PRT consulting

Ready for Automated Mobility

What People Really Want from Transportation Systems

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TRB, 2012

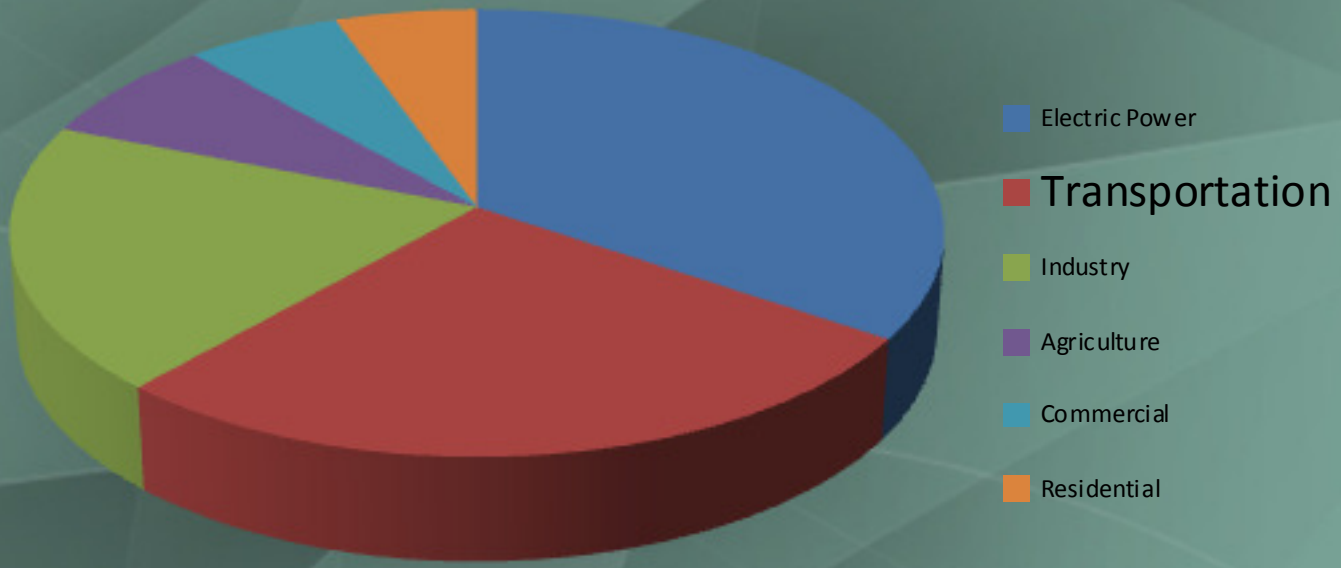
Outline

- Transportation issues
- Conventional solution
- What do people really want?
  - Community workshops
  - Public surveys
- Next steps

Surface Transportation Issues

Surface Transportation Issues

Surface Transportation Issues



Greenhouse Gas Emissions by Sector

Source: USEPA, USDOT
National Transportation Statistics 2009

Air Travel Issues

Security hassles

Air Travel Issues

Long walking distances

Air Travel Issues

Unpleasant waiting conditions

Conventional Solution

- Design infrastructure improvements based on available technologies
- Accept that transportation must be heavily subsidized
  - Business case is ignored
- Present to public in "workshop" format designed to
  - Inform about the solution
  - Divide and conquer any opposition

What Do People Really Want?

- Planners focus on costs
  - Dollars
  - Time
- And mode factors which attempt to account for
  - Comfort
  - Reliability
  - Privacy
  - Etc.
- But what do people really want?

Community Workshops

- 20 – 50 Participants
- Choose characteristics
- Vote on characteristics (weight)

Characteristic Weights

Travel Preference Survey Question:
Please vote on which of the following transportation characteristics are most important to you for Post-related trips. You have a total of 100 votes. You may not use more than 25 votes on any one characteristic. Ordered from most to least important.

Ordered Travel Preference Survey Analysis Results		
Reliable	13.22	Highest Priority
Flexible Departure and Arrival	10.22	
Low Cost	9.50	
Easy to Use	9.22	
Short Walking Distance	7.72	
Short Waiting Time	7.61	
Energy Efficient	6.72	
Short Travel Time	6.39	
Low Emissions	4.56	
No transfers	4.39	
Consistent Travel Time	4.17	
Safe	3.72	
Comfortable	3.44	
Visually Appealing	2.67	
Seated Travel	2.28	
ADA Compliant (disabled persons access)	1.94	
Personally Secure	1.94	
Private	0.28	Lowest Priority
Total	100.00	
Median	4.47	
Mean (Average)	5.56	
Average Deviation	2.91	
Standard Deviation	3.48	

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Mode Scores

- Learn about modal options
- Rate each mode for each characteristic
- Rates and weights multiplied and added for total mode score

Mode Preference

Mode Preference	
Mode	Score
Personal Rapid Transit	661 (Best)
Low Impact Vehicle	588
Car	572
Bicycle	540
Walk	532
Jitney	467
Light Rail	467
Monorail	451
Commuter Rail	451
Paratransit	443
Maglev	443
Heavy Rail	435
High Speed Rail	435
Bus Rapid Transit	403
Express / Regional Bus	387
Shuttle Bus	387
Local Bus	346 (Worst)

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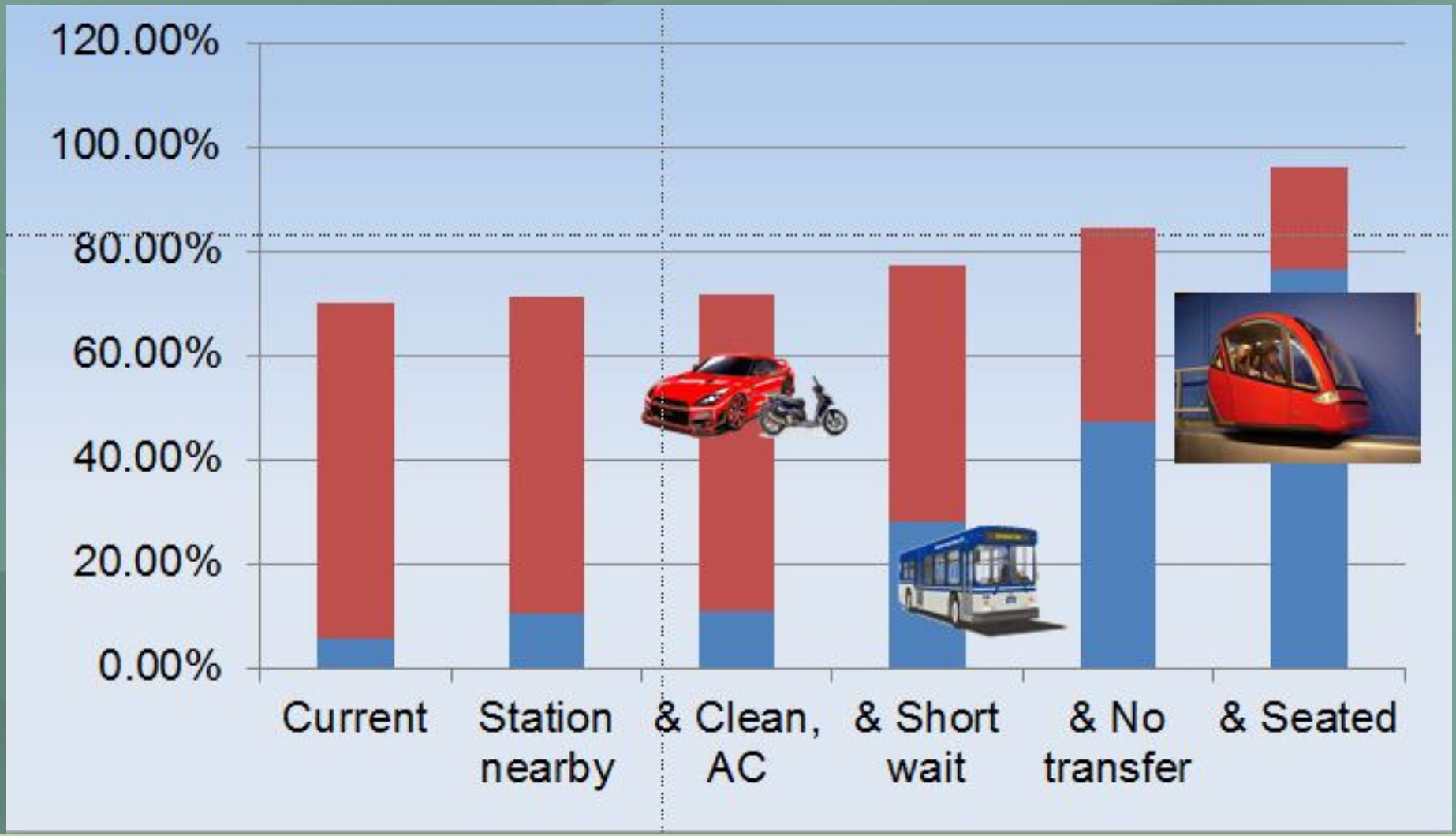
Public Surveys

- Minimum requirements to change to transit?
  1. Stations always nearby
  2. 1. & vehicles clean and air-conditioned
  3. 2. & waiting time less than 5 min
  4. 3. & direct connection
  5. 4. & always seated

Koper, Slovenia



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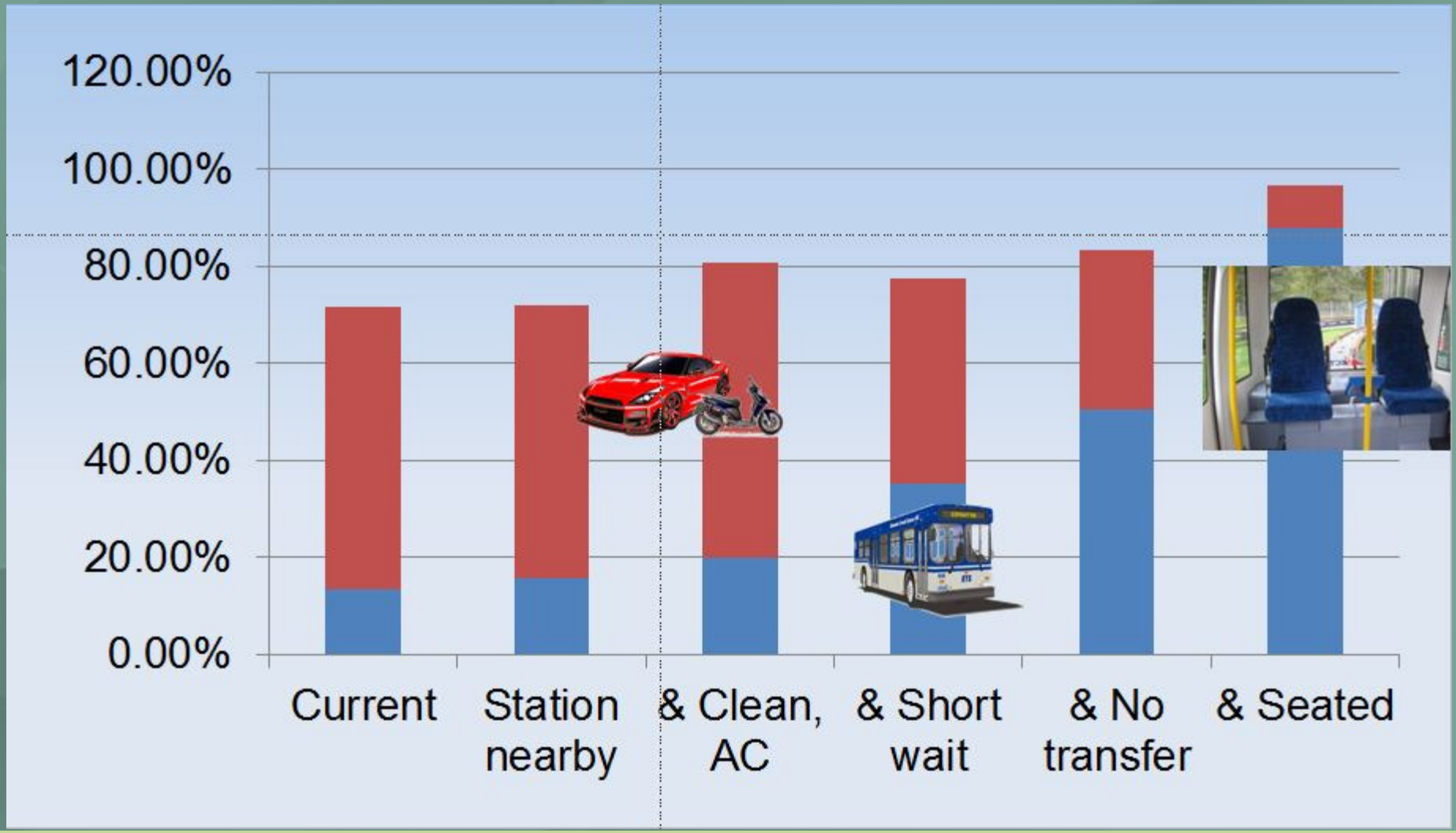
Valenje, Slovenia



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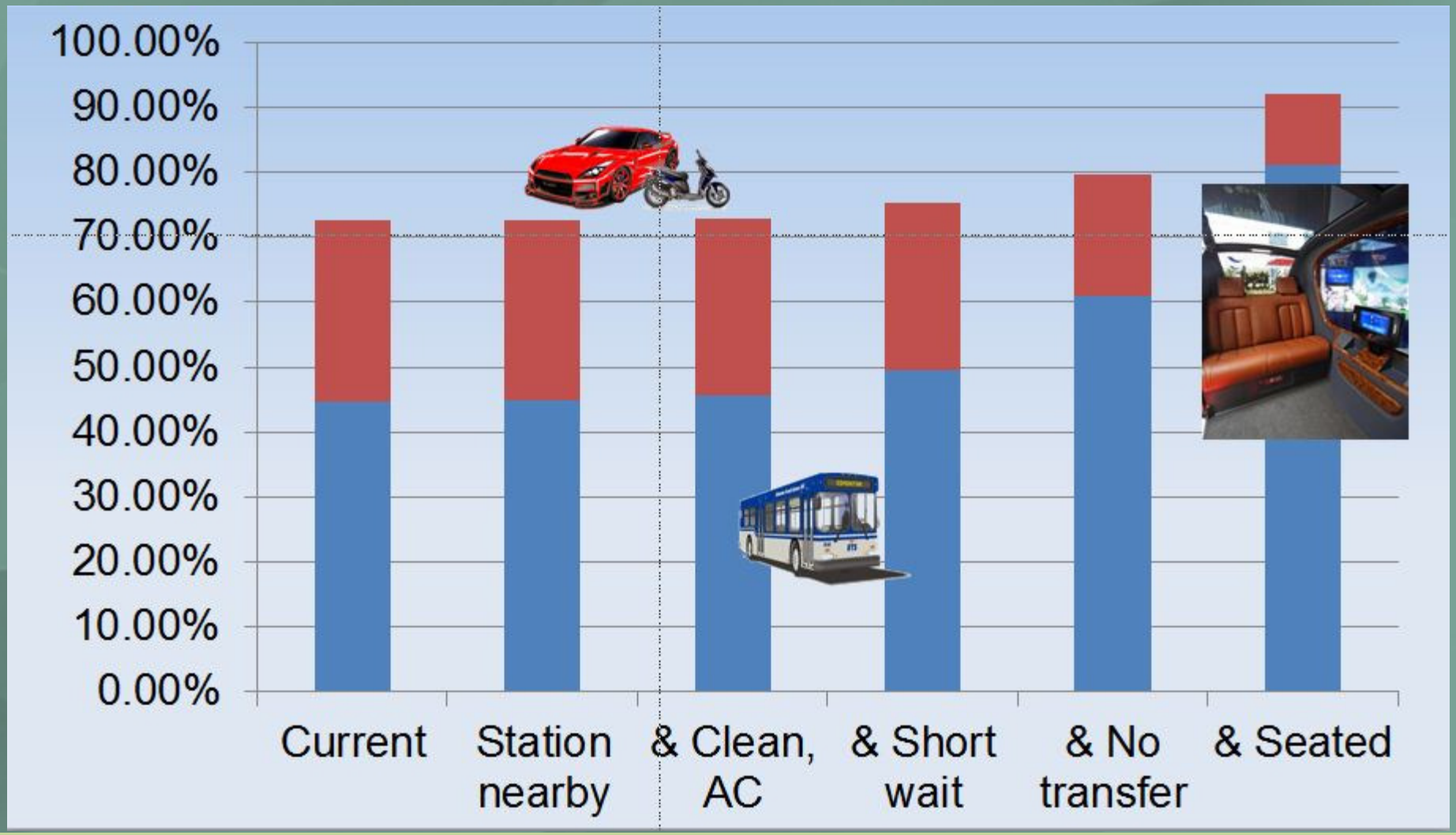
Kosice, Slovakia



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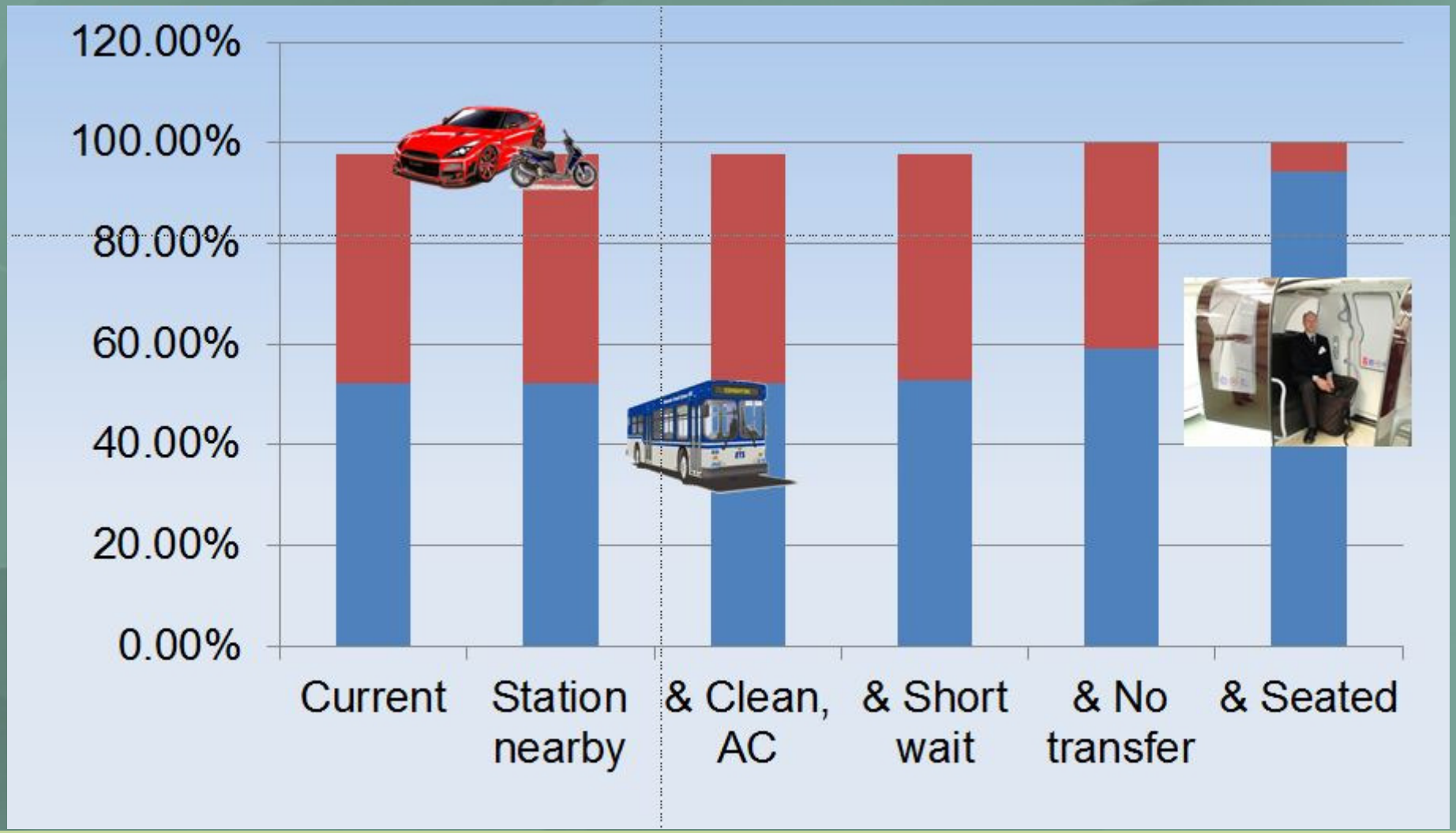
Budaros, Hungaria



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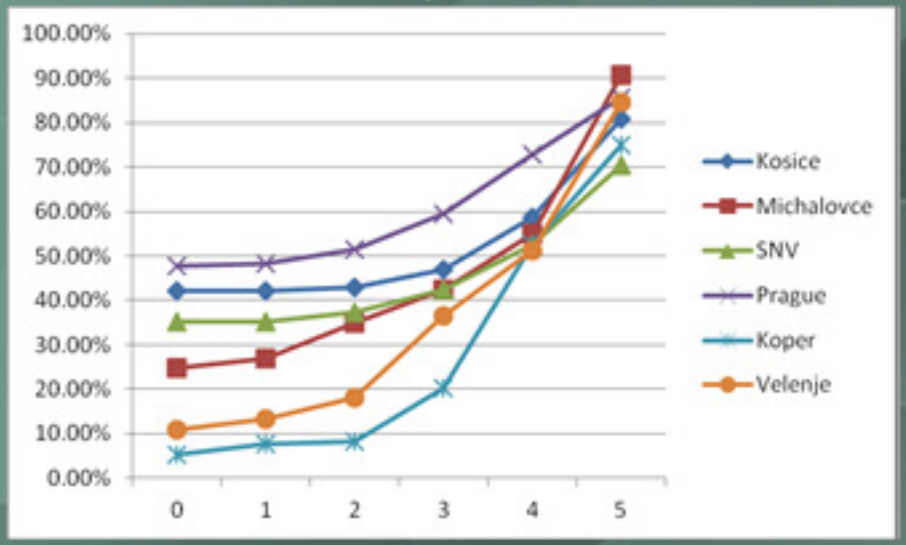
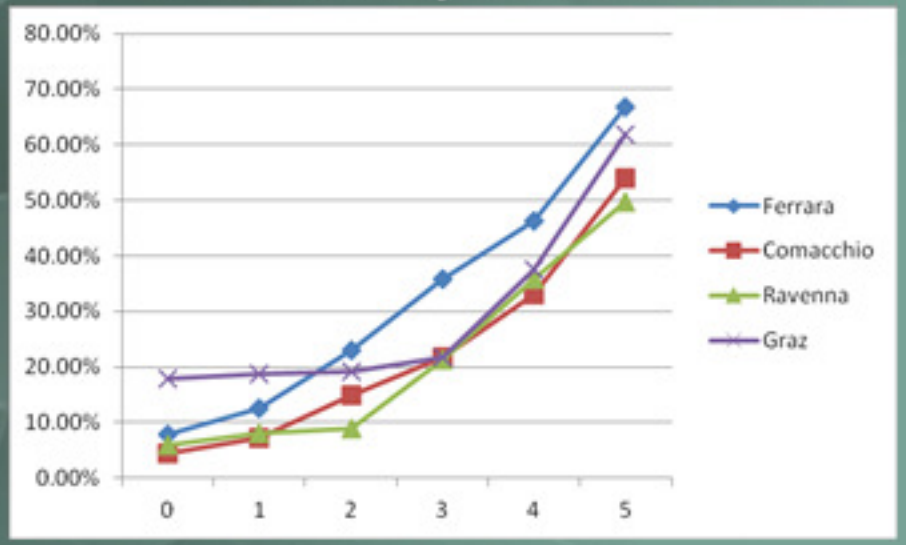
East/West Comparison

East European Cities



West European Cities



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Issues

- City-wide network assumed to exist
- Sample not representative
- Cost factors not well accounted for
- People do not always do what they say they will

Next Steps

- Implement a more comprehensive study
  - Community workshops
  - Public surveys
  - Web-based surveys
  - Integrated documentation of results
- Funding partially committed from Sweden and the U.S. Both governments are anticipated to contribute

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