PlanOptimizer Module .
Improve Infrastructure Automatically.

With the PlanOptimizer module, SimWalk not only tells you about critical incidents of pedestrian flows, it also delivers practical solutions. PlanOptimizer allows to improve infrastructure designs automatically through genetic algorithms.

PlanOptimizer is a versatile, optional tool to optimize automatically spatial geometries and environments what regards efficiency, safety and comfort for pedestrian flows.

Until now, existing pedestrian simulation software predominantly provided analysis capabilities. Results of pedestrian simulation commonly indicated for example high pedestrian densities, bottlenecks and other pedestrian related problems, but did not account for practical solutions how to optimize the spatial environment according to a given analysis.

How to adapt the geometry of a platform to reduce high densities during rush hours? How to construct stadium exits to ensure a safe egress during emergencies? Where should restaurants or rest areas be positioned in an urban setting to allow for frictionless movement of pedestrian flows?

Business Summary

The PlanOptimizer is a SimWalk module that allows to optimize infrastructure designs and configurations regarding pedestrian metrics like density and travel time through genetic algorithms. Optimization metrics can be constrained and refined by architectural requirements.

PlanOptimizer provides practical solutions for these questions. The application allows to optimize spatial geometries based on pedestrian simulation results. If, for example, railway platform obstacles obstruct smooth pedestrian flow and generate high densities, PlanOptimizer will tell the user how to position the obstacles to improve densities below dangerous levels.

Example Applications

> Optimization of spatial geometries in pedestrian infrastructures (places, passages, platforms, floors etc.)

> Optimization of transfer times (rail schedule optimization)

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