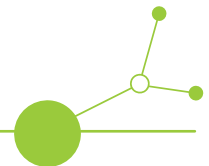


USER MANUAL

Toolkit for Urban Public Transport Planning and Optimization



Version 1





1. Introduction to the Toolkit System

The Toolkit is a web-based decision-support application designed for urban planners, transport analysts, transport authorities, and other professionals involved in the planning and optimisation of public transport systems.

Its purpose is to provide data-driven support for evaluating transport conditions and identifying suitable strategies for improving public transport services. The Toolkit combines analytical methods and generative artificial intelligence (Large Language Models) to transform user inputs into practical recommendations.

The application guides users through three main stages:

- Parameter collection
- Data analysis and evaluation
- Interactive consultation through the integrated chatbot

A minimum number of required parameters must be completed before the analysis can be performed and chatbot functions become available.

This manual describes the Toolkit from the end-user perspective and explains its main functions, workflow, and interface elements.



2. Access to the Application

The Toolkit can be accessed through any modern web browser.

Users may open the application either through the OPTI-UP project website (www.opti-up.net) or directly at: <https://toolkit.opti-up.net>

The application is publicly accessible and does not require user registration, login credentials, or account creation.

After opening the Toolkit, users may immediately begin entering the parameters required for analysis.



3. Phase 1: Parameter Collection - Detailed Guide

Parameter collection forms the basis of the entire analytical process. During this phase, users describe the characteristics of the transport system being analysed.

Each parameter includes:

- Parameter name
- Description
- Unit of measurement (where applicable)
- Mandatory or optional status

Mandatory parameters are required for successful analysis. Optional parameters may be skipped if the relevant information is unavailable.



4. Data Entry Interface Controls

The user interface is designed to provide a simple and intuitive workflow.

Available controls include:

- Submit - confirms the entered value and moves to the next parameter.
- Skip - skips optional parameters.
- Progress Bar - displays progress through the questionnaire.

Depending on the parameter type, users may enter numerical values or select qualitative options provided by the system.



5. Strategy Definition and Prioritisation (Weights)

After completing parameter collection, users define the strategies that will be considered during the analysis.

Each selected strategy may be assigned a weight representing its relative importance.

Weight values allow users to express preferences and priorities. Higher values indicate greater importance of a strategy within the evaluation process.



6. Data Finalisation and Analysis Execution

Once all required information has been entered, users finalise the process and launch the analysis.

Finish Button - Confirms completion of data entry.

Confirmation Screen -Allows users to review their inputs before analysis.

Evaluate Button - Starts the analytical process and generates recommendations based on the entered data and selected priorities.

Upon completion, the user is redirected to the chatbot interface.



7. Phase 4: Interactive Assistant (Chatbot)

The chatbot provides interactive access to the results of the analysis.

Users may ask questions in natural language and receive explanations, recommendations, comparisons, and additional insights related to the evaluated transport scenario.

Responses may include structured lists, summaries, and comparative information to support decision-making.



8. Querying Strategies and Working with the Chatbot

Users are encouraged to ask analytical, comparative, implementation-oriented, and scenario-based questions.

Examples include:

- Comparing alternative strategies
- Understanding the reasons behind recommendations
- Exploring implementation options
- Evaluating hypothetical scenarios and potential impacts



9. FAQ - Frequently Asked Questions

Q: I entered incorrect data. Can I change it during the chat?

A: The chatbot works with the dataset fixed at the moment the Evaluate button is pressed. To modify key inputs, reset the Toolkit, update the parameters, and perform the analysis again.

Q: Why cannot I skip a parameter?

A: Mandatory parameters are required for the analytical model and cannot be omitted.

Q: How should strategy weights be assigned?

A: Weights represent user priorities and preferences. Higher values indicate greater importance.

Q: Can the results be exported?

A: Direct PDF export is not currently available. Users may use the browser print function to save results as a PDF document.



10. Glossary of Technical Terms

RAG (Retrieval-Augmented Generation): A method that combines Large Language Models with external data sources.

Fuzzy Logic: A mathematical approach enabling work with imprecise or linguistic values.

Term: A verbal description representing a specific range of values.

Crisp Variable: A variable defined by a single precise value.

Session: The complete process of using the Toolkit, from parameter entry through analysis to chatbot interaction.

The process of deriving conclusions and recommendations from available data and rules.



11. Practical Use Scenarios

The Toolkit may be used to evaluate transport systems of different sizes and characteristics.

Typical applications include:

- Public transport network optimisation
- Service planning and prioritisation
- Assessment of transport development scenarios
- Support for strategic decision-making in urban mobility planning