ILTP
consulting

Introduction to S-Paramics Microsimulation

S-Paramics simulates the components of traffic flow and congestion, and presents its output as a real-time visual display for traffic management and road network design. It has been under development for more than a decade by ILTP's traffic and transportation engineers working in collaboration with the Company's in-house software group.

In addition to the inclusion of the detailed physical description of the road network, and features such as bus operations and traffic signal settings, driver behavioural character-istics and vehicle kinematics are represented. This provides an accurate representation of the variable circumstances which lead to congestion in all types of road network.

S-Paramics is unique in providing dynamic assignment over road networks of unlimited size. No other traffic flow modelling system offers the same level of functionality and features. S-Paramics enables non experts such as councillors and the public to interactively test "What If" scenarios and immediately see the results in terms of real-time traffic flows and congestion. The most widely used microsimulation system in the UK, S-Paramics brings new standards of integrity and veracity to traffic flow modelling.

S-Paramics was originally introduced to enable ILTP's transportation engineers to become more effective by reducing the time it takes to build traffic models, and boosting their confidence in the output. The data require-ment is similar to that of other modelling systems, but S-Paramics can take advantage of other data sources, such as digitised road layouts and aerial photographs. Although S-Paramics is a universal modelling tool, it may be used in conjunction with other specialised software, to which an interface is provided. S-Paramics helps modellers build better models by identifying potential problems which might otherwise remain hidden.

Hundreds of S-Paramics microsimulation models have now been validated for ILTP's clients, covering a wide variety of network types and situations. S-Paramics micro-simulation models represent urban areas as diverse as Plymouth, Katowice and Amsterdam, and the software is being deployed by a large number of consultancies, local authorities and central government agencies.

S-Paramics is being applied to trunk, urban, suburban and rural schemes for a very wide range of purposes and situations, including signalised roundabouts, bus priority, bus corridors, emissions control, motorway weaving, ramp metering, toll plaza design, urban traffic control, traffic calming, wide area traffic management, road works design, variable message signs, car park location and control, multi-level inter-changes, deviations from standards, pedestrian and cyclist interaction, traffic impact, unusual/non-standard layouts and complex junctions, incident management, emergency service operations, mode interchanges, slow moving traffic on rural roads, public consultation, committee presentations...

Like any other system, training and experience are prerequisites for a successful modelling project. S-Paramics has more features than any other system, and ILTP's training course is conducted by expert microsimulation modellers to ensure that users can take advantage of these, in order to start work immediately on their own projects. In addition, ILTP provides a web based S-Paramics support service, to ensure that customers get the best out of the system.

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