

Sustainable Transport and Urban Mobility in Turkey

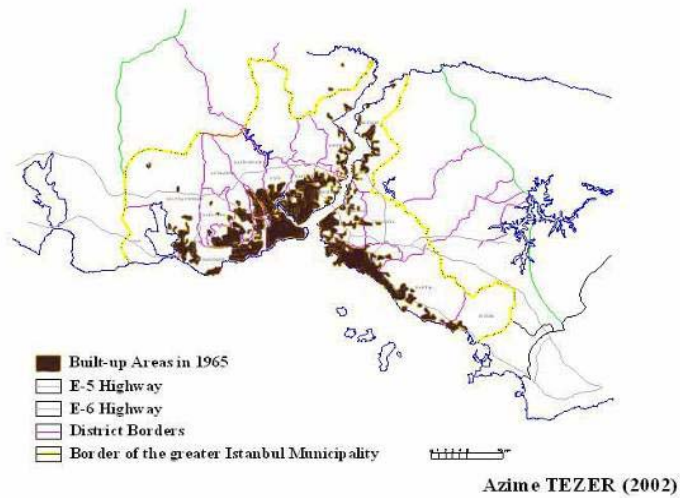
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Scope of the presentation

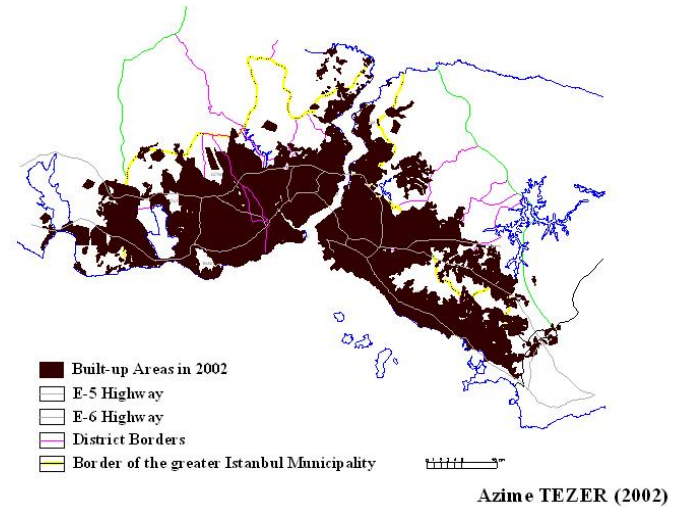
The focus will be on

- the discussion of Problems in Urban areas related to sustainability in a city (Istanbul) in Turkey
- Research possibilities in Turkey and funding agencies and cooperation with EC.

Urban Sprawl in İstanbul



Developed Areas 1965



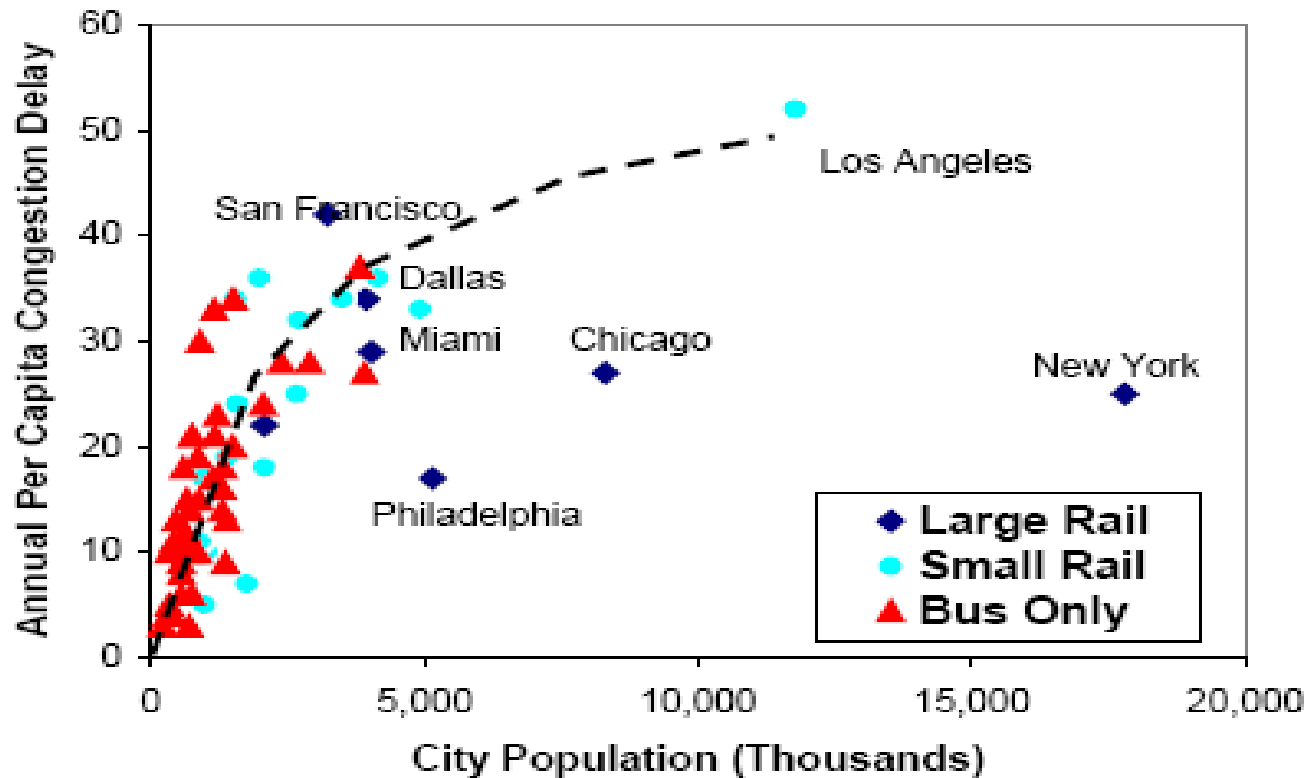
Developed areas 2002

Traffic Congestion in some cities

Urban Area	Road km.s: (Volume Capacity (V/C))		
	Flow < 0.80	Congested 0.81- 1.00	Forced Flow >1.01
Istanbul	72,8	7,8	19,6
Manhattan N.Y.	80,0	10,3	9,7
Suffolk N.Y.	92,0	5,1	2,9

Per Capita Congestion Delay (hours/year)

○ Istanbul (73.9)



Cost of Congestion in İstanbul

- 3.120.590.771 US \$/year (2005)
- **GDP of Turkey , 2005 357,7 billion \$**
- Wasting ~1% of GDP in İstanbul for Congestion
- Can build 62 km of underground metro a year with this amount!

Overview of Boğazici University, Civil Engineering Department Research

- Ongoing research projects;
 - Freight Model Development for Urban Areas, Ph.d Research
 - Development of OD Matrix from Mobile Phone Data, Ph.D. Research
 - Effects of Flexible Work hours on İstanbul traffic Funded by ISBAK A.Ş (a Municipality Company) ISBAK Supports For consultancy fee.
 - Establishment of an ITS lab in Boğazici University: Funded by İstanbul Development Agency US \$ 200,000)
 - Dynamic Traffic Control management on D100 freeway: Funded by ISBAK A.Ş (a Municipality Company) ISBAK Supports For consultancy fee.
 - Development of Bus Priority Strategies : Funded by Scientific Research Fund of Boğazici University (20,000 \$)
- Research capacities; Two professors in Transportation, 5 Ph.D students and 8 MS. Students
- International cooperation: Viajeo Plus project

Research funding in Turkey

- Main funding organisations;
 - University Research Funds (Suchs as Scientific Research funds of B.U)
 - “High Education Organization (YÖK)” Research funds.
 - Research funds from various companies and organizations;

Key Research Projects and Programmes

Examples of flagship projects:

- Establishment of an ITS lab in Boğazici University. A mini model of Traffic Control Center of İstanbul will be build with all the data collection possibilities of the main control center for carrying out Transportation research. Project is almost finished.
- Project is funded by İstanbul Development Agency: Total Budget 200,000 US \$.
- The center will be operated with cooperation from ISBAK A.Ş. (The municipality company that operates the Traffic Control Center of Istanbul)
- Objectives and key activities: Enormous amount of data collected through main traffic control center will be instantly available in the lab. This will facilitate performing various transport research projects

Research priorities and key topics in Turkey

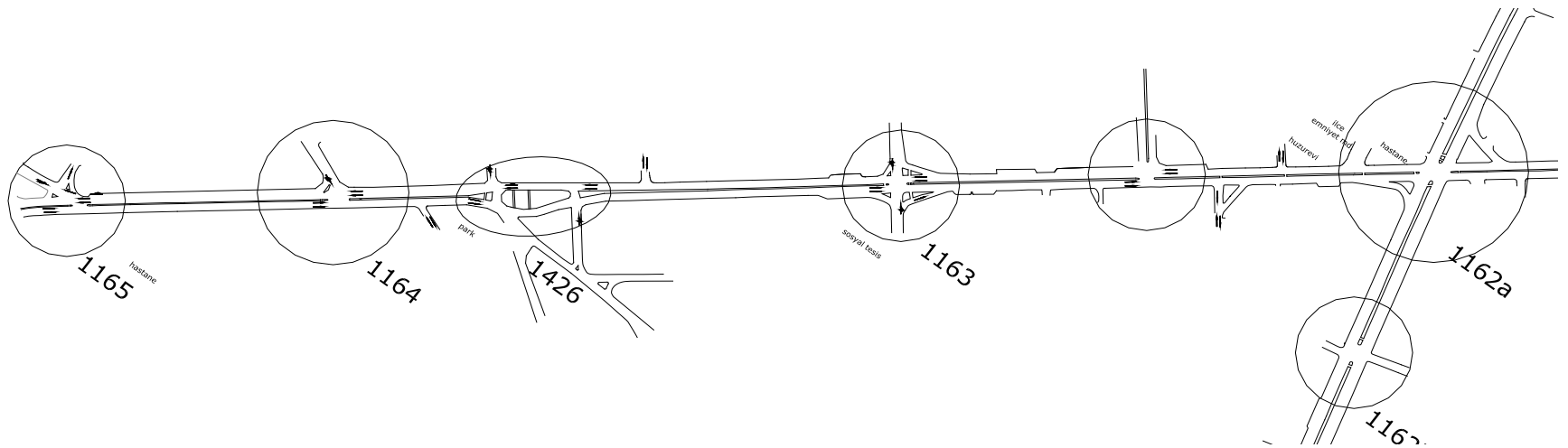
- Development of Urban transportation plans with emphasis on sustainability
- Development of National transportation plans with emphasis on sustainability (for instance Ministry of Transportation is planning to perform a national transportation plan soon).
- In the research areas international partnership, especially with European countries is preferred.
- National Transportation Master Plan is planned to be finished in 3 years.
- Development of Urban and National Transportation Plans with an emphasis on sustainability will preserve the environment, will provide a n equitable mobility for everybody in the country and will do this in the most economical way.
Freight modeling , Transportation demend management , smart growth and transit oriented development areas should be given priority.

Our expectations from cooperation with EC:

- We would you like to be involved with EC funded research projects to get the benefit of expertise of EC and research funds that are offered by EC and to develop cooperative research.
- From such projects it would be possible to do high quality research which would help all the involved parties
- We would like to cooperate with research organizations in Europe
- Activities that we would you like to carry out will be joint research (Theoretical and practical) , policy studies, workshops, conferences, etc.

Results of Signal Optimization at Adnan Kahveci Arterial Street

- Annual Saving of 5.346.933\$ (Fuel and Delay time)
- Annual Decrease in Exhaust Emissions:
 - CO 35,287kg,
 - NOx 58,632kg ve
 - VOC (Volitile OrganicCompounds) 6,817kg.lık



Metrobus- İstanbul



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THANK YOU!