Figure 1: UML diagram of an urban mobility simulator

Appendix

User stories

The following user stories have been derived from the previously conducted interview and will serve as input for the creation of the conceptual models.

User story		Role		Action		Goal
1	*As an*	urban mobility planner	*I want to*	model congestion solutions	*so that*	I can validate urban mobility proposals
2	*As an*	urban mobility planner	*I want to*	adjust speed limits	*so that*	I can review the effects of the measure
3	*As an*	urban mobility planner	*I want to*	switch directions of revertible lanes	*so that*	I can review the effects of the measure
4	*As an*	urban mobility planner	*I want to*	model roundabouts	*so that*	I can review the effects of the measure
5	*As an*	urban mobility planner	*I want to*	model adaptive traffic lights	*so that*	I can review the effects of the measure
6	*As an*	urban mobility planner	*I want to*	close down roads	*so that*	I can review the effects of the measure
7	*As an*	urban mobility planner	*I want to*	increase traffic in certain spots	*so that*	I can simulate crowded events
8	*As an*	urban mobility planner	*I want to*	be notified if a measure leads to congestion	*so that*	I do not overlook the congestion
9	*As an*	urban mobility planner	*I want to*	be notified if a measure disadvantages a neighborhood	*so that*	fairness can be increased
10	*As an*	urban mobility planner	*I want to*	review the emission levels at a certain pollution sensor	*so that*	environmental effects are considered
11	*As an*	urban mobility planner	*I want to*	review the traffic levels at a certain traffic sensor	*so that*	traffic levels are considered

12	As an	urban mobility planner	I want to	see traffic situations at past dates	so that	I can analyze traffic scenarios on similar days
13	As an	urban mobility planner	I want to	get an estimation of the cost of a measure	so that	I can review the financial consequences of the measure
14	As an	urban mobility planner	I want to	know the estimated emission of a congestion	so that	I can review the pollution effects of a measure or event
15	As an	urban mobility planner	I want to	know the estimated noise levels of traffic	so that	I can review the environmental effects of a measure or event
16	As an	urban mobility planner	I want to	simulate crisis situations	so that	I can aide emergency services
17	As an	urban mobility planner	I want to	report on the pollution effects of a measure	so that	I can offer validation for my proposal
18	As an	urban mobility planner	I want to	report on the fairness of a measure	so that	I can offer validation for my proposal
19	As an	urban mobility planner	I want to	report on the cost of a measure	so that	I can offer validation for my proposal
20	As an	urban mobility planner	I want to	report on the congestion effects of a measure	so that	I can offer validation for my proposal
21	As an	urban mobility planner	I want to	report an executive summary of a solution	so that	I can inform the mayor of the consequences of a proposal
22	As an	urban mobility planner	I want to	make an extensive report on a solution	so that	I can inform the consultancy company of the consequences of a proposal
23	As an	urban mobility planner	I want to	get suggested solutions for a traffic congestion	so that	I can be inspired to solve the problem