MoTrIS: A FRAMEWORK FOR ROUTE PLANNING ON MULTIMODAL TRANSPORTATION NETWORKS

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DATA IMPORT

Adminstrator

User-Developer

Road Networks

I am PostGIS and I store data in relational format.

MoTrIS API Modules

Network Model

Data Import

Transform data into a routable format

CREATE LINKS TO ASSOCIATE EACH BUS STOP WITH AN EDGE OF THE ROAD NETWORK

Road Networks

OSM

GTFs

VDV

Obtain API Key

Employ in Application

Obtain API key and create new service

Submit queries via the available API calls

Obtain results in GeoJSON format

API Calls

MoTrIS API Modules

Network Model

• Implements the time-dependent model
• For each stop we add as many nodes as the routes passing from the stop

Stop S1

• Transfer links
  Allow transfers between means of transportation

• Network links
  Allow transfers between networks

The Visualization module:

✓ Visualizes street & transportation network for a given service
✓ Receives query results from QP and produces GeoJSON responses
✓ Each response includes street, transportation and link edges.

Supported Queries

• Shortest path
• Earliest-arrival
• Latest-departure
• Shortest Duration Path

Processing Queries

1. Receive input query \( q(G,p_s,p_t,t,M) \)
2. Map query points to street network
3. Forward result to Visualization module

Stop S1

Source: S1  Target: S2

Monday-Thursday

Source: S1  Target: S2

09:00  09:02

Friday

Source: S1  Target: S2

09:20  09:22

Saturday

Source: S1  Target: S2

09:40  09:42

Sunday & Holidays

Source: S1  Target: S2

(...)

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Visualisation

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Visualisation

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