

## MIT Portugal Transportation Systems Focus Area Projects Workshop

# SCUSSE - Smart Combination of passenger transport modes and services in Urban areas for maximum System Sustainability and Efficiency

September 5, 2008

MIT Cambridge

Room W20-407



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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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## Outline

- Overall Project Objectives
- Research Scope
- Smart transport modes
- Project Structure
- Project Execution
- Project Costs
- Recommendations and actions to take
- Next Steps

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## Project Objectives

- ❑ To conceive, organize and simulate the implementation of new smart transport modes and services, trying to achieve
  - Near optimal efficiency for the traveler
  - Near optimal efficiency (and sustainability) for society
- ❑ Issues
  - Integration with lifestyles
    - Traveler preferences
  - Incorporation in the existing transport system
    - Compatibility, institutional issues, financing

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## Research scope

- ❑ Design and simulate
  - the deployment of intermediate transport modes and schemes for their combination with individual and collective transport
  - strong ITS base
- ❑ Devise incentives and business models
  - to increase the deployment and use of the identified approaches, modes and services
- ❑ Develop institutional capabilities and innovations
  - considering the three relevant levels of decision-making: strategic, tactical and operational

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## Smart transport modes

- ❑ New services
  - One way car rental (shared car)
  - Collective taxis
  - Real-time routing on Public Transport
  - Express minibus
  - Park & Ride with children drop-off (received and taken to schools by professional tutors)
- ❑ Proposed improvements
  - Car-pooling
  - Congestion pricing
  - Parking Policies

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## Project Structure (I)

- ❑ The Project is organized in 11 Workpackages with a total duration of 32 months and 111 person-months predicted
- ❑ Workpackages
  - WP1 - Understanding factors of preference and repulsion on choice of travel mode and solution
  - WP2 - Conception and preliminary evaluation of innovative services and modes with the aim of better fit to user requirements and the potential for greater sustainability and efficiency
  - WP3 - Conception and preliminary evaluation of pricing schemes (on access, circulation and parking) and other congestion management initiatives
  - WP4 - Incentives, marketing, acceptability (analysis mostly by segment) and business models for the innovative services and modes

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# Project Structure (II)

## Workpackages

- WP5 - Analysis of urban activity space and morphology implications: influence of innovative services on land use and land use influences on the services viability
- WP6 - Design and simulation of the new services and modes
- WP7 - Design and simulate the deployment of pricing and other congestion management initiatives
- WP8 - Analyze the implications of new services and pricing paradigms on governance structures
- WP9 - Integrated simulation of performance of pricing schemes and new services and combination of modes and their impact in the urban mobility
- WP10 - Assess economic, financial and institutional feasibility of new solutions found, and their compliance with tactical and strategic objectives
- WP11 - Handbook on smart Services and Combination of Modes in Urban Areas

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# Project Structure (III)

ID	Task Name	Start	Finish	2008												2009												2010											
				N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J			
1	WP 01 Understanding factors of preference and repulsion on choice of travel mode and solution	11/5/07	8/1/08	[Gantt bar: 11/5/07 - 8/1/08]																																			
2	WP 02 Conception and preliminary evaluation of innovative services and modes with the aim of better fit to user requirements and the potential for greater sustainability and efficiency	11/5/07	8/29/08	[Gantt bar: 11/5/07 - 8/29/08]																																			
3	WP 03 Conception and preliminary evaluation of pricing schemes (on access, circulation and parking) and other congestion management initiatives	11/5/07	8/29/08	[Gantt bar: 11/5/07 - 8/29/08]																																			
4	WP 04 Incentives marketing, acceptability (analysis mostly by segment) and business models for the innovative services and modes	3/3/08	8/1/08	[Gantt bar: 3/3/08 - 8/1/08]																																			
5	WP 05 Analysis of urban activity space and morphology implications influence of innovative services on land use and land use influences on the viability of the relevant services	1/15/08	9/12/08	[Gantt bar: 1/15/08 - 9/12/08]																																			
6	WP 06 Design and simulation of the new services and modes	6/2/08	5/29/09	[Gantt bar: 6/2/08 - 5/29/09]																																			
7	WP 07 Design and simulate the deployment of pricing and other congestion management initiatives	11/5/07	5/1/09	[Gantt bar: 11/5/07 - 5/1/09]																																			
8	WP 08 Analyze the implications of new services and pricing paradigm on governance structures	11/5/07	8/31/09	[Gantt bar: 11/5/07 - 8/31/09]																																			
9	WP 09 Integrated simulation of performance of pricing schemes and new services and combination of modes and their impact in the urban mobility	11/2/09	2/26/10													[Gantt bar: 11/2/09 - 2/26/10]																							
10	WP 10 Assess economic, financial and institutional feasibility of new solutions found, and their compliance with tactical and strategic objectives	1/4/10	4/2/10																									[Gantt bar: 1/4/10 - 4/2/10]											
11	WP 11 Handbook on smart Services and Combination of Modes in Urban Areas	1/4/10	7/2/10																									[Gantt bar: 1/4/10 - 7/2/10]											

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## Project Execution (I)

- ❑ The results taken from the Focus Group were already presented
  - **Innovation in transport modes and services in urban areas and their potential to fight congestion**, José Manuel Viegas, João de Abreu e Silva, Rafaela Arriaga, presented at CITTA – 1<sup>st</sup> Annual Conference on Planning Research, May 30th, 2008 FEUP, Porto.
- ❑ Data collection
  - Pilot Survey underway
    - The completed surveys allow us to draw some conclusions about the survey clarity and length
  - There is a strong possibility that transport networks may be available soon – key issue for other projects also - CityMotion and SOTUR
- ❑ Impacts in schedule – Probable finishing date – November 2008 (Summer Holidays had an important impact in the survey's application phase)

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## Project Execution (II)

- ❑ In both WP02 and WP03, the conception and definition of new services and pricing schemes has already been made
  - These were incorporated in the SP survey
- ❑ WP04 is dedicated to incentives and acceptability issues, requires SP results for identification of market segments and clustering of preferences
- ❑ These 3 WP will need the survey and model estimation results in order to be completed

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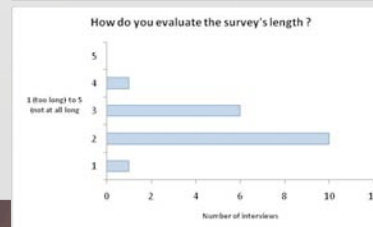
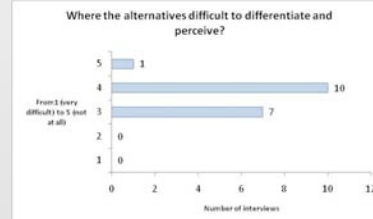
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## Project Execution (III) – SP Survey

- ❑ There were problems in putting the survey online – due to holidays and maintenance work on the web server in IST it wasn't possible to put the survey online.
- ❑ The pilot surveys already made used an offline version (18 surveys made)

Some results on survey's perception

- The survey seems to be clear enough
- But is a bit too long (average time 22 min.)
- Survey length could really be a problem (possible solutions eliminate one SP scenario)



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## Recommendations and actions to take

- ❑ New schedule for WP02 through 04
  - WP02 new ending date – November 2008
  - WP03 new ending date – about one month after WP 02
  - WP04 new ending date – about one month after WP 02
- ❑ WP05 on the link to urban form, preferably done in tandem with SOTUR
- ❑ Work packages 5 to 8 will have to be tightly managed to avoid slippages in the global schedule of the project
  - There was a 2-3 month slack before the beginning of WP9

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## Next Steps

- ❑ Finish Pilot survey – mid/late September
- ❑ Analyze results and launch final survey - October
  - A key issue is survey dissemination (find partners able to publicize it)
- ❑ WP04 –work on the definition of business models for the innovative services in tandem with WP08 (implications of new services and pricing paradigms on governance structures)