Supporting additional elements in a simulation using Netedit

Pablo Álvarez López (pablo.alvarezlopez@dlr.de), Jakob Erdmann (jakob.erdmann@dlr.de)
Institute of Transportation Systems, German Aerospace Center (DLR), Berlin

Abstract

The traffic simulation software SUMO supports the simulation of various kinds of network infrastructure such as bus stops, traffic detectors and variable speed signs. This network infrastructure is configured with various parameters in regard to its location and functionality. So far, the definition and customization of these infrastructure objects required writing custom XML files which is a tedious and error-prone endeavor. To simplify this task the visual network editor Netedit is being extend to support the creation and customization of infrastructure objects. The GUI facilities should provide for an intuitive user experience and the architecture is designed with user-defined infrastructure types in mind.

Additionals supported by Netedit

A bus stop is a designated place where buses stop for passengers to board. Netedit allow to place bus stops over lanes, having every their own lenght and bus lines.

A charging station is a surface in which a vehicle equipped with a electric battery can charge. This additional elements can be modelled in Netedit in two different ways: As a inductiv surface or as a electric station [1].

Behavion of additionals during simulation

Detectors are devices used to measure traffic flow. Netedit supports detection of vehicles on a specific point of a lane using detectors E1, or vehicle detection over an entire surface using detectors E2. All generated information is saved in XML format.

Future

Future versions of Netedit will support all of SUMO’s infrastructure objects including Rerouters, Variable Speed Signals and Calibrators. These objects are used to influence traffic dynamics and are currently hard to use due to their complex XML definitions. A guide and a SDK similar to MSDevice_Example will be include, to support the user in creating their own additional elements. Further planned extension to Netedit included editing sidewalks, pedestrian crossings and connection attributes [3]. Support for creating and modifying points of interests (POI) and polygons is also in the works.

References