

Demand elements in NETEDIT

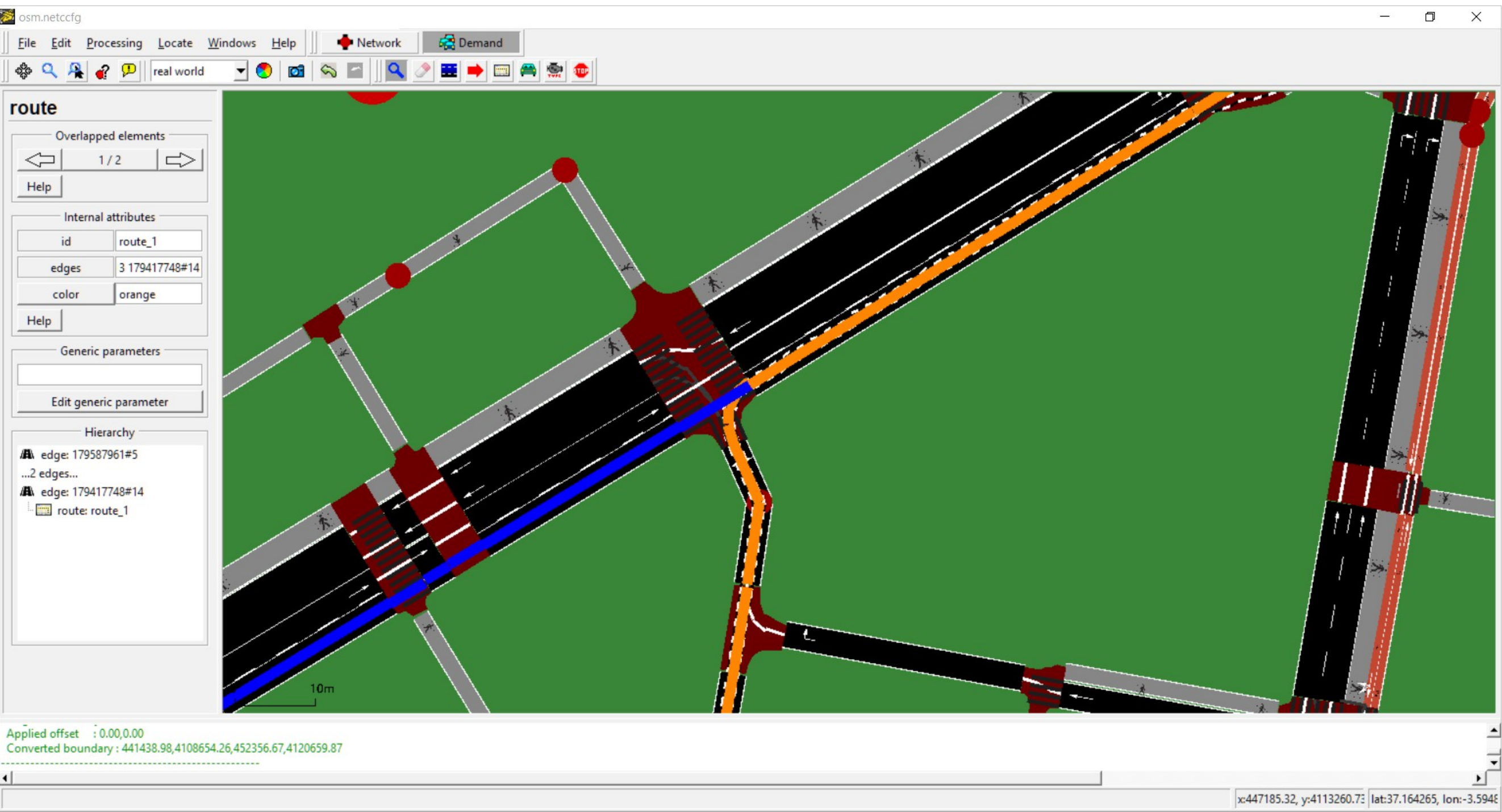
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Abstract

The SUMO version 1.2 and successive bring a great amount of new features relative to the edition of Demand Elements in NETEDIT. After comparing two design possibilities, an independent editor called TrafficEdit, or the extension of NETEDIT to support the demand elements, this second option was chosen. Two editing master modes called supermodes have been implemented: one for the Network Elements and another for the Demand Elements. This second mode allows to create and edit Routes, Vehicles, VehicleTypes and Stops, providing for dialogues and methods to make the vehicle demand friendly and quick for the SUMO users. Any change in the Network Elements is reflected in the Demand Elements, so that the consistency between infrastructure and demand can be maintained. Examples of this change operations are creating, deleting and renaming edges or stoppingPlaces, joining junctions, splitting edges, etc.

Routes

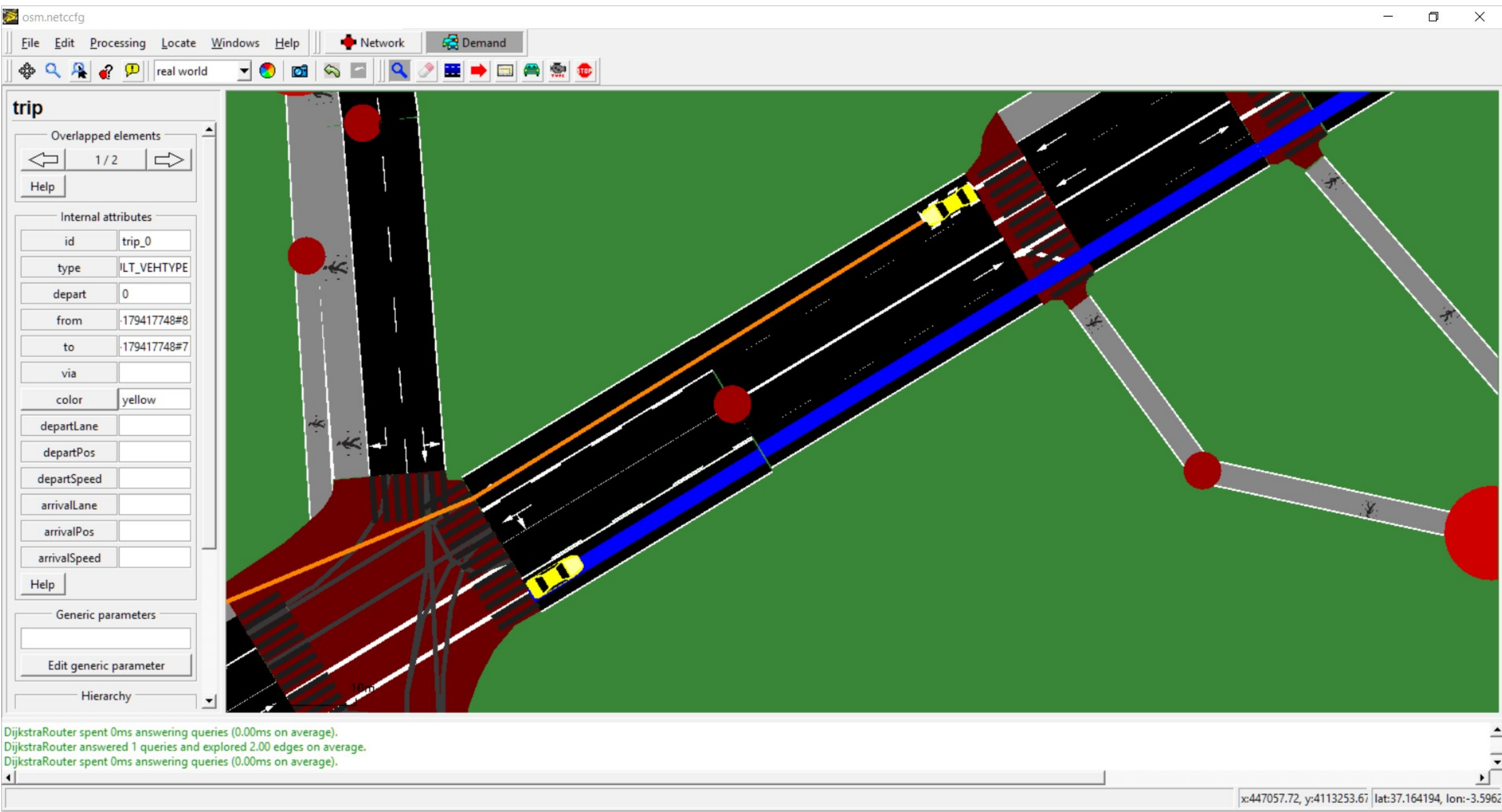
The three basic attributes of a route are the ID, the edge list and the route's color. The list of edges can be defined visually through a series of successive clicks over the view's edges.



Representation of Routes in NETEDIT

Vehicles

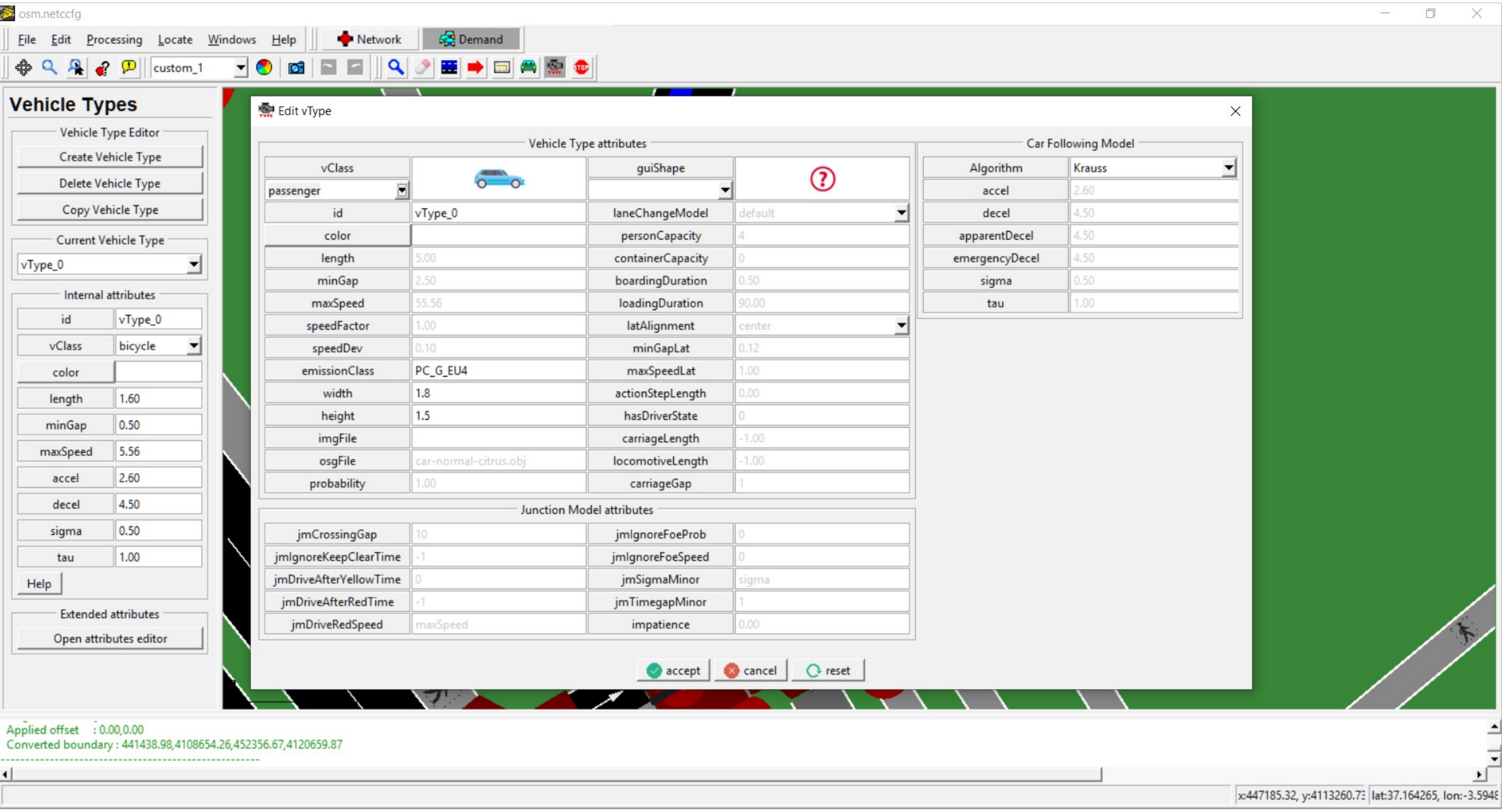
Vehicle category groups four vehicle types, depending on whether they follow a pre-established route or if they are repeated during a certain period of time. The creation of vehicles require to select a vType, and either click over an edge or over a route.



Representation of vehicle over their route and a trip

Vehicle Types

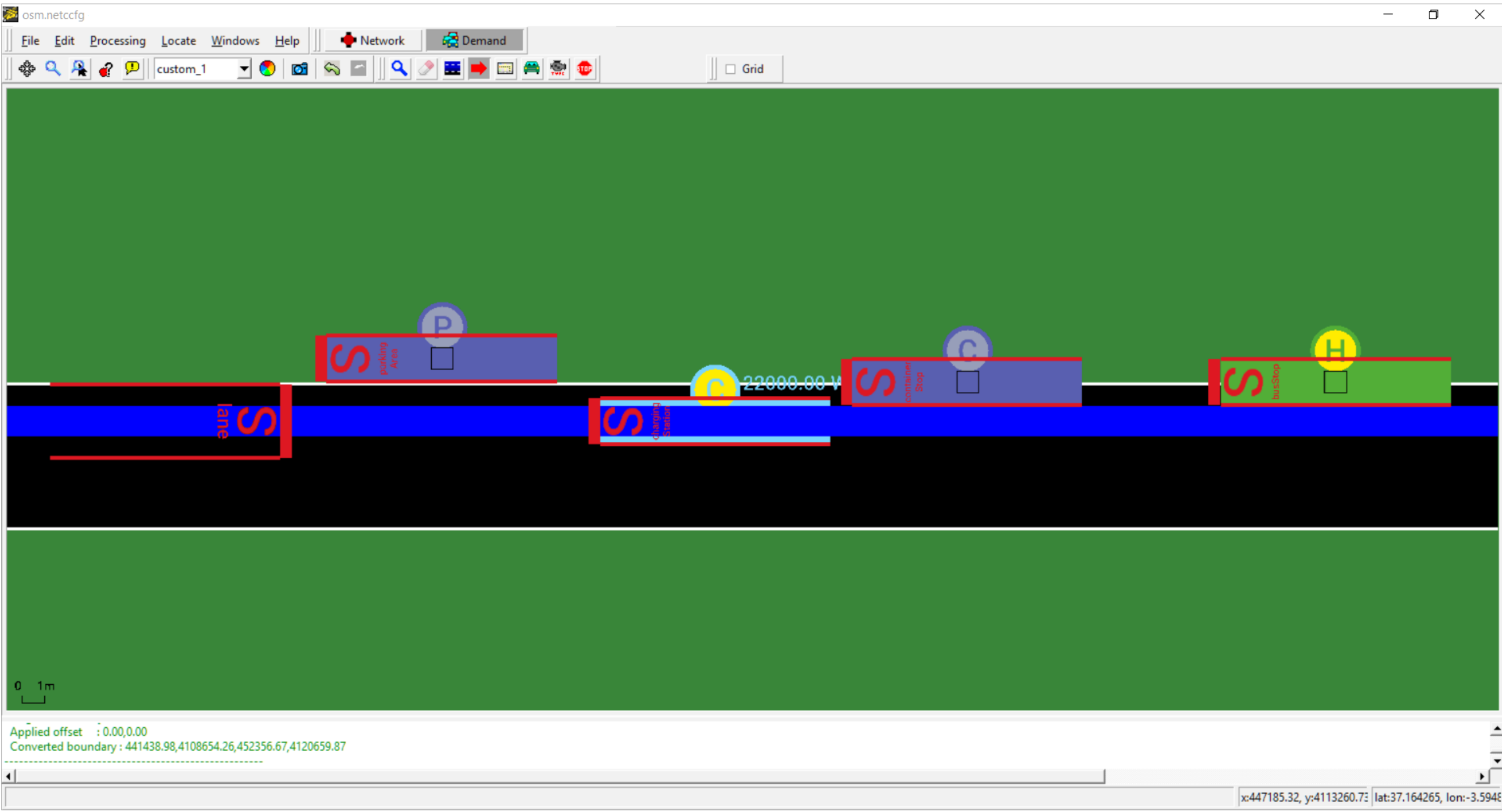
VTypes are not visually represented on the map, and due to their high number of parameters, they require a special dialog box to configure them.



Editing a Vehicle Type using a specific dialog

Stops

A Stop requires a Route, and can be established at a specific position over a Lane, or over an existing StoppingPlace, and it can be child of a route, vehicle, trip or flow.



Representation of different Stops in NETEDIT

References

- [1] Alvarez Lopez, P. & Behrisch, M. & Bieker-Walz, L. & Erdmann, J. & Flötteröd, Y. & Hilbrich, R. & Lücken, L. & Rummel, J. & Wagner, P. & Wießner E. "Microscopic Traffic Simulation using SUMO," 2018 21st International Conference on Intelligent Transportation Systems (ITSC), Maui, HI, 2018, pp. 2575-2582.
- [2] Álvarez López, P. & Erdmann, J. Supporting additional elements in a simulation using NETEDIT.
- [3] Álvarez López, P. & Erdmann, J. An approach for defining vehicular demand in SUMO

Keywords: SUMO, NETEDIT, Demand



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