MOBILITY TRANSITION

An eco-friendly and less car-dependent mobility system is a key element of industrial legacy cities' transition towards a more sustainable future. Urban Transition Alliance cities promote a modal shift towards local public transport and non-motorized transport like cycling and walking in order to improve air quality, reduce congestion and contribute to the well-being of their citizens and increase mobility services in previously disadvantaged city districts. Making urban freight systems and the way goods are moved through the city sustainable is another part of the same coin. Opportunities to repurpose existing infrastructure like industrial-era rail ways or highways that run through urban centres are among the specific advantages of industrial legacy cities. Urban Transitions Alliance cities aim to become frontrunners in integrated, socially inclusive and eco-friendly mobility systems by leveraging these opportunities to accelerate their mobility transition.

KEY MESSAGES

- Industrial Legacy cities aim to reduce car dependency in favour of walking, cycling and public transport.
- Combating air pollution to increase urban health is a major task for industrial legacy cities and in some cases a driver for an accelerated mobility transition away from fossil fuels.
- Transportation hubs can serve to bridge segregated urban districts while integrating transport modes.
- A major mobility planning challenge is to overcome the results of outdated city-planning practices that resulted in single-use districts or large scale infrastructure barriers that hinder spatial integration.
- Industrial legacy infrastructure like railways or highways can be used as assets for diversifying the modal split of industrial legacy cities and promoting sustainable transport.

An eco-friendly and less car-dependent mobility system is a key element of industrial legacy cities' transition towards a more sustainable future. Low emission development, meeting ambitious renewable energy targets and improving urban air quality by reducing NO_2 emissions require a shift away from fossil fuel powered vehicles towards. Increased connectivity and access to affordable, integrated and safe transport for citizens, particularly for those living in previously disadvantaged urban areas is a key component of a successful social transition that improves quality of life and economic opportunities for citizens. Achieving these goals requires a paradigm shift in mobility planning, promoting mixed-use spatial planning alongside multi-modal mobility planning with a focus on moving people and goods rather than moving vehicles, favouring mobility modes that serve the majority of the urban population over private vehicle use and related large scale infrastructure expansion.

OVERCOMING SEGREGATED AND SINGLE-USE URBAN PLANNING

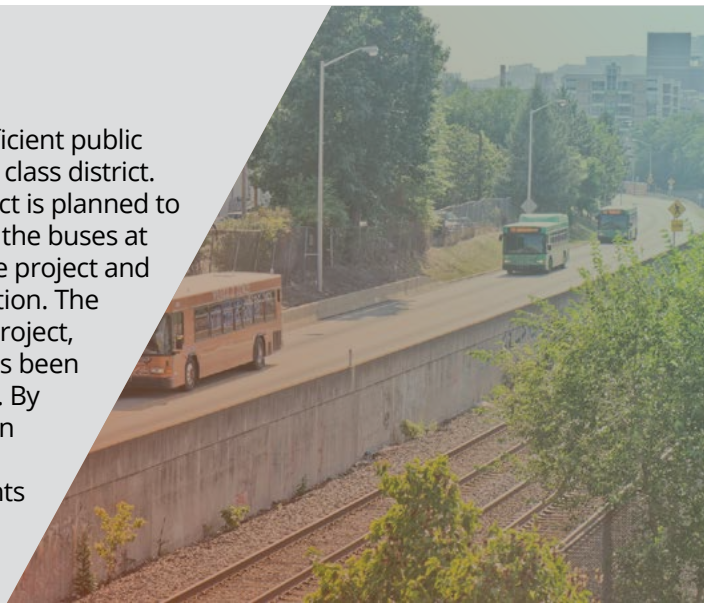
During the expansive growth periods of western industrial legacy cities in the 19th and 20th century, urban planning principles promoted single-use urban districts, separating residential from industrial areas, and distinguishing working class neighbourhoods on the urban periphery for a fast growing population of migrant workers from upscale urban centres. Until today, the socio-economic structure of many of these neighbourhoods remains at a disadvantage in terms of economic opportunities, social coherence and access to integrated, affordable and safe mobility services. In general, individual districts of industrial legacy cities are often cut off from neighbouring areas through natural barriers like rivers or large scale infrastructure like railways or highways with little opportunities for pedestrians, bicycle traffic or public transport to cross from one area to another, which can provide a major barrier for integrated city planning and the mobility transition at large. Monocentric city planning in some Chinese cities, which features high-speed ring roads for cars often physically cuts off urban centres from more peripheral urban areas. to already very high amounts of other air pollutants such as particulate matter of varying sizes (PM10, PM2.5) from energy generation, industrial production, households or non-transport sources.

REDUCING CAR DEPENDENCY

The major mode of transport in many industrial legacy cities are privately owned combustion engine cars, which benefit from car-centric infrastructure development promoted particularly in the second half of the 20th century, when many industrial legacy cities in Europe and North America reached their population peaks. Industrial cities in China have applied similar development modes particularly since the reform and opening period of the country in the last four decades. While public transport and cycling infrastructure in Chinese industrial cities has seen immense growth as well and some cities have started to restrict car traffic, the private car is still seen as the most comfortable, convenient and desirable mode of transport by a majority of residents.

PITTSBURGH'S ELECTRIC BRT BRIDGES UPTOWN AND THE GOLDEN TRIANGLE

The city of Pittsburgh is actively transitioning into an energy-efficient public transport system, while revitalizing a former industrial working class district. The Downtown-Uptown-Oakland Bus Rapid Transit (BRT) project is planned to provide an exclusive lane for buses including a prioritization of the buses at transit signals. Pittsburgh will purchase 25 electric buses for the project and therefore reduce greenhouse gas emissions and local air pollution. The district, which is expected to be the biggest beneficiary of the project, is the former industrial working class district Uptown, which has been struggling with disinvestment and seen a decline in population. By connecting Uptown with the central business district Downtown – colloquially known as the Golden Triangle - the BRT project contributes to Uptown's neighborhood growth and link residents to job centers, educational opportunities and cultural offers of Pittsburgh through sustainable public transportation.



COMBATING AIR POLLUTION

Congestion, noise and air pollution, carbon emissions and the disproportionate occupancy of valuable urban space by streets and parking areas are some of the resulting consequences shared by industrial legacy cities across the globe. NO_2 emission levels in most industrial legacy cities are frequently above limits set by national or supranational legislation as a direct result of car traffic. In Eastern European and Chinese cities this adds to already very high amounts of other air pollutants such as particulate matter of varying sizes (PM10, PM2.5) from energy generation, industrial production, households or non-transport sources.

REVITALIZING LEGACY INFRASTRUCTURE ASSETS

The spatial structure of Urban Transition Alliance cities show similar starting points for interventions in the mobility planning and provide locally specific opportunities for industrial legacy cities to define their own paths towards a more sustainable mobility system. Opportunities to repurpose existing infrastructure like industrial-era rail ways or highways that run through urban centres are among the distinct advantages of industrial legacy cities. Some of these transport ways provide an opportunity to be retrofitted as multi-modal pathways with public transport systems like passenger rail, bus rapid transit systems (BRT) and bike lanes and walkways that connect districts within the city or even provide opportunities for regional transport system integration. Similarly, urban regeneration actions that turn former industrial sites into recreation areas or mixed-use sites with both residential and commercial elements can create new socio-economic opportunities based on historical layout of industrial legacy cities. This would complement the mobility transition by increasing the attractiveness and usefulness of refurbished legacy infrastructure.

WALKABLE CITY CENTRES AND MULTI-MODAL HIGHWAYS

Some industrial legacy cities feature dense urban areas with narrow streets, which provide good conditions for car-free urban design with an emphasis on barrier-free walkability, space efficient public transport services and the refurbishment of parking infrastructure as public space or for multi-use development. North American industrial legacy cities often possess such features as they were designed for streetcars rather than automobiles, which may now be seen as an advantage for public transport oriented mobility transitions. In post-war-era industrial legacy cities, inner-city highways, broad streets and large parking lots are a common feature. Currently reserved for car use, these abundant can be utilized for increased bus traffic, additional bike lanes along main urban infrastructure corridors and provide a good opportunity for the creation of bicycle highways or other modes of transport.

TRANSPORT HUBS TO BRIDGE MOBILITY MODES AND URBAN DISTRICTS

A network of strategically located transport hubs, which integrate public transport, electric vehicle and bike sharing in one location via a single ticketing system, can provide access points for pedestrians to integrated mobility systems in these cities. The benefit of transport hubs can be particularly great if they are positioned at the intersection of urban districts that are traditionally separated by highways or rail lines, serving not only as an access point to the cities mobility system but also as a walkability bridge between urban areas.

MOBILITY TRANSITION

DORTMUND'S INDUSTRIAL RAILS BECAME A BIKE HIGHWAY

The city of Dortmund alongside with the other regional cities is using the old railway infrastructure in the coal mining region to develop a regional cycling-path network. The railway tracks were built between 1866 and 1874 and the freight train operation stopped in 2002. The cities recognized the potential are transforming the old tracks into a cycle highway with a minimum width of 4 meter to encourage the inter-city commuters to switch from car to bicycle. The promotion of cycling is one of the central aspects of the mobility transition in Dortmund in order to particularly tackle the high levels of air pollution in the inner city. With the 80 km long cycle highway Radschnellweg 1 (RS1) between Duisburg and Dortmund and an additional 21 Kilometers between Dortmund and the city of Hamm, over 50.000 car journeys can be saved in the region daily. Therefore, the city of Dortmund is actively planning on the RS1 section in Dortmund by working on the transformation of the streets into bicycle paths and on the changing of the priority regulations.

SHIJIAZHUANG YUHUA'S GREEN MOBILITY INITIATIVE

The Yuhua District encourages citizens to use public transportation as their main mobility choice. In recent years, the bus routes have been extended in all directions in the district, allowing citizens to take a bus within a hundred meter's walk. At the same time, Yuhua has widely used the electric buses to reduce carbon emissions. Yuhua is accelerating the construction of rail traffic network, subway lines 1 and 3 are already in operation, which has conveniently facilitated citizens' mobility. The District has made efforts to standardize the management of sharing bicycles, solving the "last mile" problem in getting citizens from bus stops and railway stations, to their final destination. As Shijiazhuang was once Chinas bike capital with a bicycle modal share of 55%, Yuhua district also organizes bike races, brisk walking, hiking activities to re-ignite citizens' awareness on low-carbon lifestyle and green mobility.