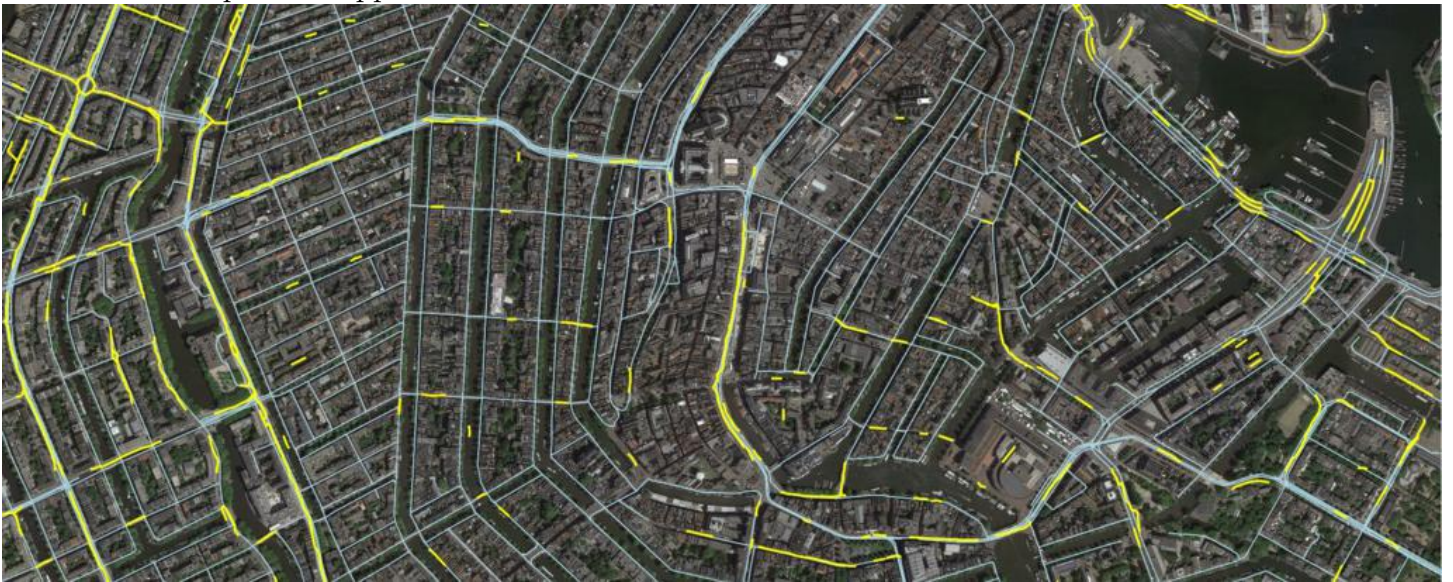


RoadTracer: Automatic Extraction of Road Networks from Aerial Images

Favyen Bastani, Songtao He
Sofiane Abbar, Mohammad Alizadeh, Hari Balakrishnan
Sanjay Chawla, Sam Madden, David DeWitt

Below, we show images of road networks inferred by DeepRoadMapper, our segmentation method, and RoadTracer in the 15 test cities. We overlay the inferred graph (yellow) over ground truth from OpenStreetMap (blue). As in the paper, inferred graphs correspond to thresholds that yield 5% average F_{error} for RoadTracer and our segmentation approach, and 19% F_{error} for DeepRoadMapper (as it does not produce results with lower average error). A 5 km by 5 km region is used for testing in each city; we only show a 2 km by 5 km region so that the graphs can more easily be compared with each other on a single page.

Amsterdam DeepRoadMapper



Amsterdam Segmentation (Ours)



Amsterdam RoadTracer



Boston DeepRoadMapper



Boston Segmentation (Ours)



Boston RoadTracer



Chicago DeepRoadMapper



Chicago Segmentation (Ours)



Chicago RoadTracer



Denver DeepRoadMapper



Denver Segmentation (Ours)



Denver RoadTracer



Kansas City DeepRoadMapper



Kansas City Segmentation (Ours)



Kansas City RoadTracer



Los Angeles DeepRoadMapper



Los Angeles Segmentation (Ours)



Los Angeles RoadTracer



Montreal DeepRoadMapper



Montreal Segmentation (Ours)



Montreal RoadTracer



New York City DeepRoadMapper



New York City Segmentation (Ours)



New York City RoadTracer



Paris DeepRoadMapper



Paris Segmentation (Ours)



Paris RoadTracer



Pittsburgh DeepRoadMapper



Pittsburgh Segmentation (Ours)



Pittsburgh RoadTracer



Salt Lake City DeepRoadMapper



Salt Lake City Segmentation (Ours)



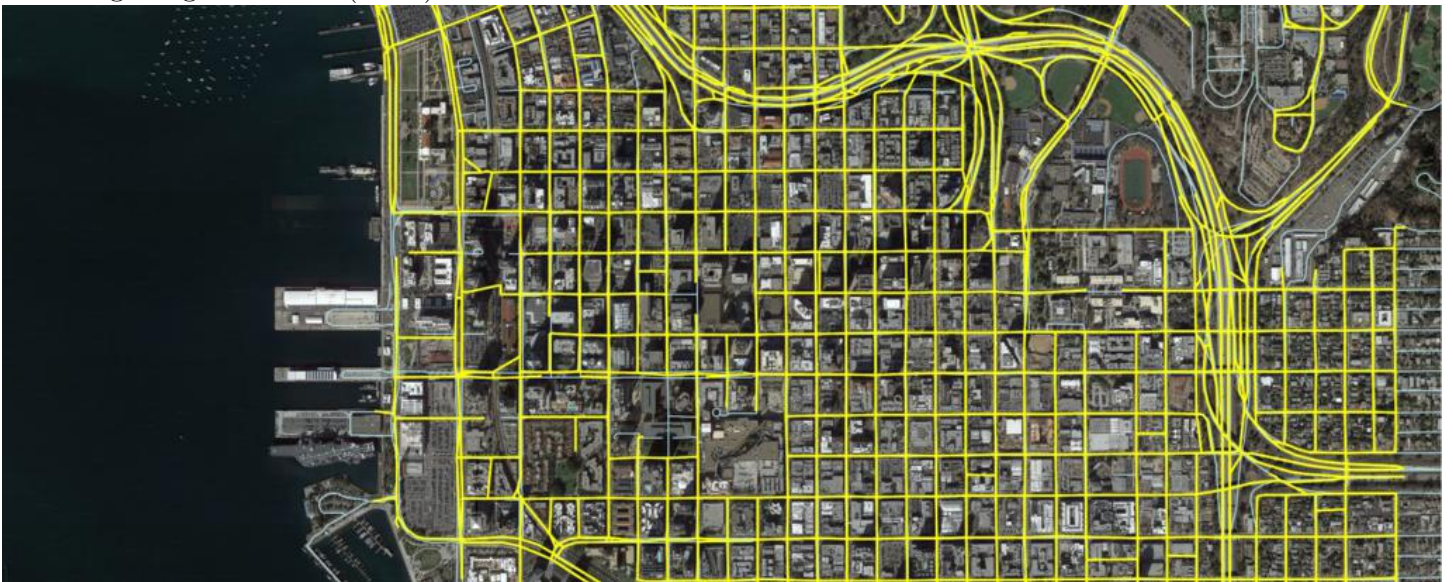
Salt Lake City RoadTracer



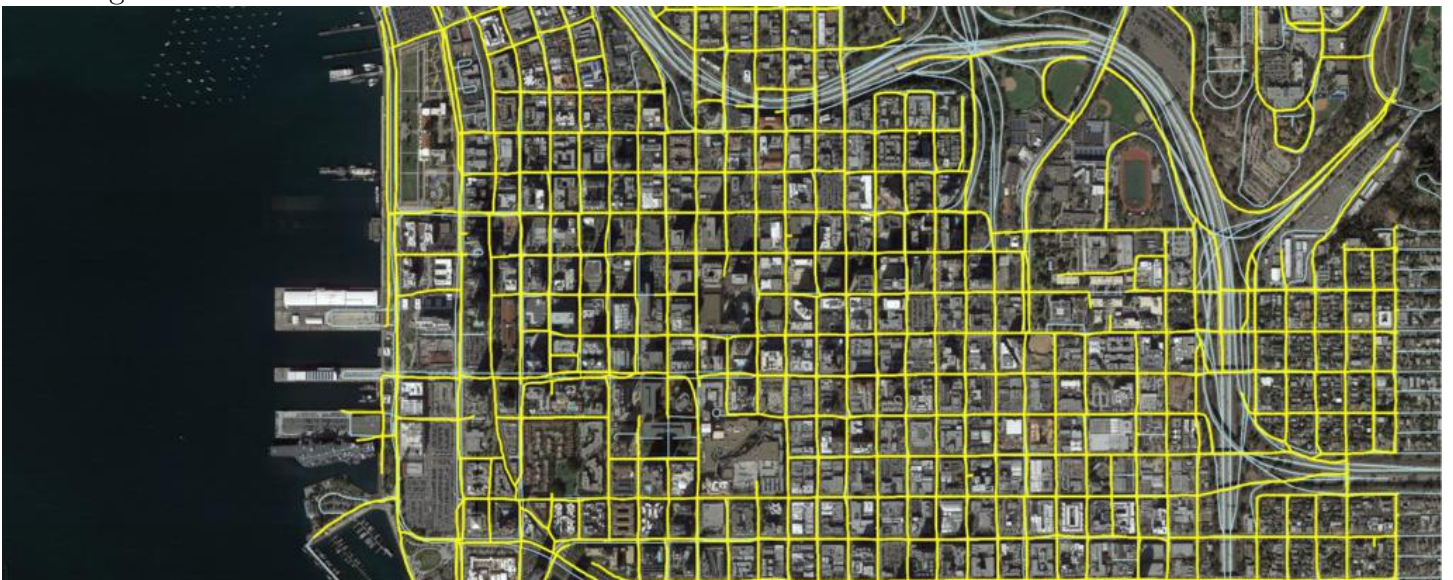
San Diego DeepRoadMapper



San Diego Segmentation (Ours)



San Diego RoadTracer



Tokyo DeepRoadMapper



Tokyo Segmentation (Ours)



Tokyo RoadTracer



Toronto DeepRoadMapper



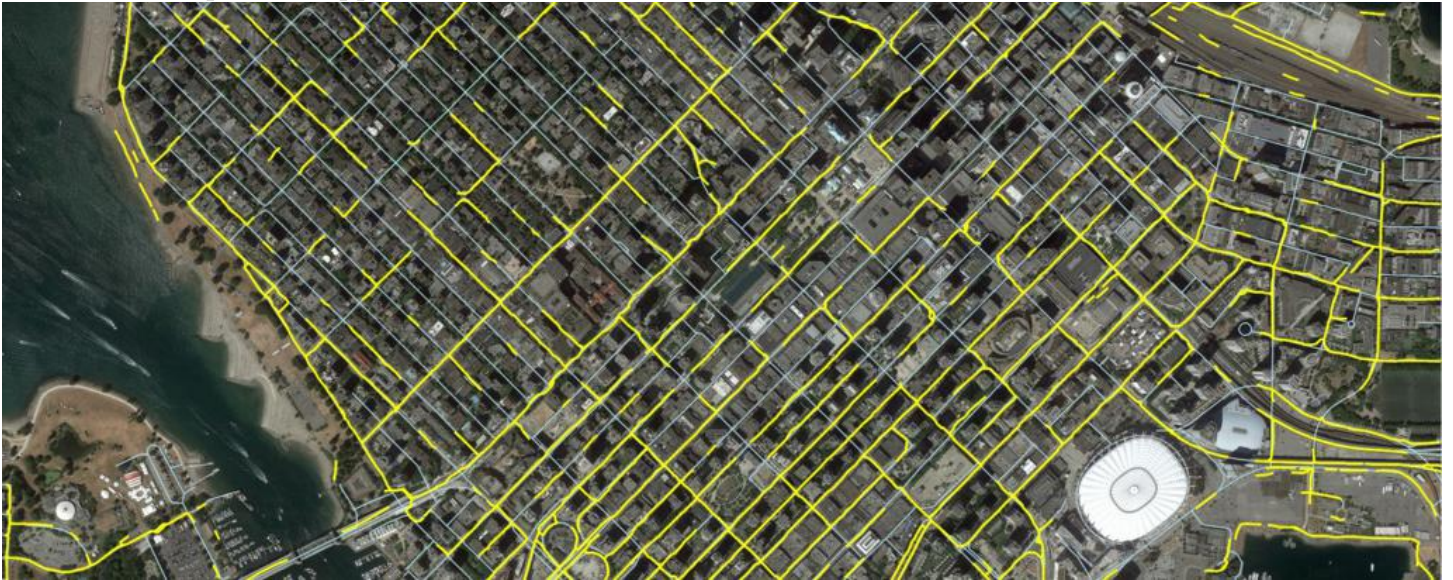
Toronto Segmentation (Ours)



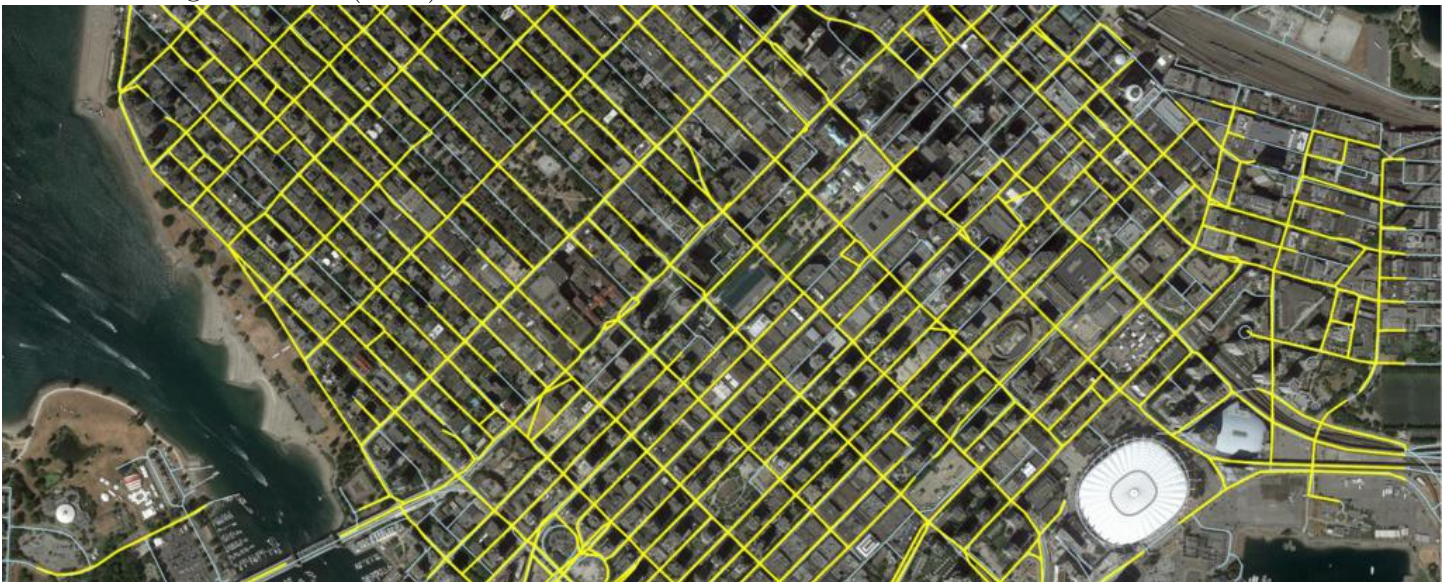
Toronto RoadTracer



Vancouver DeepRoadMapper



Vancouver Segmentation (Ours)



Vancouver RoadTracer

