

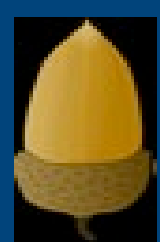


THE UNIVERSITY OF
MELBOURNE

MELBOURNE RESEARCH

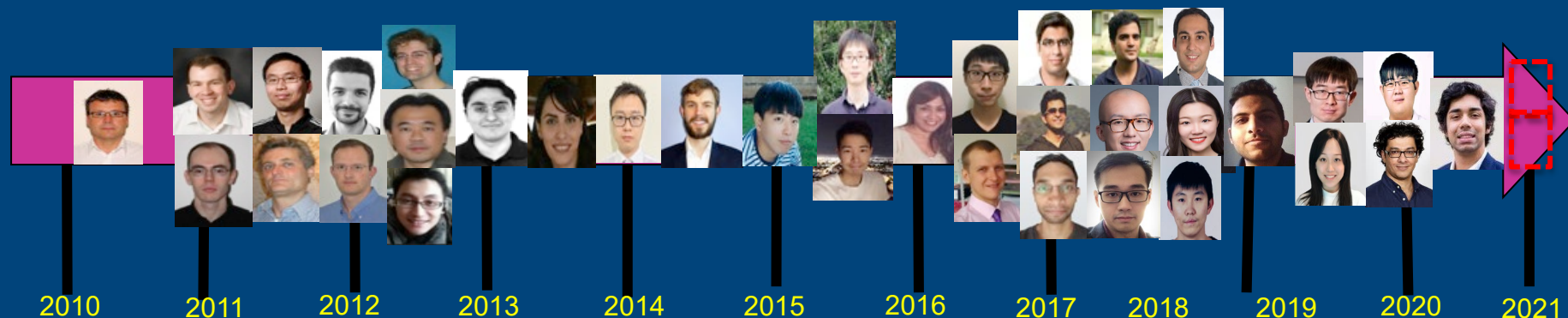
An Exploration of Social Media Analytics
Solutions for Diverse Application Domains

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Melbourne eResearch Group (2020)

(<http://eresearch.unimelb.edu.au>)



Funding (>\$230m) from many funding sources (DARPA, IARPA, DSTG, EU, JDRF, HCT, NHMRC, ARC, Dept Innovation, Dept Environment, DELWP, Commercial, ...)

Teach Cluster & Cloud Computing

Supervised 700+ Masters dissertations

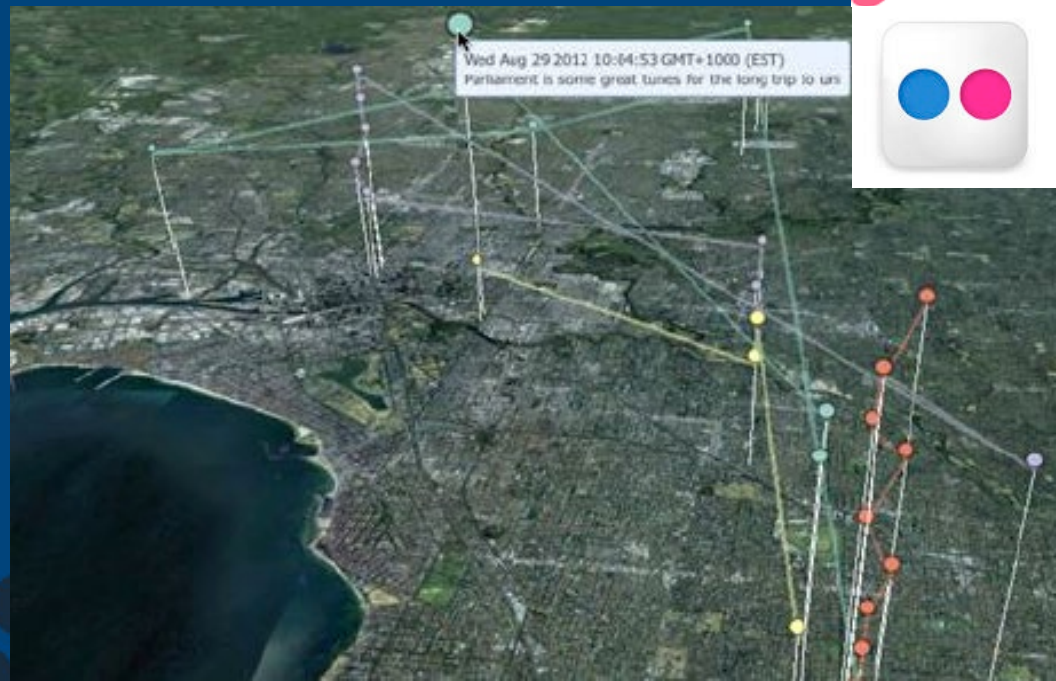
(300+ projects using social media as source of big data analytics)

ALL ABOUT APPLIED COMPUTING

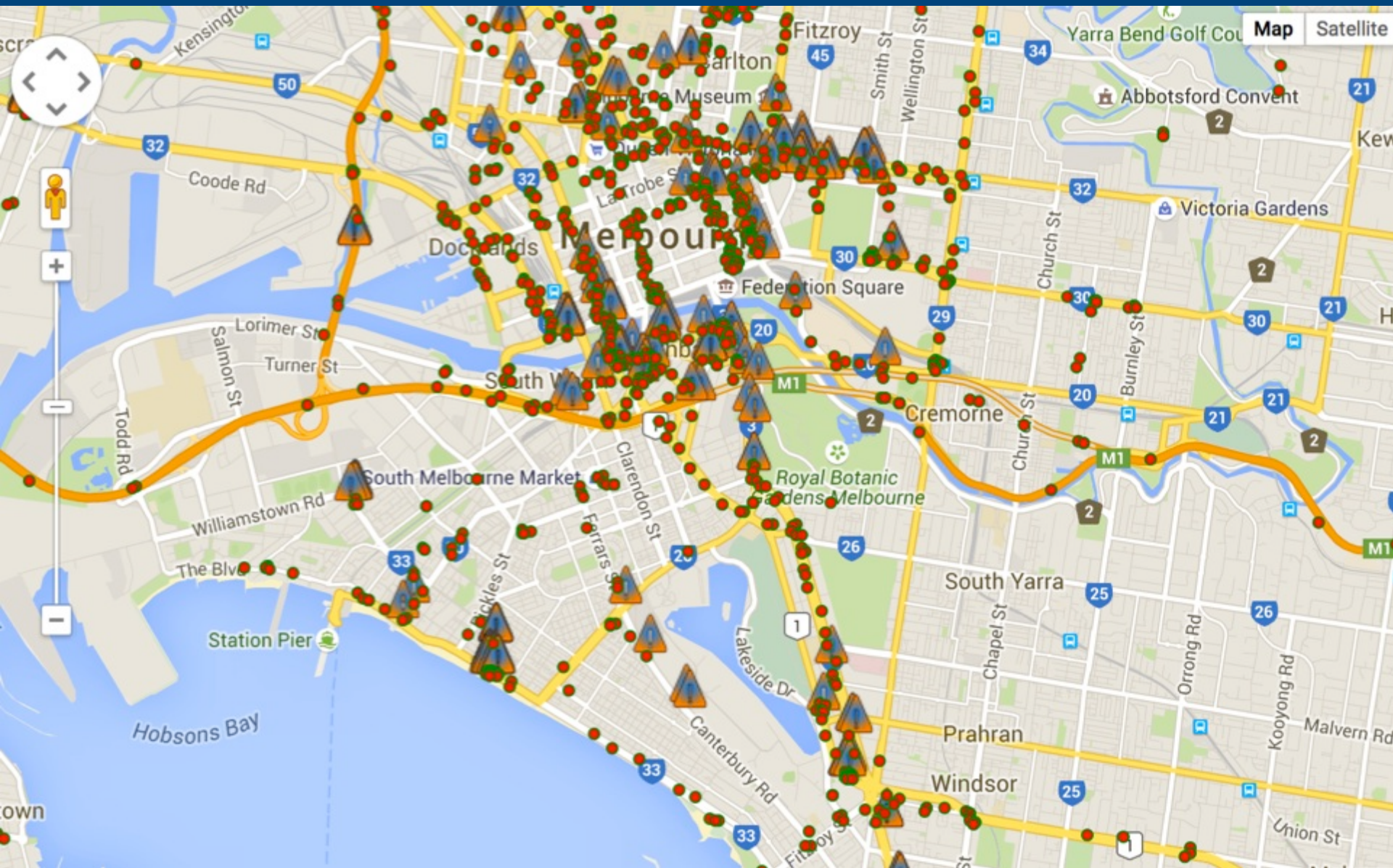
(typically data and security!!!)

Twitter, Instagram, Foursquare, Flickr ...

- Twitter - 320m+ active users per month
 - 2.9m user accounts in Australia alone
 - (Near) real-time and often geo-located
- However noisy, erroneous tweets
 - Up to 140 character string -> 9kb data
- Privacy
 - Data vs metadata
- Open APIs
 - Rate limited (but...)
- Big data analytics
 - ARDC
 - MRC

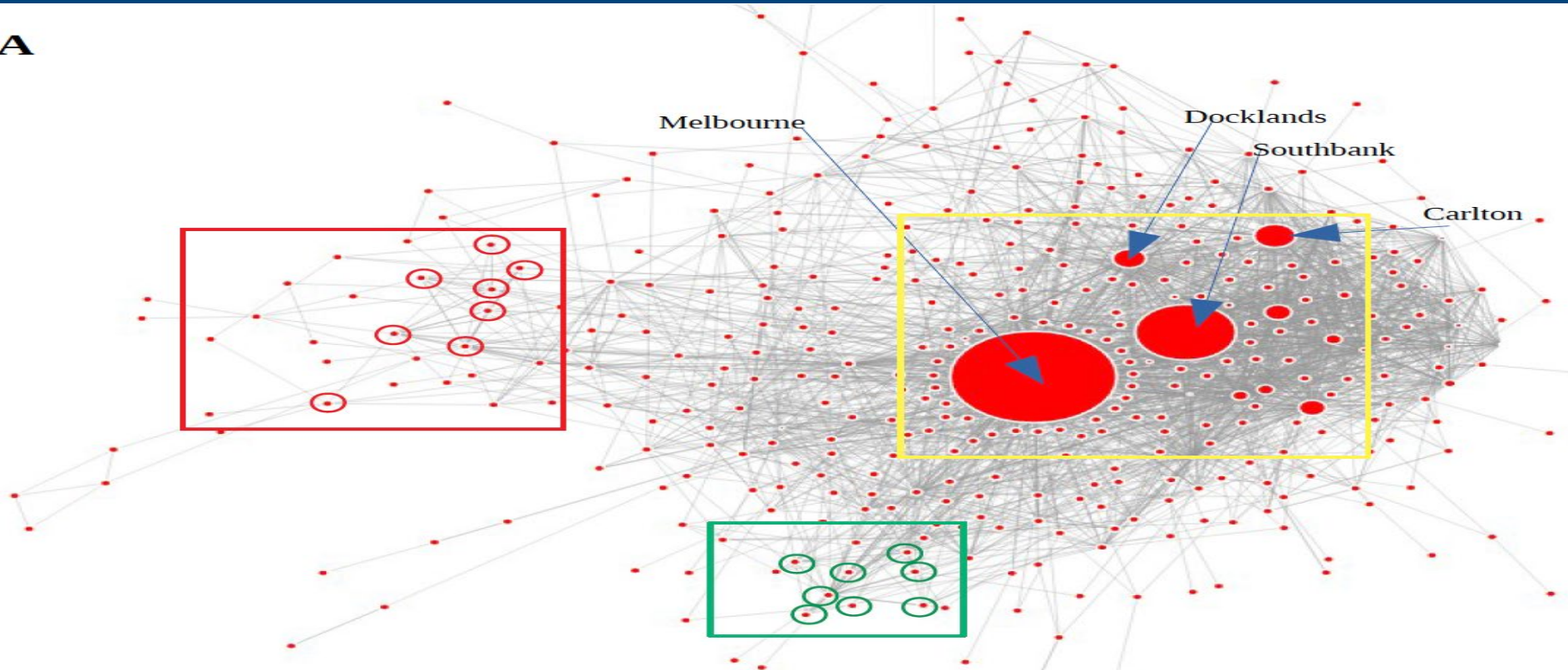


Real-time congestion identification

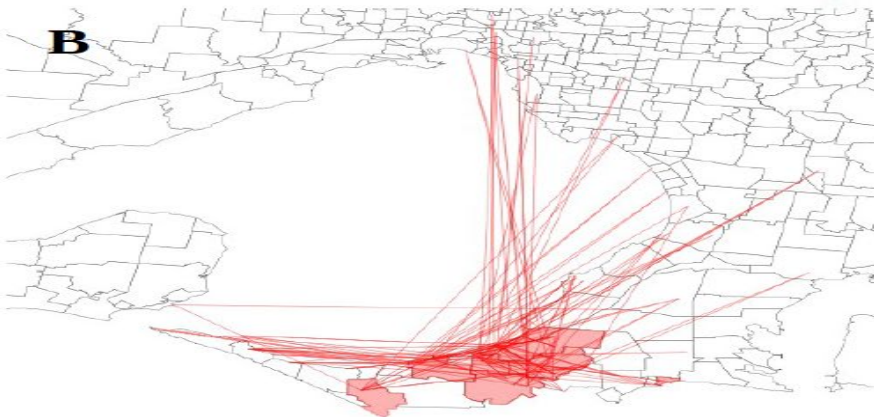


Commuter Patterns

A



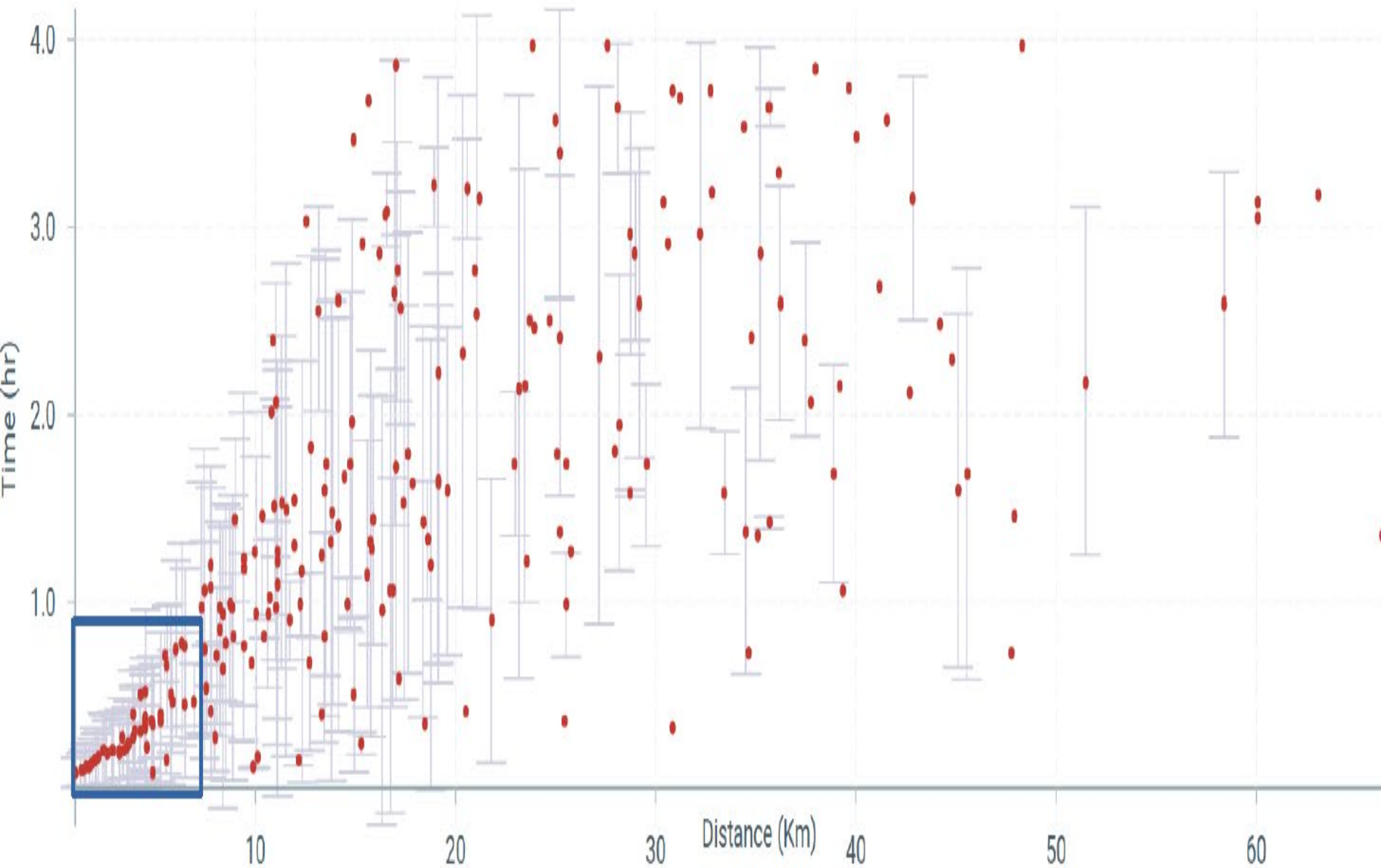
B



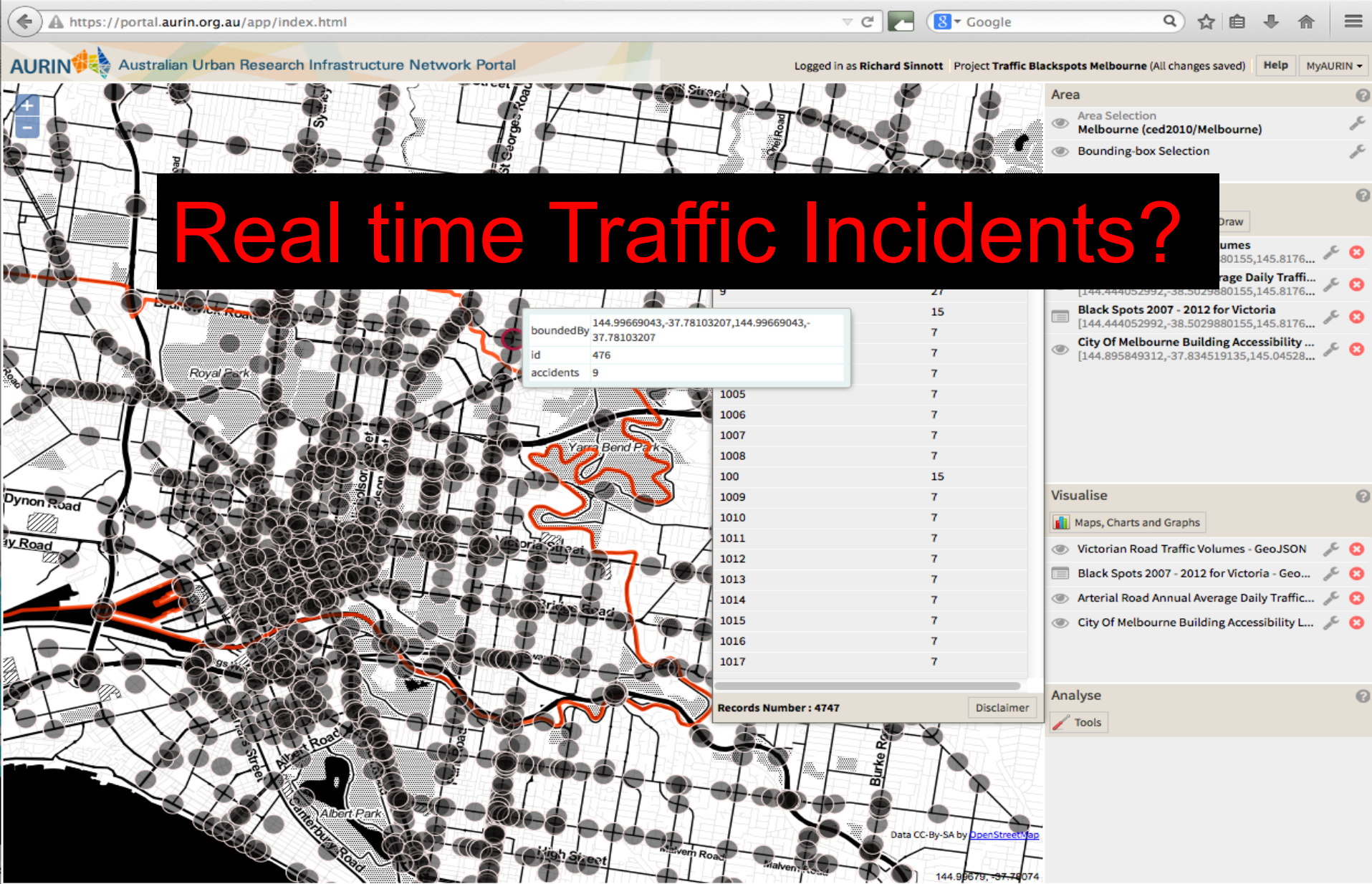
C



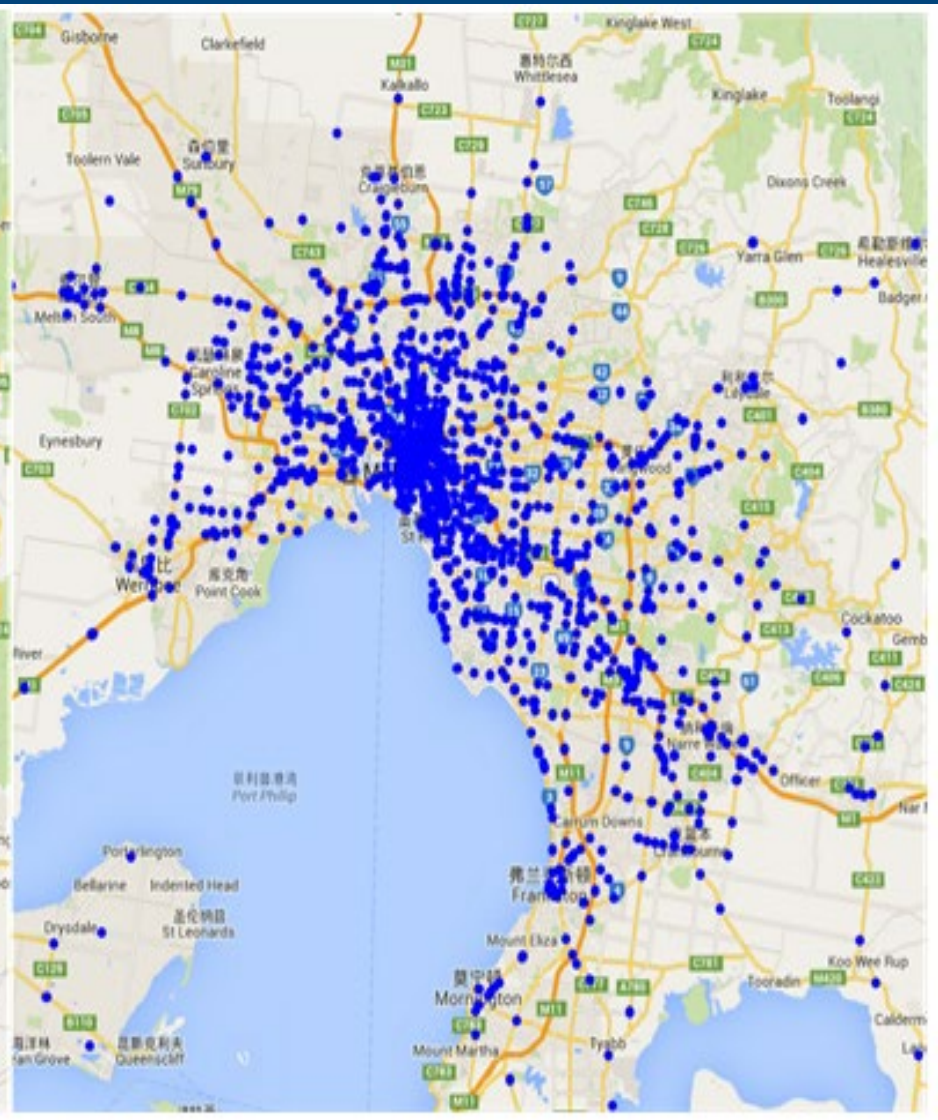
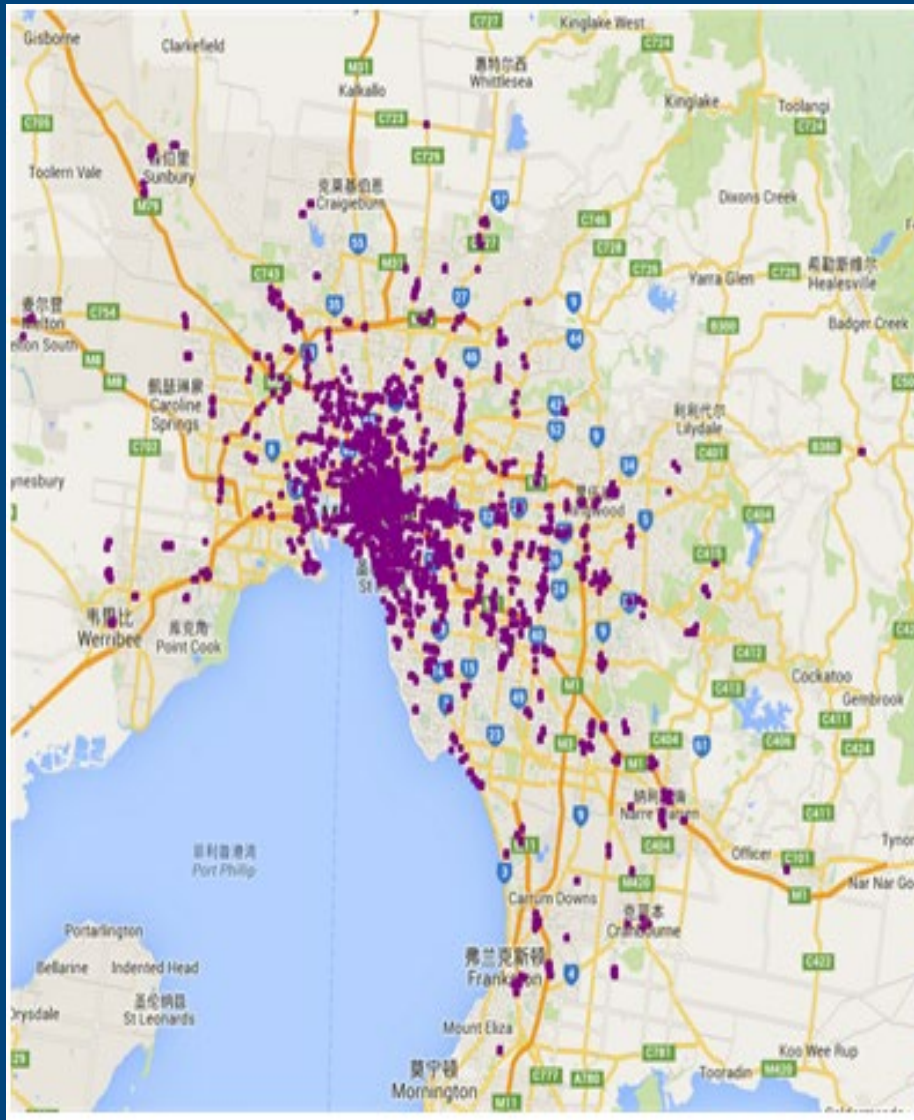
Commuter Patterns...ctd



Accident Blackspot Statistics



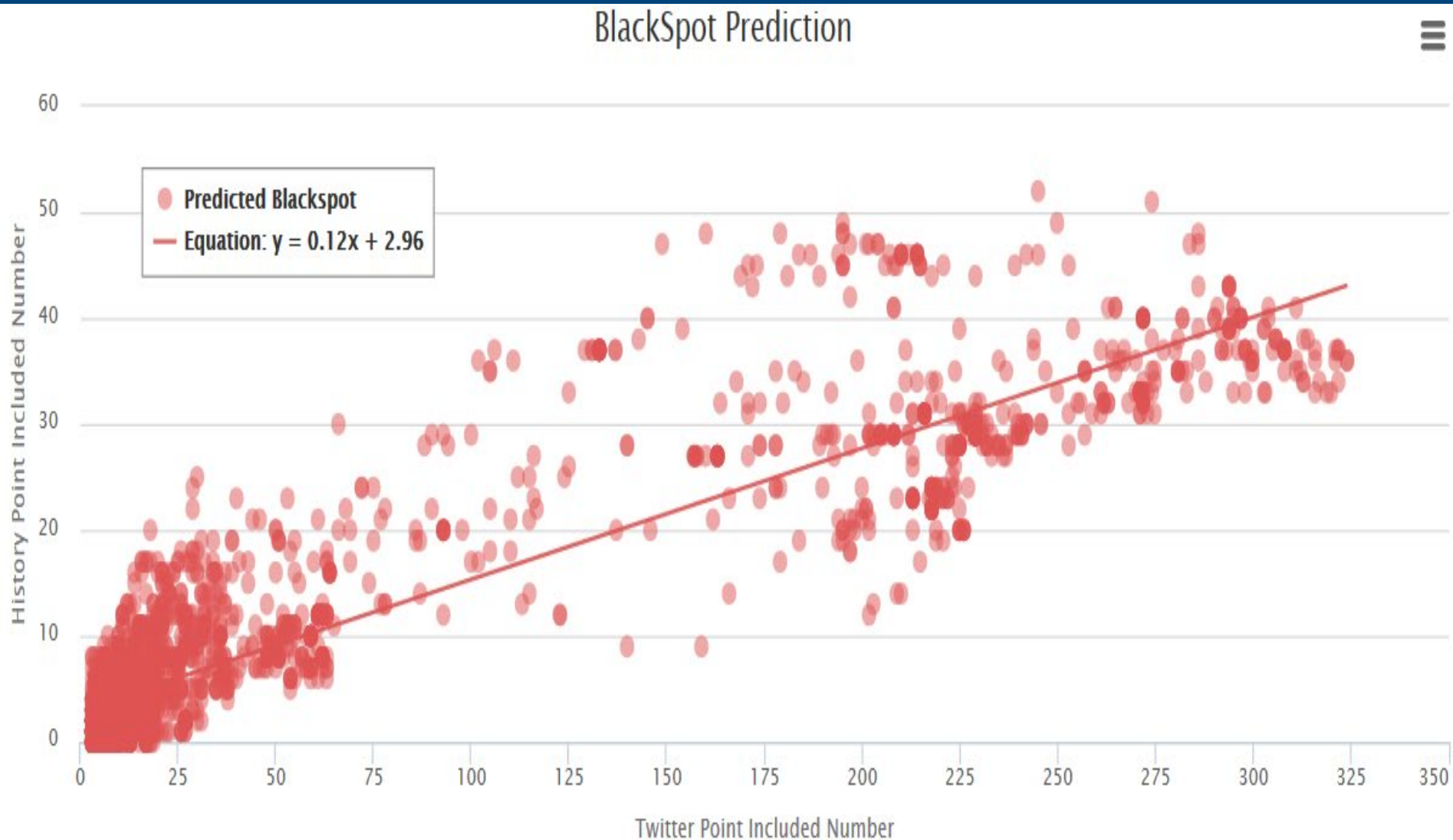
Predicted Clusters vs Historical Blackspots



Predicted Clusters

Actual Historical Blackspots

Number of Blackspot Predictions



More tweets – better alignment with historical blackspots

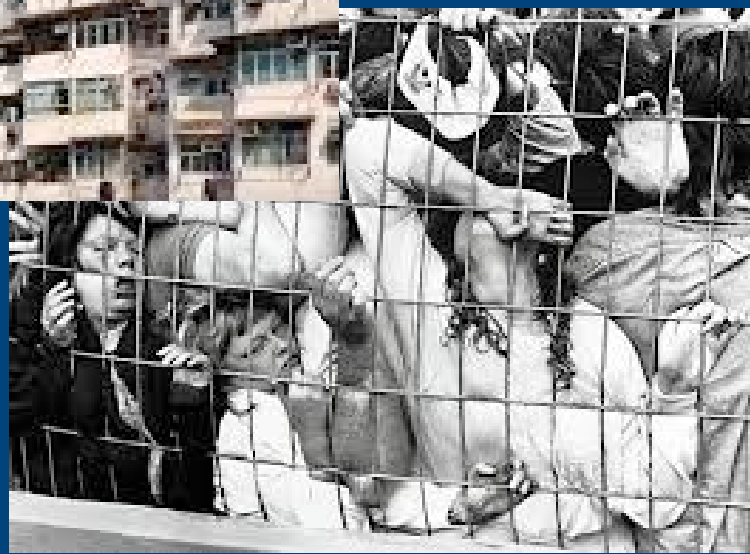
Crowds...?



How many?



Too many!?



AFL, EPL, Seria A, La Liga

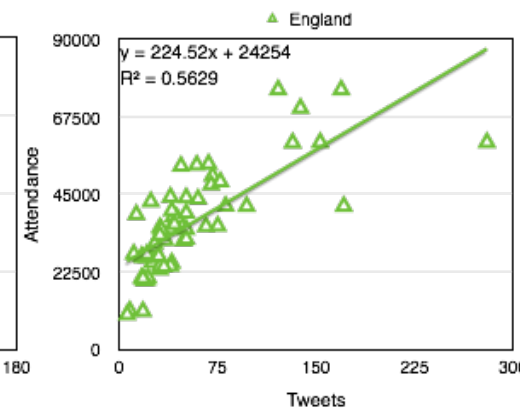
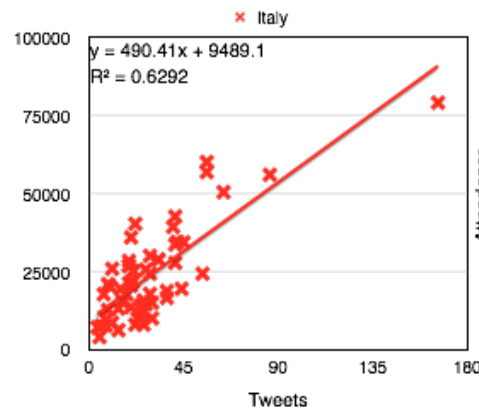
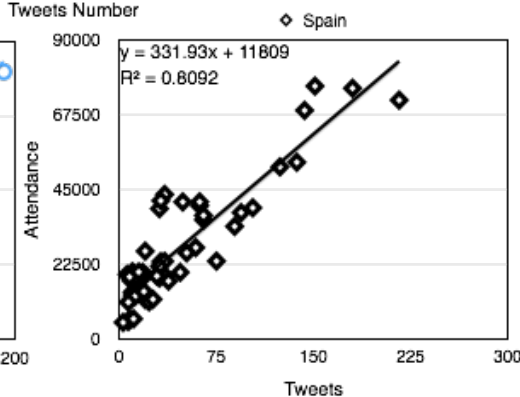
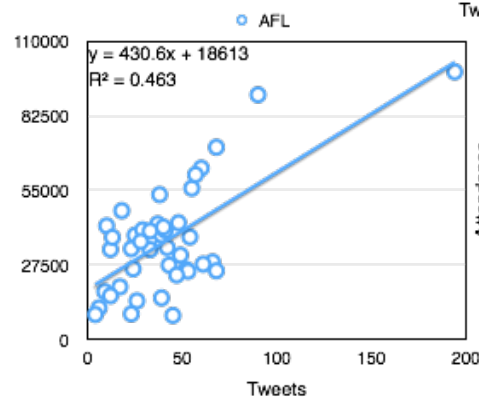
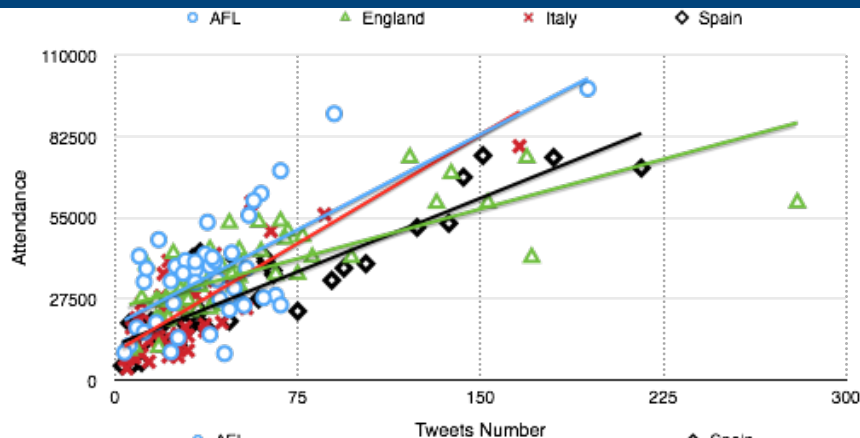


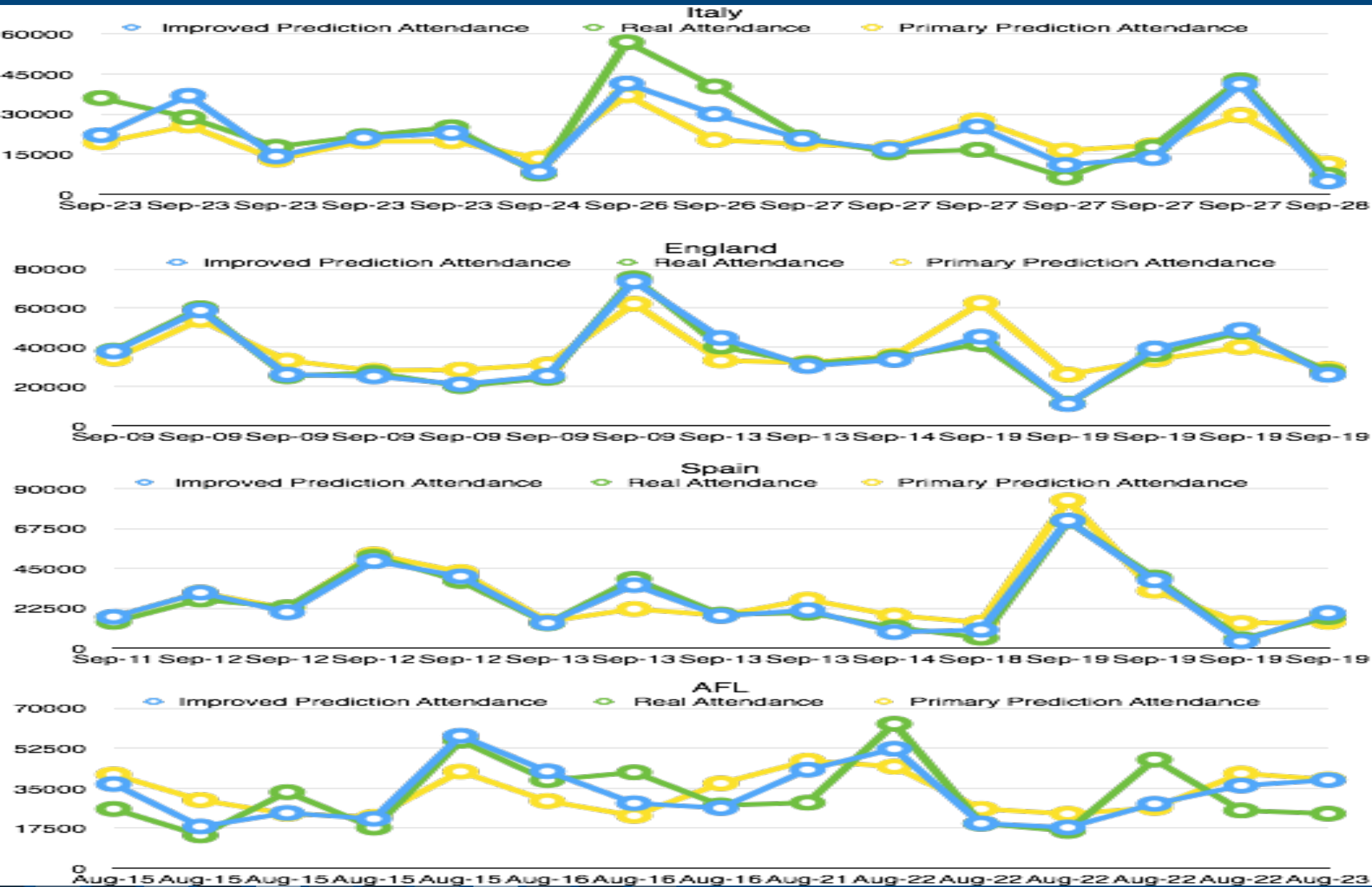
Table 2: Linear Relationship between Tweets and Attendees

	Equation	R^2
AFL	Attendance = 430.6 * Tweets + 18613	0.463
England	Attendance = 224.52 * Tweets + 24254	0.5629
Spain	Attendance = 331.93 * Tweets + 11809	0.8092
Italy	Attendance = 490.41 * Tweets + 9489.1	0.6292

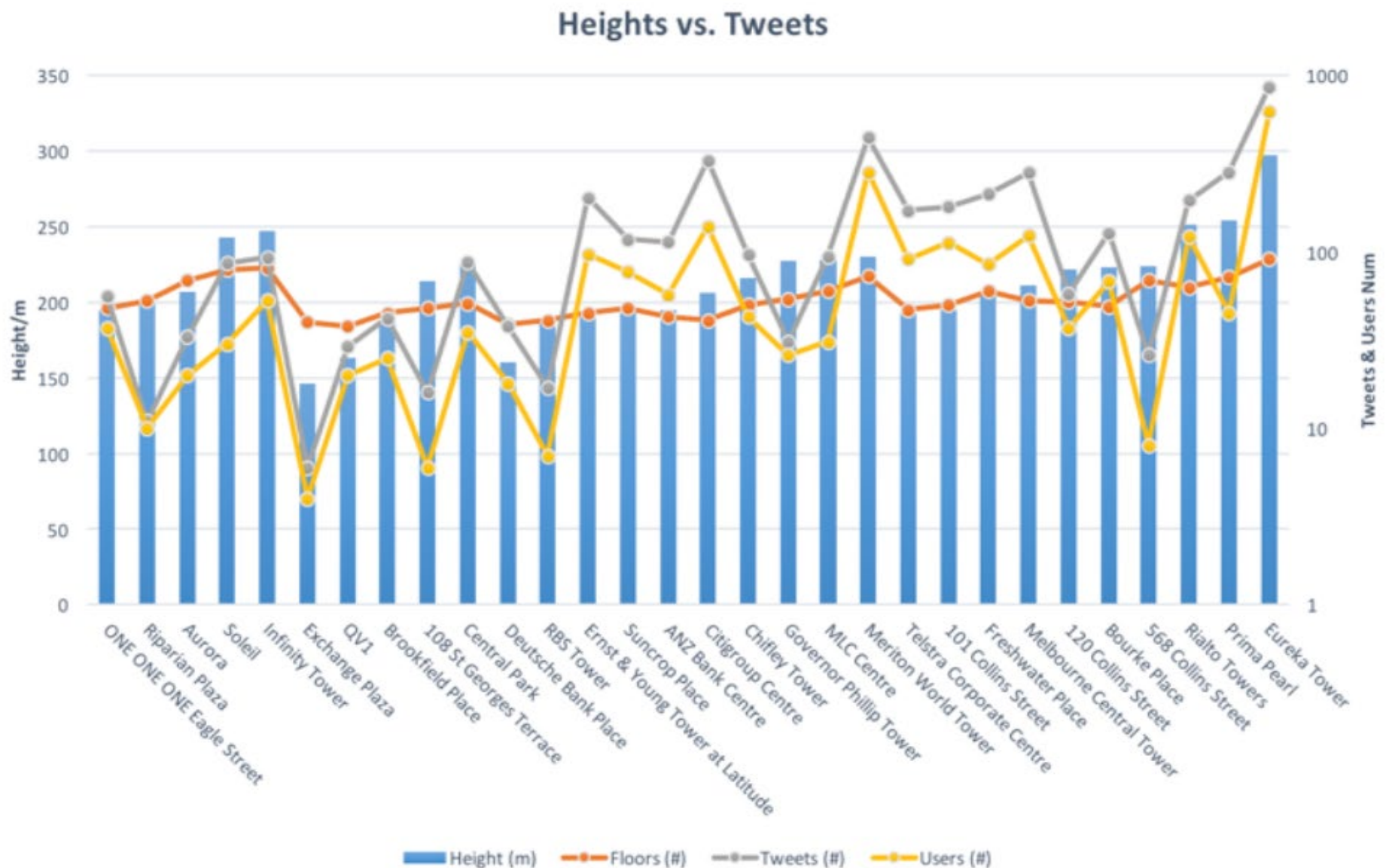
Table 3: Frequent Attendees at Premier League

User Id	User Name	Attendance Frequency
107782177	isalihinabrahim	27
93398111	MrPhilipOldham	8
287183612	cfeebanks	6
275424947	rifaiaabold	6
456837227	SlatePaul	6

Tuning the Accuracy



Skyscraper (Micro-)Populations



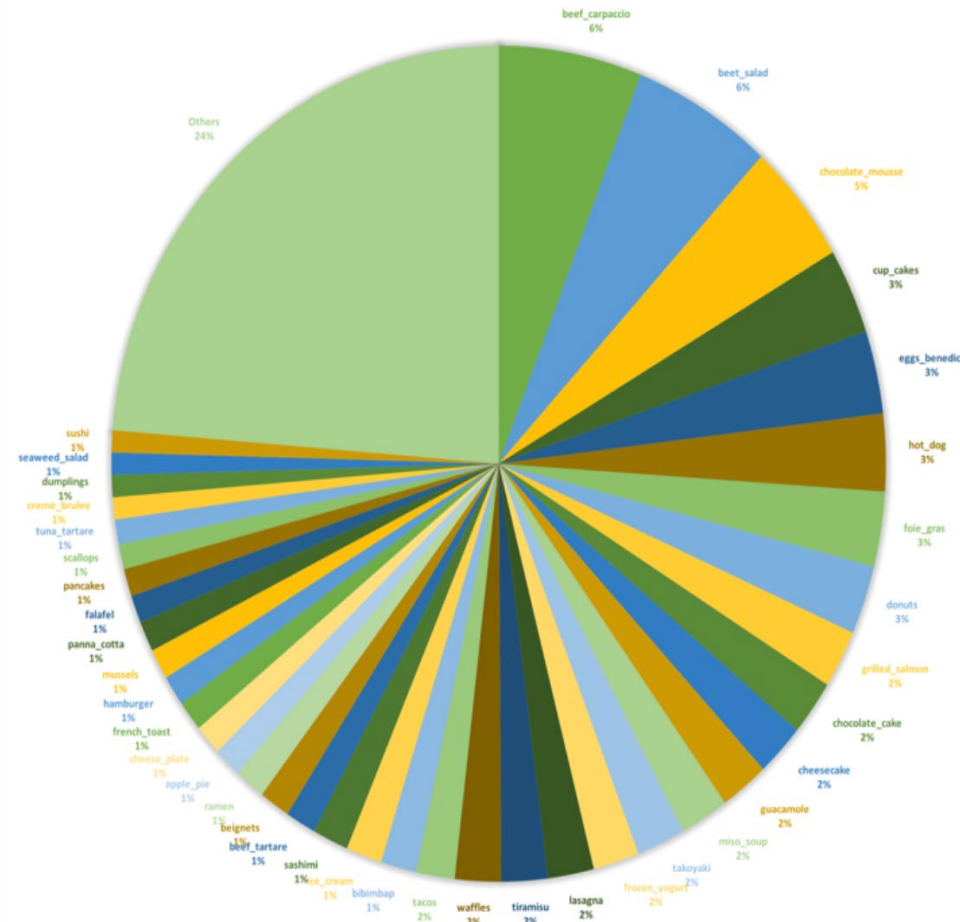
Suburb Populations

City	Suburb	Pop.	Prediction
Melbourne	Carnegie	17047	16184
	Chelsea Heights	5329	5676
	Flemington	9547	8090
	Malvern-Glen Iris	20279	19654
	Port Melbourne	15413	14213
	Yarra - North	8621	8544
	Bexley	26629	24735
Sydney	Hurstville	21329	20615
	Kogarah Bay -	15637	15104
	Carlton Allawah		
	Sans Souci - Rams-	15730	17318
	gate		
Perth	Morley	21665	21037
	Mosman Park-	10828	9234
	PeppermintGrove		
	Hazelmere - South	3788	4298
	Guildford		
Brisbane	Hamilton (Qld)	4930	5491
Weija Chen MSc 2016	Newmarket	4670	5183
	Windsor	6762	6836

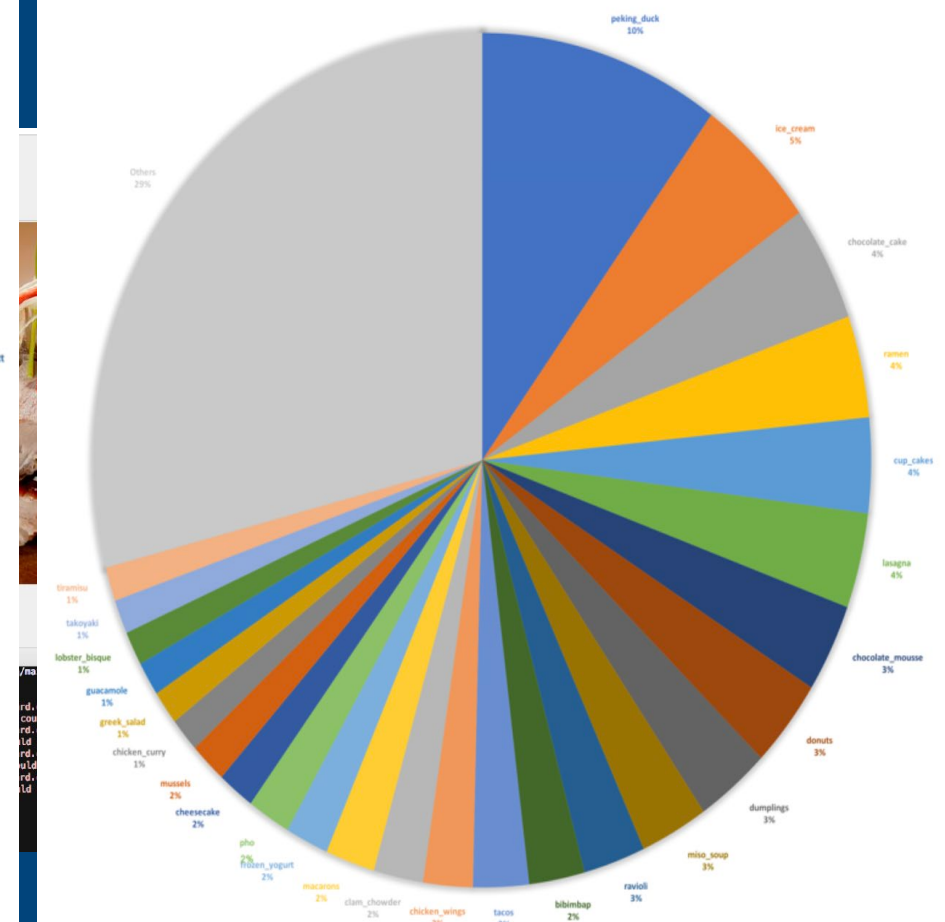
- Factor in:
 - Age
 - Income
 - Ethnicity
 - Geospatial statistical correlations
 - Within 7% accuracy (according to 2016 census)

Food Glorious Food...!!!

CAMBERWELL

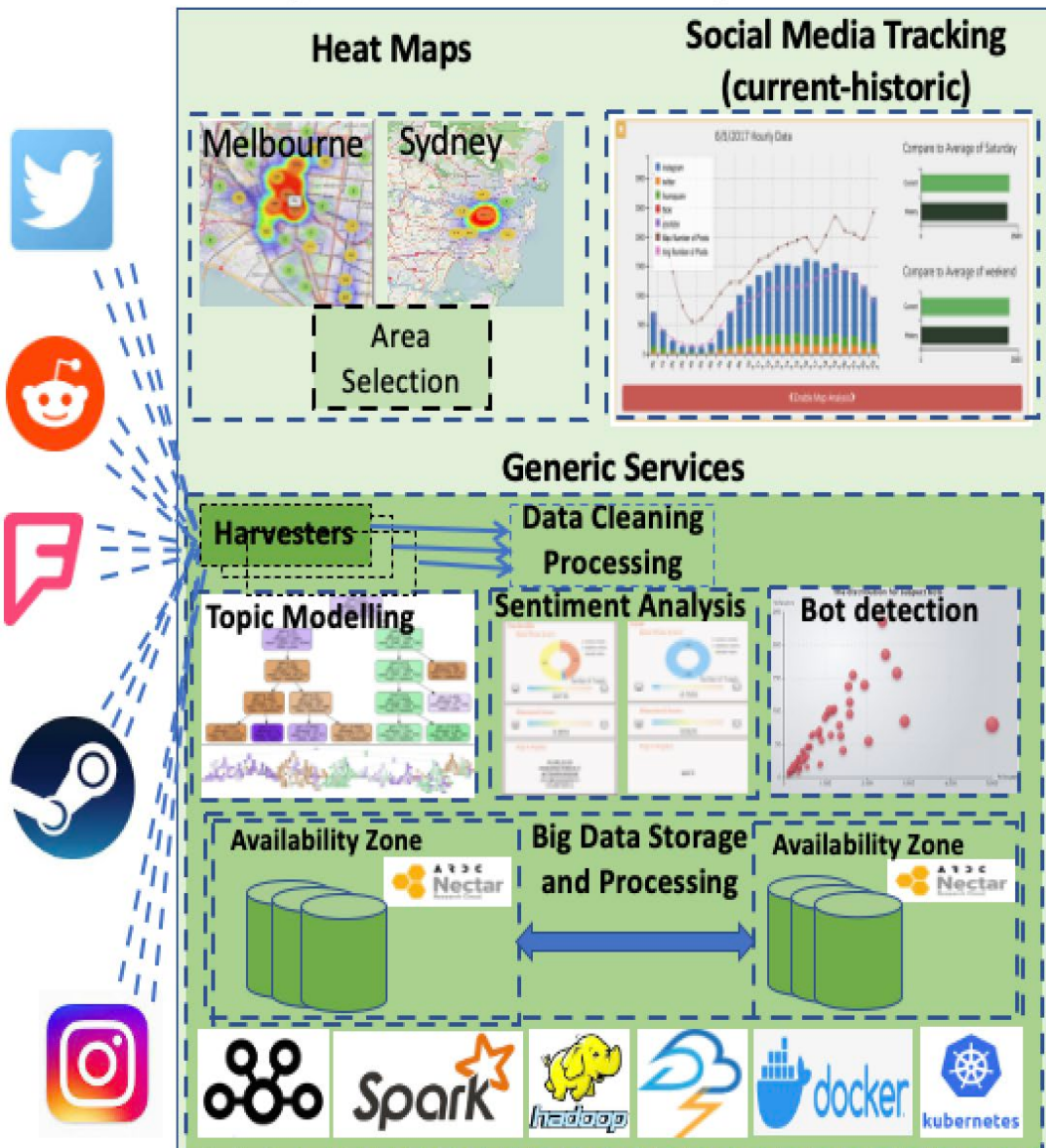


BOX HILL



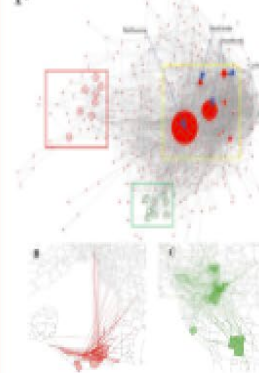
Upcoming activities

Digital Data Observatory

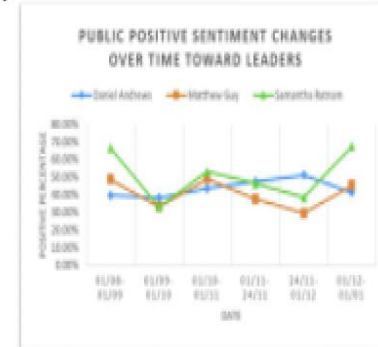


Research Communities

Human Geography (Movement Patterns)



Election Analytics and Prediction

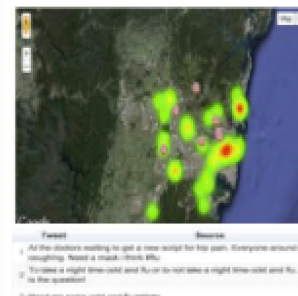


Data Access APIs

Registration APIs

Launching Targeted Services

Health



Event Detection



Others...

Also

<https://www.theverge.com/2021/1/26/22250203/twitter-academic-research-public-tweet-archive-free-access>

APPS MOBILE TECH

Twitter is opening up its full tweet archive to academic researchers for free

To help researchers better study online discourse and platform trends

By Nick Statt | @nickstatt | Jan 26, 2021, 2:00pm EST



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