

SiMTraM – Simulation of Mixed Traffic MObility – Quick Tutorial

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**Warning: This document contains only the modification details in SUMO.
New users should refer to SiMTraM User Document.**

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1. Introduction

What is SiMTraM?

SiMTraM (Simulation of Mixed Traffic Mobility) is the extension of SUMO (traffic Simulator Developed by DLR, Germany) for Heterogeneous traffic developed by IIT Bombay.

About This Document

This document is meant for only sophisticated users of SUMO. Contains the information about changes you need to switch from SUMO to SiMTraM.

2. First Step

Installing SiMTraM

Download the binaries from: http://www.civil.iitb.ac.in/tvm/SiMTraM_Web/html/

Running Examples

Examples are included in the package. In each example there is a sumo.CFG file. You need to open this file in GUI.

3. Modified Application

Applications which are modified to accommodate heterogeneous traffic and you need to switch.

1. SUMO to SiMTraM
2. SUMO-gui to SiMTraM-gui
3. Duarouter to Duarouter-M
4. NetConvert to NetConvert-M
5. NetGen to NetGen-M
6. TraCi to TraCI-M

At present only these application has been modified and tested. Other applications of SUMO may also work with SiMTraM but not verified yet.

4. Input Files Changes

Type File:

There is one more attribute added to the type file of an edge is **numstrips**.

You can add this attribute to type file and the value of attribute is Integer. Usually value is the factor of precision.

So a typical example is:

```
<types>
  <type id="f" priority="2" nolanes="1" numstrips="7" speed="33.333"/>
</types>
```

Vtype File:

There is one more attribute added to the type of vehicle in vtypedist is **stripWidth**.

You can add this attribute to vtype file and the value of attribute is Integer. Usually value is the real time factor of vehicle width.

Warning: vehicle stripwidth must be less or equal to numstrips.

So a typical example is:

A bike is usually 0.5 m in length and I have given 7 strips in edge type file so each lane is having 7 strips. A lane is 3.5 m wide so one strip is 0.5m so bike should take 1 strip.

```
<vtypeDistribution id="distrib1">
  <vtype accel="3.5" decel="2.8" id="bike" length="1.5" maxspeed="27.77"
  guiShape="motorcycle" stripWidth="1" probability="1">
    <carFollowing-Krauss sigma="0.0" tau="1.0" />
  </vtype>
</vtypeDistribution>
```

These files also can be used by default SUMO.

5. Known issues/bugs

Crash while running

While you are running a particular case SiMTraM might be crashed. This is the common problem of this version. You can re-run the whole scenario with different random seeds. Problem is being addressed in the next release.

Vehicle Overlapping

you may find the cases where some vehicles may overlap each other. Sometimes it happens when vehicle is on two lanes and tries to jump at intersection. Problem is being addressed in the next release.