

Freiburg, Germany

Cycling 2020 - a concept fit for the future

Keeping pace with one's reputation is not always easy, especially when the city in question has an already exceptional track record. In exploring its mobility options of the next decade, Freiburg's cycling network is receiving a major boost in terms of funding and quality. Priority cycling routes are set to change the way Freiburg's citizens get from A to B and make cycling a safer and more attractive means of transport for a whole new audience.

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Abstract

In 2011, Freiburg launched a new transport plan, which included a special focus on boosting the modal share of cycling in the city and which took steps to make cycling a safer and more attractive means of getting around.

As well as an extensive upgrading of the existing network, a series of priority routes will be established along strategic corridors. These will strive to implement high standards in terms of width, surface quality, servicing levels and safety features. The physical measures will be complemented by a suite of soft measures to promote and facilitate increased take up of cycling, thereby bringing Freiburg ever closer to becoming a climate-neutral city.

The importance of cycling in Freiburg

Recent years have seen a veritable rediscovery of cycling. Pioneers of urban cycling, such as Copenhagen or Amsterdam, have done much to pave the way for other cities to follow.

Cycling is an excellent means of reducing congestion in our cities and the associated emissions and noise that go with this. By providing citizens a safe, well-connected, high-quality cycle network, a city can do much to improve the attractiveness of cycling as a mode of transport.

A forward-thinking city needs to create a mobility mix that offers real choices. Cycling is a zero emission mode that is perfect especially for the many urban journeys of around 5km.

Where transport infrastructure is required, the development of cycling paths and the accompanying measures can be carried out at a much lower Euro per kilometre ratio, taking pressure off local finances.

With a predicted increase in transport growth of 8% by 2020, it is essential that Freiburg implements solid mobility offers, such as is the case with this Cycling Concept, can this growth be diverted to greener modes.



Population

Approx. 220,000 (2007)

Land area

150 km² (of which 40% forest area)

Municipal budget

€821,510,000 (2012)

Freiburg was among the founding members of ICLEI in 1990.

Case Study

Freiburg in context

Freiburg im Breisgau is a medium-sized city situated in Southwest Germany, close to the Swiss and French borders, in the Federal State of Baden-Württemberg. This well-known city in the Black Forest region has developed an identity as an “eco Capital of Germany” due to a long tradition of mainstreaming environmental policy. Since 2008 it also profiles itself as a “Green City” – seeking to reflect on issues impacting on sustainability and high quality of life.

Freiburg’s population growth rate lies at about 1% per annum. Currently approximately 220,000 inhabitants call Freiburg home, with about 30,000 of these making up the very visible student body.

The city itself is extremely compact with 90% of inhabitants living within a 5km radius. An extensive public transport network links the various neighbourhoods via four tram lines and a web of bus routes. 90% of residents have a public transport stop within 500m of their homes.

Photo: City of Freiburg



Freiburg - a city of many modes.

Freiburg is a cycling city. The compact urban structure, favourable topography and climate, as well as the high proportion of students, all lend themselves towards cultivating a vibrant cycling culture. Here, the bike is a means of commuting, as well as of leisure. It was awarded the accolade of Bike-friendly City (Fahrradfreundliche Stadt) by the Baden-Württemberg government in 2011.

Currently, 420km of cycle paths exist in the city. Of these, 140km, run alongside roads and 30km are

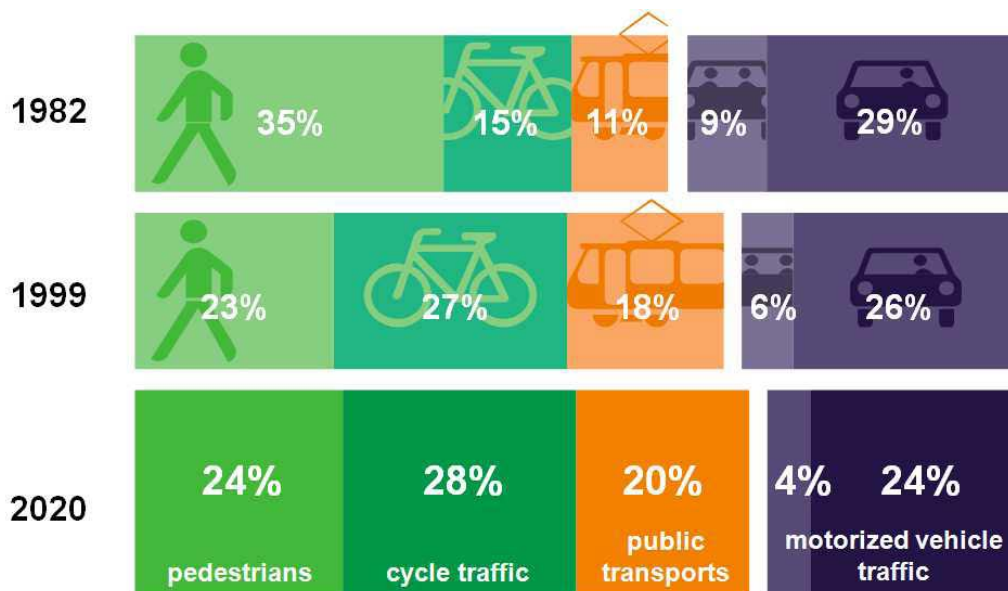
physically separate routes. 130km run through bike-friendly streets, with 120km of forest or field track in place.

Mobility policy in Freiburg

A pioneer in sustainable mobility, Freiburg’s transport policy has drawn national and international attention for the priority that it asserts to environmentally-friendly modes.

It was first in 1969 that the City of Freiburg undertook the development of an urban transport policy, which sought to ensure a good level of mobility without encroaching upon urban development, nature and the environment. The first major decision at this time was to keep the existing light rail infrastructure and develop this into a modern tram network. In 1973, the city's first pedestrian zone was established.

By 1979 the General Transport Plan for the city needed to be upgraded. Planners and politicians seized the opportunity to shift the focus away from car-centric measures and to further extend the public transport network and promote means of non-motorised transport. Freiburg was the first German city to introduce a "regio-card," a monthly non-personalised public transport ticket allowing the use of trains, trams and buses in the city and region surrounding the city.



A decade later a further revision of Freiburg’s Transport Plan took hold and these original principles were given new impetus. Since then, the city has recorded a drop in inner-city motorised traffic of 38 to 32%. In comparison, the proportion of cyclists rose from 15 to 27%, while the take-up of the public transport offer rose from 11 to 18%.

The 2011 plan seeks to bring more green into the city's modal split.

Despite increased public transport integration with the city’s hinterland, a rising population and an increase in the number of trips made per citizen, the city has succeeded in holding the proportion of motorised traffic at low and decreasing levels. Tactics, such as concentrating traffic on arterial roads, the introduction of parking restrictions and 30kmh speed limits in all residential areas have in part served to encourage drivers to leave cars at home where possible, or to not even acquire one in the first place. With 337 private vehicles per 1,000 inhabitants, Freiburg has a lower automobile density than most similar sized cities and, indeed, significantly less than the state average for Baden-Württemberg.

Looking at cycling, the first bike plan was made in the 1970s. Back then there was only 30km of bike paths in place. Today’s network of over 420km of well-connected routes is a testament to the consistency with which cycling has been viewed by the city as a bona fide mode of transport. The establishment of 30km zones in residential areas has further underlined these efforts, creating a pleasant environment for Freiburg’s cyclists.

Complementing the paths are approx. 400 signs indicating to cyclists the best options for reaching their destination and over 9,000 bike parking spaces across the municipality.

For 40 years the City of Freiburg has continually followed an environmentally-oriented mobility policy, which transcends political party borders.

The 2011 Cycle Plan receives additional support from the newly-elected Green-Social Democrat state government and the cycling funding programme that this has put in place.

Pedal to the metal: Freiburg's Cycling Concept 2020

With much already done, Freiburg is not resting on its laurels however. The Cycling Concept 2020 is a testament to the city's vision and ambitions to offer real alternatives to its citizens and solidify its reputation as a sustainable mobility champion.

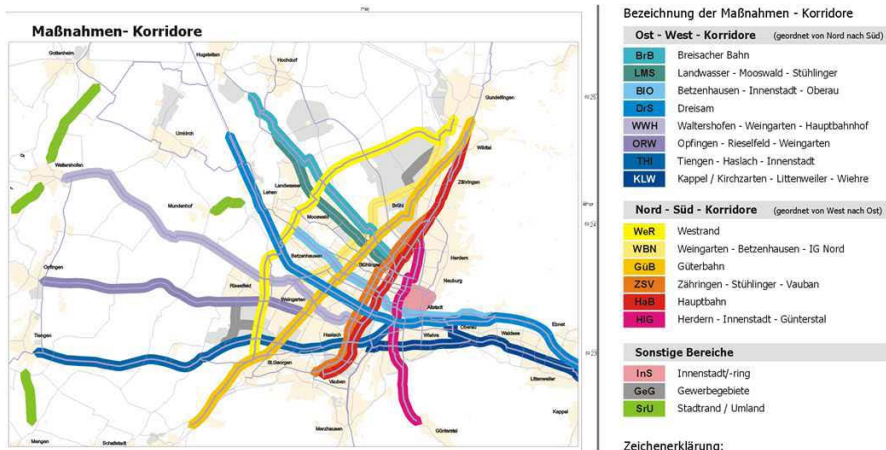
Concretely, the Cycling Concept 2020 seeks to increase the modal split of cycling within Freiburg to well over 30% by 2020. Should this be achieved, Freiburg's position among the best cycling cities of Germany would be assured. In line with this, a recently-commissioned study indicates that if the target for motorised transport sinks as projected by 12% by 2020, Freiburg could become a climate-neutral municipality by 2050.

But the environment will not be the only beneficiary. Through the provision of better bike paths and signage, cycling in Freiburg would be made safer. The city hopes to reduce the number of accidents recorded annually by half.

The provision of better surfaces, regular winter services and number of covered parking places should also serve to make cycling in harsh weather more attractive. This in turn would relieve the pressure on public transport at such times, making this more efficient.

Nature protection is another aim embedded in the Concept. The planners seek to relieve pressure on the natural environment by improving existing bike paths and constructing new sections in a manner that poses as little conflict as possible with soil, habitats and ecosystem services.

Plan in action: Better and safer cycling in Freiburg



The Cycling Concept 2020 allows Freiburg's planners and politicians to approach the issue of increasing cycling opportunities in the city in a systematic manner, allowing for a realistic snapshot of the issue and the steps that can be taken to achieve their aims of better and safer cycling in the city.

The first step was to divide potential cycle routes into three categories, namely secondary, primary and priority routes. This categorisation should allow

The existing cycle network is to be significantly upgraded and expanded.

prioritisation and goal-oriented planning and implementation of the necessary measures.

The ranking of the categories reflects the significance of each path in its local context. Instead of following rigid, uniform criteria, the routes are ranked in terms of location, network density, destinations along the route, and current condition and potential.

In the discussions about the routes and ensuing categorisation, the Garten- und Tiefbauamt, the department responsible for green spaces and building, also took into account the connection of the cycling network to important destinations with corresponding high-levels of traffic, e.g. the university, hospitals, large employers,

retail centres. The connection of the cycle network with villages and small towns bordering the city was also an important factor in the categorisation of the routes.

Where possible separate cycle paths are the preferred format. Not only do these deliver a very pleasant and positive experience of cycling, demographic developments within the city reinforce the demand for such routes. Older, but still active, persons, families with children, more sporty cyclists and the ever increasing number of semi-motorised electric bikes create a demand for wider, straighter routes that do not compete with motorised traffic.

While it is not possible to deploy this format across the entire city, the Cycling Concept 2020 looked at these developments and proposes some measures to address them.



Photo: City of Freiburg

Whether for leisure or commuting, separate paths are a favourite amongst cyclists .

Priority routes for efficient cycling

The **priority routes** mark a quality gain for Freiburg’s cycle network. Constructed to high-level specifications, such routes allow cyclists to travel undisturbed and rapidly along barrier-free paths.

Although the planned route will represent a more rapid and fluid cycling experience in Freiburg, the term “cycle highway,” which often crops up in the Danish and Dutch contexts, has been deliberately excluded from discussions. There are a number of reasons for this.

Firstly due to the urban constraints of the city, the standard characteristics of such routes, e.g. minimum width of 4m, cannot be implemented. Secondly, the association of the term cycle highway with “speed” was not felt to truly express the nature of the routes. Instead, “priority route” was chosen to emphasise the fact that the route is given priority over traffic and therefore has an advantage over other modes.

On these routes, there is a definite emphasis on separate paths in order to reduce waiting times. This is achieved either by making the paths junction-free or by giving bike traffic priority where there is no other option but to cross a street.

Priority routes are wide. Where the space is used just by bikes, it is wider than 3m, where use is shared between bikes and pedestrians, the width is approximately 4.5m. In all cases there is a good asphalt surface with few sharp bends or abrupt inclines. Where possible, these will be well lit also for good visibility.

Where the priority routes interact with main roads, the width is maintained where possible at equal to or greater than 2m. Priority for cyclists will be achieved by implementing a “green wave” in the traffic light sequencing, which will be configured to suit average cycling speeds. This must be done in a way that is attuned to and deliberated against existing measures to reduce emissions and noise. It must also not impact on public transport efficiency.



Photo: City of Freiburg

A new access ramp maturing into the streetscape.

Stakeholders are given the chance to have their say in the city's cycling plans through a number of steering and working groups.

As well as politicians and municipal staff, participants include representatives of the police, cycling associations, the local public transport operator, parent associations and environmental groups.

Along secondary streets, cyclists will have priority and road surfaces will be addressed to make cycling as pleasant as possible. It is still being explored whether these streets will be able to cope with their linking function within the projected routing.

Three priority routes are currently being developed for piloting.

Complementing the priority routes are main routes and secondary routes. **Main routes** also have a high capacity and allow cyclists to travel at a relatively comfortable speed. On sections with separate cycling path, these are approximately 2.5m in width. Should cyclists and pedestrians need to share space, the paths will be equal to or greater than 3.5m wide. Once paths intersect with other roads, this will be scaled down as appropriate. Surfaces will be of a high quality and the vast majority will be straight.

Secondary routes are simpler, more basic routes, however these play a large role in closing the circle of the new system. Surface quality will still be quite good. Where it is possible to have bike paths, widths will fluctuate between 2m on separate paths to 1.6m where space must be shared. On smaller streets bikes will mix with the rest of the traffic.

More than just cycle paths - looking at a bigger picture

Complementary to the achievement of the aims of the Cycle Concept 2020 and all the proposed routes are good **bike parking** options at journey source, destination and intermediate halts, e.g. bus or tram stops. Good parking is sufficient in quantity, easy to use and easily accessible. By protecting bikes from inclement weather and theft, the inhibition threshold will be kept low and cyclists will be encouraged to purchase better and safer bikes.

Opening one-way streets to bike traffic closes gaps in the cycle network and reduces unsafe behaviour, such as cycling on pavements. With speeds kept low, streets sufficiently wide and good visibility in place as standard, cyclists and drivers tend to take more notice of each other and conduct themselves more safely.

An **integrated approach** in terms of addressing cycling policy within the city administration will be needed to ensure that all departments with a mandate including an aspect of cycling will need to cooperate more closely to avoid redundancy.

For a number of years now the Garten- und Tiefbauamt has had a **cycling representative**. The responsibilities of the position are split between planning and maintenance of cycling infrastructure. The cycling representatives develop concepts and measures for the further development of cycling in the city. They also manage the proportion of the budget reserved for cycling and develop the physical infrastructure. Importantly, they serve as a point of contact for the public when queries relating to cycling or pedestrian issues arise.

Engaging **public relations and marketing** activities to accompany the hard measures are needed to stimulate people to get on their bikes and follow the rules. Recent campaigns have encouraged citizens to use bikes instead of their car within the city for short journeys (www.kopf-an.de) and to be more considerate in their actions on the road (www.freiburg-nimmt-ruecksicht.de).



Freiburg's city centre offers 5,000 parking spaces.

A functional marketing tool is the bike counter recently erected along a busy cycle route. It shows the number of cyclists and the amount of CO₂ saved as a result of their trips. Good **data collection** is also central to efficient policy development.

Regular maintenance is extremely important to ensure cycle paths of all categories are utilised and safe. This is a labour-intensive task involving the constant removal of roots, and path resurfacing. Paths should also be kept clear and free of dangerous objects. For that reason the city's sanitation department has set up a **shard-hotline** for citizens to report broken glass on cycle routes.

A good **winter service** helps to make sure that cycle infrastructure is used more consistently and is not quite so weather dependent. The priority routes outlined above will have a high level of servicing during bad weather.

Signage is currently quite extensive; however, this needs to be constantly kept in check to ensure stock remains in a good state and to keep up with an ever expanding network.

As well as the physical and operational measures put in place, it is also important to preserve and regularly update knowledge about existing cycle infrastructure. In order to be awarded the distinction Bike-friendly city again by the State of Baden-Württemberg this will have to be explored and a **digital cycling register** implemented.

Expanding the horizon of Freiburg's cycling policy

Looking to the future, the City of Freiburg will explore what possibilities exist to cater for **increasing numbers of electric bikes** and other motorised two-wheelers. Public bikes can be a positive feature for tourism development in Freiburg, as well as increase the profile of ecomobile transport options within a city.

The further integration of cycling in a **multi-modal concept** is also on the agenda. Bike & Ride will continue to be supported through the provision of parking furniture at new tram and bus stops, as well as car sharing locations.

Gains in the **built infrastructure** will be preserved and regularly updated to ensure that Freiburg's cycle path network remains of a high quality and continues to put safety first.

Budget and Finances

Naturally, the realisation of the aims and implementation of the measures outlined in the Freiburg Cycling Concept 2020 will require the investment of significant funds. Public money must be spent carefully, ensuring value for money for the taxpayer.

With the implementation of measures to promote cycling realised at roughly a tenth of the cost for similar measures for cars, the city administration can safely assume good value for money in terms of the activities documented in this case.



Photo: City of Freiburg

Extensive signage accompanies the over 420km of cycle tracks.



Photo: City of Freiburg

Even more Bike & Ride options are to be built in the coming years.

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The government of Baden-Württemberg has announced that one of the goals for its tenure is a doubling of the current modal split for cycling across the state. To achieve this, it has made special funds available to cities, who can apply for up to 50% of the cost of the implementation.

Currently Freiburg has a budget of €3.5 million for 2013/2014 to develop and implement the first steps of the Cycling Concept and the capacity of approximately three members of staff to develop the plans and oversee the implementation of the pilot routes.

Sources

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Freiburg 
I M B R E I S G A U



Landesauszeichnung Baden-Württemberg
Fahrradfreundliche Kommune

ICLEI – Local Governments for Sustainability is an international association of local governments committed to sustainable development. ICLEI's mission is to build and serve a worldwide movement of local governments to achieve tangible improvements in global sustainability with special focus on environmental conditions through cumulative local actions.

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