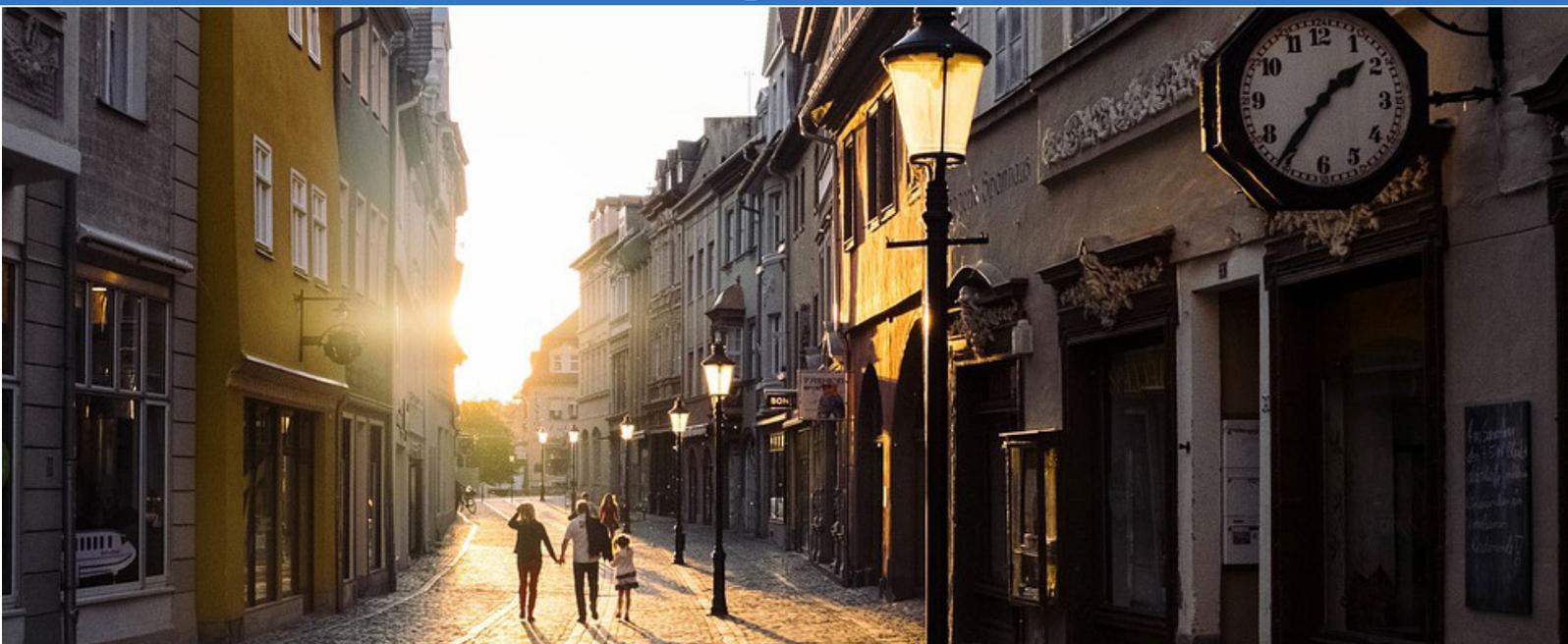




factsheet

Modal Interchanges



Authors/Contributors:
Maria Rosa Muñoz Barriga (Wuppertal Institute)

Editor: Shritu Shrestha (Wuppertal Institute)

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The graphic design was prepared by Barbara Lah

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UEMI Secretariat

www.uemi.net
secretariat@uemi.net

Oliver Lah
+49 (0)30 2887458-16



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**Author
Editor**

**UEMI
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Urban Electric Mobility Initiative (UEMI) was initiated by UN-Habitat and the SOLUTIONS project and launched at the UN Climate Summit in September 2014 in New York.

UEMI aims to help phasing out conventionally fueled vehicles and increase the share of electric vehicles (2-,3- and 4-wheelers) in the total volume of individual motorized transport in cities to at least 30% by 2030. The UEMI is an active partnership that aims to track international action in the area of electric mobility and initiates local actions. The UEMI delivers tools and guidelines, generates synergies between e-mobility programmes and supports local implementation actions in Africa, Asia, Europe and Latin America.

SOLUTIONS aims to support the exchange on innovative and green urban mobility solutions between cities from Europe, Africa, Asia and Latin America. The network builds on the SOLUTIONS project and brings together a wealth of experience and technical knowledge from international organisations, consultants, cities, and experts involved in transport issues and solutions.

The overall objective is to make a substantial contribution to the uptake of innovative and green urban mobility solutions across the world by facilitating dialogue and exchange, promoting successful policy, providing guidance and tailored advice to city officials, fostering future cooperation on research, development and innovation.

SOLUTIONS_UEMI supports urban mobility implementation actions that contribute to the Paris Agreement and the New Urban Agenda.

Sustainable energy and mobility can make positive contributions to a number of policy objectives, nationally and locally. In particular in cities there is a great potential to create synergies between for example safety, air quality, productivity, access and climate change mitigation. A UEMI resource centre will provide opportunities for direct collaboration on projects focusing on sustainable urban mobility and the role e-mobility can play in it. The UEMI will pool expertise, facilitate exchange and initiate implementation oriented actions.

UN-Habitat, the Wuppertal Institute & Climate Action Implementation Facility jointly host the resource centre for the Urban Electric Mobility Initiative, aiming to bridge the gap between urban energy and transport and boosting sustainable transport and urban e-mobility.

UEMI

Solutions

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Brief

Intermodal interchanges are places where passengers can change their mode of transport during a journey easily and conveniently. Delivering simpler, more convenient and better transport interchanges is an essential element of making transport networks more integrated. Journeys by public transport become faster, easier, safer, more reliable and enjoyable.

Examples

Intermodal interchanges are points where transport modes join with other modes and allow passengers to change easily between, for example, rail, metro, buses, cars or bicycles. They are key infrastructure elements that provide seamless transport, making public transport an appealing option when commuting or planning a trip. A key is to create nodes (points in a network where lines or paths intersect) that make transferring from one transport mode simpler, more accessible and friendly.

A coordinated service between transport managers and operators is crucial, as is providing good information to passengers related to the options they have when transferring from one mode to another.

Results

Intermodal interchanges minimise overcrowding and congestion; use space more efficiently; and optimise the design and location of key facilities. They also increase passenger satisfaction, and get more people using public transport. The experiences of different cities show that transport interchanges perform a key public transport function, and ensure that transport infrastructure is well connected to the public transport network.

In brief

Examples

Results

Technical & financial considerations

Policy/Legislation

Institutions

Technical and financial considerations

The cost of constructing interchanges is very flexible, depending on the measures included in the project – but constructing them in consolidated urban zones needs large investments. Interchanges should improve travel times and boost the number of travellers on the public transport network, and cities should consider these factors when calculating the costs.

The possibility of obtaining direct profits from managing interchange station adds a dimension of economic profitability to the investment's already existing social benefits. Using space efficiently and renting commercial retail space can save money or generate income.

The principal technical determining factor is the enormous surface area that is required. In addition, the design should respond to three types of needs: those of the transport interchange station, those of the users and those specifically of the transport modes servicing the station.

Policy/Legislation

Interchanges are crucial in getting more people to use public transport, which makes their city more livable – a major objective of cities across Europe. National, regional and local policies should also take into account sustainable transport and urban planning, and cities should implement them in legislation at different levels. Specific regulations on important issues such as fire safety, ventilation and air extraction, safety and permitted uses are also required for interchanges.

Institutions

The institutions involved in the process depend on the stage of the project. However, the main stakeholders are the interchange owner/manager; the local authority; public transport operators; and the city planning department.

Political support is crucial to initiate this kind of project, or at least commitment to the required finances. The infrastructure usually belongs to the local or regional authority and in many cases to the transport operator. Therefore, this kind of investment could be an initiative of the service providers or other stakeholders. However, the authority should make the final

decisions together with the transport operator (or the infrastructure manager).

Whether or not the infrastructure and public transport services are in different hands, they make decisions in strong cooperation and usually involve third parties to collect the possible benefits to the project and provide solutions for the financing.

Transferability

This kind of infrastructure is transferable to other cities, considering that it is flexible and has to be adapted to the specific needs and requirements that may arise. These infrastructures have a very positive impact in the city and urban transport.

As part of the EU CIVITAS programme's ELAN project, intermodal terminals were studied in Ljubljana (Slovenia), Ghent (Belgium), Zagreb (Croatia), Brno (Czech Republic) and Porto (Portugal) to create a platform for the exchange of experiences and good practice. These kinds of initiatives are very important to reproduce these measures in other cities around the world.

Case study: The Plaza Elíptica in Madrid (Spain)

Context

The city of Madrid has a long tradition on making intermodality work, with efforts that clearly pay off. In 2004, the Madrid Regional Transport Authority (MRTA) licensed a public tender for the construction, operation and maintenance of six intermodal interchanges. The Plaza Elíptica was one of them.

The proposal was to build a new underground transport interchange station that would optimise the connection with metro lines 6 and 11 for close to 60,000 bus travelers, particularly once the latter line extends to the city centre. This removed street-level bus services, completed the reorganisation programme of all the bus terminals around the circular metro line, and improved waiting times and transfers of bus users.

Transferability

Case study: The Plaza Elíptica in Madrid (Spain)

In action

The transport interchange station divides into three levels; the first two of these are for the interurban bus services and the last is for connection with the metro through a general services area. On each bus levels, 10 bays for 15-metre long buses are located around a triangular area or “island” - a layout based on the 14 bus lines that ended their routes in the station on a daily basis.

As the heaviest flows of people are passengers getting on buses and going to the metro station, the interchange is designed in a way to channel these flows as directly as possible, without prejudicing other passenger movements. Based on this and the triangular form of the platform, there is a main nucleus in the centre of the triangle, with stairs for reaching the metro on level 3 from levels 1 and 2, to channel the flow of passengers descending to the metro. To provide continuity without changes of direction or pointless journeys for transit between levels 1 and 3, on level 2 there is an additional stairway that connects to level 3, continuing the stairway from level 1 to level 2.

The work cost €60.7 million (\$66 million), paid for by private financing through an administrative concession for the construction and operation of the transport interchange, which was granted to the company for a period of 35 years.

Results

The new Plaza Elíptica intermodal hub gives a glance on a new generation of intermodal interchanges. It combines attractive architecture with convenience and efficiency, and supports Madrid’s goal of encouraging more people to use public transport in Madrid and the region.

References

LINK project. “Intermodal Passenger Transport in Europe: Passenger Intermodality from A to Z”

NICHES+ project. “Guidelines for implementers of passenger friendly interchanges” 2010,

CIVTAS ELAN project website

Comunidad de Madrid. “Plan de intercambiadores de Madrid”, 2010.

In action

Results

References



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More Information

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