Modified version from
H. Osman / Automation in Construction 28 (2012) 45–57

Introduction leads to why this model

Problem Statement

Problem Statement

Why this model helps at all?

Questions to be answered

Questions to be answered

Others for now

Others for now

Other papers or projects similar

Other papers or projects similar

Literature Review

Papers By Topic

Papers By Topic

ABM and Hybrid Models

ABM and Hybrid Models

Etc..

Etc..

Virtual Network

Description of virtual network

Why SUMO

Components

Components

Physical layout – OSM

Roadway parameterization

Names; lane width, max speed; permissions; etc...

Names; lane width, max speed; permissions; etc...

Show Dataframe

Show Dataframe

O agent HQ locations

Users Routes veh per hour types etc...

Description_of_Network_Demand

Calibrators

Calibrators

Data sources

Specific roadway flow counts

Specific roadway flow counts

Vehicle type distribution

Vehicle type distribution

Routes

Routes

Heuristics

Try without and see if we can go for a longer

Try without and see if we can go for a longer

Dynamic User Assignment

Infrastructure Asset Own Agent

Description of Owner Agent Purpose Capabilities

Operation Research Scheduling Decision Module

Description of how the schedule will be made inputs outputs

Scenarios to run

Objective Function

Constraints

metrics

metrics

Virtual Network Modification Module Python Code

Description of how O agent interacts with V network

True to constraints of OR Schedule

Physical Representation of workforce enforces logic controls

Work crews like buses with special stops

Work crews like buses with special stops

TRAci Python SUMO Interface

Link back to net work parameters

O agent collects simulation network run data for OR module

Frequency and Accuracy of update based on agent characteristics

Frequency and Accuracy of update based on agent characteristics