



Simulation Solution for Passenger Flow and Station Optimization

Passenger simulation for planning, efficiency and security in public transport

Railway, metro and bus terminals are increasingly subject to capacity problems due to increasing passenger demand. Efficient connections and transfer times, rolling stock dwell times as well as optimized timetables are at risk under passenger capacity constraints. Today, the bottleneck of analysis for transport planners consists in the high complexity of passenger flows, travelling under varying arrival/departure, delay, destination or facility restrictions.

SimWalk Transport, the specialised passenger flow simulation and analysis solution for public transport transit stations, offers comprehensive guidance for planners to master passenger flows. SimWalk Transport - a tool designed by and for transport planners.

Simulation of rolling stock, integration and testing of timetables, analysis of boarding and alighting, detection of facility bottlenecks, analysis of transfer times, levels of service and high densities are just a selection of key features of SimWalk Transport to enhance transit station efficiency.

SimWalk Transport is deployed worldwide by rail, metro and bus authorities, public transport and station planners as well as by transportation and engineering consultancies.

SimWalk Transport Benefits

- Simulation and analysis of passenger capacity issues regarding dwell times, platform capacities, boarding and alighting and timetable optimization
- Analysis of passenger bottlenecks, delays and high densities in transport facilities
- Capacity evaluation and feasibility testing of transport connection devices (escalators, stairs etc.)
- Whole product solution with complementary software, services and support
- Preconfigured rolling stock library
- Fully automatic integration of timetable data
- 2D and 3D visualization of simulation results



Business Issue

Today's ever increasing capacity demands in public transport transit stations (railway, metro or bus) put efficient transit operations and existing facilities at risk.

Impact

Efficient transit connections and transfer times, accurate dwell times for rolling stock, optimized timetables and general passenger security are under pressure due to high passenger volumes.

Solution

SimWalk Transport provides a specialised and comprehensive passenger and station simulation solution to analyse and optimize all passenger related issues in public transport facilities.

Integration

SimWalk Transport is a whole product solution for public transport, integrating complementary technologies and software as for example:

- Import of railway network simulation data (www.opentrack.ch)
- Person counting data integration
- Integration of passenger route choice and destination data
- CCTV video data and trajectory analysis for simulation validation



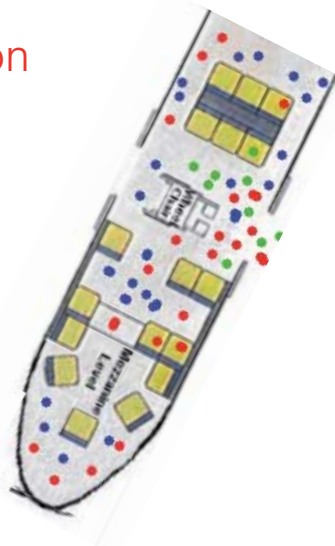
Simulation of Station Dynamics

SimWalk Transport models and simulates station dynamics of railway, metro or bus stations in detail. Station dynamics includes import of transport network simulation results as well as real world timetables, train arrival and departure, boarding and alighting, change of trains/metro and boarding. Additionally, SimWalk Transport allows to model shopping and non-transport behavior of passengers.

Based on the simulation of station dynamics, SimWalk Transport offers a wide range of in-depth analysis. For example comprehensive analysis of passenger, platform and station capacity issues as well as dwell times and timetable analysis.

Vehicle Interior Simulation

As a comprehensive analysis tool of passenger dynamics in transit stations, SimWalk Transport also allows to model vehicle interiors. Based on vehicle geometry, users may place seats and other necessary objects to analyse boarding and alighting behavior in different interior environments. Interior simulation may be coupled with a general station simulation or as stand alone application.



3D visualization

SimWalk Transport allows visualization in 2D as well as 3D for impressive rendering of simulation results. SimWalk Transport 3D module integrates simulation data, virtual worlds built with 3D software as well as passengers to a comprehensive virtual station model. This allows to visually understand station dynamics.



Features of Analysis

- Passenger density maps (congestions etc.)
- Passenger speeds and delay times
- Connection transfer times and delays
- Passenger counts & flow rates
- Boarding / alighting analysis
- Station analysis / platform space utilization
- Passenger trails and route choice
- Preconfigured Levels of Service (LOS)
- Self-defined areas of analysis
- Object capacities (escalators, stairs etc.)
- (Commercial) footfall analysis
- Queuing time and efficiency

System Requirements

- Compatible with Windows Vista, XP, 2000
- Recommended hardware:
512 (MB) RAM + Pentium 4 CPUs at speeds of 2.0- 3.06 GHz
- Hard drive: 40 GB with a least 100 MB available space
- Super VGA / 1024 x 768 pixel
- Cable or DSL internet access
- Simulation performance depends on available processing capacity

SimWalk Transport Services

Savannah Simulations AG provides, in addition to standard support and upgrades, the following services:

- SimWalk Transport Modeling Services include station modeling, implementation of rolling stock library as well as timetable adaption
- SimWalk Transport 3D Modeling Services includes 3D station modeling based on customer specifications

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