

STREETS: A Novel Camera Network Dataset for Traffic Flow

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- How can camera networks fit into ITS for roadways?



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- Use a few independent cameras.
 - We provide 100 unique camera locations in two communities described by directed graphs.



Image Data

- 4 million images
- 2.5 months
- Two communities in Chicago suburbs
- 100 cameras
- 320 views
- Vehicles detected by Mask R-CNN



(a) North



(b) South



(c) East

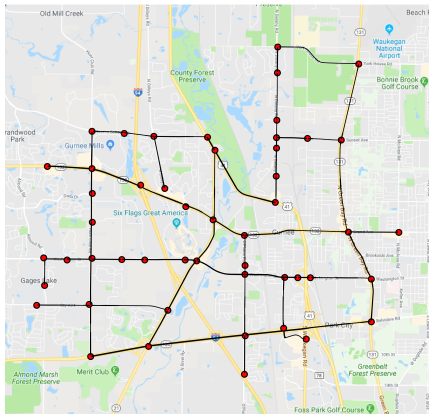


(d) West

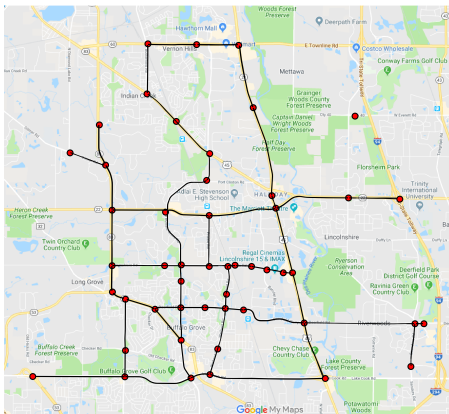
Figure 1: Example traffic camera images at each directional view for one camera location.



Camera Network



(a) Gurnee



(b) Buffalo Grove

Figure 3: Graph structure of each community.



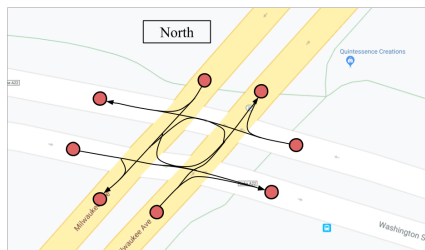


Figure 4: Directed edges at intersection.

	Gurnee	Buffalo Grove
# Vertices	318	322
# Edges	455	482
Area (sq. km)	81.55	110.62

Table 1: Statistics for each community graph.



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Tasks like

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- Traffic flow and forecasting
- Scene understanding
- Background subtraction
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Stop by Poster #179 to learn more about

- Our preliminary benchmarking results.
- Additional data like non-recurring traffic incidents.
- Further important tasks identified by local traffic engineers.



Thank you

Finally, consider your own community and how this work could directly improve the world around you.

Visit us at Poster #179 from 5-7pm to learn more.

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Link to STREETS.

