



## Dr Stefano Pensa

### CURRICULUM VITÆ

January 2015

#### PERSONAL INFORMATION

First name Stefano  
Surname Pensa  
Nationality Italian  
Date of birth April 29, 1976  
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Mobile +39 3382571111  
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Web <http://invito.urbanbox.it/>

#### CURRENT EMPLOYEMENT

2014-present **Postdoctoral Researcher**  
Polytechnic of Turin – Faculty of Architecture - Department of Architecture and Design

2014-present **Independent consultant**  
Urban Center Metropolitano Torino

2010-present **Researcher / Independent consultant**  
SiTI - Higher Institute on Territorial Systems for Innovation, Turin, Italy, research units of “Urban & Environmental Planning” and “Transport & Logistics”.

#### EDUCATION

2013 **PhD in Architecture**  
Institution Politecnico di Torino, IT  
Title InViTo – Interactive geoVisualisation as support to spatial decision processes  
Subject Geo-Data Analysis and Visualization, Planning and spatial Decision Support Systems (PSS & sDSS), Development and usability of a multicriteria assessment tool.

2008 **MSc in Architecture**  
Institution Politecnico di Torino, IT  
Title Urban Generator: a tool for building urban scenarios  
Subject Planning and spatial Decision Support Systems (PSS & sDSS), Tool development for supporting spatial planning

## PROFESSIONAL EXPERIENCE (See also APPENDICES 1-2-3)

- 2014-present **Geo-visualizer** and **tool developer** at SiTI for the project: **SINERGI - Social Integration through Urban Growth Strategies**, funded by Europe for Citizens Programme.  
<http://www.skopje.gov.mk/en/ShowAnnouncements.aspx?ItemID=121&mid=211&tabId=1&tabIndex=0>
- 2014-present **GIS expert** and **tool developer** at Urban Center Metropolitano for the production of an interactive platform for urban development information
- 2014-present **Geo-visualizer, GIS expert** and **tool developer** at SiTI for the project **PRT Regional Transport Plan**, with focus on the analysis of social network data for the evaluation of urban mobility.
- 2014-present **Management Committee substitute** of **COST Action TU1305** - Social networks and travel behaviour.  
[http://www.cost.eu/domains\\_actions/tud/Actions/TU1305](http://www.cost.eu/domains_actions/tud/Actions/TU1305)
- 2014-present **Expert reviewer COST (European Cooperation in Science and Technology)** - Evaluation of COST Trans Domain Proposals (TDP).  
[http://www.cost.eu/domains\\_actions/TDP](http://www.cost.eu/domains_actions/TDP)
- 2014-present **Reviewer Proceedings of ICE - Civil Engineering**  
<http://www.icevirtuallibrary.com/content/serial/cien>
- 2011-present **Geo-visualizer** and **tool developer** at SiTI for the project: **Interactive Visualization Tool (InViTo)**, a tool for supporting planning and decision-making processes in complex spatial systems.  
<http://invito.urbanbox.it/>
- 2010-present **Geo-visualizer, GIS expert** and **tool developer** at SiTI for the European project **CoDe24** on the interconnection of economic development, spatial, transport and environmental planning along the trans-European railway axis (TEN-T) no. 24 from Rotterdam to Genoa, the INTERREG IVB NWE programme.  
**Action leader** in WP1, Action 2: Railway and SETTlement development dynamic visualisation tool (R&SET Tool).  
**Action partner** in WP1: Collaborative assessment process and decision making tool for the corridor development.  
<http://youtu.be/6ghuI0h1YRU>  
[http://siti-torino.hostei.com/test/invito\\_code24.html](http://siti-torino.hostei.com/test/invito_code24.html)
- 2011-2014 **Management Committee substitute** of **COST Action TU1002** - Accessibility Instruments for Planning Practice.  
<http://www.accessibilityplanning.eu/>  
<http://invito.urbanbox.it/projects/cost-tu1002/>
- 2014 **Short Term Scientific Mission** at **Centre for Research and Technology Hellas - Hellenic Institute of Transport, Thessaloniki, Greece**, as part of **COST Action TU1209 'Transport Equity Appraisal (TEA)'**. Theme: "explore the use of transport data for the assessment of equity criteria in transportation planning".  
<http://www.teacost.eu/>
- 2014 **Invited talk** at Faculty of Environmental Engineering, Politecnico di Milano (IT). Lecture on *spatial data visualization*.

- 2013 **Invited talk** at Faculty of Architecture, Universidade Federal de Minas Gerais (UFMG), Belo Horizonte (BR). Lecture on *Supporting Planning Processes by the Use of Dynamic Visualization*, Seminario internacional “novas tendencias em geotecnologias para o planejamento urbano”.
- 2013 **Visiting professor** at Faculty of Architecture, Universidade Federal de Minas Gerais (UFMG), Belo Horizonte (BR).  
III level course on *InViTo, interactive visualization for spatial decision processes*.
- 2012-2013 **Geo-visualizer, GIS manager and consultant, web developer** at SiTI for the project: **TPL - Analysis of regional public transport**. Creation of on-line query tool for the regional transport administration.  
<http://invito.urbanbox.it/projects/visualtpl/>
- 2010-2013 **Geo-visualizer, GIS expert, 3D modeller and tool developer** at SiTI for the project **CircUse - Circular Flow Land Use Management** – project funded by Central Europe to analyse the reuse of brownfield sites. Construction of a sDSS to facilitate the planning process in Asti (IT).  
<http://invito.urbanbox.it/projects/circuse/>
- 2012 **Invited member of COST Action TU0801**  
Semantic enrichment of 3D city models for sustainable urban development.  
<http://invito.urbanbox.it/projects/tu0801/>
- 2012 **Invited talk** at Faculty of Environmental Engineering, Politecnico di Milano (IT).  
Lecture on *spatial data visualization*.
- 2012 **Invited talk** at Faculty of Civil Engineering, Politecnico di Milano (IT).  
Lecture on *spatial data visualization*.
- 2011-2012 **Geo-visualizer, GIS expert and tool developer** at SiTI for the project: **Logistica Nord Ovest** on the assessment of Logistics in the North-West regions of Italy.
- 2011 **Visiting professor** at Master in "World Heritage at Work", ITC-ILO, Torino (IT).  
Lecture on *GIS technologies in urban planning*.
- 2010 **Geo-visualizer, GIS expert, 3D modeler** at Department on Territorial studies, Politecnico di Torino (IT).  
*Monforte d'Alba*, national research project for land use analysis.
- 2009 **Teaching assistant** Faculty of Architecture, Politecnico di Torino (IT).  
II level course, *Advanced Virtual Modeling and Rendering*.

## COMPUTER SKILLS AND COMPETENCES

GeoData	Advanced skills in <b>Esri ArcGis, Google Fusion Tables</b> .
Computer languages	Good skills in <b>Html, JavaScript</b> (in particular: <b>Google Maps API, Google Fusion Table API, Google Chart API, OSM API, Visual Basic, Xml/Kml</b> ).
2D graphics	Excellent skills in Adobe <b>Photoshop</b> and <b>Illustrator</b> . Good skills in Autodesk <b>Autocad</b> , Adobe <b>InDesign</b> .
3D graphics	Advanced skills in McNeel <b>Rhinoceros, Grasshopper</b> , Trimble <b>SketchUp</b> , Autodesk <b>3D Studio Max</b> .
Animations	Good skills in Autodesk <b>3D Studio Max</b> .
Video production	Good skills in Autodesk <b>3D Studio Max</b> , Adobe <b>Premiere</b> .
Office package	Excellent skills in Microsoft <b>Word, PowerPoint, Excel, Access</b> .

## LANGUAGES

<b>Italian</b>	Native speaker	
<b>English</b>	Understanding	Independent user
	Speaking	Independent user
	Writing	Independent user

Stefano Pensa is also author of several publications (see **App. 1**) and speaker at various conference, workshops and meetings (see **App. 2**). A short overview of his skills and role has given by a brief overview on the projects he worked on (see **App. 3**).

Torino, January 18, 2015

Sincerely,  
Stefano Pensa



## App. 1 PUBLICATIONS

Zyngier, C., Pensa, S., & Masala, E. (2014, June). Considerations on the Use of Visual Tools in Planning Processes: A Brazilian Experience. *TeMA - Journal of Land Use, Mobility and Environment INPUT 2014, Special Issue - INPUT 2014 - Smart City: planning for energy, transportation and sustainability of the urban system*, 989-998.

Rabino, G., Masala, E., & Pensa, S. (2014, June). Visualisation as a Model. Overview on Communication Techniques in Transport and Urban Planning. *TeMA - Journal of Land Use, Mobility and Environment INPUT 2014, Special Issue - INPUT 2014 - Smart City: planning for energy, transportation and sustainability of the urban system*, 853-862

Pensa, S., Masala, E., Lami, I., & Rosa, A. (2014, May 01). Seeing is knowing: data exploration as a support to planning. *Proceedings of the ICE - Civil Engineering*, 167(5), 3-8.

Pensa, S., Masala, E., Arnone, M., & Rosa, A. (2014). Planning local public transport: a visual support to decision-making. *Procedia - Social and Behavioral Sciences*, 111, 596-603.

Abastante, F., Bottero, M., Günther, F., Lami, I. M., Masala, E., Pensa, S., et al. (2014). An Integrated Approach for Supporting the Evaluation of Transport Scenarios: The Area of Bellinzona (CH). In I. M. Lami (Ed.), *Analytical Decision-Making Methods for Evaluating Sustainable Transport in European Corridors* (pp. 177-203). Springer International Publishing.

Abastante, F., Günther, F., Lami, I. M., Masala, E., Pensa, S., & Tosoni, I. (2014). Analytic Network Process, Interactive Maps and Strategic Assessment: The Evaluation of Corridor24 Alternative Development Strategies. In I. M. Lami (Ed.), *Analytical Decision-Making Methods for Evaluating Sustainable Transport in European Corridors* (pp. 205-232). Springer International Publishing.

Masala, E., & Pensa, S. (2014). Visualisation: An Approach to Knowledge Building. In I. M. Lami (Ed.), *Analytical Decision-Making Methods for Evaluating Sustainable Transport in European Corridors* (Vol. 11, pp. 159-174). Springer International Publishing.

Pensa, S., & Masala, E. (2014). InViTo: An Interactive Visualisation Tool to Support Spatial Decision Processes. In N. N. Pinto, J. A. Tenedorio, A. P. Antunes, & J. R. Cladera (Eds.), *Technologies for Urban and Spatial Planning: Virtual Cities and Territories* (pp. 135-153). Hershey, PA: IGI Global Book.

Coppola, P., Pensa, S., Masala, E., Tabasso, M., & Papa, E. (2014). Visualising accessibility: an Interactive tool and two applications to empirical case studies of urban development and public engagement. *2014 European Transport Conference. Frankfurt am Main: AET - Association for European Transport*.

Masala, E., & Pensa, S. (2014). GISualisation: a tool for visually supporting planning processes. Geodesign Summit Europe II - September 11–12, 2014. Delft.

Masala, E., Pensa, S., & Tabasso, M. (2014). Accessibility to local public transport: the use of visualisation for enhancing the debate. *Bridging the implementation gap of accessibility instruments and Planning Support Systems, joint conference CITTA 7th Annual Conference and COST TU1002 Final Conference, October 23-24, Porto*.

Masala, E., & Pensa, S. (2013, March 6-8). Dynamic maps for supporting spatial decision processes. *Geoviz 2013. Hamburg: HafenCity University - International Cartographic Association (ICA)*.

Marietta C., & Pensa S. (2014). CircUse Italian case study: developing a sDSS for Asti. In E. Masala, & G. Melis (Eds.), *Interactive Visualization Tool for brownfield redevelopment - A European experience*. Torino: Celid.

Pensa S., & Masala, E. (2014) The Interactive Visualisation Tool (InViTo): concepts and usability. In E. Masala, & G. Melis (Eds.), *Interactive Visualization Tool for brownfield redevelopment - A European experience*. Torino: Celid.

- Pensa S. (2014). InViTo designed for Asti: maps and results. In E. Masala, & G. Melis (Eds.), *Interactive Visualization Tool for brownfield redevelopment - A European experience*. Torino: Celid.
- Isabello, A., Pensa, S., Arnone, M., & Rosa, A. (2013). Reviewing Efficiency and Effectiveness of Interurban Public Transport Services: a Practical Experience. *European Transport Conference, 30 Sept. - 2 Oct. 2013, Frankfurt, Germany*. Henley-in-Arden: Association for European Transport.
- Masala, E., & Pensa, S. (2013). Managing urban data through a web-based platform: The newer Interactive Visualisation Tool (InViTo). In D. Pumain, & A. Banos (Eds.), *ECTQG'13 - European Colloquium of Theoretical & Quantitative Geography* (pp. 157-159). September 5-9th, Dourdan: European Research Group on Spatial Simulation for Social Sciences.
- Pensa, S., Chauvat, G., & Masala, E. (2013). Interactive data analysis towards the identification of tourism features. In M. Cerasoli (Ed.), *Libro degli abstract del 9° Congresso "Città e Territorio Virtuale", Città Memoria Gente* (pp. 80-81). 2-4 October 2013, Roma: ArcAdiA - Archivio Aperto di Ateneo, Università Roma Tre.
- Pensa, S., Masala, E., Arnone, M., & Rosa, A. (2013). Planning local public transport: a visual support to decision-making. *EWGT2013 - 16th Meeting of the EURO Working Group on Transportation*. 4-6 September 2013, Porto.
- Pensa, S., Masala, E., & Lami, I. M. (2013). Supporting planning processes by the use of dynamic visualization. In S. Geertman, F. Toppen, & J. Stillwell (Eds.), *Planning Support Systems for Sustainable Urban Development* (Vol. 195, pp. 451-467). Berlin Heidelberg: Springer.
- Pensa, S., Masala, E., & Marina, O. (2013). What if form follows function? The exploration of suitability in the city of Skopje. *DisegnareCon*, 6(11), 141-148.
- Abastante, F., Bottero, M., Lami, I. M., Masala, E., & Pensa, S. (2012). Invito: an integrated approach for supporting the evaluation of transport scenarios. *25TH European Conference on operational research*. Vilnius, Lituania.
- Bertolini, L., Halden, D., Iltanen, S., Pensa, S., & Santos, B. (2012). Cross-analysis of the accessibility instruments. In A. Hull, C. Silva, & L. Bertolini (Eds.), *COST Action TU1002 - Accessibility Instruments for Planning Practice* (pp. 195-203). COST-ESF.
- Marina, O., Masala, E., Pensa, S., & Stavric, M. (2012). Interactive model of urban development in residential areas in Skopje. In T. Leduc, G. Moreau, & R. Billen (Eds.), *Usage, Usability and Utility of 3D City Models*. EDP Sciences.
- Masala, E., Marina, O., Pensa, S., & Stavric, M. (2012). Interactive visualization in modeling urban development. In R. Billen, M. Caglioni, O. Marina, G. Rabino, & R. San José (Eds.), *COST Action TU0801 - 3D issues in urban and environmental systems* (pp. 59-65). Milano, Italia: Esculapio.
- Melis, G., Pensa, S., & Tabasso, M. (2012). Planning Support prototype instrument for brownfield regeneration. In M. Campagna, A. De Montis, F. Isola, S. Lai, C. Pira, & C. Zoppi (Eds.), *Planning Support Tools: Policy Analysis, Implementation and Evaluation: Seventh International Conference on Informatics and Urban and Regional Planning INPUT 2012* (pp. 624-634). Milano: Franco Angeli.
- Pensa, S., Masala, E., Marietta, C., & Tabasso, M. (2012). InViTo: an interactive visualization tool for supporting planning processes. In M. Campagna, A. De Montis, F. Isola, S. Lai, C. Pira, & C. Zoppi (Eds.), *Planning Support Tools: Policy Analysis, Implementation and Evaluation. Proceedings of the Seventh International Conference on Informatics and Urban and Regional Planning INPUT 2012* (p. 707-718). Cagliari: Franco Angeli.
- Stavric, M., Marina, O., Masala, E., Pensa, S., & Karanakov, B. (2012). From 3D Building Information Modeling Towards 5D City Information Modeling. In R. Billen, M. Caglioni, O. Marina, G. Rabino, & R. San José (Eds.), *COST Action TU0801 - 3D issues in urban and environmental systems* (pp. 51-58). Milano, Italia: Esculapio.

Lami, I. M., Masala, E., & Pensa, S. (2011). Analytic Network Process (ANP) and visualization of spatial data: the use of dynamic maps in territorial transformation processes. *International Journal of the Analytic Hierarchy Process (IJAHF)*, 3(2), 92-106.

Lami, I. M., Masala, E., & Pensa, S. (2011). La visualizzazione spaziale delle analisi multicriteria: un caso applicativo nel processo decisionale. *Il ruolo delle città nell'economia della conoscenza, XXXII Conferenza Scientifica Annuale dell'AIRe*, Sept. 15-17, Torino. Conference proceedings in electronic format.

Lami, I. M., Masala, E., & Pensa, S. (2011). Analytic Network Process (ANP) and visualization of spatial data: the use of dynamic maps in territorial transformation processes. In F. De Felice, E. Esposito, A. Petrillo, & T. L. Saaty (Eds.), *ISAHP 2011*. Sorrento - NA: AHP Academy press, electronic format.

Lami, I. M., Masala, E., & Pensa, S. (2011). Multiple Criteria Decision Analysis and visualization of spatial data. An application to a Corridor 24 section. *73rd meeting of the European Working Group "Multiple Criteria Decision Aiding"*, (p. 13). Corte, France, electronic format.

Marietta, C., Pensa, S., & Tabasso, M. (2011). Modelli generativi a supporto dei processi di trasformazione territoriale. *Il ruolo delle città nell'economia della conoscenza, XXXII Conferenza Scientifica Annuale dell'AIRe*, Sept. 15-17, Torino. Conference proceedings in electronic format.

Pensa, S., Masala, E., & Marietta, C. (2011). The effects of decision-making on urban form: A tool for supporting planning processes. In N.N. Pinto, J.A. Tenedorio, M. Santos, & R. Deus (Eds.), *Proceedings of the 7th international conference on virtual cities and territories, Lisbon, October 11th to 13th, 2011* (pp. 41-44). Coimbra: Department of Civil Engineering of the University of Coimbra and e-GEO of the Nova University of Lisbon.

Caneparo, L., Collo, M., Di Giannantonio, D., Lombardo, V., Montuori, A., & Pensa, S. (2008). Generating Urban Forms from Ontologies. In J. Teller, C. Tweed, & G. Rabino (Eds.), *Conceptual Models for Urban Practitioners* (pp. 171-184). Milano, Italia: Esculapio.

Caneparo, L., Collo, M., Montuori, A., & Pensa, S. (2007). Urban Generator. In A. Dong, A. Vande Moere, & A. Riitahuhta (A cura di), *Computer-Aided Architectural Design Futures (CAADFutures) 2007* (p. 347-360). 11–13 July 2007, Sydney: Springer.

## App. 2 PRESENTATIONS AT CONFERENCES, MEETINGS AND WORKSHOPS

- 2014 **Sinergi** workshop leading, Faculty of Architecture, Skopje, FYROM  
**CITTA 7th ANNUAL CONFERENCE ON PLANNING RESEARCH** conference, Research Center for Territory, Transport and Environment, Oporto University, Portugal.  
**COST TU1002** meeting, Faculty of Engineering, Oporto University, Oporto, Portugal.  
**Geodesign Summit Europe** conference, Delft University of Technology, Faculty of Architecture and Science Center, Delft, the Netherlands.  
**Sinergi** meeting, ZgForum, Zagreb, Croatia  
**CoDe24** workshop leading, Regionalverband FrankfurtRheinMain- Frankfurt am Main -Germany.  
**INPUT 2014** conference, Napels, Italy.  
**COST TU1002** meeting, University of Ljubljana, Ljubljana, Slovenia.  
**Sinergi** kickoff meeting, Comune di Torino, Turin, Italy
- 2013 **COST TU1002** meeting, Aalto University, Helsinki, Finland.  
**Festival della Scienza**, Palazzo Ducale, Genova, Italy.  
**CoDe24** meeting, ETH-Zurich, Zurich, Switzerland.  
**Municipality of Belo Horizonte**, Minas Gerais, Brasil.  
**InViTo for measuring accessibility** workshop leading, Turin, Italy.  
**CUPUM 2013** conference, Utrecht, The Netherlands.  
**GeoViz2013** conference, Hamburg, Germany.  
**COST TU1002** meeting, Urzad Miasta Krakowa, Krakov, Poland.  
**CoDe24** workshop leading, Value Lab - ETH-Zurich, Zurich, Switzerland.  
**COST TU1002** meeting, TU München, Munich, Germany.  
**CoDe24** workshop leading, Value Lab - ETH-Zurich, Zurich, Switzerland.
- 2012 **3U3D 2012** conference, Ecole Centrale de Nantes, Nantes, France.  
**CoDe24** workshop leading, Palazzo Ducale, Genova, Italy.  
**COST TU1002** pilot workshop, VU Amsterdam, Amsterdam , the Netherlands.  
**INPUT 2012** conference, Cagliari, Italy.  
**CoDe24** workshop leading, Value Lab - ETH-Zurich, Zurich, Switzerland  
**COST TU0801** meeting by invitation, Mladinski Kulturen Centar, Skopje, Republic of Macedonia (FYROM).
- 2011 **CoDe24** workshop leading, Value Lab - ETH-Zurich, Zurich, Switzerland.  
**7th Virtual Cities and Territories** conference, Universidade NOVA de Lisboa, Lisbon, Portugal.  
**CoDe24** workshop leading, Value Lab - ETH-Zurich, Zurich, Switzerland.  
**ISAHP 2011** Symposium, Hilton Sorrento Palace, Sorrento, Naples, Italy  
**73th EWG-MCDA**, Università di Corsica Pasquale Paoli, Corte, France.
- 2010 **CoDe24** pilot workshop, Value Lab - ETH-Zurich, Zurich, Switzerland.



## App. 3 SHORT OVERVIEW ON RESEARCH PROJECTS

### Web Tools

Map-based web interfaces working on virtual globe applications. Javascript and Html combined with API interacting with geo-database.



Realisation of a Web page by means of different free Google tools for visually filter GIS data on public transport (TPL project: <http://siti-torino.hostei.com/test/tpl.html>).



Map-based web tool for multi-criteria analysis. InViTo produces weighted maps according to parameters and rules decided by users (InViTo project: <http://invito.urbanbox.it/>).

### Social Network Data Analysis

Social Network API used to the analysis of urban patterns and flows.



Twitter Urban Patterns: analysis of tweets and users' density in urban walkable cells.



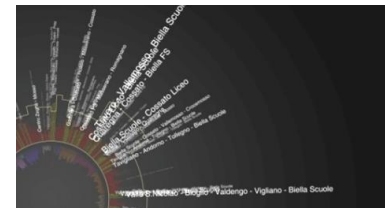
Twitter Shortest-Path Map: tracking of twitter users and application of shortest path algorithm to identify main mobility axes.

### Visual Complexity

Static and dynamic visualisations on visual complexity concept to highlight the hidden connections among data.



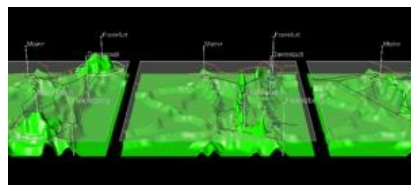
Interactive charts used to support the identification of priorities in the strategy assessment about the development of Genoa-Rotterdam (CoDe24 project).



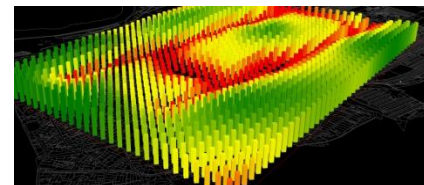
Visualisation of data on public transport. It relates transport lines with various indicators such as speed, users and efficiency (TPL project).

### Geo-visualisation

Dynamic visualisation of spatial data for supporting spatial planning and decision processes. Parametric 3D modelling and GIS data.



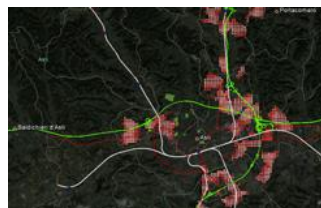
Decision-making support by interactive visualisation of scenarios Costs-Benefits analysis for the Frankfurt-Mannheim region(D)(CoDe24 project: <http://www.youtube.com/watch?v=6ghul0h1YRU&feature=youtu.be>).



Dynamic urban model which combines different indicators for calculating the suitability of residential use in an urban area of Skopje (FYROM) (COST Action TU0801).

### GIS technologies

Integrated use of GIS, databases and spreadsheets to build dynamic maps whose settings can be defined by users.



Interactive visual analysis of integrated land use and transport system by means of mathematical functions applied to GIS data (CIRCUSE project).



Visual analysis of accessibility to public transport by means of short-path algorithms. Users can set the weights of transport mode to explore new policies (COST Action TU1002).