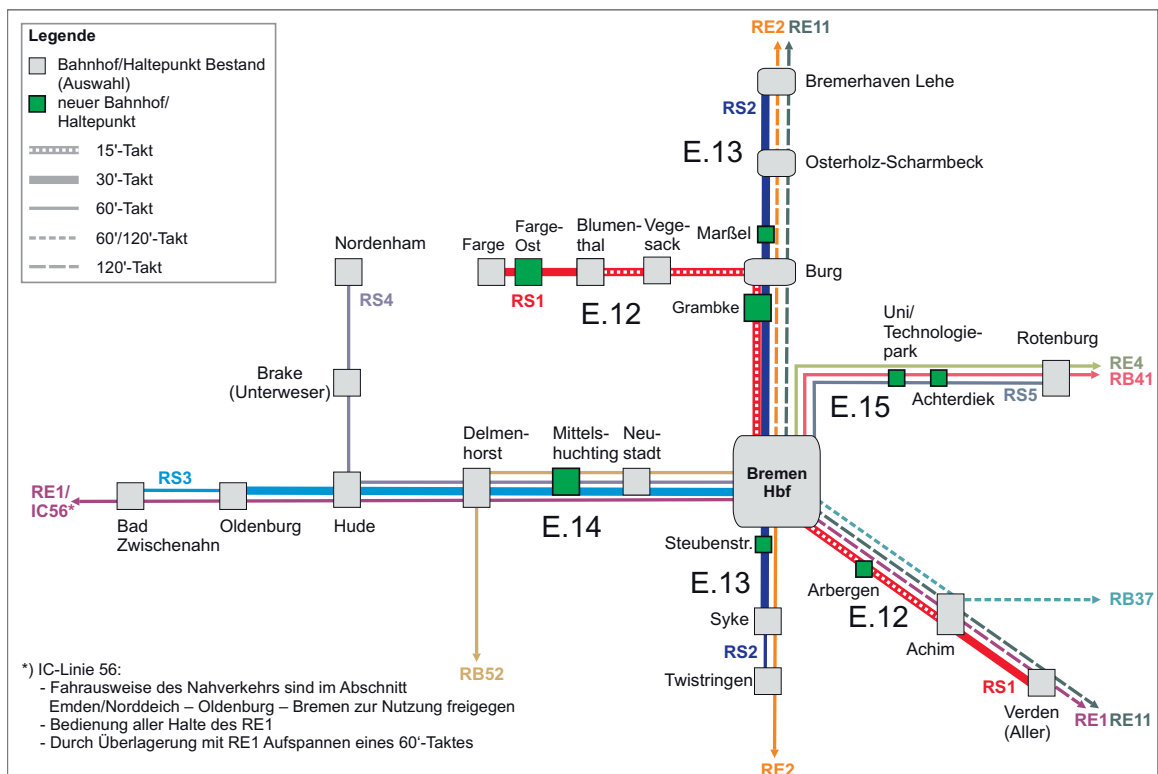
The accessibility of important economic and industrial locations is improved through the expansion of the tram network.

The extension of lines 3 and 10 supports the urban development prospects for the west of Bremen. Similarly positive prospects result along Osterholzer Heerstraße if line 2 is extended to Mahndorf station.

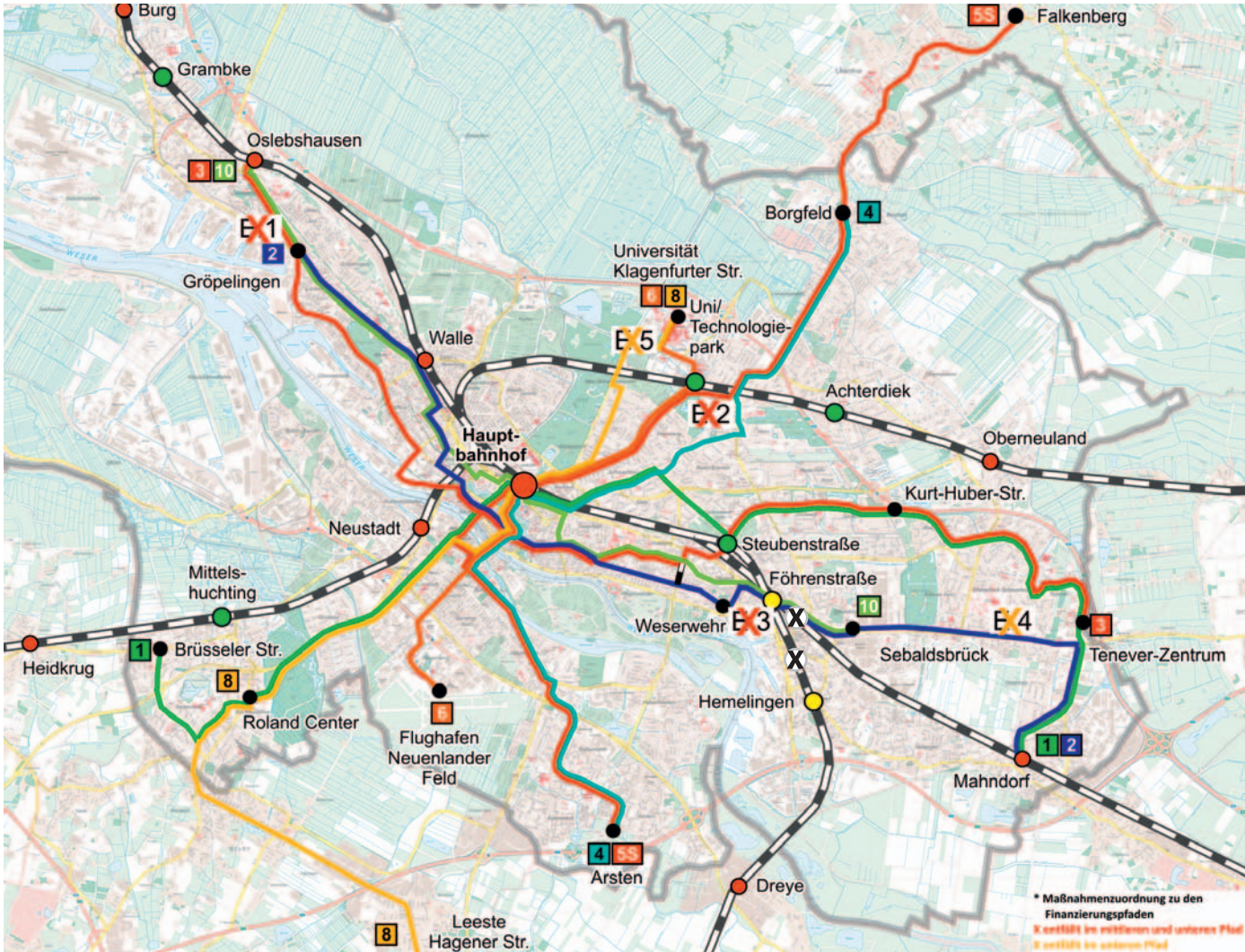
The second connection to the university through line 8 should improve connections to parts of the campus and reduce pressure on the heavily-used line 6.

The service improvements in the tram network are supported by measures such as priority at more traffic signals and consistent traffic monitoring to prevent obstructions by illegally parked cars.

*Regional passenger rail frequencies for 2025 in the target scenario*



Tram network measures



Tram axes link the city centre to the neighbourhoods

Shorter wait times at traffic signals: bus and tram priority – Buntentorsteinweg

### Optimisation of the Bus Network

A fundamentally improved bus network complements the regional passenger rail and tram measures. It should be implemented step-by-step and in coordination with the regional passenger rail and tram measures. The new bus network foresees new direct connections to the city centre and between neighbourhoods and neighbourhood centres, in particular with new tangential bus lines. This creates improved connections to regional passenger rail and to the tram and further decreases travel times in public transport. Better coordination of the schedules of trains, trams and buses eases and shortens wait times.

The many bus-related measures lead to improvements in accessibility of commercial, industrial and retail locations. The tangential lines improve the accessibility of neighbourhoods and workplaces for many Bremeners.

The supply-side measures are accompanied by tariff measures, such as the single tariff in the entire city area (in effect since 1 January 2015) and an expansion of target group-specific offers, e. g. for small groups.

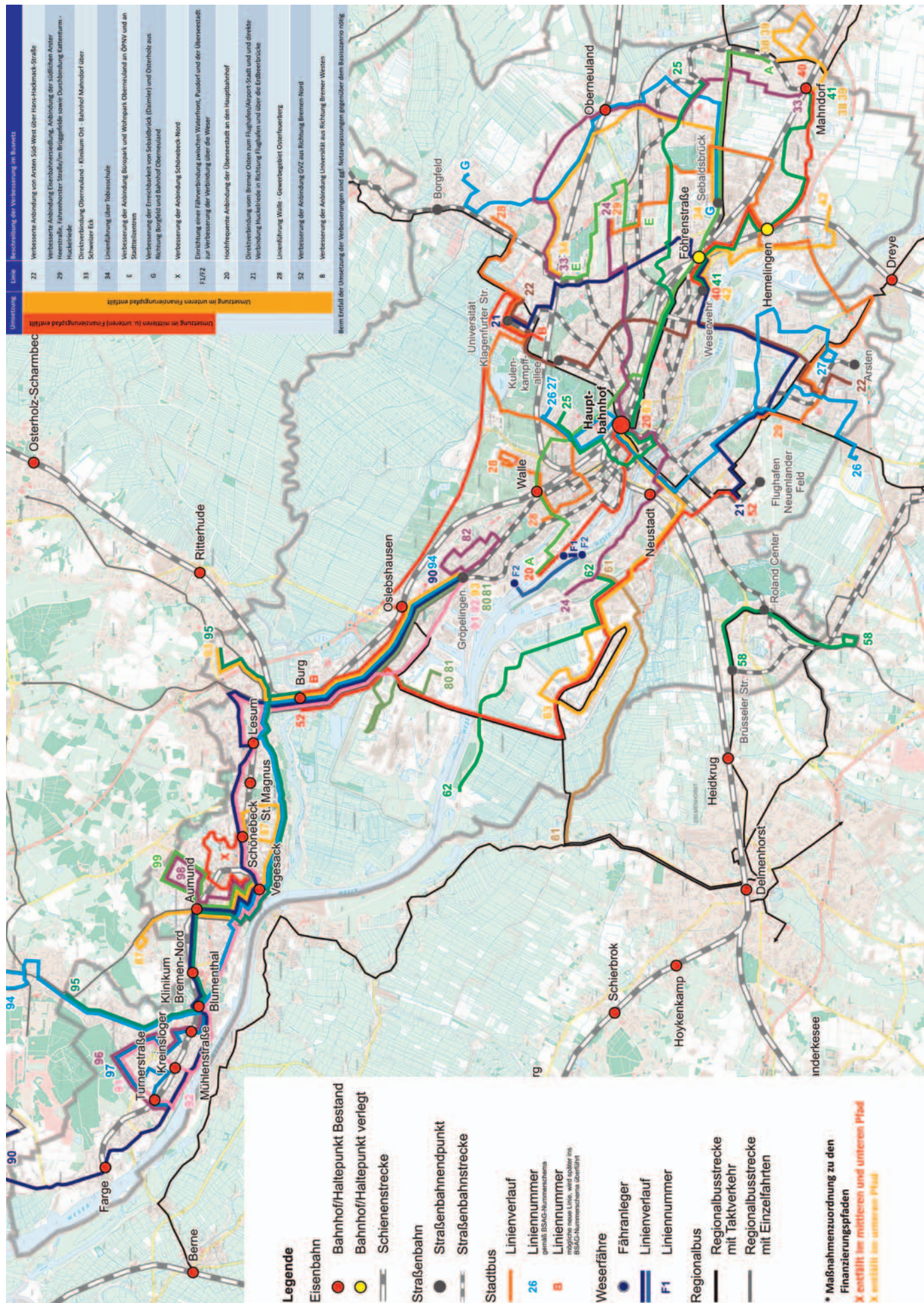


*Central transfer point in Bremen North with the BSAG customer centre – Vegesack train station*

*Good connection between the regional train and the bus – Burg train station*



Public transport measures – bus traffic (including ferries) in the target scenario



## Measure Field F: Design of Street Space, Accessibility

Beyond pure traffic significance, street space in the inner city faces other demands through adjacent uses and the users of public space. In order to satisfy these demands, a balanced design is needed. While the distribution and design of street space in the past was often over-balanced toward the needs and demands of motor vehicle traffic, planning paradigms have changed in recent years in favour of high-quality urban street space and the needs of all users. The measure field Design of Street Space and Accessibility foresees measures that offer balanced attention to all needs and design urban street space according to the draft guidelines provided (see RAS06, FGSV 2006).

Because of the different requirements of public space, a cross cutting task arises for the measure field Design of Street Space and Accessibility that is also reflected in the goals of the SUMP. The focus is on goals 1 (Enable social inclusion of all people and strengthen the equality of all transport users) and 2 (Increase transport safety and security).

The implementation plan contains 33 measures. Along with fundamental structural measures to redesign street space, there are also re-purposing options through which existing street space can be reorganised to allow acceptable and balanced traffic flow for all users. The barrier-free design is handled programmatically as an ongoing task.

*Guidance for the visually impaired in front of the main station*

In the opportunity and shortcoming analysis, restrictions in local mobility created by parked cars were identified. Particularly in densely built areas, vehicles claim the majority of the already limited peripheral space. Double-parked cars have an additional negative impact on traffic flow. Through reorganisation, the car parking situation should be restructured to reduce obstacles, to increase traffic safety and to make the design of street space clearer. Depending on the situation, trades in space use may be possible, moving cycling onto the street and parked cars to the side. At other locations it may be necessary to reduce or remove car parking to ensure conflict-free use. Further enhancement measures through redesign of street space may accompany the tram extension.

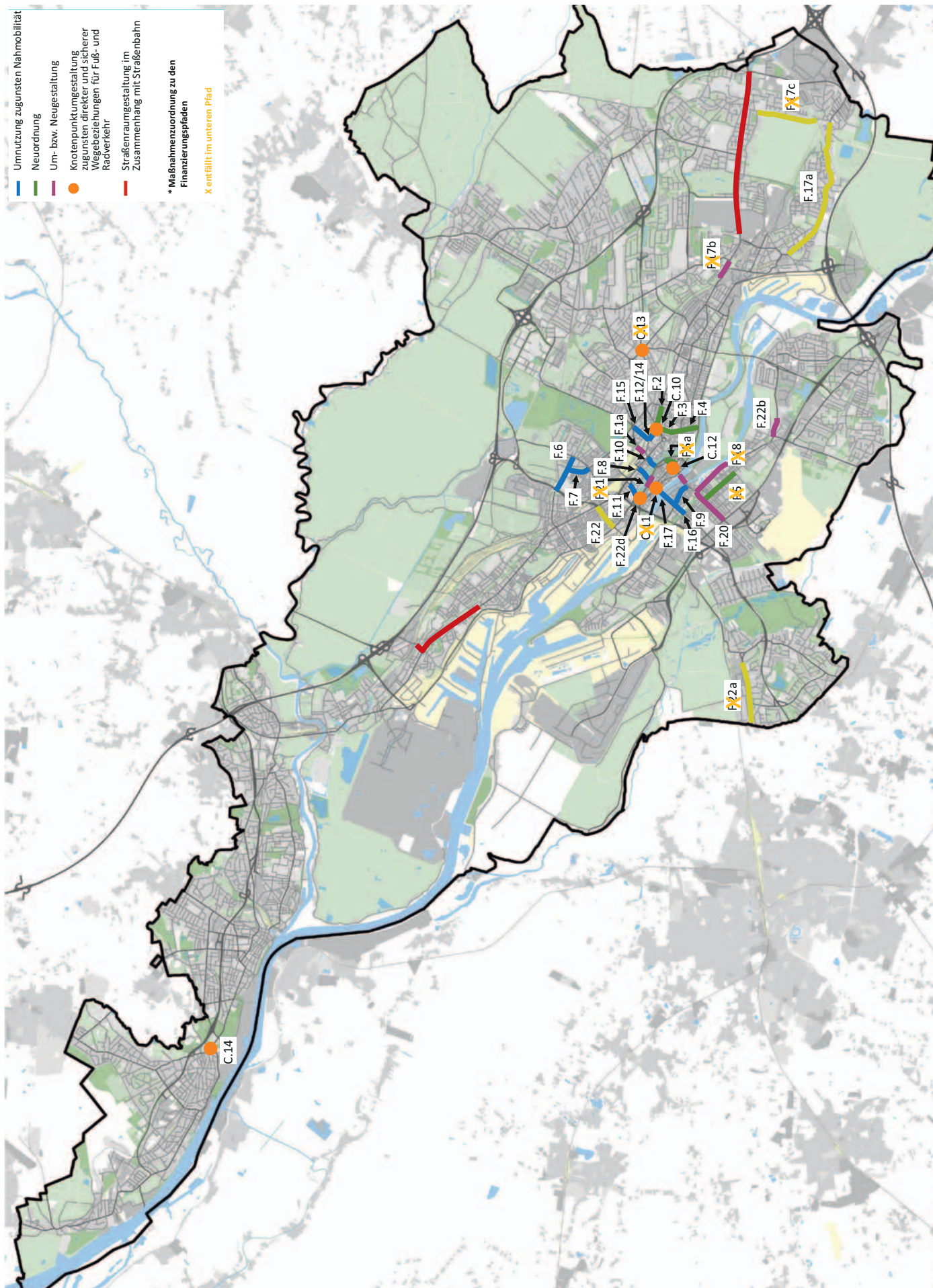


*Good multi-function design – Wartburgplatz*





Street space design and pedestrian measures in the target scenario



## Measure Field G: Parked Cars

The situation with parked cars is different from location to location in Bremen. While parking is plentiful in garages and on the streets of the city centre, the dense older neighbourhoods close to the centre face high parking pressure. This leads to disruptions in traffic flow by illegally parked cars so that emergency vehicles and waste removal vehicles can no longer pass. In addition, the already narrow peripheral space used by pedestrians and cyclists is made even narrower, resulting in significant restrictions to local mobility and accessibility.

*A solution to illegal parking – eastern district*

The challenges created by the parking situation, and the resulting shortcomings in individual neighbourhoods, are principally addressed in goals 1 (Enable social inclusion of all people and strengthen the equality of all transport users), 2 (Increase transport safety and security) and 6 (Reduce the effects of transport on people, health and the environment in a lasting and perceptible way).



For parts of the city centre, a parking plan and expanded pay parking have been implemented. In order to remedy the conflict caused by illegally-parked vehicles on pavements, on cycle tracks and in car lanes, stopping bans will be consistently enforced through increased traffic controls. In order to make public space barrier free and enjoyable, particularly in residential areas, parking will be reduced step-by-step in favour of local mobility. The effect of this measure will evolve over a longer time period and should first be applied in critical areas (emergency routes, conflict points).

## Measure Field H: Inter- and Multimodality

In terms of combined and efficient mobility, the expansion of intermodal interfaces in Bremen is foreseen. Through the intelligent connection of different transport modes, capacity can be optimally exploited for efficient, city-friendly use.

By looking at the intelligent connection of all transport carriers and modes, the measure field Inter- and Multimodality is addressed in all 6 of the SUMP goals. It can be found particularly in goals 3 (Offer and optimise alternative transport options in the entire city) and 4 (Improve the connection of the systems and services for walking, cycling and public transport between Bremen and the surrounding region).

The target scenario contains ten measures to optimise the interfaces between different modes. The key ones are:

- Expansion of car sharing
- Expansion of bike+ride services
- Qualitative improvements of park+ride locations
- Introduction of park+bike



*"Mobility point" to connect car sharing and cycling – Georg-Gröning-Straße*

## Measure Field I: Traffic and Mobility Management

Unlike expensive infrastructure solutions, the measures in field I are conceived specifically to influence transport activity over the long term and to contribute to a more efficient use of the existing infrastructure. Further, everyone (in all modes) should be motivated to a long-term change in mobility behaviour through better coordination of the services offered.

Measures of this type thus contribute to goals 3 (Offer and optimise alternative transport options in the entire city), 4 (Improve the connection of the systems and services for walking, cycling and public transport between Bremen and the surrounding region) and 6 (Reduce the effects of transport on people, health and the environment in a lasting and perceptible way) of the SUMP.

With its traffic management centre, the City of Bremen has access to an extensive pool of data on traffic volumes, disruptions and construction sites in the road network. This data should be made available to third parties as an incentive to develop Internet services and apps that can be used by citizens via smart phone or navigation device. Following a similar motivation, traffic data (e.g. motor vehicle traffic, local public transport, regional passenger rail, taxi, car sharing) should be made available by the City of Bremen and the state of Lower Saxony — if possible in real time. Such a pool of data creates the possibility to generate a multi-mobility route planner, which would offer users the opportunity to call up and compare different route options and mobility chains.

Those who move to a new city often do not know the city or its transport services well. Moving house also

presents a good opportunity to rethink old routines and transport behaviours. For this reason, as of 1 October 2014, new citizens of Bremen receive a package with information on “green” transport services (local public transport, regional passenger rail, cycling, walking and car sharing) as well as advice on using the services. In addition, a multi-modal mobility ticket should be introduced to bring together the use of several transport modes (e. g. local public transport, car sharing, taxi, car rental) in one ticket.

By offering mobility consultancy to different organisations (e. g. companies and schools), a lasting and cost-efficient mobility management is promoted. Already measures such as “job tickets” (where large employers make a bulk purchase of annual public transport passes from the operator and pass on the savings to their employees), promotion of carpooling, strengthening of cycling and walking or the use of car sharing — including in companies — can increase existing mobility options. A focus is placed on different measures based on the organisation’s particular situation and needs. A lack of knowledge about what is available is often the main reason why certain services are not taken advantage of.

Should it be necessary to follow the middle financing path, three measures from measure field I (1.2 Shared priority at traffic signals for cycling and local public transport, 1.5 Multi-modal data portal and 1.6 Introduction of a mobility card) are not foreseen for implementation as they would require the largest share of the measure field I budget (and also Bremen’s transport budget).

## Measure Field J: Electric Mobility

Electric mobility contributes to noise reduction, reduces pollutant concentrations in the city area and has a positive effect on climate protection. However these aspects all concern the emission effects of individual vehicles (assuming the energy comes from a renewable source). Cars with electric or hybrid propulsion offer no reduction in traffic or in overloaded street space per se, but the intelligent use of electric propulsion in urban transport — particularly for emission-heavy vehicles such as buses or lorries — can certainly have a positive effect on the attractiveness of affected neighbourhoods. For cycling, pedelecs make it possible to travel longer distances with comparatively little extra expenditure of energy, thereby reducing obstacles to bicycle use.

With respect to achieving the targets of the SUMP, this measure field mainly serves goal 6 (Reduce the effects of transport on people, health and the environment in a lasting and perceptible way) and to a certain extent goal 3 (Offer and optimise alternative transport options in the entire city).

Because the technology level of electric mobility is not yet mature and the costs are high, the measure field is limited to local public transport and intermodal interfaces. The municipality’s range of action is also limited as development is, for the most part, in the hands of private industry.

In the area of electric mobility, the promotion of pilot projects integrating electric vehicles in the local bus fleet is foreseen.



*Still in the test phase: electric buses*

## Measure Field K: Traffic Safety

Traffic safety overarches all modes and operators and thus cuts across all of the other measure fields. Some measures relevant to the improvement of traffic safety are described in the previous measure fields. With regard to the evaluation of safety, a hierarchy is acknowledged among the transport modes. Pedestrians and cyclists, with no protective “shell”, are particularly exposed and therefore classified as the most vulnerable road users. Together with identifying shortcomings in traffic safety for local mobility with respect to motorised transport, the focus lies on safe interaction between pedestrians and cyclists. Narrow spaces for walking and cycling lead to particularly high conflict potential. In addition, security needs to be enhanced in situations such as tunnels in order to make walking and cycling safer and more attractive.

The measure field contributes to goal 2 (Increase transport safety and security).

With an eye to the sub-goal Work toward Vision Zero (no traffic fatalities), the aim is to reduce the number of traffic fatalities to zero. The safe use of public space by all (in all modes) should thus be ensured, enabling a free choice of transport modes. Speed reduction contributes significantly to an increase in traffic safety. 30 km/h zones should be introduced as a priority measure — including selectively on sections of the major road network where appropriate — where several factors (traffic safety, urban structure, cycling conditions) coincide in favour of a speed reduction. Public transport axes and important axes for commercial traffic are not affected by this.



More 30 km/h zones to increase traffic safety

In order to put a particular focus on safe routes to schools, a closure of particular streets around schools to motor vehicle traffic at the beginning and end of the school day is proposed. At the same time the implementation plan creates incentives to travel to school on foot, by bike or by public transport.

In order to solve the conflict between pedestrians and cyclists and particularly to increase the safety of pedestrians vis-à-vis cyclists, measures will be realised to mark pedestrian crossings on cycle routes and stop lines at traffic signals (including for cyclists), and a programme will be introduced to sensitise cyclists to the needs of pedestrians.

In the opportunity and shortcoming analysis, fear-inducing spaces for cyclists and pedestrians were identified as obstacles. This shortcoming should be met with a priority programme to enhance sensitive spaces with a focus on improving the design and the light situation. Through such enhancement, fear-inducing spaces are improved and efficient connections made useable that were previously avoided.

## Measure Field L: Mobility Culture and Public Relations

An effective means to advertise for alternative transport choices is focussed communication and public relations work. To this end, Bremen already uses the Internet site [www.bremen.de](http://www.bremen.de), the online portal of the traffic management centre and of the BSAG (bus and tram operator). Here, information is provided on services and infrastructure.

During the opportunity and shortcoming analysis, numerous conflicts were documented between individual travellers describing recklessness and a lack of consideration. The reason for this is often a lack of knowledge about traffic regulations. According to a national study — and confirmed by international experience — public relations work has proved to be an efficient approach to the promotion of local mobility and cycling.

The measure field serves goal 3 (Offer and optimise alternative transport options in the entire city).

In the implementation plan, improved public relations work results in more traffic safety. It communicates traffic regulations to raise awareness of typical danger situations and promotes more reciprocal consideration, which should lead to a reduction in the number of conflicts and accidents.

Poster reminding car drivers to share the road with cyclists.



# Evaluation Plan



## Principles of the Evaluation Plan

An evaluation plan is foreseen for the SUMP, which should enable the measurement and monitoring of the degree of achievement of the goals and the implementation plan (including the measures included in the plan). Changes and revisions to measures can be developed as needed based on committee decisions. As a first step, the goals were operationalised and appropriate indicators determined.

In evaluating the Bremen 2025 SUMP, the focus should be placed on regularly describing the progress of the implementation and on assessing the effect of the measures. The global progress and effects should be recorded and the concrete steps and accomplishments of selected and important measures should be

(able to be) measured or described. An orientation toward the measure fields was deemed to make more sense than focussing on the goals because the contribution of the goals toward the fields of activity and the measures was previously assessed in the context of the scenarios. An assessment of the success of the implementation takes place through the evaluation of the progress of the implementation.

The achievement of the goals should be evaluated based on data that is as objectively and quantitatively measurable as possible, concretely specified and empirical. For the assessment of qualitative criteria or indicators, expert evaluations and/or behaviour observation will be carried out.

## Regular Progress Reports

Every four years, starting in 2018, a progress report on the SUMP should be prepared. The report should be constructed as follows:

- Description of the general conditions and trends, insofar as they affect mobility development (economic development, fuel prices, etc.) and interpretation of their impact for Bremen
- Presentation of the indicators for the global evaluation and interpretation of their development
- Presentation of the individual measures and projects that have been completed or are in progress together with the relevant data for evaluation.

On the basis of this presentation, a statement should be made on:

- What implementation steps were taken
- When and why changes or delays arose
- What effects can be observed
- Whether there were discrepancies from the desired and expected effects and whether/where (in which fields of activity) a need for change in the catalogue of measures or an update of the SUMP can be derived.

## SUMP Timetable

- project committee
- online participation
- citizens' forum
- public interest groups
- borough councils
- parliamentary committee, senate, city parliament

### 2012

■	12 January: Parliamentary committee for Construction, Transport, Urban Development and Energy (city level) Resolution to begin the Sustainable Urban Mobility Plan
■	12 April: Parliamentary committee for Construction, Transport, Urban Planning and Energy (city level) Resolution for the participation process
■	17 April: Project committee (1 <sup>st</sup> meeting)
■	3 May: Kick-off event in the Bremen city parliament
■	8 May: Project committee (2 <sup>nd</sup> meeting)
■	31 May: Project committee (3 <sup>rd</sup> meeting)
■	7 June: First citizens' forum for phase 1 (goals)
■	19 June: Project committee (4 <sup>th</sup> meeting)
■	21 June: Start of public interest groups participation for phase 1 (goals)
■	6 July: End of public interest groups participation for phase 1 (goals)
■	12 July: Second citizens' forum for phase 1 (goals)
■	24 July: Project committee (5 <sup>th</sup> meeting)
■	26 September: Project committee (6 <sup>th</sup> meeting)
■	11 October: Parliamentary committee for Construction, Transport, Urban Development and Energy (city level) Resolution: Goals of the sustainable urban mobility plan
■	13 November: Project committee (7 <sup>th</sup> meeting)
■	19 November: Start of online participation on <a href="http://www.bremen-bewegen.de">www.bremen-bewegen.de</a> for phase 2 (opportunities and shortcomings)
■	18 December: Project committee (8 <sup>th</sup> meeting)

### 2013

■	10 January: Citizens' forum for phase 2, Bremen North (opportunities and shortcomings)
■	15 January: Citizens' forum for phase 2, Bremen Middle (opportunities and shortcomings)
■	17 January: Citizens' forum for phase 2, Bremen Northeast (opportunities and shortcomings)
■	22 January: Citizens' forum for phase 2, Bremen West (opportunities and shortcomings)
■	24 January: Citizens' forum for phase 2, Bremen Left-of-the-Weser (opportunities and shortcomings)
■	31 January: End of online participation on <a href="http://www.bremen-bewegen.de">www.bremen-bewegen.de</a> for phase 2 (opportunities and shortcomings)
■	31 January: Borough councils Bremen North on phase 2 (opportunities and shortcomings)
■	5 February: Project committee (9 <sup>th</sup> meeting)
■	13 February: Borough councils Bremen Left-of-the-Weser on phase 2 (opportunities and shortcomings)
■	20 February: Borough councils Bremen West on phase 2 (opportunities and shortcomings)
■	25 February: Borough councils Bremen Northeast on phase 2 (opportunities and shortcomings)
■	27 February: Borough councils Bremen Middle on phase 2 (opportunities and shortcomings)

	1 March: Start of public interest groups participation for phase 2 (opportunities and shortcomings)
	12 April: End of public interest groups participation for phase 2 (opportunities and shortcomings)
	19 April: Project committee (10 <sup>th</sup> meeting)
	14 May: Project committee (11 <sup>th</sup> meeting)
	21 June: Project committee (12 <sup>th</sup> meeting)
	15 August: Project committee (13 <sup>th</sup> meeting)
	22 August: Parliamentary committee for Construction, Transport, Urban Development and Energy (city level) Results of the opportunity and shortcoming analysis
	23 August: Start of online participation on <a href="http://www.bremen-bewegen">www.bremen-bewegen</a> for phase 3 (future scenarios)
	27 August: Citizens' forum for phase 3, Bremen Left-of-the-Weser (future scenarios)
	28 August: Citizens' forum for phase 3, Bremen North (future scenarios)
	3 September: Citizens' forum for phase 3, Bremen Northeast (future scenarios)
	4 September: Citizens' forum for phase 3, Bremen Middle (future scenarios)
	5 September: Citizens' forum for phase 3, Bremen West (future scenarios)
	9 September: Start of public interest groups participation for phase 3 (future scenarios)
	11 September: Borough councils Bremen Left-of-the-Weser on phase 3 (future scenarios)
	18 September: Borough councils Bremen Northeast on phase 3 (future scenarios)
	24 September: Borough councils Bremen West on phase 3 (future scenarios)
	25 September: Borough councils Bremen Middle on phase 3 (future scenarios)
	26 September: Borough councils Bremen North on phase 3 (future scenarios)
	18 October: End of online participation on <a href="http://www.bremen-bewegen.de">www.bremen-bewegen.de</a> for phase 3 (future scenarios)
	24 October: Project committee (14 <sup>th</sup> meeting)
	25 October: End of public interest groups participation for phase 3 (future scenarios)
	5 November: Project committee (15 <sup>th</sup> meeting)
	28 November: Parliamentary committee for Construction, Transport, Urban Development and Energy (city level) Results of the measures and scenarios phase
	5 December: Project committee (16 <sup>th</sup> meeting)
	20 December: Project committee (17 <sup>th</sup> meeting)

## 2014

	27 January: Project committee (18 <sup>th</sup> meeting)
	7 February: Project committee (19 <sup>th</sup> meeting)
	14 February: Project committee (20 <sup>th</sup> meeting)
	25 February: Citizens' forum for phase 4, Bremen West (target scenario)
	26 February: Citizens' forum for phase 4, Bremen Left-of-the-Weser (target scenario)
	3 March: Start of online participation on <a href="http://www.bremen-bewegen">www.bremen-bewegen</a> for phase 4 (target scenario)
	3 March: Start of public interest groups participation for phase 4 (target scenario)
	4 March: Citizens' forum for phase 4, Bremen Northeast (target scenario)
	5 March: Citizens' forum for phase 4, Bremen North (target scenario)



- 6 March: Citizens' forum for phase 4, Bremen Middle (target scenario)
- 18 March: Borough councils Bremen North on phase 4 (target scenario)
- 19 March: Borough councils Bremen Northeast on phase 4 (target scenario)
- 24 March: Borough councils Bremen Middle on phase 4 (target scenario)
- 25 March: Borough councils Bremen West on phase 4 (target scenario)
- 27 March: Borough councils Bremen Left-of-the-Weser on phase 4 (target scenario)
- 5 April: Moving Bremen on Tour in Berliner Freiheit
- 10 April: Moving Bremen on Tour in Haven Höövt
- 11 April: Moving Bremen on Tour in Hansa Carré
- 17 April: Moving Bremen on Tour in the Waterfront shopping centre
- 25 April: Moving Bremen on Tour in the Roland shopping centre
- 27 April: End of online participation on [www.bremen-bewegen](http://www.bremen-bewegen) for phase 4 (target scenario)
- 29 April: Project committee (21<sup>st</sup> meeting)
- 7/8 May: Project committee (22<sup>nd</sup> meeting)
- 23 May: Project committee (23<sup>rd</sup> meeting)
- 4 June: Project committee (24<sup>th</sup> meeting)
- 5 June: Parliamentary committee for Construction, Transport, Urban Development and Energy (city level)  
Evaluation of the scenarios and measures, establishment of the target scenario
- 11 June: Start of public interest groups participation for phase 5 (implementation plan)
- 11 June: Borough councils Bremen West on phase 5 (implementation scenario)
- 11 June: Borough councils Bremen Middle on phase 5 (implementation scenario)
- 12 June: Borough councils Bremen Left-of-the-Weser on phase 5 (implementation scenario)
- 16 June: Start of online participation on [www.bremen-bewegen](http://www.bremen-bewegen) for phase 5 (implementation plan)
- 17 June: Borough councils Bremen North on phase 5 (implementation scenario)
- 18 June: Borough councils Bremen Northeast on phase 5 (implementation scenario)
- 23 June: Citizens' forum for phase 5, Bremen North (implementation plan)
- 24 June: Citizens' forum for phase 5, Bremen West (implementation plan)
- 25 June: Citizens' forum for phase 5, Bremen Left-of-the-Weser (implementation plan)
- 1 July: Citizens' forum for phase 5, Bremen Middle (implementation plan)
- 2 July: Citizens' forum for phase 5, Bremen Northeast (implementation plan)
- 4 July: End of public interest groups participation for phase 5 (implementation plan)
- 6 July: End of online participation on [www.bremen-bewegen](http://www.bremen-bewegen) for phase 5 (implementation plan)
- 8 July: Project committee (25<sup>th</sup> meeting)
- 18 July: Project committee (26<sup>th</sup> meeting)
- 21 July: Project committee (27<sup>th</sup> meeting)
- 29 July: Parliamentary committee for Construction, Transport, Urban Development and Energy (city level)  
Sustainable urban mobility plan Bremen 2025/target scenario and implementation plan
- 2 September: Senate  
Resolution: Implementation plan of the sustainable urban mobility plan Bremen 2025
- 23 September: Bremen's city parliament  
Resolution: Sustainable urban mobility plan Bremen 2025 – implementation plan

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