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• Kansas City, MO

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## Coaster

Mapping Clusters of Sudden Stop Driving  
(Tying Collision Risk to Location)

John Lindsay

[www.stopclusters.com](http://www.stopclusters.com)

Smart Cities Innovation Summit: Innovation Challenge





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“We've gathered billions of miles of driving data and ... we've found hard braking to be one of the most highly predictive variables for predicting future crashes.” - Progressive Insurance

“Results of a simulation experiment based on the G15 Expressway in Shanghai showed that abrupt stopping had the greatest impact on increasing collision risk”





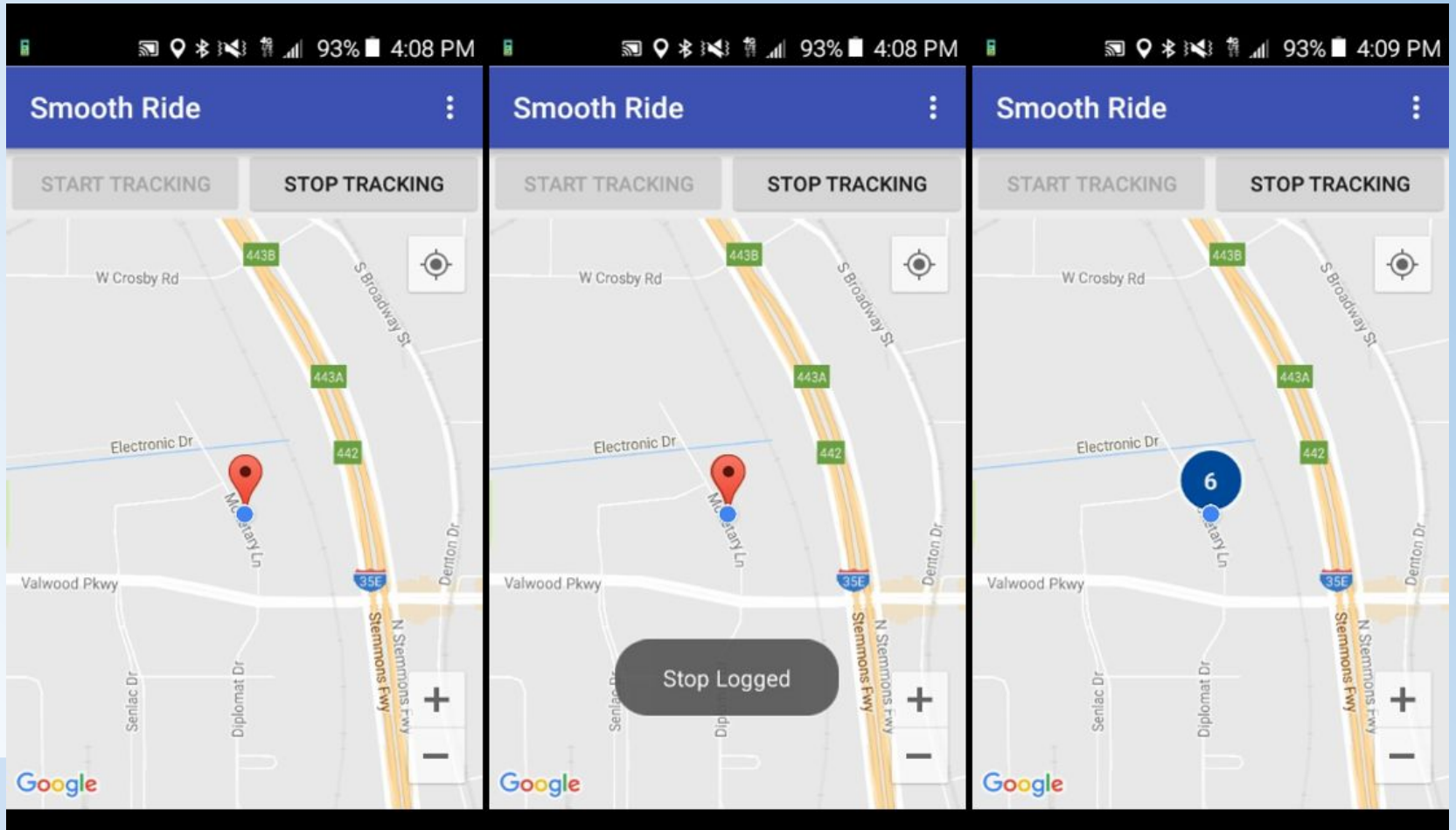
## Coaster – Associating Harsh Braking to Location

- Two part composite application:
  - “Front end”
    - Drivers use app which monitors for sudden braking events, logs location and display event locations on map as markers/cluster
  - “Back end”
    - Aggregate view of sudden braking events for city/fleet





# Driver Application





# Traffic Engineer/Fleet Administrator Aggregate View

[Logout](#)

**Search Driver Events**

- Last Hour
- Last Day
- Last Week
- Last Month
- Last Year

From:

To:

Group ID: NoFleetId

Number of Group Events: 729

The map displays the Buenos Aires metropolitan area with various districts labeled. Numbered heatmaps indicate event density: '2' in Belén de Escobar, '3' near General Rodríguez, '4' near San Isidro, and '11' near Avenida Corrientes. Red location pins are placed at General Rodríguez, San Isidro, and Quilmes. Major roads like Route 6, 9, 197, and 205 are visible.





## Return On Investment

- Smart Cities
  - Maps “hotspots” for collision risk reduction
    - Alter signaling or infrastructure
  - Enable safer driving within city limit
  - Less collisions = less EMS deployments
    - “Average” EMS marginal deployment cost
- Fleets
  - Maps “hotspots” for collision risk reduction
    - Route optimization
  - Enable safer driving within fleet routes
  - Less collisions = less accident costs
    - “Average” fleet vehicle collision cost



# No Cost Pilot Program for Cities and Fleets of Conference Attendees

## Setup

- Select group identifier
- Promote app to citizens or city fleet/distribute to drivers

## Operation

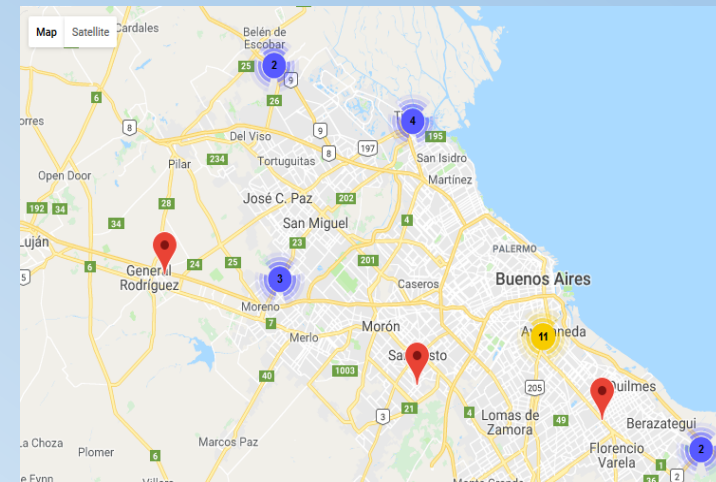
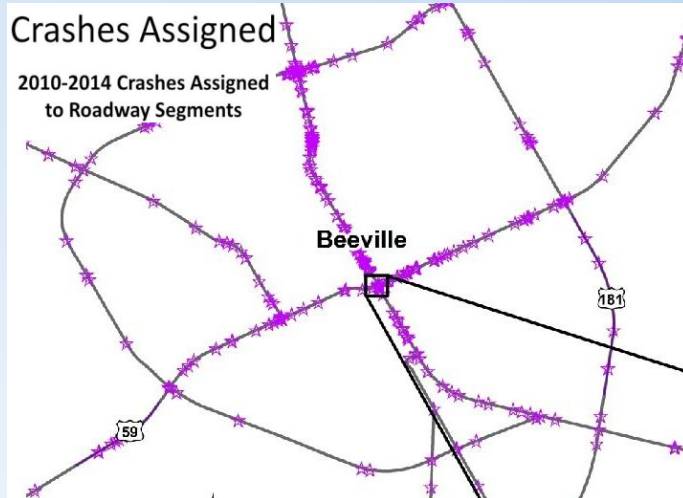
- Periodically view aggregate data
- Incorporate in traffic studies, training, and/or route optimization



## Questions?

### Reactive

### Proactive



Coaster  
Booth 4T

John Lindsay  
214-736-4306

info@stopclusters

www.stopclusters.com

Technology Status: Ready

Patent Status: Allowed