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FROM ROADS TO BOULEVARDS

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From Roads to Boulevards

Guest topic editor Paul Lecroart introduces the work underway across Europe to turn highways into green streets

In March 2020, the Network of European Metropolitan Regions and Areas (METREX) launched the *From Roads to Streets* expert group. This is a platform for exchanging knowledge and experience on how to convert segregated urban highways into green living streets, and thereby transform the urban fringes of metropolitan cities and regions. The planning and environmental agency for the Paris Metropolitan Region - Institut Paris Region - is the lead partner.

The METREX group has collaborated with other networks including the Urban Regeneration in the City Fringe EUROCIITIES working group (with the City of Oslo as lead partner) and the URBACT RiConnect action planning network (with Barcelona Metropolitan Area as the lead). The three networks have joined forces to share expertise and stimulate strategic creative planning, learning together through case study analysis and hands-on workshop studios. Altogether about 20 cities and metropolitan regions in Europe have been involved in this four-year collaboration. A report bringing together the findings is planned for publication later in 2025, but this issue of the journal provides an early opportunity to look ahead at eight of the case study cities.

There are different catalysts for rethinking highways as streets. Many growing European cities and metropolitan regions need to find space for new homes and jobs within good quality accessible urban environments, without encroaching on the surrounding countryside. One response to this is to transform existing post-war developments - low-density car-oriented neighbourhoods - into denser and greener mixed use urban places. In this context, segregated roads and bridges are barriers to sustainable regeneration. There is also an increasing

awareness of the negative impacts of urban motorways, such as the growth of motorised traffic, congestion, exposure to noise and air pollution, and related environmental, health and social equity issues, against the backdrop of increasing maintenance costs due to climate change.

Coming after my previous article 'Re-inventing cities: From Urban Highway to Living Space' (*Urban Design* Summer 2018, UD 147), the following articles illustrate the story of eight metropolitan cities engaged in the challenging process of transforming large pieces of road infrastructure and their urban hinterlands.

While some cities follow a pragmatic approach with one-off projects, others such as Barcelona, Birmingham, Brussels, Helsinki and to some extent Paris envision highway-to-boulevard corridor conversions as a structural component of their urban strategies, finding their way into city or metropolitan-wide master plans. Removing the barriers to urban intensification is the driver of highway changes in both central areas (Birmingham and Wrocław) and along radial road corridors in the city fringe (Brussels and Gothenburg) or suburbia (Barcelona). The need to re-allocate road space for a new tramway line provides a strong lever for converting expressways into street level boulevards in Helsinki, Gothenburg and the Paris Region. Where alternative streets exist or can be created, segregated roadways are being closed to traffic and given back to the public, as in the successful pedestrianisation of the Paris River Bank Expressway.

Recycling segregated highway networks into green, walkable and cycle-friendly streets, with the support of socially

equitable urban redevelopment and transport demand management policies, is increasingly becoming a way of adapting cities to social and climate-related challenges. Highway strategies can be highly transformative for cities and regions. They can stimulate mixed use, polycentric, walkable and healthier urban environments for all. They also force traffic to evaporate, encouraging a shift to less car travel and car-less living patterns.

However, systemic change is challenging for public bodies, citizens and businesses, as it can create conflicts with short-term interests. It requires an open-minded, collaborative, participative approach with a high degree of political co-operation between national, regional and city governments. Incremental change can help to build community support with small steps paving the way for bigger change. A combination of strategic long-term thinking, a desirable win-win narrative, and the implementation of cheap, people-friendly, tactical actions can be a great help.

However, there is an obvious need to rethink current planning paradigms, instruments and funding streams to meet the fast-changing challenges of the 21st century. ●

Paul Lecroart, Senior Urbanist, Institut Paris Region and Chair of the METREX From Roads to Streets Expert Group

<https://en.institutparisregion.fr/international/from-expressways-to-boulevards/>

<https://www.eurometrex.org/activities/metrex-expert-groups/from-roads-to-streets/>



Breaking the Concrete Collar in Birmingham

Sandeep Shingadia and Raj Aujla reflect on the removal of Masshouse Circus and its impact on placemaking in the city



Birmingham: demolition of Masshouse Circus in 1990s. Copyright: BPM Media

George Orwell famously wrote ‘four legs good, two legs bad’. In the 1970s, Birmingham had an Orwellian feel to it – four wheels good, two wheels (or indeed legs) bad. Post-war Birmingham was dominated by the motor car in terms of the growing motor industry within and around the city, and the provision of infrastructure to ensure that the car was prioritised over other modes of transport. Birmingham was Motor City, the Detroit of the UK.

Rebuilding Britain’s cities to

accommodate the motor revolution was an integral part of post-war urban renewal. This was particularly true in Birmingham, and as a result of this investment in roads, Masshouse Circus was born. This iconic roundabout had a rich history dating back to the 19th century. Originally known as Masshouse Lane Roundabout, it has undergone significant changes over the years, serving as an important transport hub and witnessing the growth and development of the city.

The history

The origins of Masshouse Circus can be traced back to the early 1800s when Birmingham was undergoing rapid industrialisation. Masshouse Lane, the road that encircled the area, was a major thoroughfare connecting different parts of the city. However, due to increasing traffic congestion, the construction of a roundabout was proposed to alleviate the problem. In 1876, the construction

of Masshouse Circus began under the supervision of the city engineer Richard Tangye.

Over time, Masshouse Circus became an important landmark in Birmingham, serving as a gateway to the city centre and a meeting point for various transport routes. The roundabout witnessed the growth of the city's tram network, with tram lines radiating from Masshouse Circus to different parts of Birmingham. It played a crucial role in facilitating the movement of people and goods, contributing to the city's economic development. But by the mid-20th century, Masshouse Circus faced new challenges: increasing traffic congestion led to the decision to redesign the roundabout. The resulting redevelopment was the Inner Ring Road, Britain's first urban motorway.

Post-war redevelopment

Sir Herbert Manzoni changed the face of post-war Birmingham, as a follower of the modernist architect Le Corbusier, who saw the car as king. He believed that pedestrians should be segregated from roads, and nothing should impede the flow of vehicular traffic. It has been quipped that Manzoni, who held the title of City Engineer and Surveyor of Birmingham, brought more damage to the city than the Luftwaffe could ever have imagined. Sending shivers down the spines of conservationists, Manzoni said: 'I have never been very certain as to the value of tangible links with the past. They are often more sentimental than valuable. As to Birmingham's buildings, there is little of real worth in our architecture'.

In 1943 he started work on his most infamous legacy: Birmingham's Inner Ring Road or the 'concrete collar'. This

is widely viewed as a costly barrier to the expansion of the city centre and one of the biggest planning mistakes of the 20th century. Opened in 1971, Manzoni designed the road to be grade-separated, meaning any junctions should pass above or underneath each other to keep traffic moving. This forced pedestrians to use a network of unpopular dimly lit subways, and thus reinforced the dominance of the car.

The result was an urban design catastrophe and on a scale not seen elsewhere in the UK. As cars travelled unimpeded, Birmingham's city centre was strangled by this urban motorway. Walking into and out of the central area could only be done via the hostile and confusing pedestrian subways. Even the Bull Ring shopping centre could only be reached by subway. Nearby Digbeth became a virtual wasteland underneath the elevated inner ring road, and very few people lived in the city centre.

Beyond the edge of the city centre, there were empty plots of land which had been cleared to make way for the Inner Ring Road, but which were now blighted. Not only had the city centre been strangled, but the adjoining areas were starved of any discernible growth. This car-oriented style of civic planning typified Birmingham for decades to come.

Addressing the problem

By the late 1980s there was clear recognition of the problems created by the Inner Ring Road and the wider planning blight that it had caused, preventing the city centre from growing, and its brutal appearance was harming the image of the city. This created a new focus to address the problem. The 1988 City Centre Challenge Symposium took place

The breaking of the concrete collar in Birmingham represented a new mindset and a commitment to progress

and, whilst it only lasted a weekend, what was discussed has shaped the city centre ever since and was known as the Highbury Initiative. Although this was one of many steps taken to try to reverse the city's long-term decline, it is notable for its ambition and the way in which it came to represent a period of optimism and rapid change.

On 25 March 1988, around 80 invited participants met in a room at the Albany Hotel in Smallbrook Queensway. Most were local people active in planning, development, architecture and the arts. They included prominent architects as well as experts from abroad, including Rotterdam's Director of Town Planning and the Director of the San Francisco Redevelopment Commission. There were also councillors and officers from Birmingham City Council, headed by Councillor Sir Albert Bore who chaired



Inner Ring Road Key Plan, Birmingham Corporation, 1946. Source: Wikimedia Commons



Birmingham: Masshouse Plaza begins to take shape in early 2000s. Copyright: BPM Media

its economic development committee.

The weekend event was facilitated by a joint team from consultancies DEGW and URBED. The session continued at Highbury Hall in the suburb of Kings Heath. After numerous workshops and plenary sessions, a series of principles and proposals were drafted. These were reviewed and revised with agreement sought on the conclusions.

A number of key recommendations were made as a result of the Highbury Initiative. These included:

- The roles and functions of the city centre needed to be expanded to be not only a location for business and shopping, but a place where one could spend time purely for the pleasure of being there.
- The inner ring road was a constriction on the city centre and a source of disorientation, inhibiting both pedestrian movement and economic growth.
- The concrete collar should be loosened and the city centre, contained by the Inner Ring Road, redefined as extending to the middle ring road – ten times bigger.
- In the city core, pedestrians should have priority over vehicles.
- The city must collectively raise the quality of design, based upon a clear urban design strategy.
- Planning should be based upon identifying distinctive quarters in the city centre and having action programmes

for their development.

There was broad support for the recommendations, leading to rapid mobilisation.

Taking action

Following the Highbury Initiative and its recommendations, two immediate commissions were made. Firstly, the American landscape architect Don Hilderbrandt, who had attended the Highbury meeting, was commissioned to make a plan for the pedestrianisation of the city core. His plan has been largely implemented throughout the city centre. The second commission was for the urban designer Francis Tibbalds to write an urban design policy for the city centre. Each designer began the process of giving the streets and squares back to the people of Birmingham.

In 1990, the Department of Transport made the decision to remove the status of ‘strategic highway’ from the eastern half of the Inner Ring Road, between Horse Fair and Lancaster Circus. This made it possible to close the road at the Bull Ring, and later demolish the elevated Masshouse Circus, to replace it with the street-level Moor Street. In 1991, just 20 years after the Inner Ring Road had been completed, work began to dismantle it.

Masshouse Circus was completely removed in March 2002 at a cost of £24.2

million and replaced by an at-grade network of roads, including a gyratory slightly to the east of where the junction once stood. This allowed the land to be opened up for redevelopment.

It was the principles and actions from the Highbury Initiative that helped to shape Birmingham’s Big City Plan beyond the 1990s. This major development plan for Birmingham City Centre was launched in September 2010. The Big City Plan focused on delivering transformational change by supporting sustainable growth, creating new and improved public spaces, giving streets back to pedestrians, and bringing the cultural life of Birmingham to the heart of the city.

Highway removal drives regeneration

As part of the urban regeneration around Masshouse Circus, several other changes have also taken place:

- **Construction of new residential and commercial buildings:** these developments have transformed the skyline around Masshouse Circus, adding modern architecture and creating a more vibrant urban environment. The new buildings provide housing options and accommodate commercial spaces, contributing to the revitalisation of the area.
- **Green spaces and public realm enhancements:** with a focus on creating green spaces and enhancing the public realm around Masshouse Circus, parks, gardens and open spaces have been developed, providing residents and visitors with areas to relax, socialise and enjoy nature. These green spaces contribute to a more aesthetically pleasing and environmentally friendly urban environment.
- Improved cycling and walking

infrastructure: improvements have been made to cycling infrastructure around Masshouse Circus. Dedicated cycle and walking routes have been introduced, ensuring safer, more accessible and more convenient networks. These enhancements support the city's efforts to promote cycling and walking to reduce reliance on cars.

— **Integration of public transport hubs:** efforts have been made to integrate public transport hubs around Masshouse Circus. This includes the development of bus stops, tram stations and other transportation facilities close to the area. The aim is to provide seamless connections between different modes of public transport, making it easier for people to access and navigate the area.

— **Gateway to High-Speed Rail:** the HS2 Curzon Street station is being built broadly in the location of Masshouse Circus. This station and its wider proposals will see much improved transport connectivity, providing development opportunities and acting as a catalyst for growth in the immediate area as well as the adjacent areas of Digbeth and Smithfields.

The urban regeneration taking place around Masshouse Circus has transformed the area into a more vibrant, accessible and sustainable urban hub. The combination of new buildings, pedestrian-friendly improvements, green spaces, improved cycling infrastructure, and integrated public transport hubs contribute to creating a more livable and connected community. This has been a blueprint for other parts of the city.

The Snowhill Masterplan, currently in development, will be another example of breaking the concrete collar so that The Queensway (A38 road) is reconfigured to restore sustainable connectivity to this part of the city centre, freeing up



Birmingham: view across the new events Plaza at Eastside City Park towards Masshouse Plaza. Copyright: BPM Media

land for development and supporting the introduction of an enhanced integrated transport system.

It is not only Birmingham that has been breaking its concrete collar. The neighbouring city of Coventry has been removing sections of its ring road. Around 2.25 miles long, Coventry's ring road features multiple junctions, flyovers and underpasses to facilitate traffic movement around the city, but also acts as a barrier to pedestrian and cycle movement. Sections have been removed close to the rail station to facilitate development opportunities and improved at-grade access to the city centre.

Outcomes

The redevelopment of Masshouse Circus was driven by a fundamental review of planning, economic development and transport policies, with the recognition that change was needed. This change was fundamental in ensuring that Birmingham city centre could realise its potential and bring wider economic, social and environmental benefits. Masshouse Circus is a great example of what can be achieved when roads (or in this case an urban motorway) are turned into streets. The breaking of the concrete collar in Birmingham also represented a new mindset and a commitment to progress. It was a powerful symbol of unity,

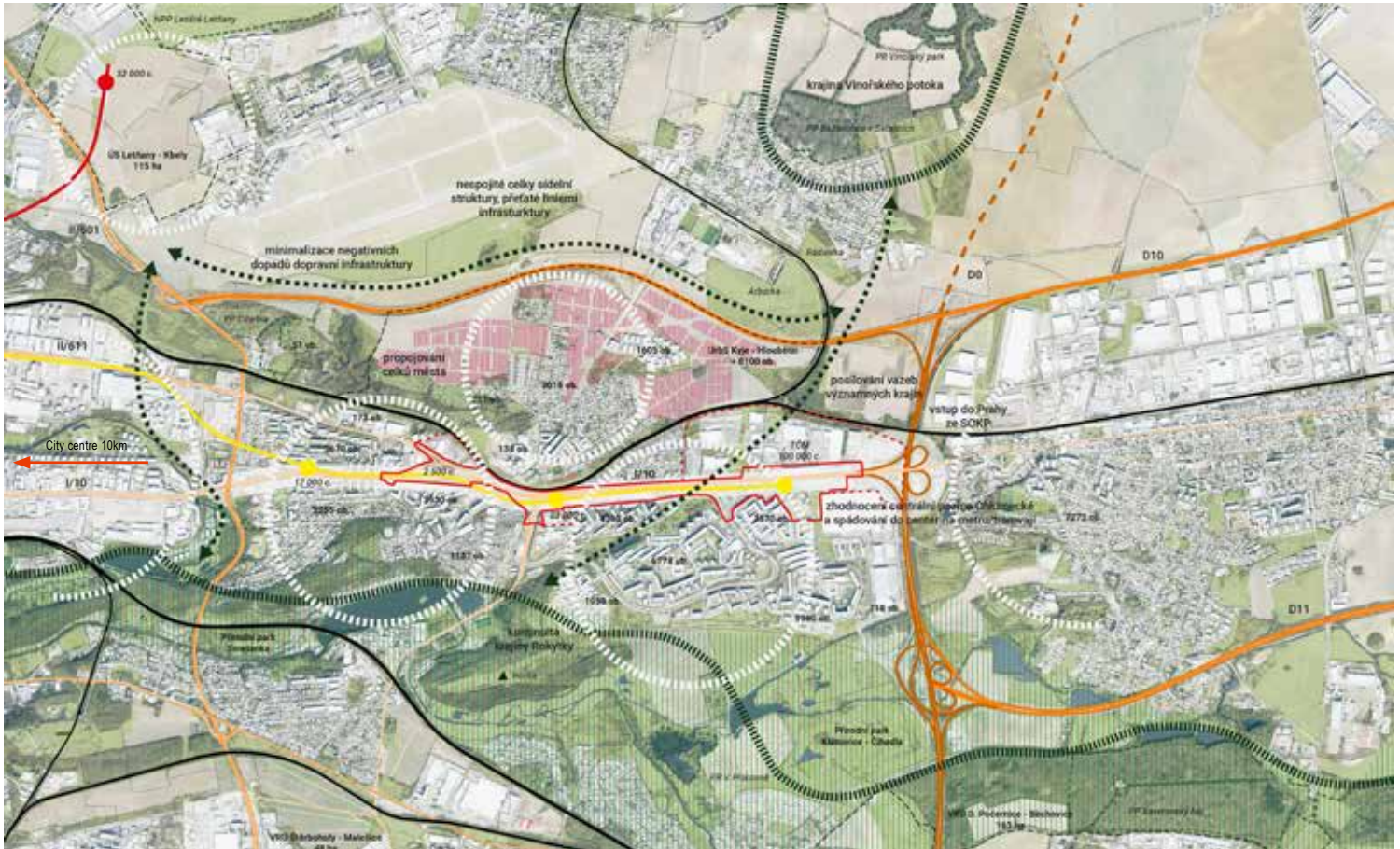
progress and resilience, reflecting the city's journey towards a more inclusive and connected community.

The journey continues. Birmingham, along with other local authorities in the metropolitan area, have become part of the West Midlands Combined Authority (WMCA). The WMCA has an ambitious devolution deal, including a directly elected mayor, the powers and funding to improve transport, skills and housing to drive growth in the region. Powers and funding are key, alongside plans and strategies which meet economic, environmental and social objectives. As devolution continues, the provision of a single settlement from central government – in which WMCA receives capital and revenue funding certainty much like a government department – will allow the WMCA to take a far more strategic and impactful approach to delivering funding for transport, housing, adult skills, net zero and local growth. A key part of this is place-based strategies which allow for far greater co-ordination of more-people friendly, inclusive and connected communities. ●

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Regenerating the Chlumecka Highway Corridor, Prague

Vojtěch Benedikt explains how European level co-operation and expertise kickstarted a different approach in the city



Prague, Chlumecka Highway Corridor: Wider context and spatial relationship analysis with the highway corridor outlined in red. Copyright: Gogolák + Grasse architects for Institute of Planning and Development of Prague

Chlumecká, a former highway, is a barrier at the heart of the Prague 14 district. This area, well served by public transport and consisting mostly of city-owned land, is a prime location for public development. This article outlines the background, process and outcomes of a study commissioned by the City of Prague's Institute of Planning and Development to inform the complex re-imagining of the area. This joint urban and transport study was conducted in co-operation with the Eurocities project network

and the METREX working group on 'Urban Regeneration in the City Fringe', and addresses the unique challenges and opportunities of revitalising the Chlumecká highways corridor and its surroundings.

The Czech Republic's capital city, Prague, is home to 1.5 million residents, and with a similar population in the Central Bohemian region beyond the city. The city features a dense core which was the focus of development until the 1930s, surrounded by a lower density outer belt that includes modernist housing from

the second half of the 20th century, remnants of historic villages, and fragments of pre-war suburban housing projects. The population is roughly evenly divided between these two zones. The project area is located at the very fringe of Prague's administrative boundaries, within the 14th of its 57 districts.

Study area

A former highway with fairly high traffic volumes (45,000 vehicles per day),

Chlumecká cuts through various areas from suburban single family housing, modernist estates, to big box stores in the east. The study is divided into two tiers – the study area itself and the area of interest:

- The study area, comprising the streetscape and immediate surroundings of Chlumecká, is primarily owned by the public sector. A more detailed design of its urban potential, street regeneration and landscape design in the form of a preliminary concept design is expected for this area.

- The area of interest is a wider buffer around the study area, primarily consisting of privately owned, partially developed land. Only an indicative design is expected for this area, and any proposed changes must directly benefit or complement the study area.

Within the study area is an existing project for an intercity bus terminal, which has political approval and is currently seeking planning permission.

Goals

The goals of the Chlumecká study are:

- To serve as a plan for the co-ordination of the interventions required to redesign the Chlumecká road into a street, and transform the area by reducing the barrier effect and creating a more welcoming urban environment.
- To form the basis for a traffic model that will examine the possible extension of the tram line and changes in traffic capacity by modifying traffic lanes and intersections.
- To create a starting point for more detailed spatial studies and their co-ordination.
- To provide background information for consideration by the Prague Development Company's own urban land development options.



The historical evolution of Chlumecká highway from 1842 to 2019. Copyright: Institute of Planning and Development of Prague

- To serve as the basis for an architectural competition for the development of the study area.

Collaboration

In May 2023, the fifth meeting of the Eurocities Urban Fringe working group was held in Prague, in collaboration with members of the METREX 'From Roads to Streets' group. METREX is a non-profit network of over 50 metropolitan regions and areas in Europe, connecting people in the public sector to work together for a more productive, healthy, inclusive, and sustainable future.

In a workshop, representatives from the Eurocities member cities of Amsterdam, Vilnius, Brussels, Dusseldorf, Lyon and Oslo, as well as the METREX cities of Budapest and Paris, were invited to outline possible ways of re-working the Chlumecká road. Since the Chlumecká project is in its early stages, the aim of the workshop was to kickstart an inspired and contemporary design for the area.

The group visited the site, learned about its history and context, and during a two-day workshop helped us to imagine its future. Three teams were created, each focusing on a different time scale: short term (by 2025), mid term (by 2035) and long term (by 2075).

The main conclusions of the workshop focused on identifying and building

upon its existing qualities for the short term. The mid-term goals were to reduce the barrier effect of the street itself, along with the parallel overground metro line, and to extend the tram network to connect with metro and rail stations, creating a transit hub at the heart of the district. Long-term plans would envision a complete re-imagination of the street and its surroundings, facilitating new development on public land and adding to the range of the land uses within walking distance of public transport nodes. The groups produced preliminary concept sketches and simple visualisations.

The design presentations took place at the Centre for Architecture and Municipal Planning, attended by employees of the Institute of Planning and Development, as well as designers from Gogolak + Grasse Architects, who were commissioned to complete the urban study. This collaboration allowed input from the Eurocities and METREX working group and significantly influenced the final designs.

Process

Procured externally via a public tender process where both the price and quality were taken into account, four multidisciplinary teams offered both a fee proposal and a motivation brief, outlining the teams' experience and their approach to the site. The fee and quality



Proposed structure diagram. Copyright: Gogolák + Grasse architectes for Institute of Planning and Development of Prague

criteria were each valued at 50 per cent of the points, and while the fee proposals were very similar, the quality criteria proved vital in choosing the right team.

The joint urban and transportation study has focused on the opportunities identified within the Eurocities/METREX workshop. These are the potential synergy between the proposed tram extension and the urbanisation of the Lehovec site, which today houses a large under-used tram loop/bus terminal. Since the land in the project area is largely publicly owned, this is likely to be a financial win-win for the city.

After extensive analysis of the site, identification of missing connections in the transportation and green networks, a study of the projects planned for the area and its vicinity, discussions with local councils, the transit authority and the public development company (PDS), the conclusions were:

— **Broader Context:** Chlumecká is a key connection point in Prague, linking various centres and supporting a high residential density in the area. A transportation assessment revealed opportunities to enhance public transport, improve pedestrian and cycling routes, and integrate landscape features to connect green spaces.

— **Structure:** The urban revitalisation plan focuses on transforming Chlumecká to prioritise non-motorised users. This includes enhancing the metro promenade and developing adjacent areas, as well as transforming the Lehovec loop into a local centre. Upgrades to the Rajská Zahrada area

and nearby parks will support community needs and provide new amenities and job opportunities.

— **Infrastructure:** Key improvements in connectivity involve reducing unnecessary pedestrian overpasses and linking fragmented cycle paths, while also making cycle routes safer and separated from vehicular traffic. Transport interventions will include modifications to the Lehovec loop and tram infrastructure, aiming to reduce car traffic on Chlumecká without affecting the surrounding streets.

— **Processes:** Future transport plans aim to extend tram lines to Rajská Zahrada, Černý Most and Na Hutě, while enhancing the multimodal hub at Rajská Zahrada and improving the Chlumecká-Ocelkova intersection. New pedestrian and cyclist connections across the railway line will be created, alongside assessing park-and-ride needs at Rajská Zahrada, in line with the metropolitan zoning plan.

Design

The design phase of the study has first tackled the key issue of possible tram extensions, their technical feasibility and the resulting value for the city. Of the various options considered, it has been agreed to prioritise the extension to the metro and rail station at Rajská Zahrada (highlighted by the circle on the proposed structure diagram), with possible future extensions eastwards. Other options to extend the tram from Lehovec

(further to the west) were ruled out due to excessive building costs and the need to demolish private properties.

The area released by the tram loop removal and a vast space along the metro line today (used for surface parking) can be immediately used for new development. Given its location on top of the public transport network, it will be an extremely sustainable location. Development volumes were designed based on the limits of the zoning plan, alterations to which the study also suggests.

It is proposed that the tunnel of the metro should be incorporated within the development to further reduce the barrier effect, a proposal that came directly from the Eurocities/METREX workshop.

Chlumecká itself is designed with numerous street level pedestrian crossings. Its architectural design is inspired by Wibautstraat in Amsterdam, where a busy thoroughfare can still have an urban feeling with avenues of trees, wide footways and cycle infrastructure.

There were design discussions about the capacity of the road and the potential to reduce it. While the addition of pedestrian crossings, full crossroads and the narrowing of lanes will decrease its capacity, the number of vehicular lanes actually stays the same (two in each direction) to facilitate the projected intensity of use which would still be over 40,000 vehicles per day. Bus lanes were not considered as this route does not form part of the bus service network, however, the design could be easily adapted if there was future need.

During the design phase, several key institutions were consulted and included the City Council of Prague, the Local Councils of Prague 14 and Prague 9, the public transit company DPP, the public transit body Ropid, the Prague Development Company (PDS), and the Technical Road Administration (TSK).



Model showing the extent of redevelopment along the corridor. Copyright: Gogolák + Grasse architectes for Institute of Planning and Development of Prague

multi-modal macro-modelling data.

Conclusion

This study shows that large infrastructure renewal projects can have a positive effect on the public realm, while enabling new space for public development. As it is expected that at least part of the development will be commercial units, there is a strong case for the whole process to be financially supported by the development, if not paid for in full. When completed, this project can set the bar for how the City can renew its neglected areas, providing added benefits for local people and visitors, while keeping the overall budget balanced at or near zero. ●

Vojtěch Benedikt, Engineer, Prague Institute of Planning and Development

An internal team of experts from the Institute of Planning and Development (IPR) played a crucial role in preparing the project brief and overseeing the work of the external team. This team included Vojtěch Benedikt, the project manager and transportation specialist Viktorja Jakubčíková, an urbanist and co-ordinator for projects in the Prague 14 area, as well as urbanists Michaela Čížková and Filip Ponechal, and green infrastructure specialist Tereza Švecová.

The external team, responsible for writing the study comprised Gogolák & Grasse Architects, including key members Lukáš Grasse and Matuš Berák.

Outcomes

This process shows that there are areas within cities left over from past works which have tremendous potential. These areas are often neglected by local government accepting the status quo. It is our task to identify their potential and spark the imaginations of decision-makers and local residents so that these areas can be transformed into urban places with additional benefits both for locals and visitors.

The process has highlighted the importance of producing a very detailed and well-considered brief, particularly given the complicated processes within cities. It has been an amazing opportunity to have experts from Eurocities and METREX advise on the brief, and it is thanks to this involvement that the results were as good and well-received as they were.

Given that the study area consists mainly of publicly owned land, the opportunities for public development are key to the financing the whole project. The City Council expects that the development of the land, either in public-private partnership companies

or completely in-house by the City could finance most of the works, if not all of it. If this vision is realised, this could serve as a model for city renewal on a balanced budget, motivating similar changes in many more areas of Prague and other cities in the Czech Republic.

The study is expected to be approved by the City Council during 2024-5 with agreement to proceed to the next stage. These next steps will be crucial to ensure that the work comes to fruition:

- The public transit company will procure a detailed study for the tram extension.
- The Technical Road Administration will procure a study looking at possible bridge replacements in the area so that at the end of their lifetimes, they can be replaced in new locations, in accordance with the study.
- The Prague Development Agency will be asked to further develop the urbanisation potential of the area, establishing uses and design cases for each plot, with a plan to launch architectural competitions for each of the new structures, underpinned with cost-benefit analyses to support the investment in each plot.
- IPR Prague will develop further work on transportation issues, supporting the proposed extensions of the tram with



Initial sketch diagram. Source: Institute of Planning and Development of Prague

Helsinki's Comprehensive Roads-to-Streets Strategy

Niklas Aalto illustrates how long-term commitments to a vision enable confident investment



After: visualisation of the planned conversion of Tuusulanväylä, highlighting how much new urban space can be claimed for development by converting the highway to a street



Before: existing image of the Tuusulanväylä highway section

Helsinki is a coastal city located on the shores of the Baltic Sea, home to approximately 680,000 residents in the city and around 1.6 million in the greater Helsinki region. The city centre, situated on a peninsula, gives Helsinki a uniquely captivating landscape, yet simultaneously poses challenges for urban development. Historically, Helsinki has developed in a polycentric manner, with a strong focus on the Central Business District and a more housing-led approach in the suburban centres that have emerged since the 1950s. Car-centric planning has significantly influenced Helsinki's development, resulting in a somewhat sprawling urban structure. On a European city

scale, Helsinki is relatively sparsely populated, with about 3,100 inhabitants per square kilometre, compared to Stockholm's 5,200 inhabitants per km² and Paris's 20,000 inhabitants per km² (one of the highest densities in Europe). This indicates that Helsinki has ample opportunity for urban densification without becoming excessively crowded.

Finland operates a hierarchical, multi-level planning system, wherein cities have a planning (zoning) monopoly, provided they adhere to regional plans. Under this system, cities develop a legally binding master plan that covers the entire urban area, outlining various land use and transportation strategies at a strategic level. This master plan is

further detailed through legally binding plans (detail plans) that dictate specific building locations and types, green spaces, and the division of streetscapes. Notably, the City of Helsinki Council owns roughly two-thirds of its land area, facilitating more efficient and streamlined urban planning processes compared to other Finnish cities, where the majority of land is privately owned.

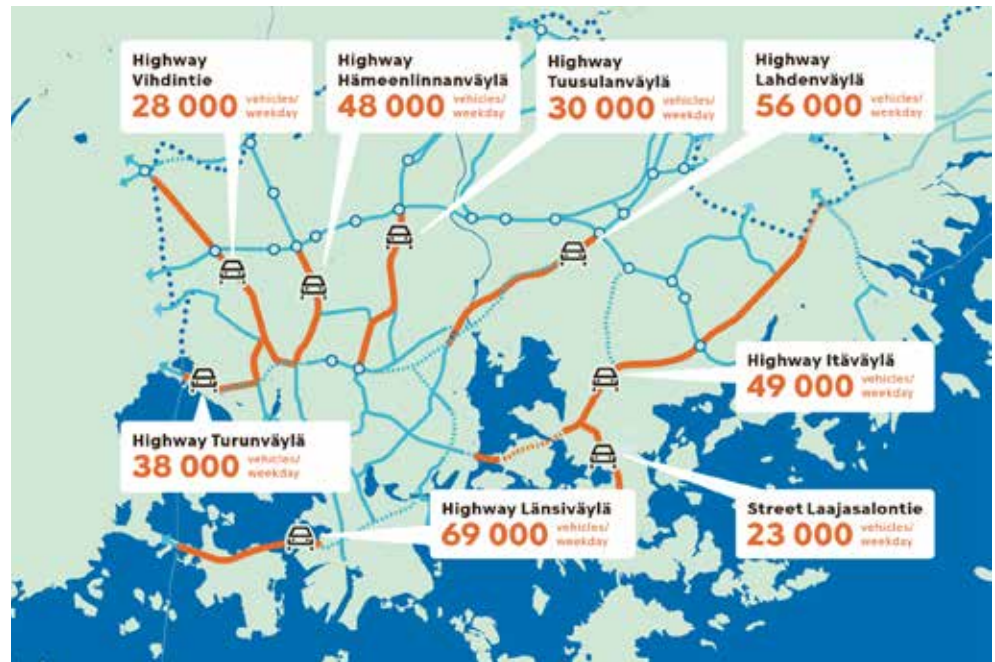
Helsinki's first master plan was proposed in 1932, followed by five subsequent iterations, the latest being the City Plan in 2016. In this plan, the concept was introduced of converting sections of seven segregated highways leading into the city centre into boulevards. This idea, which began to take shape in the late 1990s, was also featured in the Greater Helsinki Vision 2050, an international design competition for the development of the Helsinki region held in 2007.

In a world where climate change and biodiversity loss present new challenges, it is increasingly important to develop cities within existing urban structures. Therefore, converting road areas into urban spaces is more critical than ever, as it reduces the pressure to develop natural areas vital for both biodiversity and the climate. This is the work underway in Helsinki to make it a global leader in comprehensive urban planning.

The vision for boulevards

The 2016 City Plan envisions that approximately one-third of new development be located adjacent to the city centre expanding along the city boulevards, another third will consist of infill development in existing areas, and the final third will be in new development areas, such as the decommissioned Malmi Airport site.

In the context of Helsinki, converting



Map highlighting the seven segregated highways proposed for conversion, along with their average daily traffic in 2014 (note traffic levels have not changed significantly since 2014 with only minor decreases and increases)

arterial roads into boulevards signifies the transformation of a road into a street. A boulevard here is essentially a street lined with buildings on either side, accommodating pedestrians, cyclists, high speed trams, other public transport services and cars. The primary aim of this development strategy is to push the start of the highways outwards, thereby creating additional space for urban expansion. This approach not only allows for increased population density but also enables the city to use its existing infrastructure, such as water and sewer services, and the street network. The final design of each boulevard is intended to be versatile, varying between different character boulevards along a single boulevard alignment. The goal is not to impose a uniform template for conversion to a street, but rather to adopt a strategic approach to holistic urban development, implemented in the most appropriate manner for each situation.

The seven existing segregated highways proposed for conversion are:

- Länsiväylä Highway
- Turunväylä Highway
- Vihdintie Arterial Road
- Hämeenlinnanväylä Highway
- Tuusulanväylä Highway
- Lahdenväylä Highway and
- Itäväylä Highway.

Red and green lights

The target year for the City Plan is 2050, although it is not intended that all outlined developments must be completed by then. Instead it represents an estimate for when most of the broader strategic objectives, such as creating a rail-based network city, might be achieved. Official planning and housing targets are set every four years by local politicians, and town planning is aligned with these targets. Consequently, the City Plan 2016 serves as a guideline for development, indicating the city's overall trajectory rather than providing a detailed blueprint.

Despite extensive public participation and negotiations during the protracted planning process, some of the proposed solutions met with objections. One significant objector was the Finnish Transport Infrastructure Agency. Their challenges to the proposed conversions of the Länsiväylä, Turunväylä, Hämeenlinnanväylä and Lahdenväylä highways were upheld by the Supreme Administrative Court of Finland in 2018, which overruled the suggested City Plan along these highways.

Consequently, only three proposed conversions could proceed, while four will remain highways until a new



After: visualisation along the planned Tuusulanväylä conversion indicating the scope for new street frontage development

city-wide master plan or a partial master plan is developed. The most significant reason for the partial annulment of the City Plan was its inconsistency with the Regional Plan. After the decision by the Supreme Administrative Court, the Regional Plan has been amended, and it no longer prevents the implementation of urban boulevards.

Although this could initially be seen as a significant setback, the conversion of each highway was always intended to be an incremental process. The completion of one project, from detailed planning to the construction of buildings and street infrastructure, is expected to take over a decade. This incremental approach allows for learning from each project before proceeding to the next.

Planning for conversions

At present, six different road conversion projects are in various stages of planning or construction. The most advanced is a smaller scale road-to-street conversion in the south-eastern



Before: Tuusulanväylä Highway today

part of Helsinki (Laajasalontie), which includes a tram line and can be considered the first boulevard project.

Next in line is the Vihdintie Arterial Road. Several key detailed plans have already been approved, and the detailed planning for the tram line construction is underway.

A more detailed plan for the Tuusulanväylä Highway was approved by the urban planning committee in the summer of 2024. Legally binding detailed plans are currently in development, with tram line planning expected to commence in the next few years.

The Itäväylä Highway is the subject of more detailed planning. It is challenging as it has several different sections with a great deal of variety. The unifying feature, a high-speed tram, is dependent on broader land use developments in north-eastern Helsinki and so cannot be planned without answers to several big land use questions in the area. Therefore, extensive development in the area will be deferred until these larger projects, particularly the high-speed tram plan, are finalised.

For two of the overruled highways, Länsiväylä and Lahdenväylä, partial master plans are now being drafted. The Partial Master Plan for Lahdenväylä is expected to be completed in 2025, with Länsiväylä following soon after. The approach to Lahdenväylä has shifted somewhat since 2016, with current plans focusing on reducing speed limits, building a tram line adjacent to the road, and bringing new land uses as close to the road as possible, all in collaboration

with governmental road agencies. The potential for a full street conversion remains a consideration for the future. Planning for Länsiväylä is less advanced, with various options still being explored.

The only highway not yet undergoing new planning is Hämeenlinnanväylä, the lowest priority among the 2016 boulevard proposals due to its limited potential for new land uses.

New challenges require new tools

Overall, Helsinki continues to view the conversion of roads to streets as a very viable urban development strategy. However, it is a complex task requiring significant planning and research. Among the challenges faced are those posed by traffic models, which suggest potential congestion when lane capacity for cars is reduced. These models should not be seen as predictions of the future but as tools to understand the necessary steps to take. This requires the integration of various planning disciplines to overcome existing systems. We have learned that we cannot be constrained by outdated traffic models and must instead understand and plan the city as a whole.

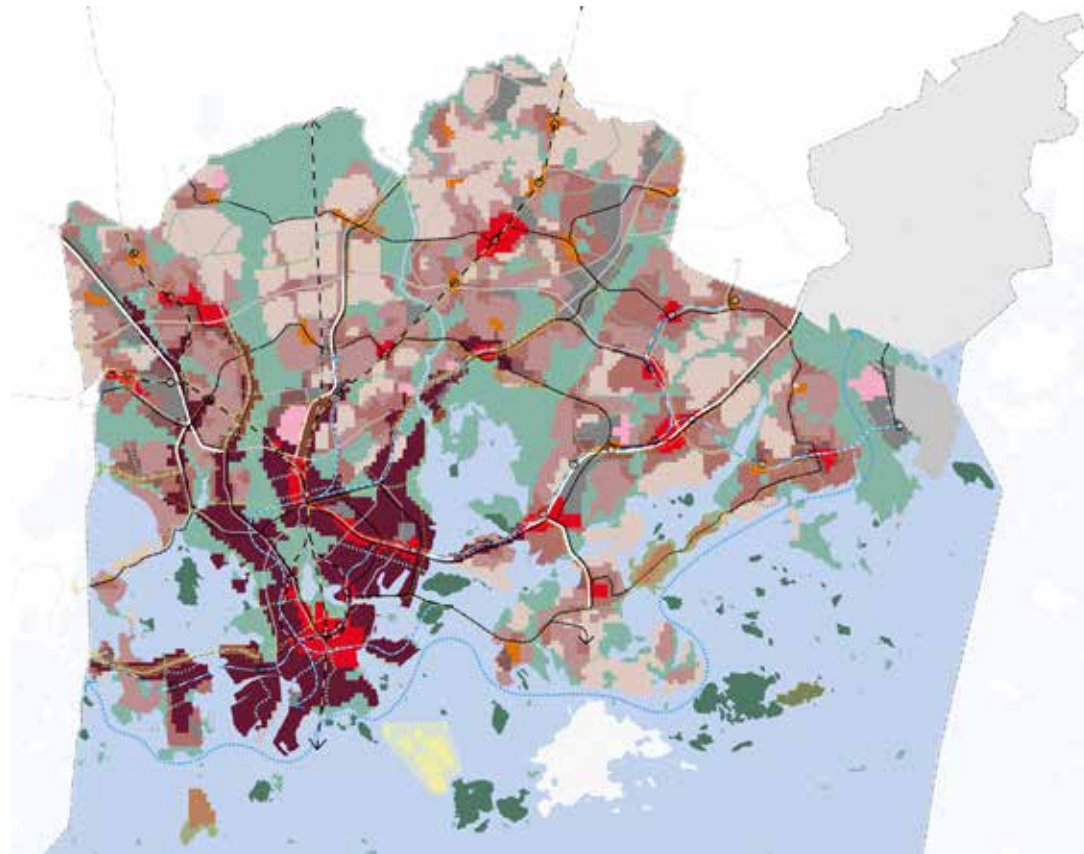
The measures that Helsinki has implemented to mitigate potential congestion, as forecast by traffic models, include the densification of the city, strategic investments in public transportation and new cycling infrastructure. These investments provide opportunities for individuals to alter their mobility patterns – behaviours that traffic models frequently struggle to predict accurately. Furthermore, the volume of car traffic is constrained by the city's street capacity, so that it is irrelevant how many vehicles the highways can funnel into the city, as the central streets can only accommodate a finite number. This is a crucial

Traffic models can be used most effectively when their limitations are acknowledged

concept to convey to both the public and decision-makers.

One of Helsinki’s strengths in urban planning lies in the firm mandate that politicians have granted to planners to design the city in alignment with the 2016 City Plan, which remains the guiding framework for urban development. Consequently, traffic models can be used most effectively when their limitations are acknowledged, supporting informed decisions that can steer us towards the desired future, rather than one solely predicted by models. ●

Niklas Aalto, Strategic Urban Planner, City of Helsinki Council



City Plan 2016

Dag Hammarskjöld Boulevard Project, Gothenburg

Staffan Sandberg and Paul Lecroart explain the challenges involved in bringing forward the transformation of Gothenburg’s road infrastructure



Proposed transformation of the Dag Hammarskjöld Boulevard

The Dag Hammarskjöld Boulevard project in Gothenburg, Sweden’s second largest city, is a complete redesign of an existing 5km long segregated highway into an urban boulevard including a new tramway. The logic behind the project, initiated in 2015, is the need for new housing in the city, a major goal of Gothenburg’s former Comprehensive Plan (2009) reactivated in the new Plan (2022). This southwestern Gothenburg highway corridor has major potential for land use change and intensification on both sides of its footprint, including a large industrial area to the east.



The existing segregated highway

This project also partly addresses the need to take some public transport movements off the street level

As part of the extensive city highway network built and extended in recent decades – Gothenburg is known as ‘Volvo-City’ – the Dag Hammarskjöld Expressway was completed in 1970. It has never been used to its full capacity, in part due to the steady transformation of the city into a less car-dependent urban environment: the road was planned for a capacity of 80,000 vehicles

per day, but traffic levels are less than 30,000 vehicles per day today. The infrastructure and its surroundings therefore have the potential to be converted into a mixed use urban area incorporating around 2,000 to 5,000 new housing units. To accommodate future travel patterns, new public transport capacity is needed in the corridor in the form of a new tramline, which will be the central spine of the future boulevard. However, the project requires a multi-level long-term strategy as well as the prioritisation of investments in the area to succeed.

Transforming south-western Gothenburg

With over 600,000 inhabitants, Gothenburg is at the core of a larger metropolitan area – the Greater Gothenburg Region – home to over one million inhabitants in 13 municipalities and has an annual population growth rate of 1 per cent. This trend is forecast to continue rising to 800,000 inhabitants by 2050 in the metropolitan core (covering the municipalities of Gothenburg, Mölndal and Partille). The region’s economic profile is industrial and includes Scandinavia’s largest port in a central position between Copenhagen, Oslo and Stockholm.

Rethinking the Dag Hammarskjöld Expressway is a significant urban development initiative for the city, supporting the overall transformation of south-western Gothenburg. The project has relied on multi-layered organisations and deliverables within the planning departments of the City of Gothenburg.

The existing highway is directly connected to the national highway network around Gothenburg, making this project a major concern for the National Transport Administration. Other important stakeholders are involved in the project,

with the Regional Public Transport Agency being one of the most significant.

There has also been substantial political interest in the project, not least because the existing highway supports more affluent residential areas along the coastline south of Gothenburg. The project also highlights differences in political values and opinions as it symbolises a greener, urban, intensive and car-light political agenda. After five years of work, the project is now integrated into the Comprehensive Plan for Gothenburg for which there is great political support.

The current challenge now though is how to advance the planning process and secure an investment commitment for both the boulevard and the integrated tramway. That commitment is not solely for the City of Gothenburg to make. It also needs the go-ahead from the Regional Public Transport Agency, as well as the National Transport Administration.

The project dates back to a political directive made years ago to transform the Dag Hammarskjöld Expressway and simultaneously convert the adjoining eastern Högsbo industrial area into a mixed urban area. The densification of the Frölunda post-war residential district to the west was also part of the directive.

These ambitions led to a preliminary study in 2015, with visualisations along the boulevard route produced in 2017. The vision was to integrate the new mixed use urban space with existing neighbourhoods, creating a cohesive whole with adjacent neighbourhoods such as Frölunda, Högsbo, Järnbrott and Flatås, and accommodating 20,000 new residents by 2030. The detailed vision plan relies significantly on the conversion of the Dag Hammarskjöld Expressway into a boulevard, with prospects for developing both sides of the road in a grid pattern structure.

A considerable area of the land that will become available as a result of this boulevard conversion is owned by the municipality, allowing for potential financial gains through sales and development. It is estimated that the development could introduce approximately 2,000–5,000 housing units by 2050.

As for transportation, the project includes the planning of a city tram line along the Dag Hammarskjöld route, aiming for travel times that meet targets set by *Målbild Koll 2035*, a vision for future public transportation in the greater Gothenburg Region.

The Greater Gothenburg Region has grown both in size, due to the possibilities of increasing travel distances, and the number of inhabitants. The Region was heavily dependent on car use and road infrastructure dating back to the 1970s. In recent decades, policies have focused on more efficient use of road space, and congestion fees were implemented in 2013. In Gothenburg, there is a shift towards more sustainable modes of travel, with increased public transport key to continuing the city's expansion without the need for substantial additions to the road network.

Public transport challenges

The vision for the Greater Gothenburg Region is for it to grow along its radial road and railway infrastructure. However, the development of housing and other land uses happens quicker than the delivery of infrastructure, which has put a strain on the region's transportation system. To address this, different measures and plans have been put in place to increase the attractiveness of public transport.

Significant railway investment is currently underway in the form of *Västlänken*, an 8km rail tunnel under



Early phase sketch of key interventions along the Dag Hammarskjöld Boulevard showing the new grid pattern structure

Gothenburg that will allow regional train traffic to pass under the city (whereas today where all trains terminate at the main station). This project also partly addresses the need to take some public transport movements off the street level. In the city centre, traffic has become congested with almost all bus and tram routes passing through the city's historical district. It has been difficult for the City and the Region to agree on a long-term vision that includes all actors in the planning system.

The most viable answer to the expansion of public transport, apart from *Västlänken*, is *Målbild Koll 2035* – the vision for future public transport in the region of Gothenburg and two of its adjacent municipalities, Mölndal and Partille. The programme of work includes large investments in infrastructure for public transport in the municipalities. The majority of the investments are for new tram connections in Gothenburg and a new Bus Rapid Transit-inspired concept for regional bus transport called *Metrobuss*. The *Metrobuss* seeks to serve parts of the Gothenburg Region that currently lack commuter trains. The tramway network in Gothenburg and Mölndal will be developed further and differentiated to address different needs, one being faster commutes over longer distances, making it more comparable to a metro service.

The future tramway boulevard

The new tramway along the planned Dag Hammarskjöld Boulevard is part of this programme. The vision for the tramline involves its integration into the city's fabric to emphasise accessibility and vibrant urban life rather than just speed. Agreeing this vision has been both a challenge and a balancing act, due to different stakeholders' goals ranging from public transport managers emphasising high speeds, to urban planners focusing on low speeds and walkability. The vision sets out to manage both goals through speed variations and consideration of the number of stops needed along the 5km long boulevard and its changing topology. The project envisages a wide urban street with trees, cycle paths and wide pavements for pedestrians on either side, as well as new urban squares. Pedestrian crossings are planned at street level every 125 to 350 metres, improving east-west connections. The existing expressway junctions are to be redesigned as four-way pedestrian crossings. The strategy favours a mix of street-level activities and neighbourhoods with housing, retail, cafés, workplaces, culture and community services. The new boulevard would also play a role in managing rainwater in green corridors to catchment areas.



Street-level view of a pedestrian crossing point on the Dag Hammarskjöld Boulevard

Prioritising investment

When the Dag Hammarskjöld Expressway was originally planned in the late 1960s, land was prepared alongside it for a new tramway. However, the tram was never built and a second effort in the 1990s also failed. So the current project is the third attempt to build the tramway, this time as an integrated part of a redesigned road network. Now there is both pressure from the market and a pressing need to reinvest in the 50 year old highway. The problem is that the public transport programme in the Region only has financing in place for about a third of the investments needed, and the tramway has not been prioritised in the available funding; key investments in the city centre that aim to reduce bottlenecks in the public transport system have been given higher priority. As a consequence, the City has put large-scale housing development in the area on hold, awaiting investment decisions for the boulevard and tramway (estimated to require around 300-400m€).

In the meantime, smaller scale housing projects are underway in the area, increasing the density of existing housing areas. These are justified based

on access to existing public transport in the form of trams and buses. However, significant new capacity is still needed. The National Road Administration and the government's local representative are concerned that such development has been underway for several years without the public transport in place. However in the last two years, government officials have facilitated a process to reach a common statement and plan, and an agreement is now in place between local, regional, and national planning authorities on how to handle the situation.

A factor making the situation more complex is that there is also land reserved for a railway, outlined in the comprehensive plans for the City of Gothenburg and the City of Kungälv along the same highway corridor. This railway would connect to the *Västlänken* rail tunnel currently underway. It is estimated that to fully develop this part of Gothenburg and meet the ambitious public transport goals a supplementary structure to the tramway system (such as the proposed underground railway) is needed that avoids conflicts at street level. This is of course even more difficult to find funding for and even more challenging to establish a common political commitment.

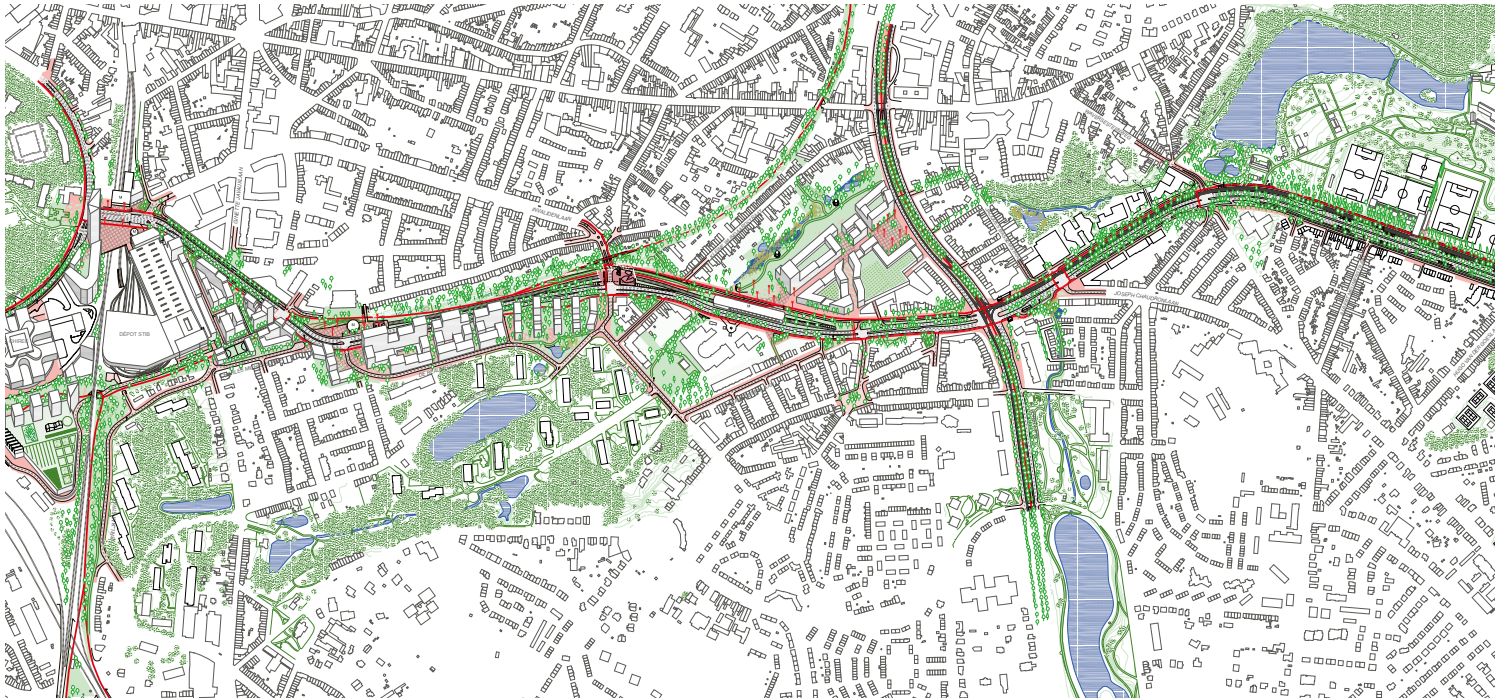
Outcomes and lessons

After working on this project and the strategic planning for the city, one conclusion is that incremental planning within current system is hard to combine with the long-term goals of a larger region and substantial city growth. A shift towards a new way of financing public transport infrastructure is needed to shortcut the problem of making large investments leaps. There is also a need for a new planning paradigm to address strategic public transport planning while avoiding the processes that are too slow to meet market demands, and the need for a faster shift towards sustainable transportation. ●

Staffan Sandberg, Lead Consultant, Ramboll Sweden AB, Former Planner for City of Gothenburg
 Paul Lecroart, Senior Urbanist, Institut Paris Region and Chair of the METREX From Roads to Streets Expert Group

From Strategy to Real Change: the Herrmann-Debroux Corridor in Brussels

Milène Deneubourg describes the process of transforming an axial motorway into a vibrant boulevard



Proposed scheme for the Herrmann-Debroux Motorway Corridor

For several years, *perspective.brussels* – the regional centre of expertise for regional and territorial development in Brussels – has been working on a redevelopment strategy for an area divided by the E411 motorway at the edge of Brussels Capital Region, called the Herrmann-Debroux project.

Approved in 2022, the project aims to transform the motorway into a multi-modal boulevard and convert five single use adjacent sites into a people-oriented, vibrant urban area with high-quality public spaces reconnecting local green and blue networks.

In May 2018, the Government of the Brussels Capital Region commissioned *perspective.brussels* to draw up the Herrmann-Debroux Development

Master Plan (PAD). The task of drawing up the PAD and the accompanying environmental impact report and urban project management was awarded to a team led by ORG and including Sweco, D'ici là, ARIES and Common Ground.

Many regional and municipal stakeholders have been and remain involved in the project, such as: Bruxelles-Mobilité (mobility), STIB (transport), Bruxelles Environnement (environment), Bruxelles Logement (housing), Bruxelles Urbanisme et Patrimoine (urbanism, cultural heritage and urban renewal), BMA.Brussels (Master Architect), the municipalities of Auderghem and Watermael-Boitsfort, as well as private parties including landowners, investors and developers.

The Brussels territorial development coordinator (SAU-MSI) is now in charge of co-ordinating and implementing the project on behalf of the Region.

Planning framework

The PAD is a regional planning tool resulting from the reform of the Brussels Land Use Code (*Code Bruxellois de l'Aménagement du Territoire CoBAT*) in November 2017. Its purpose is to both define the development framework for strategic centres or neighbourhoods in the region, as well as the vision and rules for development in the area. The PAD may contain provisions relating to land use, building characteristics, public



Before: existing street view at Herrmann-Debroux metro



After: visualisation at Herrmann-Debroux metro station with the flyover removed and the highway space

spaces, mobility and heritage.

The Herrmann-Debroux PAD covers an area of 43.5ha. The area of the Herrmann-Debroux PAD is the space in which public and private operations (the main levers for the development and redeployment of the area) will be concentrated. This is made up of:

- the entire E411 urban motorway (6km), including three viaducts, as well as the boulevards and avenues alongside the road; and
- five adjoining sites to be developed.

Timeline

The project has taken five years from initial design competition to adoption. In May 2017 an international multidisciplinary team was appointed to work on the redevelopment of the Herrmann-Debroux area. A definition study analysed the site and its surrounding neighbourhoods, and was followed by initial stakeholder and local resident engagement. In May 2018, the Government instructed perspective brussels to draw up a PAD, and three public information meetings were held. The draft PAD was submitted to a public inquiry in December 2019 and approved in July 2021, finally coming into force in June 2022.

Vision and strategy

The Herrmann-Debroux area is one of the southern gateways to the Brussels Capital Region, at the border with the

Flemish Region, and is one of twelve strategic sites defined by the government. Primarily built after the Second World War, it has become an urban periphery. The area is intersected by the E411 motorway, comprising several viaducts, and is bordered by a wide variety of urban spaces and activities, e.g. a forest, sports centres, shopping centres, office buildings, universities, schools and a hospital. The E411 is a barrier for the large landscape elements that it crosses, particularly a forest. Furthermore, the activities around this – offices, shops, housing and public transport – are all disconnected from one another. The road infrastructure – mainly the Herrmann-Debroux viaduct – constitutes visual and physical barriers and is a major environmental issue, causing air and noise pollution.

The Brussels Capital Region's ambition is to transform the E411 motorway into an urban boulevard. This boulevard will support multi-modal mobility and constitute a collective resource for various uses, reconciling the city and its inhabitants with their infrastructure. The key objectives are to:

- improve the permeability of the transport axis route
- reconnect the green spaces and the water network, and
- increase permeability between the urban blocks.

This therefore requires the urban fabric to be woven together by articulating the metropolitan, regional and local scales. The transformation of this entrance to the city is an unparalleled opportunity

to develop a successful land use mix including economic, social and residential activities, make the area unique and improve its urban quality.

The project includes five different neighbourhoods along the future boulevard, for example a new district will be developed on existing railway wasteland, and it will provide a new route for pedestrians and cyclists with supporting uses.

Design and implementation

The PAD calls for a reduction in the infrastructure footprint of the E411 motorway, and its redevelopment as an urban boulevard with 2x2 lanes of vehicle traffic along its length. Making the road narrower would give the E411 an urban character by converting the reclaimed space into high quality public areas. In addition to the quality of life benefits, these spaces will also provide active travel and dedicated bus and tram infrastructure and will allow new public spaces to be created. In turn, this will encourage the use of these active modes and public transport as alternatives to the car.

The PAD proposes redeveloping the junctions between the E411 urban motorway and the roads that cross it into ground level crossroads. This removal of motorway infrastructure will reduce the current capacity of the road. In fact, it is these crossroads that will determine the actual capacity of the new boulevard, for example dictating the number of vehicles that can pass through each traffic light phase.

In order to moderate car traffic in the PAD area, the need for vehicular trips potentially generated by new developments will also need to be addressed. This is about development consistent with the ambitions, objectives and means of the PAD being implemented. In addition to reducing road infrastructure and capacity, the PAD also calls for the implementation of measures to promote sustainable transport alternatives, and the creation of an active, urban life based upon high quality public spaces.

Prior to drawing up the PAD, participation sessions with representatives of local communities were held to understand the needs, interests and concerns of all stakeholders, making the most of the various stakeholders' local knowledge to enrich the project, and exchanging views on the work in progress.

Following approval by the Government, the draft PAD was submitted to a public inquiry and all of the comments received were analysed, and fed into the project.

Expectations

This PAD is the first step in a process of urban transformation, with an ambitious vision for this gateway to the city over the next ten years. The main challenge now is its implementation, as the area straddles private and public land. The Brussels territorial development coordinator (SAU-MSI) has been entrusted with monitoring the PAD. A number of operational studies are currently underway, particularly on mobility, and the private sector is considering the conversion of five different sites:

- Triomphe: the redevelopment of a site currently occupied by single use office buildings, which aims to develop a unique, mixed use building complex.
- Beaulieu: currently occupied by

the European Commission, this site is intended to be a transition zone between a highly urban and another more landscaped area. It currently forms a barrier of mono-functional office buildings, and the aim is to bring greater integration and structural diversity to the site.

- Triangle: the ambition for this site, currently a wasteland dominated by rail infrastructure, is to integrate it into the urban fabric by developing public spaces and developing a mixed use neighbourhood.
- Delta: occupied by a park-and-ride site and a public transport depot, this site is intended to 'complete the city' with a new mixed use neighbourhood offering high quality connections where there is currently a large surface car park.
- Demey: this site has all of the characteristics of a suburban retail park: a sparsely populated area, spread over a very large plot and organised around a surface car park, with each large store a separate building. The ambition is to radically restructure the site by developing greater diversity to support more urban character and activity.

Outcomes and lessons

The Brussels Capital Region's strategy is to redesign road axes penetrating the Brussels Ring Road as urban avenues. Each of the highways has specific contexts, features, functions and technical complexities, so there is no single solution. For the Delta site in the-Herrmann-Debroux corridor, the removal of some of the E411 viaducts is crucial to unlock the potential urban development sites around it.

Most of the highway transformation projects are interdependent with what happens beyond the Brussels Capital Region's limits, and call for a closer

inter-regional coordinated approach. The E411 motorway corridor extends beyond the boundaries of the Brussels Capital Region into the Flemish Brabant province. Currently, the Master Plan for the redevelopment of the Herrmann-Debroux area does not specify any statutory measures for the section of the E411 motorway in this zone, only broad strategic ambitions for change.

Close co-operation between the regions will be needed to enhance the project, in particular for a park-and-ride strategy and the future of the E411 section in the Sonian Forest, where one carriageway lies in the Brussels Region, and the other in the Flemish Region. ●

Milène Deneubourg, Urban Projects and Studies lead, perspective.brussels



The view before and a visualisation of the design at Beaulieu metro station on the Herrmann-Debroux corridor



Plan showing the extent of Avinguda del Vallès and the interventions envisaged

Avinguda del Vallès, Barcelona: Co-creating Infrastructure Integration

Joan Caba, Anna Majoral and Judith Recio explain how re-designing a major highway is enabling wider transformations

Avinguda del Vallès (Vallès Avenue) is a project to rethink a major national road, the N-150, which runs between Montcada i Reixac and Barberà del Vallès in Barcelona. The vision is to create a new green civic and commercial axis with strong public transport connections in the form of a metropolitan avenue. The proposal to transform this section was recently approved as part of the Metropolitan Urban Development Plan (PDUM) for the city.

The Vallès Avenue Integrated Action Plan has been drafted within the framework of the European URBACT

RiConnect programme. This is a network of eight metropolitan areas, led by the Barcelona Metropolitan Area (AMB), with the aim of rethinking mobility infrastructure to reconnect people, neighborhoods and natural spaces.

The RiConnect methodology, developed in the guide *Rethinking mobility infrastructure for better metropolises* (2020), has fostered a comprehensive approach to the proposal. This includes reorganising how the movement and planning of the metropolis can integrate mobility infrastructure, add ecosystem functions and deepen social impact. This approach has developed through a

comprehensive participation process, in which citizens and institutions have co-created both the diagnosis of the area's challenges and proposals for actions. This has resulted in an inclusive and widely accepted project by all in the area.

Project background

As the local authority in this 600sqkm region, Barcelona Metropolitan Area (AMB) is responsible for metropolitan collaboration across multiple areas: territorial and urban planning,

transport and mobility, environment and sustainability, housing, economic development, and social cohesion. AMB began drafting the Metropolitan Urban Master Plan (PDUM) in 2013 and it is an essential instrument for defining a metropolitan vision, not least to update the current urban plan from the 1970s. The PDUM seeks to establish guidelines for the region's transformation while anticipating its future needs. One of the most important issues is to move from a metropolis structured by its highways to a human-scaled metropolis with a structure based on 'metropolitan avenues'. These avenues will be its major thoroughfares, ensuring continuity for sustainable mobility, with public transport and active travel routes, as well as intensifying the surrounding area, promoting a mix of uses and creating high-quality public spaces.

The section of this intervention stretches across four physically contiguous municipalities, but which are segregated by infrastructure such as railway lines, roads, and water bodies. Along the route there are residential and industrial areas some of which have deteriorated, resulting in a poor quality, disconnected environment.

In addition, along the axis there are two important infrastructure junctions that provide great accessibility to the area by car, but which create segregation between the municipalities. The northern junction area Baricentro, still regionally owned, has the potential to become a metropolitan node and a catalyst to regenerate the area, although today it is only used as entrances and exits from the AP-7 and C-58 highways. At the southern junction, there is a metropolitan opportunity area where a new regional hospital (Hospital del Vallès) is to be built.

In short, the study area is very complex and involves numerous



Sketch showing the vision for this metropolitan avenue

administrations and people, and so demands the participation of a wide range of actors and a multi-scale and integrated approach.

The Vallès Avenue project is outlined in the Integrated Action Plan, which is available as PDF, an interactive Story-Map, and a YouTube video summarising the approach.

Co-creation process

The URBACT Local Group (ULG) is responsible for co-drafting the Action Plan. It has been divided into four groups: the Core group, the Co-creation group, the Commitment group, and the Local citizens' group. During the co-creation process, each had different responsibilities and degrees of involvement in the development of the Action Plan.

The Core group included 'technicians' from the six administrations – the four town councils, AMB and the Generalitat de Catalunya. This group defined the guidelines for the co-creation

process, designed the participation sessions, provided technical support and information, and collaborated on communications about the project.

The main responsibility of the Co-creation group was creating the Action Plan, defining the key challenges and actions necessary to undertake the transformation of the road. The stakeholders of this group included the Core group, public associations and other entities and citizens.

The Commitment group focused mainly on addressing the viability of implementing the Action Plan and ensuring that the strategy was fully adopted by each of the administrations. This group comprised the political representatives of the administrations.

The group (Local citizens) were the immediate neighbours of the project, who were informed about the process and participated directly in open sessions and online questionnaires during the drafting of the Action Plan.



Concept designs for different crossing streets - local streets (top), territorial corridors (middle) and nodes or centralities (bottom)

Participation outcomes

Two thousand people participated in the co-creation process, including two surveys, twenty-three working meetings with the Core group, eight Co-creation sessions, three meetings of the Commitment group, and two large events open to the public.

The shared diagnosis pointed to four core issues:

- significant dependence on private vehicles, due to the high level of accessibility provided by the nearby highways, compounded by low levels of accessibility by public transport;
- the inefficient use of road space due to over-sized infrastructure spaces;
- the external effects of the road including congestion, the barrier effect, visual impact, noise pollution and air pollution; and,

- the loss of historical routes and the social interactions that were derived from them.

Project components

The objectives defined by the Co-creation group were organised as five themes in the Action Plan: A Connecting Avenue, A Friendly Avenue, An Inclusive Avenue, A Healthy Avenue and A Concerted Avenue.

These objectives are synthesised in the Action Plan as four different projects, which are then divided into twenty-six subprojects. Each of these must now be developed through various actions to respond to the objectives of the Plan.

The Avenue

The proposal for the Avenue itself is divided into two subprojects, corresponding to two differentiated views: the space and the ‘filling’ of the Avenue. With the space, the Action Plan proposes to redistribute transport flows, with a view to promoting more sustainable mobility, achieving a more equitable distribution of the public space and improving urban quality.

However, for the Avenue to have more vitality, it is not enough to think only about the space as a void; the surrounding fabric must also support this new character and transformation. The aim of the ‘filling’ is to address the challenges related to the area around the Avenue, the buildings overlooking it and the ground floors. These will determine the character of the road and must promote the social use of the space and promote local commerce.

Nodes

Some areas around the Avenue are outstanding in terms of their local identity, concentration of activities, high

It is not enough to think only about the space as a void; the surrounding fabric must also support this new character and transformation

accessibility or how they bring neighbourhoods together. The Action Plan classifies these depending on their scale: metropolitan, local or neighbourhood.

Two local centralities can be identified. The local centrality of Barberà del Vallès is the oldest part of the municipality, which therefore has a historical fabric and heritage which must be preserved. The local centrality of Cerdanyola del Vallès is currently an intermodal node next to the railway station. However, new developments and interventions in this area will enable this space to become a genuine municipal centre.

To promote social cohesion, the Action Plan identifies other smaller centralities within the neighbourhood as the focus of everyday activities and social life. In this case, two potential neighbourhood centres have been identified – one in Cerdanyola del Vallès where the Uralita warehouses are currently located, and another in Montcada i Reixac where the N-150 road crosses the railway.

Finally, two areas of metropolitan centralities are identified by the PDUM: around the Baricentro junction (a new metropolitan centrality), and another where a new regional hospital will be located (a metropolitan opportunity area).

Transversal corridors

The area around the Avenue is a poorly structured part of the city. To improve these connections, the Action Plan proposes a new structure of transversal corridors classified into two types – territorial or local – according to their structuring potential.

The territorial transversal corridors are intended to connect the area on a supra-municipal scale, reinforcing its sustainable mobility and urbanity. Around these corridors, opportunity

spaces allow the introduction of new mixed uses, facilities and public spaces. Similarly, the local transversal corridors can structure the urban centres and reconnect the Avenue with nearby nature areas.

Green corridors

The four municipalities are surrounded by natural spaces rich in biodiversity and landscape assets including the River Ripoll, River Sec, Sant Cugat stream and the Collserola mountain range. However the dense urban fabric around the Avenue, the local topography and the segregation caused by the road infrastructure means that it is difficult for local people to access these natural spaces, and for ecological connections to function properly.

As a result, the Action Plan proposes two types of interventions that must be balanced:

- Firstly, creating healthy routes and loops alongside the water network for citizens to enjoy and improve their health.
- Secondly, the environmental improvement of open spaces, restoring riverbeds, improving the environmental quality of the water and relocating gardens that do not support this. There is also the potential to reclaim the cultural heritage that exists around these river axes and create riverside parks.

The Action Plan must be implemented over time and according to the schedule. In this sense, it is a dynamic document that must be monitored to evaluate and review it. This evaluation will be carried out in three ways: through the re-evaluation of the defined projects, the evaluation of the methodology used in implementation, and the analysis of the monitored indicators.

Currently, the construction project to re-urbanise the entire avenue is being developed with the aim of calming the

Projects identified as part of the strategy for Vallès Avenue



road and modifying the road junctions to create civic connections.

Outcomes

The Avinguda del Vallès Integrated Action Plan has firmly established the necessity of integrating the N-150 road into the urban fabric. The diagnosis and the vision are now universally supported by citizens and local and regional administrations, and this strong consensus is allowing the co-ordination of all interventions across the area.

AMB is working with the four municipalities and the Catalan government to draft the detailed designs and construction programme to transform the entire Avenue. The priority is to complete the refurbishment of the Avenue to prioritise pedestrians, cyclists and public transport. This entails reshaping the highway junctions and creating new

access to the industrial areas to avoid heavy trucks using the avenue.

In parallel, AMB is collaborating with the municipalities to draft masterplans for the two metropolitan centralities on the Avenue (Hospital and Baricentro). These masterplans will shape the location and nature of new housing, work-spaces and metropolitan level facilities. The municipalities are also working on the details of local projects to emphasise the local centralities and support the transversal streets. ●

Joan Gaba - Network coordinator, Head of the Urban Planning Technical Office III, Barcelona Metropolitan Area (AMB)
 Anna Majoral and Judith Recio - Local Group coordinators, Urban Planning Technical Office III, Barcelona Metropolitan Area (AMB)



Integrated Action Plan



Story Map



Spółeczny Square in the wider city context

Wrocław: Reclaiming Spółeczny Square

Izabela Gajny and Jose Ferreira present the unprecedented opportunity to transform a neighbourhood lost to post-war highways design

Spółeczny Square is located in Wrocław city centre in southwest Poland. The idea of removing the highway from a core part of the city like this, to create a dense multifunctional piece of 15-minute city, is a significant transformation that could enhance the whole character of Wrocław. However, for the vast majority of local inhabitants, politicians, experts, planners and developers in this part of Europe this is still an unachievable and expensive dream.

To realise the bold vision of the City Mayor and countenance its potentially risky journey, it is important to think long-term and large-scale, at the metropolitan or even European level. International co-operation and partners with expertise and investment are needed, as are the application of holistic tools for

change. Despite concerns and scepticism, in Wrocław we started thinking globally about how to deliver this vision for Spółeczny Square.

From beautiful to functional

Spółeczny Square is 27ha in size, and one of the areas destroyed during the Second World War, and which has remained empty for many years. It is within 10 minutes' walk of the Old Town, with its many cultural and public institutions, universities and museums.

Before 1939, the area of Spółeczny Square was a densely built-up district and had a strong downtown character, with eclectic frontages of tenement housing typical of Wrocław at the beginning of 20th century. There were

a wide range of services located on the ground floors, a grand theatre in the development block, and a network of pedestrian routes surrounded by parks and boulevards. The residential district was perfectly connected to the city centre and its recreational areas along the city canal with the elegant Am Ohlau Ufer avenue.

The district was destroyed during the war and remained a vacant plot with the roads and paths of the pre-war layout until the late 1980s. Then, in place of the cosy pre-war streets, post-war Spółeczny Square was designed around the car. In the 1970s, the Polish government had been entrusted to a new leader, Edward Gierek, with his slogan 'Building the second Poland'. This was a period of big dreams about the metropolis and the role of the car in the city. The new vision

was also perceived as an opportunity to transform Wrocław into a metropolitan centre, with architecture and urban planning inspired by Western European cities. These ideas were developed in the late 1980s and a major interchange was inserted into the historic centre. This massive intervention was equivalent to the size of Wrocław’s Market Square and its surrounding neighbourhood combined.

The site is predominantly a transport hub: a major crossroads with tram lines running across the site, a collision-free road highway overpass and a pedestrian underpass. It has a heavy and dominant concrete structure and overall character. Today, the national road number 98 runs through the site linking the northern part of Wrocław with the south. It is therefore still a key transport hub and categorised as nationally important.

Nevertheless, due to its location and wider context, it is probably one of the most interesting and underutilised areas in the Wrocław region.

Wrocław’s status

Wrocław is the historical capital of Silesia and a recognised strong cultural and knowledge centre in Europe. According to the Polish national statistical office, the city itself has 670,000 inhabitants. Recent demographic research conducted by local experts suggests that the real number may be as high as nearly 900,000 people, and so with the surrounding metropolitan area, Wrocław may have 1.2 million inhabitants overall.

Recently Wrocław has been experiencing an economic boom. It is now the most developed secondary city in the central and eastern parts of the European Union, based on GDP per capita (Eurostat data from 2020). In 2020, Wrocław was the highest ranked

non-capital city in Central Europe in the Globalisation and World Cities (GaWC) ranking published by Loughborough University.

The local authorities are well aware of the city’s rising status, as well as the number of challenges that lie ahead. Apart from good quality public services, new houses and infrastructure for its rapidly growing population, it needs to be resilient in times of geopolitical turbulence as well as climate change. We also need to take care of the city’s identity, character and overall quality.

Vision & new masterplan

Due to its location, the complexity of the area’s issues and its impact on the metropolitan region, Społeczny Square was identified as a strategic site in the city. In 2023, five strategic pillars were specified that could help to underpin a framework for future action in the area, and that could potentially be adopted into local planning policies. These five strategic pillars proposed for the Społeczny Square Plan are:

Culture, education, public services

The redevelopment of Społeczny Square must be culture-led and mixed use, with knowledge-led activities linked to historical, cultural and educational assets. The new Społeczny Square should be a new, diverse and vibrant district of Wrocław, with strong links to the existing public institutions in the neighbourhood including museums, galleries, art schools, universities and churches. There is potential for one or two new flagship public or private-public institutions to be introduced to help stimulate the growth of the area. Potential options include a film institute, jazz institute, a Centre of European Studies or another European institution. An appropriate



Top: 1939 Pre-war Wrocław
 Middle: 1945 Społeczny Square and the scale of destruction
 Bottom: 1968-80 Planning concepts for the redevelopment of Wrocław led by Andrzej Gretschel



1980-85 design for Spółeczny Square by Tadeusz Barski



Spółeczny Square with one arm of the junction removed so far

mix of shops, culture, entertainment, science-based uses and businesses, education facilities at all levels, and recreational facilities will support the predominantly residential function of the district.

Physical and economic accessibility

The new district should be physically accessible and economically available with full access to new public spaces and ground floor facilities, as well as access to other amenities potentially on rooftops or internal courtyards. The new development is proposed as a 15-minute

city neighbourhood providing basic services within close walking distance of all inhabitants. This will include a market square, shopping streets with bars, restaurants, coffee shops, a craft brewery, artist workshop spaces and maybe even a boutique cinema. Alongside these, there should be an attractive public realm with tree-lined and well-designed streets and public spaces for all. A placemaking strategy will steer the development and the activation of public spaces, with ambitions for open-air events at Spółeczny Square including a potential large ice rink and a designers’

Christmas market. These are proposals to inspire a sense of community, bringing together local residents and artists. Good public transport and the removal of the existing transport hub is critical to free up this potential.

Climate neutrality and sustainable mobility

Wrocław aims to be a climate-neutral city by 2030. Spółeczny Square will need to conform to the proposed City Action Plan. The local mobility policy also serves to achieve climate neutrality, and the city strives to achieve a rate of 70 per cent non-vehicle transport by 2028. The idea of the new mobility plan for Spółeczny Square is to create a traffic-free zone in the centre and remove the main routes, with public and car transport at the outer circle of the development, and access only low-traffic routes in the centre.

Quality, prestige, character and history

We want the new district to implement the provisions of the 2018 Davos Declaration ‘Towards high-quality Baukultur for Europe’. High-quality urban development with well-kept and varied public spaces, art and culture will be incorporated into urban and green squares to strengthen the sense of attachment to the place and help a strong identity to develop. This will help to promote an inclusive and cohesive society and good civic awareness.

The main inspiration behind the Plan is to make reference to the historic city structure through contemporary reinterpretation. A key part of this is to remove the existing high-speed traffic flyover, thus reducing overall traffic speeds and the number of traffic routes.

The grid of streets and public squares has been planned to achieve the optimum spatial and functional integration

with the surrounding areas. The intention is to draw on the surrounding landscape and townscape assets, either promoting the access to the waterfront and adjacent parks, or creating dynamic views toward existing monuments and landmark buildings. This will help to promote pedestrian use of the area in an easy and enjoyable way.

The goal is to retain and reinforce all existing views, vistas and perspectives, and create a vibrant new pedestrian boulevard across the development linking the Old Town with Grunwaldzki Bridge and the university campuses on the other side of the Odra River.

Supra-regional and international impact

In the centre of a European city, this new district has the potential to benefit the entire region and even beyond. Therefore the proposals aim to make Społeczny Square attractive in an international arena – not only for its high quality spaces and development, but also due to its leading cultural functions. For this strategic project to succeed, it is important to maintain the railway connection initiated during the European Capital of Culture Wrocław 2016, and to resume pre-war cultural connections with Berlin.

Conclusion

Vision, strong ambition and political courage are needed to achieve this city dream. Wrocław, which competed with Berlin in pre-war history, can once again be an important centre of culture on a supra-regional scale. The successful application for EU funds, and the creation of bilateral programmes dedicated to implementing the vision for Społeczny Square, will be essential. The Plan will directly link the goals of



Społeczny Square, Proposed masterplan by Izabela Gajny in cooperation with the Strategy and City Development Department, Municipality of Wrocław

EU policies and documents such as the Green Deal, energy transformation, and the New Leipzig Charter to support this.

Public participation and involvement are mandatory and will be of utmost importance for the success of this project. This will help to clearly identify needs, aspirations, perceived opportunities, functions and connections, to be drawn out through participatory workshops involving local and European stakeholders, and through a Steering Committee created for the redevelopment of Społeczny Square.

The bold vision required for Społeczny Square’s redevelopment must encompass not only its physical issues but also its spiritual side – not just as an exemplary public space with all the benefits described above, but one with character, soul and charm, making it an attractive and meaningful place for those who live, work and play there, or just pass through.

By transforming a low-value and deteriorated area into a highly-valued district, the local community can simultaneously restore its social pride, revive the local economy, and realise an urban identity. If we plan well now, we will achieve the foundations of a significant new city centre area which,



Before: Existing layout at Społeczny Square

in turn, future generations will be proud to build upon. Ruthless urban development practices should be replaced with a more friendly, empathetic, sensitive and spiritual narrative in city planning.

The outcomes will depend on several factors, including economic models, international partners, public and private institutions, but also the cultural, spiritual and intellectual responsibility behind the master plan. ●

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Paris: *Une Journée Sans Voitures* (a car-free day) in 2015. Photograph by Paul Lacroart

Highway Transformation in the Paris Region

Paul Lacroart provides insights into the two-decade long journey to reclaim Parisian highways

The image of Paris as a well-designed city is embodied in its network of tree-lined 19th century boulevards. But a striking feature of the metropolitan region is its extensive system of urban motorways and roads designed for the car, inherited from postwar functionalist planning. Since the start of the 21st century, new strategies have emerged pioneering the conversion of highways into green, pedestrian and bike-friendly promenades or tramway boulevards.

The 1990s saw a major shift in urban policy in the Paris region, with a renewed focus on urban regeneration,

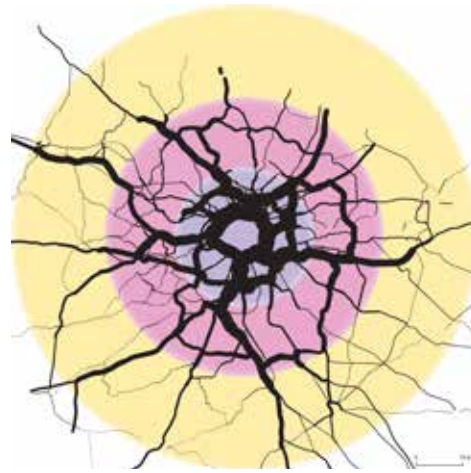
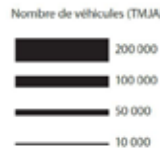
public transport, public space quality and traffic calming. The year 1990 marked the start of a process of reducing car use and car ownership, i.e. peak car, initially affecting the city's inner core, then the inner metropolitan ring in the early 2000s, and the suburban ring since 2010.

In the 2000s the re-introduction of tramways along the Paris ring boulevards and radial roads became an opportunity to redesign streets and prioritise urban intensification over greenfield development. Some thirty road underpasses and flyovers have been removed in the process. Driven

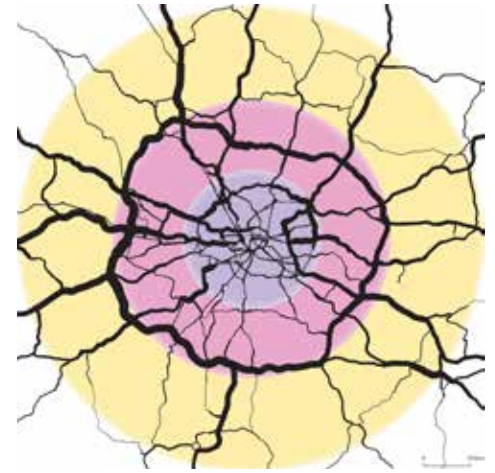
by brownfield development opportunities, public sector strategies and world markets, the metropolitan inner and outer rings are being transformed with large urban redevelopment. This is most intensive around the seventy new stations of the RER E extension (similar to London's Elizabeth Line) and the new 200km long Grand Paris Express automated ring metro. Line 14 was in service for the 2024 Olympics and lines 15, 16, 17 and 18 will be opened between 2026 and 2032. Since the 1970s, the region has gone through massive structural transformation, but the highway system has remained much the same and it is ageing rapidly.

The Metropolitan Avenues Programme

In 2010, as we were preparing the regional master plan at the Paris Metropolitan Region Planning Agency (now Institut Paris Region), I launched



Paris: Traffic volumes in 2013. Copyright: Pierre-Louis Certonze/ENSG/IAU-IdF



London: Traffic volumes in 2013. Copyright: Pierre-Louis Certonze/ENSG/IAU-IdF

the Metropolitan Boulevards Research Programme. The aim was to develop a better understanding of the mobility pattern shifts and urban regeneration potential of converting segregated highways into metropolitan streets. Or more simply: what happens when you remove an urban highway?

The first step led us to compare the Paris and London regions. We discovered that Paris, with its three ring roads and ten radial motorways, has three times more highway length within a 15km radius of its centre than London, and still a third more within a 30km radius. As a result, traffic volumes are much higher in the Paris metropolitan area than in London, with roughly the same number of jobs and residents. In Paris, this means more congestion, more air pollution, and more socially vulnerable people with noise-related health issues. From a planner's perspective, this also means more barriers to urban regeneration, and pedestrian and bike movement. The question then became: could we manage with fewer highways, and if so, how could we transform them?

At this stage, I began researching around fifteen cases of highway removal – including some in New York, San Francisco, Portland, Seattle, Montreal, Vancouver, Toronto and remarkably Seoul – and meeting the professionals behind these bold and complex transformations (see *Urban Design* 147 Summer 2018).

One of the crucial findings from this research was the confirmation that highway-to-boulevard conversions always result in some traffic evaporation, usually in the range of 20 to 50 per cent, with up to 80 per cent in the case of Seoul. Reduced road capacity (or its perception) changes travel behaviour; it shrinks the demand for solo motorised trips and boosts the use of public transport, walking and cycling or 'no

travel today' choices. The first results of this research, presented in 2011 and published a year later, opened up new perspectives for decision-makers in the Paris Region to both rethink the role of the highway network and to take action on specific stretches. The concept of 'Metropolitan Boulevards' found its way into the 2013 Regional Master Plan.

Riverbanks Pedestrianisation

Unveiled with great ceremony in 1967 by the then pro-car Prime Minister, the River Seine lower Right Bank expressway was a 13km segregated road

allowing fast west-east travel across the city. It carried on average 40,000 vehicles per day until 2016, with 38,000 more using the upper quayside. On the other side of the river, the building of the east-west expressway was halted in 1974 due to the oil crisis, heritage issues and environmental action, with only a 2.5km-long stretch in service in 2012 carrying 25,000 vehicles per day.

That year the Council of Paris approved the Seine Riverbanks Pedestrianisation Plan with the aim of 'giving the river back to the Parisians'. A compromise between municipal and national governments, the project opened a narrow promenade for the public on the



Paris, Left Bank: the stair deck in front of Musée d'Orsay and the space created on the former expressway. Copyright: Paul Lecroart/Institut Paris Region



Fillettes before improvements. Credit: HOSLOS/Richez_Associés



Fillettes after public realm improvements. Credit: HOSLOS/Richez_Associés



Before: demolition of the A186 highway. Copyright: Paul Lecroart/Institut Paris Region



After: visualisation of the future A186 tramway boulevard. Copyright: Visual Devillers & Associés/Département de Seine-Saint-Denis

Right Bank, thanks to five new pedestrian crossings. The full pedestrianisation of the Left Bank expressway stretch had to wait until 2013 for the government's green light. The Mayor had correctly anticipated that the demand for people to enjoy the riverside was greater than the frustration of car drivers having to commute on the now congested quayside road. The route included open air seating, picnic tables, sport amenities, multi-use container units, floating gardens, cafés and restaurants. It was an immediate success with over 6 million visitors in the first few years.

The project was helpfully warmed up by tactical action by environmental NGOs. From 1995 onwards, the Council closed the Right Bank to traffic on Sundays, and from 2002 it was closed all summer for the successful *Paris Plage* project (Paris Beach). However, the municipality's ultimate objective was to remove the urban highway from the riverbanks.

However when, after months of impact studies, debate and a public inquiry, the central stretch of the Right

Bank highway was permanently closed to traffic in 2016, Mayor Anne Hidalgo faced opposition from a coalition of the Regional Council of the Île-de-France, some suburban municipalities and a powerful NGO called *40 millions d'automobilistes* (40 million car drivers). They contested the traffic counts that showed an average overall peak time traffic evaporation of 29 per cent between 2015 and 2018 and lodged an appeal against the decision.

In October 2018 the Courts overturned the decision on the grounds that the aim put forward by the Council of Paris – a cleaner air and healthier environment for Parisians – was not supported by the figures, as some of the diverted traffic was potentially increasing exposure to air pollution in other streets. The City Council reviewed the aims of the project focusing instead on the preservation of the UNESCO World Heritage-listed Seine area, and this objective was then given assent by the Courts in 2019.

Rebranded Seine River Park, today the former highways present a 7km long

active riverside promenade in the heart of Paris, with a 10 hectare public space connecting major landmarks such as the Louvre, the Musée d'Orsay, the Eiffel Tower, and the trendy Tuileries Tunnel Street Art Gallery. The riverbanks and bridges hosted the outstanding 2024 Olympics opening ceremony attended by 360,000 spectators. Reversibility was embedded in the design of the project from the start, but there is no longer any political support to put cars back on the banks of the river.

A186 Avenue conversion

Further highway conversion work is also underway in other parts of the Paris metropolitan area. The A186 is a short motorway cutting through a socially deprived area in Montreuil in the eastern suburbs of Paris. Part of the 1960 Regional Master Plan highway network, the building of the A186 was halted in 1974. Until 2020, the unfinished 2.5km long highway was used daily by 25,000 cars for access to central Paris from

areas with poor public transport.

With pressure from environmental groups and the City Council, in 2000 the regional transport authority (now Île-de-France Mobilités) decided to use this section of highway to accommodate part of a 8km extension to the orbital tramway line T1. In 2005, the highway was closed to traffic for a giant picnic as part of the French Car-free Day. Its success led in 2008 to the creation of the annual eco-festival *La Voie est Libre* (The Road is Open) by a group of NGOs with support from a new green-leaning City Council. By 2015, the event had brought together 40 non-profit associations and 35,000 residents and had become a live arena for public debate about the future boulevard and the revitalisation of local communities.

In 2013, the A186 Avenue conversion project was given a green light following a public inquiry. However, political and financial issues slowed immediate progress. Demolition works to the infrastructure started in 2020, with the new landscaped tramway avenue (with two lanes for car traffic) planned for delivery in 2026. Approved by the new local planning authority, Est Ensemble (with a population of 430,000), the innovative transformation master plan for this 20ha highway corridor prioritises a wide, multi-use and planted greenway over the creation of urban frontages along the new avenue. The master plan provides only 770 new housing units and a couple of mixed use hubs.

Rethinking regional highways

At the core of the Paris regional highway system lies the *Péripherique Boulevard*, a 6-8 lane 35km long segregated ring road carrying up to 240,000 vehicles per day on its busiest stretches (far more than London's M25). Like Birmingham's



Paris, Seine River Park: transformation of the highway into public space. Photograph by Paul Lecroart

concrete collar, this massive piece of infrastructure is a major mental and physical urban development barrier between the city core and the metropolitan area. When Sir Richard Rogers was invited to reflect on the future of Greater Paris in 2008, he said, 'I've never seen a body so detached from its members'.

The future of the *Péripherique* has been at the centre of metropolitan debates for the last two decades. Some political groups in the City Council favour covering the ring (i.e. the Antwerp model), while others support a 'boulevardisation' process (the Seoul model). To broaden the conversation, in 2018 the Mayor asked the Forum Métropolitain du Grand Paris, the former forum for metropolitan dialogue between different levels of government, to run an international ideas consultation on the future of the Paris region highways, with technical support from us at the Regional Planning Agency (Institut Paris Region) and our Paris colleagues (APUR).

The four selected design-led teams (Devilliers, Richez, Rogers and Seura) helped to build a consensus between national, regional and local stakeholders on the need to:

- reduce speed limits on urban highways
- speed up the implementation of the Regional Highway Express Bus & High Occupancy Vehicles (HOV) Plan, as part of the 2014 Regional Mobility Plan

(revised in 2023)

- fill the current governance gap by setting up a Strategic Joint Authority for Road-based Mobility Management.

Some teams developed bold ideas to incrementally transform the *Péripherique* into a boulevard, by reconnecting it at street level – a step towards a gradual conversion of all highways located within the A104 outer ring (akin to the M25). This raised interest from many municipal and metropolitan players, but has so far failed to convince regional and central governments.

Since October 2024, as the first step towards its boulevardisation the speed limit on the *Péripherique* is gradually being reduced to 50km/h, but the future use of the Olympic Lanes for buses, taxis and car-sharing is still under discussion.

Segregated highway systems were considered an asset in the late 20th century, but they may prove to be a liability in the face of 21st century challenges. The Paris metropolitan region is a positive test bed for changing paradigms about urban highways and redesigning them in line with the challenges of our time. But the road will no doubt be long and winding. ●

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