



Stephen Buckley
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Transportation Research Board
Washington, DC
January 12, 2015

Toronto ranked last in survey of commuting times

-Toronto Star, March 29, 2010

Gridlock a grind on Toronto's economy: report

- CBC News, June 28, 2011

**Congestion cost may be up to \$11 billion for
GTA, study says**

- Toronto Star, July 11, 2013

Transportation Services

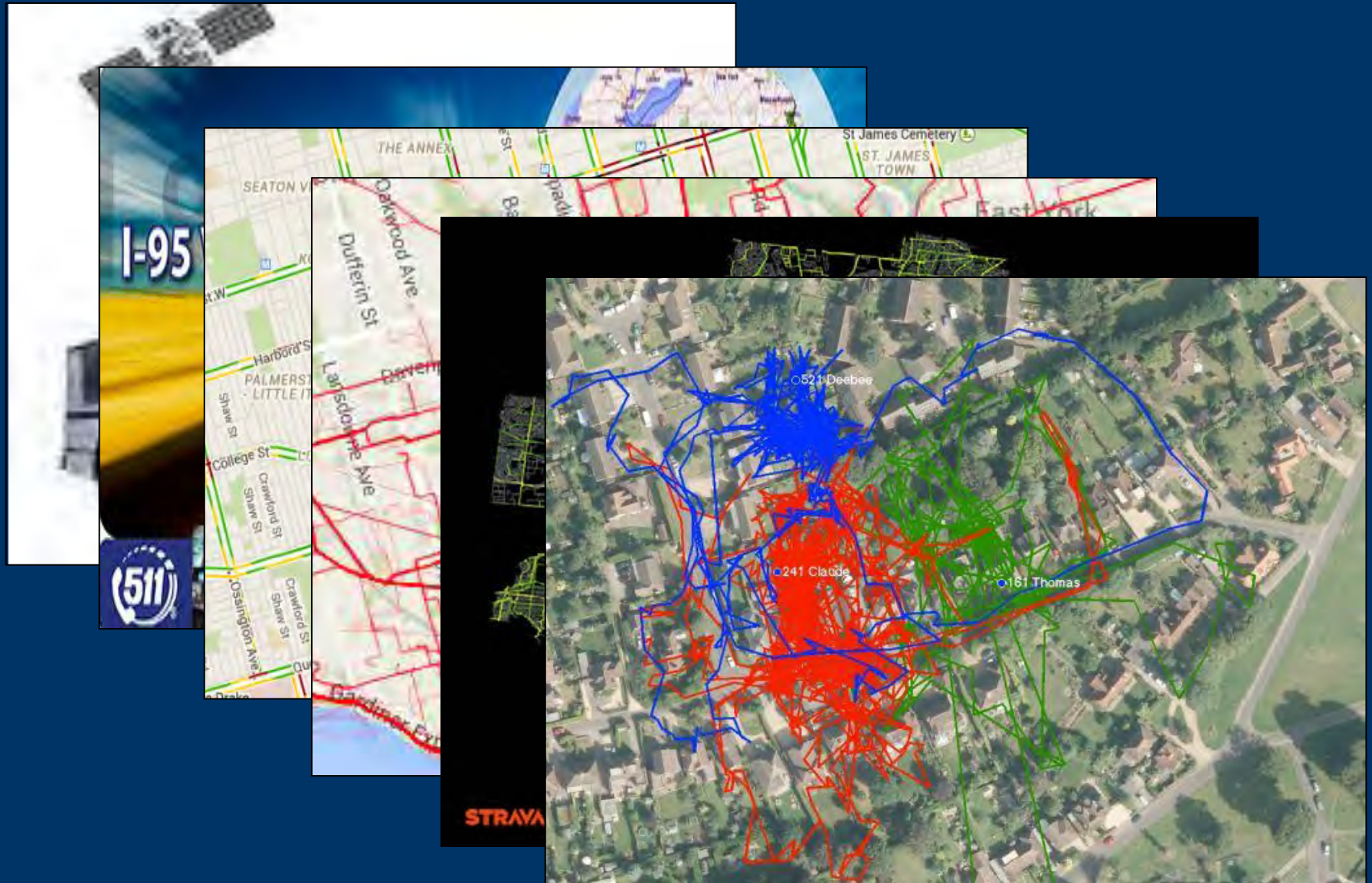
Traffic Data Collection



Traffic Data Collection



GPS Data



Uses for GPS Data

Descriptive (Understanding)

Better understand how the system is performing
Identify where congestion (corridors, segments) is worst
Identify where reliability (corridors, segments) is worst
Understand system performance and change (intensity, duration, extent)
Better understand where, when and how are people travelling
Observe how is trip-making changing (with time series)
Identify where to prioritize investments

Evaluative (Measuring)

More easily evaluate the impact of a policy/program/project/initiative
Quantify the impact of incidents, events, changes

Operational (Responding)

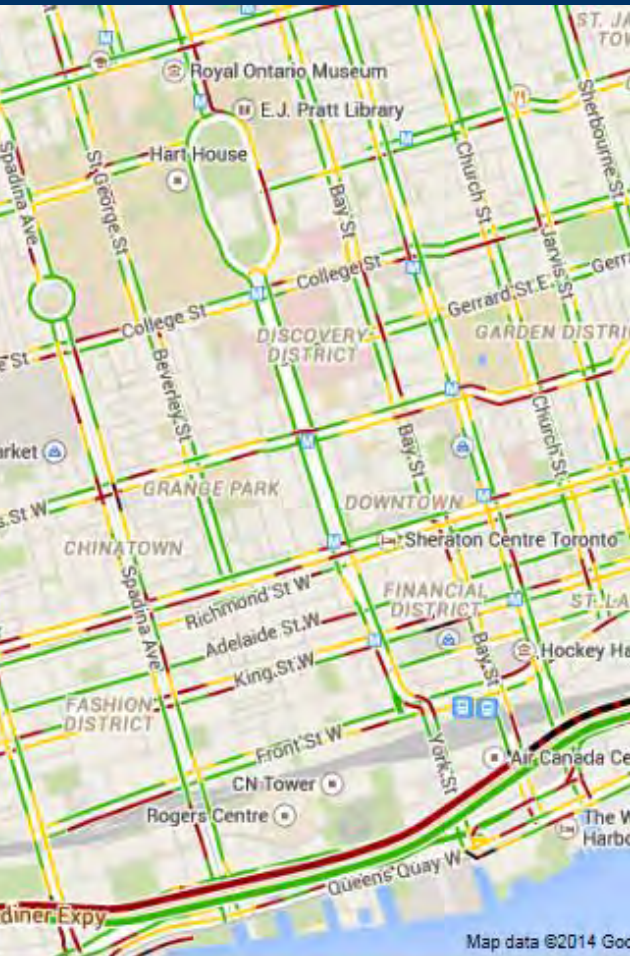
Identify where are conditions are not “normal”

- Send response to reduce duration
- Inform the public to consider alternative routes

Predictive (Forecasting)

Validate existing models
Build models that are updated daily, with better samples
Build predictive models

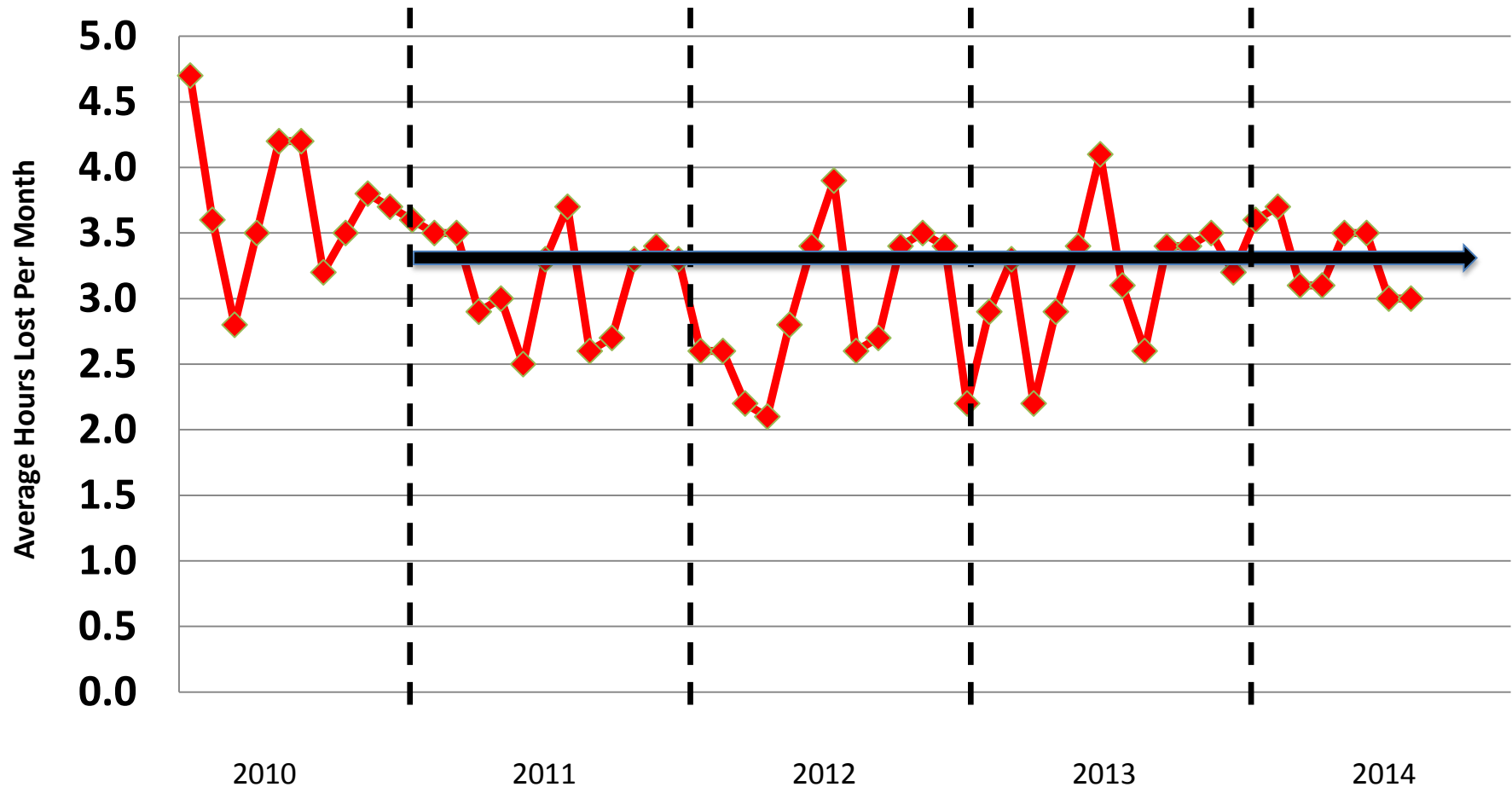
What Toronto Is Doing



Descriptive

Transportation Services

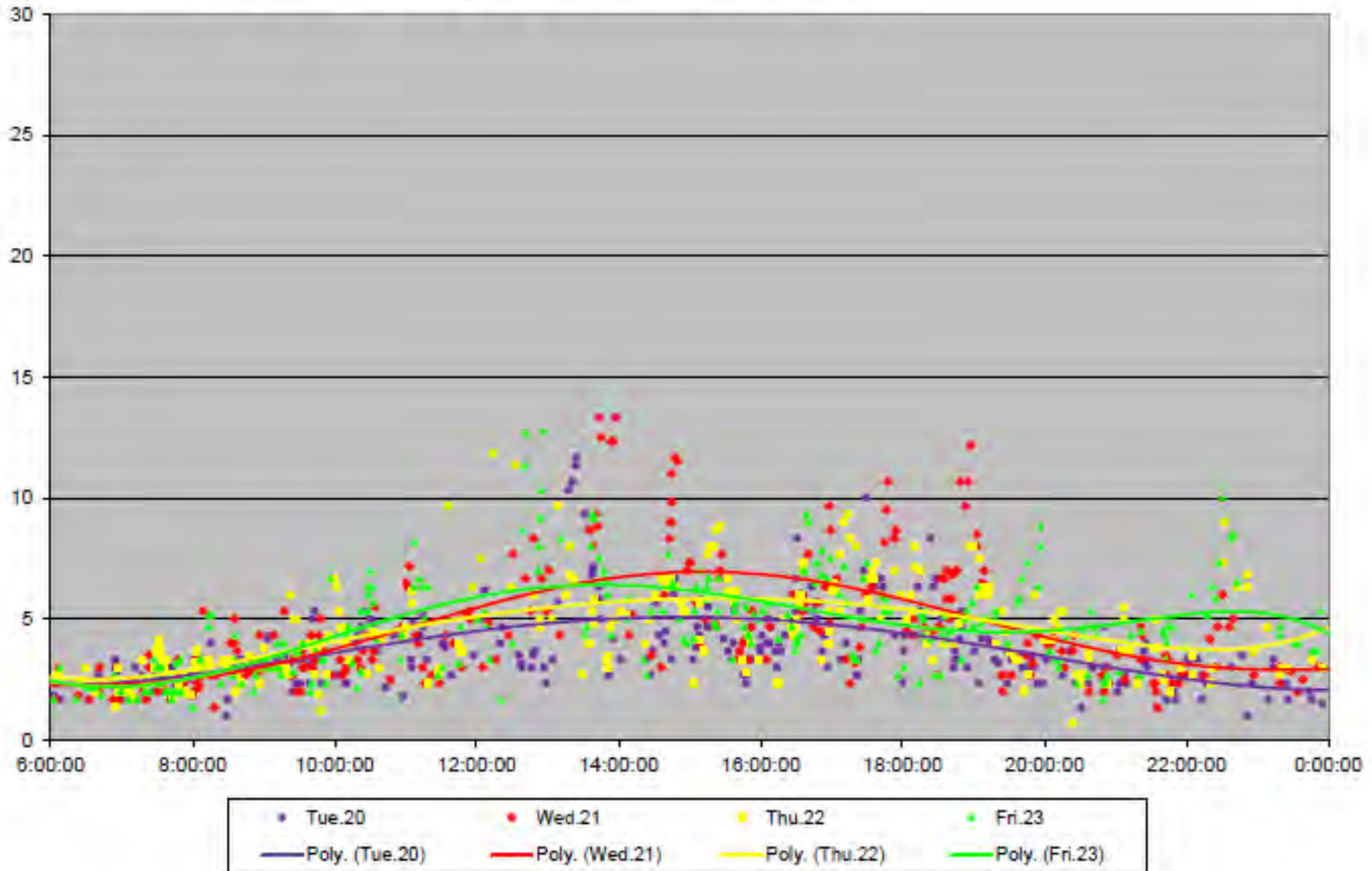
Monthly Hours Lost Due to Congestion in the GTA



Source: Inrix

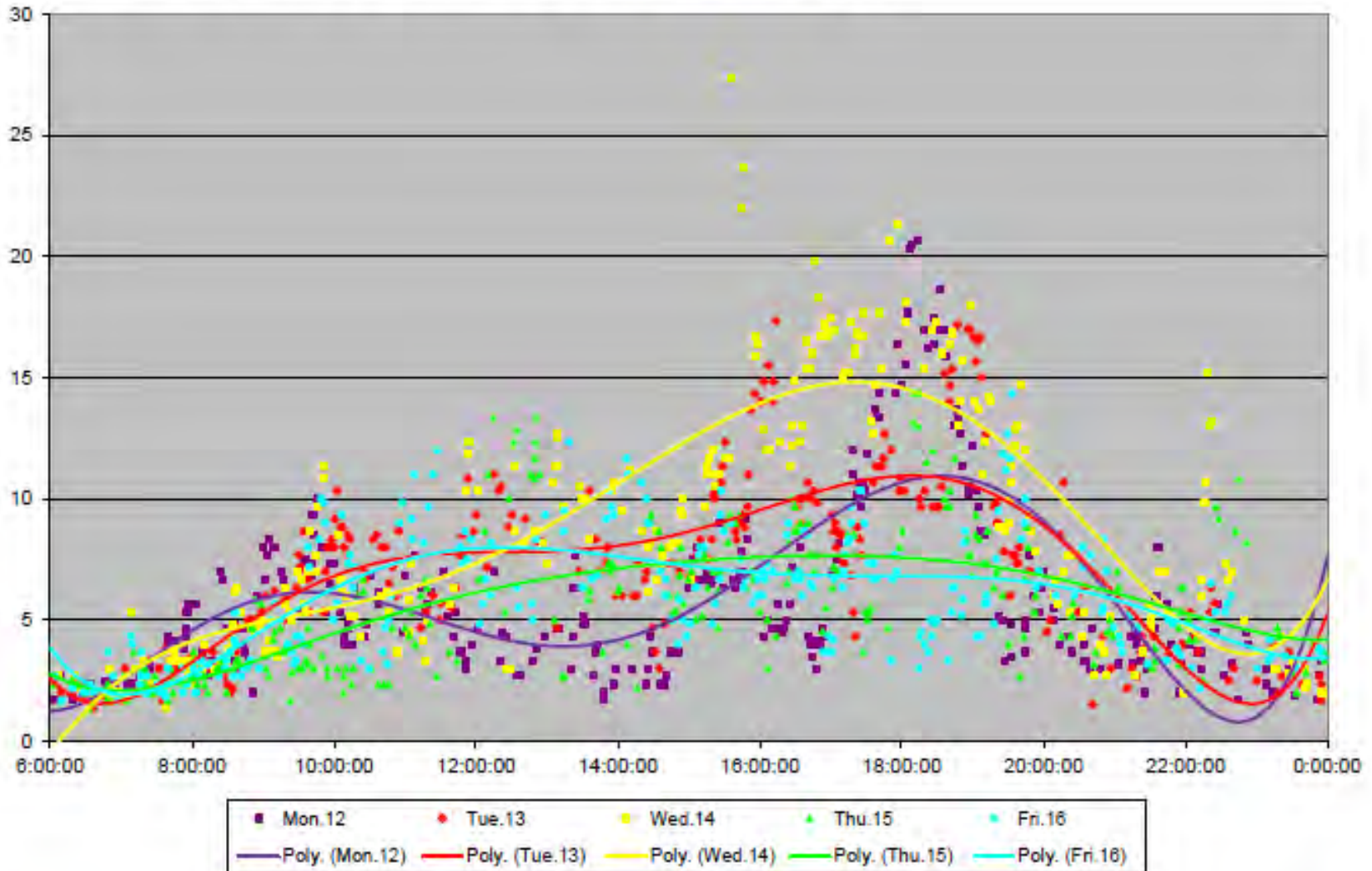
TTC AVL Data – Measuring Reliability

504 King Link Times From John To Spadina Westbound May 2014



TTC AVL Data – Measuring Reliability

504 King Link Times From John To Spadina Westbound May 2014



Evaluative

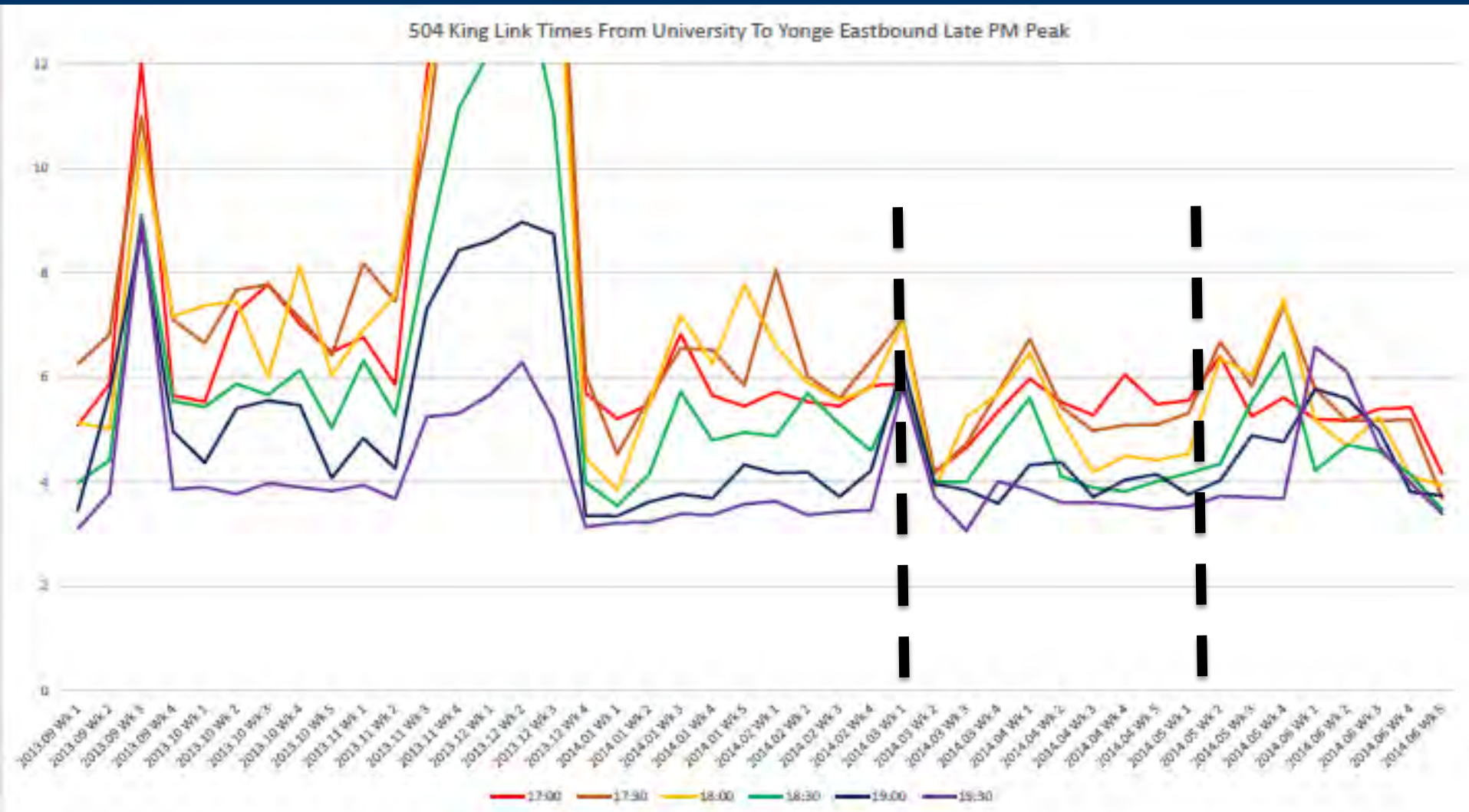
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TTC AVL Data – Measuring Impacts

Travel Times Before/After Changes: Increased Fines, Longer Peak, Gardiner Construction Jameson to Queensway WB

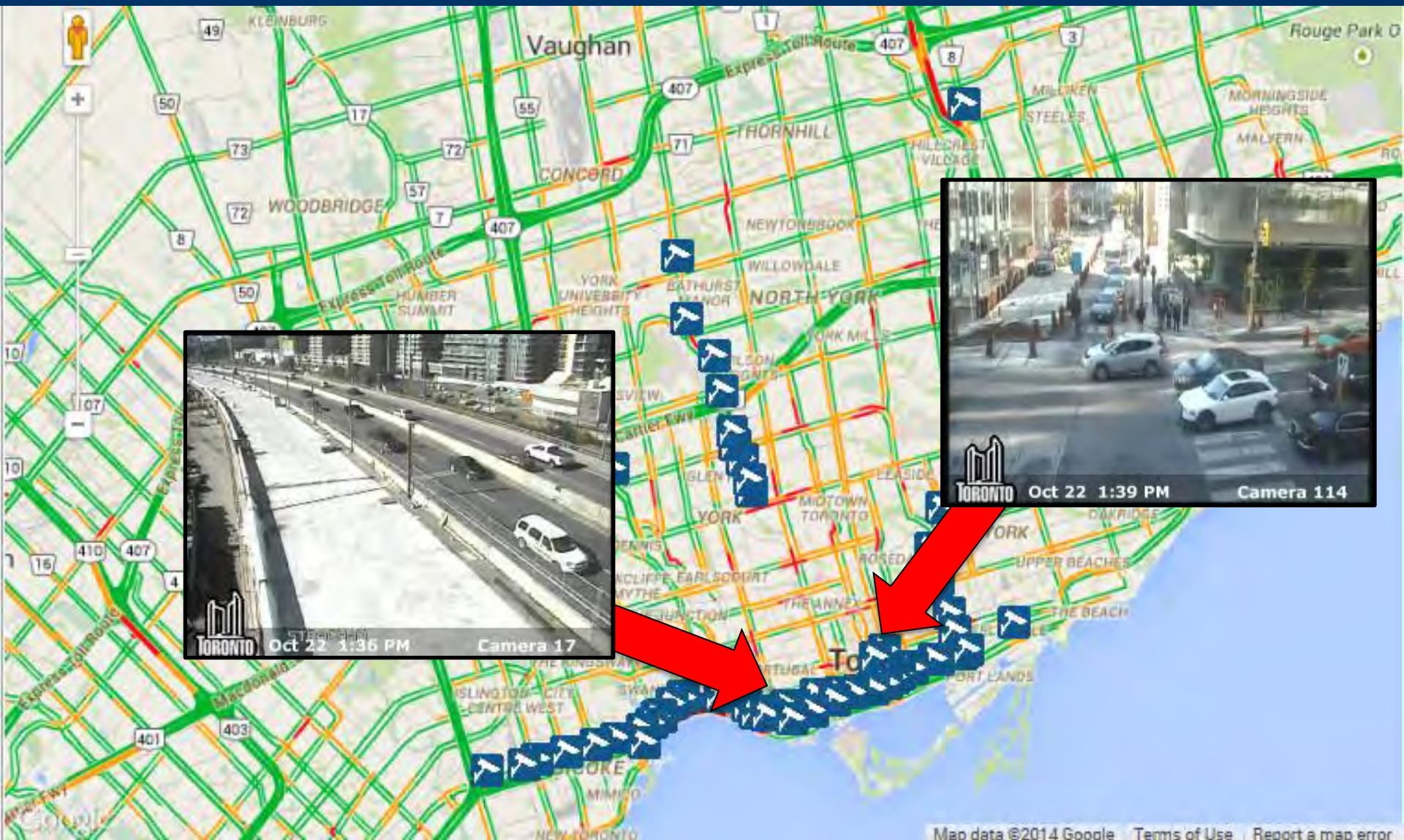


TTC AVL Data – Measuring Improvements

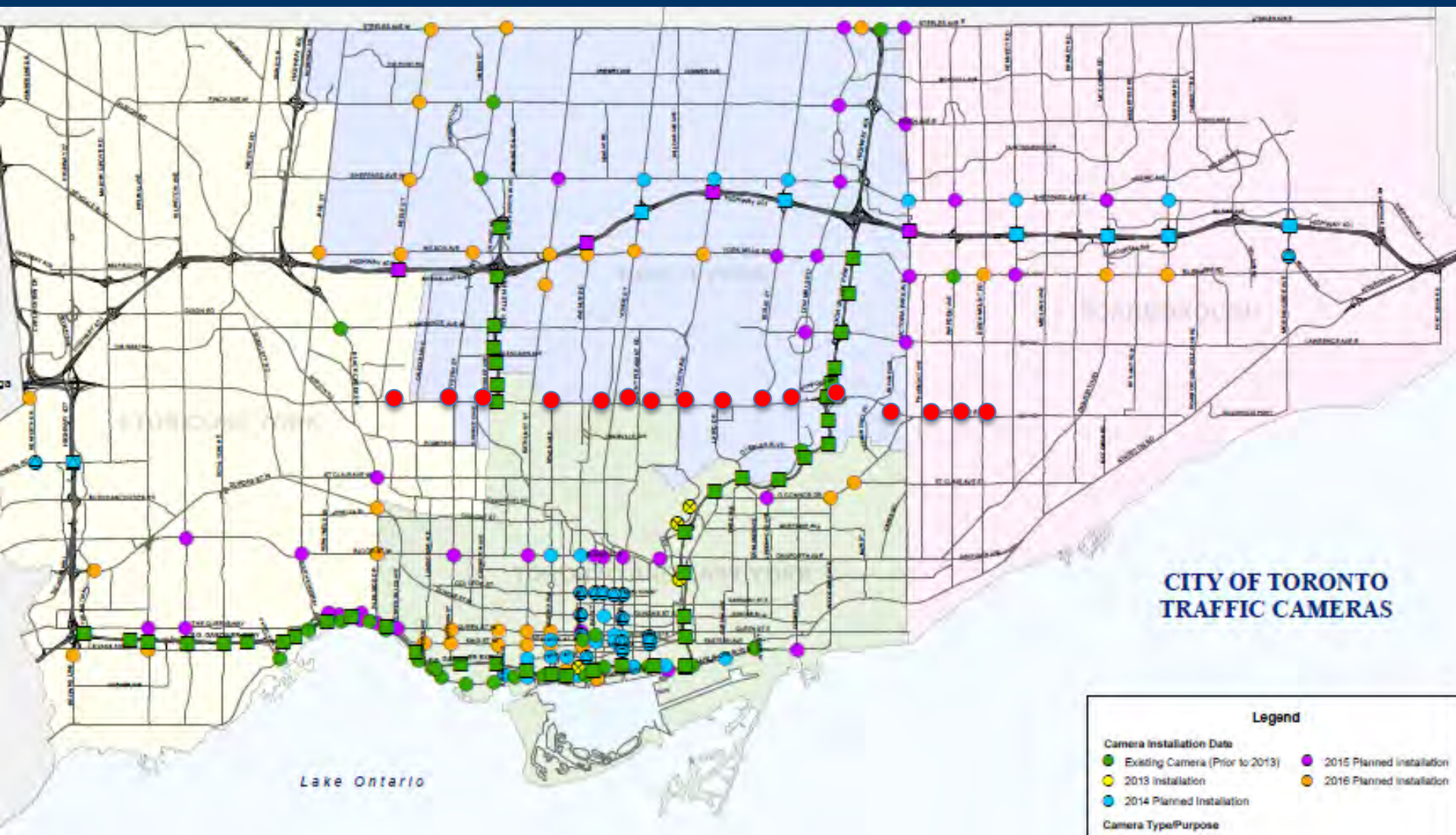


Operational

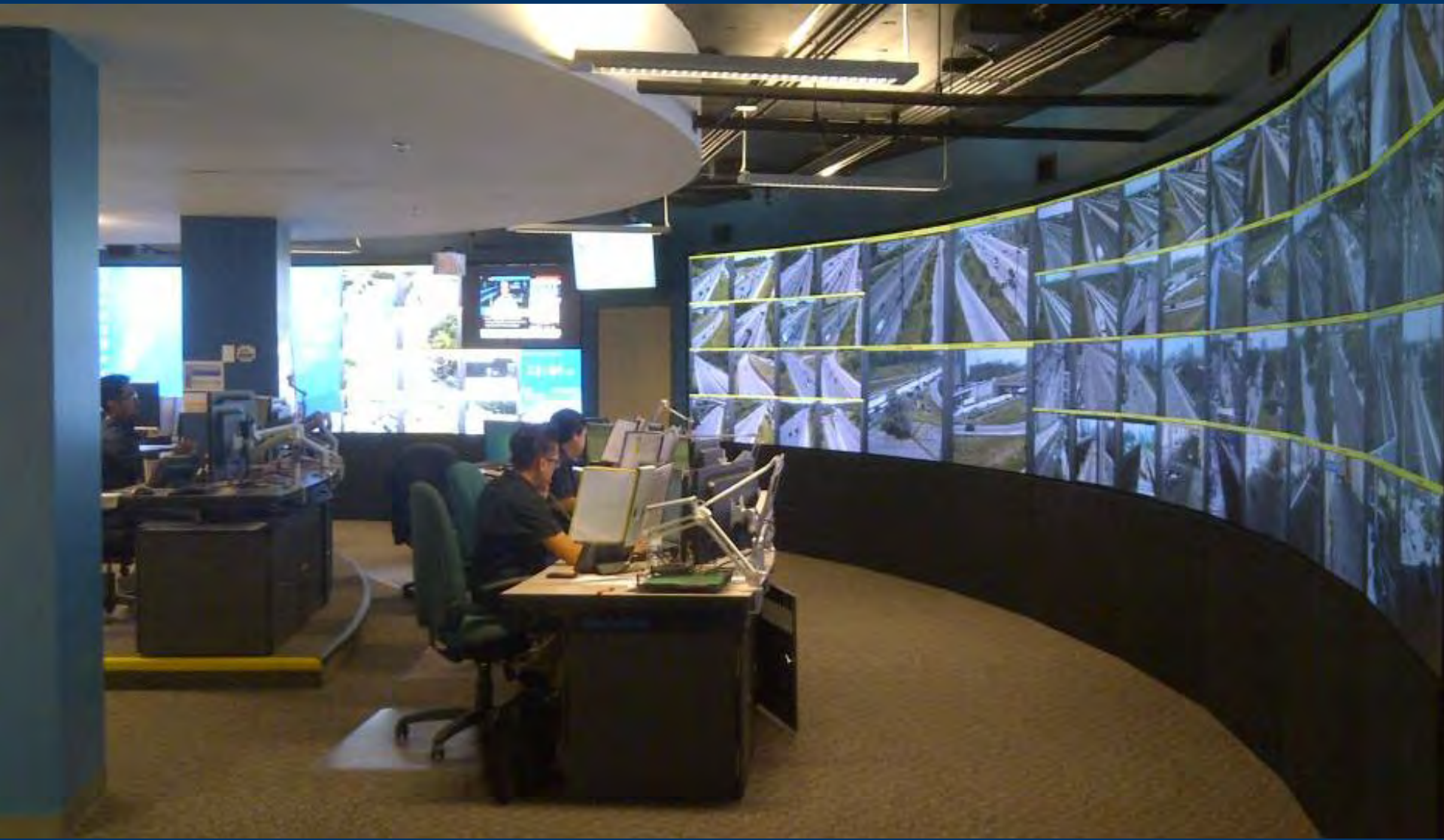
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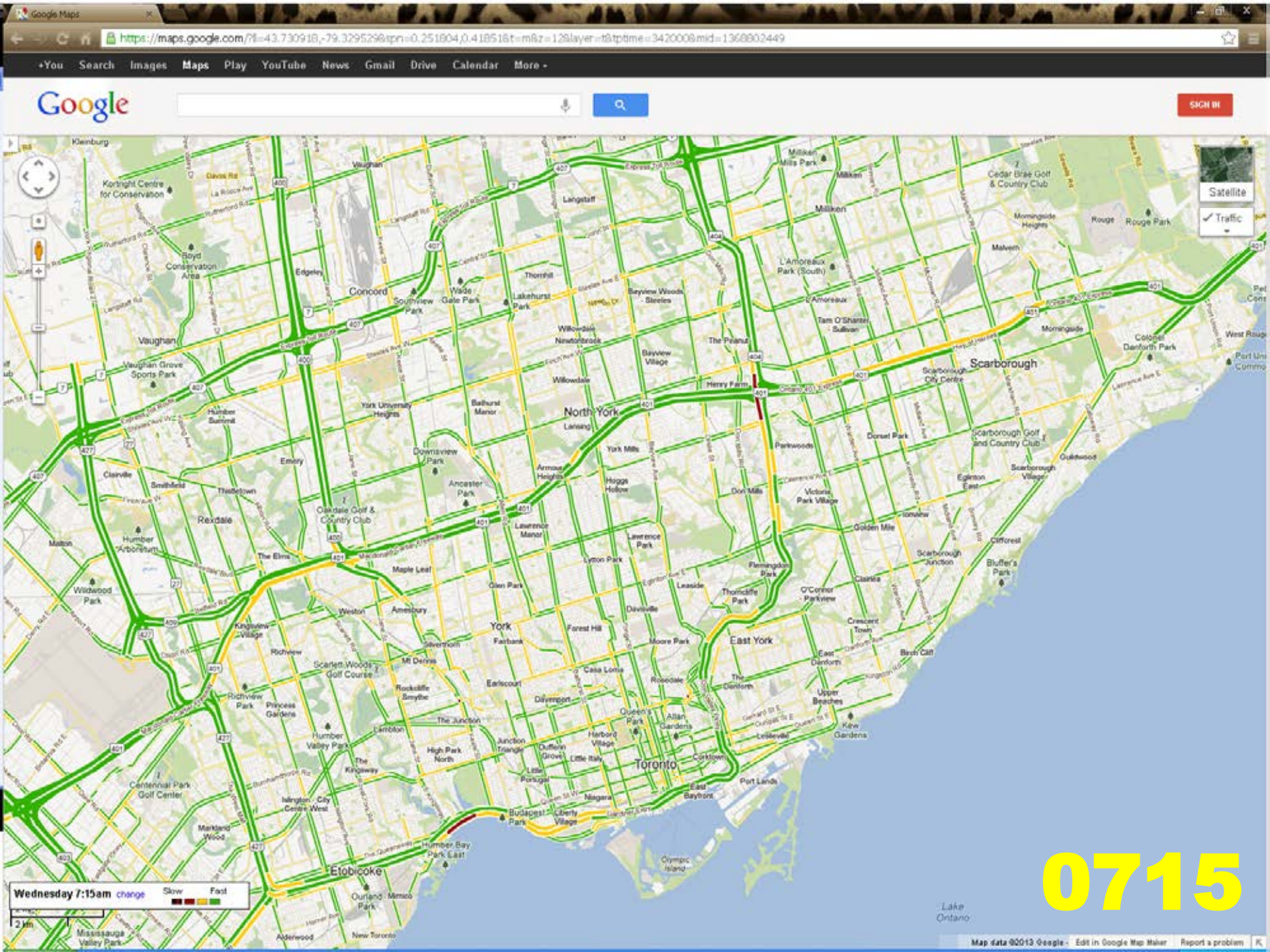


Arterial Camera Program (2016 Build-out)

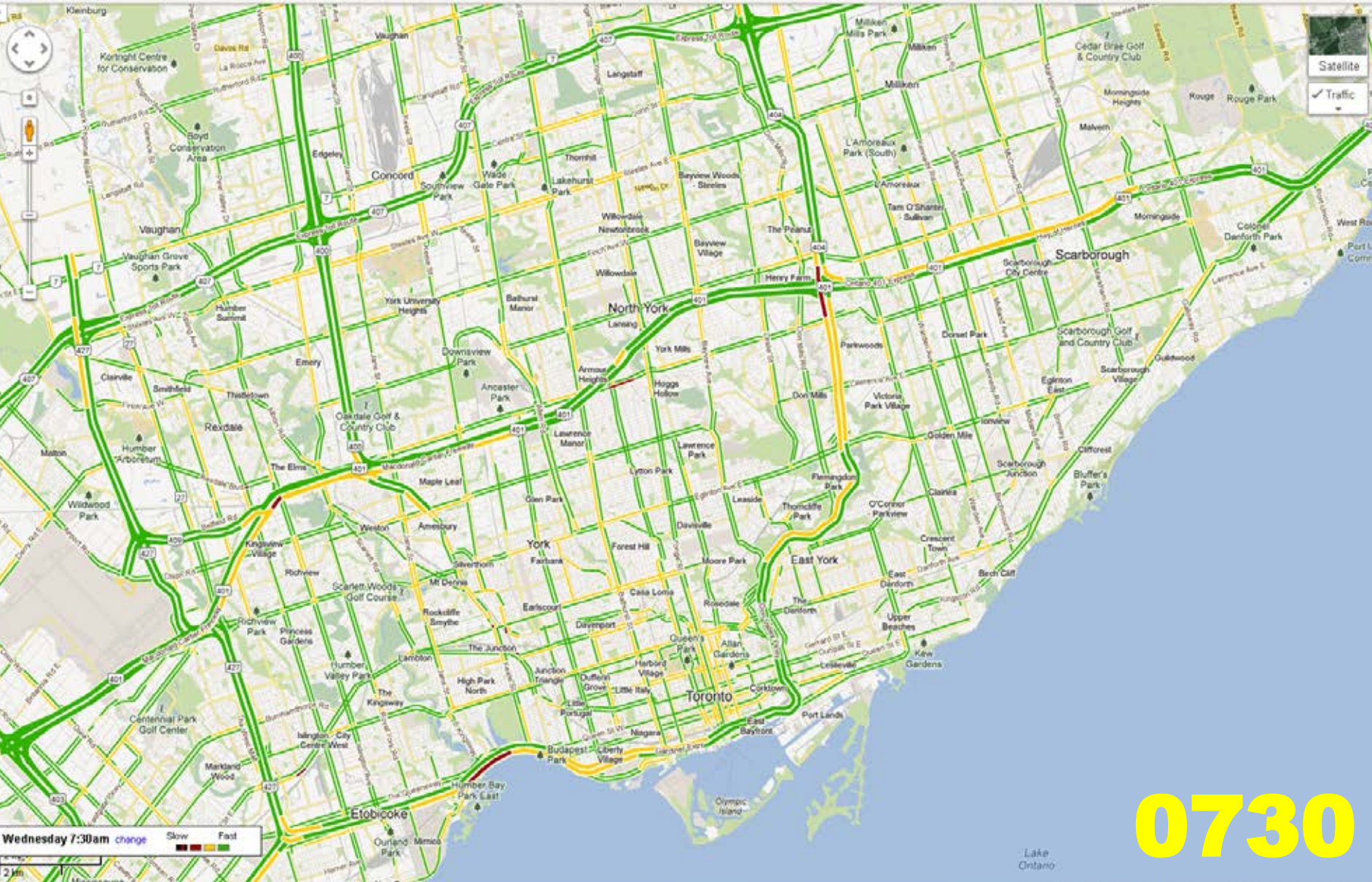
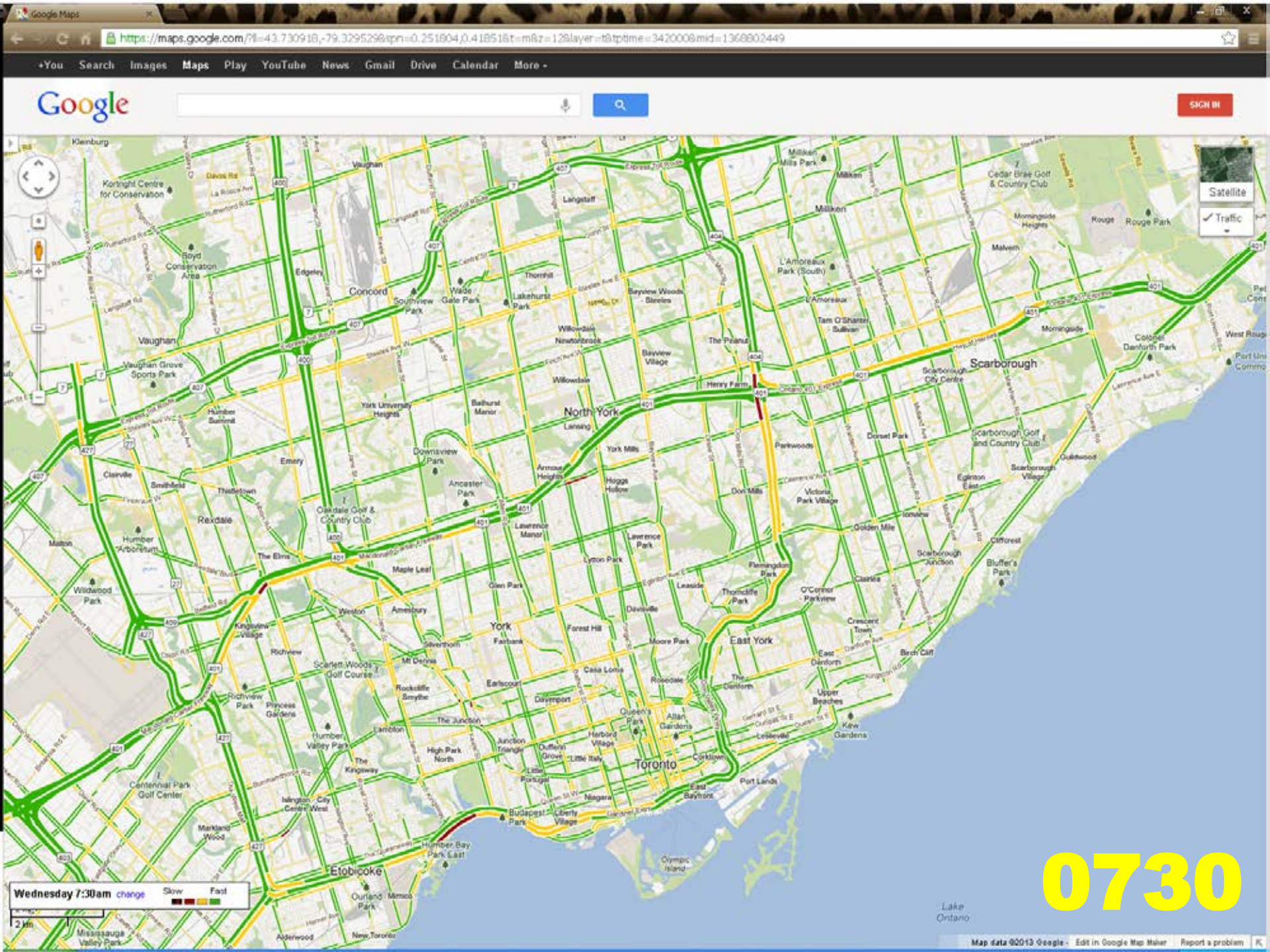


Transportation Operations Centre



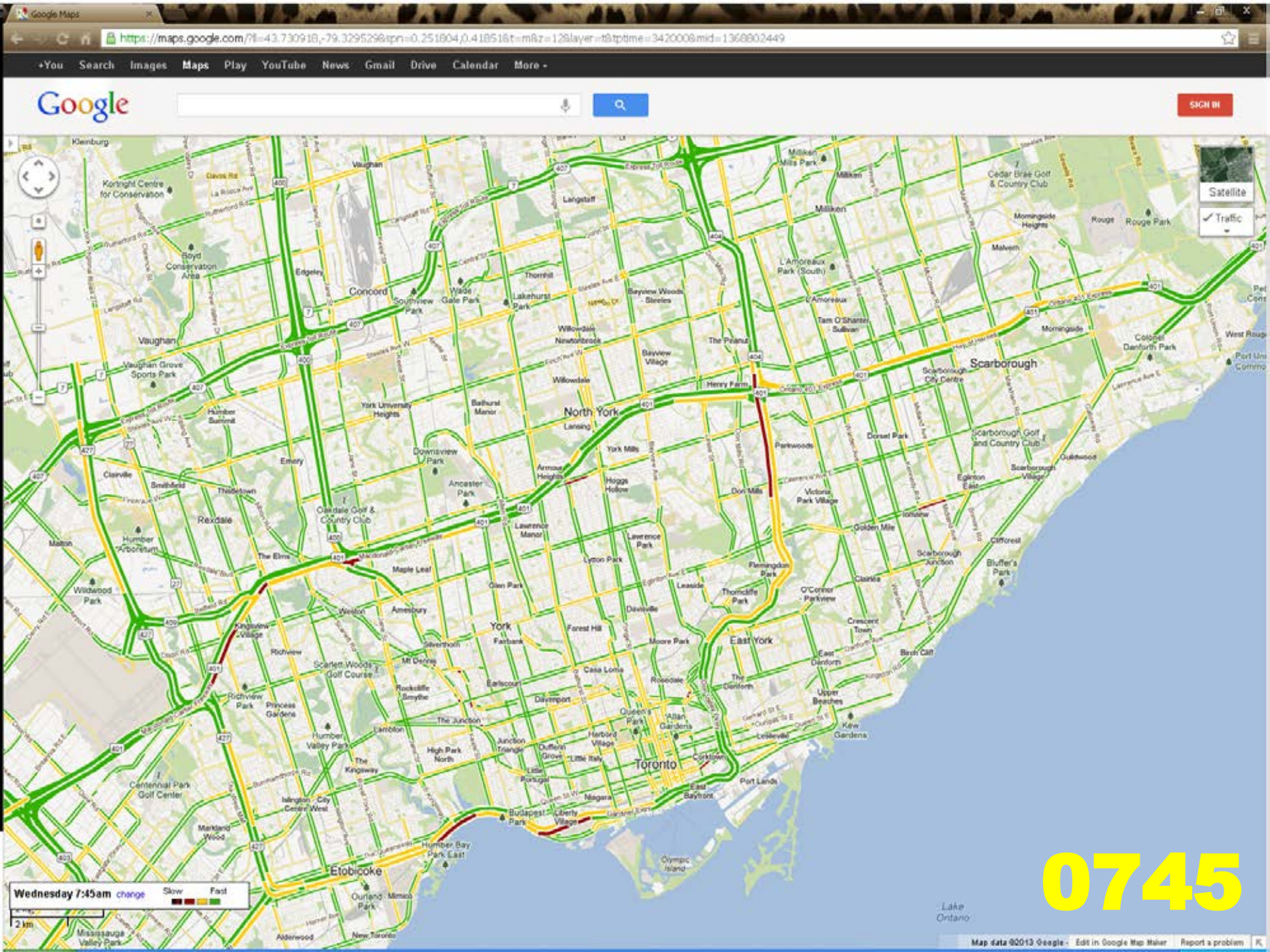


0715

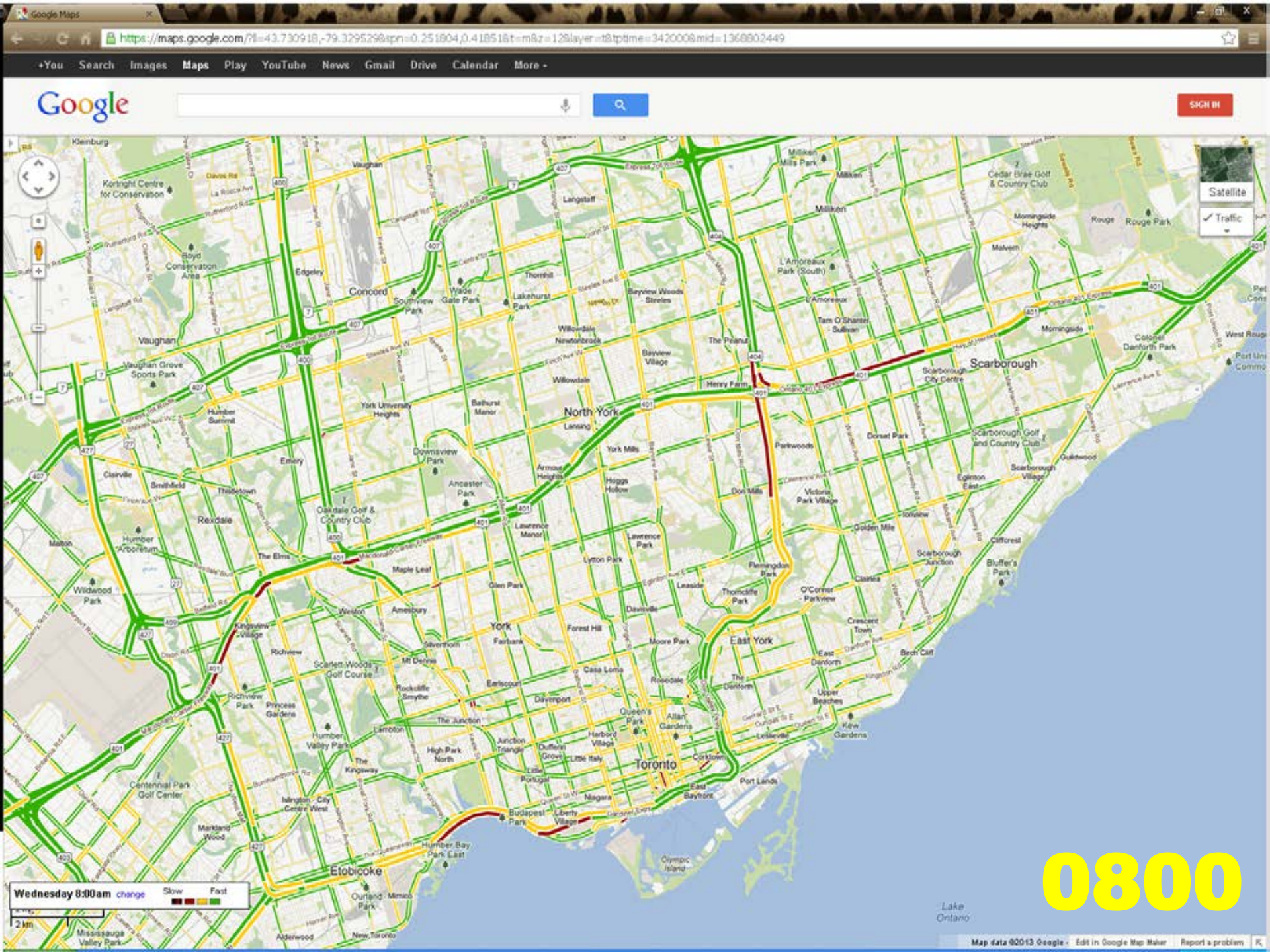


Wednesday 7:30am change Slow Fast

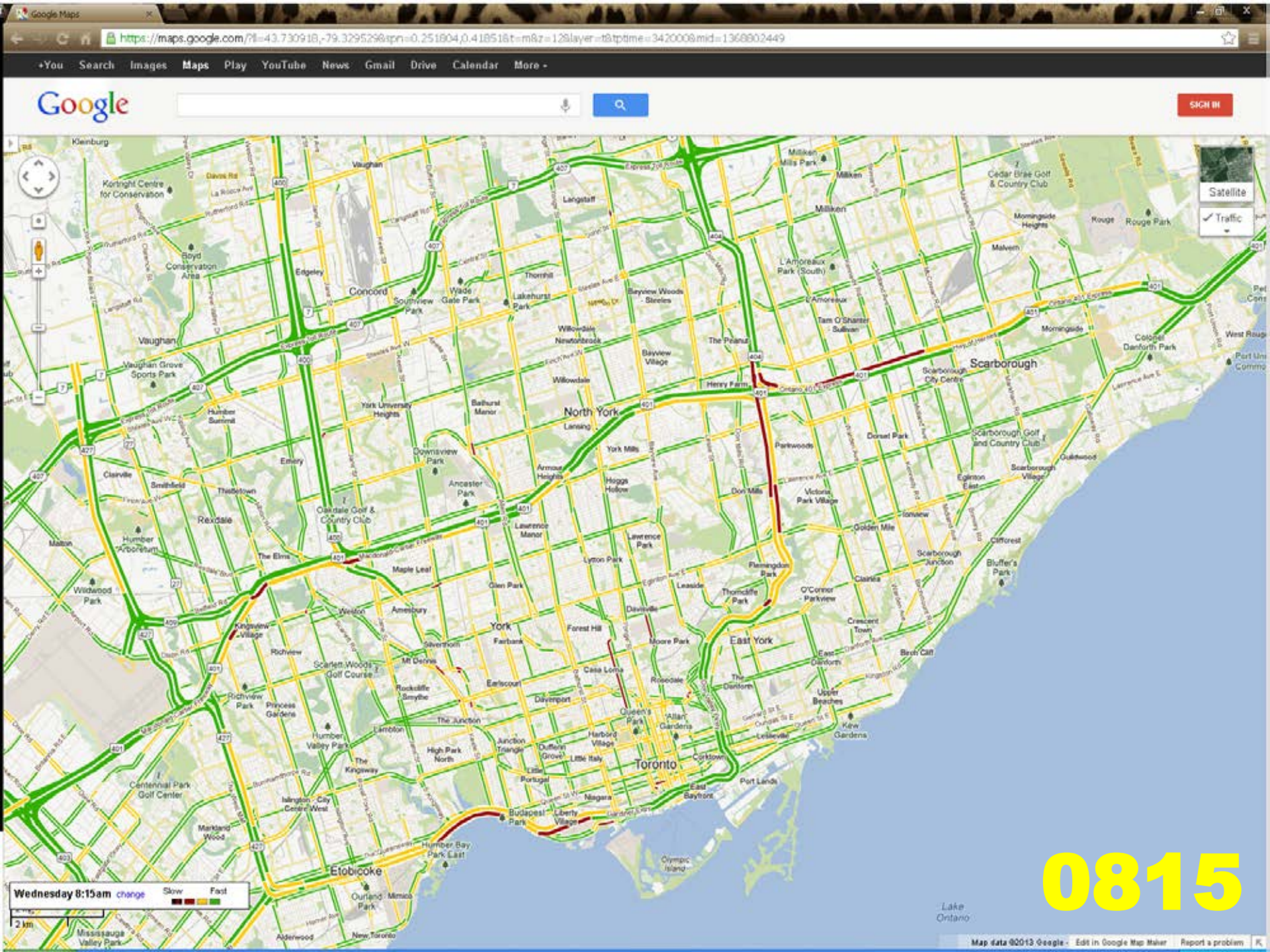
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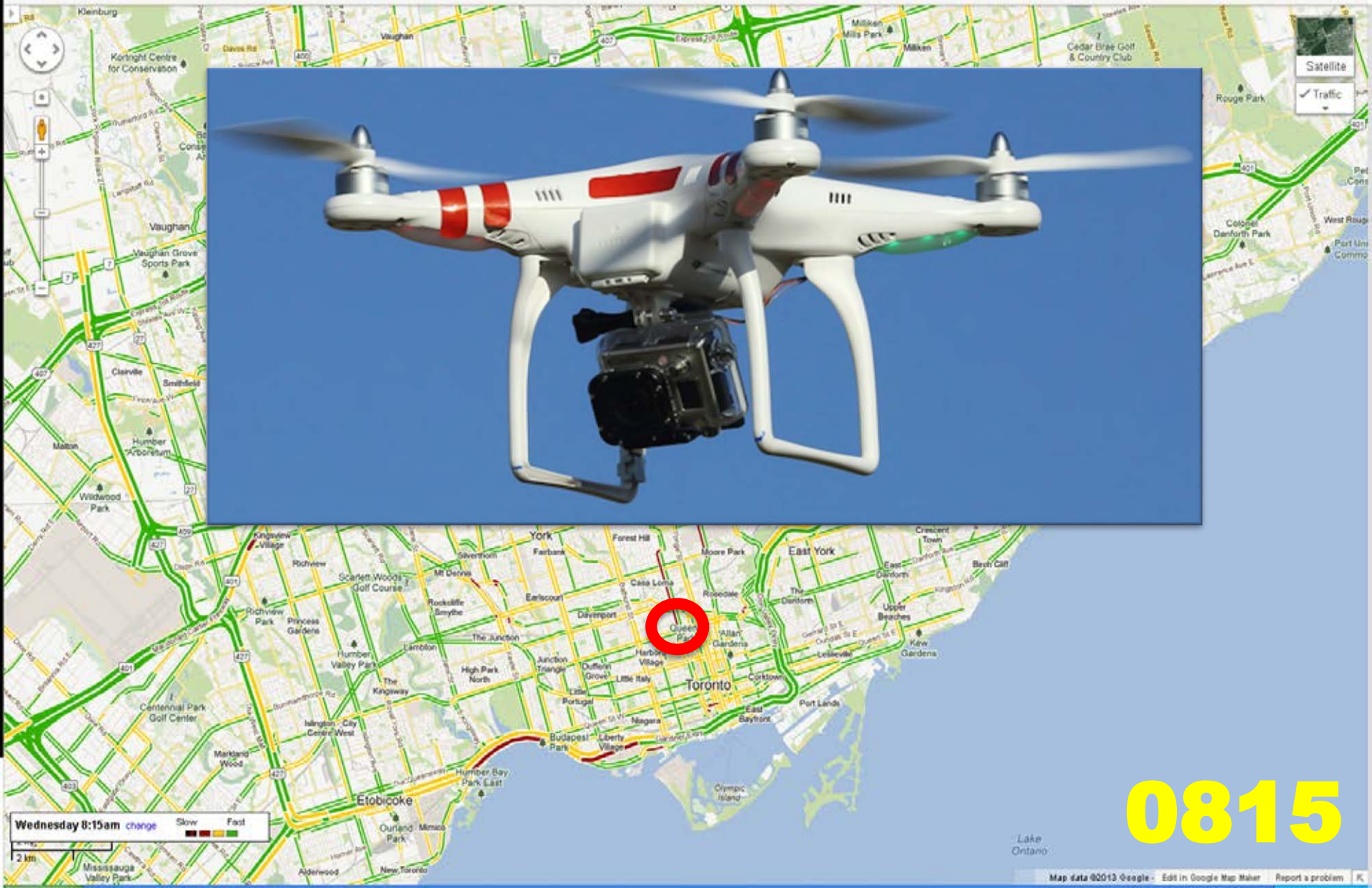
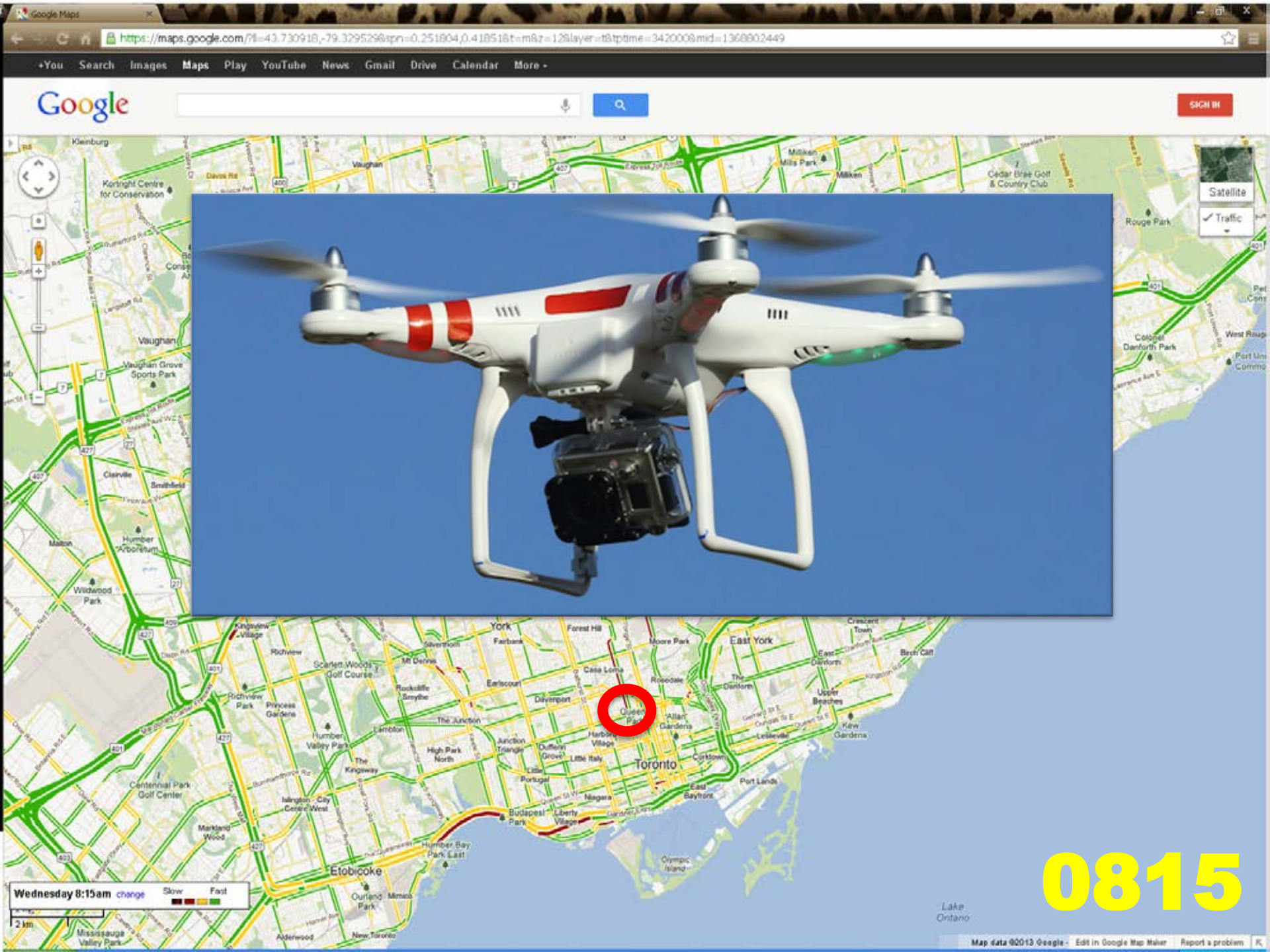
0745

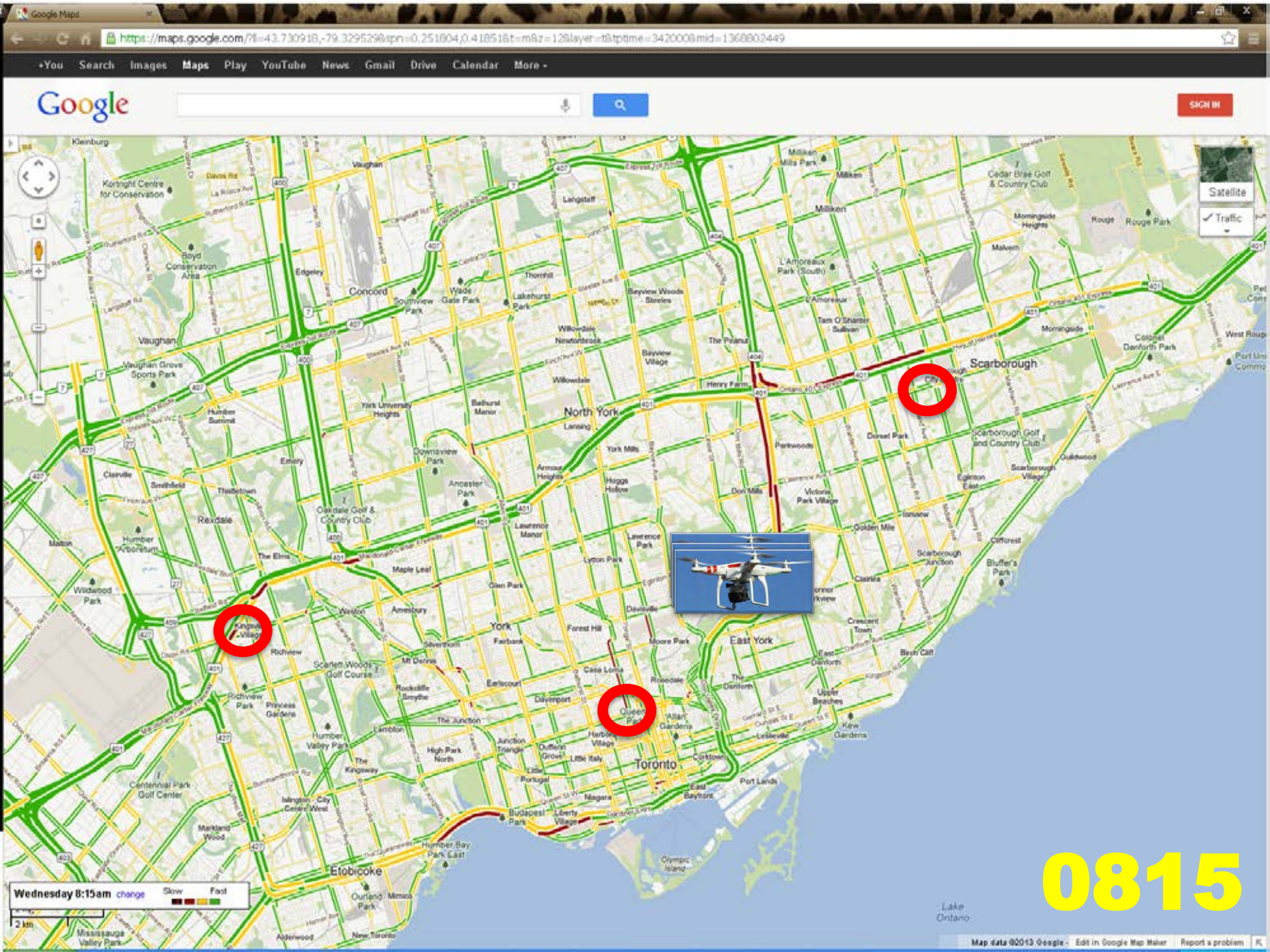


0800



0815





0815

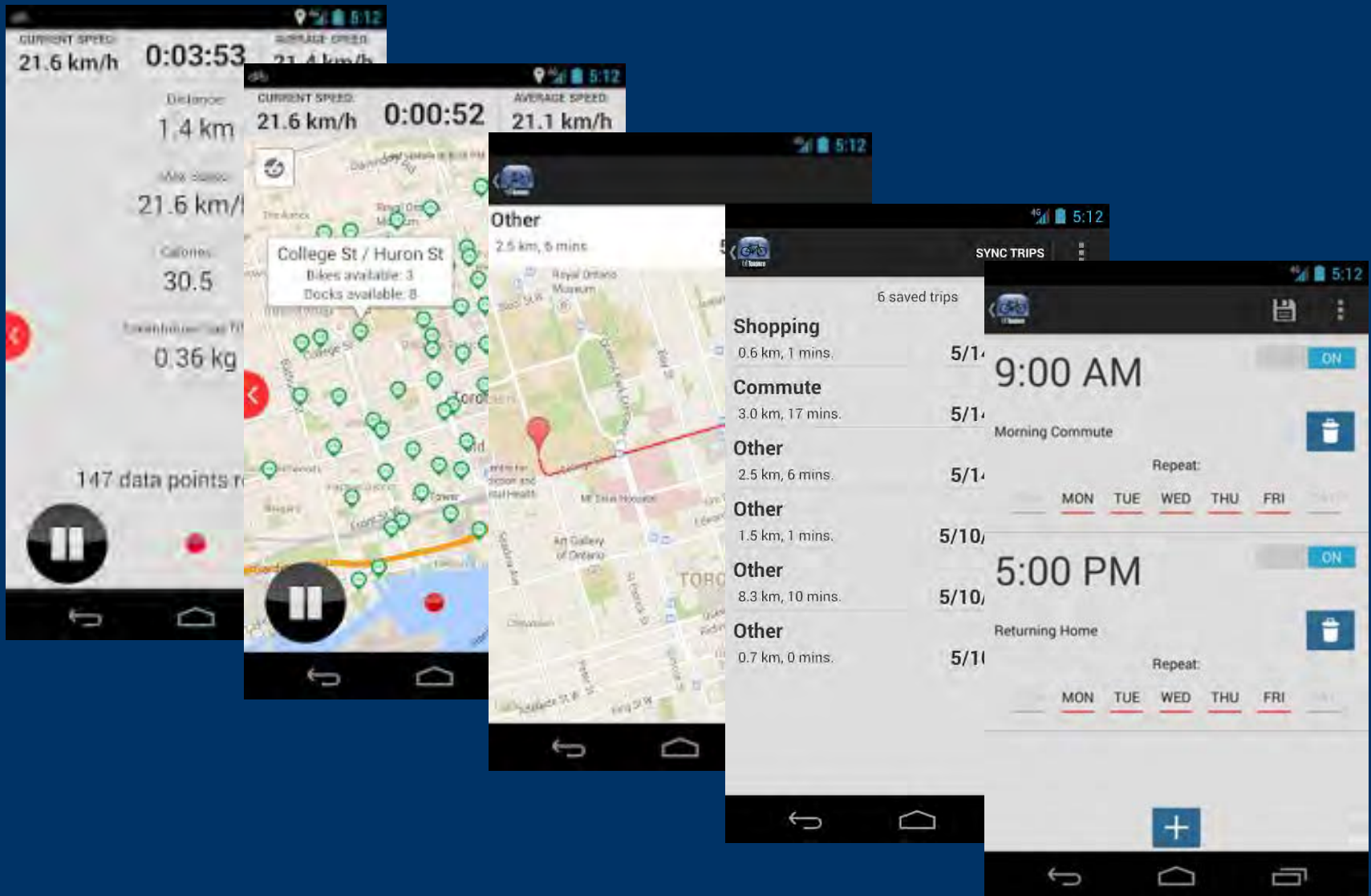
Understanding Private



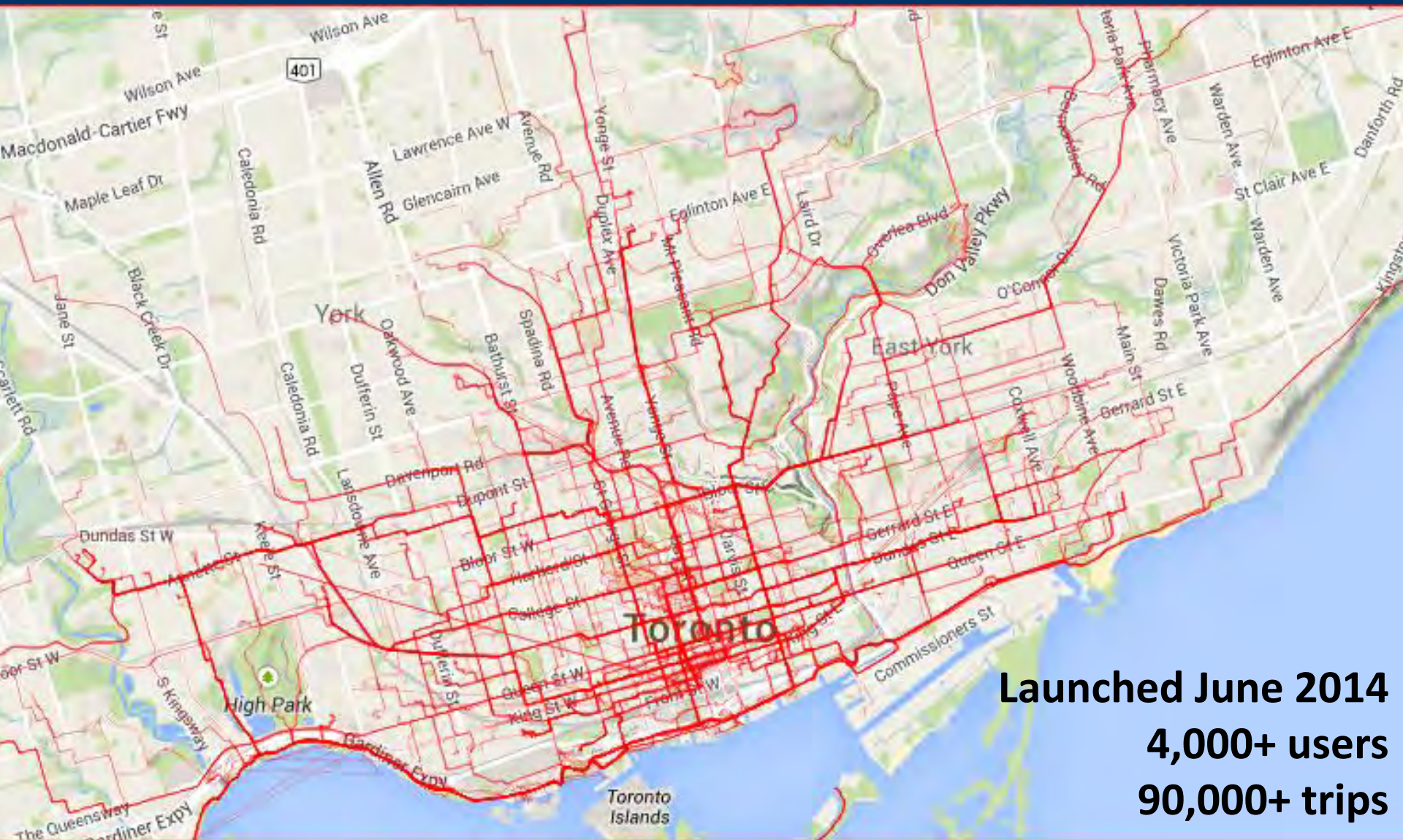
Toronto Cycling App



Toronto Cycling App



Toronto Cycling App



Launched June 2014
4,000+ users
90,000+ trips

Challenges for the Public Sector

Understanding What Exists

Understanding What We Can Use

Understanding What To Ask For

Obtaining, Analyzing and Maintaining

New Types of Contracting Arrangements

Building Internal Capacity

Next Steps

Keep Playing with It

Partner with Researchers

Build Internal Capacity

Develop a Data Strategy

Share with Peers



How Big Travel Data Can Help Big Cities

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