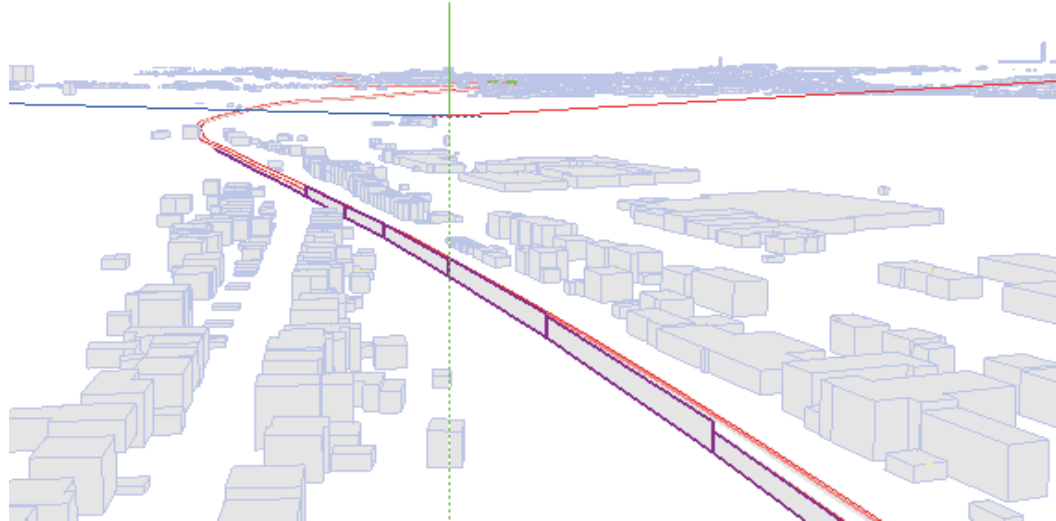


SoundPLAN[®]

PROPAGATION SOFTWARE

SoundPLAN[®]



Wall Design

Optimize action plans with noise walls and berms

Single Point receivers for Facade Noise Maps

target values depending on area usage or desired reduction levels

Different design strategies

compare the smallest wall to meet the required noise limit with the least cost or minimum number of people affected

Optimization history for subsequent analysis of intermediate steps

allows the software to recommend the optimum design for cost effectiveness.



Wall Design

Wall Design action starts with a pre-calculation of Single Point receivers or a Façade Noise Map. The input data contain the geometry of the noise wall or barrier, but not the element's height. Coordinates should be placed in constant intervals so SoundPLAN can automatically divide the wall into equal elements. During the pre-calculation, a database is created with the reduction of each wall element for each receiver. Wall Design uses this database to rank the wall elements

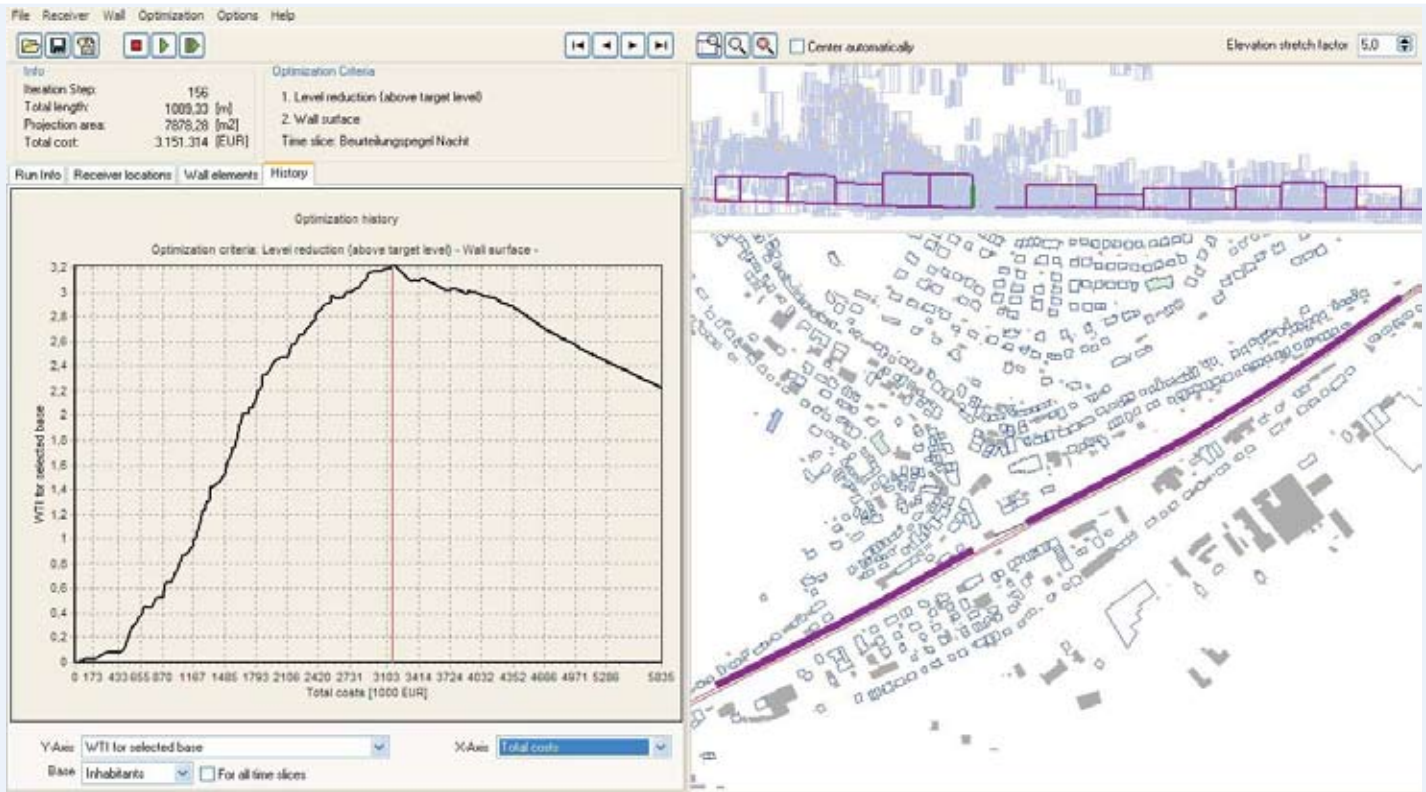
according to their efficiency, automatically designing the wall to fulfill the chosen development strategy (most cost effective, shortest wall length, minimize the number of people affected...). The wall is designed using 20 or more elements in the height. Diagrams of all results of all intermediate steps are stored for evaluation at any time. The final layout of the wall is done interactively with design considerations using 3D and projection views.



The X axis shows the wall cost, the Y axis the façade length above target values [m]. The façade length considers individual floors. The red line indicates the chosen wall configuration for the graphics panel which can be saved for further noise map calculations.

SWISS WTI (ECONOMIC FEASIBILITY INDEX) IN SOUNDPLAN 7.0

In 2006, the Swiss Federal Bureau for Environment (Bundes Amt für Umwelt - BAFU) documented a well practiced method for creating a diagram showing the effectiveness and efficiency of a measure. Efficiency means a good relationship between cost and benefit. Effectiveness is shown when goals such as fulfilling target values are reached. Both properties generate the WTI and are necessary for a successfully designed wall.



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