

EIB Jaspers

CAPACITY BUILDING FOR SUSTAINABLE URBAN MOBILITY PLANS

SPATIAL PLANNING

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Spatial planning in Sweden

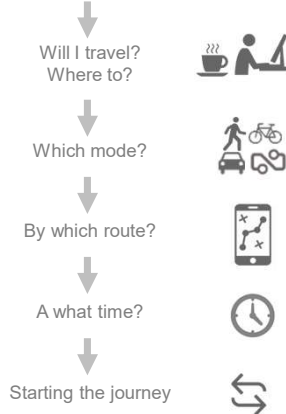
- Guidance on integrating transport and land use planning – in place.
- **Focus on a 4-step principle:**
 - **Think about it:** Consider measures that affect need for transport & mode choice
 - **Optimise:** Implementing measures that result in efficient utilization of existing infrastructure
 - **Rebuild:** If required, limited reconstruction; and
 - **Build new:** Carried out if need cannot be met from the other steps.



Key Role of Spatial Planning

- A good spatial plan is always the best form of mobility policy
- Understand relationship between spatial planning and traffic patterns: spatial planning is the groundwork for mobility

People as a starting point

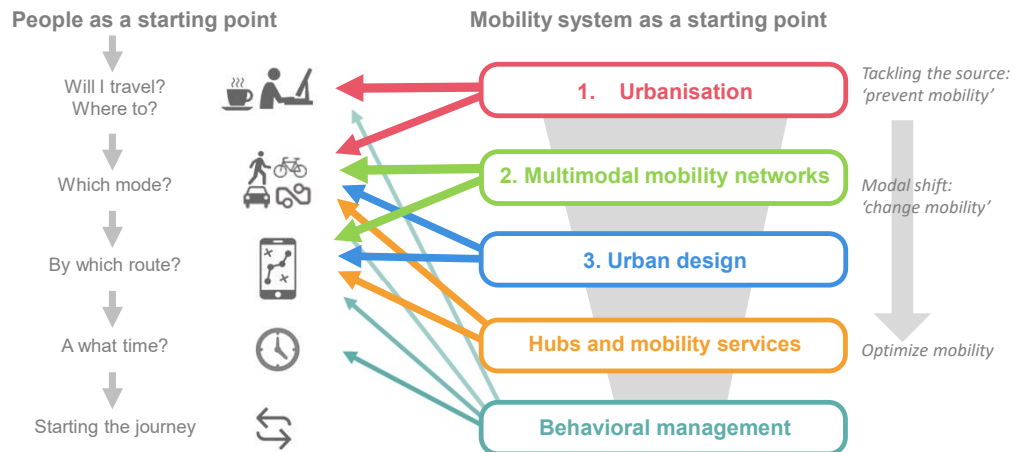


From mobility expertise, we often look at traffic flows. Important to take a few steps back.

Let's start with human behaviour as a starting point. Every person who travels makes conscious and unconscious choices in their travel behaviour. For example: am I going to travel? By which mode of transport? At what time? By which route.

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It is then up to the government to ensure that people adopt sustainable and safe mobility behaviours that match the ambitions of SUMPs. On each of people's conscious and unconscious choices, governments can develop policies to guide behaviour. Spatial policy is actually right at the top, as it intervenes at the root of mobility (will I travel and where to). Choices for location of schools and city neighbourhoods determine many of the ultimate mobility patterns. After that, the government can influence behaviour with the design of networks and links for walking, cycling, public transport and car traffic. Then, of course, with the micro-design of streets and squares, then with mobility hubs such as Park and Ride and, finally, with behavioural measures. The latter include regulations and bans, price mechanisms such as paid parking or tolls and, finally, softer behavioural influences such as public information campaigns and nudging measures.

Main message of this slide: all mobility begins through spatial planning. That is where you can influence mobility at its origins and where policy has great knock-on effects.

Relation SUMP and Spatial Plan

SPATIAL Plans

Legally binding documents

Focused on land use regulation

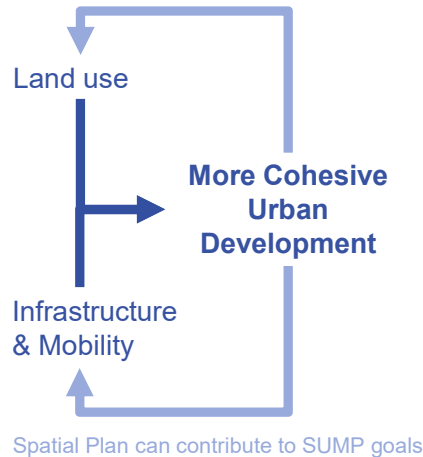
SUMPs

Strategic plans focused on sustainable mobility,

Often not legal documents

Conflict?

SUMP can contribute to Spatial Plan goals



- Shared Goals**
- Reduced Car Reliance
 - Enhanced Public Transport Systems
 - Environmental Benefits
 - Economic Advantages
 - Social Equity
 - Resilience and Adaptability

The relationship between Sustainable Urban Mobility Plans (SUMP) and legal spatial plans can be complex, given that SUMP is often not a legally binding document while spatial plans typically are

1 Conflict?

Spatial Plans are often perceived as more critical due to their legal status and direct impact on land development decision.

However, spatial plans might prioritize developments that are not aligned with sustainable mobility principles, leading to conflicts (e.g. urban developments and equipment location without transit alternatives)

SUMPs, while influential in guiding transportation policy and investment, may be seen as secondary due to its non-binding nature. Legal mandates may drive resources towards spatial plan implementation at the expense of SUMP initiatives (e.g. the SUMP suggests that the new residential area should have extensive bike lanes and be well-connected to public transit to reduce car usage. However, due to the legal priority of the spatial plan, most of the budget is directed towards road construction rather than bike lanes or public transit enhancements)

2: Common Goals but Different Perspectives:

Both types of plans aim to shape urban development but from different perspectives. Spatial plans address land use and infrastructure, while SUMPs focus on transportation and mobility. Effective integration of these plans can lead to more cohesive urban development, where land use planning supports sustainable mobility goals and vice versa.

3 Interaction with Spatial/Urban Development Plans

Bidirectional Influence: SUMPs must both give input to and receive input from spatial/urban development plans. This bidirectional relationship ensures that transport planning and land use planning are mutually supportive.

Input to Spatial Plans: SUMP insights can guide spatial planning decisions by highlighting the need for transport infrastructure in specific areas, advocating for high-density developments along transit corridors, and identifying locations for transit hubs, pedestrian zones, and cycling paths.

Receiving input from Spatial Plans: Conversely, spatial development plans provide the context within which SUMPs operate, detailing land use allocations, population densities, and the locations of key services and amenities. This information helps in designing efficient and effective mobility solutions that are well-integrated with the urban fabric.

3. Shared Goals for urban development and sustainable mobility:

Reduced Car Reliance

Decreased Traffic Congestion: Cities with well-integrated land use and mobility planning experience less traffic congestion as fewer people rely on private cars. This leads to smoother and faster commutes.

Lower Car Ownership: The need for owning a car diminishes as public transport becomes more reliable and accessible, and as walking and cycling become more practical for daily activities.

Enhanced Public Transport Systems

Increased Public Transport Use: With efficient land use planning, public transport systems can operate more effectively, providing frequent, reliable, and convenient services that attract more users.

Financial Viability: Higher ridership makes public transport financially viable, allowing for reinvestment in further improvements and expansions.

Environmental Benefits

Reduced Emissions: Lower reliance on private cars leads to significant reductions in greenhouse gas emissions and air pollution, contributing to better air quality and a lower urban carbon footprint.

Conservation of Green Spaces: Compact, well-planned urban development helps preserve natural landscapes and green spaces, promoting biodiversity and providing residents with recreational areas.

Improved Urban Livability

Better Quality of Life: Residents enjoy a higher quality of life with reduced noise pollution, safer streets, and greater access to amenities and services within walking or cycling distance.

Health Benefits: Increased physical activity from walking and cycling, combined with lower pollution levels, leads to improved public health outcomes, including reduced incidences of respiratory and cardiovascular diseases.

Economic Advantages

Cost Savings: Both individuals and cities save money. Residents spend less on fuel, vehicle maintenance, and parking, while cities save on road infrastructure and maintenance costs.

Boost to Local Economies: Well-planned cities can attract businesses and tourists, fostering economic growth. Mixed-use developments and vibrant public spaces stimulate local commerce.

Social Equity

Inclusive Mobility: Integrated planning ensures that all residents, including those from marginalized communities, have equitable access to transportation options and essential services.

Affordable Housing: By planning for a mix of housing types and densities near transit hubs, cities can provide affordable housing options, reducing socio-economic disparities.

Resilience and Adaptability

Climate Resilience: Cities that reduce car reliance are better prepared to handle the impacts of climate change. Resilient transport systems can adapt to extreme weather events and reduce vulnerabilities.

Adaptation to Change: Flexibly designed urban areas can more easily adapt to changing demographics and economic conditions, ensuring long-term sustainability.

3: Implementation Strategies for Effective Integration

- **Collaborative Governance:** Encouraging collaboration between urban planners, transport planners, and other stakeholders to ensure cohesive planning and implementation.
- **Data-Driven Planning:** Utilizing data and technology to inform planning decisions and monitor the effectiveness of integrated strategies.
- **Policy Alignment:** Ensuring that local, regional, and national policies are aligned to support integrated spatial and mobility planning.

Relation SUMP and Spatial Plan

- SUMP: not a land use plan, but integrate spatial planning into SUMP planning cycle
- Continuous cooperation spatial and mobility departments within city authority:
 1. Setting framework: bring expertise from spatial departments into SUMP project group, collecting spatial data
 2. Include ambitions of urban spatial plan in the formulation of ambitions in the SUMP (opportunities for win-win)
 3. Provide explicit measures that support sustainable mobility in spatial planning, special attention to new development areas
 4. Include research and monitoring goals in the area of spatial planning in the SUMP monitoring plan



Spatial planning is fundamental to the successful integration of land use and urban mobility within SUMP. It ensures that urban areas are designed to promote sustainable mobility patterns, reduce environmental impacts, enhance the quality of life for residents, and foster economic development

Having said that, a sump is not a spatial plan, but is aimed at mobility and transport. A SUMP does need to address spatial aspects. The main reason is that spatial planning has a major impact on mobility (groundwork for mobility). All this requires close cooperation between professionals active in spatial planning and professionals in the mobility domain. That is why it makes sense to have spatial specialists be part of the SUMP team, so that there is a good connection between spatial planning and mobility planning

Within the orderly SUMP planning process, there are several moments when cooperation is especially important.

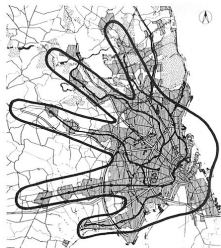
1. obviously in adding the right people to the SUMP team and agreeing on the division of roles
2. availability of good data on spatial aspects, such as demographics, urban development locations, densities
3. ensuring that spatial specialists are involved in the larger vision of the SUMP. Because this is leading for further elaboration
4. ensure inclusion of measures that contribute to good spatial planning. Consider, for example, making it compulsory to draw up mobility requirements for new spatial developments (what mobility requirements must new areas meet).

Win-win-opportunities in integrating mobility and spatial planning

Regional/City level

Copenhagen (Denmark)
Finger Plan
Structured suburbanisation

**Rail oriented development
contributing sustainable mobility**



20 km

Source:
<https://danishdesignreview.com/townscape/2017/9/3/the-finger-plan-at-70>

City district level

Houten (The Netherlands)
New Town development
Concentrated development
around train stations

**Promoting bicycle use contributing
sustainable mobility**



3 km

Source:
the-dutch-town-of-houten-is-a-case-study-in-bike-friendly-suburban-planning

Neighbourhood level

Paris (France)
15-minute city
Social interaction in public space
Services should be reached within 15-min

**Promoting walking and bicycle,
contributing sustainable mobility**



1 km

Source:
<https://www.dezeen.com/2021/10/26/15-minute-city-carlos-moreno-obel-award/>

This slide shows some examples of successful integration of spatial planning and mobility planning at various scales.

1 At the highest scale level, we see **Copenhagen's** finger city concept.

The Finger Plan (Danish: Fingerplanen) is an **urban plan from 1947** which provides a strategy for the development of the **Copenhagen metropolitan area**, Denmark. According to the plan, Copenhagen is to develop along five 'fingers', **centred on S-train commuter rail lines**, which extend from the 'palm', that is the dense urban fabric of central Copenhagen. In between the fingers, green "wedges" are intended to provide land for agriculture and recreational purposes.

The **sixth finger was added later in the nineties**, concerning Ørestad area. Ørestad has a thoroughly planned infrastructure, which apart from the metro includes the Øresund Railway and motorway, with proximity to Copenhagen Airport and the nearby Øresund Bridge. However, Ørestad has also been criticized heavily for its modernist planning approach, focusing exclusively on real estate development and infrastructure connections. This has resulted in a square-grid street layout with wide, open spaces that are void of life and pedestrians. The plans for the area have been remade several times to account for such mistakes, but so far without much success (Source: Majoor, Stan (2 December 2015). "Urban Megaprojects in Crisis? Ørestad Copenhagen Revisited". European Planning Studies)

2. In addition, at a lower scale level, the compact bicycle city **Houten (newtown)** in the Netherlands, where direct bicycle routes to the centre were central to the entire urban design. Here, an even lower scale level is involved, namely neighbourhood

level.

In the late 1960s, Dutch officials recognized Houten—then a tiny village of a few thousand—as a potential area for major population growth. Came up with a town **plan that prioritized pedestrians and cyclists over cars**. Construction began in 1978 and was finished a few years later, and when more growth was predicted in the 1990s, the area replicated itself into South Houten

Car traffic is primarily resigned to a “ring road” that encircles the area. Within that ring is a network of low-speed streets meant primarily for people traveling on foot or by bike (there are 80 miles of bicycle paths alone) that connect to two main intercity train stations and most of the area’s schools and shops. As a result, car trips are the minority in Houten, with an estimated 66 percent made by alternative modes.

Beyond using urban design to encourage cycling and walking, the city has also applied several other policy measures, the combination of which has had a great impact on travel behavior of its

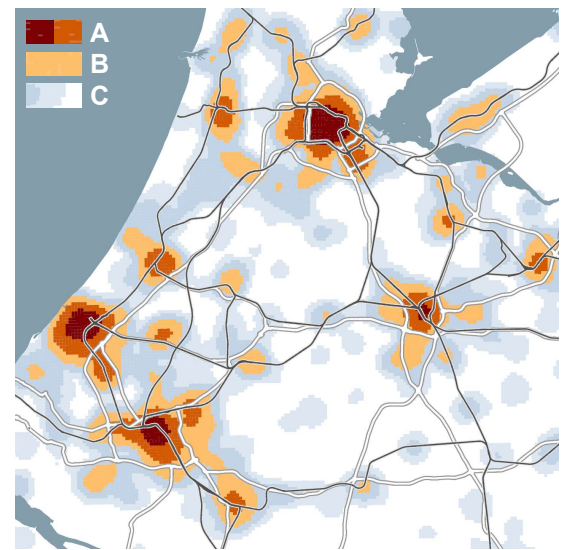
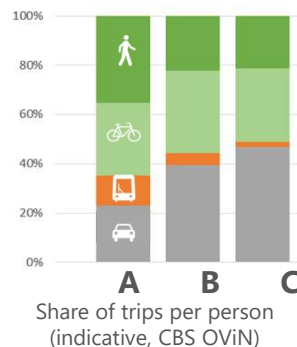
citizens. These are described below:

- Bicycle and Pedestrian Infrastructure: 129 kilometers of cycle paths, which are colored brick-red. In the city center these paths are completely separated from car traffic. Only in residential areas do bikes share roads with cars, but speeds in these areas are limited and the streets are traffic calmed to maintain safety for pedestrians and cyclists.
- Urban Design: Planning advisors considered how the location of housing and layout of roads and bicycle paths would affect resident travel behavior. They did not neglect the car in their designs, but created a layout that would give priority to cyclists
- Street Layout and Design: Urban design features were used to mark the transitions from the ring road to the residential areas. By law, drivers are required to slow down when exiting the ring road, which has a speed limit of 90 km/hr, and entering the 30 km/hr residential areas, but these design features help to further ensure safety at ring road exits

3. Finally, an example from Paris: the 15-minute city. The 15-minute city is an urban planning concept in which most daily necessities and services, such as work, shopping, education, healthcare, and leisure can be easily reached by a 15-minute walk, bike ride, or public transit ride from any point in the city. Although many of the ideas contained within 15-minute cities have existed for a long time, the concept was created by French-Colombian urbanist Carlos Moreno. He has been an associate professor at Sorbonne University in Paris since 2017.

Integrate spatial and mobility planning at regional level

- Opportunity: Urban conditions determine mobility behaviour
- Map of western part of The Netherlands: “How many people, amenities within 15-minute walking and cycling from each departing point?” (dark A-areas: more addresses within reach)
- A-B-C-classification is predictor of mobility behaviour:
in A zones, people travel more by public transport and on foot.
In C zones, people travel more by car and less by public transport



Source: Goudappel

we see an accessibility tool here.

Input is provided by all residents and facilities throughout the area, combined with the available walking and cycling networks.

The tool then looks at how many other residents and facilities are accessible within 15 minutes' travel time FROM EVERY PLACE. The moment FROM A PLACE many residents and facilities can be reached within 15 minutes, in that case that DEPARTING PLACE colours dark. If few residents and facilities can be reached from a place, the departing place colours white or blue.

Depending on the number of residents and jobs that can be reached, the area is called an A, B or C area:

- A-area: more than 100,000 addresses reachable within 15 minutes travel time
- B area: between 50,000 and 100,000 addresses reachable within 15 minutes travel time
- C area: less than 50,000 addresses reachable within 15 minutes travel time

National surveys subsequently show that the actual modal split of people in practice, is strongly linked to the ABC map. There is a correlation between the ABC area colour and actual mobility behaviour. This shows the importance of making a strong link between spatial policy and mobility policy. Similar tools are now available in Sweden, London.

It would be extremely wise if such tools were developed within each country. Because these reveal the potentials for integrated spatial planning and mobility

policies.

This is a slide on research by Goudappel commissioned by the Dutch infrastructure ministry.

The images on the left shows the typical average use of each transport mode in each type of zone (A, B and C) considering the overall average with an index 100 (e.g., the transit and pedestrian uses in zones type A is much higher than average; in zones type C the same modes have lower than average users).

The map shows in colours the development opportunities of people within those areas. From dark areas, people can reach lots of other people and services in 15 minutes of walking and cycling. In light-coloured and white areas, people can reach very few other people and services. Very clear to see that big cities people can reach many destinations by cycling and walking. In white areas, people are car-dependent for reaching services

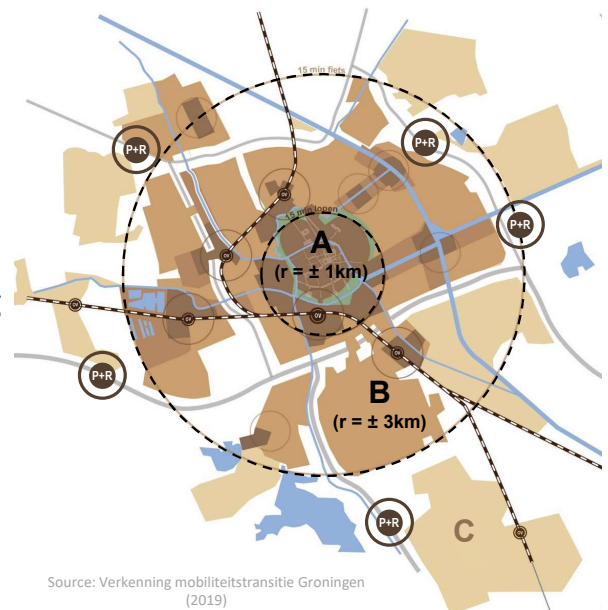
Diagrams on the left: the map on the right is a good predictor of actual mobility behaviour, as recorded by the Dutch national statistical research agency (diagrams left) From A areas, people travel by public transport above average. People also walk a lot there. And from C areas, people travel above average by car. So, each type of area has a different mobility behaviour.

Integrate spatial and mobility planning at regional level

- Insights of ABC analysis: translate into an integrated spatial and mobility planning concept (example of Groningen, NL)
- Tailor-made mobility policy per ABC zone (P+R, parking policy, road design priorities)
- Promote urban development in A and B areas (densification) – leads to more walking and cycling



Source: [www.https://rotterdammakeithappen.nl](https://rotterdammakeithappen.nl), www.siebeswart.nl, www.telegraph.co.uk



Source: Verkenning mobiliteitstransitie Groningen (2019)

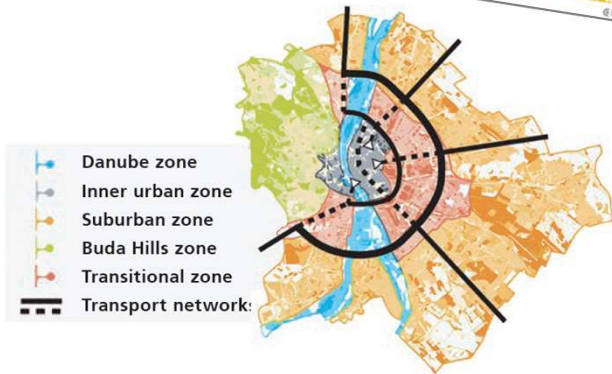
The A-B-C classification can also be translated at the urban level. In this case (map) applied to the Dutch city of Groningen. Areas that are within 10-15 minutes' walk of centre facilities and main stations are an A-area (radius about 1 km). Here the share of walking and public transport is higher than in the rest. Areas that are within 10-15 minutes cycling from centre facilities and main stations are a B-area (radius about 3 km). These are cyclable parts of the city. Beyond that, people tend to use the car more.

This can be linked to mobility policy choices. In A environments, pedestrians should be given an important role. In B environments, bicycles should be given an important role. And in C-environments, it should be examined how car dependence can be reduced by using electric vehicles.

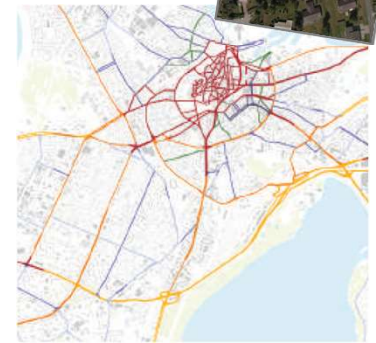
There are also choices here from spatial planning. Densification in A and B environments means that future users are naturally inclined to walk and cycle. Spatial development in C environments will lead to future users often using cars. Therefore, from the perspective of sustainable mobility, it is logical to realize higher densities and mixes of functions in A and B environments. And to be cautious with spatial developments in C environments.

Integrate spatial and mobility planning at regional level: examples

- Budapest Mobility Plan (2023)
- Differentiated transport interventions per zone



- Tallinn Urban Mobility Strategy (2019)
- Differentiation in mobility priorities for different urban environments

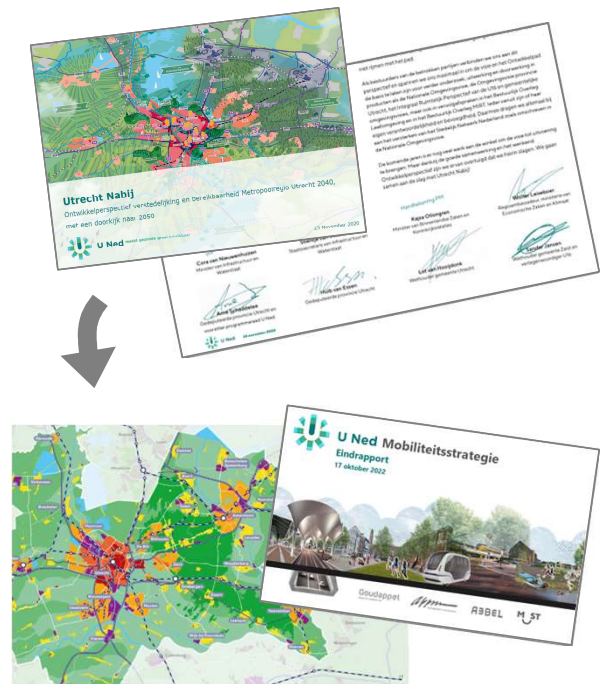


You can find the Budapest Mobility plan (English) here:
<https://bkk.hu/en/about-bkk/strategy/budapest-mobility-plan/>

You can find the Tallinn Urban Mobility Strategy here:
<https://www.hel.fi/static/kanslia/elo/sump-suunnitelma.pdf>

Example of regional cooperation: Metropolitan region Utrecht

- Dutch national government cooperating with regional and local authorities in Utrecht region (U Ned), led by national minister, local councillors, regional deputy
- Result 2020: spatial development strategy for metropolitan area to sustainably grow population from 1.5 million to 2 million inhabitants. Focus on densification.
- Follow-up-step 2022: regional mobility strategy elaborating on spatial development strategy. Establishing mobility policies aligned with different densification levels.



Dutch national government cooperating together with regional and local authorities in the Utrecht region (regional government, 16 municipalities, national railway company and rail operator). The cooperation is called U Ned, with its own office, committee parties have jointly drawn up a development perspective for the metropolitan region in which the population will grow from 1.5 million to 2 million inhabitants. The main question was how growth should take place: more in small, bundled clusters around a large number of regional public transport nodes throughout the area, more concentrated in the core urban area, or around a selection of larger public transport nodes.

Within the development perspective, agreements have been made about at what locations housing will be built in what quantities.

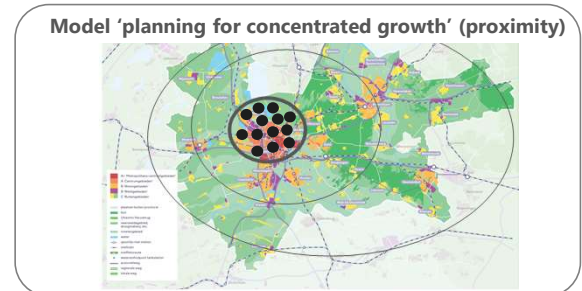
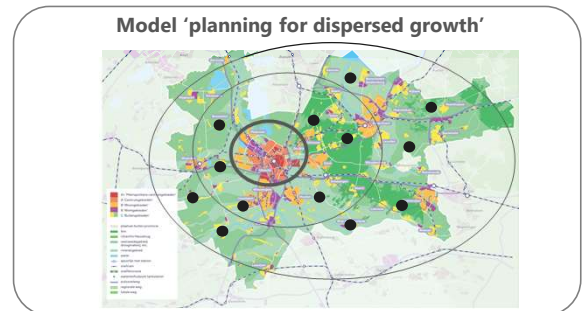
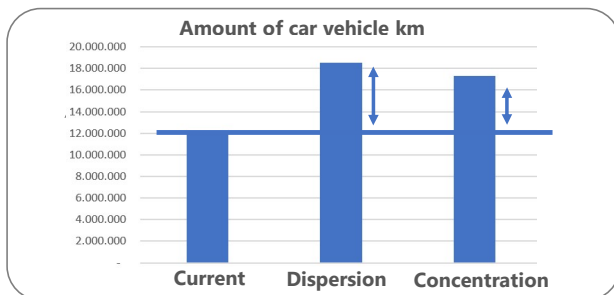
The development perspective also concludes with a number of follow-up steps to be taken by the parties together. These include a monitoring programme around housing construction, drawing up a mobility strategy based on the agreements, elaboration of the public transport nodes where urbanisation takes place, agreement framework for the development of recreational green areas .

The document Utrecht Nearby containing the strategic direction for the Utrecht metropolitan region was endorsed by all parties. The cooperation's project organisation (U Ned) is now working out various elaboration tasks, such as explorations for new public transport lines. In recent years, U Ned has become the platform for cooperation between the national government and the region and for making financial agreements for large-scale infrastructure in the region. See also the

(Dutch) website: <https://www.programma-uned.nl/default.aspx>

Key Role of Spatial Planning: example metropolitan region of Utrecht

- The Utrecht region (the Netherlands) is growing from 1.5 to 2 million inhabitants towards 2040
- Two main development models: dispersed growth versus concentrated growth
- Traffic modelling analysis: 20% less growth in car vehicle km in concentrated model compared to dispersed model



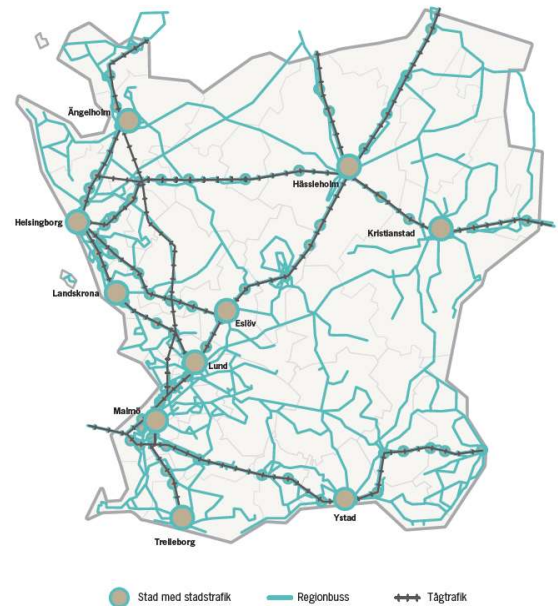
(source: Mobiliteitsstrategie U Ned, 2022)

A comprehensive study by the metropolitan region of Utrecht (the Netherlands) together with the Dutch ministry of transport examined the effect of different urbanisation models. One model more focused on spreading housing construction over the entire metropolis, one more focused on concentrating housing construction in the central high-density area of the metropolis. The analyses showed a clear advantage for spatial concentration, from the point of view of sustainable mobility. With concentration, future residents are more able to travel by public transport, bicycle and are less car-dependent, thus contributing to a more sustainable mobility.

Additionally, the concentrated model corresponds to the “natural” urban evolution of the city which makes it easy to implement by limiting the urban growth possibilities in the less central areas of the region and favor the renovation and/or occupation of the still vacant areas in the central area.

Example of regional cooperation: Skane, Sweden

- Regional authorities in Skane:
 - Health authority
 - Public transport planning, fares and franchising
 - No formal land-use powers (until 2022) – these all with 33 municipalities
- Regular dialogue/meetings with municipalities
- Advisory regional plan (2005) guides new development, and link it to public transport, and align local plans, approved by Skane municipalities
- Spin-off regional cycling and mobility plans aligned with the regional plan
- Ultimately law changed and Regional plan now a formal document

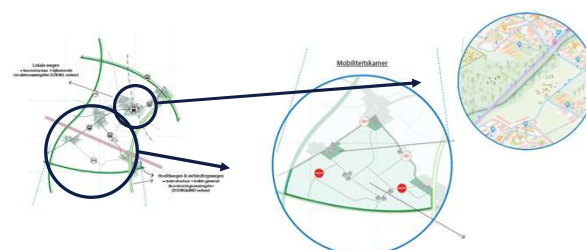
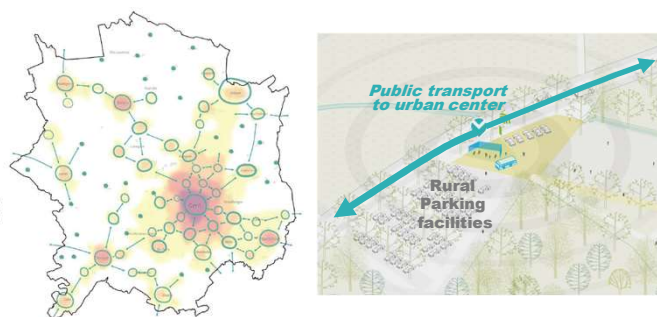


Regional public transport network and main towns, Skane
Source: Skanetrafiiken (2019)

By linking its statutory duty (public transport provision and planning) with a non-statutory duty (regional land use planning), the elected regional government has taken positive steps in persuading municipalities to plan their land use in a way that supports public transport use. Public transport is offered and welcomed as a tool of economic development, and so many municipalities have realised, due to the many years of discussion they have had on the matter with the region, that planning their land-use to align with that public transport network is a win-win activity. It generates more trips, which in turn brings them better public transport service, which helps their integration into the regional economy. Skane was able to do this because it has the staff resources to meet regularly with municipalities about these issues, but most of all because it has for many years had the vision of a more spatially and economically integrated Skane, and saw this as the way to deliver that.

Integrate spatial and mobility planning at regional level: examples

- Ghent Region SUMP (2030-2050)
- Covering 23 municipalities, 677,000 people,
- Addressing specific challenges related to diversity between urban and rural landscapes
- Priority for proximity instead of sprawl
- Focus on regional active travel, intermodal hubs, public transport, car traffic calming and regulations



Visuals from Ghent Transport Region SUMP (urban and rural characteristics require differentiated approach)

Download the Ghent plan:
<https://www.vlaanderen.be/basisbereikbaarheid/mobiliteitsuitdagingen-regionaal-aanpakken/vervoerregios/vervoerregio-gent/regionaal-mobiliteitsplan/historiek>

And the inspiration document on mobility hubs of Vlanders mobility and public works:

https://www.kenniscentrumvlaamsestedden.be/Gedeelde%20%20documenten/2019/IAM%2020190328%20Inspiratieboek%20Attractieve%20Mobipunten_def.pdf

Case Study: Ghent Transport Region SUMP (2030-2050)

Context - Background to the development of the Regional Mobility Plan:

The Ghent Transport Region is one of Flanders' 15 designated transport regions, covering 23 municipalities over an area of 1200 km² and serving over 677,000 people across both urban and rural landscapes.

With the city of Ghent at its core, the region faces unique mobility challenges, namely urban congestion in the historical city centre, contrasting with the car dependency of its rural areas. Congestion, contributing to air pollution and increased travel times is a key struggle within the city centre.

Surrounding rural municipalities face limited public transport options, resulting in a high dependency on private vehicles to support mobility

Flanders' 2019 Decree on Basic Accessibility (Decreet Basisbereikbaarheid) sets the legislative framework for addressing these mobility challenges. The decree

emphasises basic accessibility — ensuring that all residents, regardless of location, have effective access to essential services such as work, education, and healthcare.

Ghent's approach to sustainable mobility planning: Aligning the regional and city-level SUMP:

The SUMP for the Ghent Transport Region was developed to respond to these mandates while addressing the region's specific needs, focusing on improving connectivity between urban and rural areas and promoting sustainable transport.

The Sustainable Urban Mobility Plan (SUMP) for the Ghent Transport Region (Region Mobility Plan 2030-2050) addresses the dual challenge of managing mobility across its mixed urban and rural areas.

Adopted in December 2023, the Plan aims to increase the use of sustainable transport modes by expanding multimodal hubs, electrifying public transport, and improving cycling infrastructure throughout the 23 municipalities it serves, with a target to achieve a 50% shift to sustainable transport by 2030.

The implementation of the SUMP for the Ghent Transport Region requires close collaboration between multiple stakeholders, including municipalities, transport authorities, and the regional government. As the largest and most central municipality in the transport region, the City of Ghent plays a key role in ensuring that local mobility strategies align with regional objectives.

Sustainable urban mobility planning in the City of Ghent dates back to the early 1990s when the first bicycle and mobility plans were already developed by the city administration. Since then, the City of Ghent has continuously revised and updated its mobility plans. Insights into the interaction between the regional and city SUMPs were gathered through an interview with the City of Ghent.

The region's functional urban area (FUA) is an essential component of the SUMP's focus.

Ghent's urban core generates high traffic volumes, causing congestion, pollution, and placing a strain on local infrastructure.

Rural municipalities are highly car-dependent due to limited availability of public transport options. The plan's central challenge lies in bridging these gaps through integrated solutions that reduce private vehicle use and promote cleaner, multimodal transport options across the region.

The Flemish Department of Mobility and Public Works coordinated the project, in collaboration with members of the Roads and Traffic Agency, De Lijn, the Flemish Waterway and the Werkvennootschap.

In addition to the municipalities, the transport region also has the following advisory members: Province of East Flanders, North Sea Port, Department of Environment, NMBS, Infrabel, Veneco and Mobility Company Ghent.

Overview Of Regional SUMP:

Effective since February 2024, the SUMP for the Ghent Transport Region (Regional Mobility Plan 2030-2050) sets the stage for long-term mobility transformation under the Region Mobility Plan 2030-2050.

The Regional Mobility Plan contains 12 policy priorities, arranged across four key themes, including ***nodes and networks: integrated and linked networks for better mobility; data strategy and digitalisation – welcoming data and progressive digital technology for better mobility; supply side – healthy functioning of the supply side; and demand behaviour – a sustainable, safe and efficient use of the mobility system.***

One of the plan's key targets is to achieve a 50% modal shift in favour of sustainable transport modes by 2030, increasing to 60% by 2040. *The previous mode split for the region was 40% sustainable transport (2017).*

Achieving this modal shift across the Transport Region will be essential for meeting Flanders' climate goals, as transport is one of the region's primary contributors to CO2 emissions.

The SUMP for the Ghent Transport Region aligns with Flanders' broader environmental targets, particularly those related to reducing greenhouse gas emissions and improving air quality.

Recognising that not all municipalities have the same potential for mode shift within the region due to the spatial structure, the Regional Mobility Plan therefore breaks down and highlights the mode shift targets by each municipality, to reach the mode shift objective at the transport region level.

By targeting both urban and rural challenges within the same framework, the SUMP for the Ghent Transport Region represents an ambitious attempt to harmonise mobility across different landscapes, improving accessibility while fostering environmental sustainability.

Interactions between the Regional Mobility Plan and the city level SUMP:

The City of Ghent was actively involved in the preparation process of the broader SUMP for the Ghent Transport Region, ensuring that its local priorities were considered in the regional framework. This direct participation helped maintain policy coherence between the two levels of planning.

The principles of the SUMP for the Ghent Transport Region closely align with the city's existing mobility strategy. If the city develops a new SUMP, it intends to ensure that this plan aligns with the regional framework, pending city council approval.

Key Elements of the Regional Mobility Plan:

Focus on ***public transport:***

Combination of service enhancements and fleet electrification, as well as broader coverage, ensuring accessibility in both urban and rural areas.

Key element involves establishing mobility hubs—known locally as ***Hoppin points***—that facilitate intermodal transfers between public transport, cycling, and shared vehicles.

Hubs are critical for rural areas, where car dependency has traditionally been high, as they allow residents greater access to integrated public transport services.

Active travel:

SUMP for the Ghent Transport Region builds on the region's established cycling culture. Expansion of the existing network by introducing cycling highways, designed to connect Ghent's urban core with surrounding towns and villages. These highways provide dedicated, safer routes for both commuter and recreational cyclists, with the goal of making cycling a more attractive choice for longer-distance trips.

Walking is also promoted within the SUMP for the Ghent Transport Region, particularly through measures to improve pedestrian safety and convenience in Ghent's historical city centre. Expanded pedestrian zones, wider footpaths, and improved crossings are part of this effort to make walking more viable, especially for shorter journeys.

Urban vehicle access regulations

Environmental improvements are tackled through an expansion of Ghent's Low Emission Zone (LEZ). Originally implemented in 2017 as a circulation plan, this zone now restricts polluting vehicles from entering the city.

Under the city-level SUMP, the LEZ would be extended to cover a broader area and will feature stricter emissions standards, aiming to reduce air pollution further while encouraging a transition to cleaner vehicles.

Road safety

Traffic safety and accessibility are additional core aspects of the SUMP for the Ghent Transport Region, aligning with Flanders' Vision Zero goal to eliminate road fatalities by 2050.

The plan includes traffic calming measures and public awareness campaigns to encourage safe driving, cycling, and walking behaviour.

Addressing urban-rural connectivity:

A key concept within the SUMP for the Ghent Transport Region is known as "meshes" (mazen), a planning approach aiming to keep motorised traffic on regional main roads while reducing vehicle flows inside designated "meshes."

For the Ghent city mesh, a joint study will begin in 2025 to determine how this concept should be implemented, particularly in relation to the R4 ring road. The city and regional authorities hold differing views on the role of the R4, with ongoing discussions whether it should primarily serve (inter)national through traffic or local through traffic as well.

The regional transport council is responsible for deciding on one of the public transport layers and plays a role in evaluating the new public transport network. Ensuring seamless connections between rural and urban areas is a major challenge in this process.

Results So Far:

Since its rollout in early 2024, the SUMP for the Ghent Transport Region has produced early positive impact, particularly in improved cycling and pedestrian infrastructure and initial developments around the provision of mobility hubs. These hubs have provided rural residents with better access to sustainable transport modes, reducing their dependency on private cars.

Key challenges:

A key challenge for the Ghent Transport Region has been the diverse needs of urban and rural areas:

Ghent's urban core struggles with congestion and pollution, while rural municipalities are highly car-dependent due to limited public transport services.

Addressing these needs requires a tailored approach that balances urban congestion reduction with improved accessibility. The development of mobility hubs has proven effective in bridging this gap.

Another challenge is the behavioural change required to reduce car dependency, particularly in rural areas where private car use is deeply entrenched. The introduction of shared mobility services and improved cycling infrastructure has helped encourage a shift, but further incentives and public awareness campaigns are necessary to achieve the desired modal shift targets.

Learnings at the city level:

Developing (or reshuffling) a public transport network cannot be treated separately from a regional SUMP.

Although the two were considered distinct processes from a planning perspective, residents viewed them as one—a perspective that was justified, given their interconnected nature. There is a need for better coordination between regional mobility planning and public transport restructuring to ensure clarity and public support.

Sources:

SUMP for the Ghent Transport Region: Regional report on mobility planning and integration ([Link to source document](#))

Flanders Department of Mobility and Public Works: [Contact for more information on implementation](#)

[Vervoerregio Gent | Vlaanderen.be](#)

[618d2b5889c4361b1d79f42a CoMoUK Mobility hubs Ghent case study Jan 2021.pdf \(website-files.com\)](#)

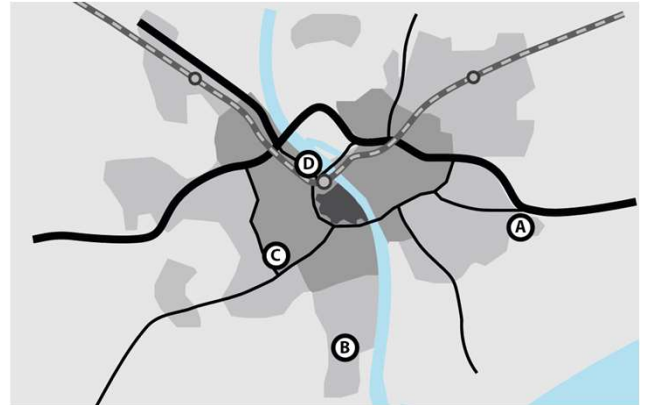
[Ghent: a city plan that transformed transport and livability \(transportxtra.com\)](#)

https://urban-mobility-observatory.transport.ec.europa.eu/resources/case-studies/ghents-approach-sustainable-mobility-planning-aligning-regional-and-city-level-sumps_en

INTERACTIVE EXERCISE

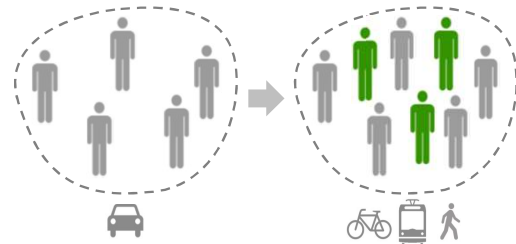
See handout for assignment on the following case: large new office building to be developed in an urban area of 150,000 people. Four possible building locations:

- Edge of town on undeveloped land near junction of radial road and ring road;
- Old empty industrial land in outer suburb;
- On site of an old hospital in inner suburb
- Near city centre on the site of falling down and dangerous government building.



Integrate spatial and mobility planning at city district level

- **Densification** = more people and trips in same area, should be facilitated within existing space use
- So ambitious urban mobility policy is needed to support densification
- This requires priority for space-efficient transport modes: walking, cycling, public transport (Building full fledged alternatives)
- Link to SUMP-training module 13 and 14 (public transport and active mobility)



Source: Paris (France)



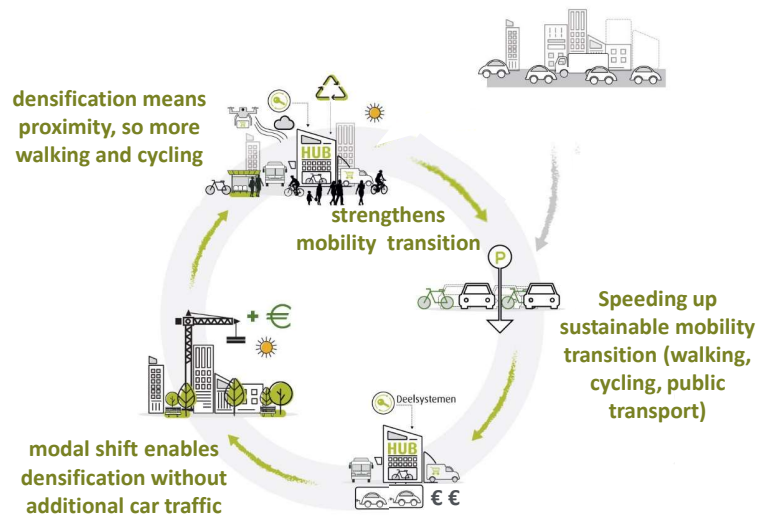
Source: Aldgate Square London (United Kingdom)

Densification in the existing city does require a different mobility policy, namely a stronger focus on a modal shift to space-efficient forms of mobility. After all, densification means more people on the same surface area, within the existing boundaries of the city. But there is no physical space available to solve such mobility growth with extra car traffic.

Therefore, it is necessary to accommodate mobility with walking, cycling, public transport and partial mobility. In the examples from Paris and London, this means, for example, allowing car traffic to travel more along the edges to create space for bicycle traffic and walking as more important modes of transport within the city. Here is a win-win too, because it allows more green and less concrete within the city, which has an effect on climate adaptation (see module 12)

Integrate spatial and mobility planning at city district level

- But densification can also function as catalyst for mobility transition from car to space efficient modes (starting a virtuous cycle)
- Urban densification will not have to lead to proportional growth of automobility



Virtuous cycle of integrated spatial and mobility planning

Source: Goudappel

But there is also a catalyst effect: accelerating the modal shift to walking, cycling and public transport, it is also possible to achieve stronger spatial densification (without additional car growth). This means more people living, working and living in the same place. And that also means, that people will have to travel fewer long distances. And this also automatically reinforces that people will walk and bike more. So, a self-reinforcing cycle.

importance of understanding this process: for future projections in SUMPS, traffic models sometimes assume extrapolation of current mobility behaviors: more residents therefore results in more car trips. In practice, this works differently, and it is important that professionals working with SUMPs are aware of this and recognize this pitfall.

Integrate spatial and mobility planning at city district level

Four general win-win design principles

1. Optimal mix of spatial functions within city districts:

- 👍 SPATIAL QUALITY: Liveability and liveliness by balancing number of households, jobs, facilities.
- 👍 EFFICIENT MOBILITY: More symmetrical traffic flows (balanced in-outgoing flows thanks to mix of living and working, cost saving in infrastructure)

2. High urban densities encourage proximity:

- 👍 SPATIAL QUALITY : Daily amenities within walking and cycling distance (sustainable)
- 👍 EFFICIENT MOBILITY: More use for public transport (more residents in high density, more viable public transport solutions)



High densities and mix of jobs, housing and facilities are supporting spatial quality and sustainable mobility (example City Life Milano, Italy)

Source: www.italia.it

Now we come to a lower scale level that of city districts. Here is an overview of **design principles at the interface between spatial plans and mobility planning**. These principles contribute to sustainable mobility.

Each of the principles (spread over 2 slides) describes benefits from spatial planning and benefits from mobility planning. This is important because it allows multiple departments to collaborate fruitfully on solutions that give a win-win for both parties.

1. Optimal mix of spatial functions – other key benefits

- **Maximized Utility:** Combining different spatial functions in close proximity maximizes the use of available land, reducing the need for extensive infrastructure and minimizing urban sprawl.
- **Minimized Commutes:** With essential services and amenities located near residential areas, people can accomplish daily tasks with shorter trips, often within walking or cycling distance, reducing the need for long commutes.
- **Convenient Access:** A mix of spatial functions ensures that workplaces, schools, shopping centers, and recreational facilities are easily accessible, encouraging more efficient travel patterns
- **Fewer Car Trips:** The presence of multiple land uses in close proximity reduces the need for car trips, leading to less traffic congestion and more efficient use

of road space.

- **Support for Local Businesses:** Mixed-use areas attract foot traffic, benefiting local businesses and contributing to a vibrant local economy. This economic activity can support further investment in public transportation and infrastructure.
- **Cost Savings:** Reducing the need for extensive road networks and parking infrastructure can result in significant cost savings for both public authorities and private developers.
- **Diverse Communities:** Mixed-use developments tend to attract a diverse population, fostering social interaction and inclusivity by providing spaces for people of different ages, incomes, and backgrounds to interact

2. High urban densities – other key benefits

- **Maximized Land Utilization:** High urban densities make better use of limited land resources, accommodating more people and activities within a given area, reducing the need for expansive urban sprawl.
- **Viable Transit Systems:** Higher population densities support more efficient and frequent public transportation services due to increased ridership, making transit systems more economically viable and reducing reliance on private vehicles
- **Proximity to Amenities:** High densities ensure that residents are close to essential services, amenities, and employment opportunities, reducing the time and cost associated with commuting and daily travel.
- **Walkability:** Densely populated areas are often more walkable, with a mix of land uses that allow residents to access shops, schools, parks, and workplaces on foot or by bike.
- **24/7 Activity:** High-density areas often have activities around the clock, increasing the sense of safety for residents and visitors due to the constant presence of people

Integrate spatial and mobility planning at city district level

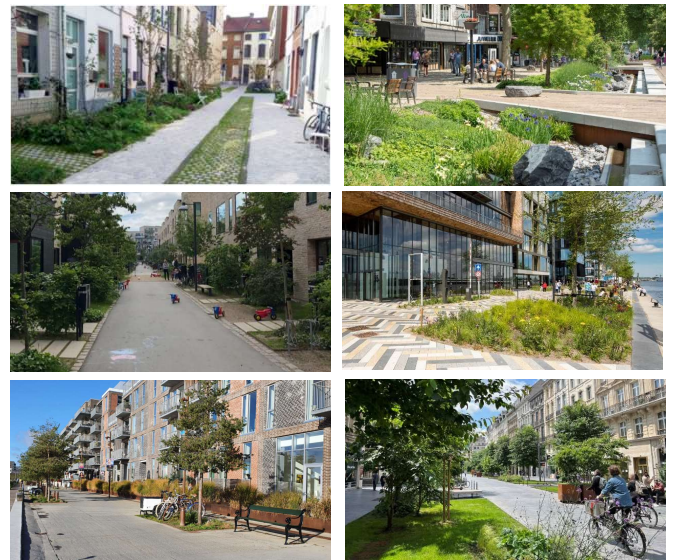
Four general win-win design principles

3. Public space designed for walking, cycling:

- 👍 SPATIAL QUALITY: more spatial quality to users
- 👍 EFFICIENT MOBILITY: supports healthy mobility behaviour, cheaper infrastructure

4. Supporting: low car parking standards

- 👍 SPATIAL QUALITY: less car parking space needed, financial savings
- 👍 EFFICIENT MOBILITY: supports healthy mobility behaviour, more use of public transport



Examples of high-quality public space inviting to walk and cycle

Source: Goudappel

Now we come to a lower scale level that of city districts. Here is an overview of **design principles at the interface between spatial plans and mobility planning**. These principles contribute to sustainable mobility.

Each of the principles (spread over 2 slides) describes benefits from spatial planning and benefits from mobility planning. This is important because it allows multiple departments to collaborate fruitfully on solutions that give a win-win for both parties.

3. Public space designed for playing, walking, cycling – Key Benefits

3.1 Spatial quality to users

- **Efficient Space Utilization:** Integrating spaces for play, walking, and cycling makes efficient use of urban land by maximizing its utility and functionality. This can help create more vibrant, multi-purpose areas.
- **Reduced Need for Parking:** Prioritizing active transportation and recreational spaces can reduce the demand for parking facilities, freeing up land for other uses such as housing, green spaces, or commercial activities
- **Encourages Density:** Public spaces designed for active use support higher-density development by providing essential recreational and transportation infrastructure that reduces the need for extensive road networks.
- **Support for Mixed-Use Development:** Integrating play, walking, and cycling

spaces into urban areas encourages mixed-use developments, where residential, commercial, and recreational uses coexist, reducing the need for long commute

- **Urban Aesthetics:** Thoughtfully designed public spaces enhance the visual appeal of urban areas, incorporating elements such as landscaping, public art, and cultural installations.
- **Cultural Identity:** These spaces can reflect the cultural heritage and identity of the community, providing a sense of place and history.

3.2 Healthy mobility behaviour

- **Decreased Car Dependency:** By making walking and cycling more convenient and enjoyable, cities can reduce reliance on cars, leading to less traffic congestion and smoother flow of vehicles.
- **Encourages Walking and Cycling:** Well-designed public spaces that prioritize pedestrians and cyclists make these modes of transportation more attractive and safer, encouraging people to choose them over driving.
- **Health Benefits:** By promoting active transportation, cities can improve public health through increased physical activity, reducing the prevalence of lifestyle-related diseases such as obesity and heart disease

4. Low Car Parking Standards - Key Benefits:

4.1 Space and financial savings

- **Efficient Use of Road Space:** With fewer cars needing parking, road space can be reallocated for other uses, such as dedicated bus lanes, bike lanes, or wider sidewalks, improving the overall mobility network.
- **Cost Savings:** Reducing the need for extensive parking infrastructure can save substantial amounts of money for both public and private sectors. These savings can be redirected towards enhancing public transportation and other mobility initiatives.
- **Maximized Space for Development:** Reducing parking requirements frees up land that can be used for other purposes such as residential, commercial, or public spaces, leading to higher-density development and more vibrant

communities.

- **Adaptive Reuse:** Buildings with less dedicated parking can be more easily repurposed for different uses over time, providing greater flexibility in urban planning and development.
- **Mixed-Use Developments:** Encouraging mixed-use developments where people can live, work, and play in the same area reduces the need for extensive parking and promotes a more integrated urban fabric.
- **Lower Development Costs:** Developers can save on the costs associated with constructing parking facilities, which can be substantial, especially for underground or multi-level structures.
- **Affordable Housing:** Savings on parking infrastructure can be redirected to housing construction, potentially lowering housing costs and improving affordability.
- **Increased Property Values:** Areas with good public transportation and lower car dependency often see higher property values and more vibrant local economies due to increased foot traffic and business activity
- **Increased Economic Activity:** Areas with good public transportation and less reliance on cars often see higher levels of economic activity due to increased foot traffic and more vibrant public spaces.
- **Less Impervious Surface:** Reducing the amount of land dedicated to parking lots minimizes impervious surfaces, which can help manage stormwater runoff and reduce the urban heat island effect.

4.2 Healthy mobility behaviour and use of public transport

- **Less Incentive to Drive:** By limiting parking availability, cities can reduce the number of vehicles on the road. This can lead to less traffic congestion, shorter travel times, and improved air quality.
- **Encourages Public Transit Use:** With fewer parking spaces available, people are more likely to use public transit options such as buses, trams, and trains. This shift can lead to increased investment and improvements in public transportation infrastructure and services.
- **Boosts Active Transportation:** Lower parking standards can encourage walking and cycling by making these modes more convenient and safer. This can be achieved through better infrastructure such as bike lanes, sidewalks, and

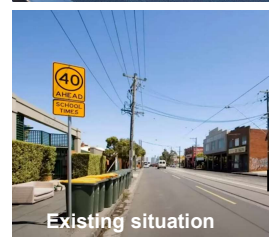
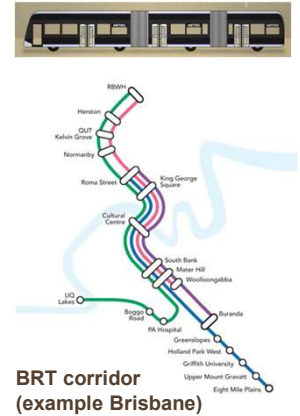
pedestrian-friendly streetscapes.

- **Increased Ridership:** Reduced parking availability can drive up the demand for public transportation, leading to higher ridership levels. This can justify the expansion and enhancement of transit services, making them more frequent and reliable.
- **Integrated Mobility Solutions:** Encouraging the use of public transportation can facilitate the development of integrated mobility solutions, such as transit hubs, bike-sharing programs, and last-mile connectivity options like e-scooters and ride-sharing.

Integrate spatial and mobility planning at city district level: example

Retrofit Transit Oriented Development Melbourne

- Expected growth 50 years: from 5 to 10 million people
- Densification instead of sprawl, combined with Retro-fit Transit Oriented Development (TOD)
- Use 7,5% of the existing space to build in 5-8 stories
- Advantage spatial planning: densifying within existing city borders (less space needed)
- Advantage mobility planning: supports sustainable mobility behaviour (promoting public transport)



This is an Australian example of a link between spatial planning and mobility planning. In Melbourne there is a metropolitan center with endless suburban environments outside it. However, there are public transport corridors through the city that spatial planners want to transform into a kind of transit-oriented development. But afterwards, as a kind of retrofit.

The intention is to densify spatially (5-8 floors) around existing public transport connections. This amounts to less than 8% of all space. But there are opportunities here to properly accommodate population growth, in combination with strengthening public transport (sustainable mobility).

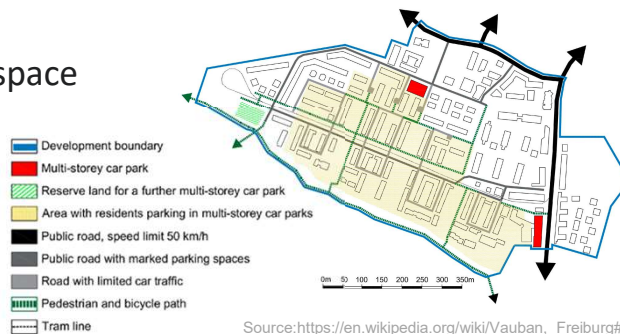
Integrate spatial and mobility planning at city district level: example

Vauban Freiburg (Germany)

- Transport mainly foot or bicycle trips (38–73%), less car use (5–16%)
- Car parking at edge of area
- No car parking on most of Vauban's streets, vehicles only allowed at walking speeds for delivery.
- Financial resources and building space set aside to accommodate any additional car parking needs if required.



Source: Wordpress.com (<https://materialesemiotic.files.wordpress.com/2010/01/main-34.jpg>)



Source: https://en.wikipedia.org/wiki/Vauban,_Freiburg#/media/File:VaubanTrafficNetwork-Schematic.png, <https://doi.org/10.3390/buildings14030712>

In this German city district, the car is clustered at the edges. Local streets are designed for walking and cycling - the main mode intended for the area. But are of course accessible for emergency services and logistics deliveries. It has also led to different a mobility behaviour.

What is essential though is that the planning did consider additional need for car parking. So, in addition to the provision of built parking facilities, a financial reservation has also been made to realise additional parking facilities (if necessary).

Vauban's success is rooted in its comprehensive urban development strategy, where the synergy of spatial and mobility planning fosters a sustainable, livable, and resilient community.

Integrated Spatial Planning:

1. Mixed-Use Development:

1. The district combines residential, commercial, and recreational spaces, allowing residents to live, work, and play in close proximity.
2. This mixed-use approach reduces the need for long commutes and fosters a vibrant community atmosphere.

2. High-Density Housing:

1. Vauban features high-density housing which efficiently utilizes land and supports the viability of public transport and local businesses.
2. Buildings are designed to be energy-efficient, incorporating sustainable building practices and materials.

3. Green Spaces and Biodiversity:

1. The district includes numerous parks, community gardens, and green roofs, which enhance biodiversity and provide recreational areas for residents.
2. Green spaces are integrated into the urban fabric, ensuring accessibility and promoting environmental sustainability.

4.Participatory Planning:

1. Residents were actively involved in the planning process, ensuring that the development meets the community's needs and preferences.
2. This participatory approach has resulted in strong community engagement and a sense of ownership.

Integrated Mobility Planning:

1.Car-Free Zones:

1. Large parts of Vauban are designated as car-free, reducing traffic congestion and pollution.
2. Residents who own cars are required to park them at the edge of the district in designated parking areas, rather than on residential streets.

2.Public Transport Accessibility:

1. Vauban is well-connected to the rest of Freiburg via an efficient tram system. The tram line runs through the center of the district, providing easy access to public transport.
2. The design ensures that most homes are within walking distance of a tram stop, encouraging the use of public transport over private cars.

3.Cycling and Walking Infrastructure:

1. The district is equipped with extensive cycling paths and pedestrian-friendly streets, promoting active modes of transport.
2. Safe and convenient infrastructure for cyclists and pedestrians reduces the reliance on motor vehicles and encourages healthier lifestyles.

4.Mobility Services:

1. Car-sharing services are available for residents, providing access to vehicles when needed without the necessity of owning one.
2. Public transport tickets are often integrated into housing contracts, incentivizing the use of sustainable mobility options.

5.Sustainable Transport Policy:

1. Vauban's mobility strategy aligns with broader city policies aimed at reducing carbon emissions and promoting sustainable urban development.
2. The district's planning reflects a comprehensive approach to transport,

integrating land use and mobility to create a cohesive and sustainable urban environment.

Outcomes of Integrated Planning:

1.Reduced Environmental Impact:

1. The integrated spatial and mobility planning has significantly reduced the district's carbon footprint and reliance on fossil fuels.
2. The high rate of public transport usage and the low car ownership contribute to lower greenhouse gas emissions.

2.Enhanced Quality of Life:

1. The car-free environment, coupled with ample green spaces and accessible amenities, has improved the overall quality of life for residents.
2. The focus on community involvement and sustainable living creates a strong sense of community and well-being.

3.Economic Efficiency:

1. Efficient land use and the promotion of public transport and cycling reduce infrastructure and maintenance costs.
2. The district attracts residents who value sustainability, contributing to stable property values and economic vibrancy.

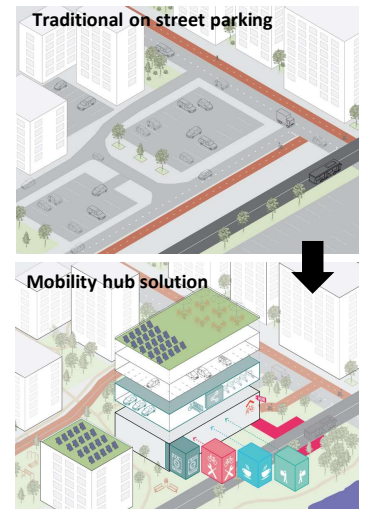
4.Social Cohesion:

1. The participatory planning process and mixed-use development promote social interaction and inclusivity.
2. Vauban serves as a model for how integrated planning can foster strong, cohesive communities.

Integrate spatial and mobility planning at city district level

Zoom in on car parking policy

- Examples of policies: clustered car parking on the city or area edge (hub), regulated car parking, lower car parking norms
- Encourages walking, cycling, public transport, shared mobility
- Requires preconditions:
 - Regulated parking is required around the city district
 - Full-fledged alternatives must be available (high quality walking, cycling, public transport, shared mobility)
 - Reservation of funds and spaces for additional parking spaces (if there appears to be a higher level of car ownership than predicted, after completion)
 - Take measures to prevent sorting out of social target groups (for example offering shared mobility solutions)



Source: Goudappel

Parking policy is an important success factor in spatial plans.

In many urban projects there is the temptation to offer few parking spaces. An ambitious parking strategy consists of more than just that. It also involves, for example, shifting parking solutions to the edge of the area (creating walking distance and more living space within the area). But also, about offering high-quality alternatives to car use (pull measures or making different behaviour attractive). In addition, measures must also be taken outside the area if fewer car parking spaces are created. This is to prevent the 'waterbed effect', where people park their cars in the neighbourhood next to them. And cause a nuisance there.

Clustered car parking on the edge of a city district can offer several advantages from both a mobility and spatial planning perspective. Here are some key benefits:

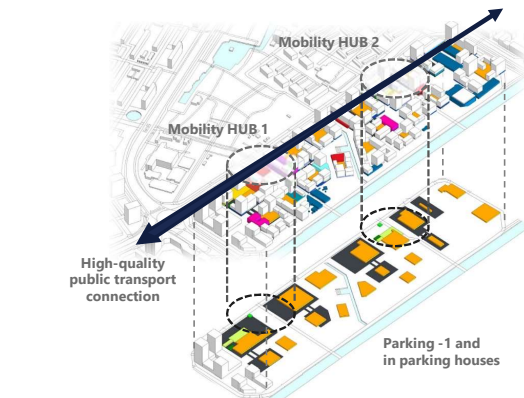
- **Minimized Internal Traffic:** By placing parking facilities on the edge of the district, car traffic is kept out of the central areas, reducing congestion and improving the flow of vehicles on main roads.
- **Traffic Calming:** Less car traffic in the district's core creates safer and more pleasant environments for pedestrians and cyclists.
- **More Public Spaces:** Reduced need for on-street parking and smaller parking lots within the district frees up space for parks, plazas, and other public amenities.

- **Reduced Visual Clutter:** Central areas free from extensive parking lots and garages are more aesthetically pleasing and can maintain a cohesive urban design.
- **Encouraging Public Transit:** Placing parking on the district's edge can encourage the use of public transit for the "last mile" of the journey. Shuttle buses or trams can transport people from the parking area to their final destinations.

Integrate spatial and mobility planning at city district level: example

Merwede Canal Area Utrecht (The Netherlands)

- New development area within city of Utrecht on former business park: 6.000 new dwellings plus amenities (250 dwellings/HA)
- High quality walking and cycling links, proper bicycle parking facilities, high-quality public transport stops, attractive car-free walking environment, basic facilities within area (childcare and shops), car sharing
- Result: within the area indoor car parking at the edges of the area: 0,3 car parking / dwelling, additional financial reservation for additional car parking in existing P&R facilities



Source: Bura Urbanism

Herewith an example of spatial planning at the district level. the Merwede Canal Area in Utrecht (NL). An area for 6,000 new residents with very low car parking standards. It involves the transformation of an old industrial area into a new mixed city district.

One of the crucial parts of the spatial plan for this area is the use of mobility hubs. These are combined with a public transport stop and public services such as parcel wall. On the right you see a picture of the area with the hubs on the public transport connection. Car parking is largely covered here (underground, indicated in black). Bicycle parking also requires a lot of space (indicated in orange, at ground level, but indoors).

The Merwede Canal Area project is highly topical. The planning phase is largely complete. Currently (2024), the last legal procedures are being completed (so called 'Raad van State' procedures). In the meantime, however, first contracts have already been signed with the various property developers to realise the buildings. The first designs for buildings are ready and construction is expected to start in 2025.

Summarizing: how to integrate mobility and spatial planning

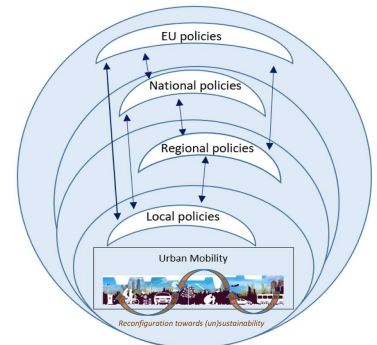
Lessons learned

Consider spatial planning as tool for sustainable mobility:

1. Regional and metropolitan level: elaborate spatial strategies into mobility strategies, **creating compact regions** with potentials for walking, cycling, public transport
2. City district level: spatial development in **high density and mixed use**: combining with high quality walking, bicycling, high-quality public transport, sharing mobility, manage car mobility by regulating parking and road use



Source: <https://www.linkedin.com/pulse/importance-eco-friendly-transportation-building-sustainable>



Source: <https://www.sciencedirect.com/science/article/pii/S2210422423001181>

This slide resumes the main lessons learned by the ITDP on the analysis of the set of case studies.

1 – regional level:

think about SUMP's not only from the mobility sector, but also involve the spatial planning discipline. Spatial planning has a major influence on the emergence of mobility. From a mobility policy perspective, steer towards compact regions, focusing on short travel distances (walking and cycling) and high densities and function mix (increased use of public transport).

New developments should be planned as closely as possible to existing job centres and other destinations, thus making the investments in transit and cycling networks more efficient and effective. Mixed uses (housing, jobs, leisure facilities, shops, grocery stores, etc.) should be incorporated into new developments at site selection and master planning stage, to minimize travel distances, enabling residents to make routine trips on foot or by bicycle, with convenient public transportation offering a realistic alternative to the car.

No amount of policy or design measures will work well if the new development is located far from jobs and services their residents need.

2 – city district level:

use a technique called “filtered permeability” to make travel by bicycle or foot more direct than by car and locate bicycle parking closer to homes than car parking. This gives walking and cycling a competitive advantage over the car. Use bike sharing to encourage occasional bike use by visitors and residents. Develop neighbourhoods

designed for walking and cycling creating high quality infrastructure for cyclists and pedestrians and design a dense network of streets and paths that make walking and cycling easier. Consider the imposition of bike parking minimums in new developments, especially in central locations served by good bicycling networks.

Public transport is responsive to resident needs, and therefore has high modal share. Maximum walking distance 500 meters; minimum of 4 services per hour; long operating hours; comprehensive information at stops; coordinate timetables and fares.

Integration into the regional transit network and long service hours make riding convenient while low-cost period passes keep it affordable. High quality, conveniently accessible public transportation is key to encourage its use over the car. Ideally these facilities should be established in advance. It is much harder to change travel behaviour once residents have developed a routine of habitual car use.

3 - previous is about offering high-quality alternatives (sweet, carrot). Also needed is the stick, or not unnecessarily enticing car use. Low speed limits, traffic calming, and filtered permeability further decrease the speed and convenience of car travel. The provision of carsharing is a prerequisite for any strategy designed to reduce car ownership. By making car use less convenient than other modes, residents are subtly nudged to consider other modes (pull measure). Intention is key - all developments were created with a mandate to reduce or minimize driving, which **provide political will for all the urban planning and design decisions that followed**. Using stringent caps on car trip generation and CO₂ emissions or the relaxation of parking minimums if other criteria to reduce car demand. Parking regulation is probably the most effective tool to promote a more sustainable modal split, (e. g., impose restrictive parking provision standards and higher parking tariffs in areas well served by PT).

4 - Don't forget the larger policy context: The participation of elected representatives (at the regional level, in some countries, or at the municipal/city level) in this type of process is crucial to ensure that they do not oppose it; otherwise, there is a considerable risk that even an excellent technical plan will be put on the back burner for lack of support

Transportation policies at the city, regional and national levels play a key role in shaping daily travel behaviour and residential locations in the longer-term. Congestion charges, citywide parking management policies, high fuel prices, and high-quality transit all influence mode choice, reinforcing site-specific measures such as car-access restrictions, provision of high-quality walking and cycling facilities and filtered permeability. All of the case study cities are served by national railroad systems, providing an alternative to the car for longer-distance journeys, thereby complementing measures to discourage car ownership and use in the local area.

Use regulations to incentivize and in some cases mandate reduced car use, using a variety of techniques including placing stringent caps on car trip generation and CO₂ emissions and relaxing parking minimums if other criteria to reduce car demand are met. In many of the cases, parking supply has been reduced and the parking that does exist is separated spatially and fiscally from housing units. In some cases, the planners have also required developers to fund or build transportation infrastructure

and services (including mobility management services) as a condition of site approval. Master planning competitions can foster further innovation in both the built environment and transportation planning.

Many of these developments make ongoing efforts to reinforce their founding vision and to empower residents and visitors to make sustainable travel decisions by offering tailored mobility advice, running marketing and awareness campaigns, and through promotions such as free or discounted transit passes or car-sharing membership for new residents. Ongoing measures to encourage low-emission travel behaviour are important to ensure the long-term transport sustainability of residents. Planners should consider whether the developers should be asked to fund these initiatives or if there are ways to create dedicated streams of revenue (e.g. by earmarking a portion of parking fees or outdoor advertising fees/space) to fund them over time. These “smart measures” are particularly effective if initiated when residents move into a new district, as this is the period in which people are receptive to change. In this type of new development consider the signing of sustainable mobility commitment as prerequisite to move into it.

Source: ITDP Europe (Institute for Transportation & Development Policy). Europe’s Vibrant New Low Car(bon) Communities, Nicole Foletta and Simon Field, 2011