STREET DESIGN AND SIMULATOR

USER GUIDE

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1)INTRODUCTION

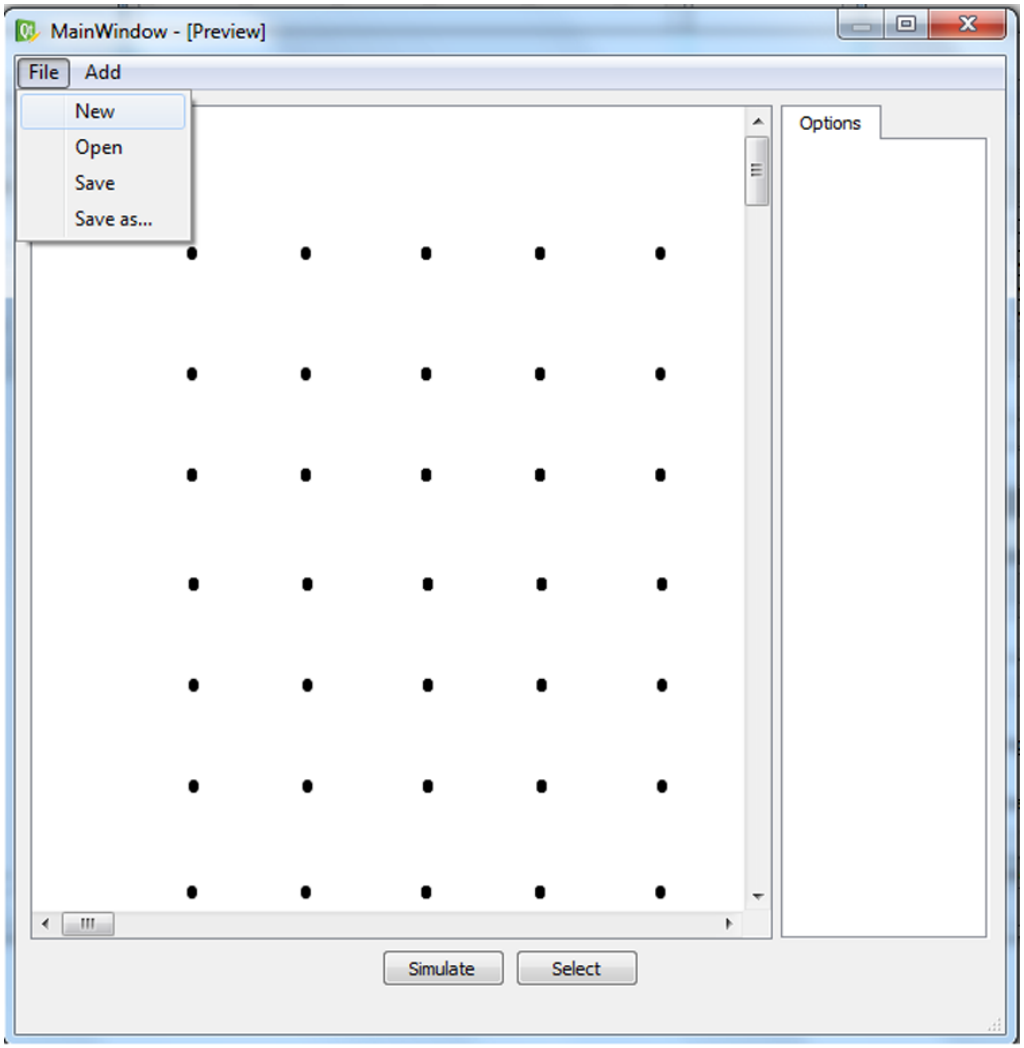
This software is a standalone application for digitally planning transportation ways and simulating traffic density. The software is not part of a product family nor a replacement for any existing old application. The main purpose of the program is to observe the created traffic scenarios by simulating them. Information about traffic crowdedness can be gained from these simulations.

2)SYSTEM REQUIREMENTS

The program will be operated on Windows XP. Intel Pentium 4-M 1.9 GHz, 1 GB RAM, 500 MB HDD space, AGP 4x – ATI Mobility Radeon – 16 MB DDR SDRAM are the recommended hardware and software which the program will operate.

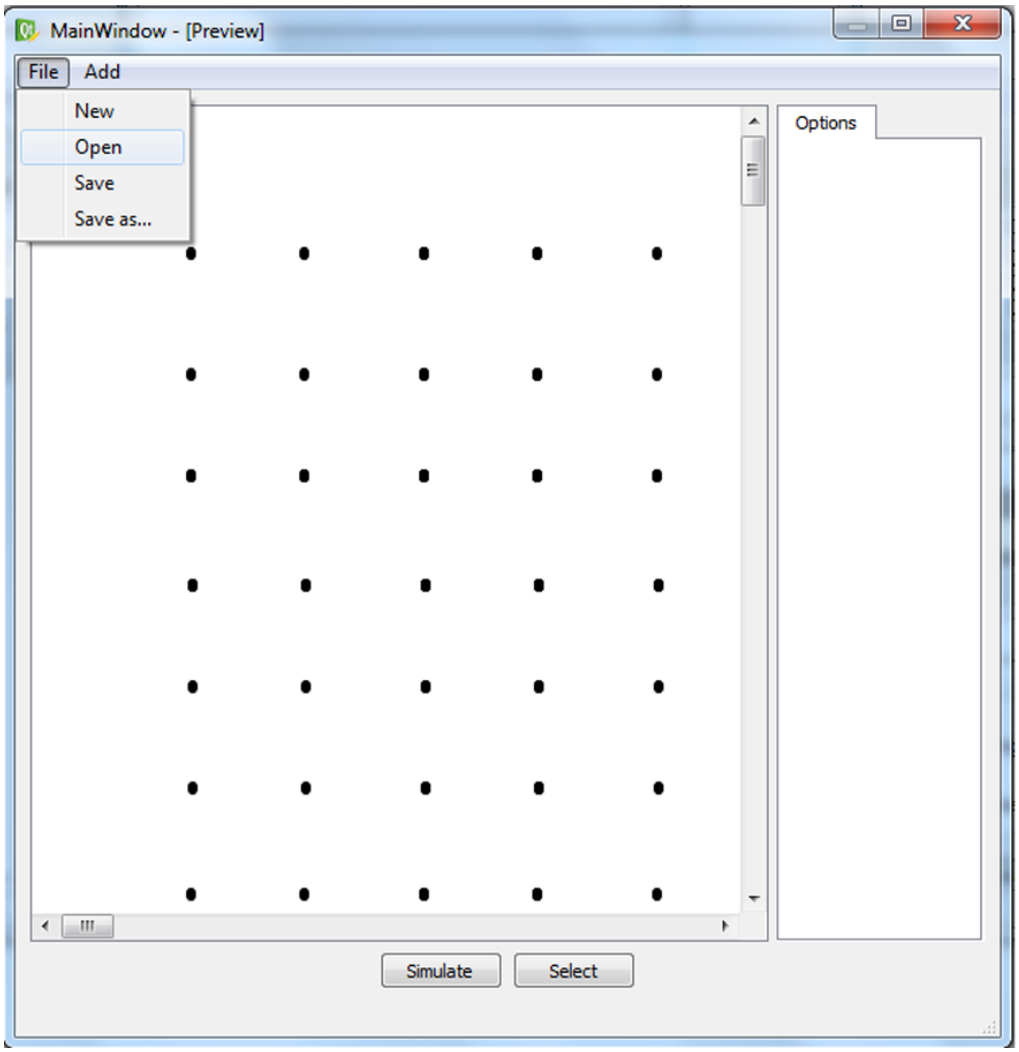
3)PRODUCT FUNCTIONS

FILE TAB FUNCTIONS



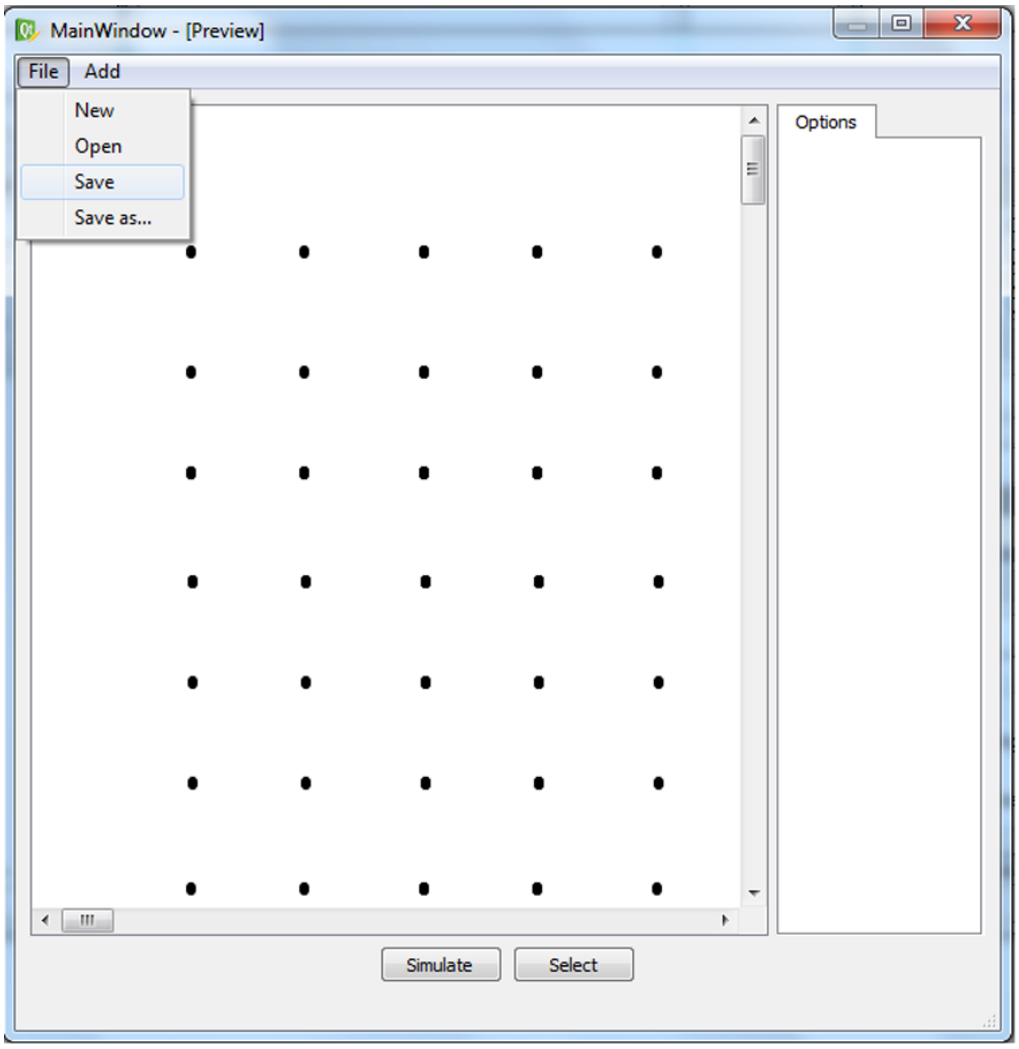
New

"New" function creates a new empty project that can be adjusted.



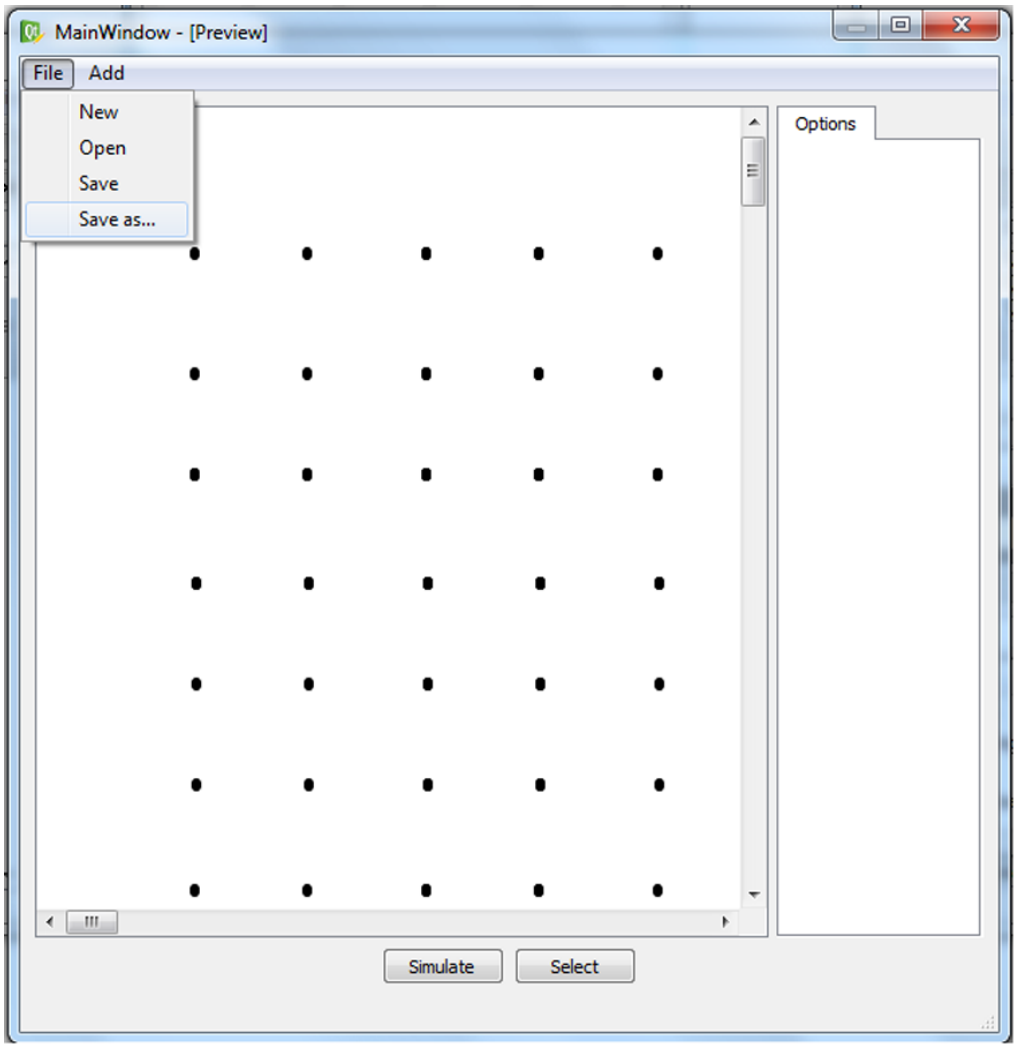
Open

"Open" function opens an existing save file.



Save

"Save" function allows user to register the current file to user's device. If there is no save file function automatically creates a file.

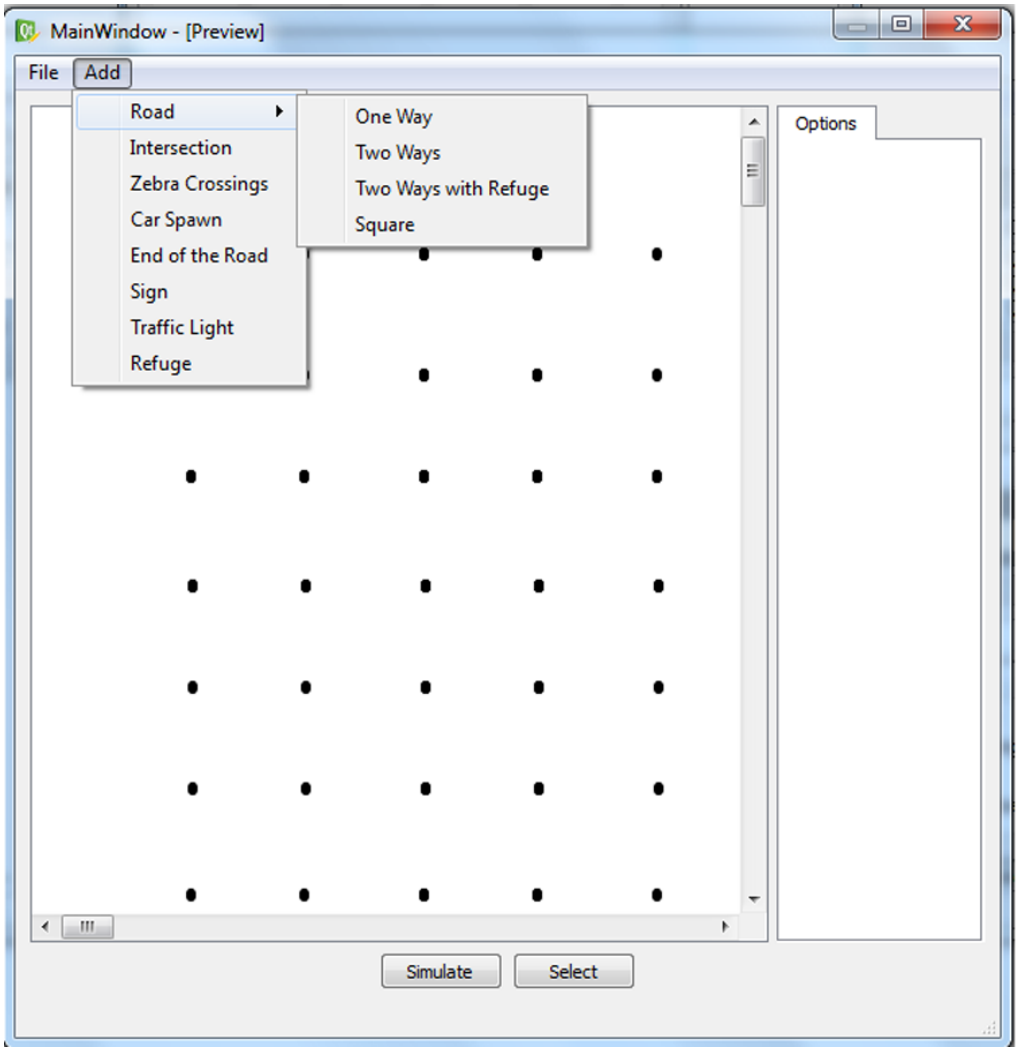


Save as

"Save as" function allows user to register the current file to user's device with different name as a separate file.

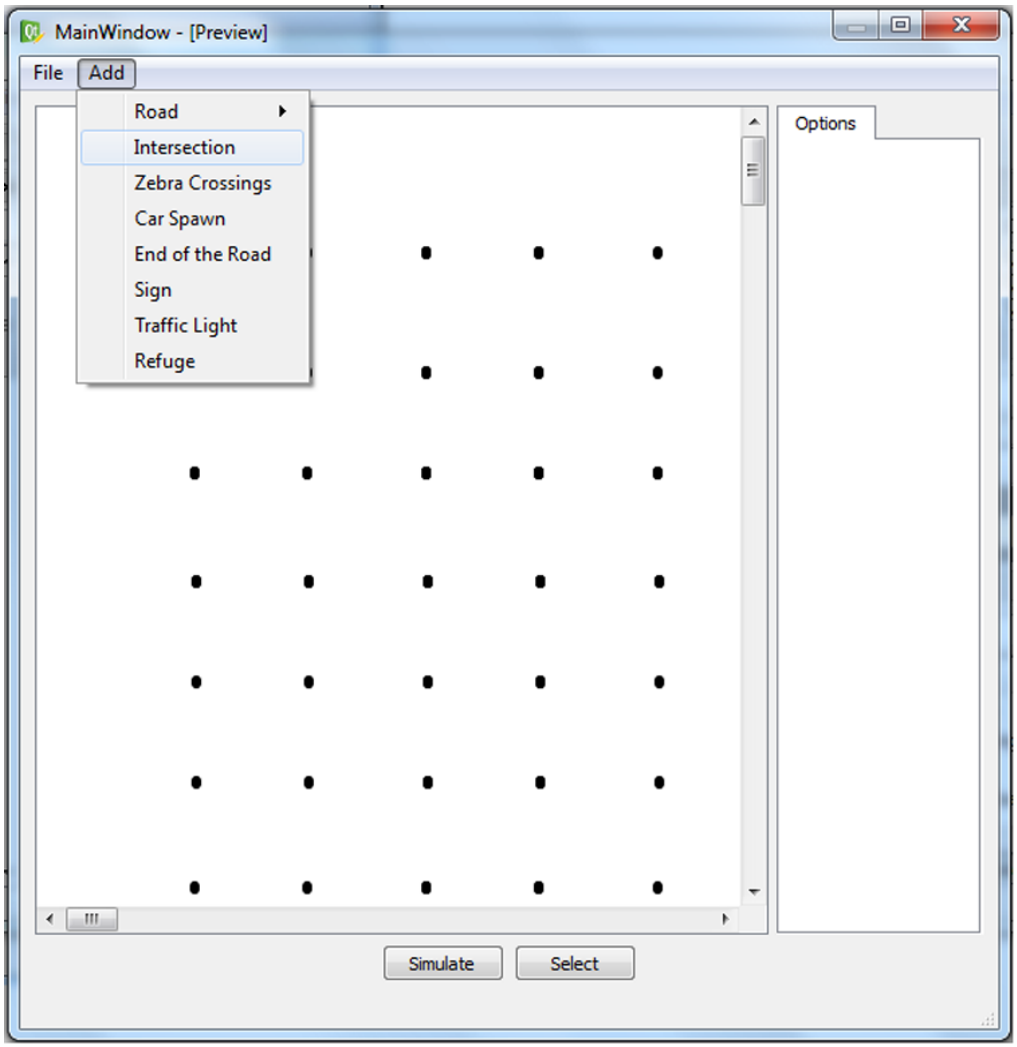
ADD TAB FUNCTIONS

Add tab contains buttons that adds items on the build screen. When a button is clicked, an item from chosen button will appear on the build screen while mouse arrow is on the build screen. User adds the item by clicking where the item should be placed. Items created by add tab have previously determined measurements and values. User modifies these items later to fulfill their purposes.



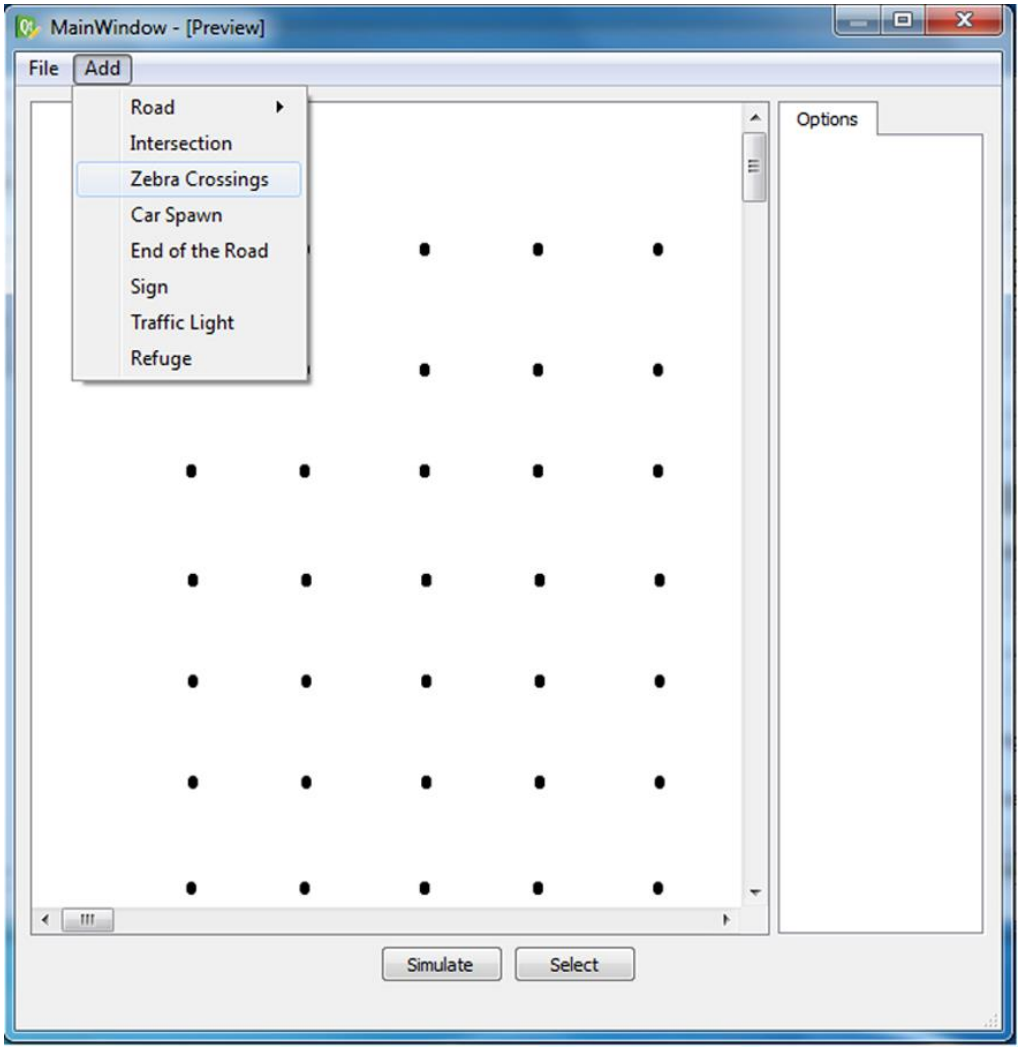
Road Button

The user chooses from the given road types: One-way, Two-ways, Two-ways with refuge or square. Then user chooses the place on the table to declare the beginning of the road. The system will automatically show the road options for the created road.



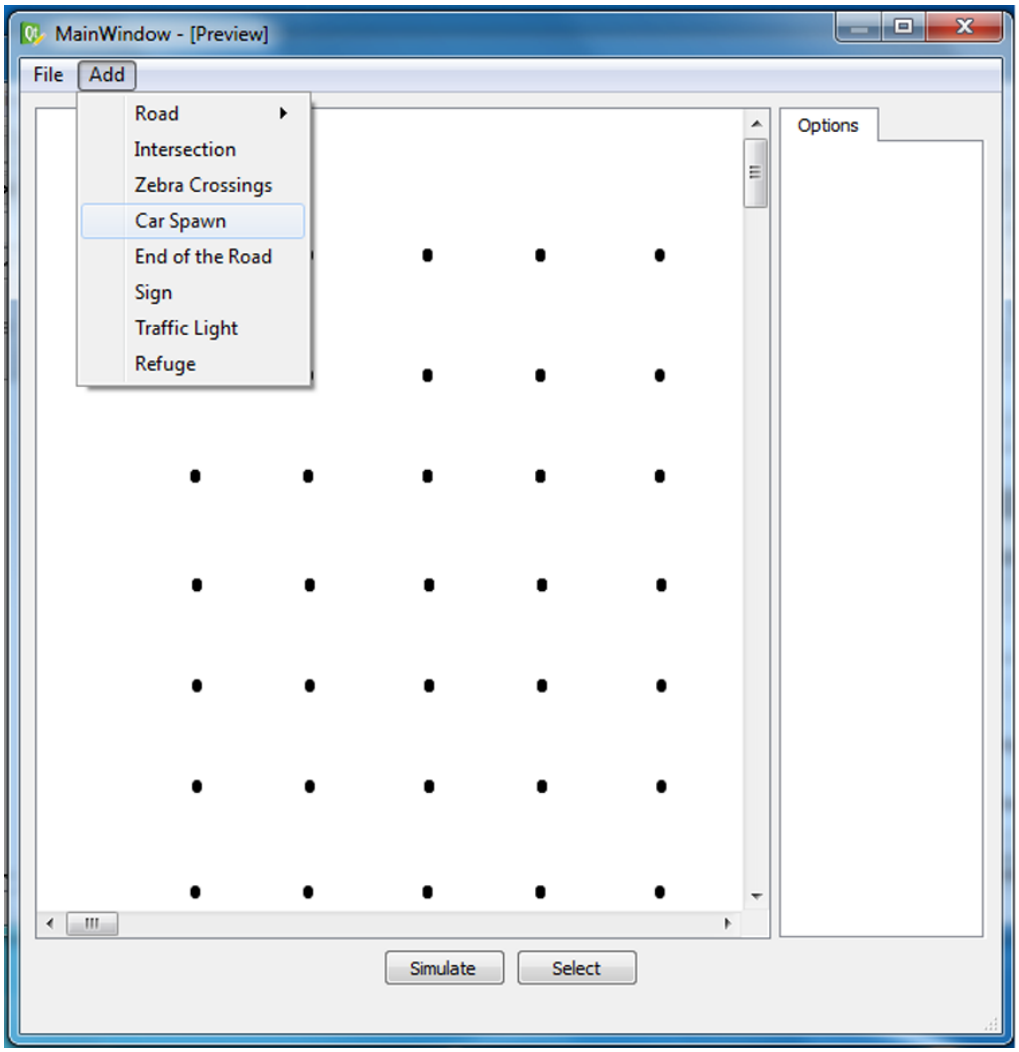
Intersection

"Intersection" function allows user to add intersection.



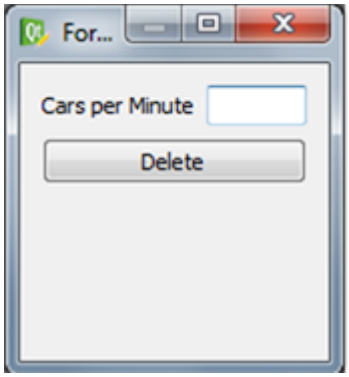
Zebra Crossings

The user chooses a place on a road with a sidewalk to determine where the pedestrians try to cross the road. The system will automatically show the zebra crossings options for the created crossings. Added zebra crossings have width values as 3m.



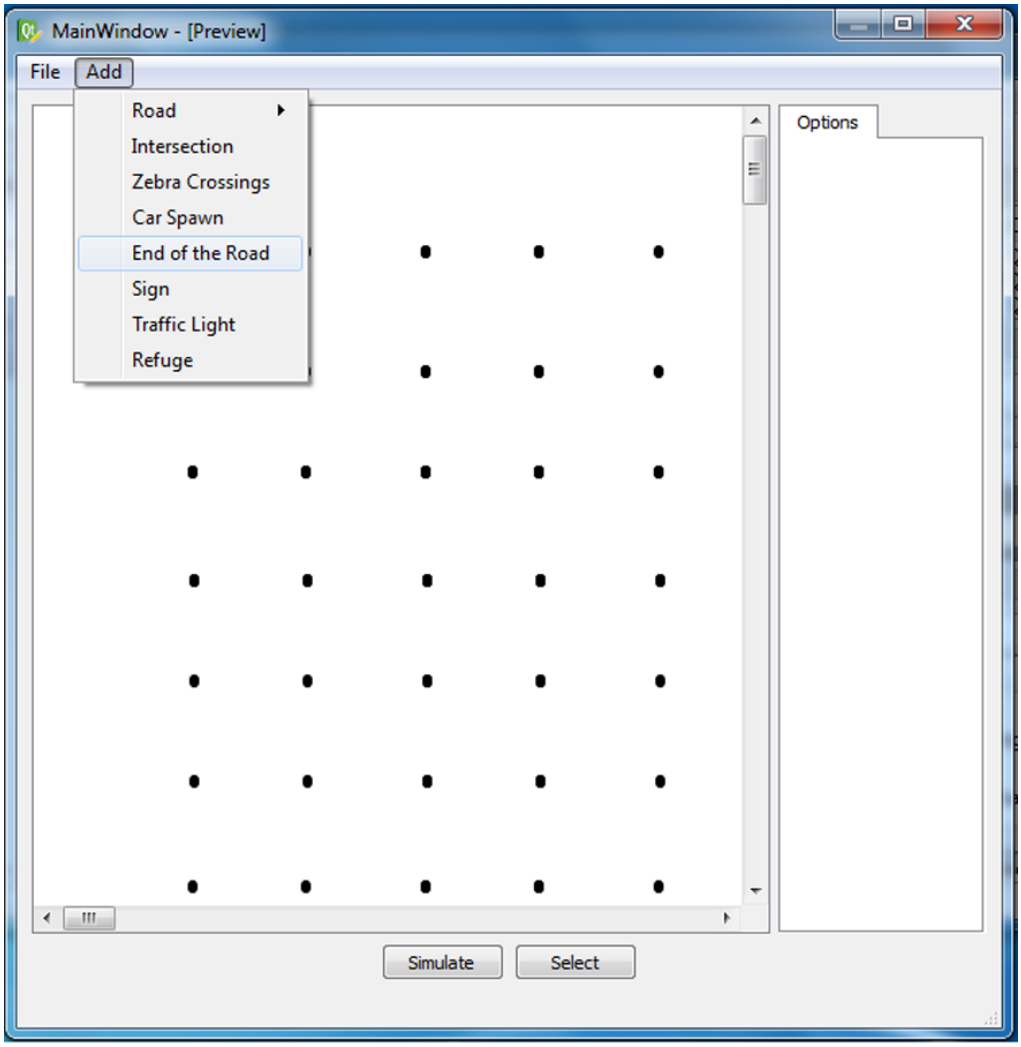
Car Spawn

The user chooses an open part of a road to determine where the cars start to appear. The system will automatically show the car options for the created group. Car groups added have cars per minute value as 20.



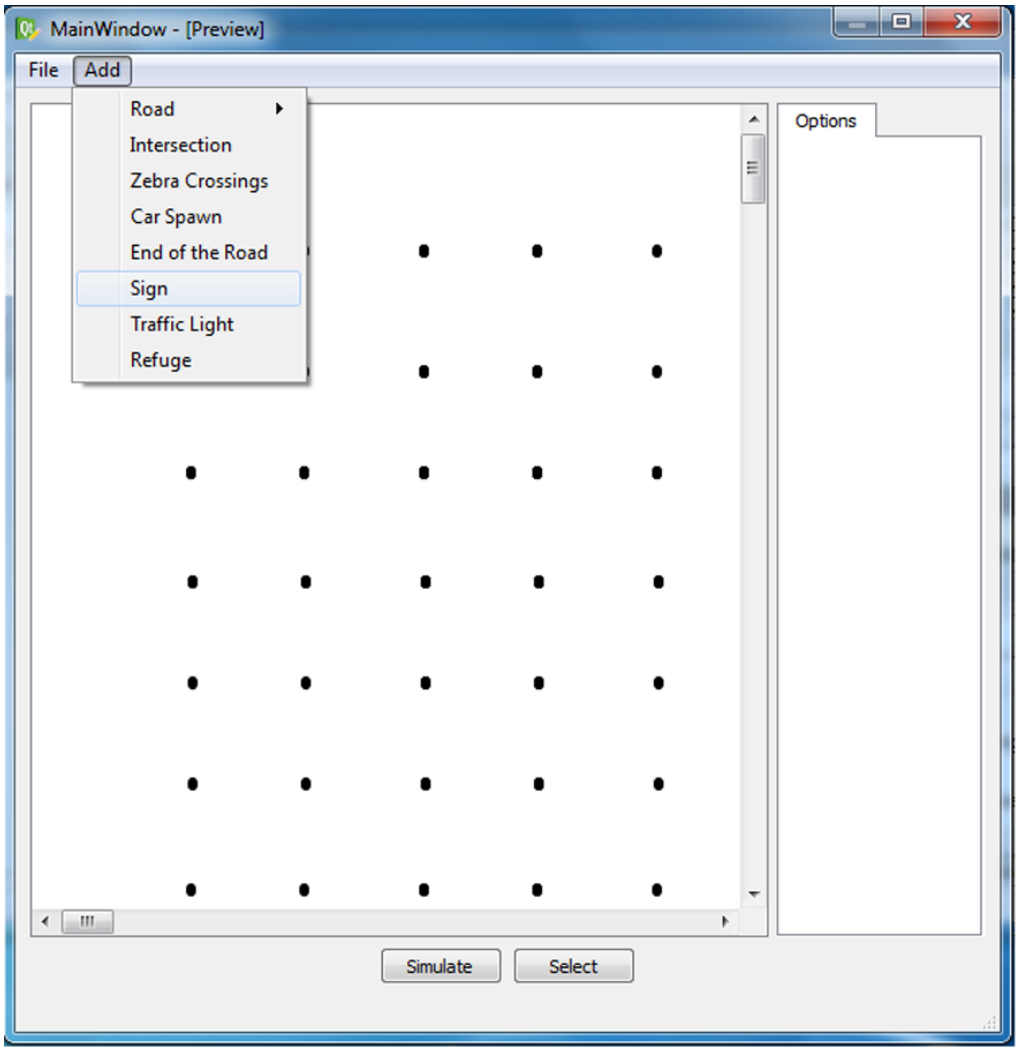
Cars per Minute

User modifies the frequency of car appearance by entering the new frequency on the text box next to "Cars per Minute" option.



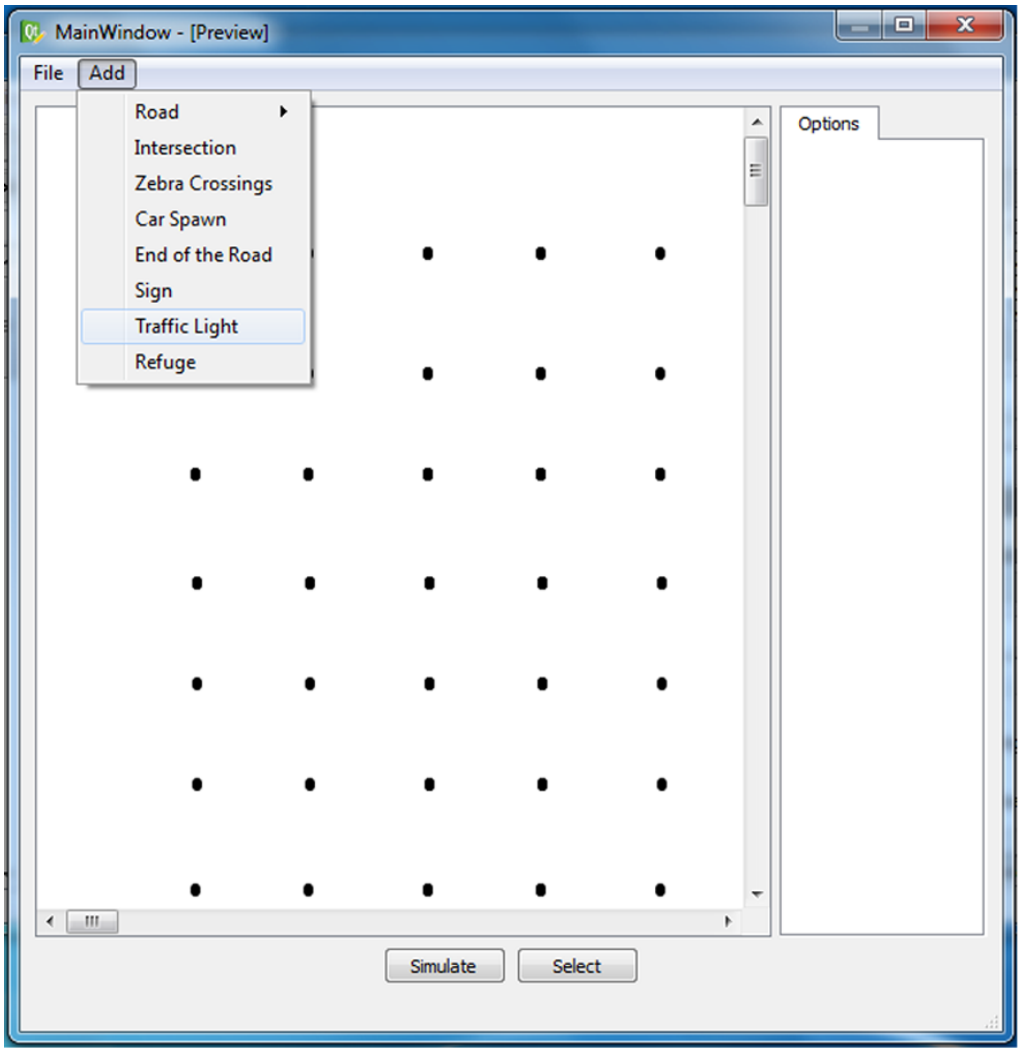
End of the Road

The user chooses an open tip of the road to place End of the Road item. This item is used to show where the cars drive beyond the designed part of the road. Cars reach an end of the road are no longer affect the simulation.



Sign

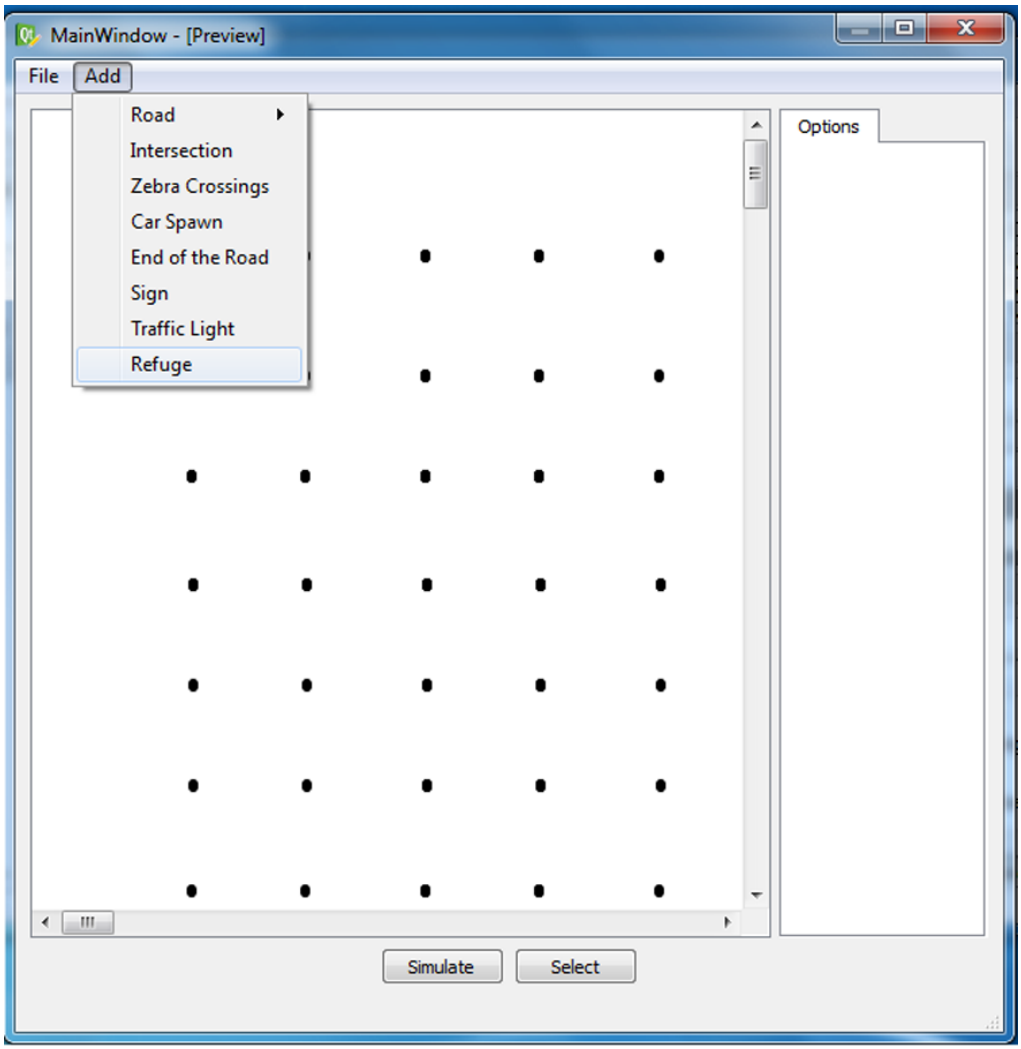
The user chooses a place on a sidewalk to determine where the traffic sign should be added. The system will automatically show the sign options for the created traffic sign. Signs are created blank.



Traffic Light

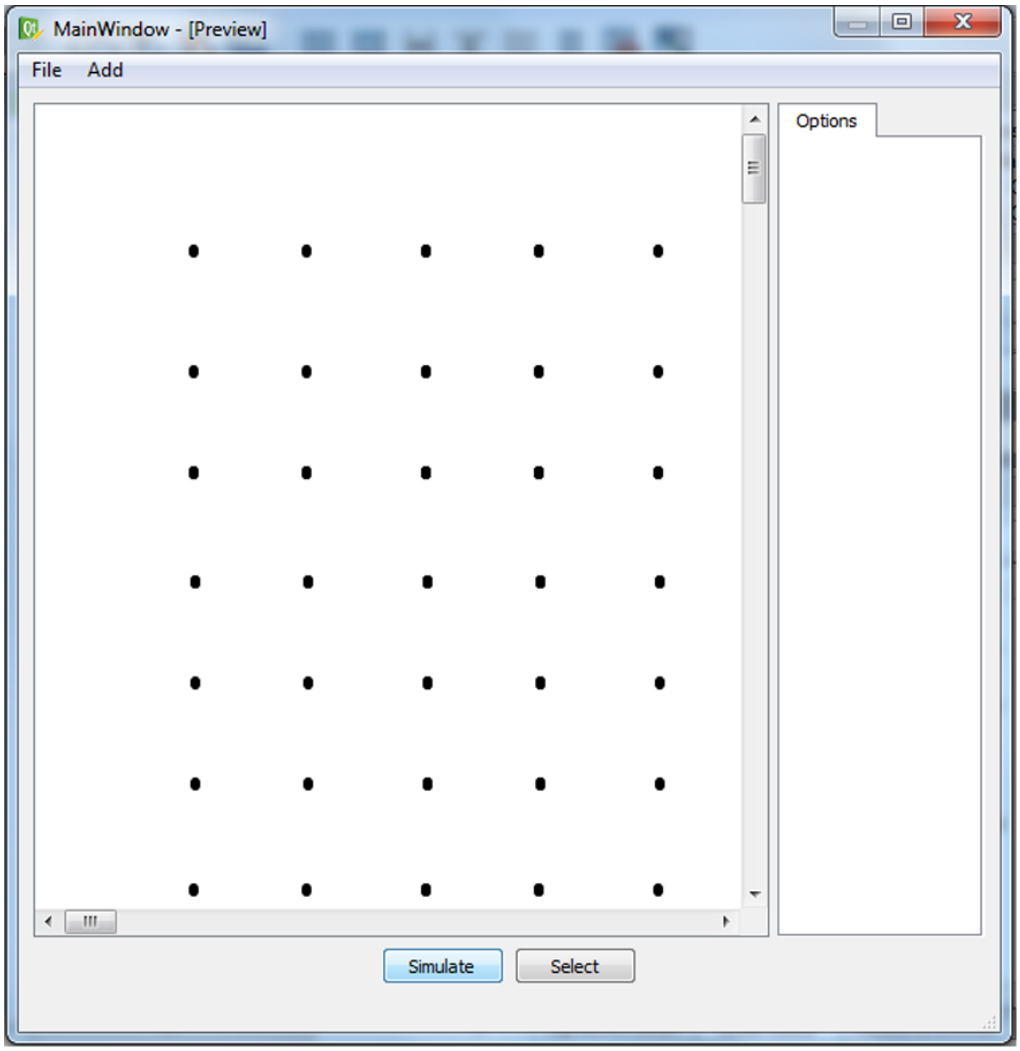
The user chooses a place on a sidewalk to determine where the traffic lamps should be added. If the lamp is added near a zebra crossing, system will automatically add the lamp a pedestrian lamp to it. Then the system will automatically show the lamp options for the created traffic lamp. Lamps added have these values:

- Red Duration: 60 seconds.
- Green Duration: 60 seconds.
- Start From: 0 second.



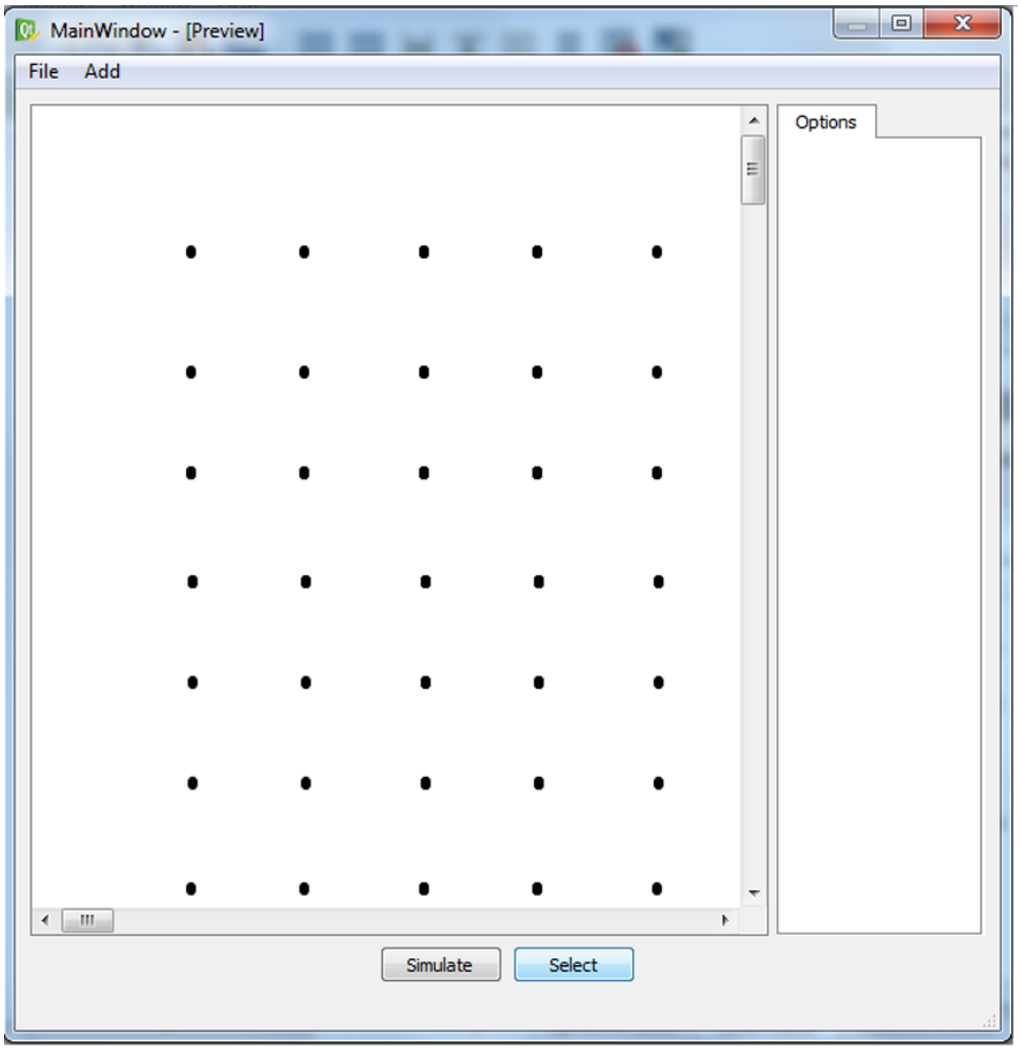
Refuge

The user chooses a place on a refuge to determine where the road should be added.



Simulate

User uses simulate button to start the simulation for the given situations on the table. Simulate button will be unavailable unless table has no security violations. Simulate button opens a new screen called simulation screen. On simulation screen, items on the table are placed in exactly same place, size and values. User starts the simulation by clicking the play button on the simulation screen. During simulation, items interact with each other. Simulation can be paused in any moment during simulation is on play by “Pause” button on the simulation screen. When paused, simulation can be resumed by the “Resume” button. Simulation screen can be closed by the “Close” button on the simulation screen.



Select

The place where items are added, modified and organized. Select button also shows the dangerous situations on the created street plan."Select" is used as a reference for the simulation. Table floor have squares to help item placement and measurement. Table arranges a number for each road part. These numbers are later used to track simulation statistics.