Virtual city generation

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Contents

1 Introduction

1.1 OSM download

Currently we use MapZen to download the metro area network. We still have to isolate only relevant polygons however.

1.2 GIS2FE

We use this tool to convert `..._osm_line.shp` files to a network. This tool was developed by Karduni et al., 2016.

2 Public transit

2.1 Bus network

The bus network is specified according to three tables: `pt_bus_stops`, `pt_bus_routes` and `pt_bus_dispatch_freq`. Details are as follows:

References

Karduni, Alireza, Amirhassan Kermanshah, and Sybil Derrible (2016). "A protocol to convert spatial polyline data to network formats and applications to world urban road networks". In: *Scientific data* 3, p. 160046.

Table	column	data type	description
pt_bus_stops	route_id	string	identify bus line
	stop_code	string	identify bus stop
	sequence_no	integer	list index
pt_bus_routes	route_id	string	identify bus line
	section_id	integer	identify road segment
	sequence_no	integer	list index
pt_bus_dispatch_freq	frequency_id	string	
	route_id	string	
	start_time	string	format HH:MM:SS
	end_time	string	format HH:MM:SS
	headway_sec	integer	length of to dispatch next bus (seconds)

TABLE 1 Data required for bus network in SimMobility