The TUM Accessibility Atlas is a database of structural and transport supply datasets that cover the European Metropolitan Region of Munich (EMM). The tool facilitates calculation of location-based measures of accessibility and can be used to visualize catchment areas based on a defined travel cost budget. The main objective is to provide a platform for integrated land use and transport planning.

**PLANNING APPROACHES**

**Intended user group:** Public organizations, Planners working in the field of urban and transport planning

**Tool benefits:** Understand the joint impacts of the transport system and the land use system, Provide visual outputs for discussion and decision-making

**Main functions:** Analyze travel costs (distance, time, money, emissions), Visualize catchment areas, Analyze accessibility on multiple scales, Analyze accessibility impacts of land use and transport measures

**Tool format:** GIS-based tool

**TOOL FUNCTIONS**

**Type of emissions addressed:** CO2e

**Analyzed transport modes:** Private Car, Cycling, Public Transport, Walking

**Type of output:** Mobility costs, Emission estimation, Comparison of alternatives, Map-based results, Location assessment

**Output format:** Tables, Numerical, Maps

**Spatial unit of detail:** Municipality, Specific trip, Specific location

**Applicable coverage area:** Metropolitan area, City, City borough, Neighborhood

**TOOL UTILIZATION**

**Required skills:** Expert tool, Knowledge of GIS and additional software required

**Required hardware, software and operating system:** ArcGIS, PTV Visum, Microsoft Excel, Python, SQL, Visual Basic for Applications

**Required input data:** Transport networks including travel costs (time, money, fuel and energy consumption), Emission factors, Occupancy rates, Structural land use data, Built-up areas, Points of interest
EVALUATION OF THE TOOL WITH THE FINAL USER

TUM Accessibility Atlas
Benjamin Büttner, Julia Kinigadner & Chenyi Ji (Technical University of Munich)

**USER-FRIENDLINESS**

- The tool is easy to use
- My organization has the required skills to use the tool
- The tool strikes a good balance between scientific rigour and practical usability
- It is easy to understand the input data, assumptions and calculations behind the tool
- I do not feel I need to understand the input data, assumptions and calculations behind the tool to use it effectively
- The tool outputs are understandable and easy to interpret
- The tool performs at a sufficient speed for real time adaptations

**USEFULNESS**

- The tool outputs are valuable in supporting interaction and discussion amongst stakeholders
- The tool outputs are valuable in developing strategies
- The tool outputs can be communicated effectively to non-expert decision makers
- The level of detail (spatial extent) of the tool corresponds to the problem under discussion
- I have confidence in the soundness and quality of the tool outputs
- My expectations of the tool before the workshop were met
- I would like to have access to the tool for future use