Robust Inferences of Travel Paths from GPS Trajectories

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Problem:
How to infer a travel path on the road network from a GPS trace under noisy conditions?

Our Method:
(a) employ spatial-linear clustering to group GPS points;
(b) derive and amalgamate sub-paths of point clusters.

CASE STUDY
We conduct a case study to analyze the impact of map matching for the estimation of traffic flow of a large area.

We derive travel paths for point clusters and combine them into a single complete path:

An example of generating possible routes bounded by the spatial-linear cluster.

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