

**EUROPEAN COMMISSION**  
**SEVENTH FRAMEWORK COOPERATION**  
**WORK PROGRAMME**

Innovative design and operation of new or upgraded  
efficient urban transport interchanges

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**THEME [SST.2012.3.1-2.]**

**Collaborative project**

Grant agreement no: 314262

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Project full title: "**City-Hub**"

Project acronym: **City-HUB**

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## **City-HUB Project**



**FINAL REPORT**

**ATTACHED DOCUMENTS TO THE FINAL PUBLISHABLE SUMMARY REPORT**

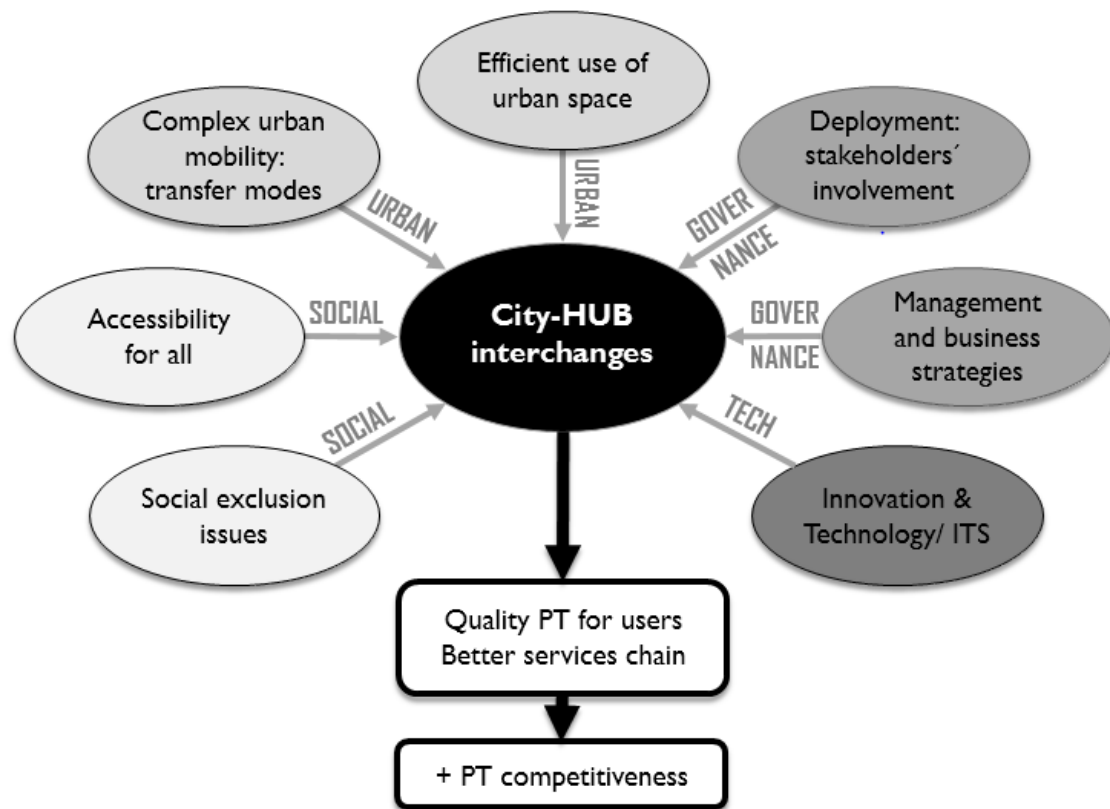


Figure 1 City-HUB vision of interchanges.



Figure 2 City-HUB surveyed Interchanges

*Table 1 Terminal related barriers and remedial measures.*

| <i>Barriers</i>  | <i>Recommendations</i>  |
|--|---|
| Involvement of several authorities in the decision-making processes.                               | Definition of a procedural framework with explicit definitions of roles, of each stakeholder. Distinction of ownership and operational responsibilities.  |
| Conflicts of economic, societal or environmental interests of stakeholders.                        | Integration of transport planning and land use decisions.<br>Definition of assessment criteria and consultation procedures for interchange implementation.  |
| Shortcomings and gaps in the legal framework to promote comprehensive intermodal mobility systems. | Break down of EU level transport policies to the practical level, e.g. strategic spatial distribution and mode choices of interchanges. Explore the need for a harmonised European regulatory frame for interconnections. |
| Insufficient public resources to finance terminal development projects.                            | Targeting public sector funding schemes and instruments that facilitate private sector involvement.   |
| Absence of a master plan for interchange terminals.  | Regularly update “master plans” of interchanges.  |

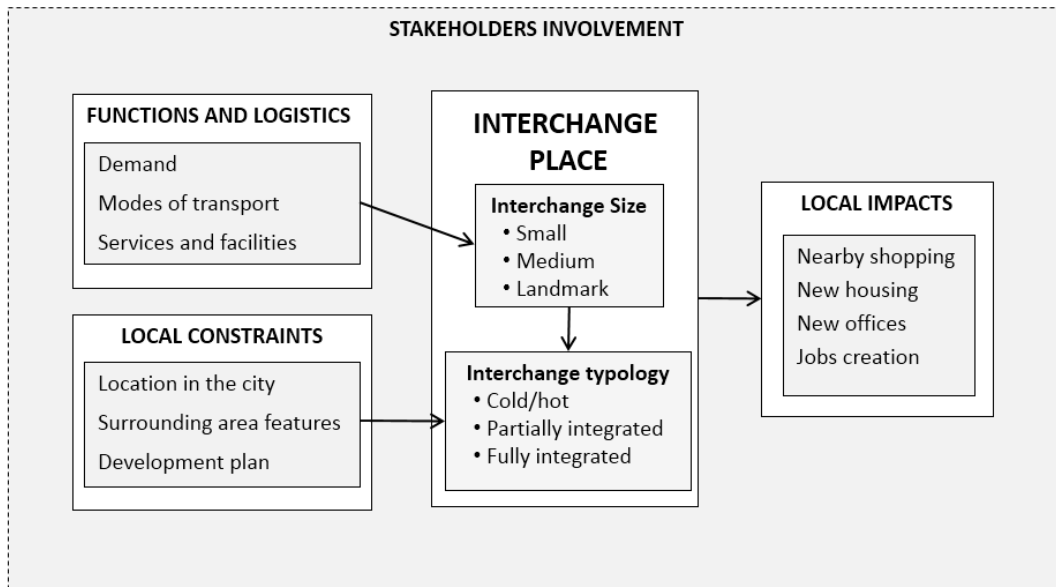


Figure 3 Urban transport interchange place.

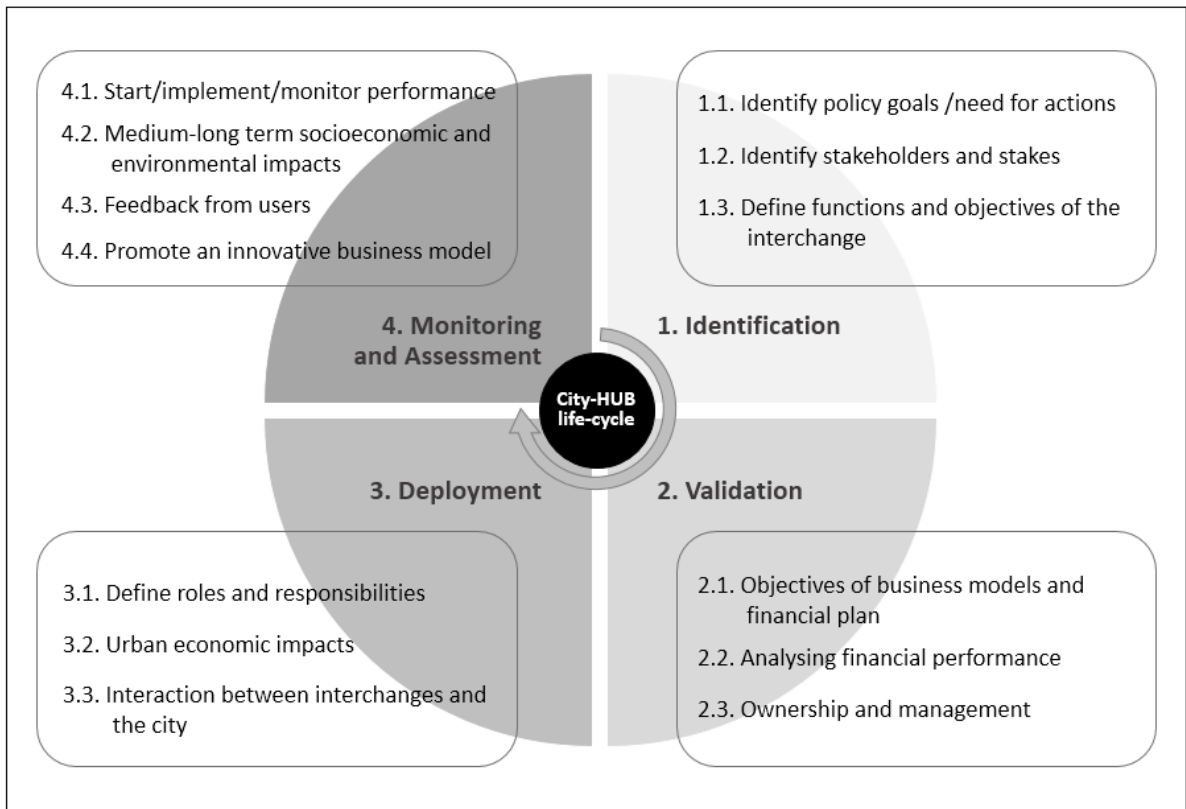


Figure 4 City-HUB life-cycle.

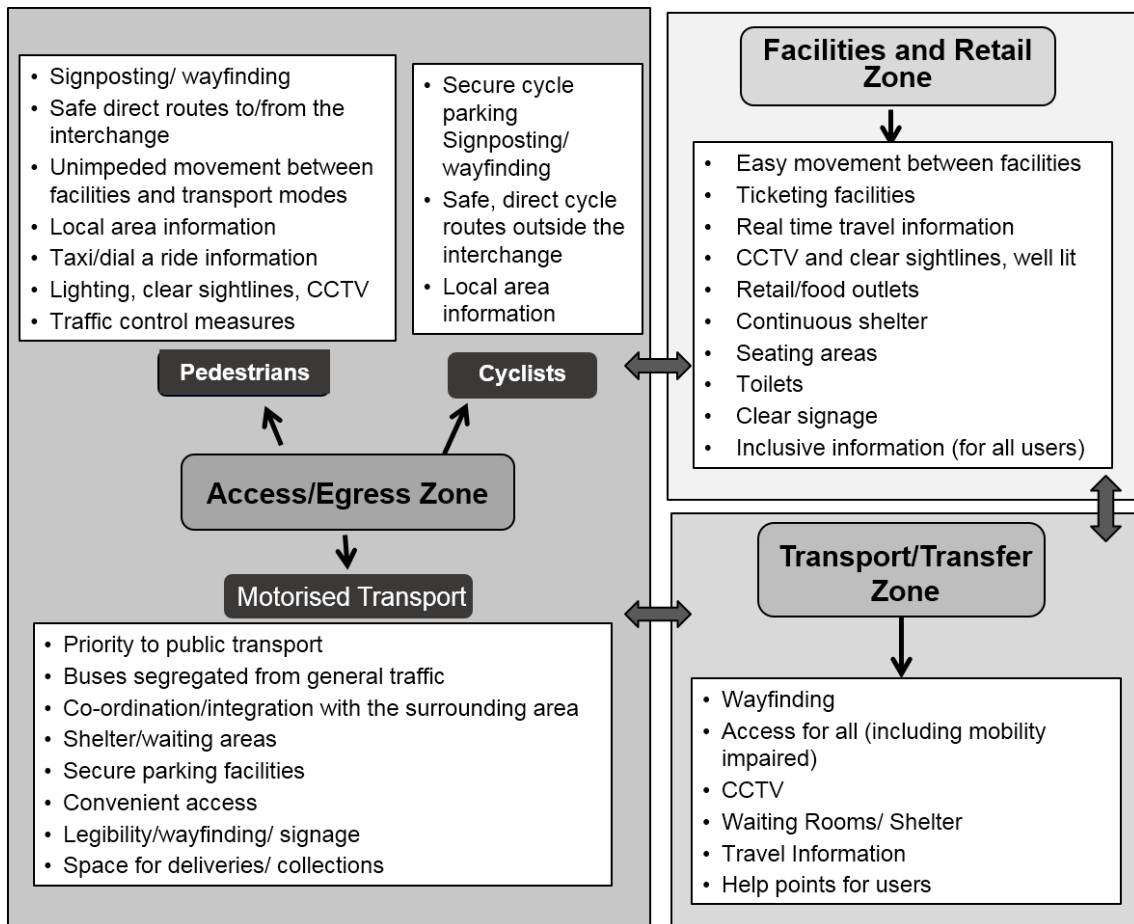


Figure 5 Interchange zones (based on Network Rail Station Zones 2011)

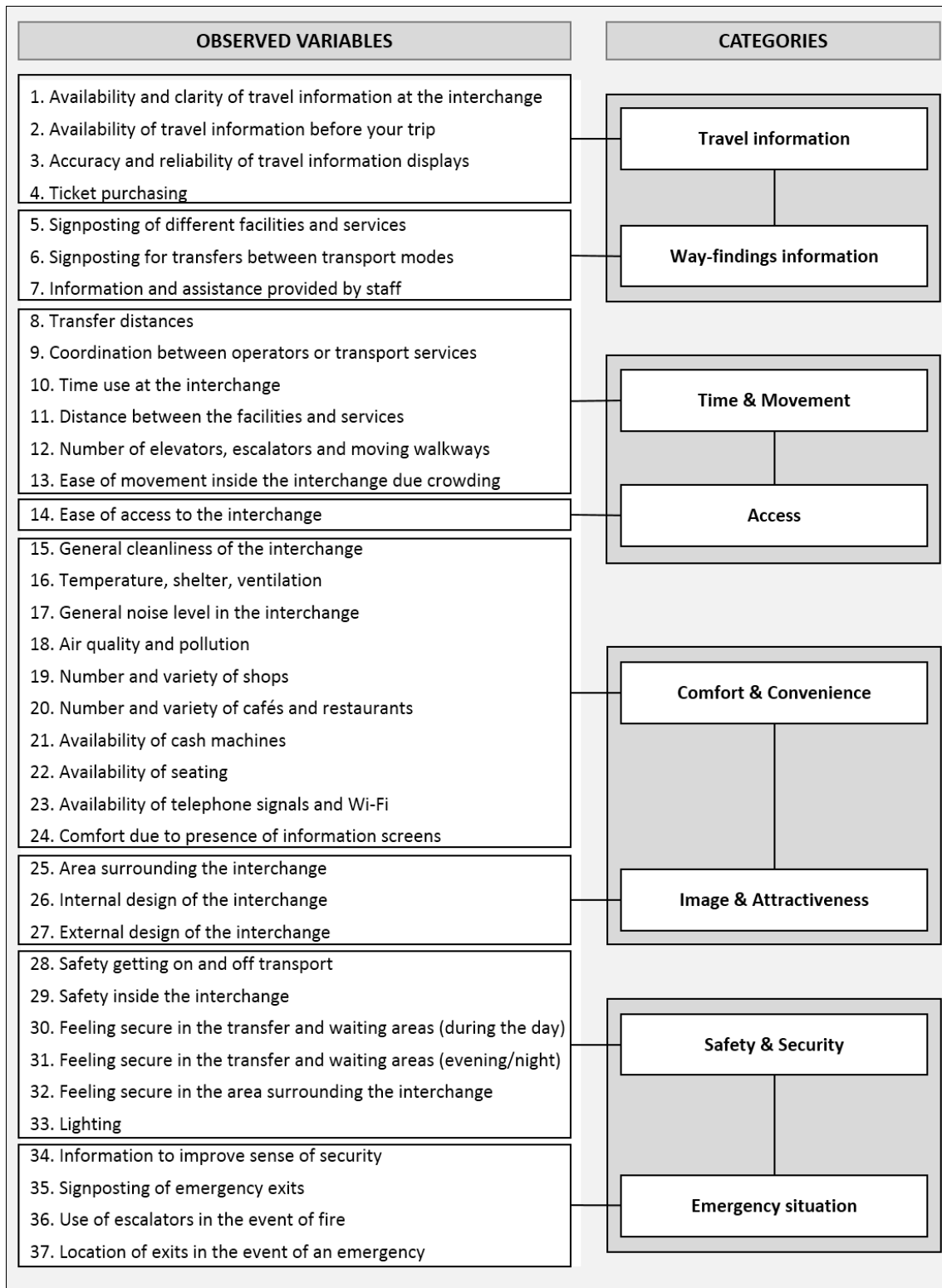


Figure 6 City-HUB travellers' satisfaction survey.



*Table 2 Satisfaction rates aggregated by categories*

| <i>Categories</i>        | <i>Moncloa</i> | <i>Kamppi</i> | <i>Ilford</i> | <i>Köbánya-<br/>Kispest</i> | <i>Thessaloniki</i> |
|--------------------------|----------------|---------------|---------------|-----------------------------|---------------------|
| Travel Information       | 3.69           | 3.92          | 3.44          | 3.61                        | 3.37                |
| Way-findings Information | 3.81           | 3.50          | 3.26          | 3.70                        | 3.26                |
| Time and Movement        | 3.69           | 3.69          | 3.09          | 3.52                        | 3.44                |
| Access                   | 4.19           | 4.29          | 3.33          | 4.32                        | 3.73                |
| Comfort & Convenience    | 3.35           | 3.59          | 2.99          | 3.41                        | 2.95                |
| Image & Attractiveness   | 3.77           | 3.27          | 2.50          | 3.56                        | 2.16                |
| Safety and Security      | 3.75           | 3.84          | 3.10          | 3.59                        | 2.72                |
| Emergency                | 3.45           | 3.42          | 2.88          | 3.70                        | 2.90                |

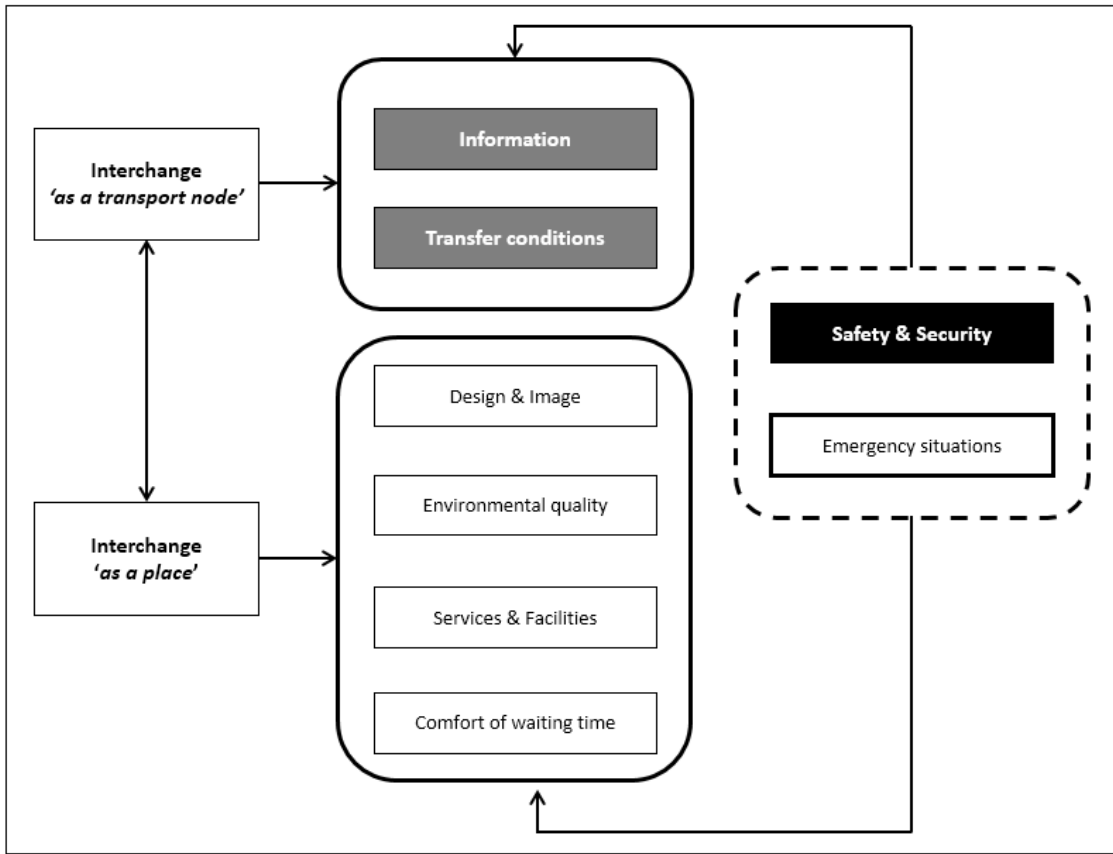


Figure 7 Planning guidelines for efficient urban transport interchange

## City-HUB Model for Urban Transport Interchanges

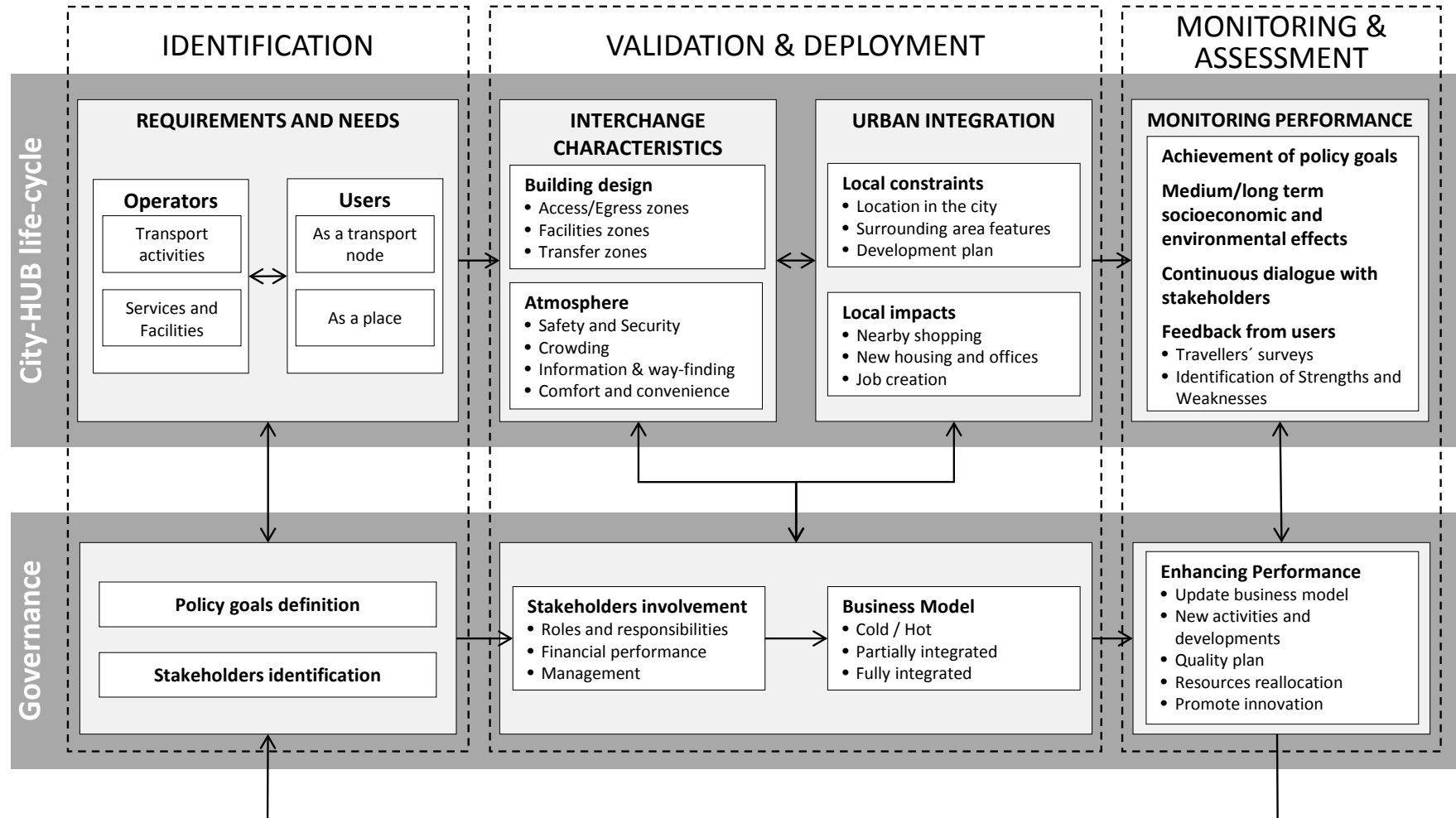


Figure 8 City-HUB MODEL process and elements.

Table 3 Business model for urban interchanges.

| OFFER SIDE  |  |  | DEMAND SIDE  |   |
|---|--|--|--|---|
| Key Stakeholders  | Services   | Value propositions   | Interaction with users   | Users' characteristics  |
| <ul style="list-style-type: none"> <li>- Transport operators of different modes</li> <li>- Land developers</li> <li>- Retailing, shops</li> <li>- Cafes, restaurants</li> <li>- Builders, construction companies</li> <li>- Public transport authorities</li> <li>- City authorities</li> <li>- Regional authorities</li> </ul> | <ul style="list-style-type: none"> <li>- Transport modes</li> <li>- Transfer among different modes</li> <li>- Ticket selling</li> <li>- Luggage handling services</li> <li>- Shopping and food services</li> </ul>   | <ul style="list-style-type: none"> <li>- Managing rapid transfer movements without congestion</li> <li>- Exposure to shops</li> <li>- Quality waiting areas with good ICT</li> <li>- Coordination among public authorities</li> <li>- Coordination with local business in the area</li> <li>- Integration into the area and location in the city</li> <li>- Development plan</li> <li>- Continuous dialogue with stakeholders</li> </ul> | <ul style="list-style-type: none"> <li>- Facilities for travellers</li> <li>- Surrounding area features and activities</li> <li>- Different information channels</li> </ul>    | <ul style="list-style-type: none"> <li>- Travellers Demand for each mode</li> <li>- Travellers profile                             <ul style="list-style-type: none"> <li>- age, gender</li> <li>- frequency</li> <li>- trip purpose</li> <li>- income level</li> <li>- disabled</li> </ul> </li> <li>- Non-travellers- using other services</li> </ul> |
|   | <i>Resources</i>   |  | <i>Atmosphere</i>  |   |
|   | <ul style="list-style-type: none"> <li>- platforms</li> <li>- ticket offices or machines</li> <li>- waiting space</li> <li>- information offices/screens &amp; other devices</li> <li>- commercial area</li> <li>- area for parking (cars, cycles, buses)</li> </ul> |  | <ul style="list-style-type: none"> <li>- Safety &amp; Security</li> <li>- Information &amp; way-finding</li> <li>- Comfort and convenience</li> <li>- Entertainment</li> </ul> |   |
| <i>Costs</i>  |  |  | <i>Revenues</i>  |   |
| <ul style="list-style-type: none"> <li>- Building: construction, maintenance</li> <li>- Energy efficiency</li> <li>- Operation and surveillance</li> </ul>  |  |  | <ul style="list-style-type: none"> <li>- Fees for transport modes</li> <li>- Renting space for retail and other services</li> <li>- Advertising</li> </ul>                     |   |

Source: Based on HERMES business model structure.



*City-HUB Project Logo*



*City-HUB Graphic.*

*City-HUB Project Leaflet*

## Objectives

### *City-HUB project aims at:*

- ◆ Testing and validating the City-HUB model for the improvement of integrated management approaches to intermodality, monitoring and operations across European countries;
- ◆ Achieving efficient urban interchanges, reducing their carbon footprint, maximizing the value of new technologies for mobility, communications and virtual travel, reducing accidents and encouraging healthier lifestyles;
- ◆ Achieving the widespread implementation of integrated mobility policies for all-providing more opportunities for citizens to access jobs, healthcare, education and training, retail opportunities as well as leisure facilities;
- ◆ Achieving widespread acceptance of public transport planning that meets social, environmental and mobility efficiency criteria in the most economical and effective way;
- ◆ Making a full contribution to the development of intermodality standards, minimum requirements, quality management, benchmark examples and public transport service level in Europe.

## Expected impact

### *City-HUB is expected to encourage:*

- ◆ Complementarity between modes and operations, enhancing intermodality;
- ◆ Coordination between modes and operators;
- ◆ Creation of people-focused seamless and energy efficient journeys in the urban region catchment area;
- ◆ Energy efficient urban network performance, using footprint measurement methods;
- ◆ Increase of economic viability using public rules and private funding;
- ◆ Creation of business case that stimulates local economy;
- ◆ Pan-European transferability; and
- ◆ Achievement of land use and urban transport infrastructure integration.

## Consortium

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KOZLEKEDESTUDOMANYI  
INTEZET NONPROFIT KFT  
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VYZKUMU v.v.i. (CDV)



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Republic

# City-HUB project



[www.cityhub-project.eu](http://www.cityhub-project.eu)



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Project supported by:



## Why City-HUB?

Urban transport interchanges play a key role as part of public transport networks, facilitating the links between public transportation modes, such as the connection between bus and subway or metropolitan railway. Time saving, urban integration, better use of waiting time and improvement of operational business models are some of the benefits that result from the development of efficient urban interchanges.

However, although urban transport interchanges are crucial for the improvement of accessibility, there are still problems, gaps or bottlenecks, which are mainly indicated in the coordination among different modes and the use of information systems and management models.

Towards this direction, the City-HUB project, bringing together leading experts of design and urban integration, transport operation and business, local and regional authorities and end-users organizations, aims at contributing to the design and operation of seamless, smart, clean and safe intermodal public transport systems.

At the same time, the project investigates how these interchanges should be designed in order to ensure that “vulnerable” target groups, i.e. the elderly, youth, physically and mentally handicapped people can adequately benefit from these interchanges.

## Pilot case studies

5 case studies will be studied in order to identify best practices, barriers and areas of improvement related with ITS solutions, efficient design and planning, and integrated management:

### **Moncloa interchange, Madrid, Spain**

Moncloa Interchange is located in the city center of Madrid, offering several mobility options, such as: metro (2 lines), local buses (20 lines), regional buses (74 lines), long-distance buses (1 line) and taxis. The hub is furthermore easily accessed on foot and by bicycle.

### **Ilford railway station, Redbridge, London, UK**

Ilford railway station is a suburban station located in the London Borough of Redbridge, United Kingdom. From 2018, the station will be on the forthcoming 'Crossrail' network, which will link existing surface lines (stretching from Essex to Berkshire) into East and West London through new tunnels and stations under central London.

### **New railway station, Thessaloniki, Greece**

The railway station is located in the suburban area of the city and provides several transportation services such as: commuter rail, interurban rail, metro (under construction), local buses, suburban buses, interurban buses, taxis, bicycle ways, park and ride, kiss and ride.

### **Kamppi terminal, Helsinki, Finland**

Kamppi terminal is located in the central area of Helsinki and is part of the city interchange area having direct access to the main railway station, the city hub for all local railway lines, trams, city buses and two smaller bus terminals, terminals for Northern and Eastern buses.

### **Kőbánya-Kispest, Hungary**

The Kőbánya-Kispest intermodal terminal integrates a metro terminal (line No. 3), a terminal for local buses (17 lines), regional bus lines, suburban and national rail (approx. 300 trains/day) and a Park & Ride facility.

## Validation case studies

The solutions that the project will propose for effective and smart design and integrated management will be validated through six case studies. The City-HUB model will also be simulated in the specific case studies:

### **Cornella centre, Barcelona, Spain**

The Cornella centre is located in Plaça de l'Estació, central Cornellà de Llobregat, which is a municipality in the southern half of the metropolitan area of Barcelona. The population is approximately 0.1 million citizens. The centre involves several transportation modes, such as metro, commuter train, tram, local and regional buses.

### **Prague terminus Dejvicka, Prague, Czech Republic**

The Dejvicka terminal is the main interchange point for travelers coming from/to the Prague airport. The transportation modes involved in the terminal are metro/underground, interurban and urban buses, airport bus, tram/light rail, taxi, kiss and ride, walking and cycling. Cycles are allowed in the underground and trams, but not in buses.

### **Utrecht Central, Utrecht, The Netherlands**

The Utrecht Central interchange is the central railway station of the city of Utrecht in the Netherlands, facilitating train, bus and tram transportation, and is connected to private, public and soft modes of transportation, such as cars, taxis and bikes. Cycling, as in all stations in the Netherlands is also very integrated.

### **Gare Lille Flandres-Europe, Lille, France**

The 2 stations are located at the top of the French TGV network, positioned at the crossroad of the Railteam network which is the European High speed network. The Lille Flandres Railway Station is an old construction structure station, counting 17 platforms and having traffic of 17 million passengers per year (2008) and 80,000 daily passengers. The Lille Europe Railway station is a very modern railway station, which counts 4 platforms with a central 2 railway lines for passing through Eurostar trains coming from Paris and going directly to London. It connects Lille to Paris by TGV, and to Brussels and London with the Eurostar trains.

### **Vaterland bus station, Oslo, Norway**

The Vaterland station is the main bus station in Oslo and is located next to the central rail station, while the metro station is accessed by five minute walking. The station serves local buses as well as domestic and international coaches; more than 500 towns across Europe.

### **Budaörs interchanges, Budaörs, Hungary**

Budaörs interchanges are a system of three interchanges and a rail feeder bus network located in the Budaörs region, in the suburbs of Budapest. The transportation modes involved in the hub are rail, regional and local buses, park and ride, and bicycle and ride.

*City-HUB Project Consortium*

| <i>Partner name</i>  | <i>Country</i> | <i>Work team</i>  |
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*List of stakeholders participating in City-HUB Workshops and Final Conference*

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# City-HUB Kick-off meeting - MADRID

27th - 28th of September, 2012





# 1<sup>st</sup> City-HUB Workshop - BUDAPEST

21<sup>st</sup> of March, 2013





# 2<sup>nd</sup> City-HUB Workshop - LONDON

3<sup>rd</sup> of February, 2014





# 3<sup>rd</sup> City-HUB Workshop - THESSALONIKI

9<sup>th</sup> of October, 2014





# City-HUB Final Conference - LILLE

19<sup>th</sup> of February, 2015

