2050 Climate-friendly mobility in cities

NEWSLETTER 2 – January 2021

2050 CliMobCity
Interreg Europe

European Union
European Regional Development Fund

Welcome to Newsletter 2 of the 2050 CliMobCity project,

We are happy to present you a description of major results of three semesters of progressing work. COVID 19 has changed the ways to work (see end of the Newsletter), but this for most partners did not lead to work delays. We invite you to take a look at the results and also to read the summaries of seminar presentations.

The project team

Ekki Kreutzberger, project coordinator

Attendees in the last project meeting (20 and 21 January 2021)

On the 2050 CliMobCity goals

2050 CliMobCity is about climate mitigation in the field of urban mobility, hence about reducing CO_2 and other greenhouse gases (GHG) emitted by cars, trucks, other vehicles and pedestrians in the city. Many cities have ambitious climate goals: they are aiming for a substantial reduction of GHG emissions. Examples are achieving climate-neutrality in 2050 or even 2030. For mobility such goal would mean that the CO_2 emitted by mobility is (net) zero by then.

Many of the same cities, however, are uncertain about which measure (package)s need to become implemented to achieve their goals or whether the measures proposed in existing strategic plans are sufficient for this sake. This tension between ambitious goals and uncertain policies is the starting point of our project. It explores measure (package)s to sufficiently reduce the CO_2 emission of urban mobility, and to prepare the reduction by means of strategic municipal decision-making, as in strategic mobility, spatial and other plans and programmes. One factor of sustainable mobility is urbanism, say the structure and use of the built environment. The measure packages envisaged by the project include measures to improve the urbanism, to make it more supportive towards climate-friendly mobility. All measures should not only reduce CO_2 emissions, but also be space efficient, as space-saving urban configurations support low carbon mobility.

Given this background the project focusses on three 'learning issues':

1) Identification of measure packages to sufficiently reduce CO_2 of mobility in a space-saving way, given local or regional climate aims, and the implementation of such packages in strategic municipal policy documents,
2) Electric mobility and large scale charging of electric road vehicles, and
3) Information and communication systems supporting modal shift or shorter distances enhancing carbon-friendly mobility.

The measures in (2) and (3) are part of the measure packages in (1). All partner cities, Bydgoszcz, Leipzig, Plymouth, Thessaloniki and Almeria, have in the past manifested themselves and experienced policy-making in (one or more of) the three fields and can therefore contribute to the learning process, while also learning themselves.

Approach

In the first four semesters of the project, the focus was and is on learning issue 1, the identification of measure packages to sufficiently reduce CO_2 of mobility while also being space-saving. From these measure packages, mobility changes will result and – derived – a reduction of CO_2 emissions. One of the following approaches is applied:

a) the partner cities each define one or more measure packages, predict the change of mobility due to these measures and hand over these mobility effects to the Potsdam Institute for Climate Impact Research (PIK), another partner in the project. PIK analyses the resulting CO_2 reduction, or
b) the partner cities each define one or more measure packages, make assumptions (e.g. based on expert consultation) concerning the change of mobility due to the measures, and hand these estimations to PIK which analyses the CO_2 reduction. After that, the assumptions need to be validated.

The prediction of mobility changes in (a) or validation of assumptions concerning the change of mobility concern in (b) require the use of a transport model; also or instead a set of spreadsheet and hand-calculations may be the means to predict mobility changes.

The purpose of these steps is to demonstrate the consequences of policy decisions. The potential findings concern knowledge about effective and efficient climate-friendly measure packages, or the discovery of still missing knowledge and steps needed to cover the knowledge gap. The findings may also refer to the way to incorporate the knowledge in policy-making like incorporating climate-friendly measures in strategic municipal plans (mobility, spatial, other).

The findings will be the starting point for the **action plan** to be developed by each partner city in a later stage of the project. The action plan describes further actions of each partner city to support the long-term development towards climate-friendly mobility. One such step may be the decision to incorporate climate-friendly measure packages in relevant strategic municipal plans and programmes.

Measure packages orientation

Measure packages are concretisations of transport/mobility visions that are planned and can later be implemented to achieve performance aims. The visions in this project address low-carbon and space-saving urban mobility. The question is which types of measures should be included in the package. For instance, should a certain CO_2 reduction be achieved rather by a powerful modal shift to low-carbon modes or by fast technical innovation? Moreover, if the policy aim focusses on modal shift, should that be towards more bicycling, towards public transport (PT) or otherwise? And if the focus is on technical innovation, should this be by primarily facilitating the electrification of road transport, by increasing the smartness of transport and mobility, or otherwise?
Another important issue is if, when evaluating the effects of measure packages, second-order effects are taken into account? For instance, will *new* passengers be attracted or longer journeys be made if PT lines are added, service frequency is increased, the operational speed of busses, trams is increased, more comfort is provided? Moreover, which of these measures contributes most to space-saving land use?
It is not to be expected that one single, individual measure will reduce CO_2 sufficiently to the level of any of the existing municipal climate aims, so measure packages consisting of multiple measures will be necessary.

Cities function in different settings and have different traditions in strategic mobility and urban policies and relevant types of measures on achieving CO_2 reductions in mobility. As an example, also cities within the project have **different approaches**. Some exploring the CO_2 reduction of **strategic policies** currently being developed, others defining **explorative strategic measure packages**. More precisely:

Leipzig has decided to build on the Sustainability scenario of its Mobility Strategy 2030. This should provide a decline of car share of almost 10%-points (share from 39% to 30% in 2030) and correspondingly reduce the mobility CO_2 emissions. The city wants to become climate-neutral in 2050.[1]

In total, more than 200 individual measures have been defined, which include:

- creating at least 10 mobility stations per year (in addition to the 30 already in place) where you can pick up shared bikes and cars, find public transport and charge e-cars
- providing a shared services app called "Leipzig Move" ('city app' – which is already in use);
- increasing quality of public spaces (to stimulate walking and biking);
- further improving the tramway network (expansion of the network with new and extended lines, newer trams with more capacity);
- increasing and improving multimodal services in new business models like ride sharing (Clever shuttle);
- economic incentive measures to stimulate the use of electric vehicles and the development of a network of charging stations;
- the introduction of 'environmental zones', and measures to regulate the amount of parking spaces per apartment or to charge parking spaces.

The plans also include measures targeting freight transport:

- implementing urban hubs (to be able to use larger trucks or – on the other side – cargo bikes); these are plans for central hubs (inner cities), hubs in neighbourhoods as well as large hubs at the city borders;
- ideas to use the tram for freight transport will probably not be further developed, because tram capacity is already limited.

Contact officers: Jan Becker and Gregor Helmecke.

Different measures: a mobility station with sharing-bikes next to the central terminal.In the background some charging e-cars, as also proposed in the Mobility Strategy 2030. *Source: Municipality Leipzig.*

[1] Until recently the aim was 2,5t CO_2/inhabitant in 2050.

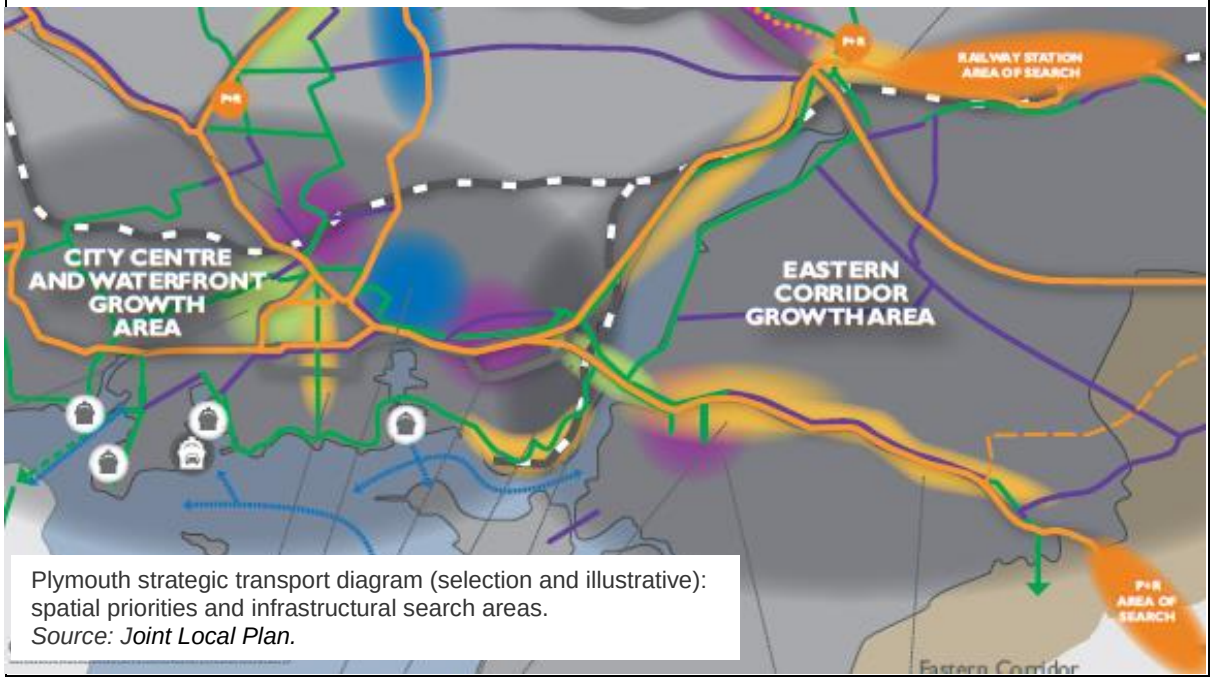
Plymouth is in favour of a three-level measure package. The basic level is the measure package of the Joint Local Plan (JLP). The medium level includes additional measures and policies that could be used based on best practice from across England. The highest level additionally includes measure types, which have not been applied elsewhere in the UK yet. The time horizon of the basic level is 2034, like that of the JLP. The time levels of the other levels are not defined. They could refer to 2034 or a later year. Concerning climate aims, the UK has national legislation to achieve a 100% reduction of net CO_2 emissions by 2050, whilst Plymouth has the aim of becoming carbon neutral by 2030.

The JLP is organised around "principles" and "policies", and proposes numerous very concrete measures. Some of the policies are quite concrete and locally focused, others are generic and wide ranging.

Examples include:

- Concrete parking standards for housing or "all uses" (specified as "… 1 space per 8 employees");
- Electric vehicle charging points ("100 electric vehicle charging points before April 2020").

Contact officers: John Green and Daniel Forster.



Plymouth strategic transport diagram (selection and illustrative): spatial priorities and infrastructural search areas.
Source: Joint Local Plan.

Thessaloniki has proposed two measure packages, one focussing on modal shift, the other on innovation, both looking towards and beyond 2030. These explorations are to support the city in elaborating its SUMP that is currently being revised. The climate aim of the city is, corresponding with national aims, 42% CO_2 reduction in 2030.

Thessaloniki in general wants to implement the following measures:

- Make car use less attractive and alternatives more attractive to support a change of travel modes choices;
- Give priority to the combined development of urban public transport and bicycle in order to provide credible alternatives extensive car use: infrastructure, public transport services, bike sharing and awareness raising;
- Increase the size of environmental zones with limited or no access to cars;
- Develop integrated parking systems (parking control systems, reduction of on street parking, remoted park ride stations etc.) to achieve energy saving and CO_2 emissions reduction;
- Increase efficiency by smart mobility (ICT systems Traffic safety improvement);

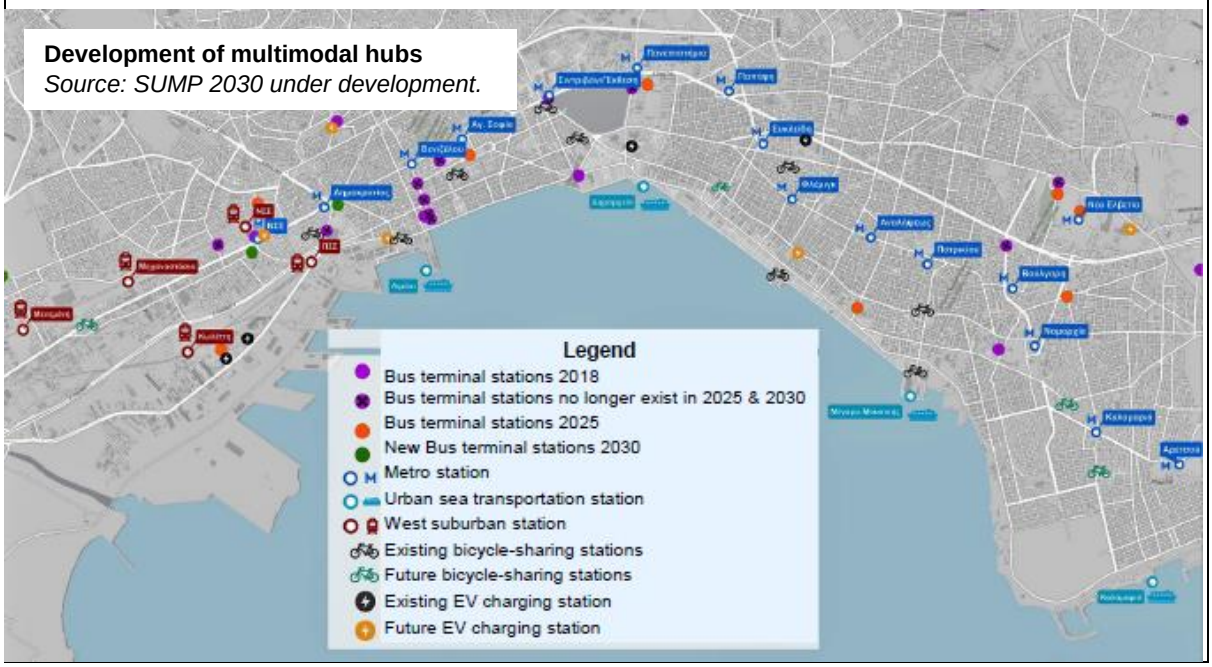
The content of the two CO_2 reducing measure packages is:

- Measure package 1 (modal shift): make PT, bicycling and walking more attractive and more efficient in comparison to road transport: improve network connectivity, introduce new modes of transport, new infrastructures, improve service frequency, expansion of existing networks), change (by Awareness Raising Events) behaviour of citizens regarding modal shift away from private car or towards increase occupancy rates of private car;
- Measure package 2 (innovation): electrification of private cars, scooters, and bicycles, increasing mobility efficiency by smartness in biking/bike share system, public transport, parking, and measures in the field of urban distribution such as electrifying vans and introducing smart urban logistics (e.g. synchro-modality).

The difference between the two packages is gradual. For instance, there is also, but less development towards electric cars in the modal shift package, while there is also, but less public transport development in the innovation package.

Contact officer: Maria Mirtsopoulou.

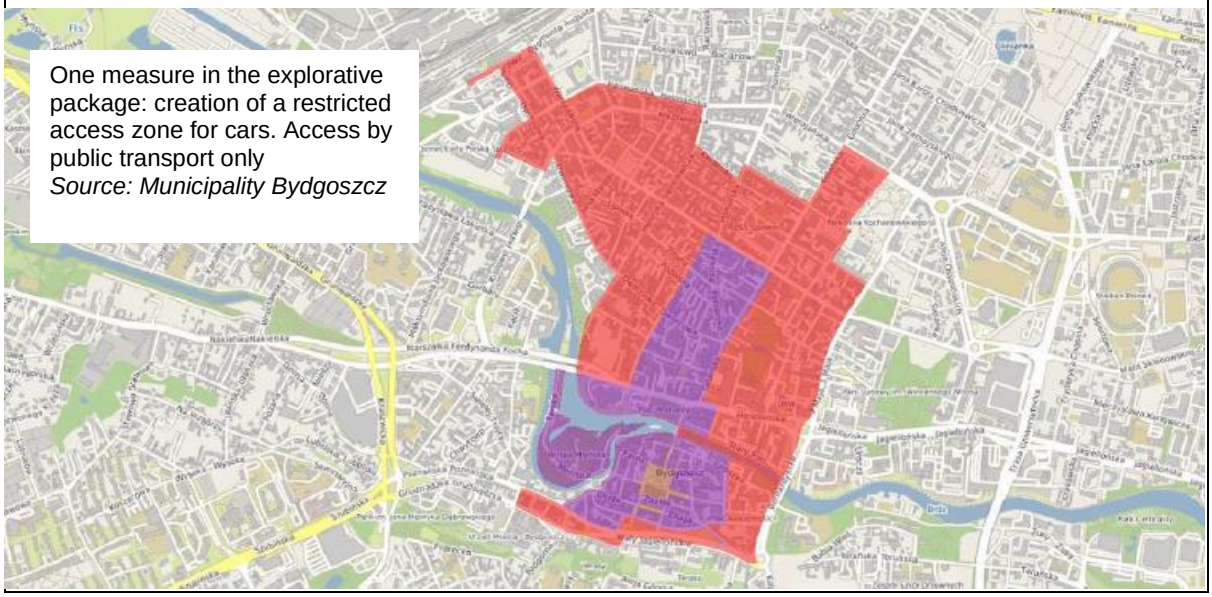
Development of multimodal hubs
Source: SUMP 2030 under development.



Bydgoszcz has developed an explorative measure package for the project. It serves to improve orientation for strategic policies, meaning that it will help to discover whether currently envisaged measure packages sufficiently respond to the CO_2 reduction aims. Bydgoszcz wants to reduce its CO_2 emissions by 30% until 2030. The measures are:

- Introduction of new free bus lanes;
- Extension of existing tram lines;
- Additional tram lines;
- Tram-train transfer nodes;
- P+R facilities for cars and bikes related to the public transport transfer nodes;
- Full electric public transport;
- Smart, flexible parking spaces;
- Spatial redevelopment (f.i. building office buildings near stations);
- Sustainability zones, parking restrictions in locations with good accessibility with public transport, stimulating the use of cleaner cars.

Contact officers: Marcin Napierała and Katarzyna Szczublewska.



One measure in the explorative package: creation of a restricted access zone for cars. Access by public transport only
Source: Municipality Bydgoszcz

Almeria was not able to present a measure package yet, as all activities except for COVID19 mitigation have been shut down, confirming with national and local rules.

Reflecting on these measure packages, two things stand out.

Firstly, most measure packages focus on a period no longer than 2035, a relative short period in the total climate mitigation period. In some cities this horizon corresponds with the most ambitious climate goals, as in Plymouth which aims for climate-neutrality in 2030. But in the other cities the mitigation period is planned to last longer. Whether the content of the chosen measure packages would have needed to be more far-reaching or even slightly radical, will become visible, when the first results of the CO_2 analysis are available.

Secondly, some cities underline the gap between theoretically sound measures and practically achievable measures. Examples are the limited funding levels for cities in the UK or the relative low welfare in Poland. These conditions tend to hamper the (sufficiently fast) implementation of

respectively high-investment-level measures or of the large-scale electrification of road transport. The project will come back to the conditions of climate mitigation in a later stage.

CO_2 emission calculation

Presented by Fabian Reitemeyer MSc and Dr. Luis Costa

The Potsdam Institute for Climate Impact Research (PIK) is one of the two advisory partners in the project. It is currently adapting and tuning the EU calculator model for application in the 2050 CliMobCity project, to calculate CO_2 emissions on basis of mobility data, these generated by transport models and means.

The European Calculator (or EU-Calc)[2] tool is developed in the framework the EU Horizon 2020 project 'European Calculator: trade-offs and pathways towards sustainable and low-carbon European Societies'[3]. That project has a broad scope including multiple domains or sectors, a large geographical area and evaluates a multitude of effects. The tool can estimate the effect of a diverse array of sustainability policies that are translated via 'levers' or controls for the tool.

The model that will be used to calculate CO_2 emissions from transport (forecast) data is essentially an adapted version of one of 50 modules of the original model, which focused on transport on the country and European scale. The adaptation tunes the module for application specifically for cities. In this specific application, mobility data for base year and future year(s) form the input for the model; these include modal shares, for each mode the average journey time, the average driving speed per mode, the population (and mobile population share), technology share, fuel mix, occupancy and emission factors.

The model (re-) calculates needed input data via conversion formulas, such as $Pkm_{mode} = Time_{mode} \times Speed_{mode} \times Population$. Subsequently, energy use is related to the Pkm_{mode} and that in turn to CO_2 emissions, both taking into account fuel mix, vehicle types (hybrids), emission factors etc. (and the development thereof in time).

The model is capable to analyse the effects of development paths, and thereby also emissions for intermediate years and cumulative emissions over time.

Stakeholder involvement

Stakeholder involvement in designing measures and measure packages can be very helpful to raise support in the communities, tune measure packages, make them easier to implement, and make them more effective. Stakeholder involvement is therefore regarded as an important instrument in Interreg Europe projects.
Cities and regions have different policy and governance cultures, and therefore have different approaches in stakeholder involvement: some cities have already established stakeholder groups, others use specific events or activities. Although COVID-related restrictions seriously hampered work of some cities in general, and especially concerning stakeholder involvement, still promising examples can be shown.

Leipzig had a stakeholder meeting with the already established 'Runder Tisch Verkehr' (Round Table on Traffic), which is organised with municipal political parties, (public) transport companies, the

[2] http://tool.european-calculator.eu/intro

[3] https://www.pik-potsdam.de/en/institute/departments/climate-resilience/news-events-rd2/1st-assembly-european-h2020-project-eu-calculator-12-14-december-2016

police department, NGO/interest groups (incl. automobile association, companies, environmental groups), citizen initiatives/groups and various city departments (environmental protection, city planning, transport & construction department, and units regarding the interests of disabled and elderly people.

Plymouth presented the 2050 CliMobCity project to the Transport Strategy Working Group (TSWG) made up of transport officers from Plymouth City Council, neighbouring local authorities and other key transport stakeholders, which meets quarterly. TSWG members will be consulted again to offer input as the future measures packages are developed and finalised.

Seminars

During the seminar of each project meeting, experts and practitioners share visions, ideas, knowledge and practical examples for measures and measure packages to achieve CO_2 reduction in mobility. Thematically the seminars correspond with the work being conducted by the partners in that period. Below you will find summaries of a selection of seminar presentations. Other seminar presentations will for thematical reasons be described in the following newsletter.

Main types of measures and their interaction

by Ekki Kreutzberger
Senior researcher (PhD)
Department of Transport and Planning, Delft University of Technology

The CO_2 emissions of mobility can be reduced by four main types of measures and many other types supporting these four: 1) **Avoid** measures: reduce the demand of mobility, at all or in the traffic peaks. 2) **Shift** measures: travel differently than by private car with only 1-2 persons in the vehicle, preferably by walking, bicycling, using public transport, or combining modes, or at least by increasing the occupation of vehicles. 3) **Innovation** measures. They focus on three fields: Firstly, improving the efficiency of transport and the convenience of sustainable mobility. Secondly, the electrification of (mainly) road vehicles, and thirdly, the introduction of autonomous (robotised) vehicles and market penetration of vehicle sharing. 4) **City** measures. The direction of city development has an impact on the distance of trips and the modes chosen to travel. A rule if fist is that urban infill and densification (compact city) generate shorter distances than urban expansions to the fringes of a city, than (further) development of an urban satellite on distance. In addition, the spatial mix of functions often shorten travel distances compared to spatial segregation of functions. Densification near to PT stops and around PT stations will let more people choose PT than the car.

When choosing measures in strategic plans, their long-term interaction deserves consideration. If all cars go electric, other modes are hardly needed anymore for CO_2 reduction. However, this solution is not space saving, will undermine the accessibility of the compact city (surely when considering the road growth rates), and this is a climate-unfriendly development. Conversely, when all travellers walk, cycle or use PT, the electrification of cars becomes superfluous. However, not all distances are suitable for active travel, and the financing requirement of only PT would be a challenge. In the age of electric road transport, other modes remain extremely important, now mainly to keep the compact city accessible. When autonomous driving emerges, the interaction between measure types will change again. Cars can be parked on distance. In combination with declining own car ownership, total parking demand may decrease, beneficial for keeping cities compact, therefore for sustainable mobility, and also for the liveability in cities.

The four main measure types can be abbreviated to ASI+City. Examples of measure types supporting these are **PORC** measures (Pricing, Organisation, Regulation and Communication measures). Another important distinction is the level of decision-making of measures with an impact on the local level: decided locally/regionally or (inter)nationally.

Structured approach to arrive at mobility action plans

by Arjan van Binsbergen
Associate Professor at Department Transport and Planning, Delft University of Technology

Coherent and consistent measure packages could help to achieve CO_2 reduction targets. These structured approaches successively aim to limit the need for physical movements, to reduce transport distances, to increase transport efficiency (in terms of CO_2 emissions per traveller or tonne-kilometre), to reduce emissions from motorized transport and – as a last resort – to capture or compensate for remaining CO_2 emissions.
Such approaches come in different variants, such as the presented '10 principles for sustainable urban transport' (derived from 'Our Cities Ourselves'; Hook, 2011). Identified steps in this approach are aimed on transport itself ('walk the walk', 'powered by people', 'get on public transport', 'cruise control' and 'deliver the goods') or on the spatial environment ('mix it up', 'fit it in', 'connect the blocks'). The additional principles 'get real' and 'make it last' refer to the need for fine-tuning the approach to local circumstances and taking a broader view on sustainability when implementing the plans respectively.
In implementing the measures, 'pull', 'push' or even 'press' measures can be taken, in a well-balanced and self-reinforcing way. 'Pull' measures invite, attract or reward people to exhibit a sustainable mobility behaviour. 'Push' measures persuade sustainable mobility behaviour by restricting undesired mobility options or make such options less attractive. And in addition to that he proposes to also look into 'press' measures which are even stricter, by prohibiting the use of non-desired transport options by physical or regulatory measures.
A balanced implementation of pull, push and press measures can result in very effective policies, but pitfalls include undesired effects such as modal shift from walking to public transport use, undesired distribution effects (some people are far more affected or benefitted than others), or even an overall decline in the quality of accessibility.
A structured approach should therefore help to come up with coherent and integrated measure packages with mutually reinforcing measures so to spend funds effectively, to invite, stimulate and if necessary enforce behavioural changes and to prevent undesired effects.

Expected Impacts of new mobility concepts

by Maaike Snelder
Assistant Professor Transport Networks, Department of Transport and Planning,
Delft University of Technology
and
Principal Scientist at TNO, the Netherlands Organisation for Applied Scientific Research

New mobility concepts, such as automated vehicles, automated (shared) taxis, automated shared vans and new parking concepts, can have strong impacts on future mobility and the impacts thereof.

For assessing the impacts of new mobility concepts, explorative iterative models can be useful. For example the New Mobility Modeller uses an elasticity model for destination choice, a multinomial logit model for mode choice and a network fundamental diagram to assess traffic impacts. The iterative approach ensures that the impact of congestion on mode choice has been considered. The short computation time of the model enables exploration of large numbers of scenarios, sensitivity analyses and assessments of the impacts of interventions. The model was applied in a case study of the Dutch Province of North-Holland, in which the potential impacts of automated and shared vehicles and mitigating interventions were explored. In this case study, four extreme scenarios were explored, in which 100% of the vehicles have SAE-level 3/4 or 5 and people have a low or high willingness to share. The extremes were chosen to get insights into maximum effects.
The results show that if automated vehicles and vehicle sharing are accepted, it is likely that there will be considerable changes in mobility patterns and traffic performance, with both positive and problematic effects. A shift to automated private cars and automated taxis can be expected, as well as sharing concepts, when sharing becomes popular. This increases the accessibility of many regions for many people; also, those who are not allowed to drive. In the extreme scenario, L5-no-sharing, the amount of car trips including new modes increases from 41% to 68%. The increased mobility has negative effects on congestion and CO_2 emissions. Electrification can partly mitigate the negative effects on CO_2 emissions. A strong mix of interventions is needed to keep delays and CO_2 emissions at the same level as in the reference scenario. This is especially the case in (very) highly urbanized areas. In other areas, the interventions can be more modest.

Public transport and transit oriented development

by Niels van Oort

Assistant Professor on Public Transport and co-director of the Smart Public Transport Lab,
Delft University of Technology

A lot of cities are actively pursuing low carbon mobility and technologies. Sometimes sustainable mobility discussions are reduced to just talking about electric vehicles, but a broader view could result in more robust and durable solutions.
In thinking about sustainable mobility, active modes (like walking and biking) are very important, as well as well as public transport, probably shared vehicles, and of course also electric cars. Examples of cities that significantly improved public transport can be found in various European cities, but in Asia as well. Having ambitions on improving (the use of) public transport is a necessary start, but to make things happen, many additional things have to be done.
Urban planning is perhaps the main starting point for sustainable mobility: spatial development can stimulate the use of active modes and mass transit public transport – and to a certain extend also makes car use less attractive. 'Transit oriented development' and, similarly, 'bike oriented development' are very relevant concepts.
One way to help to design a sound, integrated transport policy is to follow a structured approach. An example is the '5E mobility concept': a good mobility systems must contribute to an Efficient city, Effective mobility, Economy, Environment and Equity. An 'optimal' mix of modes will be necessary to fulfil the 5E concept. Such an optimal mix could include new mobility forms and services, such as MaaS and other types of shared mobility.
Especially bike use is very interesting, both as a mode in itself as in relation to public transport. However, some possible drawbacks has to be taken into account. Bike parking (especially near public transport stations) and in some cases even bike-congestion can pose problems. Moreover, in combination with public transport, especially egress transport (at the side of the destination) can be a challenge – that can be solved by owning a 2nd bicycle, or by using shared bikes. For biking, local conditions and personal preferences have a very big impact on the attractiveness:

these conditions relate to the climate (temperature, precipitation), geography (hills, mountains), spatial characteristics (density-distances, attractiveness of public space). Personal characteristics relate to health, physical condition, physical impairments, abilities and – broadly – preferences. Electric bikes might resolve part of these issues, but in turn can also pose new issues such as traffic safety.

Triple Access Planning

by Glenn Lyons
Mott MacDonald Professor of Future Mobility, UWE Bristol

The sustainability challenge for mobility asks for new perspectives as there is a need for a regime transition beyond auto-mobility, a new approach to planning, and for appropriate responses to uncertainty.
Regarding the new approach on planning, a shift is needed from a traditional mobility demand led supply ('predict and provide') approach towards a supply-led demand approach ('decide and provide'). This means, first deciding on a preferred accessibility future and then provide a means to move towards it in a way that accommodates the deep uncertainty ahead.
In the 'Triple Access Planning' approach, digital connectivity (via telecommunications system), spatial proximity (land use system) and physical mobility (via the transport system) as essentially components of accessibility are addressed in an integral approach. Digital connectivity can help, for example, to avoid part of the need for physical transport whilst spatial proximity encourages walking and bicycling.
Deep uncertainty must be taken into account when discussing policy options: anticipating (and influencing) what people will want, and accommodating what people will be able to afford. This awareness is crucial for long-term planning, and for getting realistic insight in the potential of measures. Therefore we need vision-led (aiming for preferable futures) and resilient planning, i.e. planning for an uncertain world. This can be done by exposing the vision to uncertainties, identifying steps that can be taken to realise the vision in different possible circumstances, and identifying the best steps for the strategy that are resilient to the uncertainties. Monitoring actual developments during the process supports revisiting and adapting strategies 'on the run'.

CO_2 emission reduction case studies

by Fritz Reusswig
Senior scientist, sociologist, PIK - Potsdam institute for Climate Impact Research

When discussing the 'carbon footprint', different perspectives with different approaches could be chosen: the territorial emissions (local analysis) or the upstream emissions (science, national levels) approaches. These approaches have very different outcomes. Also, different accounting systems are used, so defining a clear baseline is really necessary.
Different policy approaches in achieving reduction of CO_2 emissions can be followed. In a feasibility study on climate neutral Berlin 2050, two of such scenarios have been developed: 'centralised, efficient city' and 'decentralised cross-linked city'. The scenarios differ in technological solutions, spatial distribution and user/societal preferences.
From international it is clear that you do not need to be poor to be a sustainable city: rich cities can also be sustainable. The difference between sustainable and non-sustainable cities are especially in housing and mobility, and that in turn is especially related to the urban structure. Lifestyles are important as well. For example, the programme 'Klimatneutral Leben in Berlin' (KLIB; Climate-neutral living in Berlin) aims to achieve climate friendly lifestyles. For the

programme, an extensive stakeholder network has been created, covering partners from different sectors (mobility, food, electric energy, heating and consumer goods) and related public and private parties. The programme proposes a set of interventions that range from trackers advise/consulting services, policy conferences and promotion. Over 150 households currently participate in the initiative which managed to reduce the CO_2 footprint significantly (51% for land based mobility) – both as set against the baseline and compared to the German average. The results are promising, however, a self-selection bias, a relatively high drop-out rate and specific mobility behaviour (a lot of air travel) show that we have to be careful to extrapolate the results.

Bicycle network improvement – Berlin case

by Felix Weisbrich
Director of the Roads and Green Spaces office, Municipality of Friedrichshain-Kreuzberg

In the municipality of Friedrichshain-Kreuzberg the initiative has been taken to swiftly upgrade bicycling options in the wake of COVID measures. The aim of the initiative was to improve the quality of the bicycle network, and so to stimulate a modal shift to bicycle use.
The plan includes creating dedicated bicycle lanes and other infrastructure provisions, first on temporary basis, later in a permanent form.
In practice, significant legislative obstacles had to be overcome. These relate to German law that is very strict in safeguarding infrastructure provisions for cars: creating a bicycle lane at the cost of space for cars must be justified, for instance by proving that traffic safety is an issue. This even resulted in juridical procedures that, although some of the issue seem to be solved, partially still goes on. Also, the legislation could endanger the concept of creating more effective bicycle networks, because these would include upgrading specific locations where no direct (local) safety gains could be achieved. Still, a lot of measures have been implemented, and indeed in a very short period – stretches of in total 13 kilometres of bicycle lanes realised in only three months. In addition, the results in terms of bicycle use are quite encouraging. The challenge is now to make the successful temporary measures permanent.
This is important, because bicycle lanes are considered as ‘low hanging fruit’: with relative small investments already significant effects can be achieved. Also, policy results can be obtained and become visible relatively fast and can raise awareness with citizens. This can be positive, although it also forces policy makers to show that they are willing to take concrete actions and cannot hide behind lengthy procedures.

Change of work cooperation in COVID 19 times

After an energetic start of the project in the autumn of 2019, the 2020 COVID19 restrictions all over Europe of course also influenced our project. Regardless of this for most partners challenging situation, work on measure packages to reduce CO_2 transport emissions in partner cities went on quite well.
After two physical project meetings, in Delft (Netherlands) and Almería (Spain), and one physical bilateral work meeting in Bydgoszcz (Poland) COVID19 restrictions made us to fully shift our collaboration to on-line interactions. The foreseen once-a-semester physical project meeting has now been replaced by two online meetings, thereby doubling the number of plenary project meeting days per semester from 2 to 4. As there are no travel expenditures or travel time loss anymore, this even boosts the interest to participate in plenary events. On balance, we were able to intensify interregional learning and project collaboration.
On the first project meeting of a semester we now present and discuss the draft results of the work planned for that semester. The second meeting is used to share final results, experiences and other insights. In between there are online bilateral meetings like between a city partner and the Delft University of Technology (TU Delft) or the Potsdam Institute for Climate Impact Research (PIK).
During the online project meetings, we also invite speakers for the project seminars. The switch to online meetings regrettably prohibited the valuable physical site-visits, however, these have been substituted by online presentations of good practices of practitioners in the city of the host partner. This also turns out to be very interesting and helpful for mutual learning.

Ekki Kreutzberger
Project coordinator