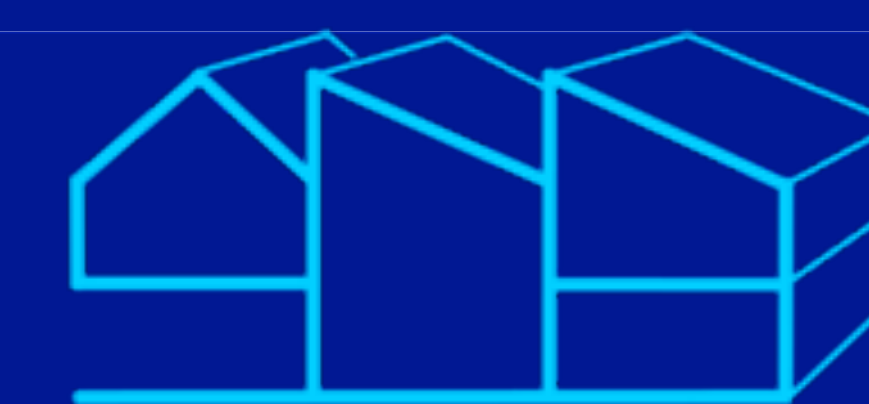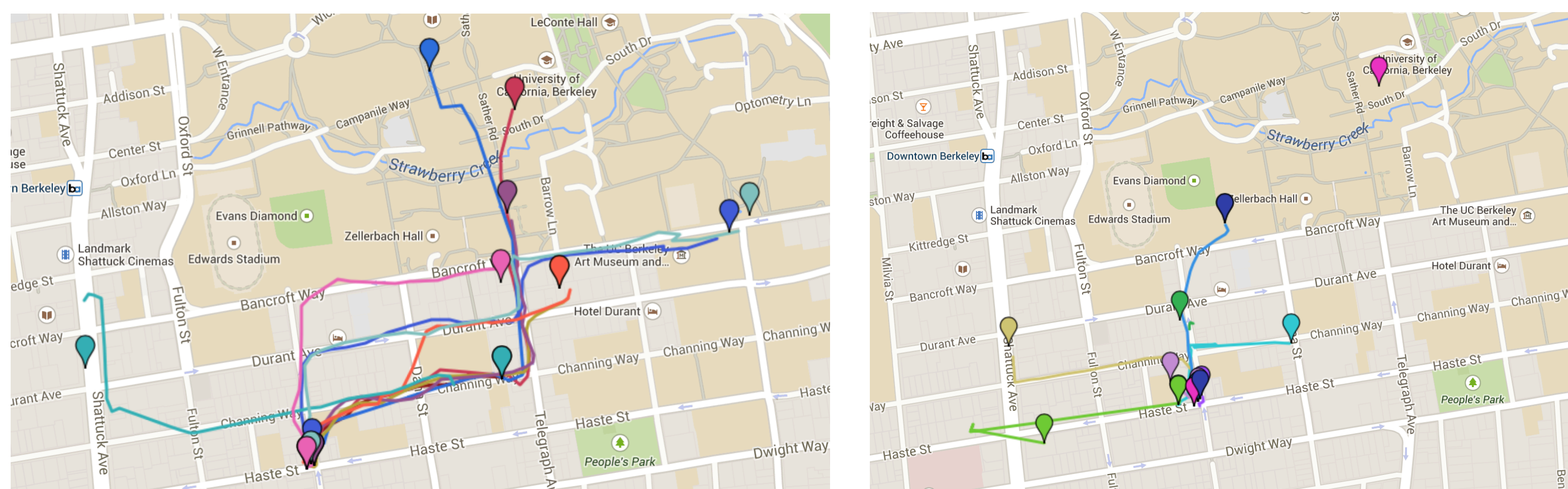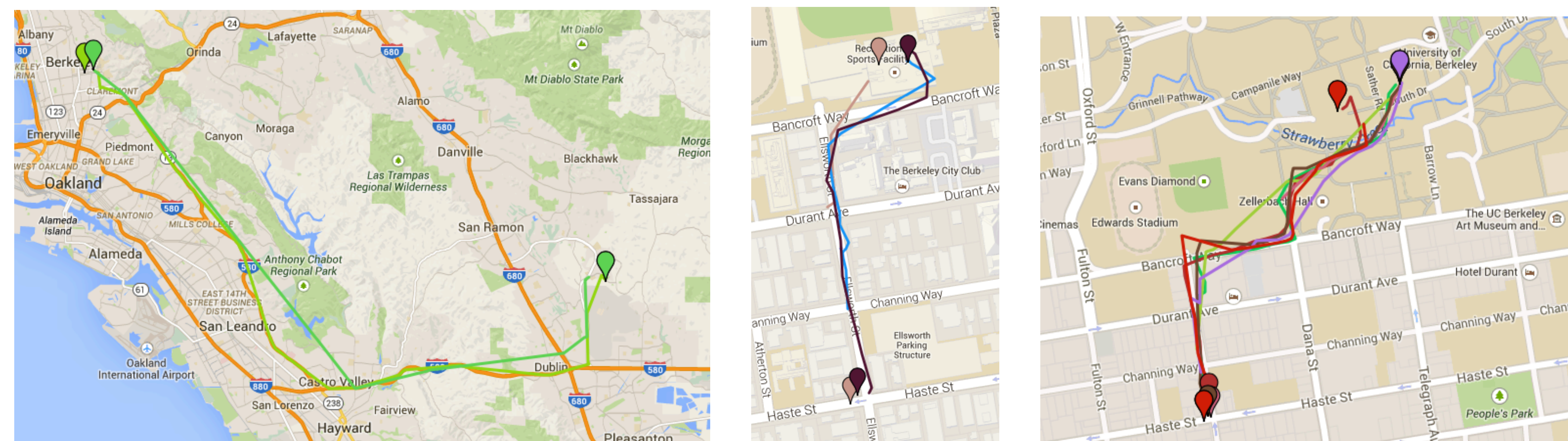# IT for Sustainability
Improving Mode Inference

Zackery R. Field, Shankari Kalyanaraman, Jeff Huang, & Gautham Kesineni

Clustering Now

Picture 1&2: Current clustering algorithm does decent clustering for long trips and fairly bad clustering for shorter trips
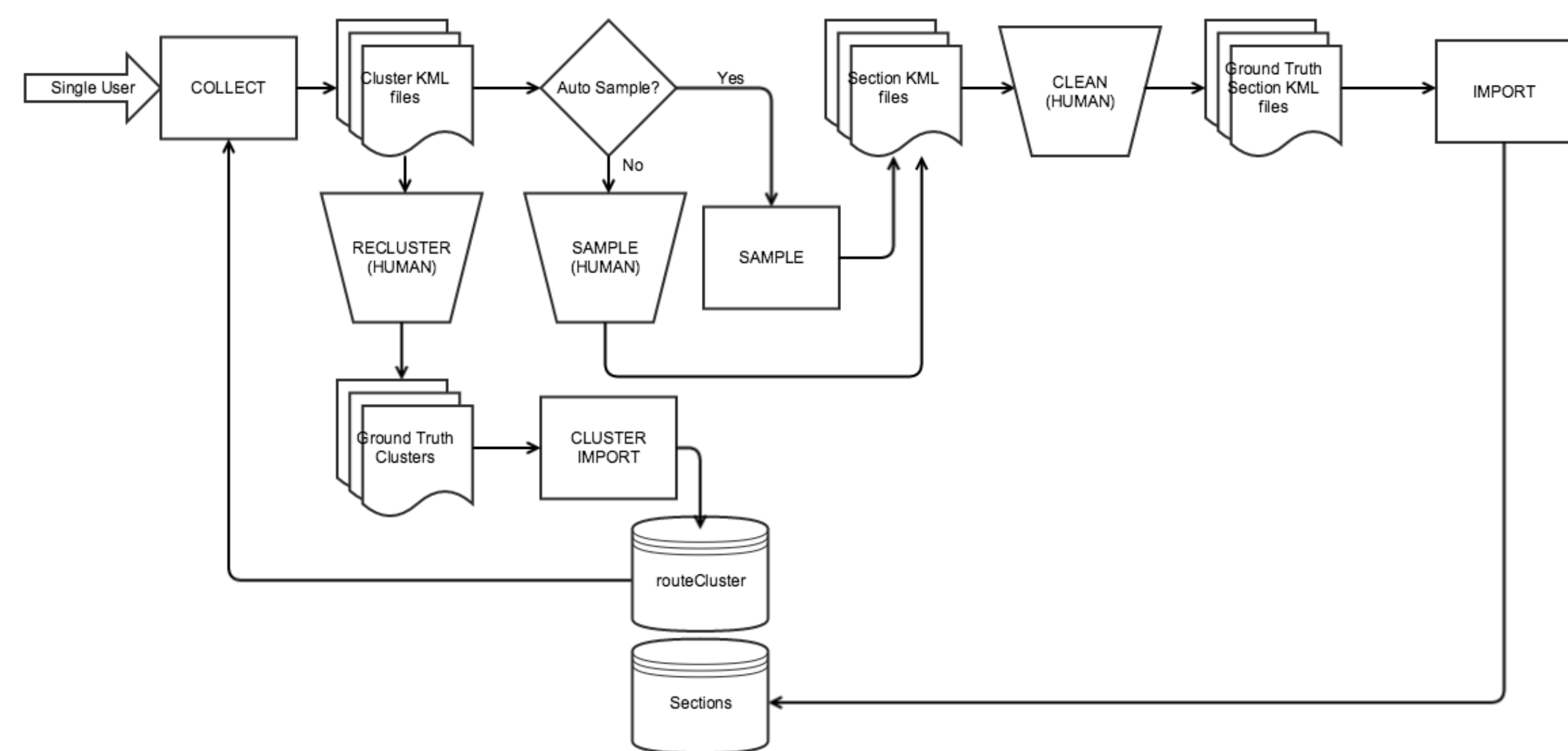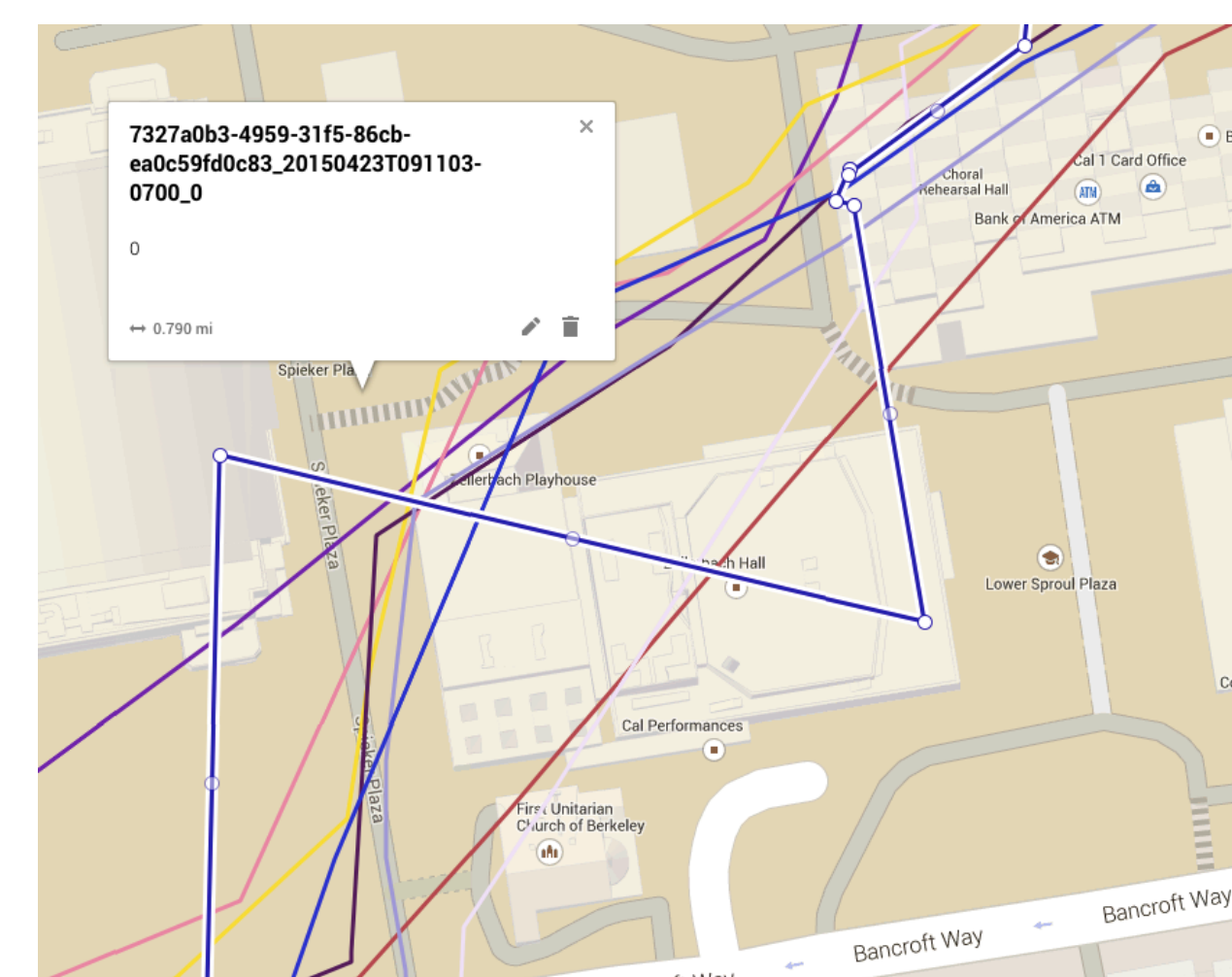
Ideal Clusters & Ground Truth

Picture 3: A very long trip where original cluster didn't need to be cleaned at all

Picture 4&5: A good cluster created from filtering trips across multiple clusters

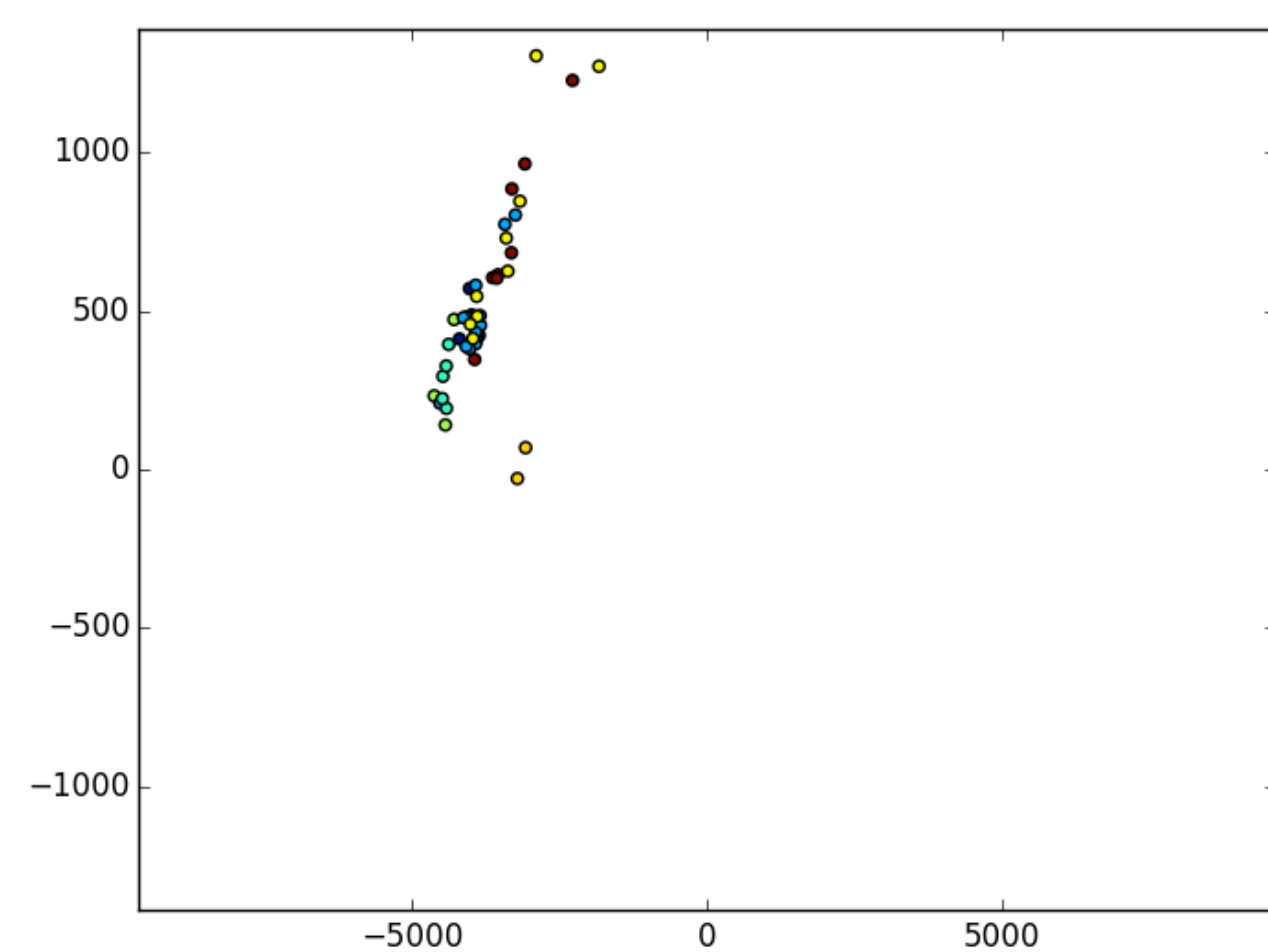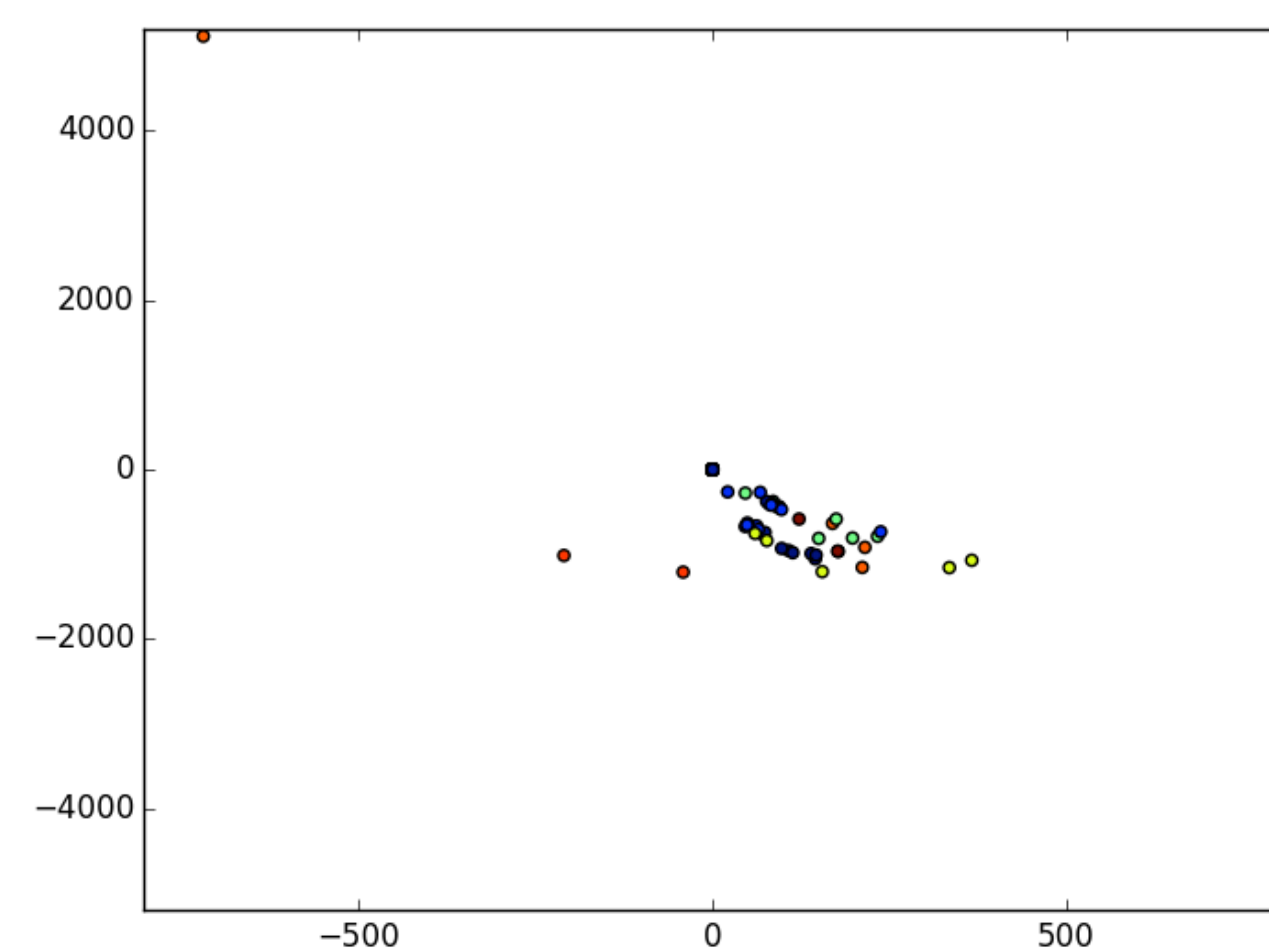## Ground Truth Pipeline

Generating Ground Truth

Picture 6: MyMaps makes identifying and editing trips easy

- Create ground truth clusters data set by manually filtering current clusters (using MyMaps) and reclustering
- Ground truth clusters can also be created by listing valid ids and parsing text file
- Collect section KMLs from clusters
- Manually clean clusters trajectories (using MyMaps) to create ground truth trajectories data set
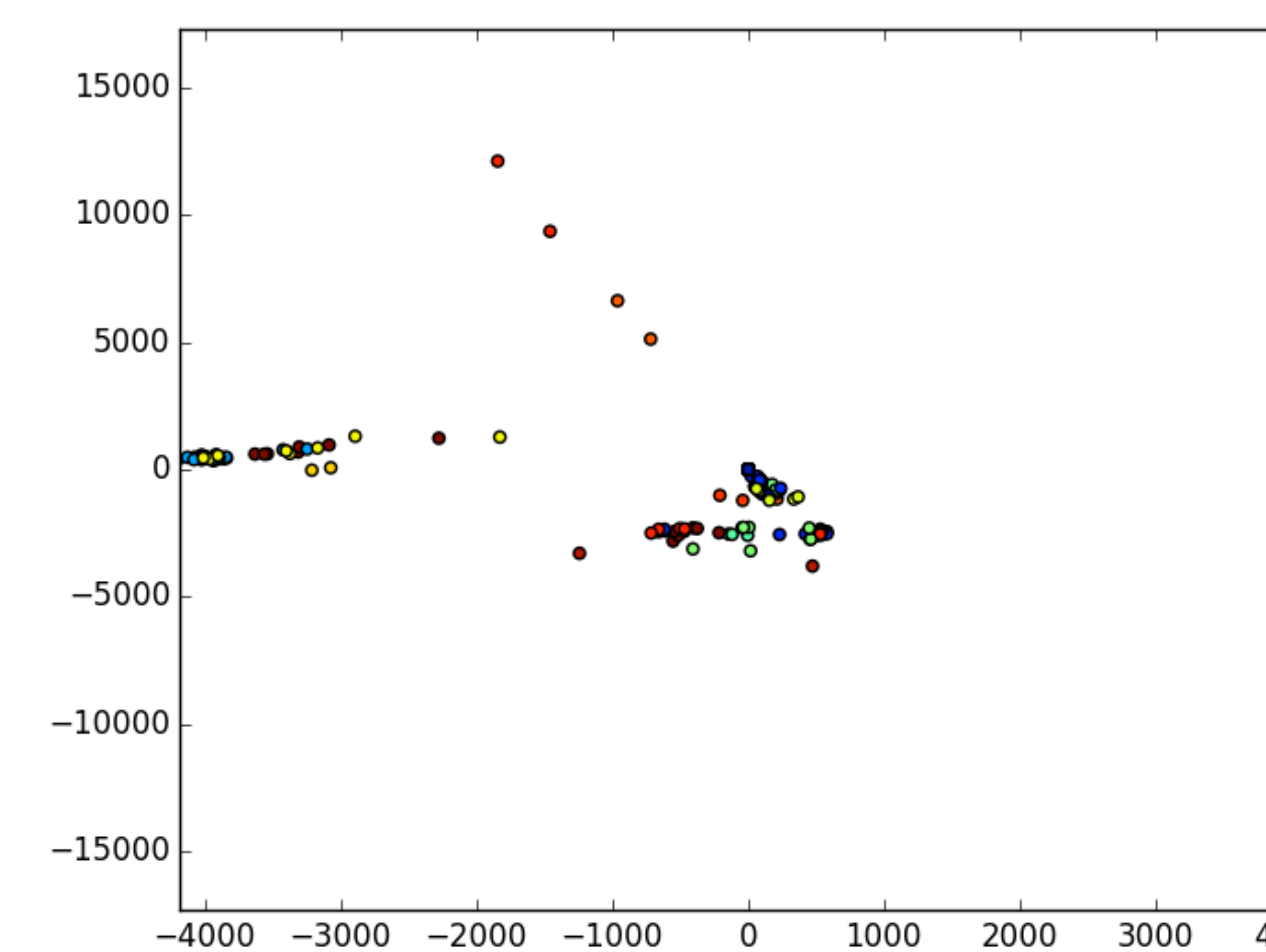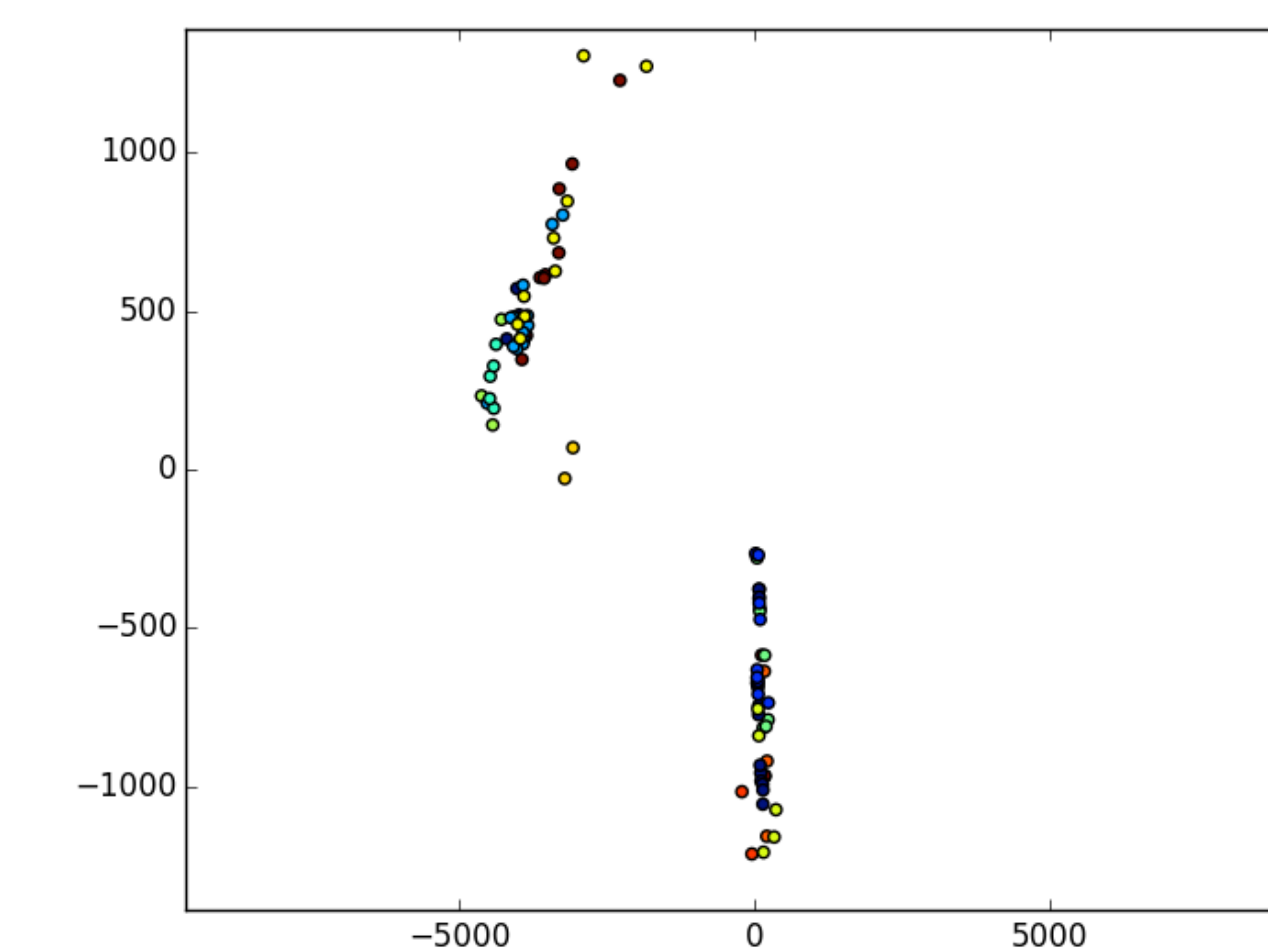
Similarity Metrics

Simple

LCS

Similarity Metrics

Frechet

DTW