



Road Traffic Simulator . Car Traffic and Pedestrian Interaction.

The SimWalk Road Traffic Simulator (RTS) allows to model all areas where car traffic and pedestrian interaction must be analyzed. Conduct capacity analyses at intersections, ramps, pavements, crossings, intersection corners, roundabouts, metro and station entrances - all in one SimWalk model.

SimWalk provides fully intermodal modeling and analysis capabilities, including car and bus simulation, to improve transport infrastructures in a comprehensive way. Railway and metro stations, airports and bus terminals are increasingly subject to capacity problems due to increasing passenger demand. Intelligent solutions are required also for spaces



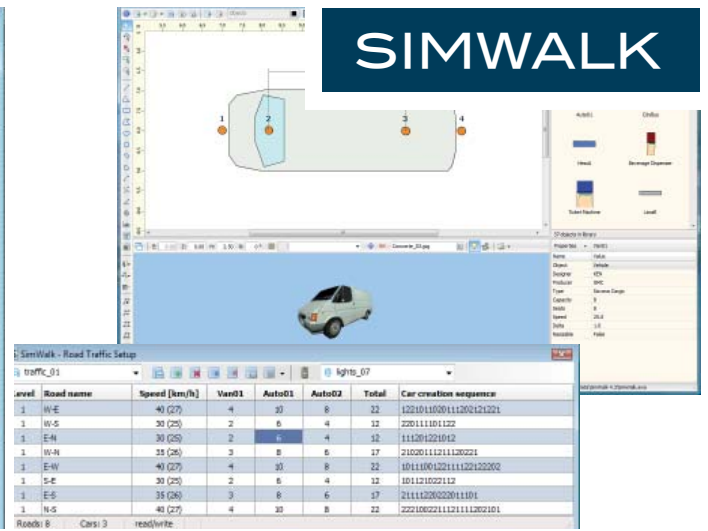
where cars, buses and pedestrians are sharing the same space.

RTS Benefits

- > Modeling and simulation of intermodal car traffic scenarios of station environments and urban areas
- > Car traffic model based on the intelligent driver model (IDM)
- > Flexible traffic control concept
- > Timing chart controlling road traffic lights (red, yellow and green phases)
- > Preconfigurable car type library
- > Comprehensive analysis of car and pedestrian interaction (delays, densities)
- > Fully integrated (optional) in all SimWalk versions (Airport, Transport, PRO, 360)
- > 2D and 3D visualization of simulation results

The SimWalk 'Road Traffic Simulator' (RTS) is a microscopic continuous-time traffic flow model, based on the principles of the intelligent driver model (IDM). The IDM is a car following model; the decision of any driver to accelerate or to brake depends on her own speed, the position and the speed of the car in front as well as the road signposts and traffic lights on the own lane.

The RTS module is an add-on to the SimWalk Pedestrian Simulator, based on an independent traffic engine communicating with the User Interface. It is destined for small- to medium-sized traffic networks, such as intersections, small urban areas or station environments.



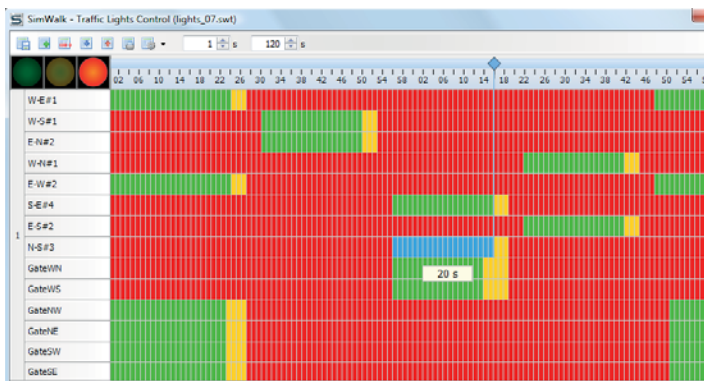
Traffic Control Concepts

The SimWalk Road Traffic Simulator integrates the following traffic control concepts:

- The number of cars per minute driving on a lane (traffic flow)
- The start sequence (car creation) of predefined cars
- Car parameters like maximum acceleration, comfortable braking deceleration, desired speed, jam distance and safety time headway
- Timing chart controlling road traffic lights (red, yellow and green phases) to synchronize multiple intersections and pedestrian crossings

SimWalk Integration

- Gates are used to build pedestrian lights for cross-walks
- Tracks are used to model road lanes, forks, links, and intersections
- Track nodes are used to define start and destination points as well as road traffic signs (e.g. speed limit, yield, stop or lights)
- Vehicles are used to determine the color and dimension (e.g. body, axles and bumpers) and type of cars (e.g. car, van, bus, truck...)
- Formations are used to connect cars together (e.g. a van with a trailer)
- Counters are used to measure the traffic flow rate on single- or multi-lane roads
- Meters are used to define priority in traffic on intersections and rail-road level crossings
- Charts are used to show graphic information of road traffic (like car counts or flow rates)



Contact

Savannah Simulations AG
 Alte Dorfstrasse 24
 CH-8704 Herrliberg
 Switzerland
 Phone: +41 (0)44 790 17 14
 sales@simwalk.com
 www.simwalk.com

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