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High-Quality Service in Urban Transport Systems

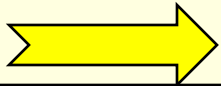
Territorial evaluation of transport systems and mobility services
using Geographic Information System

Frédéric SCHETTINI – CEO of MobiGIS

September 11-12, 2010 Shanghai – China



Agenda



- **About MobiGIS**
- **Decision making GIS and spatial planning**
- **MobiGIS's solution for transportation planning**
- **Accessibility indicators for making mobility policies and planning**
- **Conclusion**



French innovative company

- Software editor and IT consulting company
 - Environment
 - Travel and Mobility
 - Transport and Logistic
- Locations
 - Toulouse - France
 - Shanghai - China



Making Geographic Information Part of your Everyday Business





← Activities & offers →

Transport Software

Multimodal planning

Urban mobility

Fleet Optimization

GIS Services

*Software Engineering
Consulting, trainings*

*Desktop, server, web and
mobile applications
development*

R & D

Modeling

Standardization

Multimodal analysis

Mobility services



Our main references

TOTAL

Petroleum Group



French Ministry of Transport



L'autorité organisatrice des transports en Île-de-France

Public Transport Authority

Paris - France



World leader in environment services



Public Transport Authority

Toulouse - France



National Geographic Institute



IT Research Center





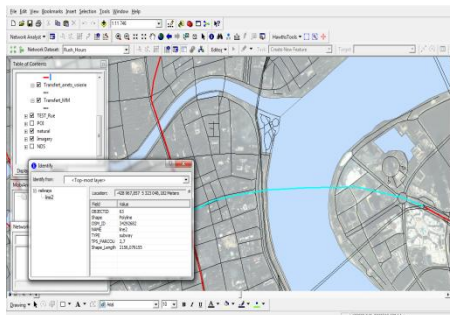
Our projects sponsored by the French Ministry of Transport for geographical information standardization

GIS solution for network analysis and improvements
(GIS for Transportation)

Tool for Public Transport modeling and data exchange
(Chouette)

Geospatial transport database :
network, schedules,
multimodal hubs, accessibility
of disabled people

(CAMERA)





Other GIS-based solutions

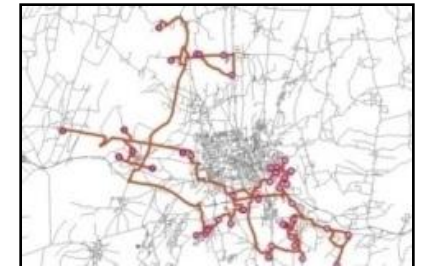
Web-based solution for
crisis management



Solution for infrastructure
maintenance management



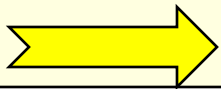
Fleet optimization for
route and waste
management





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GIS in transportation planning

Help to achieve various objectives

- Influence the future distribution of spatial activities
- Co-ordinate the spatial impacts of other sectoral policies
- Create a more relational territorial organization of land uses
- Balance demands for development with the need to protect the environment and to achieve social and economic objectives

Allow to deal with complex businesses

- Multiple actors
- Multiple goals
- Multiple criteria

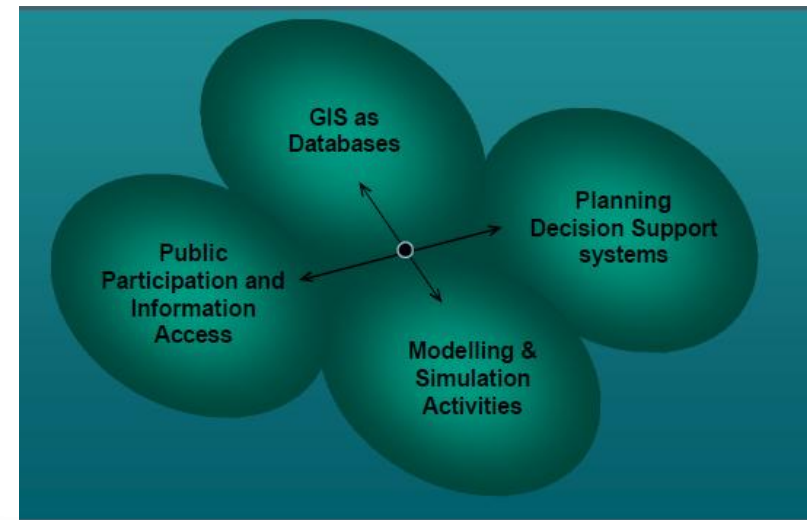
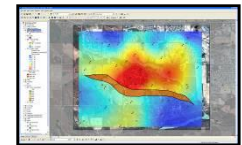
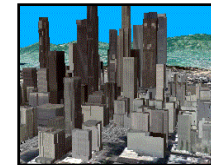




GIS functions in transportation planning

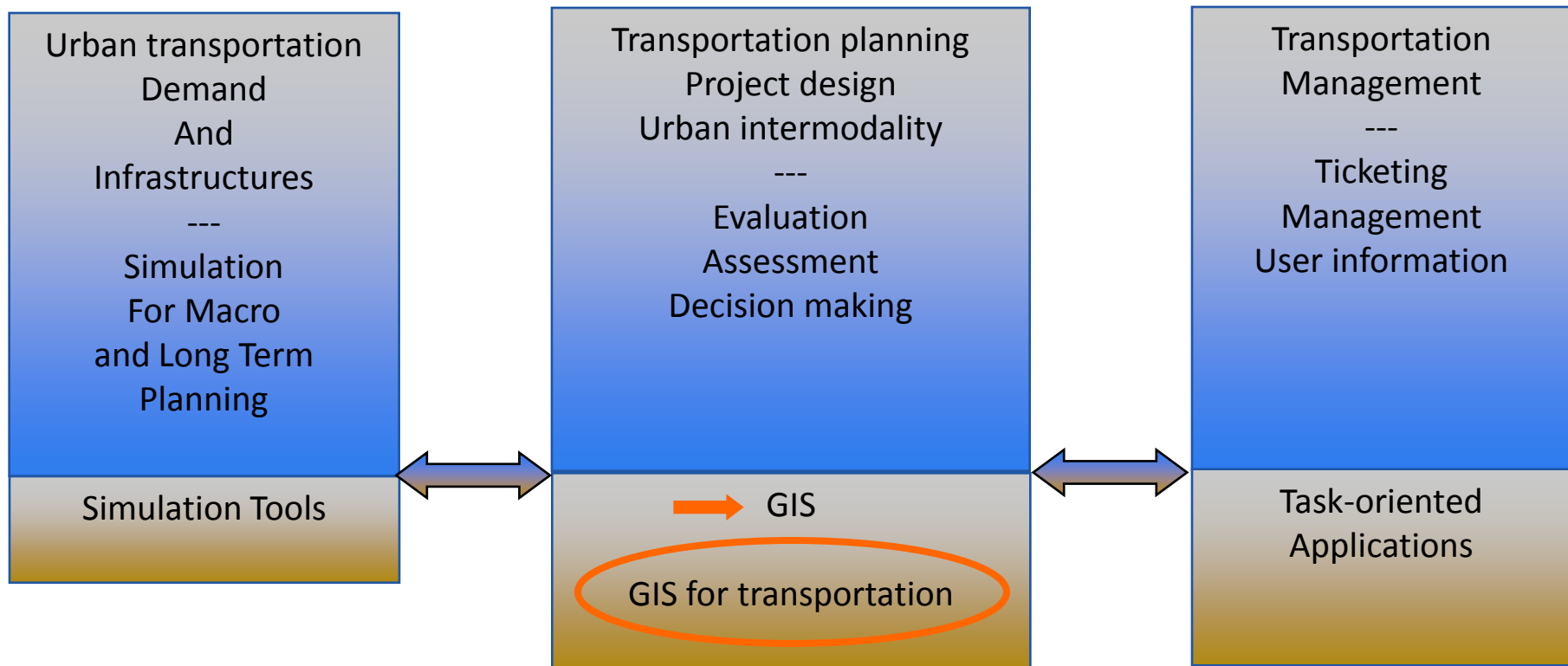
GIS are widely used to

- Model the real world (streets, 2D/ 3D, etc)
- Analyze geospatial data
- Optimize operations
- Visualize analysis results
- Communicate





A strategic position in the transportation information system





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A solution for intelligent transport planning

Advantages

- **Plan** and **analyze** transportation offers
- **Assess** mobility and transport services
- **Create** scenarios and compare results
- **Minimize** transport costs and CO2 emissions
- **Highlight** the decision-making elements

Targets

- Local governments, small to large cities
- Public transportation companies
- Urban planning institutes, agencies
- Study and analysis offices

Green: normal traffic condition
Red: Rush hours



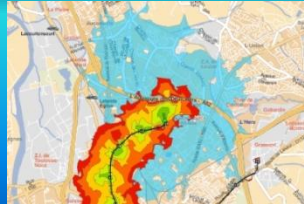
Intuitive, powerful and interoperable software

GIS for Transport

Model



Analyze



Improve

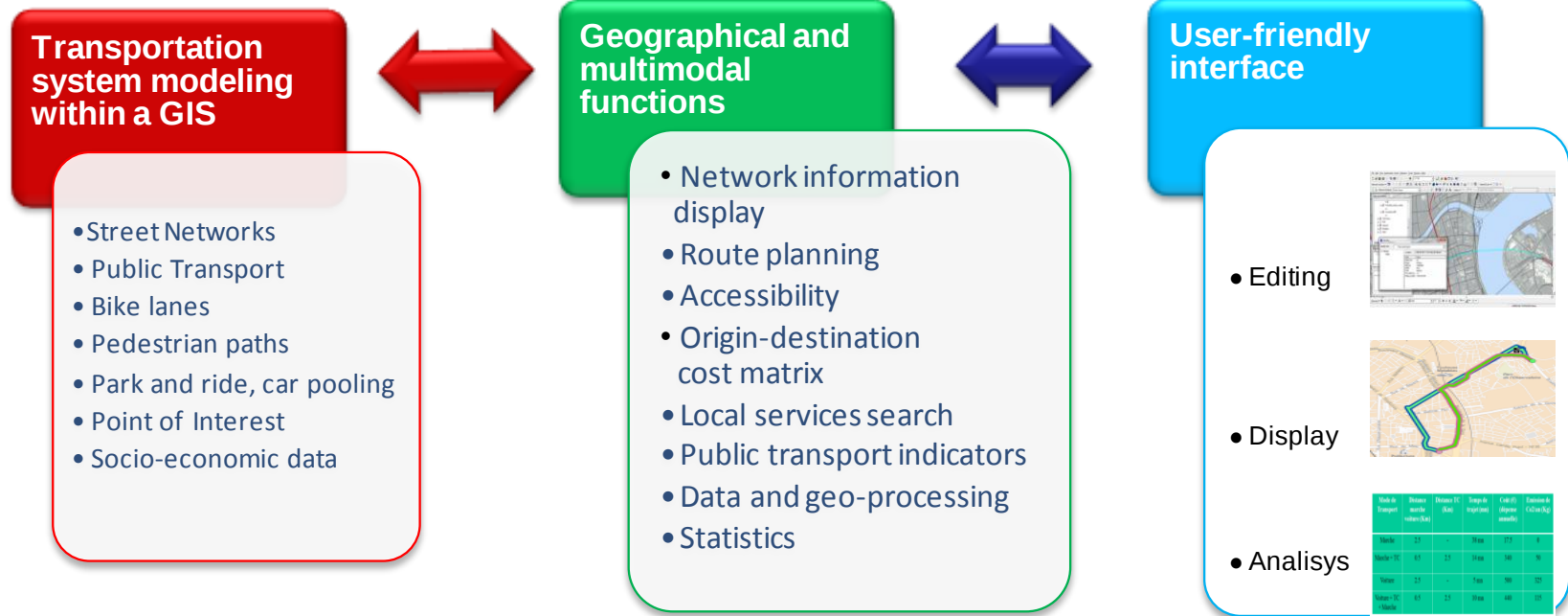


Typology of uses:

- Territorial consistency scheme
- Studies on Urban Mobility Plans
- Studies on Enterprise Mobility Plans
- Studies on new mobility infrastructures & services
- Optimization, Reorganization of transport networks



Main components

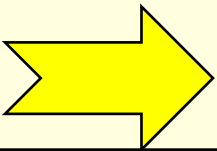


Uses of transport and GIS standards



Agenda

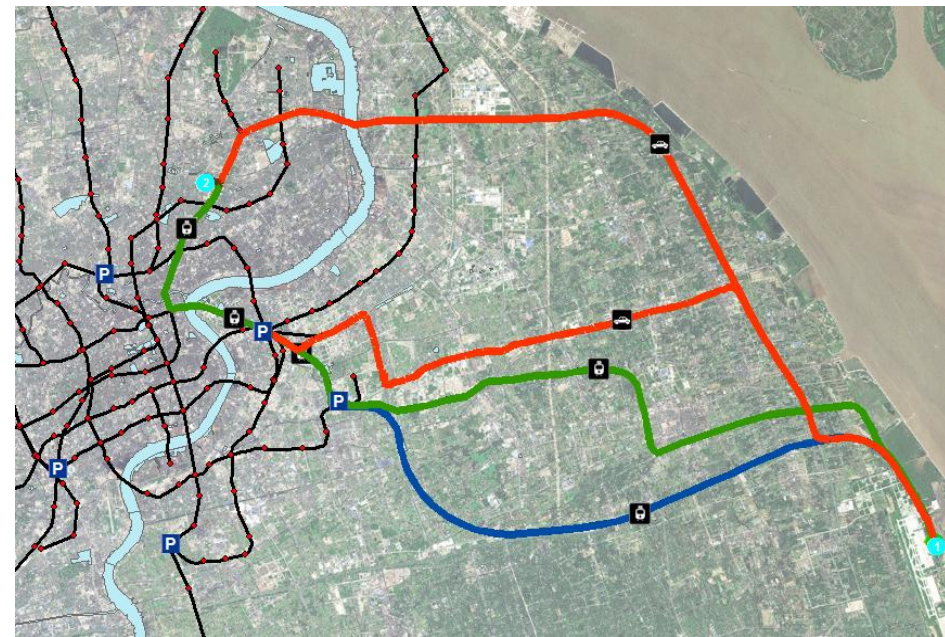
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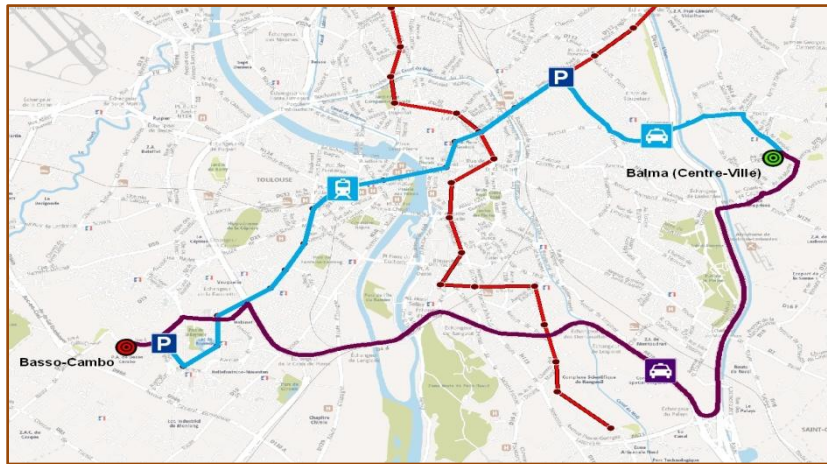
Route analysis and planning

**Comparison of various routes
from main origins-
destinations (i.e. PuDong to
TonJi DaXue) using
different modes of
transport**

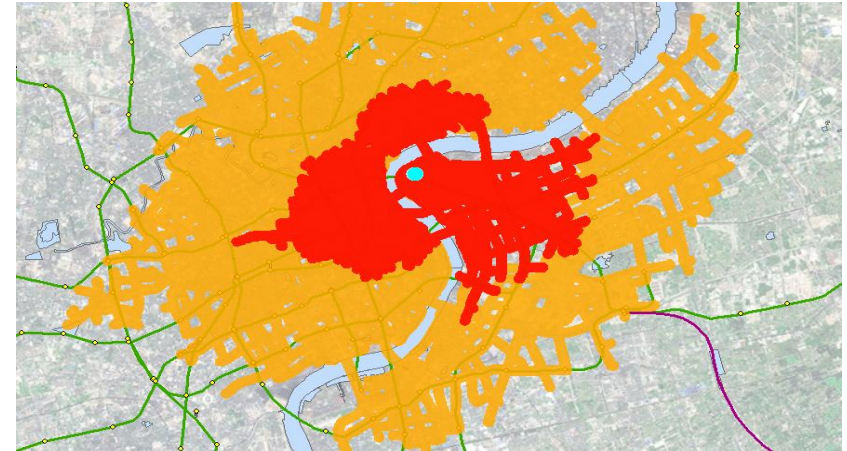
- **Maglev + on foot**
- **On foot + Metro**
- **By car**
- **By car + Metro + On foot**



Compare routes and accessibility during times of day



Two different route based on traffic conditions

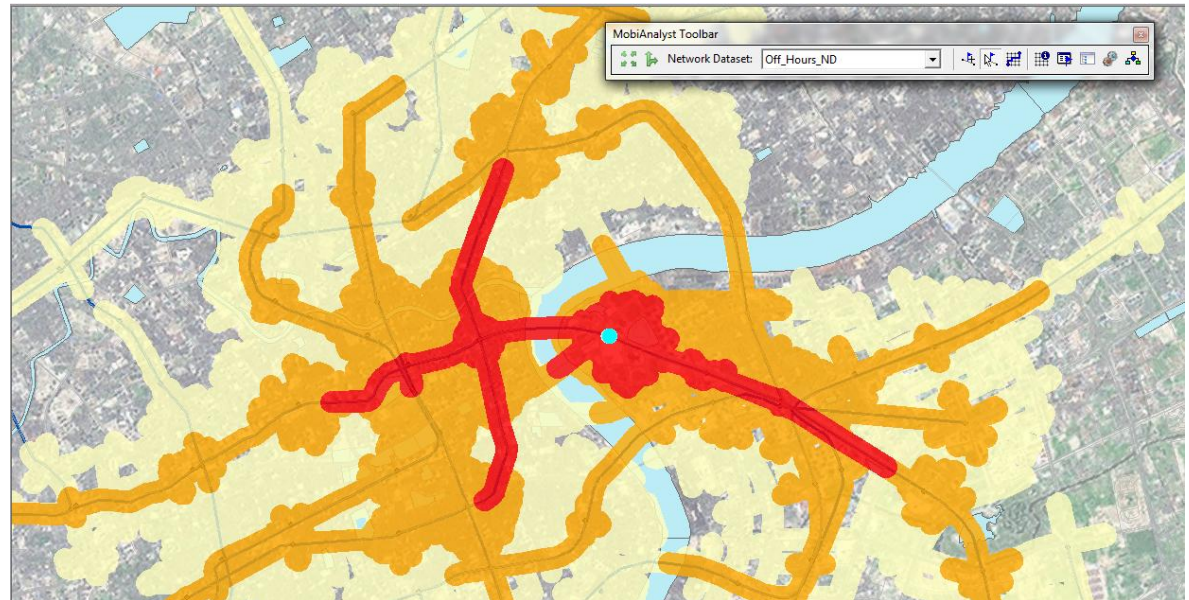


Area accessible from the Pearl Tower by car in 25 minutes during rush and off-peaks hours



(Trans-)regional accessibility analysis

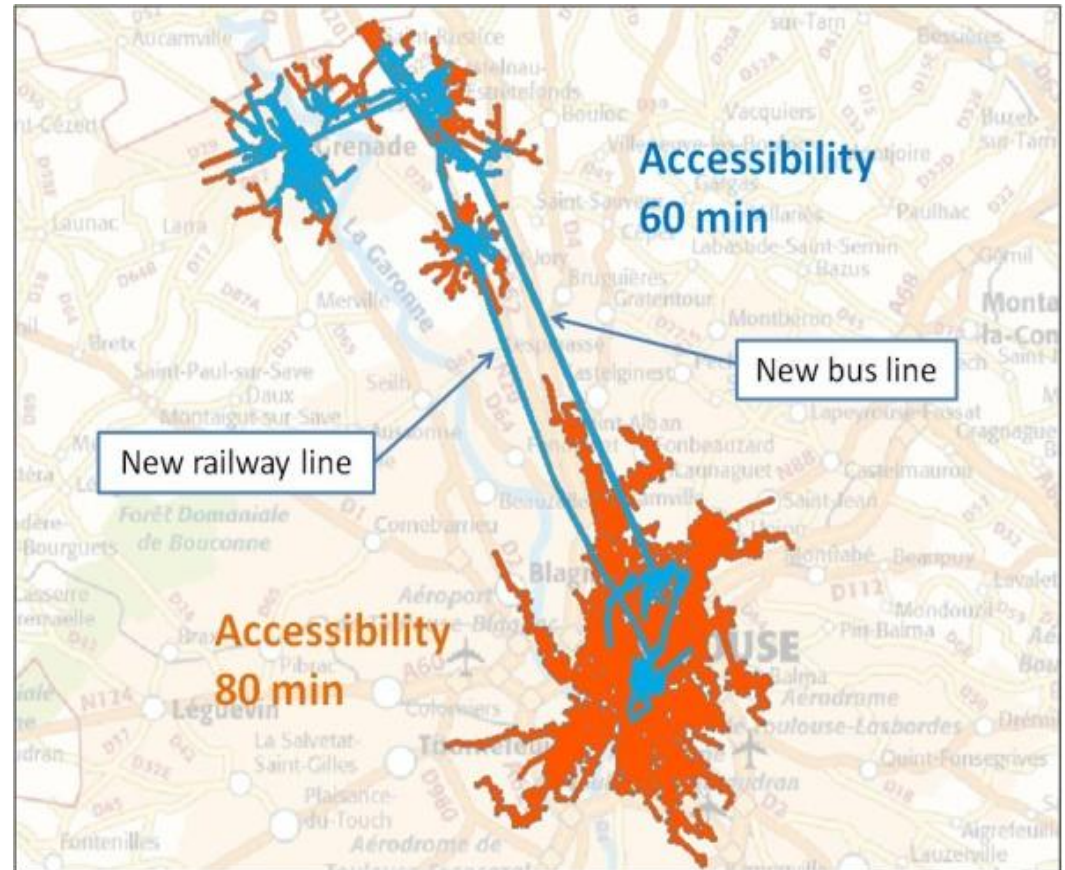
Computation of geographic coverage (on foot & by public transport) for different travel durations (15, 30, 45 mn) from LuJiaZui station





Intermodality accessibility analysis

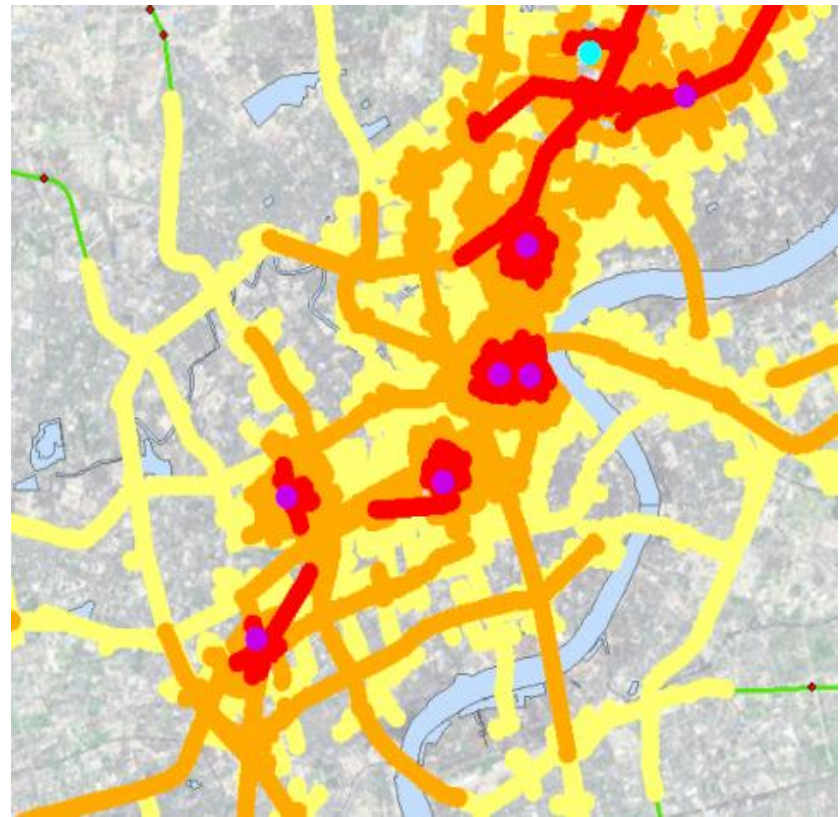
**Computing
geographic
accessibility for a
public transport
project**





Accessibility to public services analysis

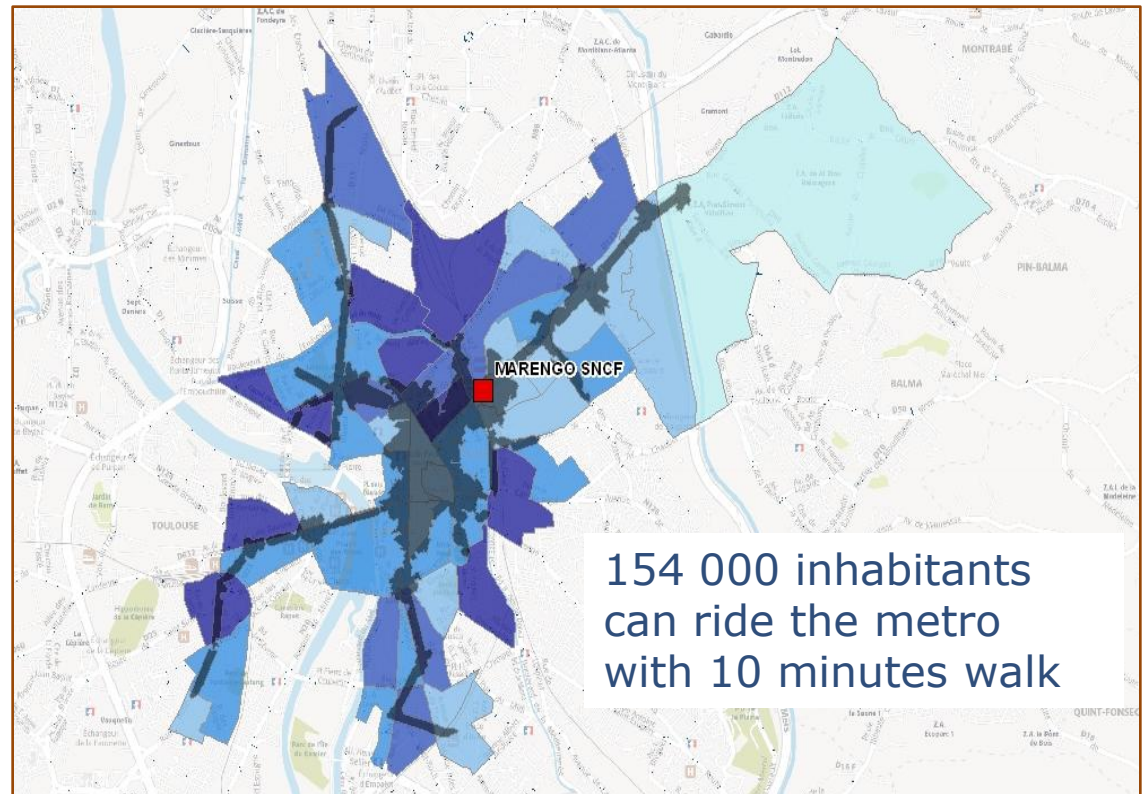
Time pedestrians take to reach a hospital by subway train within 10, 20 and 30 minutes' walk





Socio-demographic analysis

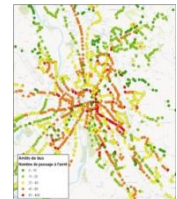
**Determination of
the population
served by
metro system**





Other examples of analysis

- Computation of hotels reachable with 10 minutes walk from a metro station downtown Shanghai
- Find unreachable zones by public transport
- Generate color-coded maps and statistics based on various indicators:
 - Bus stops accessible by People with Reduced Mobility
 - Number of buses stopping at each bus stop (in one day or in a specific time window)





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Conclusion

- GIS are powerful tools for transportation and urban planning
- MobiGIS provides cutting edge GIS-based expertise and solution for intermodality
 - Geographic and network analysis
 - Decision-making tool
 - Interoperable (use standards)
- MobiGIS is strongly involved in sustainable travel and mobility project and looking for international collaborations



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Thank you

Merci

谢谢

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