The Use of Technology Foresight for Sustainable Transport

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Technology Foresight for Transport
Context and Basic Principles

Definition
✓ Toolbox for Forward-Thinking in Transport and Sectoral Policy Integration

Basic principles
✓ Emphasis on efficient management of transportation system, not only on development (construction)
✓ Proper handling of transport sector conflicts, exploitation of both positive and negative characteristics of it
✓ Avoid unsustainable transport solutions
✓ Joint development of transport and other sectors (land uses, new technologies, environment etc.)

Scenario-writing process
✓ Precautionary future – the one of Limited Mobility
✓ Learning process future – the one of Sustainable Mobility
✓ Visionary future – the one of High Quality in Mobility (or else the full scenario)
Technology Foresight for Transport
*The Visionary Future (or Full Scenario)*

High Quality in Mobility

- ✓ Reduction of dependency on motorized transport, especially individual car usage
- ✓ Promotion of effective combined transport
- ✓ Development of transport-autonomous residential areas
- ✓ Optimum utilisation of relevant technologies
- ✓ Pre-requisites:
  - ✓ New social structure, citizens far more open to changes
  - ✓ Sufficient public transport infrastructure and services
  - ✓ Partial of full traffic restriction in major urban areas
Line 2 Southbound Extension to Hellinikon

The project and the principles of foresight

✓ Emphasis on efficient management of transportation system, not only on development (construction)
  → Choice of “below surface solution” not at surface level, as initially planned, abandoning solution of elevated bridge along Vouliagmenis Avenue

✓ Avoid unsustainable transport solutions
  → The “below surface” solution avoids demolition of existing pedestrian bridges, destruction of green area and trees, inconvenience to the residents

✓ Joint development of transport and other sectors (land uses, environment etc.)
  → The “below surface” solution avoids noise and visual intrusion as well as changing image of the area along Vouliagmenis Avenue
The expected impacts fulfil the visionary scenario conditions

✓ Reduction of dependency on motorized transport, especially individual car usage
  → Increase in PT share (attract 80,000 passengers on a daily basis), decrease in road traffic (by 50,000 vehicles/day).

✓ Promotion of effective combined transport
  → Provision of bus transfer facilities for passengers residing in the southern suburbs and park and ride facilities.

✓ Development of transport-autonomous residential areas
  → Provide high-quality transport services to many densely populated areas. Near stations approximately 34,000 people reside and 18,000 people work

✓ Optimum utilisation of relevant technologies
  → TBM-EPB tunnel boring machine, mitigating any impact to near buildings and infrastructure
New Line 4 from Alsos Veikou to Maroussi
The project and the principles of foresight

✓ Emphasis on efficient management of transportation system, not only on development (construction)
  → A new autonomous U-shaped Line 4, instead of branches/extensions on the existing Lines (1&2), as initially planned

✓ Proper handling of transport sector conflicts, exploitation of both positive and negative characteristics of it
  → Special funding scheme, securitization of future toll revenue of Attiki Odos to cover U line cost (road transport pays PT transport)

✓ Avoid unsustainable transport solutions
  → The initial plan had important construction and operational deficiencies (interruption of line operation, complex construction, high cost, frequency of trips, etc.).
New Line 4 from Alsos Veikou to Maroussi
Towards Visionary Future

The expected impacts fulfil the visionary scenario conditions

✓ Reduction of dependency on motorized transport, especially individual car usage
  → Increase in PT share (expected to serve 400,000 passengers on a daily basis)

✓ Promotion of effective combined transport
  → Increasing Metro branches and in turn transfer stations, consequently facilitating transfers among the Metro Lines.
  → 'Decongestion' of the existing Metro stations
  → Provision of bus transfer facilities for passengers, park and ride facilities.

✓ Development of transport-autonomous areas
  → Transportation service of many new densely populated areas of the city (Galatsi, Kypseli, Pangrati, Kaisariani, Zografou, areas adjacent to Kifissias Avenue, etc).
  → Service of many important facilities, such as Hospitals, University Foundations and Courts.
Conclusions

In terms of Test Cases: **Both fulfil the visionary scenario conditions**

In terms of foresight usefulness: **The best way to foreseen the future is to create it**

✓ Foresight scenario-writing allows the reporting and organisation of contested views in such a way as to allow their further analysis towards the identification of compromise solutions, which is what policy is ultimately about in democratic societies.

✓ Therefore, alternative scenarios can from a useful tool for decision-makers (at a local, regional or national level) when setting their vision, and in turn objectives and strategies