CATS-PST
Connected and Automated Transport Systems Policy Support Tool

Julia Roussou, Tassos Dragomanovits, George Yannis
National Technical University of Athens

Event: Stakeholders Workshop
Location: Gothenburg
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LEVITATE has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824361.
Policy Support Tool - Concept

• Open access
• Web-based
• LEVITATE methodologies and results
• Decision Support System
• Forecasting and Backcasting Sub-Systems
PST Objectives

• **Forecasting and backcasting system** providing insight on measures to reach cities objectives

• Provide *multidisciplinary* impact assessment methodology

• **Bridge the gap** between technology and policy objectives

• Support cities with **CATS implementation** without the unwanted and unforeseen consequences and rebound effects
PST Structure
Knowledge Module

• Bibliography
  • Standardized Excel coding template
  • Synopses

• Results
  • Predefined scenaria
  • Use cases

• Tools Documentation
  • Multidisciplinary methodology
  • Models

• Guidelines and Policy Recommendations
Estimator Module

Forecasting sub-system

Policy Interventions
- introduction of a city toll for non-automated vehicles
- economic incentives for AV purchase
- provision of dedicated lanes for AVs
- introduction of tax on vehicle ownership, traffic restrictions for non-automated vehicles
- .... etc.

Factors
- Vehicle type
- Area type
- GDP
- AV penetration rate (per SAE Level)
- Automation type
- Level of shared mobility
- Vehicle ownership rate
- Share of electric vehicles
- Share of pedestrians
- Share of cyclists
- Share of PTWs
- .... etc.

Impacts
- Crashes
- Fatalities
- Air Pollution
- Noise Pollution
- Energy efficiency
- Vehicle purchase cost
- Vehicle operating cost
- Vehicle maintenance cost
- Vehicle insurance cost
- Direct cost of travel
- Change in travel time
- Travel comfort
- Valuation of travel time
- Congestion
- Pavement wear
- .... etc.
Example questions addressed

• What will be the **impact of a policy intervention** in the short, medium and long term?
• How **efficient** are the desirable interventions in terms of safety, environment, economy and society?
• What is the best intervention in order to achieve a short, medium or long term **vision**?

... then use CATS PST to have the answers
Forecasting example

Description of desirable policy interventions (e.g. Point to point shuttle, centralized traffic management, green light optimised speed advisory)

Public transport: Point to point shuttle

Traffic intervention: centralized traffic management

C-ITS application: green light optimised speed advisory

Factors - Descriptive parameters

- Vehicle type
- Area type
- GDP
- AV penetration rate (per SAE Level)
- Automation type
- Level of shared mobility
- Vehicle ownership rate
- Share of electric vehicles
- Share of pedestrians
- Share of cyclists
- Share of PTWs
- ... etc.

Impacts of desirable policy interventions using the multidisciplinary impact assessment methodology

Impact A:
CO2: -50% to -70%  
Casualties: -10% to -15%  
Space: -20% to -25%

Impact B:
CO2: -35% to -40%  
Casualties: -20% to -35%  
Space: -10% to -15%

Impact C:
CO2: -40% to -60%  
Casualties: -5% to -10%  
Space: -30% to -40%
Backcasting example

Description of desirable impacts (environmental vision, safety vision, land use vision)

**Vision A:**
- CO2: -50% to -70%
- Casualties: -10% to -15%
- Space: -20% to -25%

**Vision B:**
- CO2: -35% to -40%
- Casualties: -20% to -35%
- Space: -10% to -15%

**Vision C:**
- CO2: -40% to -60%
- Casualties: -5% to -10%
- Space: -30% to -40%

Factors - Descriptive parameters

- Vehicle type
- Area type
- GDP
- AV penetration rate (per SAE Level)
- Automation type
- Level of shared mobility
- Vehicle ownership rate
- Share of electric vehicles
- Share of pedestrians
- Share of cyclists
- Share of PTWs
- .... etc.

Policy interventions that will lead to the desirable goal resulting through the multidisciplinary impact assessment methodology

**Public transport:**
- Point to point shuttle

**Traffic intervention:**
- Centralized traffic management

**C-ITS application:**
- Green light optimised speed advisory

**Other policy interventions:**
...
Feedback on the PST

Introduction

The aim of this discussion is to give us your opinion on the proposed PST structure. Identify the potential challenges and suggest additional features based on your expectations.
Suggestions and challenges
Why would you use the PST?
How important do you consider the Knowledge Module for the PST?

Average: 3.59
Which feature of the Knowledge module would you mostly use?

1. Bibliography - 4%
2. Results - 20%
3. Tools Documentation - 20%
4. Guidelines and Recommendations - 56%
Which feature of the Estimator module would you mostly use?

1. Forecasting 26.09%
2. Backcasting 73.91%
What other features would you add to the PST?

- Examples of **EU** or national **projects**
- Examples of **scenarii**
- **Simulation** results
- **FAQ** and Suggestions functionality
- Community **network/forum**
- Spatially **differentiated** results
- Provide **international** benchmark
- **Life-cycle** information
Given your experience, what are the challenges that might be faced for the development of the PST?

complexity

high
Next steps

- **Workshop results** will contribute to further refinement of the PST design

- **Frequent consultation** at various stages of PST development

- Your feedback is really **valuable**
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