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TURKEY

## DEVELOPING SPATIAL USE PROPOSALS ACCORDING TO CITTASLOW CRITERIA IN İZMİR-SEFERİHİSAR AND EVALUATION OF DIFFERENT TRANSPORT OPTIONS

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### **Travel distribution with TransCAD**

The transportation proposals will be developed on the neighbourhood scale in the working area of the Seferihisar district in Izmir, with a gravity-based model in TransCAD.

Seferihisar is a tourism-dependent area; the city's population doubles in the summer. There is also a marked increase in weekend traffic, especially from İzmir. In 2009, the city adopted a cittaslow (slow city) statute. Many of the city's natural and cultural values already conform to the criteria in the cittaslow statute. However, the city still has to fulfil the traffic requirement: alleviating traffic congestion; reducing demand for motorised transportation (especially car); increasing bicycle and pedestrian use; and evaluating alternative public transport options. The integration of these outcomes could also be achieved within revised land use plans.

Therefore, the city authorities sought to address the traffic problem in accordance with the cittaslow criteria by cooperating with the COST Action project. The most important feature of the model is its prediction capacity of future transport demand, allowing policymakers to evaluate the alternative transportation options and the required road network improvements. Looking at travel objective (business, training, education, recreation and others) and type of transportation (pedestrian/bicycle, automobile, public transportation), the model estimates the average travel time. The scope of the TransCAD instrument facilitates the analysis of the obtained spatial data in GIS. By integrating socio-economic data into the model, it is possible to also work with high-resolution maps.

The model includes household surveys, traffic counts and roadside surveys. It mathematically calculates and presents travel analyses providing a wealth of detailed travel information according to different parameters: weekdays and weekends, daily schedules and peak times, neighbourhoods and location, types of vehicles used, and routes of the road network.

### **Setting the scene**

The following persons participated in the workshop:

- The mayor and two deputy mayors of Seferihisar;
- Representatives of the Sustainable Transport Association EMBARQ, an NGO that carried out a part of traffic analysis;
- Three representatives from the department responsible for physical planning in Seferihisar, who presented the zoning maps of the city, emphasising in particular high-demand access points (education, business);

- Four participants from the working team that conducted the project under COST Action TU1002: landscape architects and landscape planners.

The use of accessibility instruments in Turkey is very limited. The participants in the workshop had conducted an experiment in transportation planning within the context of the land use planning. The urban planners and landscape planners had taken part in preparation of the land use plans and urban plans using GIS techniques. They had experiences in analysing traffic data (like user surveys, vehicle counts and parking time) with GIS techniques in decision-making processes related to transport planning.

### **The workshop**

First, the problems related to traffic and transport planning were discussed. The representatives of the local government provided information about the accessibility demands based on the needs of residents and tourists.

#### *Step 1*

The preliminary study related to the present status of the area was conducted while the project suggestions under the COST Action were being prepared. The ground of the basic planning problems was prepared with the Seferihisar local government. The 'present condition analysis' study, which gathered information on the spatial and physical characteristics of the area and produced the maps, was completed during the first six months of the project. The results were shared with the participants during the workshop. The pre-workshops meeting was held in January 2013, with the entire project team (three landscape planners, one landscape designer, one urban planner) and four officials from the Municipality (the mayor and three urban planners responsible for the preparation of the urban plans). At the pre-workshop meeting, the results of the 'present condition analysis' study were presented, outlining soil type, land use types, vegetation, structure density and other factors. Thematic maps of the area were also presented. The municipal officials presented information related to the zoning plans of the area. The maps and the graphics allowed the participants to discuss the transport-related indicators: the existing transportation network map, population density at the neighbourhood level, number of vehicles in the city, parking space, sidewalks and road width, size of walking areas, etc. There was consensus on the following key observations:

- The working area is the touristic area, which experiences big population increases during summertime (after April). The traffic problem adversely affects the transportation for daily services.

- Because the working area is designated as cittaslow, the local authorities are committed to plan for environmentally friendly solutions, like walking and bicycles. These two transportation options are currently insufficiently represented in the city.

### *Step 2*

After the pre-workshop meeting, the user's survey and vehicle counts were carried out in the area. The graphics for the user's survey and vehicle counts were presented at the workshop. A zoning map was made, based on user preferences from the Sığacık region, which has heavy traffic congestion (according to the vehicle counts) and large volume of daily service commuters (education, healthcare, shopping and recreation). In addition, the locations dependent on the travel for recreation purposes have been identified and mapped. The materials were sent by email to the participants before the workshop and were presented as printed materials during the workshop.

Some participants felt that the data from the traveller surveys is incomplete, and that they should be repeated during a period of intense tourism activities. We observed that the analysis made with TransCAD did not support real-time results.



Figure 3.38: Presentation of the instrument

### *Step 3*

Because the participants of the workshop come from different cities, the traffic surveys of the team that administered the project sent the vehicle counts and the spatial area analysis by email prior to the meeting. Also, the participants were asked to think about possible planning interventions before coming to the next session of the workshop.

The materials that were presented in step 2 were discussed in light of the transportation and planning problems. Each participant shared their proposed planning interventions. The participants from the Municipality discussed the planning interventions that do not trigger legal obligations (as per the legal competencies of the implementing body).

Some participants stated that the transportation options calculated with the help of the accessibility instrument should be applied in other areas. They expressed their concern that the instrument mainly depends on the traveller surveys and vehicle counts, and, therefore, is not integrated with spatial planning that holistically approaches the physical structure of area.

#### Step 4

There was broad agreement on the following points:

- Seferihisar has a weak transportation network that does not support the current traffic load. Bergama needs to review the transportation network with the planning of area use. In this scope, bicycle and walking roads must be provided in the urban plans.
- The public transportation network needs to be restructured according to the perceived travel needs and times. Currently, the people prefer using their private cars mainly because of the insufficient and irregular public transportation (by bus).
- User preferences should be used as an important evaluation criteria in designing transport solutions.



Figure 3.37: Discussion of transportation challenges and cttaslow requirements

In addition to the users' questionnaires, the existing spatial structure of the area is another important evaluation criterion. Regarding the existing physical conditions, the participants agreed that Seferihisar does not have any

restricting factor regarding transportation in terms of natural barriers. However, man-made barriers are a problem. The city centre lies on the main road axis that connects Izmir and Kusadasi. There is a dense travel demand between Seferihisar city centre and Sigacik (the main tourism neighbourhood). The Izmir–Kusadasi road divides these two settlements and is an important limiting element for planning subsequent transportation solutions.

#### **Lessons learned**

- Since different shareholders attended the workshop, general information had to be shared during the sessions.
- Experiences and information regarding accessibility were shared among the participants.
- The overhead presentations were a good tool to present information clearly and use time more effectively.
- Sending documents and maps before the workshop by email is a good strategy to maximise effective use of the time during the session.
- The participants' views were evaluated with a common language.

The TransCAD GIS-based model is useful because it can provide analysis of reach transport data based on household surveys, traffic counts and roadside surveys. The most important feature of the model is its ability to forecast future transportation demand, and to allow for the assessment of alternative transportation options and road network improvements. The following specific strengths and weaknesses were identified:

- It delivers results that are transferable to spatial plans and integrated.
- It makes it possible to evaluate socio-economic data.
- It provides data that can be processed in high resolution.
- A comparison should be made with other accessibility instruments that provide the opportunity to analyse data at the neighbourhood level.
- The integration of the results in the process of land use planning should be improved.
- The model can be used more efficiently if the statistical and GIS understanding of the end users is enhanced.