

# Working Program

**Work Package 1:** Analysis of formal models applied for traffic control (1-9)

**Work Package 2:** Research of optimal control in transport systems by hierarchically determined optimization problems (10-21)

**Work Package 3:** Numerical experiments and simulations for validation of the determined hierarchical optimization problem, the used approach and the appropriate algorithms (22-34)

**Work Package 4:** Dissemination of the scientific results (1-36)

**Work Package 5:** Project management (1-36)



# Objectives

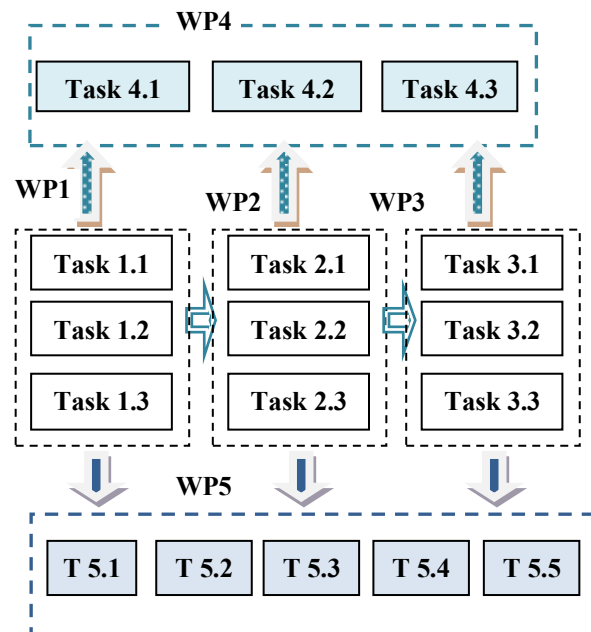
**To develop a new method** for intelligent traffic control in network of crossroads.

**Synthesis of new models** for optimal control of urban traffic network in order to improve the traffic behaviour.

**Definition and solution** of new control problems, which goals are optimization of urban traffic in network of crossroads

**Utility of the project:** obtaining of research results, applicable for the traffic management.

## Project's organization



# Scientific Results

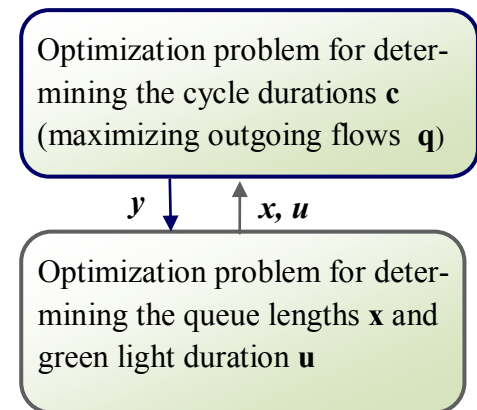
**The innovative idea of the project:** application of hierarchical approach to the traffic management.

**Synthesis** of new bi-level optimization models and algorithms for urban traffic in networks of crossroads.

**Integration** of more control influences and expanded control space for optimal urban traffic control by hierarchical bi-level approach

**Simulation, numerical experiments** appreciations and comparisons of the derived models with similar existing models

## New Developed Model



## Project's Dissemination

### Scientific Publications:

22 publications for the first phase of the project:

- 1 book
- 1 chapter in a book abroad
- 8 papers in journals with SJR, Q2
- 15 publications indexed in Scopus

### Site of the project:

<http://hsi.iict.bas.bg/projects/transport/index.html>



## Contacts

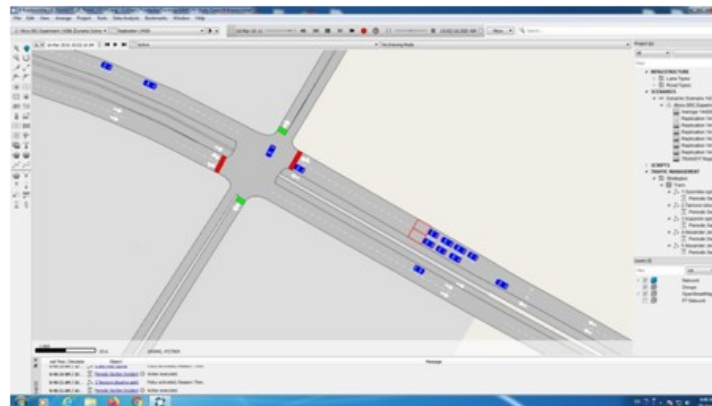


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# MODELLING AND OPTIMIZATION OF URBAN TRAFFIC IN NETWORK OF CROSSROADS

Project No **KP-06-H37/6**  
with  
Bulgarian Science Fund

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