Using Origin/Destination Survey Data to Identify Mobility Hubs

Malcolm MacPhail, MCIP
Regional and Strategic Planning
Capital Regional District

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CRD Regional Transportation Plan

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- Initiated in early 2012
- A coordinated transportation strategy for the region
- Identification of agreed upon regional transportation priorities and new governance and funding arrangements to implement these priorities
- Completion scheduled for Fall 2013
- Currently going through the process of defining a Regional Multimodal Network and Mobility Hubs

Mobility Hubs

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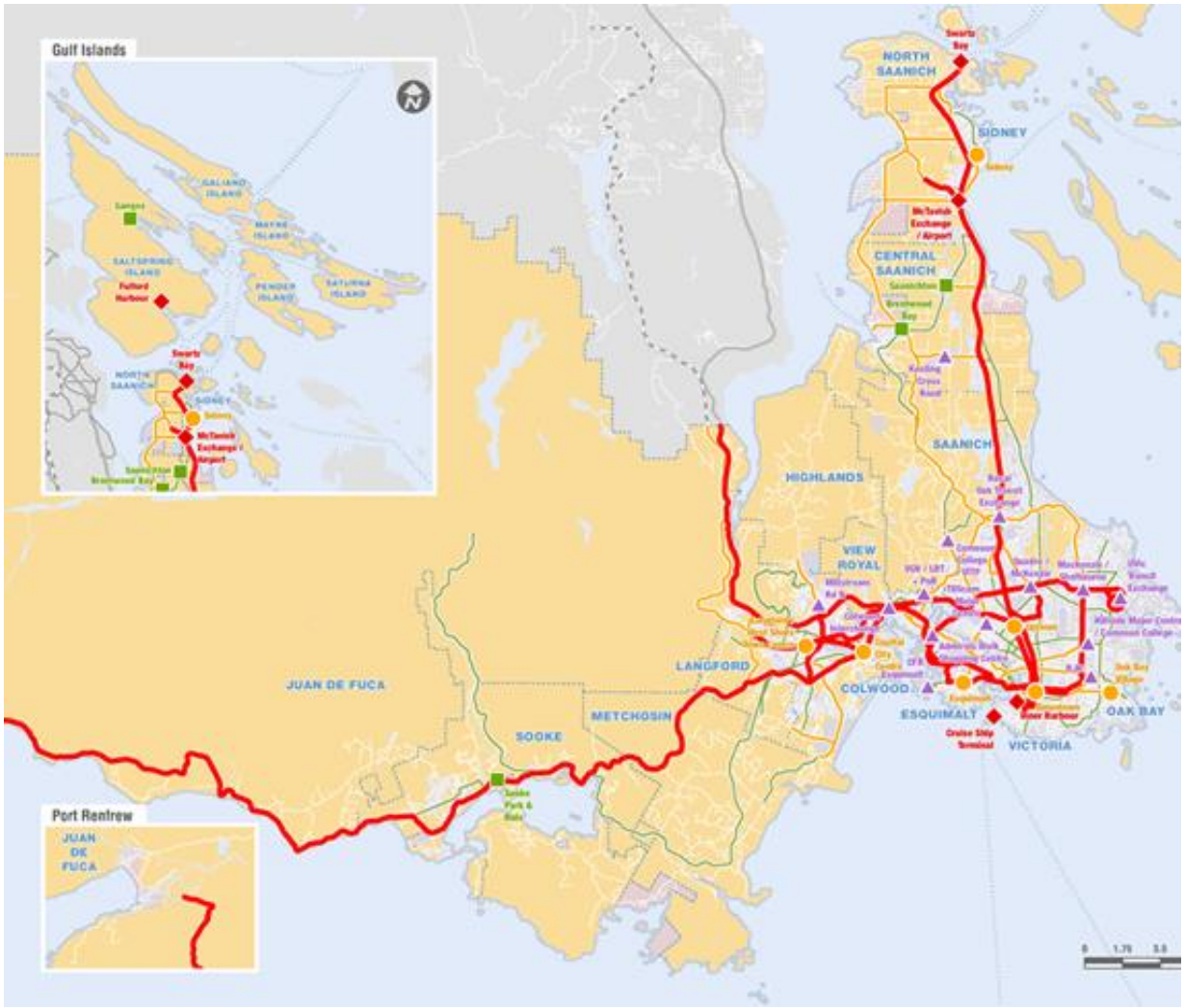
Mobility Hubs – Key locations of regional activity and regional destinations where transportation modes will integrate seamlessly and efficiently, and where both the traveler environment and urban form will encourage transit, active transportation and other alternatives to driving alone



CRD 2011 Origin Destination Household Travel Survey

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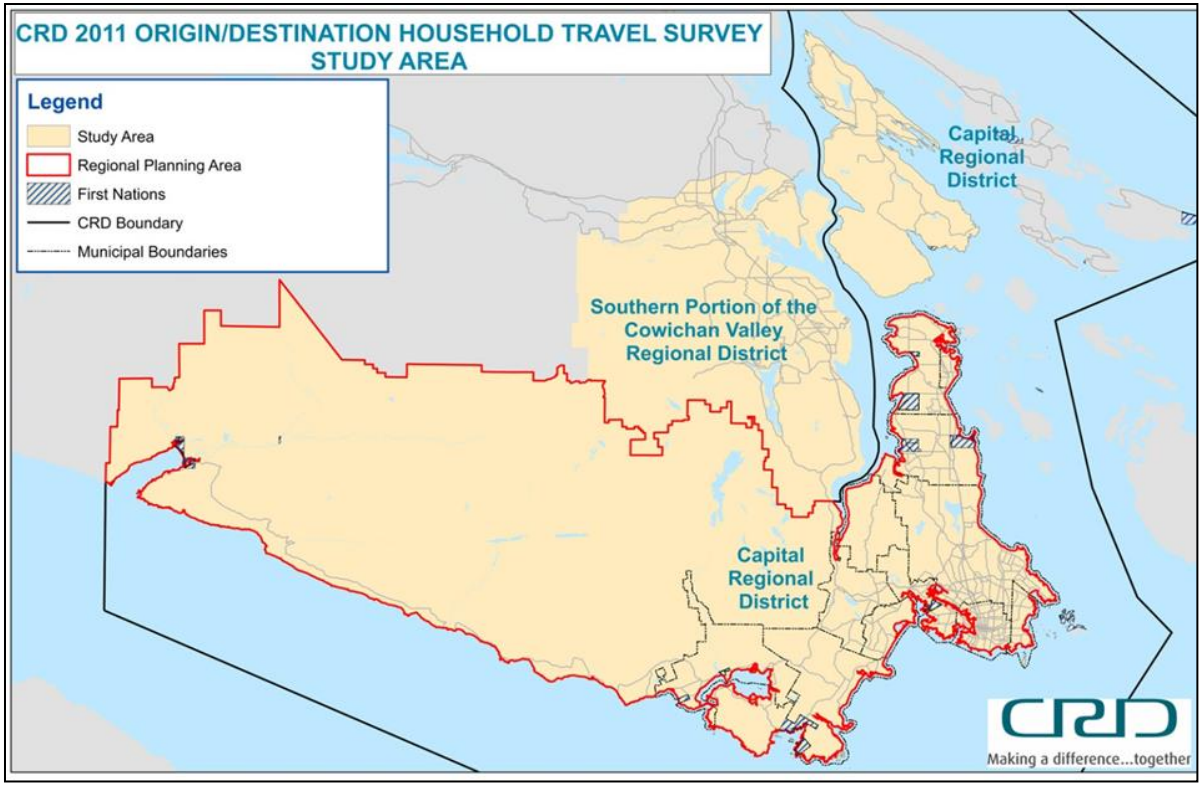
- Carried out between October and December 201
- 21,801 households in the Study Area were randomly selected and contacted.
- 6,172 households agreed to participate representing a 36% response rate and a 3.5% sample of all households in the Study Area
- Sampling error is ± 1.2% (19 times out of 20)
- 41,000 trip records with origins and destinations geocoded. With appropriate weights represents over one million trips taken in the region on an average weekday



Geocoded Origins and Destinations

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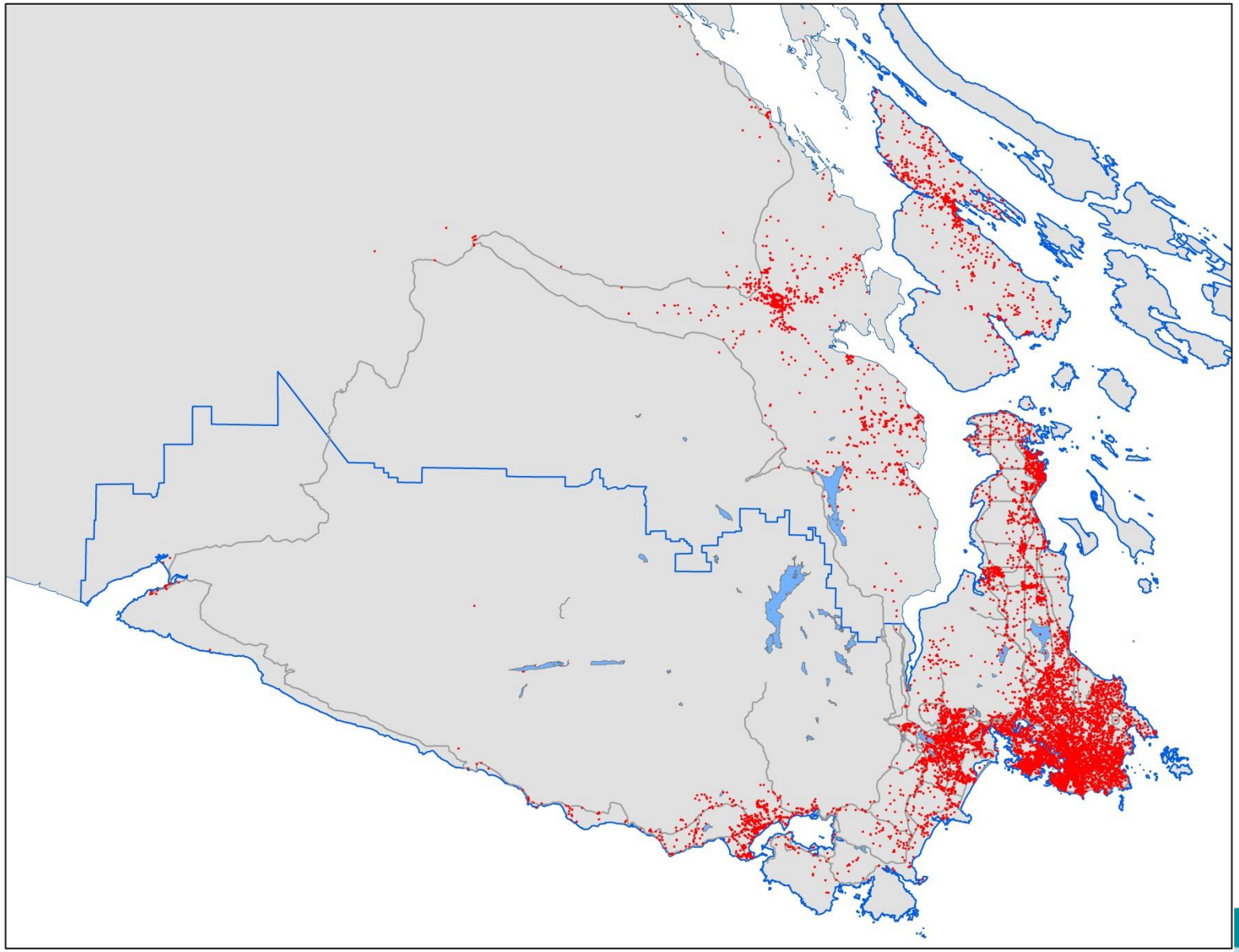

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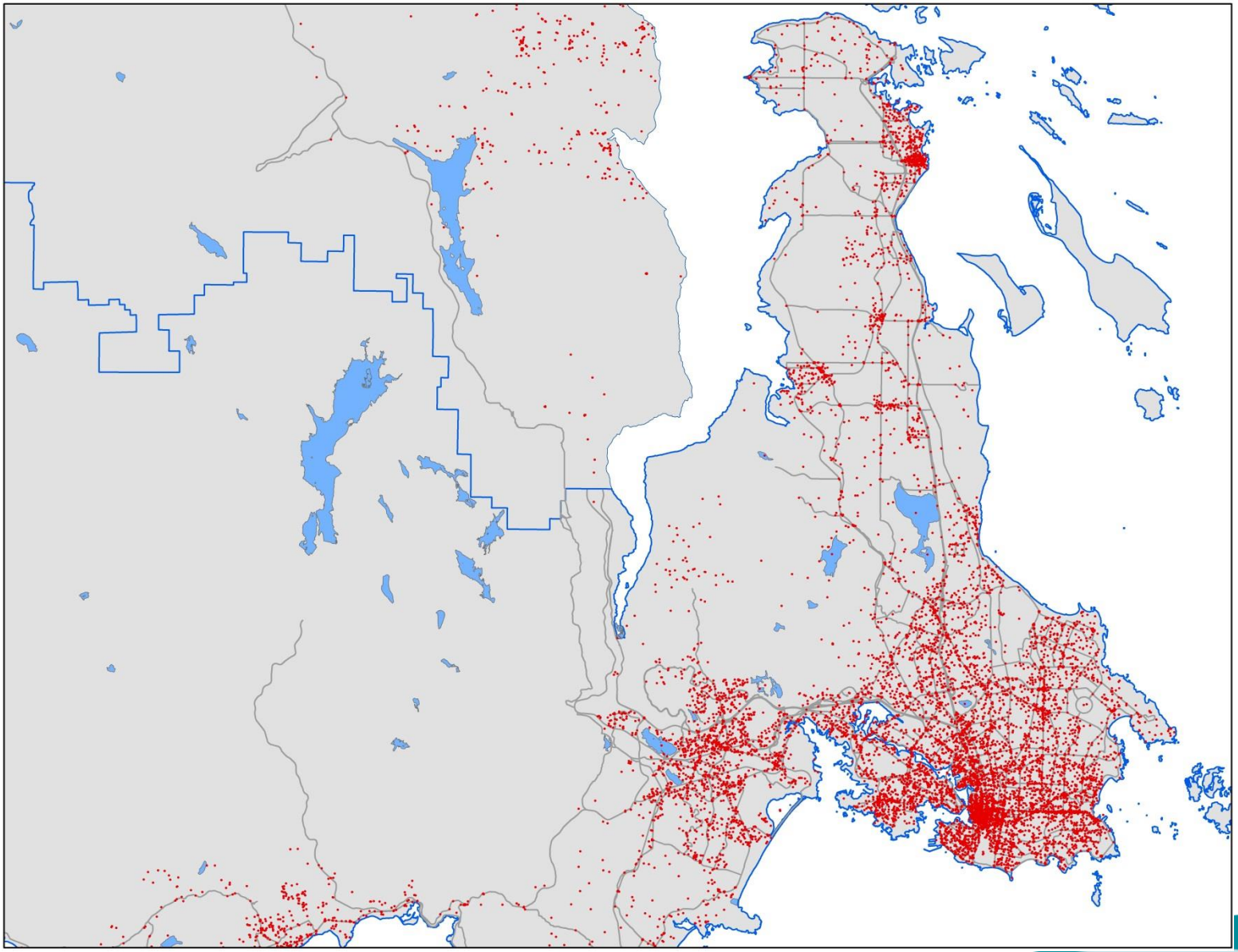

Graduated Symbols

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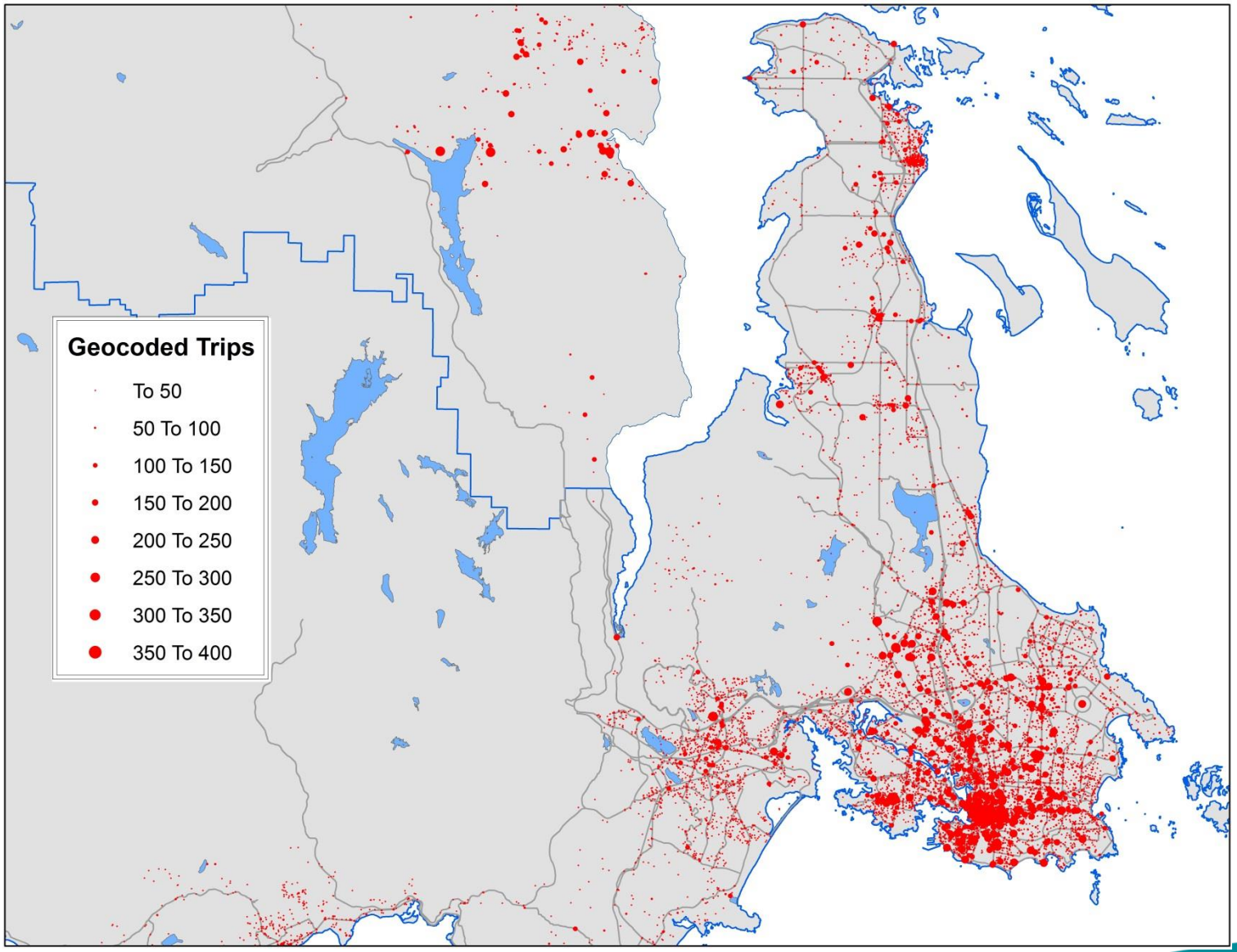

Trip Densities by TAZ Areas

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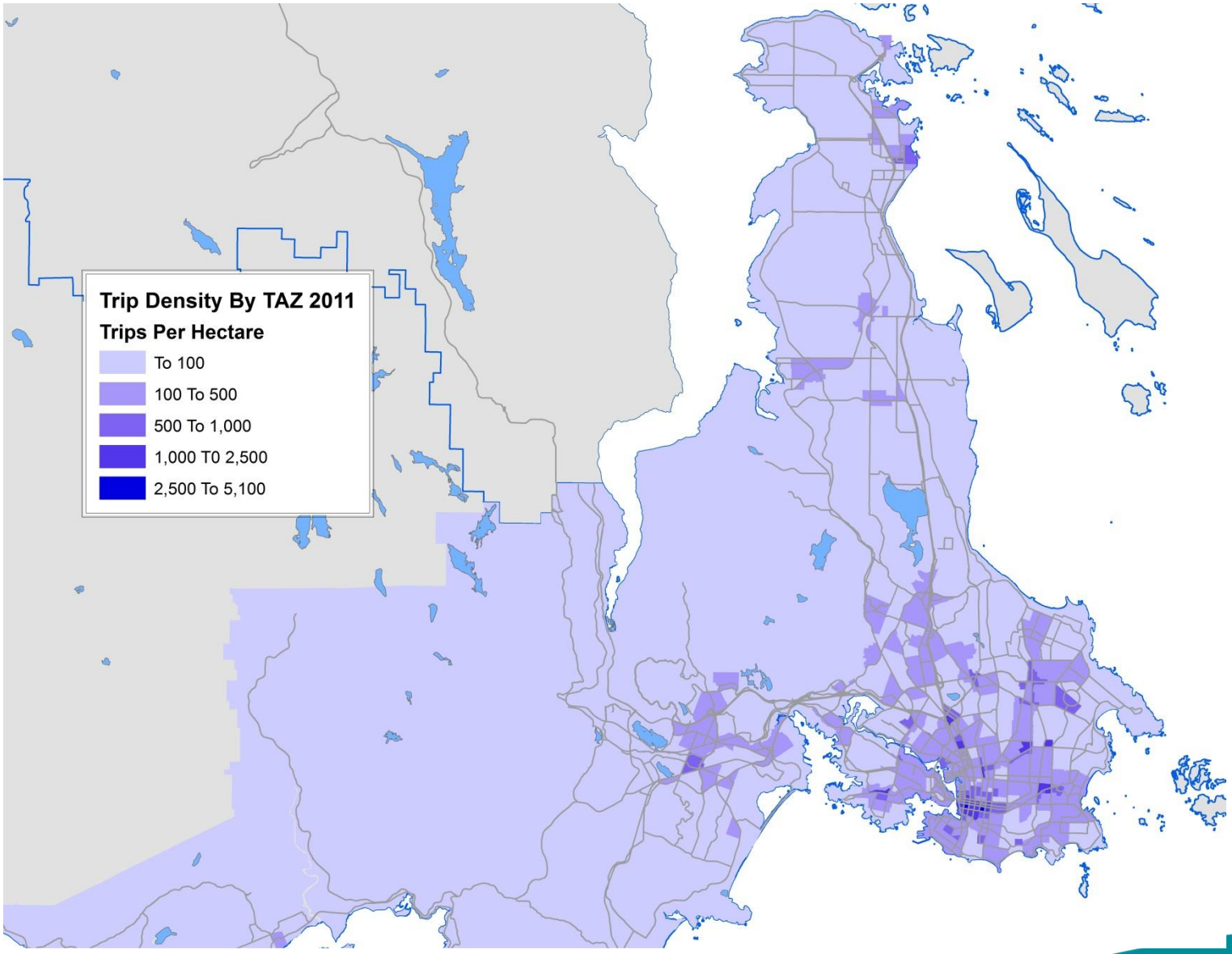

Trip Densities by TAZ Areas - 2006

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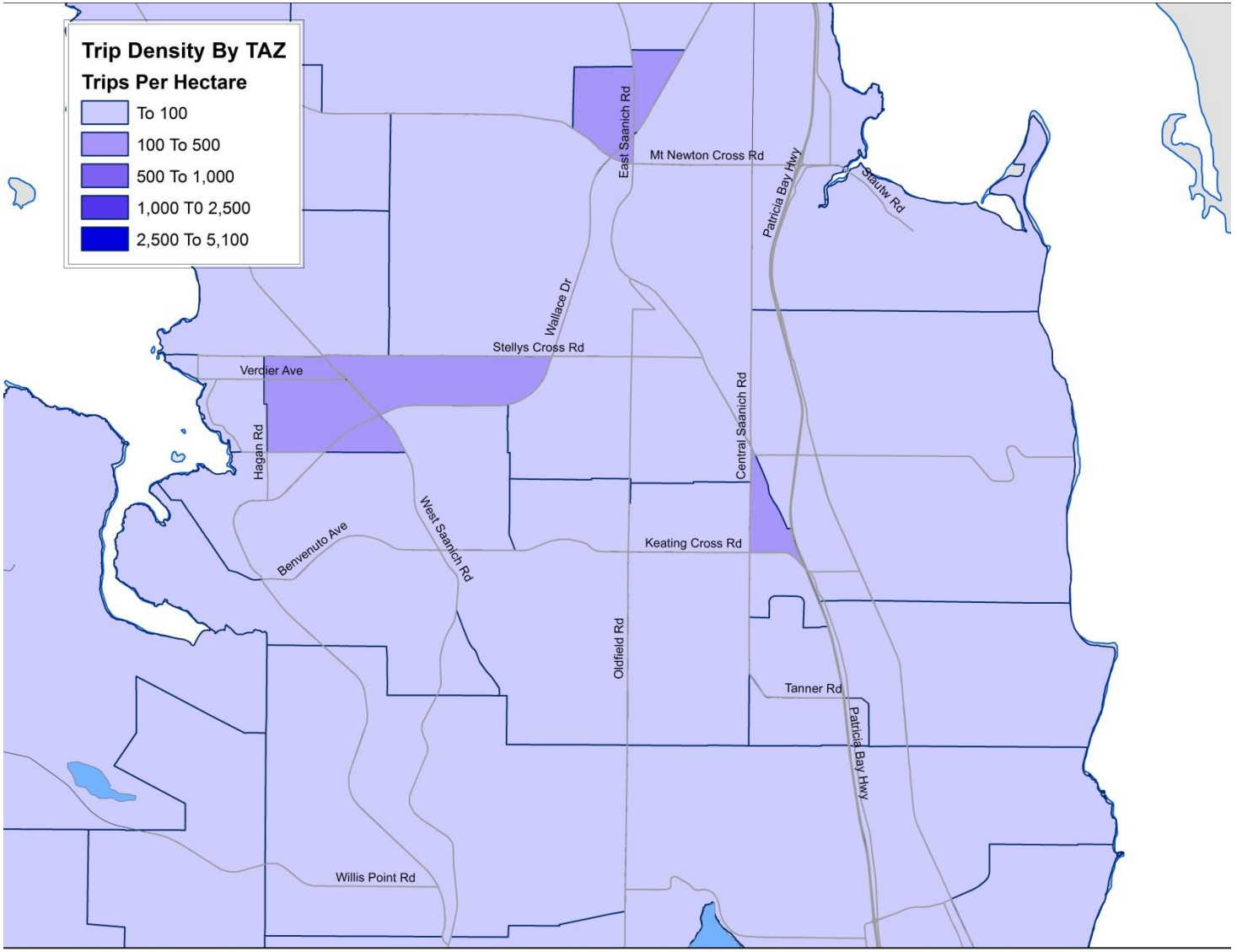

Trip Densities by TAZ Areas - 2011

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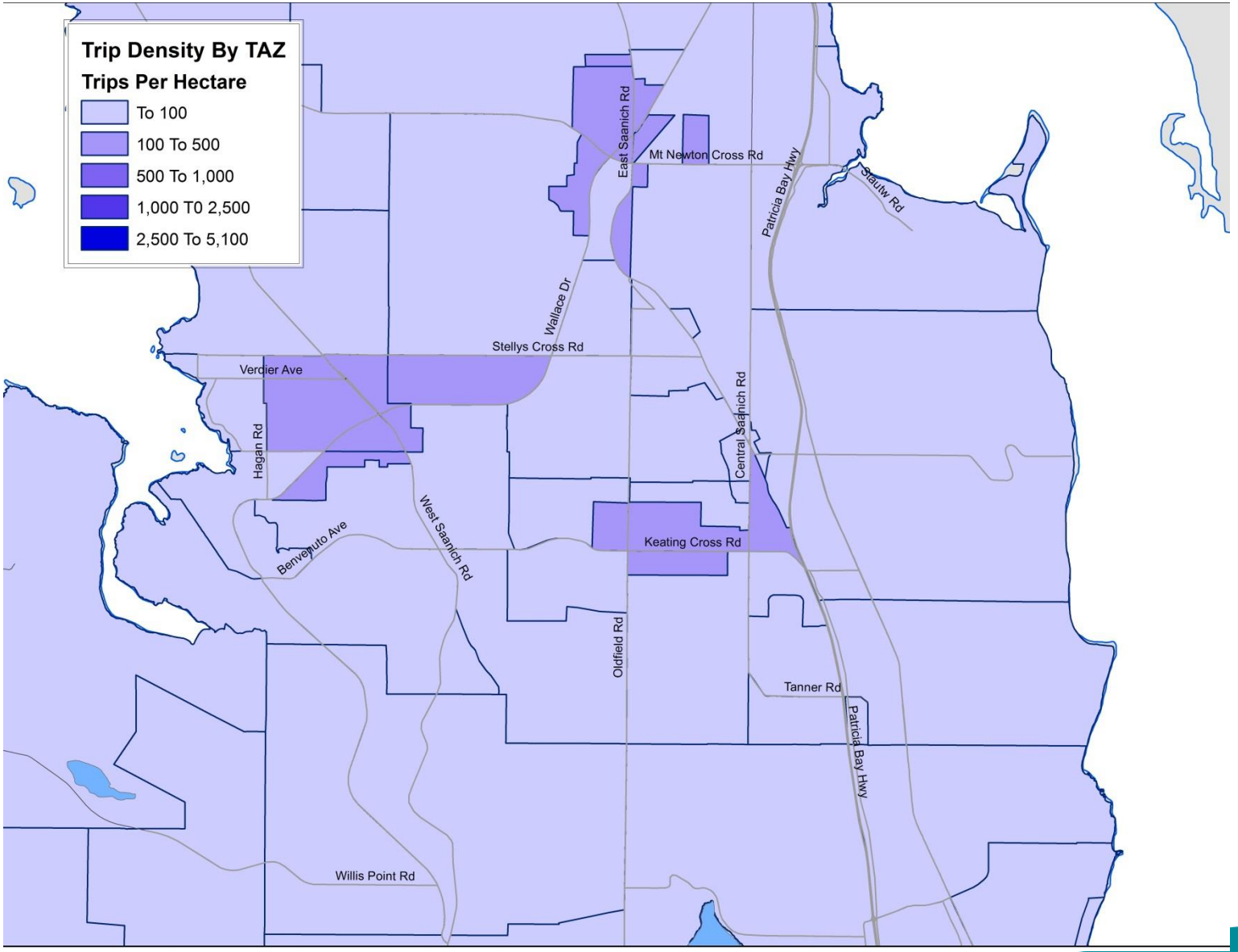

Trip Densities by TAZ 2011 – Dot Density
Each dot = 250 Trips

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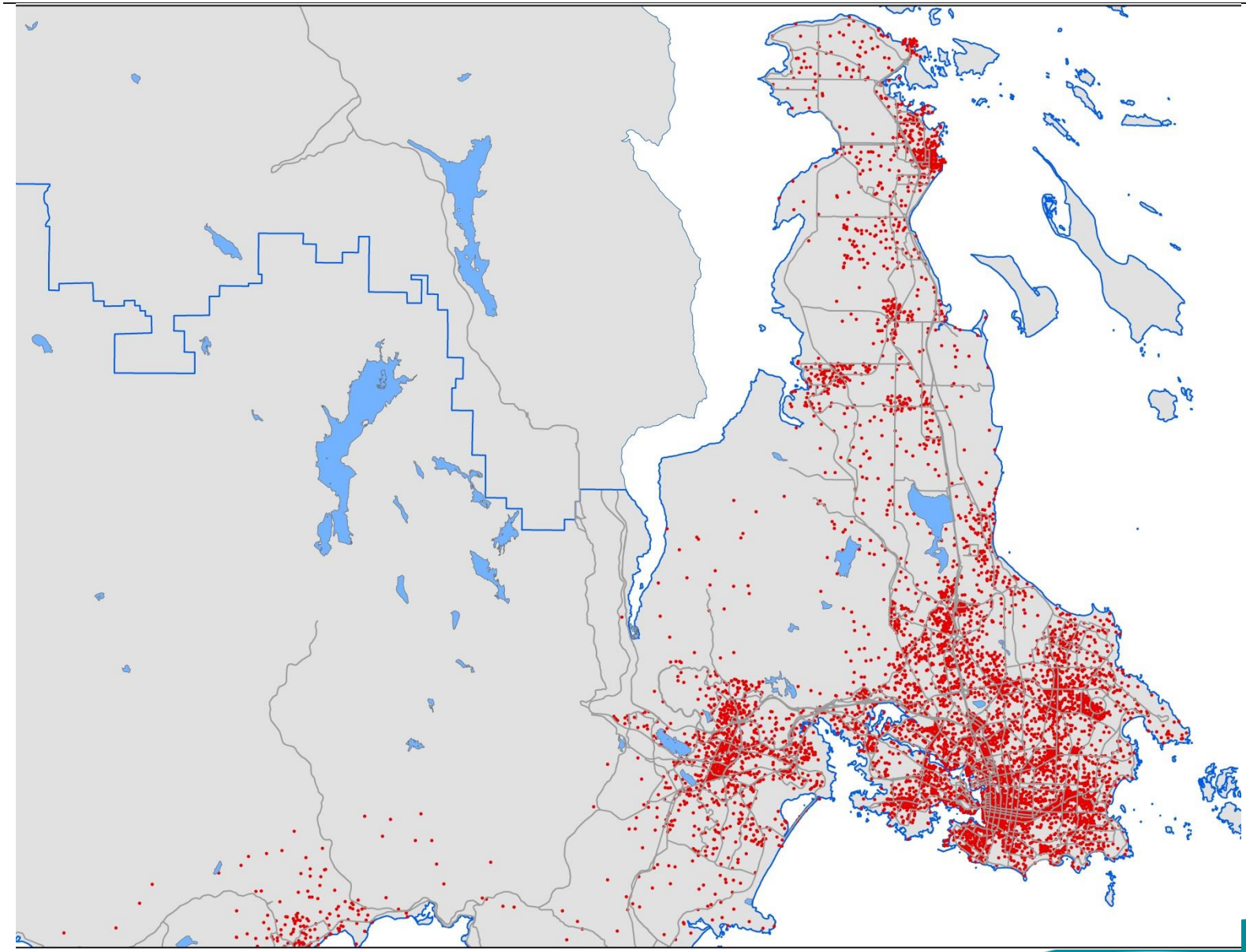

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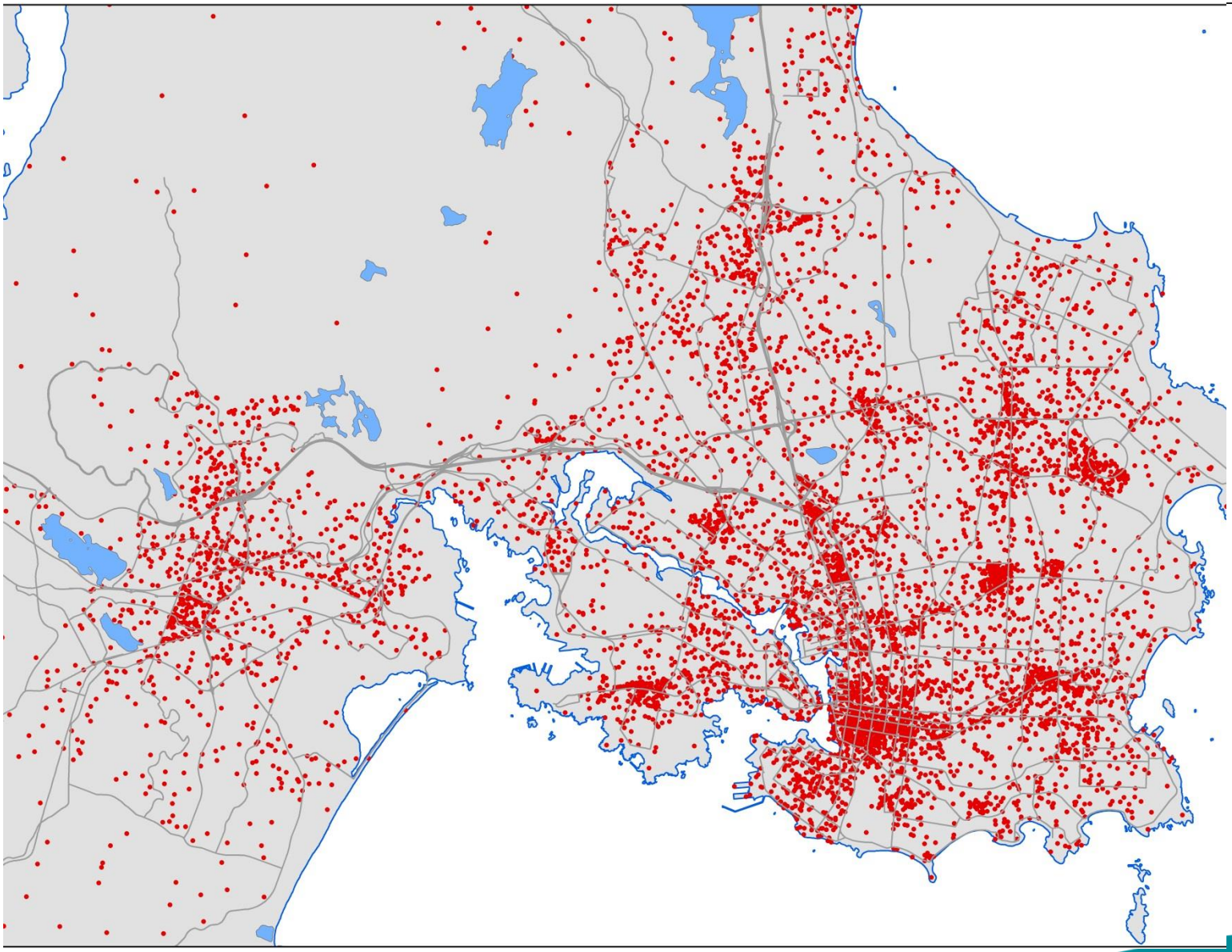

Trips By 100 X 100 Metre Squares

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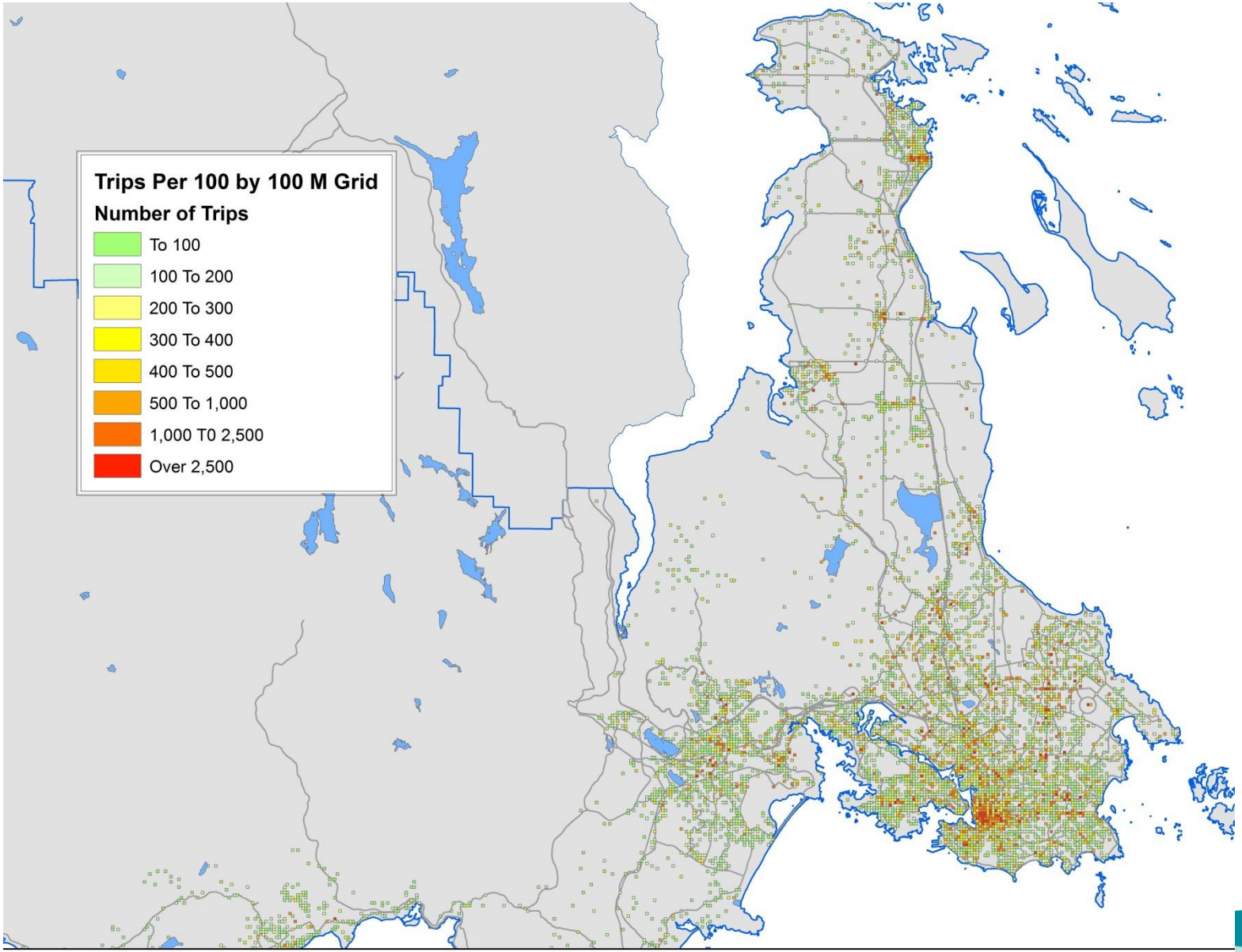

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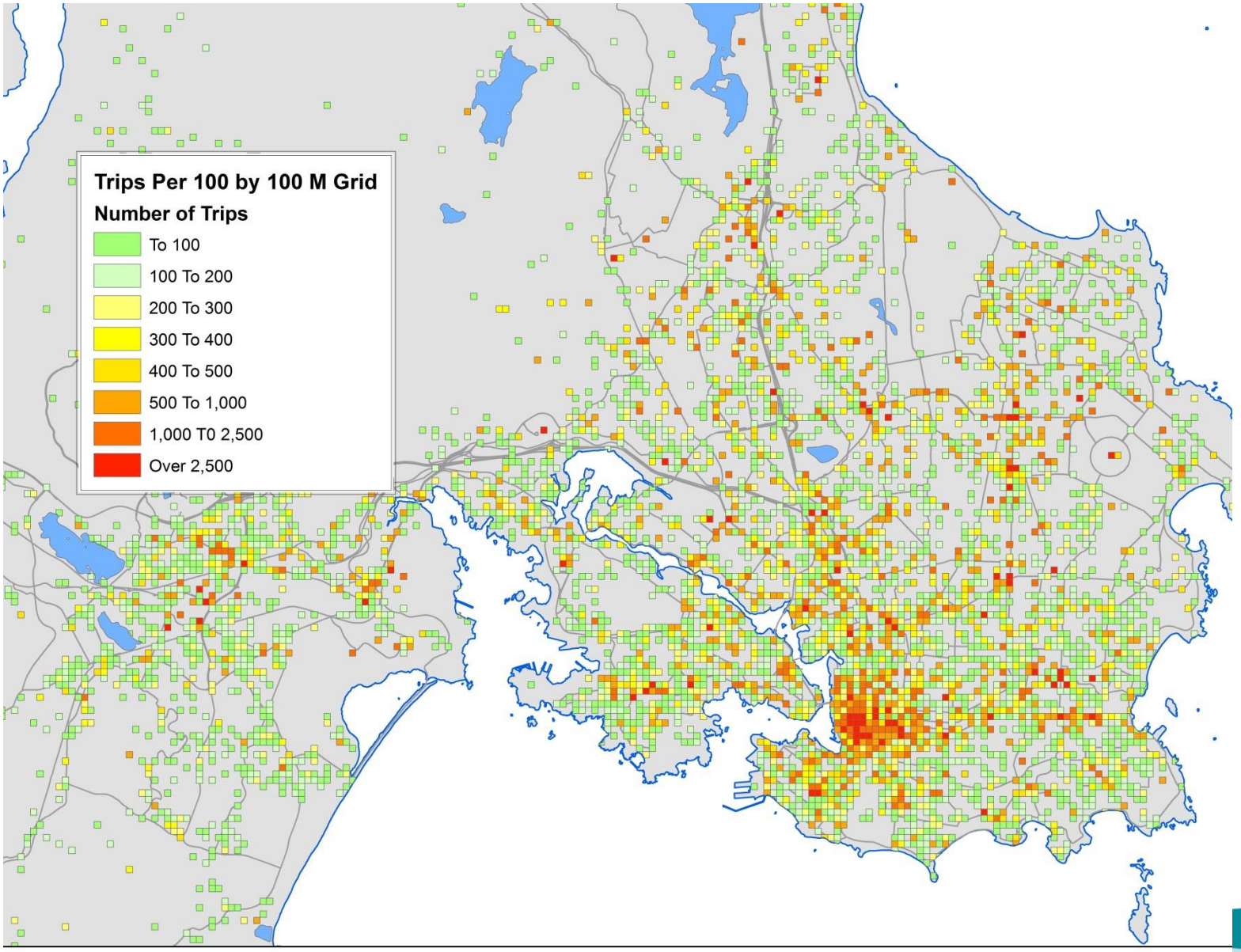

Kernel Density

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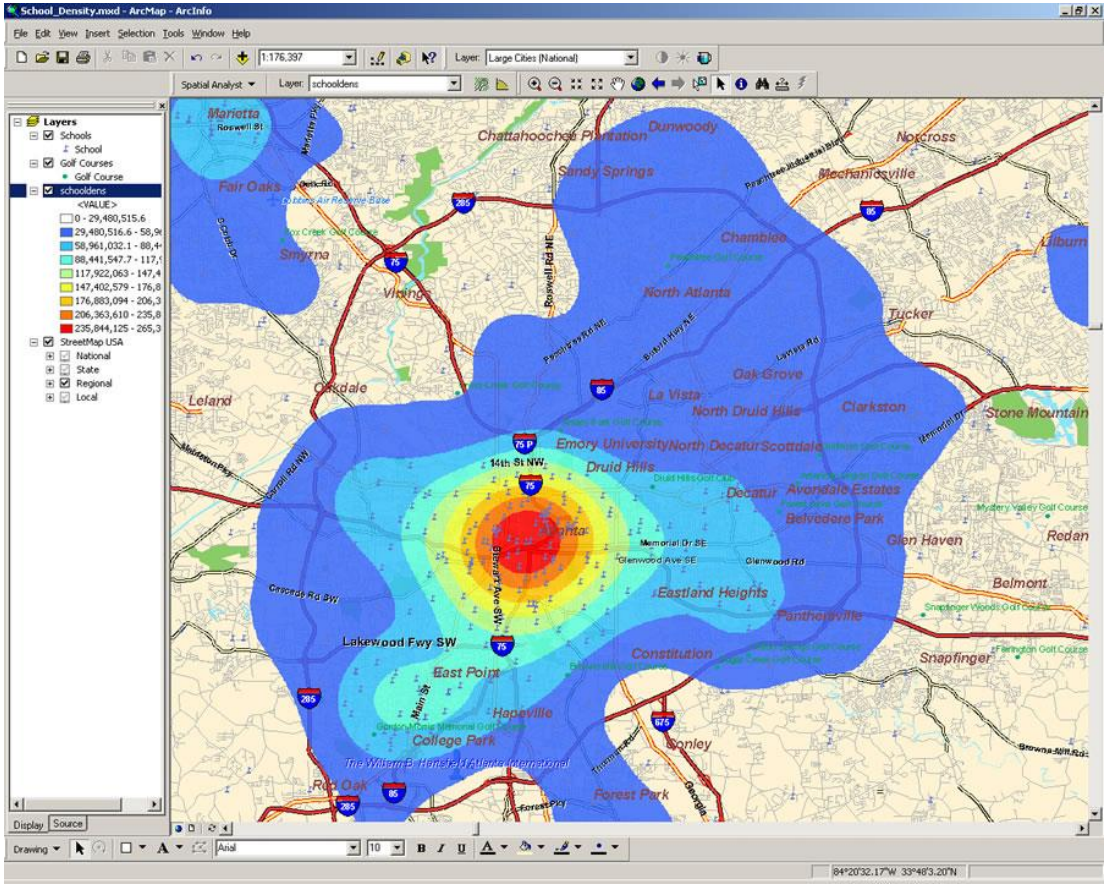
Kernel Density calculates the density of point features around each output raster cell.

Conceptually, a smoothly curved surface is fitted over each point. The surface value is highest at the location of the point and diminishes with increasing distance from the point, reaching zero at the Search radius distance from the point. Only a circular neighborhood is possible. The volume under the surface equals the Population field value for the point, or one if NONE is specified



Kernel Density Trip Origins and Destinations

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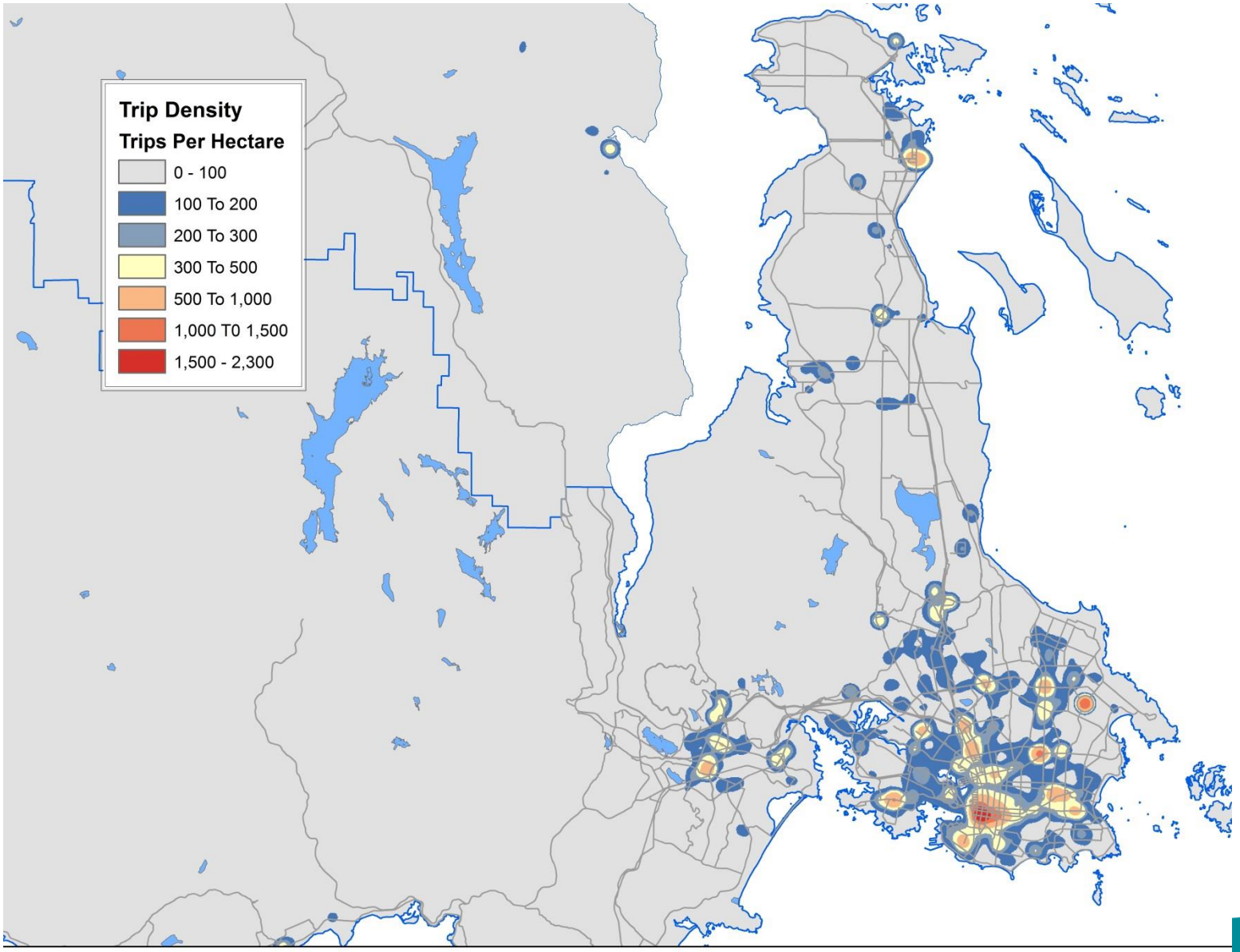

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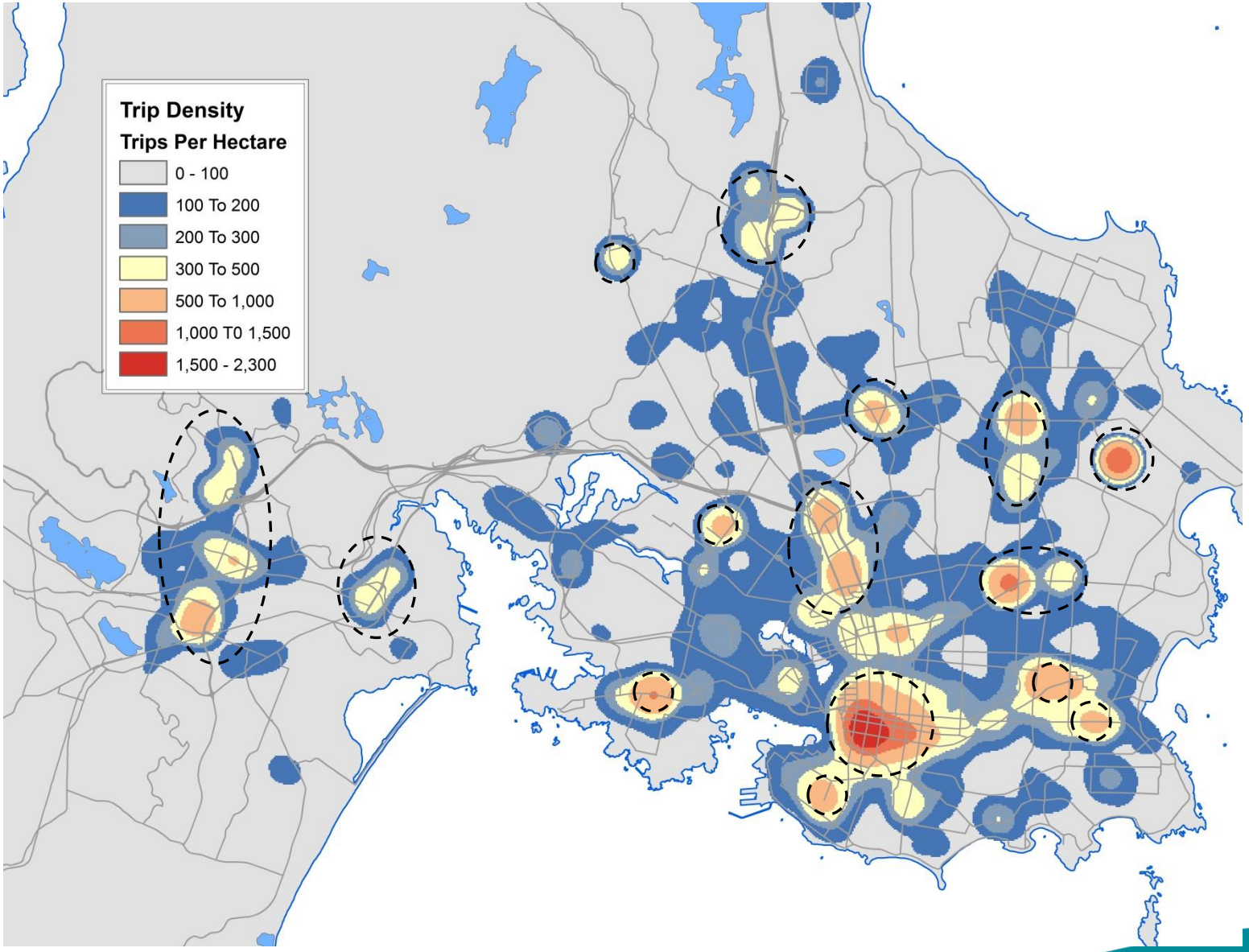

Kernel Density and Mobility Hubs

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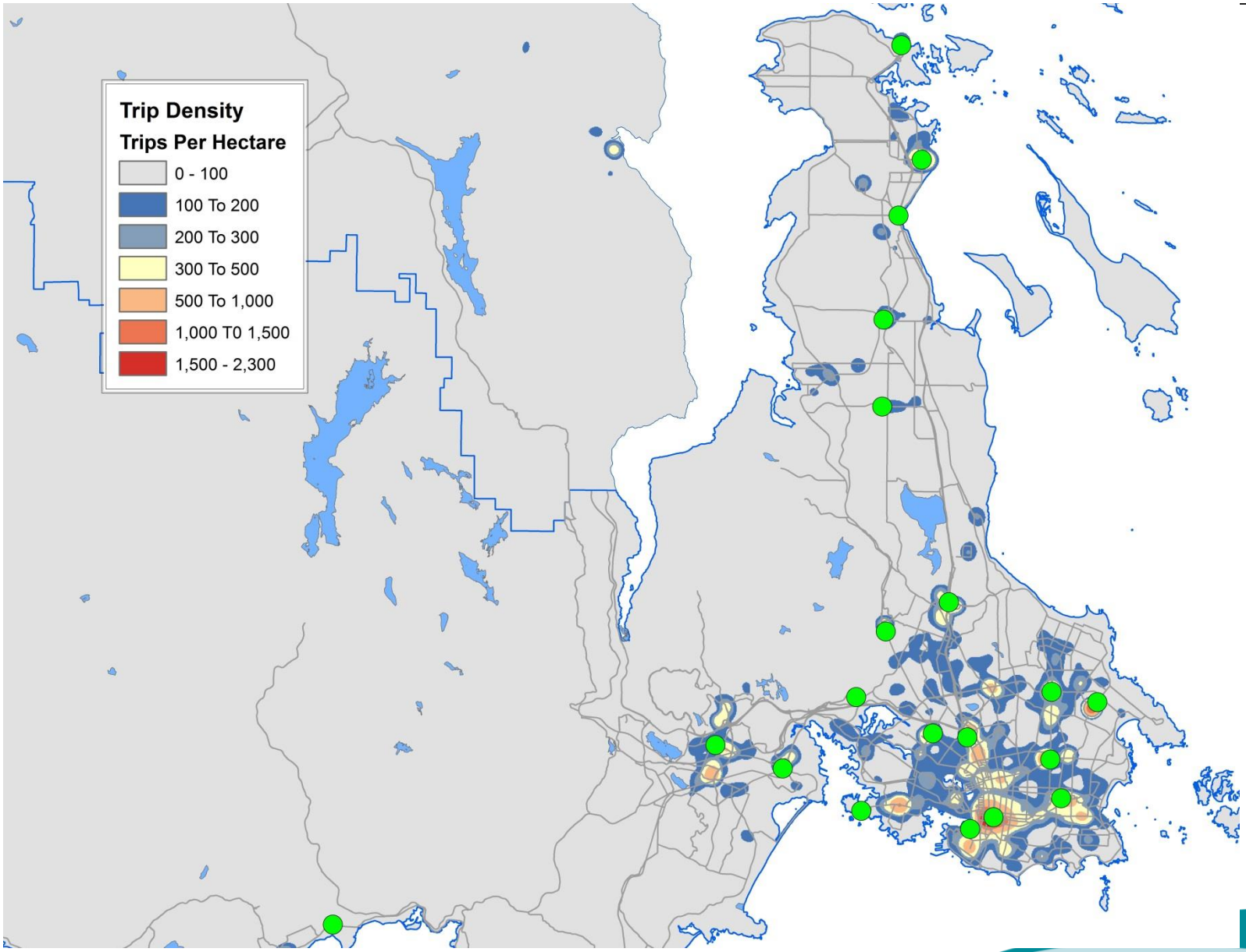

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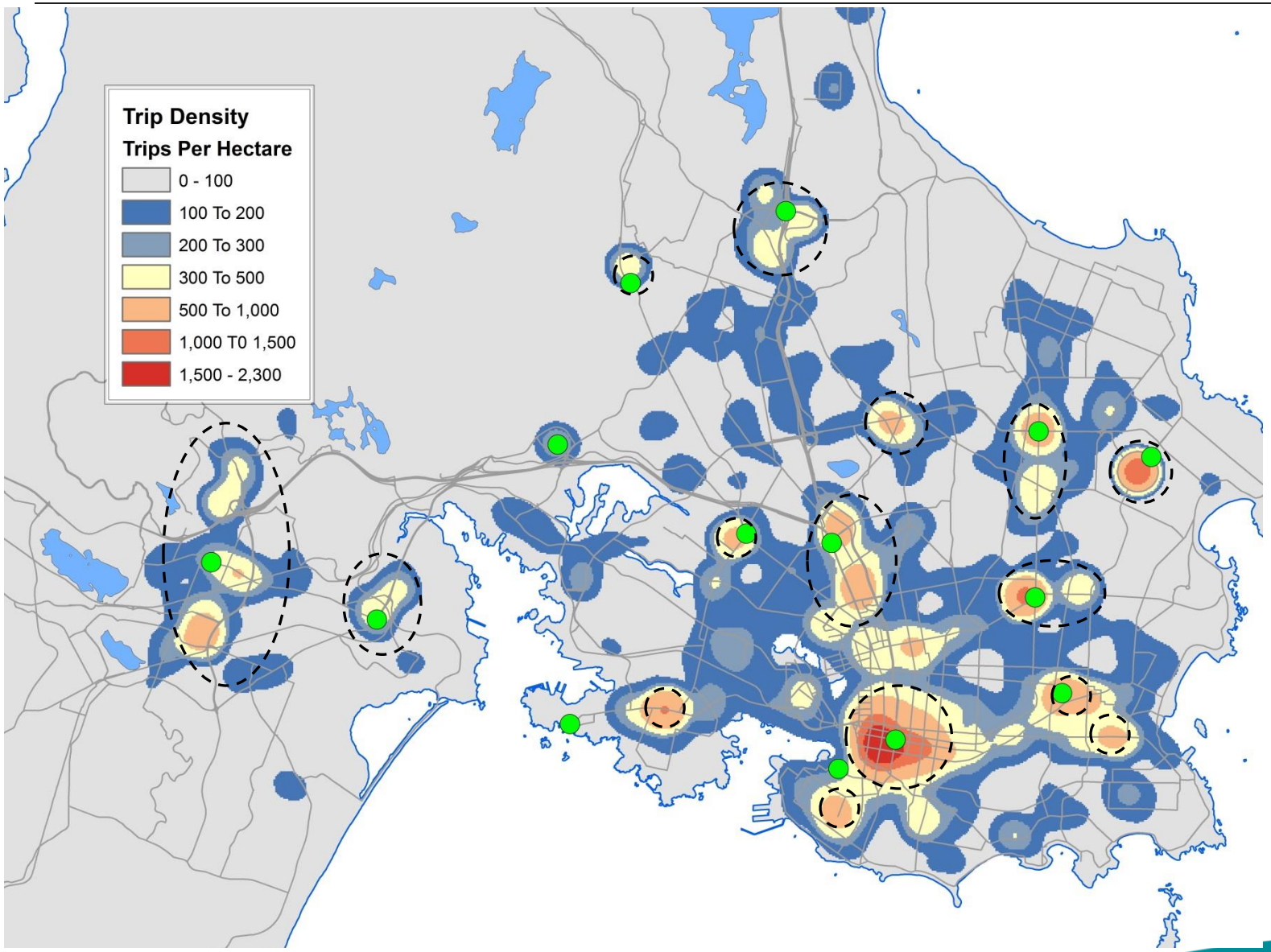

Lessons Learned

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- More precise identification of areas of high trip concentration than is possible with aggregating data to a polygon level
- Complements interpretive information from Municipal Planners on the location of Major Centres based on Official Community Plan and Transportation Master Plan definitions, and development expectations.
- Appropriate for showing existing areas of high trip concentration, but not applicable for future locations such as planned park and ride lots, rapid transit stations and mixed used development sites.

Contact Information

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Malcolm MacPhail, MCIP
Regional and Strategic Planning
Capital Regional District

Phone: (250) 360-3052
Email: mmacphail@crd.bc.ca