INRIX Data - Uses for Transportation Planning

Tennessee Model User's Group Meeting

Mt. Juliet, TN

May 8, 2014

INRIX

THE FUTURE OF MOBILITY IS ABOUT

MAKING SMARTER AND BETTER DECISIONS

INRIX

More Than Buzzwords

- Big Data
- Analytics / Performance Measures
- The Cloud
- Crowdsourcing

Crowd: Data Collection Infrastructure?

June 29, 2007

INRIX

Crowd: Data Collection Infrastructure?

Tokyo – September 21, 2012

INRIX Traffic Intelligence Network Free Apps

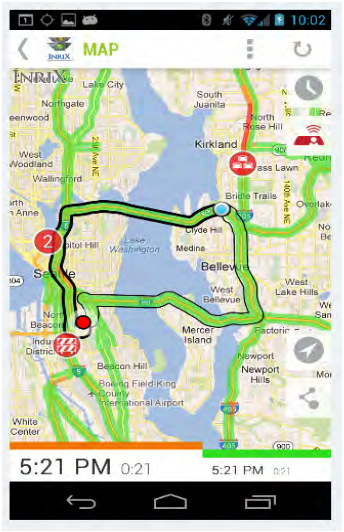
Available on the App Store

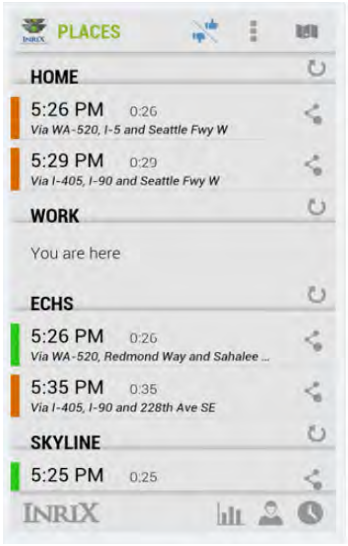
Download for Android

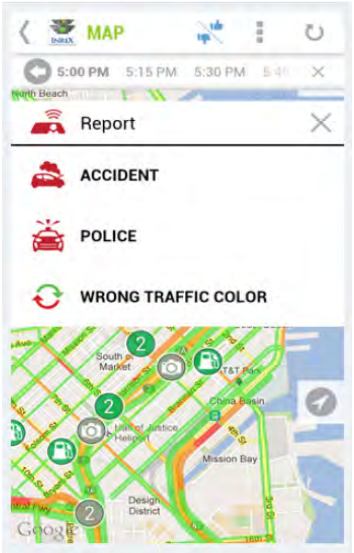
Download for Windows Phone 7

BlackBerry 6.0

Windows 8







www.inrixtraffic.com

TRUSTe

INRIX

Crowdsource with Fleets

Long Haul Trucks

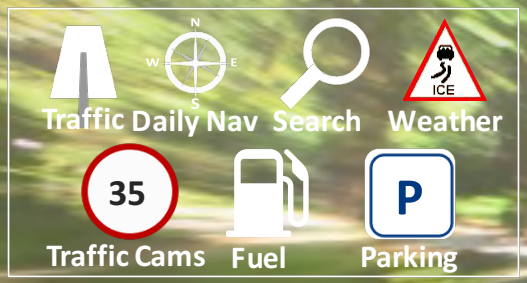
Local Sales, Service & Delivery

Taxis

Airport Shuttles

INRIX

Crowdsource with Connected Vehicles



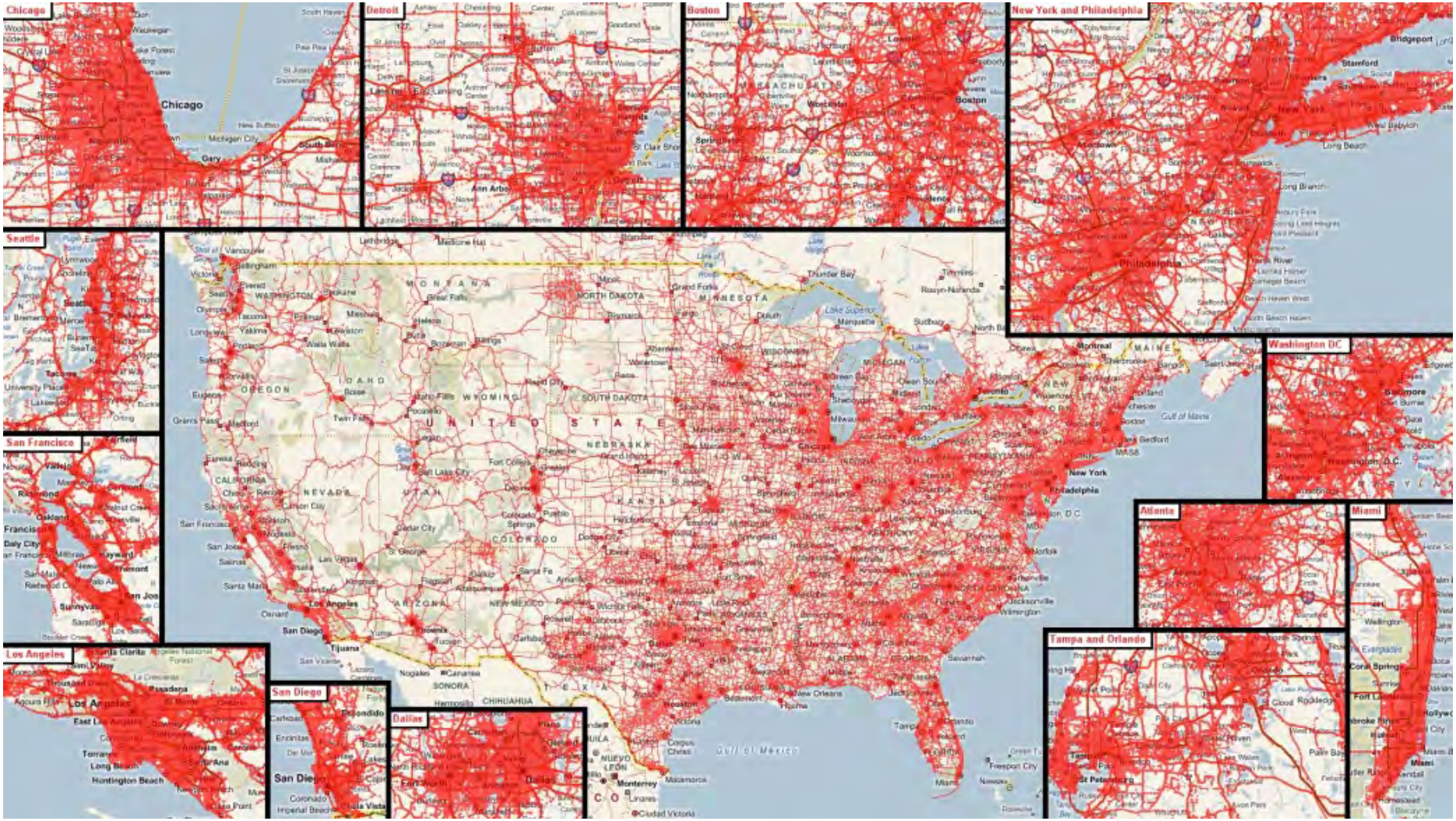
Connected Auto Customers

Single Platform
Single Interface
Single Protocol
Globally

Many service providers are struggling to deliver, but INRIX is on its second generation of automotive grade connected services

Audi, VW	AUDI connect LAUNCHED IN 2011 VW SERVICES LAUNCHED IN 2013	• Audi was first OEM deployment of TPEG over IP Traffic Services • Fuel & Parking Navigation Services
BMW	LAUNCHED IN 2011	• TPEG over IP Traffic Services in Europe and NA • Off-Board/Hybrid routing • Connected Driving Services
Ford, SYNC	4 YEARS HOSTING	• Off-board routing • Voice-enabled Traffic services • Syncmyride.com personalization • SYNC Destinations mobile app • Send-to car
Toyota, Lexus	TOYOTA SERVICES LAUNCHED IN 2011 LEXUS SERVICES LAUNCHED IN 2013	• Toyota entune Traffic Services • Lexus TPEG over IP Traffic and Connected Driving Services in EU
Mercedes-Benz, smart	IN PRODUCTION	• Traffic Cameras launched on Mercedes • Community Parking & INRIX Parking launched with smart cars
Garmin, Kenwood, Pioneer	IN PRODUCTION	• Garmin TPEG over IP Traffic in select EU countries • Kenwood Traffic Services, Connected Parking, Fuel prices, Weather in NA and EU
[redacted]		

GPS Probe Points – June 2013



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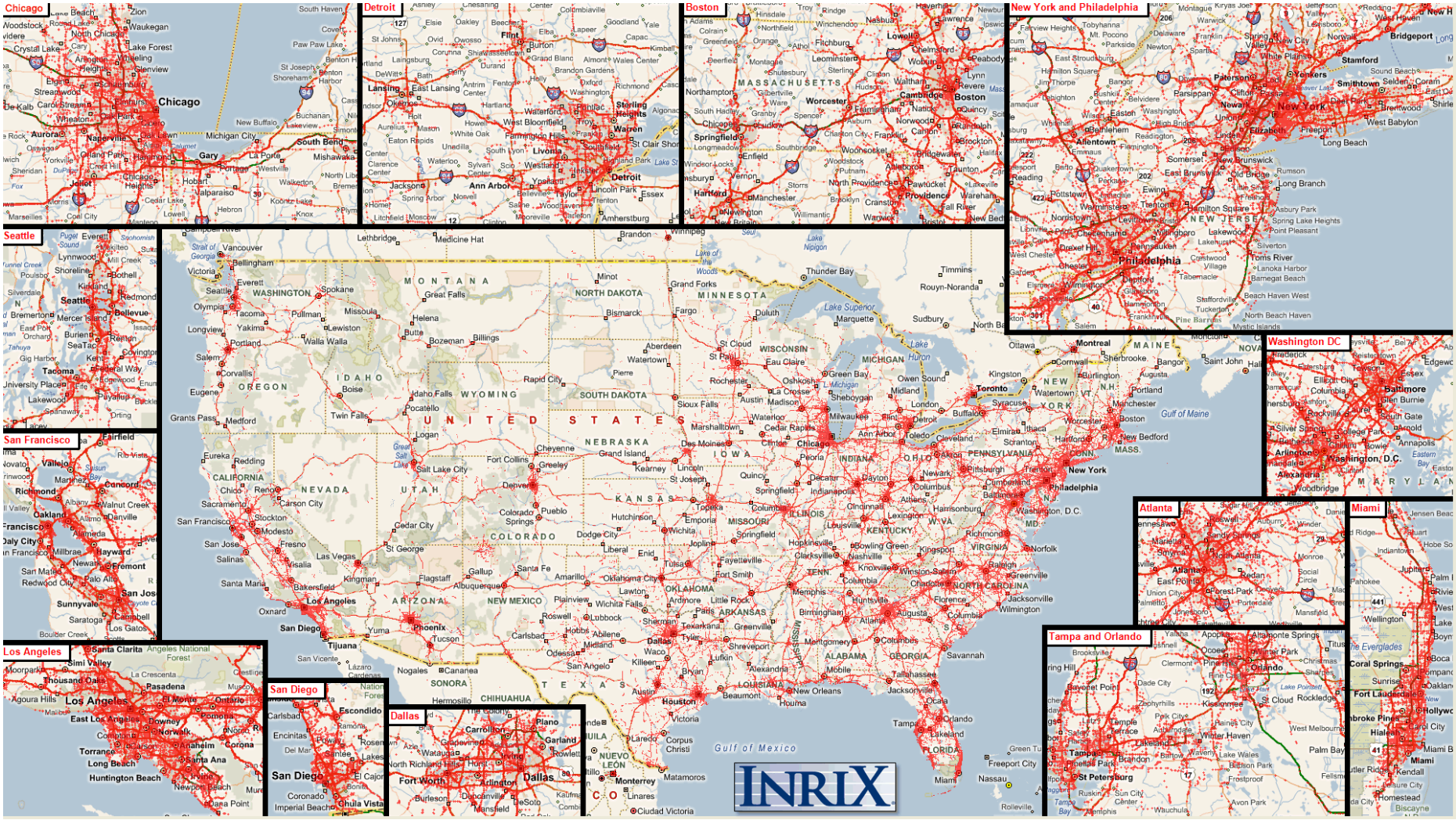
GPS Probe Points – August 2008



INRIX

INRIX's "Big Data" Technology-driven Platform

Above All, INRIX is a High Quality Big Data Aggregator

Consumer vehicle GPS data

Fleet data

Road sensors

Parking data

Mobile data

Incident data

Weather & fuel price data

Event data

INRIX

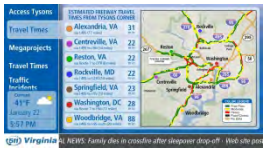
INRIX technology platform

- Leverages big data for real-time fusion and predictive analytics
- Advanced crowdsourcing technology
- Cloud-based service delivery for robust customer applications

Real Time Data

Historical Data

Predictive Data



INRIX

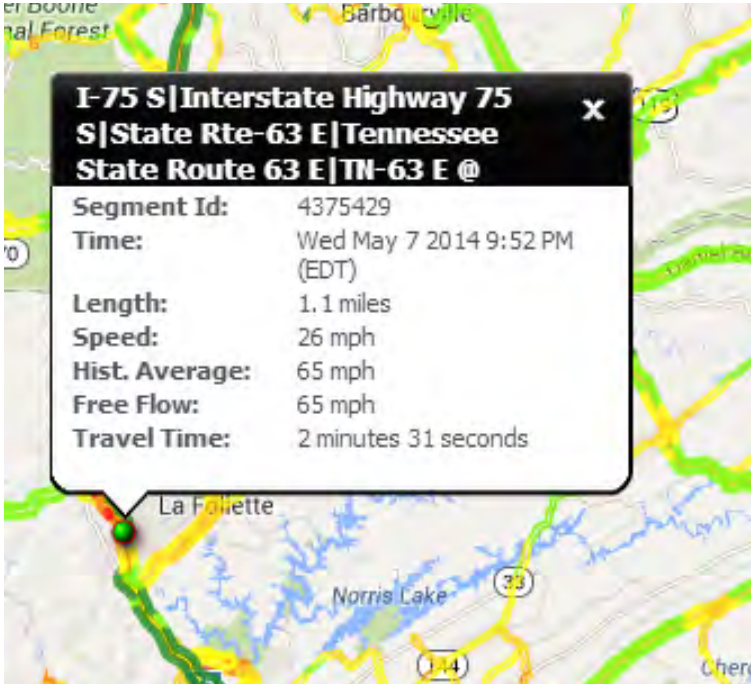
INRIX Coverage – Tennessee

- 11,542 Centerline Miles
- 1.4 million+ miles in the U.S.A. and Canada

INRIX

Real-Time & Predictive Traffic Flow

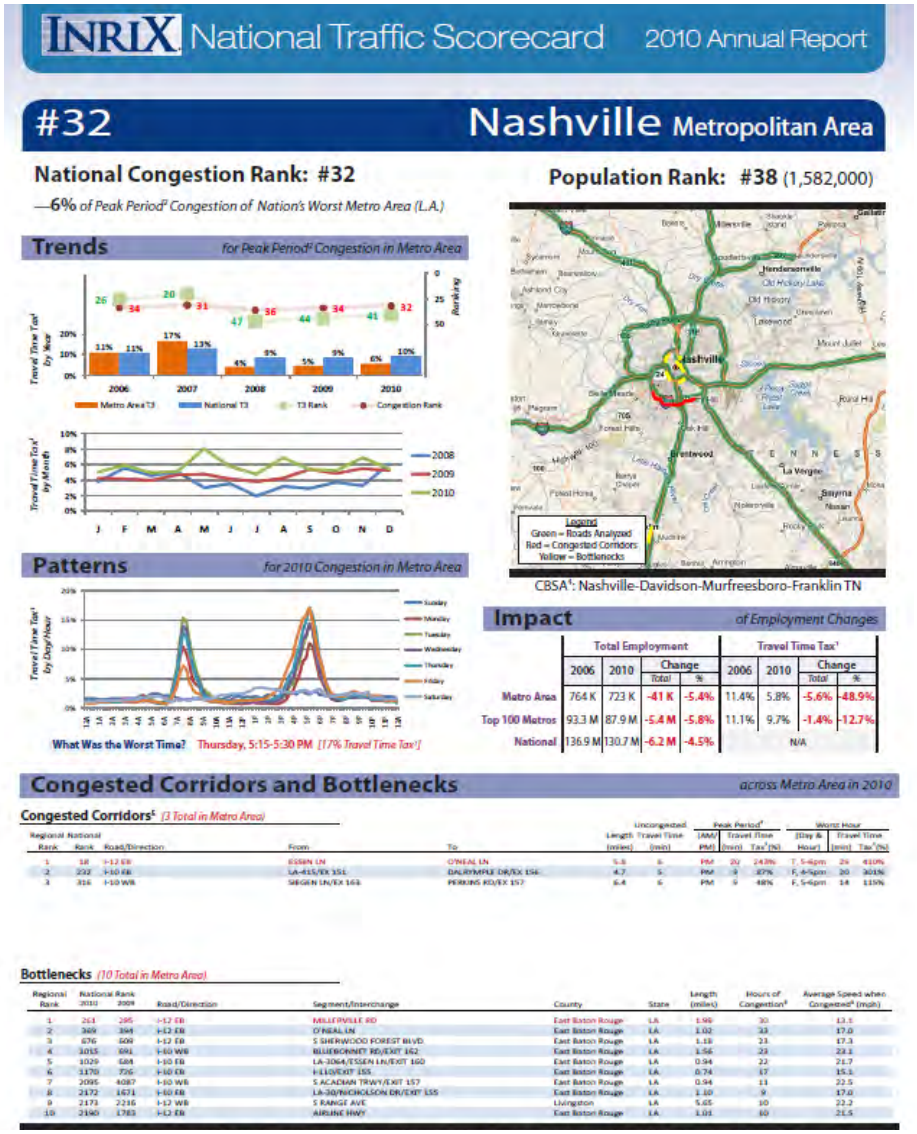
- Road segment by road segment, INRIX provides:
  - Segment information (code, road name, cross streets, direction, length)
  - Speed information (current speed, typical speed, free flow speed)
  - Travel time (in minutes through segment)
  - Congestion level (percentage of free flow)
  - Predictive traffic (speed and congestion forecast in 15 minute increments)



INRIX

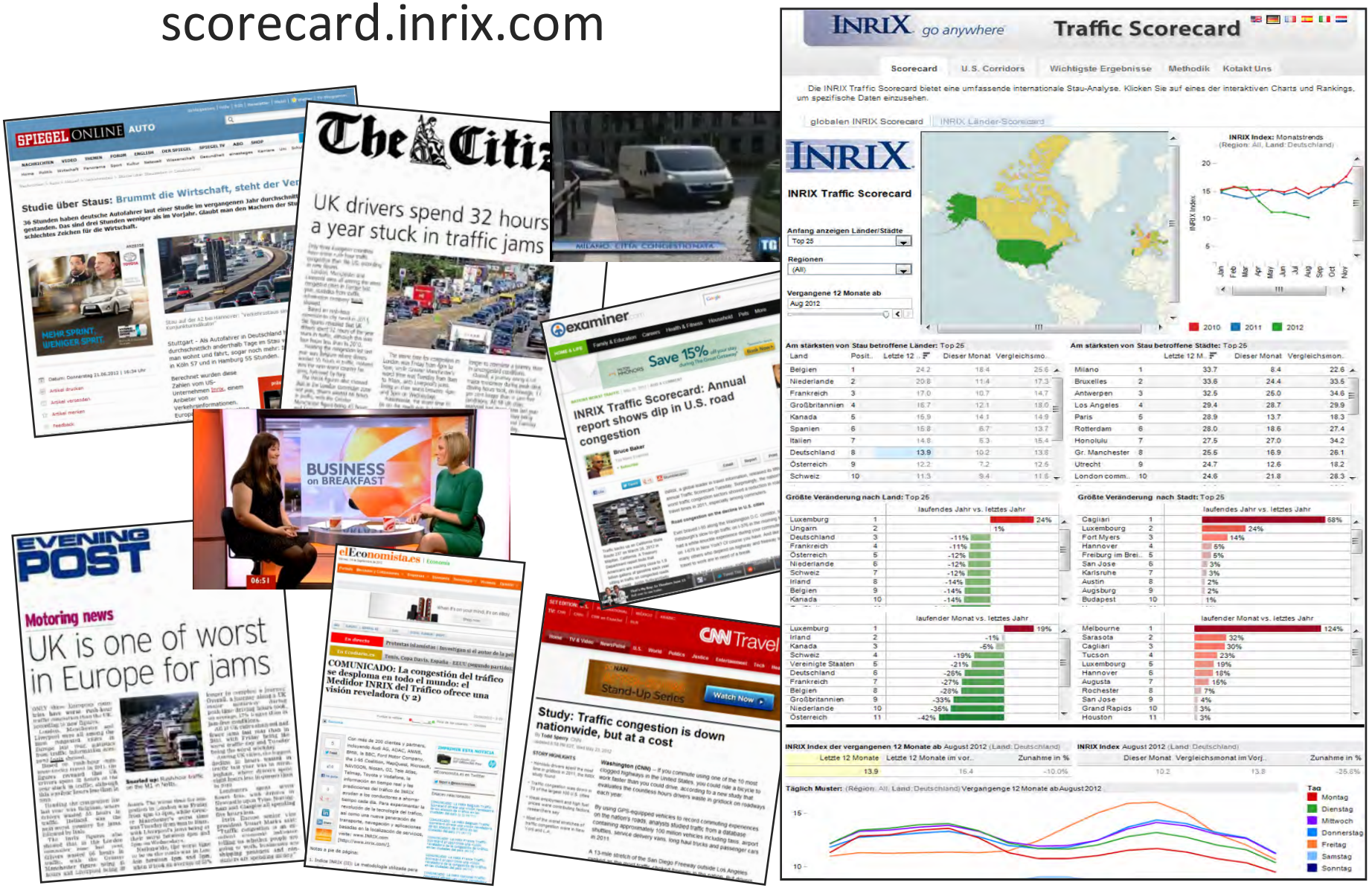
Analytics & Performance Measures

- Programmable queries to create data sets for performance measurement analytics
- Key "out of the box" analytical measures include:
  - Peak hour congestion: assessing and comparing congestion levels from year to year
  - Travel Time Tax: ratio of peak period travel time to free flow travel time
  - Key Bottlenecks: Congested locations with each hour of week that the average speed is less than 50% of free flow
- Plug data into existing analytical engines for further inquiry



Analytics: INRIX Traffic Scorecard

scorecard.inrix.com



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INRIX

Welcome, michael@inrix.com | My Account | Logo

Home | Traffic | Score Card | Analytics | Help

INRIX™ Analytics

INRIX Analytics provides an easy-to-use web portal that enables transportation agencies to leverage our extensive real-time and historical traffic information.

INRIX Analytics enables agencies to view system performance in real time and easily generate system-wide performance measures or drill down on specific corridors and bottlenecks with a few clicks of a mouse. All you need is a web browser to access rich traffic data at your fingertips.

INRIX offers a cloud-based software-as-a-service that includes calibration data, processed information, and analytical insight in formats tailored to individual or cross-agency needs in sub-1 minute real-time, archive, or historical datasets.

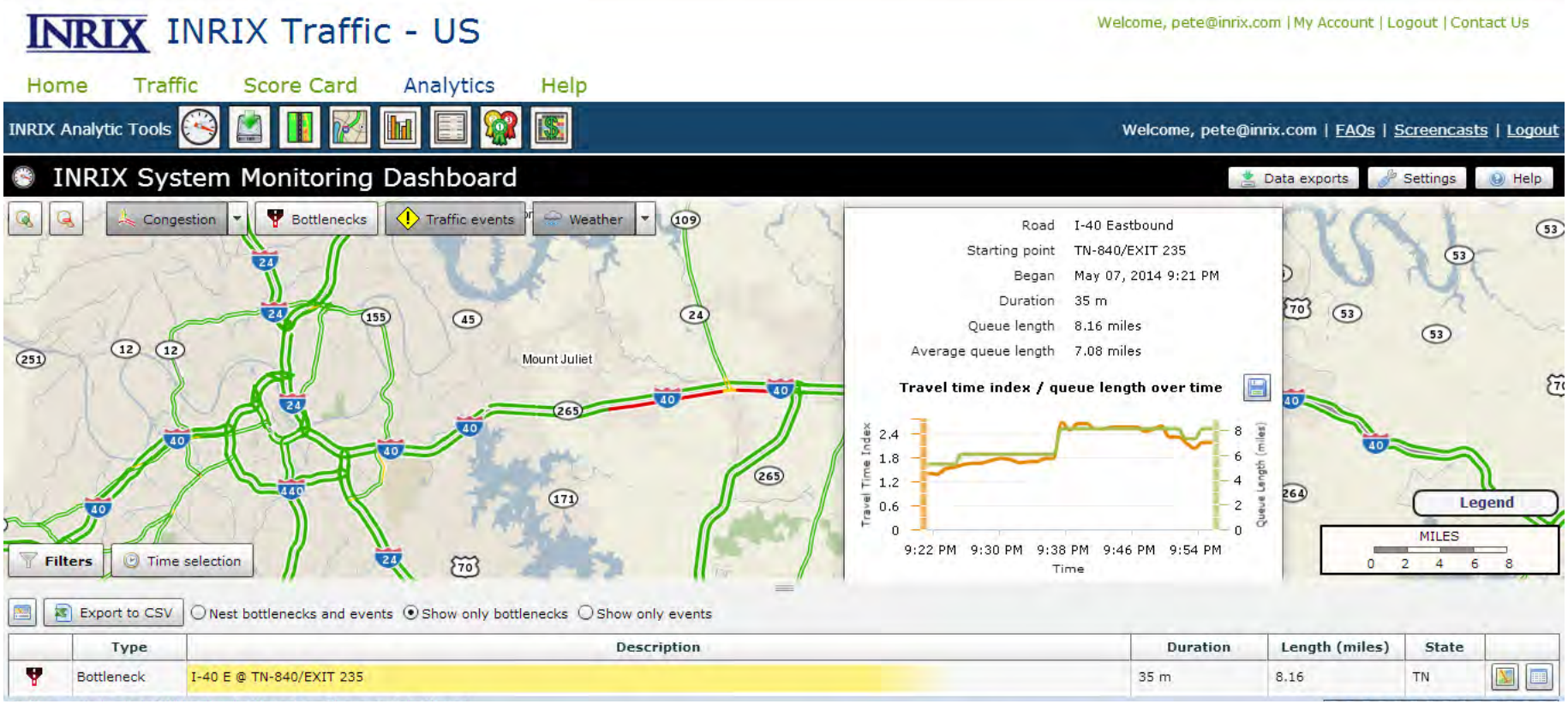
Click below to contact INRIX.

Find Out More

Benefits of INRIX Analytics

- One-stop shop for traffic analysis - data and tools
- No agency systems integration required providing true 'Dashboard-in-a-box' graphics
- Available to any or all agency and extended staff
- Flexible use options to match need and budget
- New features upgraded seamlessly

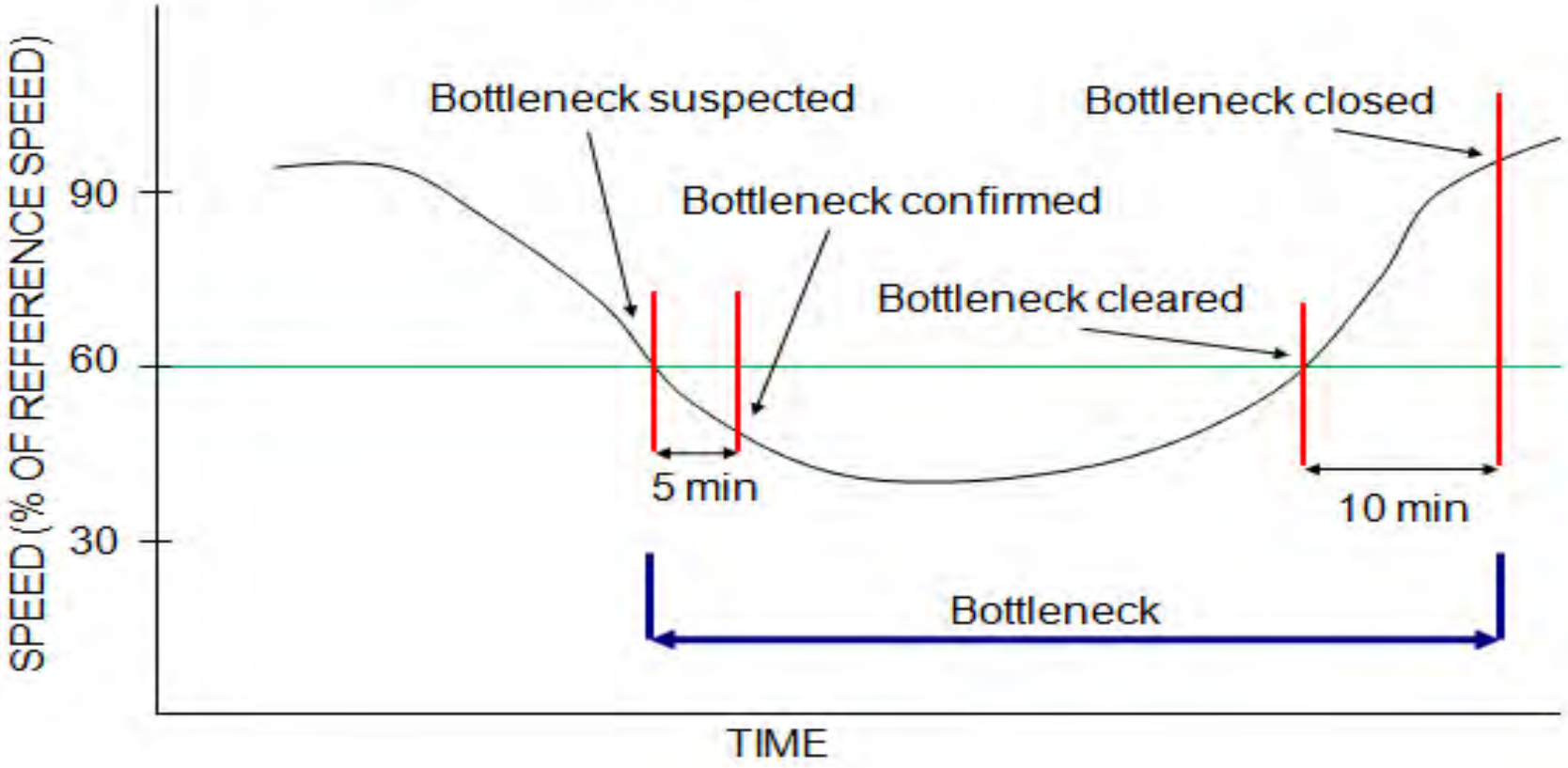
Dashboard


INRIX INRIX Traffic - US
Welcome, pete@inrix.com | My Account | Logout | Contact Us
Home
Traffic
Score Card
Analytics
Help
INRIX Analytic Tools
Welcome, pete@inrix.com | FAQs | Screencasts | Logout
INRIX System Monitoring Dashboard
Data exports
Settings
Help
Congestion
Bottlenecks
Traffic events
Weather
Mount Juliet
Road I-40 Eastbound
Starting point TN-840/EXIT 235
Began May 07, 2014 9:21 PM
Duration 35 m
Queue length 8.16 miles
Average queue length 7.08 miles
Travel time index / queue length over time
Travel Time Index
Queue Length (miles)
9:22 PM 9:30 PM 9:38 PM 9:46 PM 9:54 PM
Time
Legend
MILES
0 2 4 6 8
Filters
Time selection
Export to CSV
Nest bottlenecks and events
Show only bottlenecks
Show only events
Type
Description
Duration
Length (miles)
State
Bottleneck
I-40 E @ TN-840/EXIT 235
35 m
8.16
TN

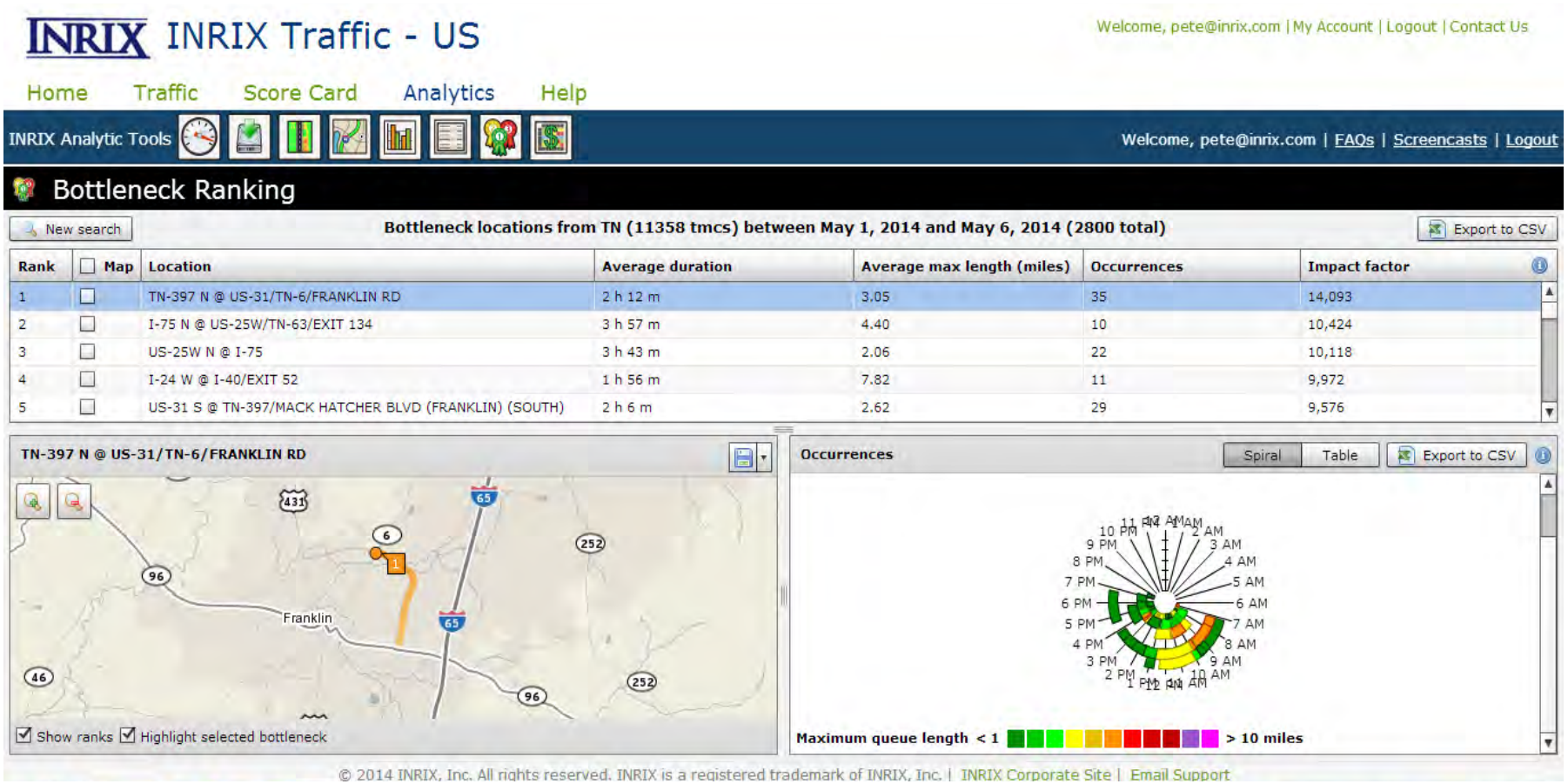
Bottleneck Definition

A bottleneck represents a single TMC segment or group of adjacent segments in which the actual travel speed drops below 60% of the reference speed for a period longer than 5 minutes. The bottleneck is considered closed once the travel speed returns to a value greater than 60% of the reference speed and remains there for 10 minutes.

The chart below shows a basic example of the speed over time plot for a bottleneck, and indicates where the bottleneck's status would be updated.

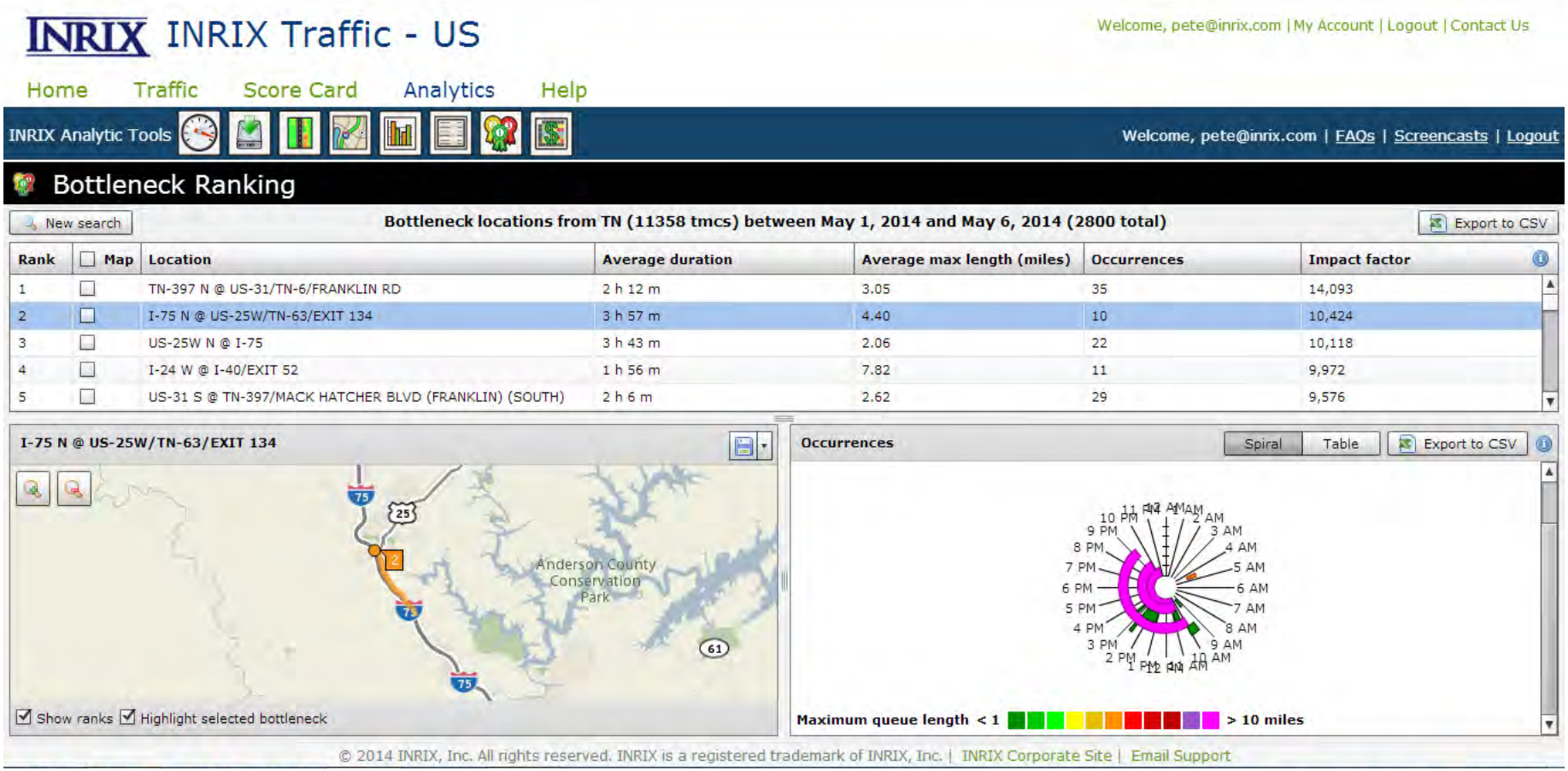


Tennessee Bottlenecks May 1 – 6



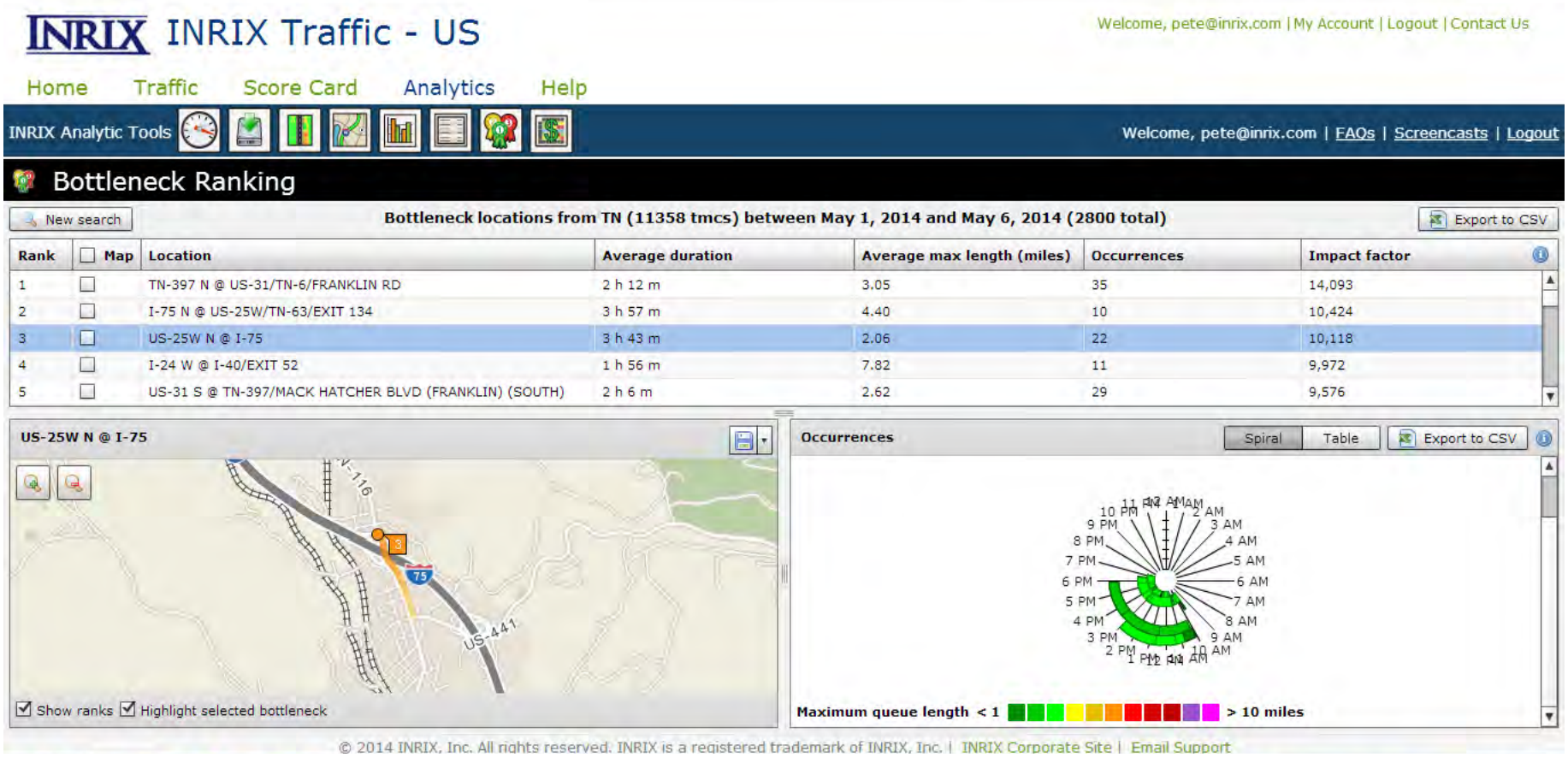
TN-397N @ US-31/TN-6/FRANKLIN RD (14,093)

Tennessee Bottlenecks May 1 – 6



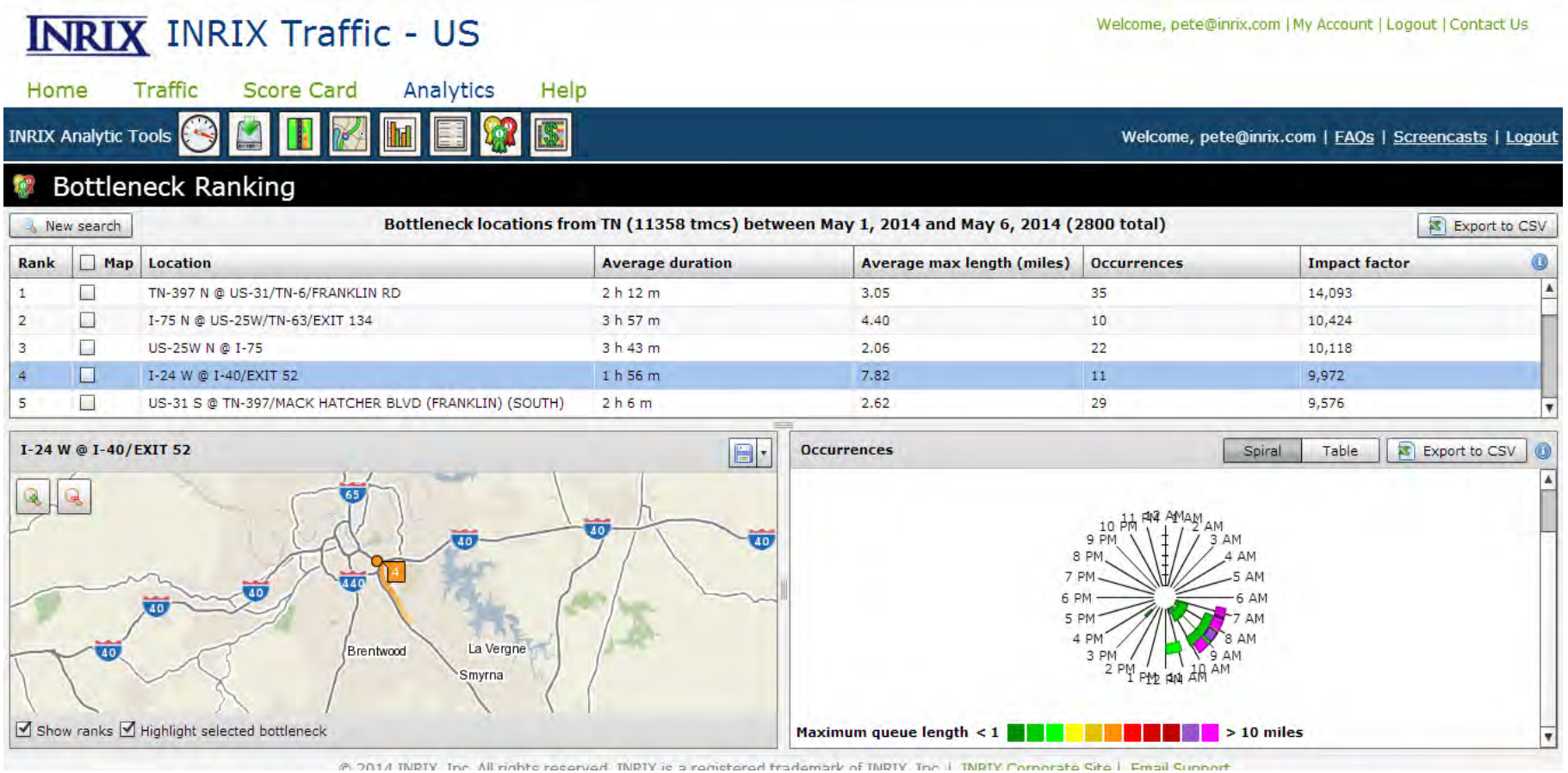
I-75N @ US-25W/TN-63/EXIT 134 (10,424)

Tennessee Bottlenecks May 1 – 6



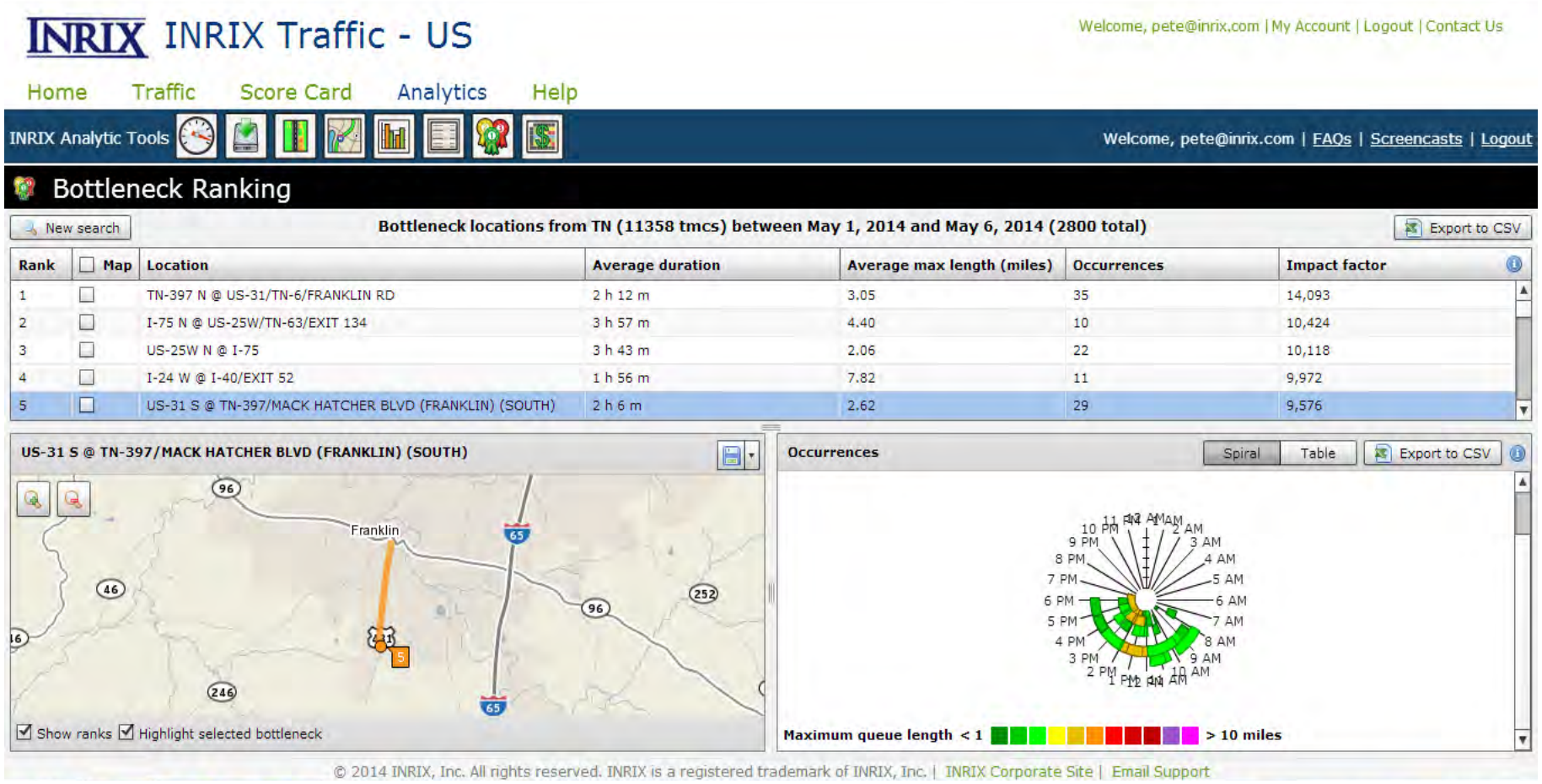
US-25W N @ I-75 (10,118)

Tennessee Bottlenecks May 1 – 6



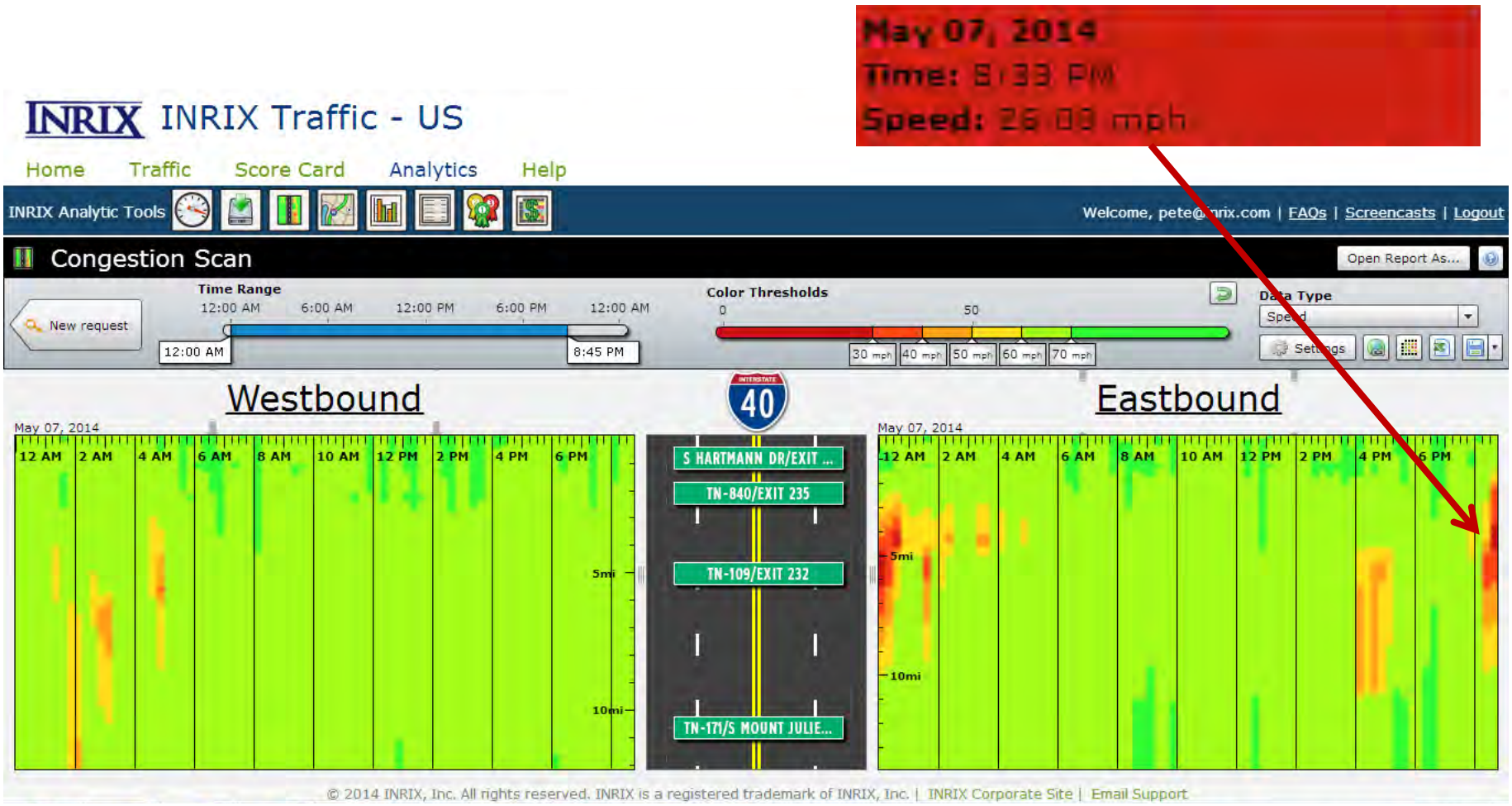
I-24W @ I-40/EXIT 52 (9,972)

Tennessee Bottlenecks May 1 – 6



US-31S @ TN-397/MACK HATCHER BLVD (9,576)

Congestion Scans

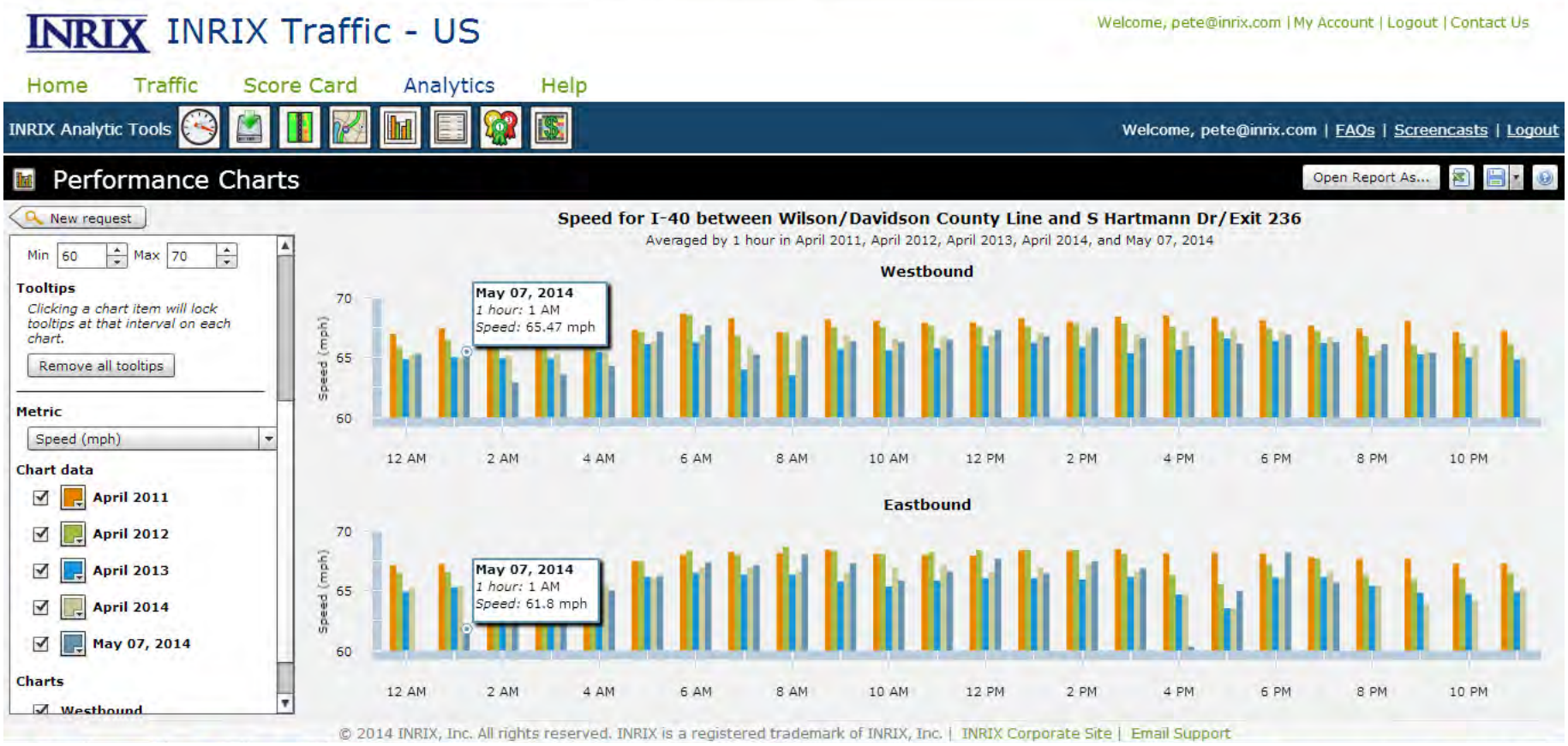


Performance Summaries

Before, During and After Studies
1 Minute Archive Back to
January 1, 2011

INRIX

Performance Summaries



Before, During and After Studies
1 Minute Archive Back to
January 1, 2011

INRIX

Performance Summaries

Buffer time (minutes)	12:00 AM - 12:00 AM	6:00 AM - 9:00 AM	11:00 AM - 1:00 PM	4:00 PM - 7:00 PM
Monday	0.55	1.09	0.37	0.26
Tuesday	0.42	0.42	0.21	0.38
Wednesday	0.7	21.87	0.3	0.14
Thursday	1.14	0.25	0.28	0.27
Friday	0.42	0.74	0.38	0.17
Saturday	0.27	0.3	0.18	0.13
Sunday	0.39	0.3	0.07	0.16
Weekends	0.36	0.31	0.19	0.16
Weekdays	0.51	0.97	0.3	0.3
All Days	0.46	0.59	0.29	0.17

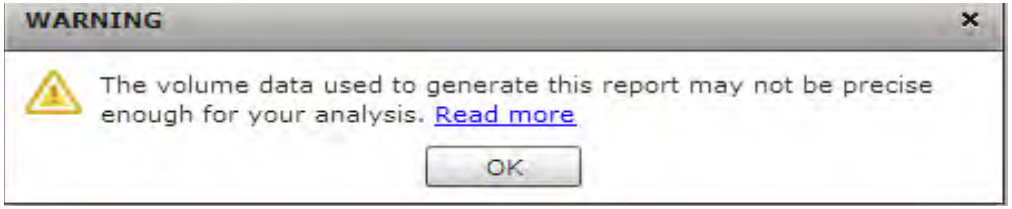
Buffer index	12:00 AM - 12:00
Monday	0.04
Tuesday	0.03
Wednesday	0.05
Thursday	0.08
Friday	0.03
Saturday	0.02
Sunday	0.03
Weekends	0.03
Weekdays	0.04
All Days	0.03

Planning time index	12:00 AM - 12:00 AM	6:00 AM - 9:00 AM	11:00 AM - 1:00 PM	4:00 PM - 7:00 PM
Monday	1.04	1.08	1.03	1.02
Tuesday	1.03	1.03	1.02	1.03
Wednesday	1.05	2.58	1.02	1.01

Speed (mph)	12:00 AM - 12:00
Monday	66.15
Tuesday	66.25
Wednesday	65.75

Buffer, Planning and Travel Time and Their Associated Indices

INRIX Analytics User Delay Examples



What should I be concerned about with the User Delay Analysis reports?

The volume data used to generate these reports has been extracted from a national dataset for average annual daily traffic (AADT) counts at a segment level. These annual traffic volumes were converted into 15-minute volumes for each day of the average week. This method produced 15-minute volumes that could be higher or lower than actually experienced on any segment; however, as larger geographies are analyzed (corridors, subareas, etc) the results will prove reasonably correct. This national dataset was meant for planning purposes; any analysis that focuses on finite times/dates or on analyses of very short road sections should be approached with caution.

If your agency wishes to help improve the accuracy of this volume dataset, instructions on how to provide better volume data to the University of Maryland can be found here.

INRIX Analytics User Delay Examples

Look at these boxes for examples of the described calculation. These examples will use data for TMC "108-04106" (Harper Ave/Exit 234 on I-94 in Michigan) for the week of January 9, 2011 to January 15, 2011.

Delay Analysis Calculations

This document explains the procedures to calculate hourly delay and user delay cost for a segment of road. All calculations that are performed are provided with an example.

Adjustment Factors

When calculating Average Daily Traffic counts (ADT) from Annual Average Daily Traffic (AADT) counts, daily factors must be applied.

Day of Week	Adjustment Factor
Monday to Thursday	+5%
Friday	+10%
Saturday	-10%
Sunday	-20%

AADT for 2011 = 45250
ADT for Tuesday = 45250 + (45250 * 0.05) = 47512
ADT for Sunday = 45250 - (45250 * 0.20) = 36200

With these daily factors calculated, the percentage of passenger and commercial vehicles must be applied to the ADT value. If no percentages are found for a TMC segment, use 75% passenger, 25% commercial.

Commercial percent of vehicles for 108-04106: 7%
Passenger: 93%
Passenger ADT for Tuesday = 47512 * .93 = 44186
Passenger ADT for Sunday = 36200 * .93 = 33666
Commercial: 7%
Commercial ADT for Tuesday = 47512 * .07 = 3325
Commercial ADT for Sunday = 36200 * .07 = 2534

Some TMC segments may span across two or more defined volume link locations, and vice versa (as shown in Figure 1). In order to obtain a single AADT measurement for TMCs that fall under this case, the AADT of the overlapped detector locations must be weighted by the distance of the portion of the TMC that falls into the range of each link location.

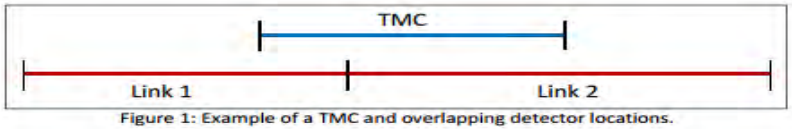
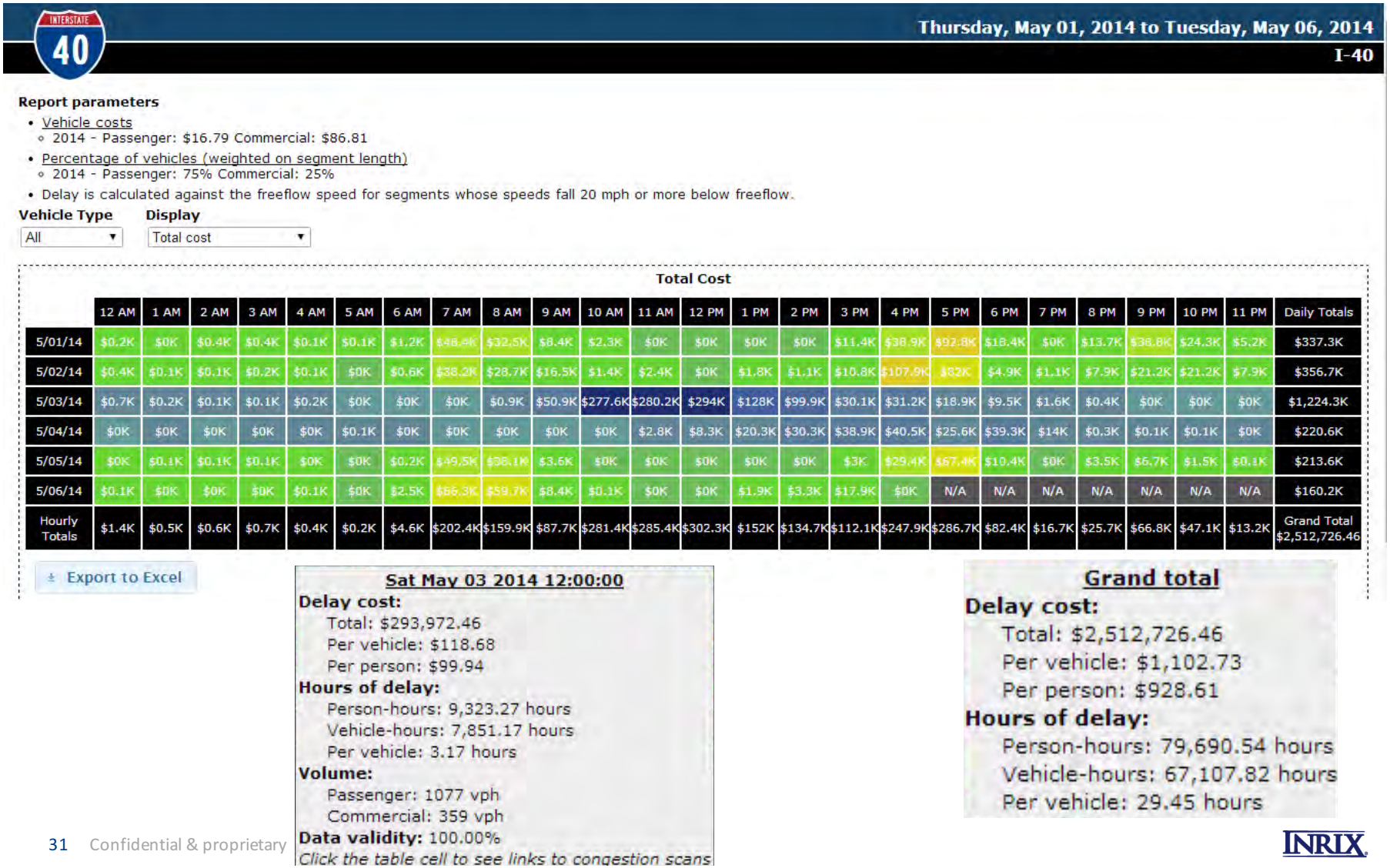


Figure 1: Example of a TMC and overlapping detector locations.

INRIX Analytics User Delay Examples



Thursday, May 01, 2014 to Tuesday, May 06, 2014

I-40

Report parameters

- Vehicle costs
  - 2014 - Passenger: $16.79 Commercial: $86.81
- Percentage of vehicles (weighted on segment length)
  - 2014 - Passenger: 75% Commercial: 25%
- Delay is calculated against the freeflow speed for segments whose speeds fall 20 mph or more below freeflow.

Vehicle Type: All **Display**: Total cost

Total Cost

	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Daily Totals
5/01/14	$0.2K	$0K	$0.4K	$0.4K	$0.1K	$0.1K	$1.2K	$48.4K	$32.5K	$8.4K	$2.3K	$0K	$0K	$0K	$0K	$11.4K	$38.9K	$92.8K	$18.4K	$0K	$13.7K	$38.8K	$24.3K	$5.2K	$337.3K
5/02/14	$0.4K	$0.1K	$0.1K	$0.2K	$0.1K	$0K	$0.6K	$38.2K	$28.7K	$16.5K	$1.4K	$2.4K	$0K	$1.8K	$1.1K	$10.8K	$107.9K	$82K	$4.9K	$1.1K	$7.9K	$21.2K	$21.2K	$7.9K	$356.7K
5/03/14	$0.7K	$0.2K	$0.1K	$0.1K	$0.2K	$0K	$0K	$0K	$0.9K	$50.9K	$277.6K	$280.2K	$294K	$128K	$99.9K	$30.1K	$31.2K	$18.9K	$9.5K	$1.6K	$0.4K	$0K	$0K	$0K	$1,224.3K
5/04/14	$0K	$0K	$0K	$0K	$0K	$0.1K	$0K	$0K	$0K	$0K	$0K	$2.8K	$8.3K	$20.3K	$30.3K	$38.9K	$40.5K	$25.6K	$39.3K	$14K	$0.3K	$0.1K	$0.1K	$0K	$220.6K
5/05/14	$0K	$0.1K	$0.1K	$0.1K	$0K	$0K	$0.2K	$49.5K	$38.1K	$3.6K	$0K	$0K	$0K	$0K	$0K	$3K	$29.4K	$67.4K	$10.4K	$0K	$3.5K	$6.7K	$1.5K	$0.1K	$213.6K
5/06/14	$0.1K	$0K	$0K	$0K	$0.1K	$0K	$2.5K	$66.3K	$59.7K	$8.4K	$0.1K	$0K	$0K	$1.9K	$3.3K	$17.9K	$0K	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$160.2K
Hourly Totals	$1.4K	$0.5K	$0.6K	$0.7K	$0.4K	$0.2K	$4.6K	$202.4K	$159.9K	$87.7K	$281.4K	$285.4K	$302.3K	$152K	$134.7K	$112.1K	$247.9K	$286.7K	$82.4K	$16.7K	$25.7K	$66.8K	$47.1K	$13.2K	Grand Total $2,512,726.46

Export to Excel

Sat May 03 2014 12:00:00

Delay cost:
Total: $293,972.46
Per vehicle: $118.68
Per person: $99.94

Hours of delay:
Person-hours: 9,323.27 hours
Vehicle-hours: 7,851.17 hours
Per vehicle: 3.17 hours

Volume:
Passenger: 1077 vph
Commercial: 359 vph

Data validity: 100.00%

Click the table cell to see links to congestion scans

Grand total

Delay cost:
Total: $2,512,726.46
Per vehicle: $1,102.73
Per person: $928.61

Hours of delay:
Person-hours: 79,690.54 hours
Vehicle-hours: 67,107.82 hours
Per vehicle: 29.45 hours

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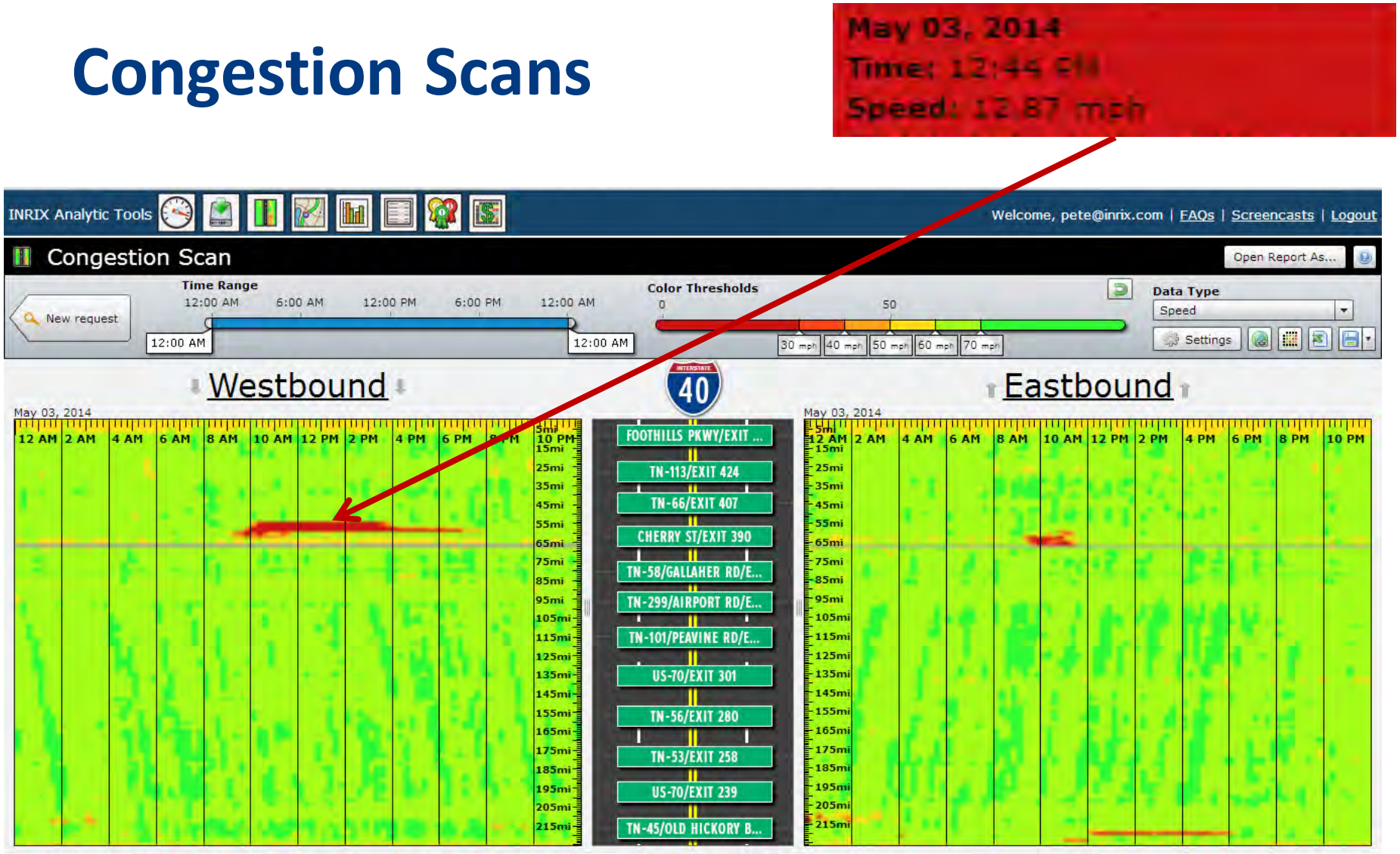
Congestion Scans



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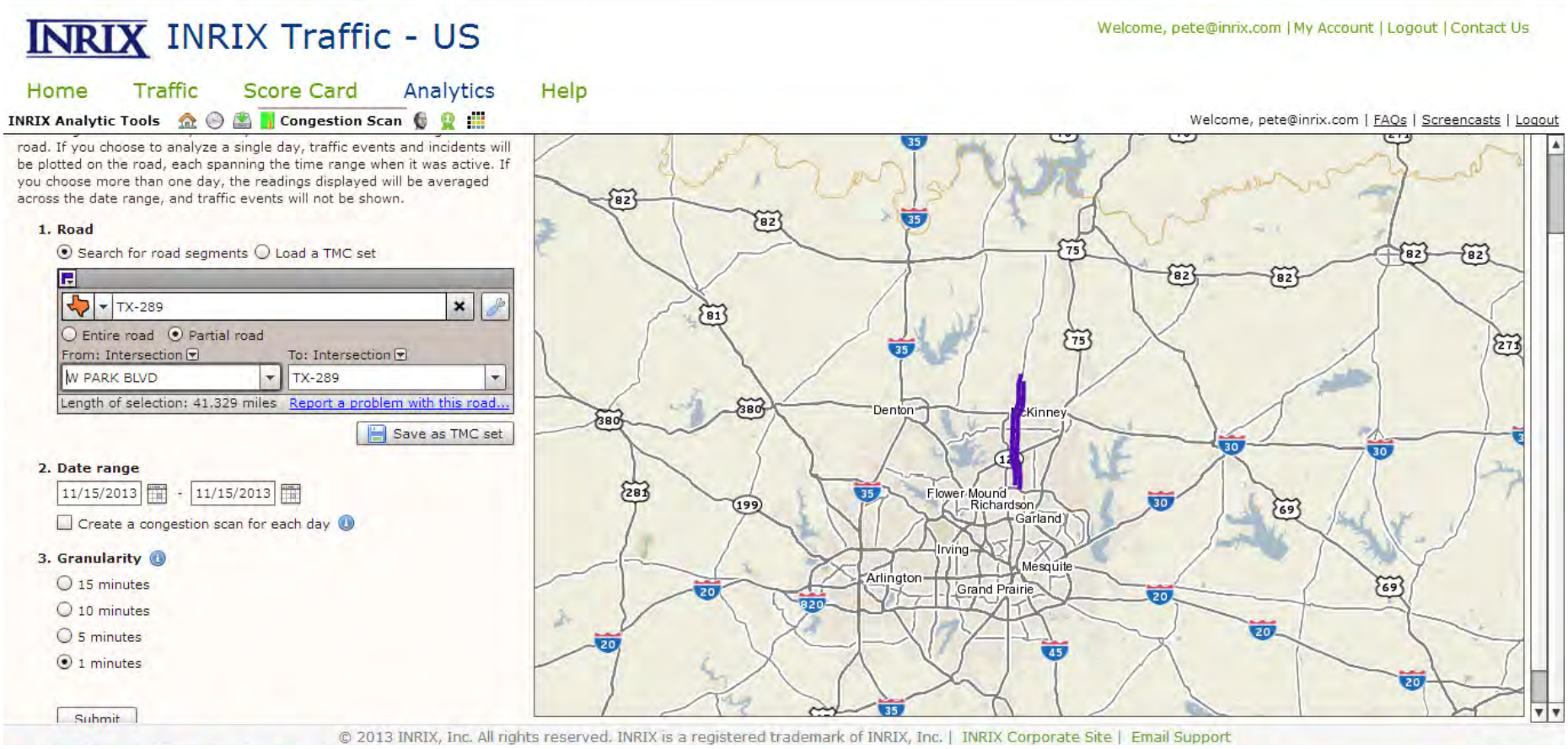
Massive Raw Data Downloader



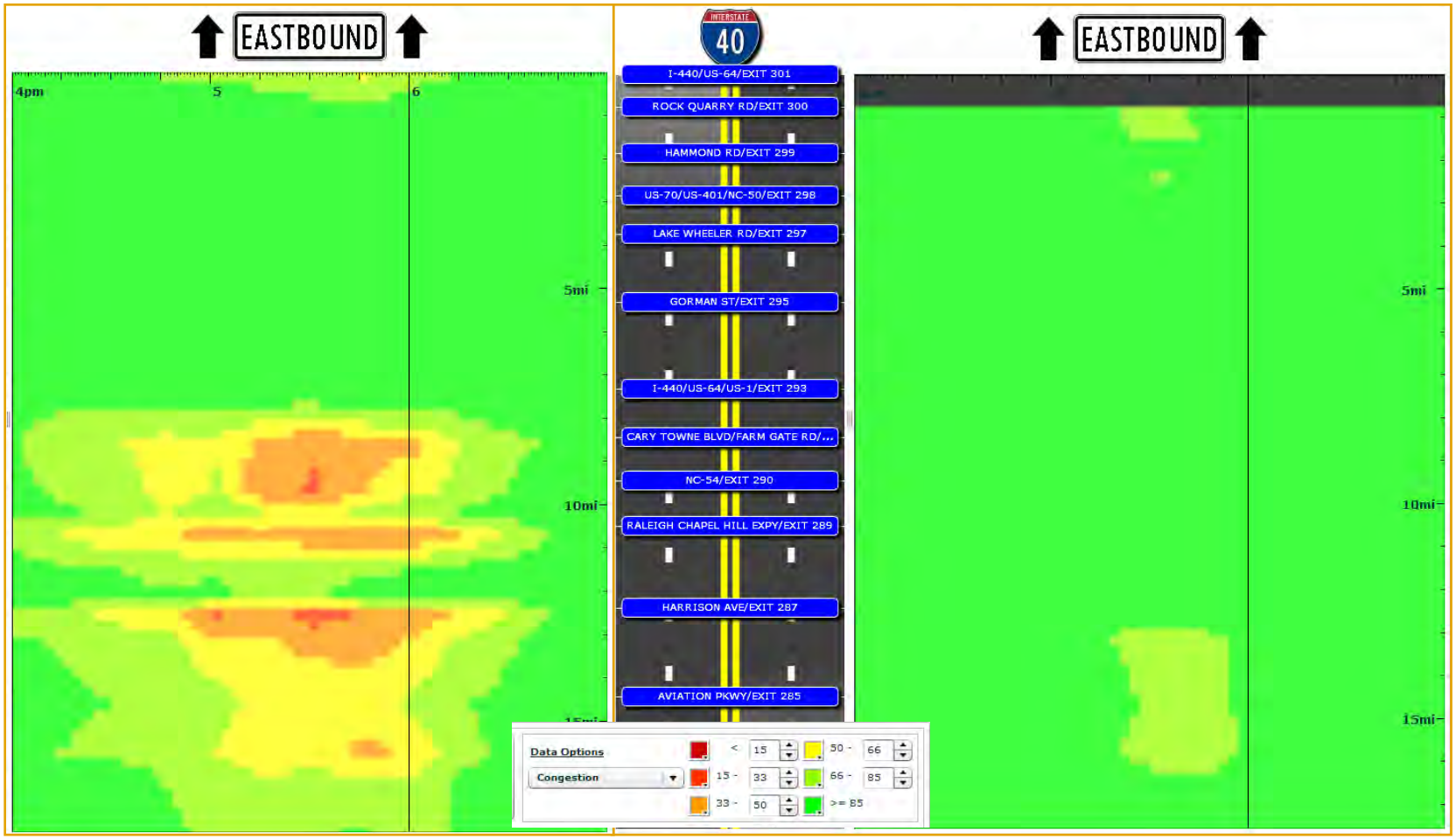
File posted to FTP site in .csv format

TMC Code	Time	Speed	Ave_speed	Ref_speed	TT_min	score	cvalue
110-04121	00:00.0	61.8	60	63	0.8918	30	100
110+04121	00:00.0	20.2	41	65	3.9596	30	99.2
110-04122	00:00.0	60	61	63	0.788	30	100
110+04122	00:00.0	55	45	63	1.1176	30	100
110-04123	00:00.0	55.8	58	61	0.1902	30	100
110+04123	00:00.0	33.8	49	65	1.481	30	87.4
110-04124	00:00.0	55.8	58	60	0.1258	30	100
110+04124	00:00.0	37	45	65	0.4848	30	100
110-04125	00:00.0	63.2	60	62	0.4224	30	100
110+04125	00:00.0	30.6	49	64	0.1982	30	100
110N04121	00:00.0	59	59	63	0.646	30	100
110N04122	00:00.0	58.8	60	65	0.871	30	100
110N04123	00:00.0	59	60	63	0.785	30	100
110N04124	00:00.0	56.4	57	59	0.7278	30	100
110N04125	00:00.0	63.2	59	60	0.2056	30	88.6
110P04121	00:00.0	52	46	65	0.701	30	100
110P04122	00:00.0	34.6	35	64	1.3226	30	100
110P04123	00:00.0	48.2	49	65	0.7698	30	100
110P04124	00:00.0	32.6	50	65	1.2458	30	100
110P04125	00:00.0	26.6	48	65	0.5616	30	100
110-04121	05:00.0	61.8	60	63	0.8918	30	100
110+04121	05:00.0	36.4	41	65	2.3216	30	99.2
110-04122	05:00.0	60	61	63	0.788	30	100

NCDOT - Before/After Adding 3rd Lane

Before (June 2009)

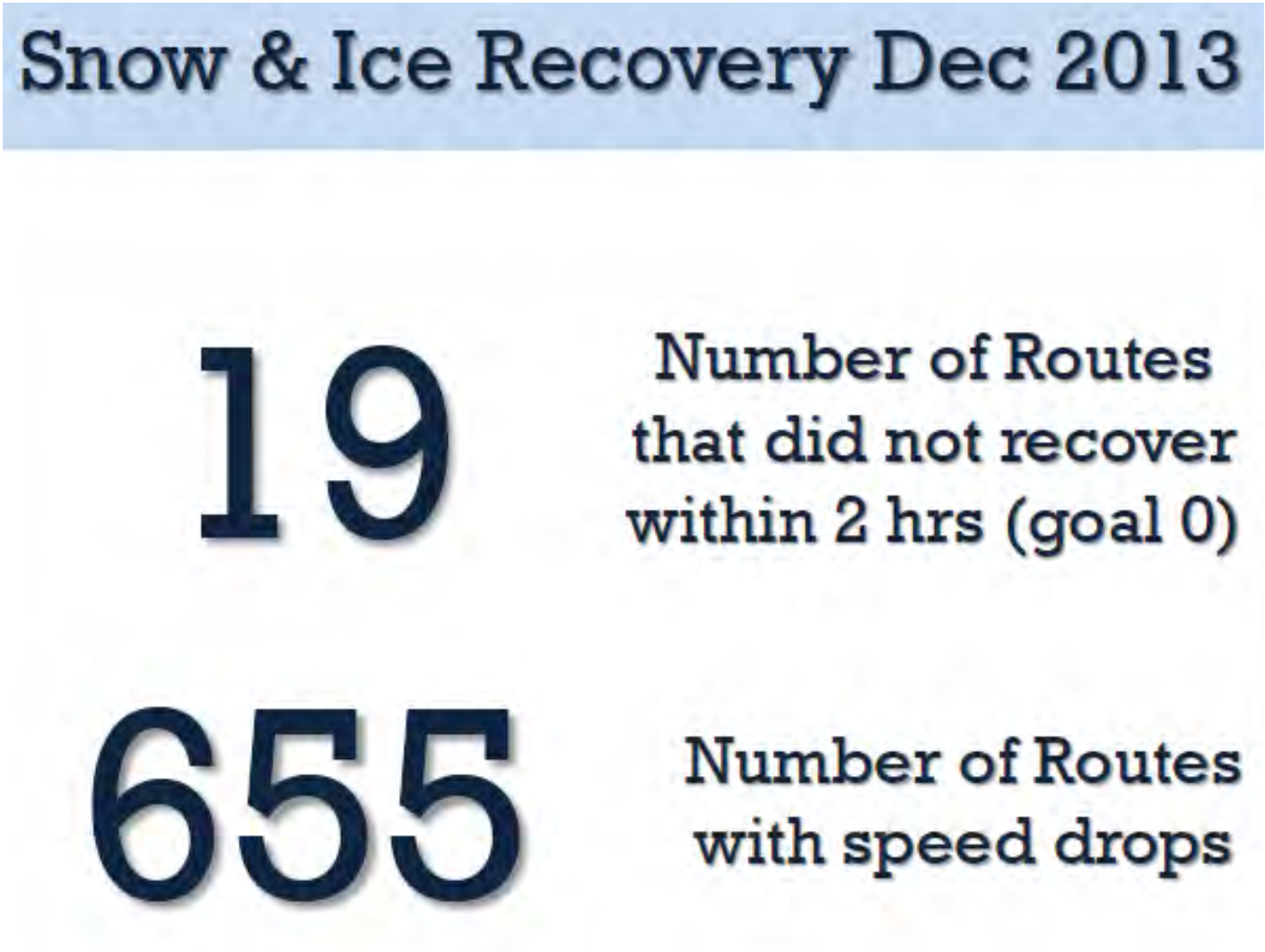
After (June 2011)



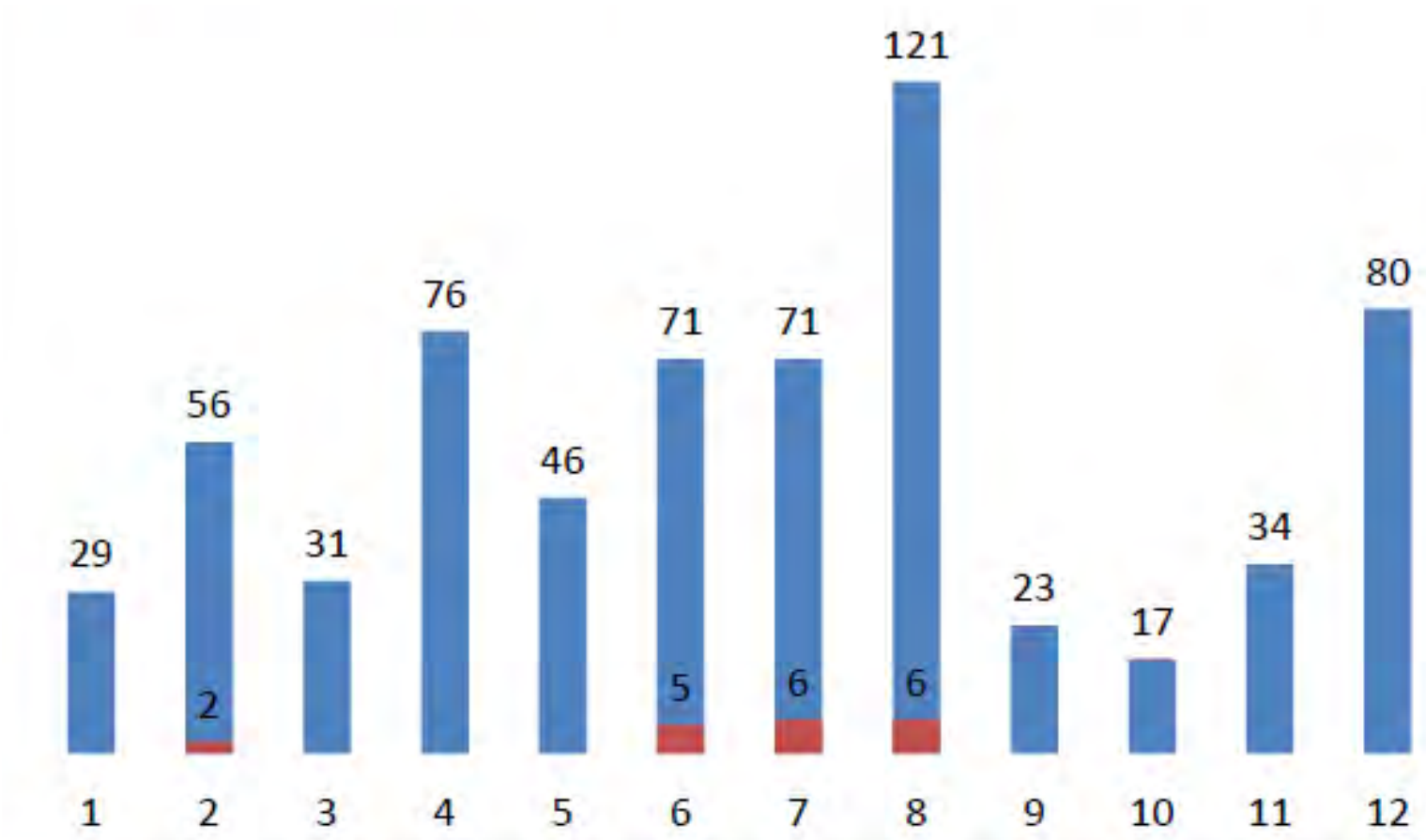
Analytics: Ohio DOT

- Assessing Performance of Winter Operations
  - Time to return to normal travel after major winter storms
  - Reported as “Critical Success Factor” under Operations
- Assessing Urban Area Travel Time Reliability INDEX
  - Number of hours below posted speed between5 AM and 9PM

Ohio DOT Winter Return To Normal



Ohio DOT Winter Return To Normal



ODOT District 7 Winter Return To Normal

71

Speed Drops

6

Routes Did Not Recover

December 10th : CLA I-675, MOT I-75, MOT I-675, MOT US-35

December 23rd : AUG I-75

December 31st : SHE I-75

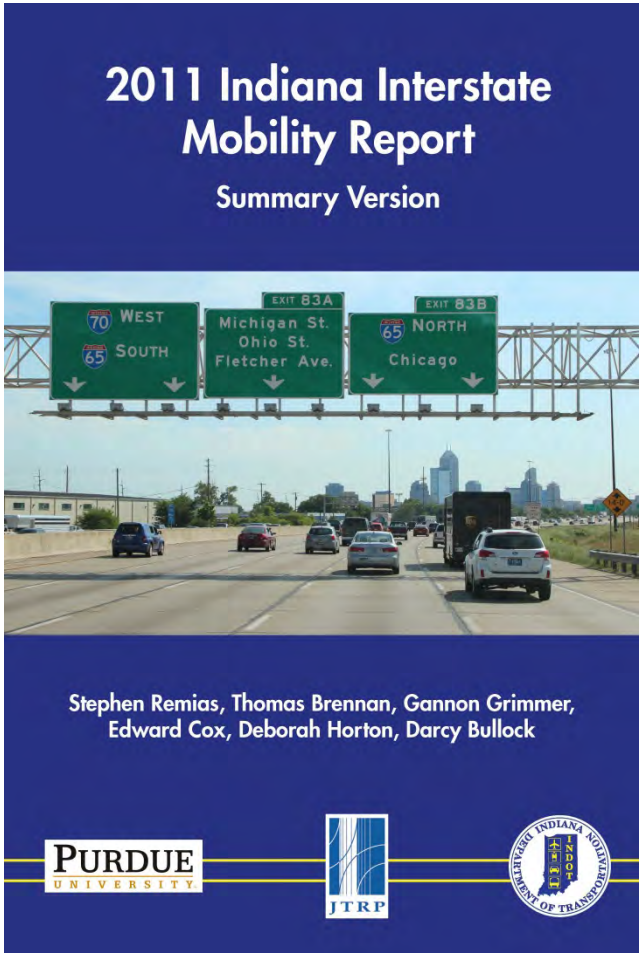
Ohio DOT Winter Return To Normal

- ODOT has patent pending on methodology
- Contacts
  - Mr. John MacAdam, John.MacAdam@dot.state.oh.us,

    (614) 752-9695
  - Mr. Merih Ocbazghi, merih.ocbazghi@dot.state.oh.us,

    (614) 466-1290

Indiana DOT/Purdue



- http://docs.lib.purdue.edu/imr/

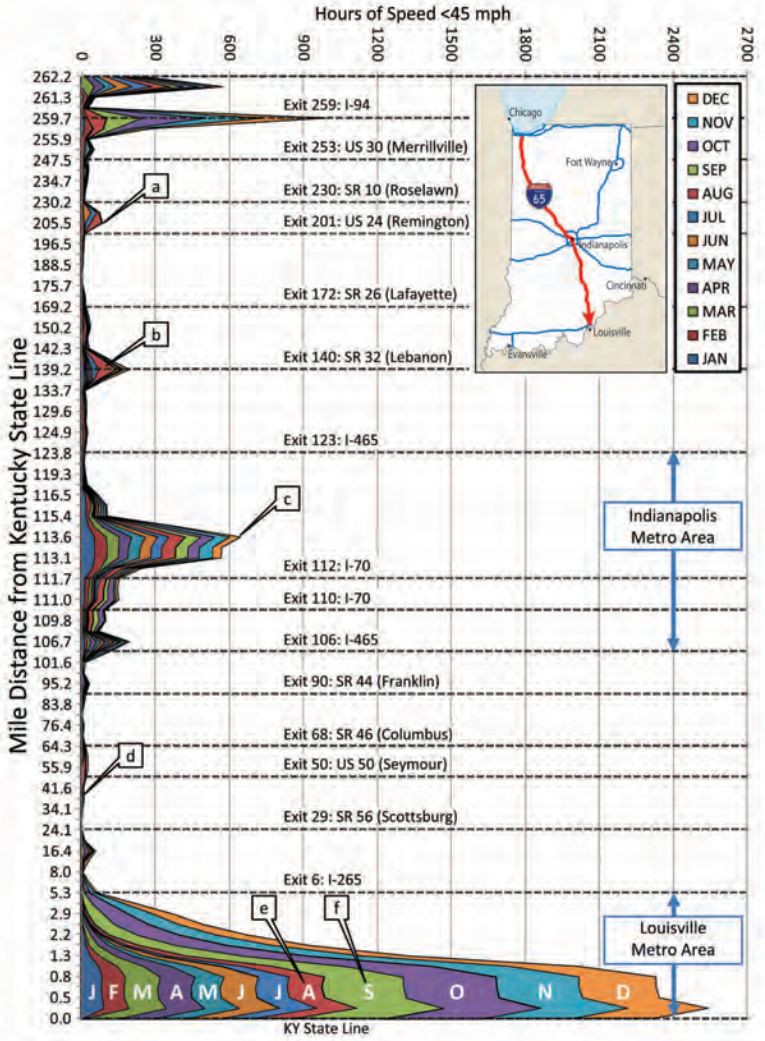


Figure 10. Location of I-65 southbound congestion hours color coded by month.

a. Construction work zone associated with guardrail and under drain maintenance.
b. Construction work zone associated with reconstruction near Lebanon.
c. Congestion in downtown area of Indianapolis. Notice the relatively uniform magnitude of delay for each month. This is an example of recurring congestion on I-65 inside the I-465 loop.
d. Rural segment with minimal congestion.
e. Congestion associated with travel to Louisville during the months of June, July, and August was relatively uniform.
f. On September 9, a section of I-64 was closed resulting in significant diversion of traffic from I-64 to I-65.

8

Arterial Retiming Cost

Benefit Analysis using Crowd Sourced Data

PURDUE UNIVERSITY

MARCH 2012

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Before Retiming

Week 13

APRIL 2012

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

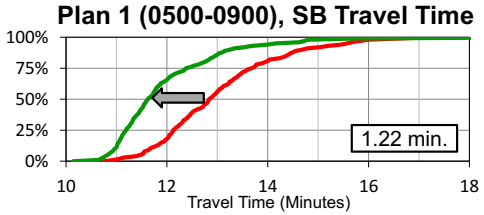
Retiming

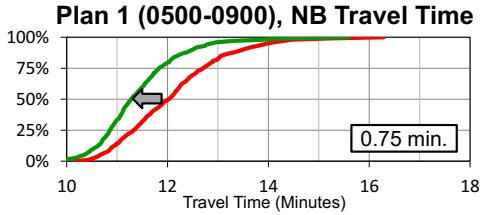
Week 15

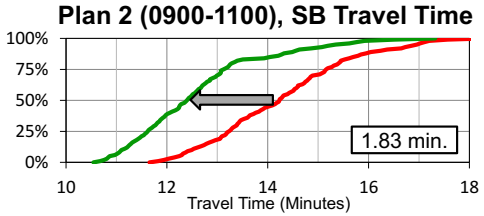
Week 16

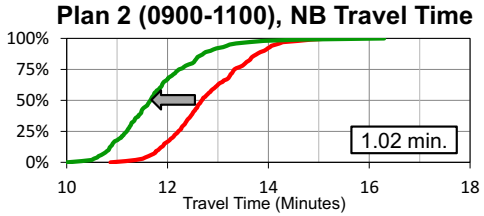
After Retiming

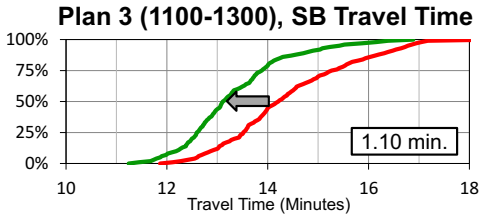
LEGEND — Week 13 (Before) — Week 16 (After)

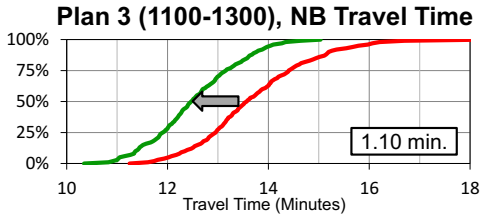


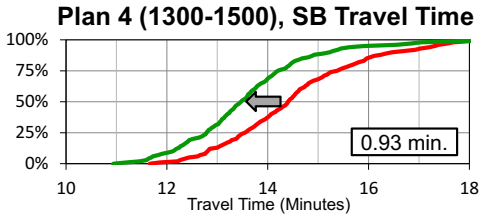


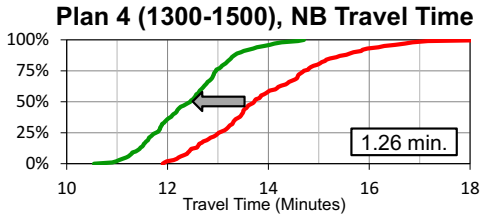


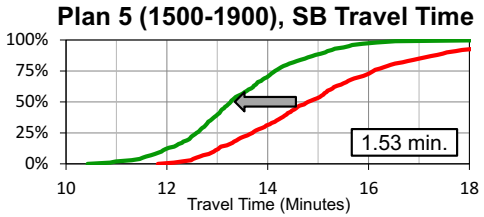


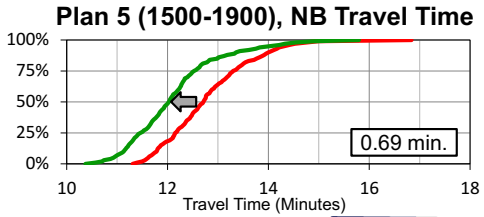












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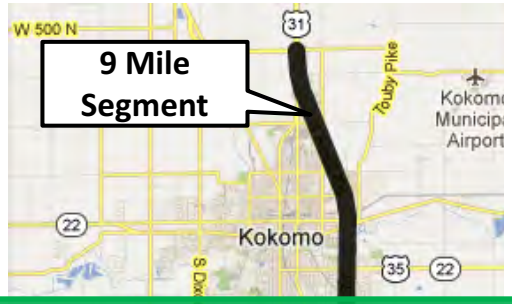
Arterial Retiming Cost

Benefit Analysis using Crowd Sourced Data

PURDUE UNIVERSITY



	Plan	Median TT Savings (min)	% of Daily Traffic	TT Savings (h)	TTI Travel Time Savings ($)	CO2 Reduction (tons)	CO2 Emission Savings ($)
Northbound US 31	Plan 0 (0000 – 0500)	0.79	2.2%	1987.34	$ 46,941.69	16.77	$ 368.96
	Plan 1 (0500 – 0900)	1.22	7.2%	9925.88	$ 234,453.24	83.76	$ 1,842.82
	Plan 2 (0900 – 1100)	1.83	5.3%	10877.93	$ 256,941.12	91.80	$ 2,019.58
	Plan 3 (1100 – 1300)	1.1	6.7%	8246.25	$ 194,779.77	69.59	$ 1,530.98
	Plan 4 (1300 – 1500)	0.93	6.6%	6886.14	$ 162,653.47	58.11	$ 1,278.47
	Plan 5 (1500 – 1900)	1.53	13.5%	23311.22	$ 550,620.34	196.72	$ 4,327.91
	Plan 6 (1900 – 2400)	0.91	7.1%	7319.89	$ 172,898.62	61.77	$ 1,359.00
Southbound US 31	Plan 0 (0000 – 0500)	0.58	2.2%	1462.30	$ 34,540.02	12.34	$ 271.49
	Plan 1 (0500 – 0900)	0.75	7.6%	6420.27	$ 151,649.25	54.18	$ 1,191.97
	Plan 2 (0900 – 1100)	1.02	5.5%	6316.57	$ 149,199.92	53.31	$ 1,172.72
	Plan 3 (1100 – 1300)	1.1	7.0%	8627.08	$ 203,775.18	72.80	$ 1,601.69
	Plan 4 (1300 – 1500)	1.2	7.5%	9881.93	$ 233,415.21	83.39	$ 1,834.66
	Plan 5 (1500 – 1900)	0.69	14.2%	11040.76	$ 260,787.26	93.17	$ 2,049.81
	Plan 6 (1900 – 2400)	0.45	7.9%	4015.4	$ 94,906.91	33.91	$ 745.97
	Total		100.0%	116321.6	$ 2,747,562	981.64	$ 21,596.03

Using TTI Travel Time Savings Calculations: Expected Yearly Savings are $2.7 Million

Before Retiming

Week 13

Retiming

Week 15

Week 16

After Retiming

MARCH 2012

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL 2012

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

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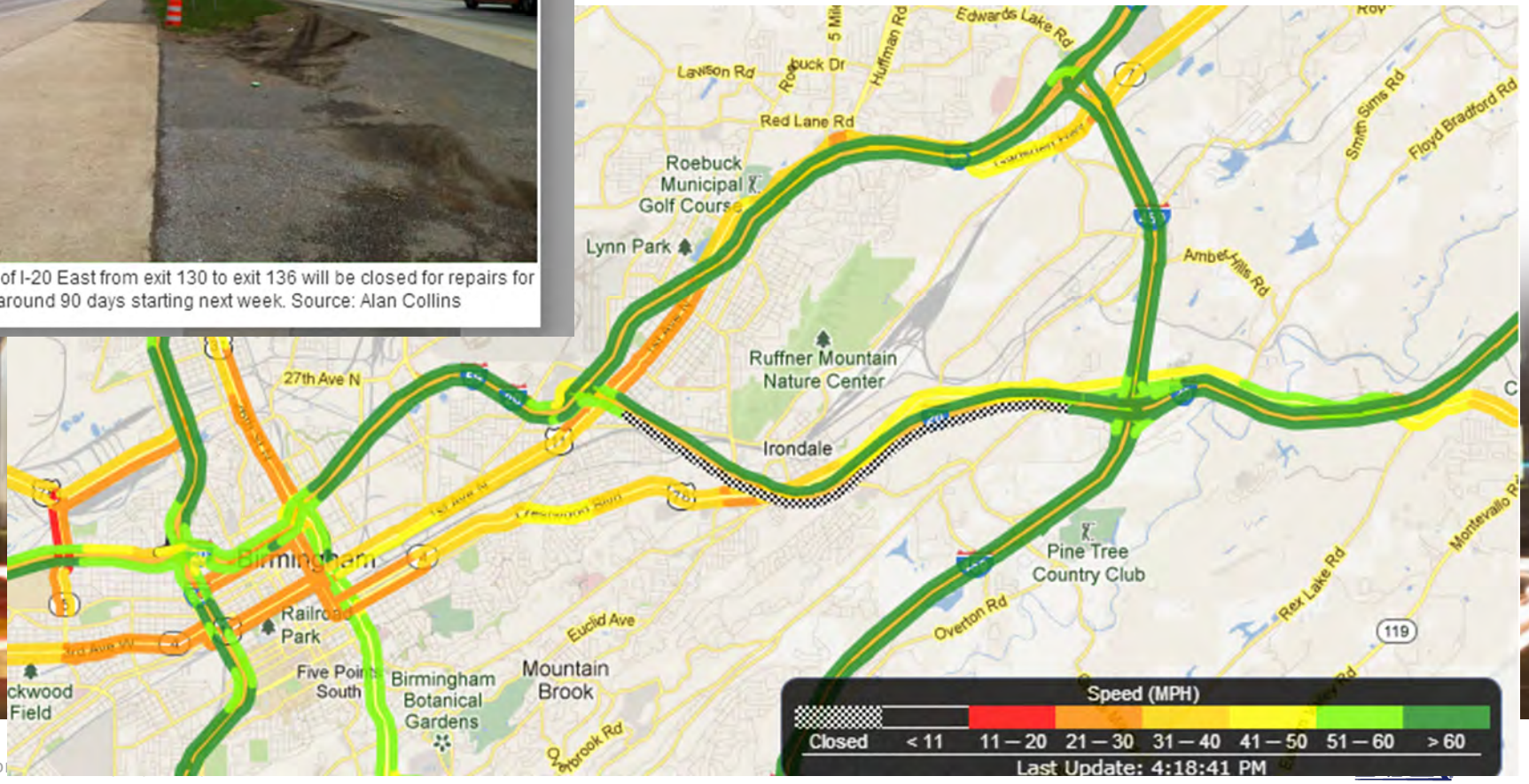
Interstate Closure Impact Analysis

A portion of I-20 East from exit 130 to exit 136 will be closed for repairs for around 90 days starting next week. Source: Alan Collins

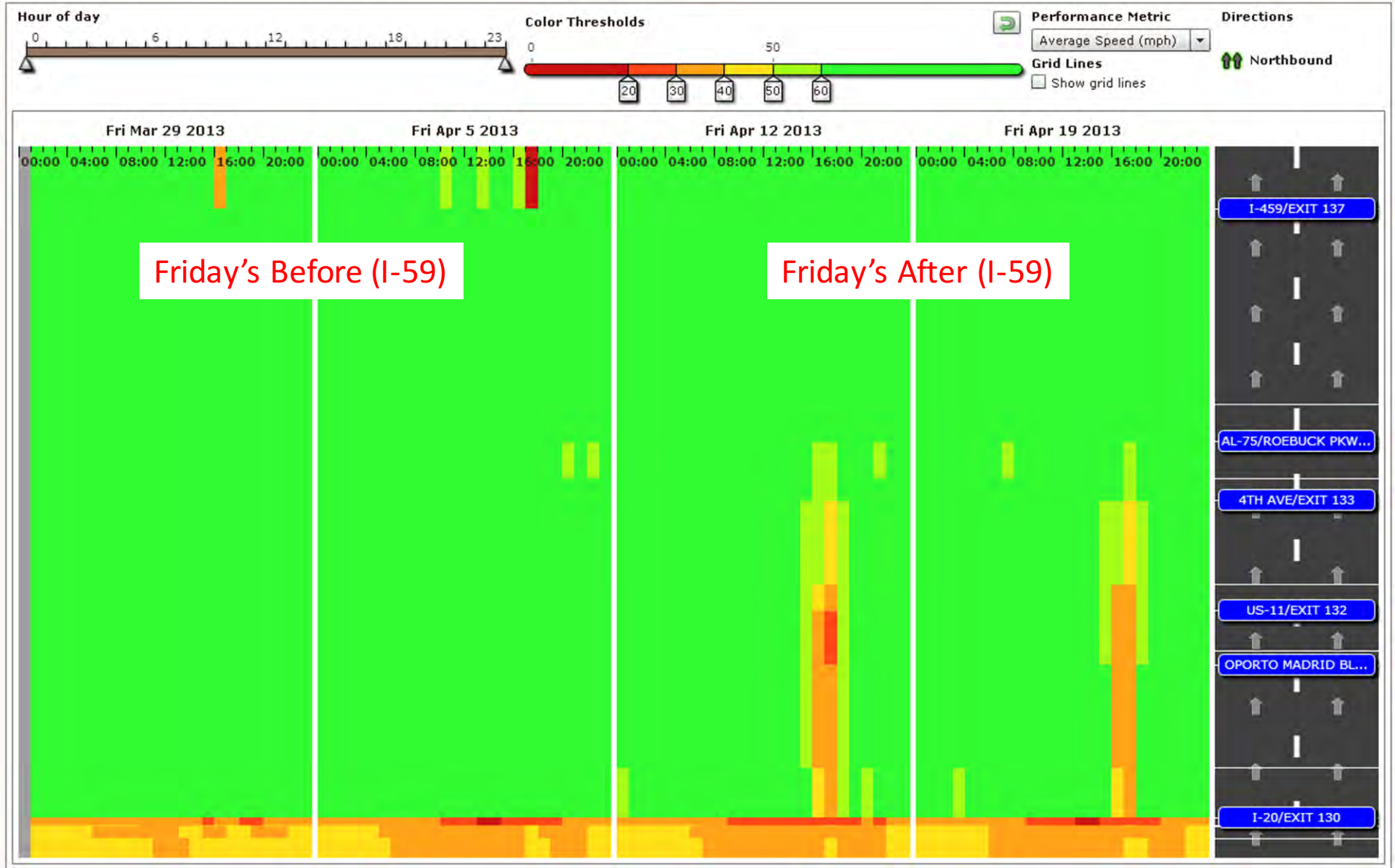
- I-20 EB Closure began April 9, 2013
- Recommended Detour I-59 / I-459



Historic Probe Data Explorer

Average Speed for I-59 Northbound between I-59/I-20 and I-459/Exit 137
Averaged for the whole day in Fri Mar 29 2013, Fri Apr 5 2013, Fri Apr 12 2013, and Fri Apr 19 2013

Introduction > Search Criteria > Visualization Technique > Final Visualization



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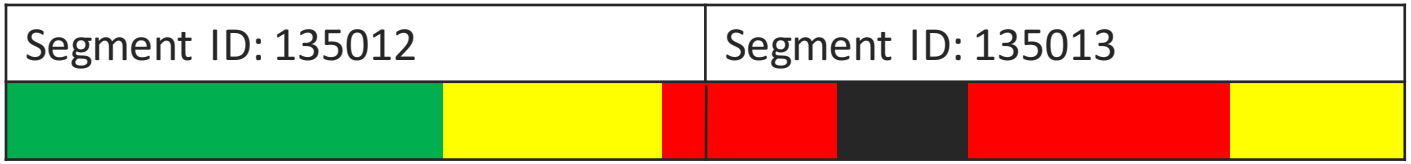
Traffic Data Segmentation

- **Actual Speed Data**
  Speeds at 1/16 of the length (reference speed=60)

Segment ID: 135012															Segment ID: 135013														
66	65	64	64	62	60	60	62	61	58	50	42	38	33	30	25	21	18	14	10	16	18	20	25	29	30	31	36	40	42	43	44

- **TMC** Level granularity
  Average detailed speeds, one report per segment

- **Sub-Segment (1/16th Segment)** Level granularity
  Congestion levels smartly grouped to avoid striping



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INRIX XD Segment Fundamentals

1.5 Mile Segment Length

Most Segments less than 1 Mile

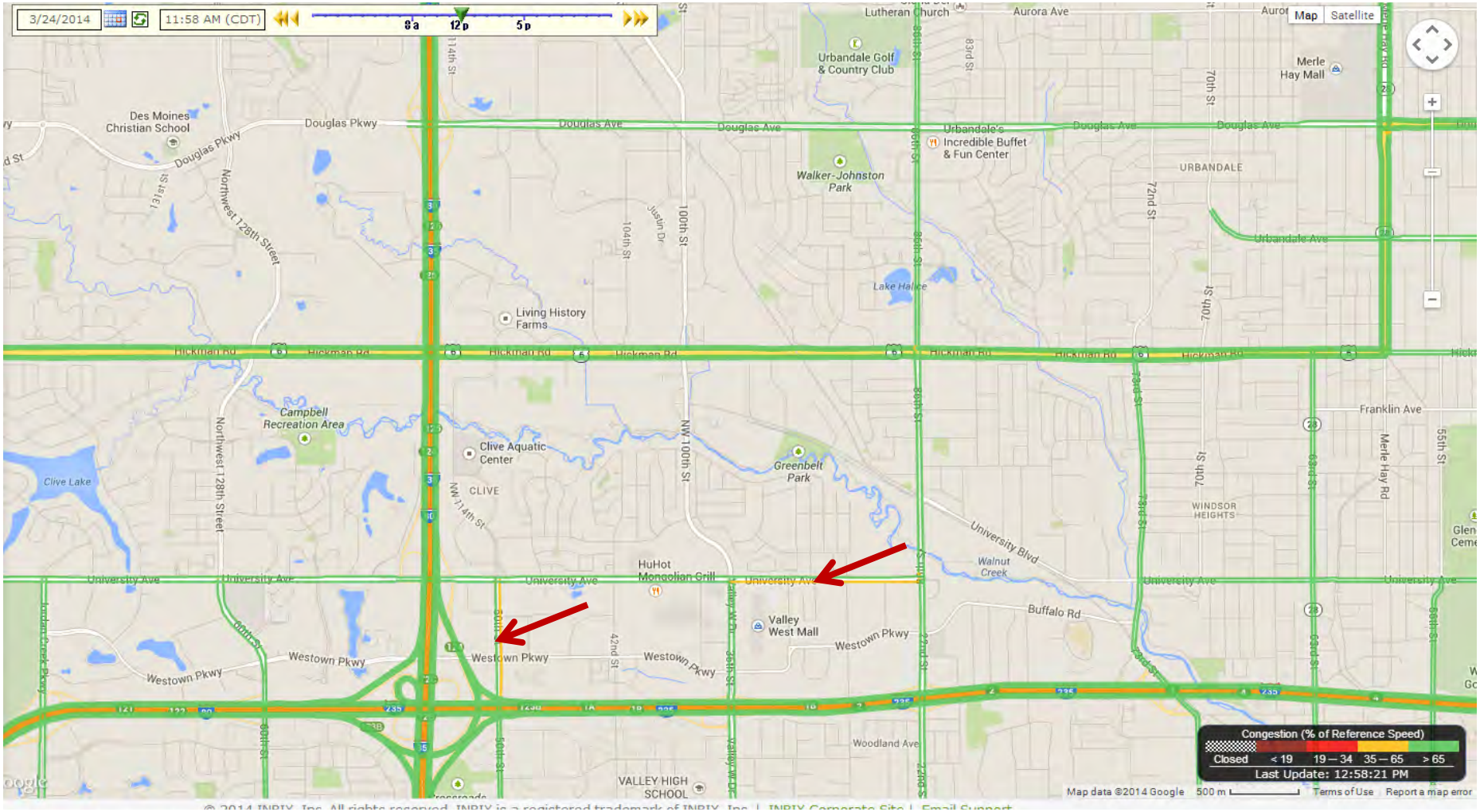
No Overlaps or Gaps

INRIX XD Sub-Segment Fundamentals

250 Meter Granularity

Sub Segment Traffic Tiles

Coverage – TMC Segments



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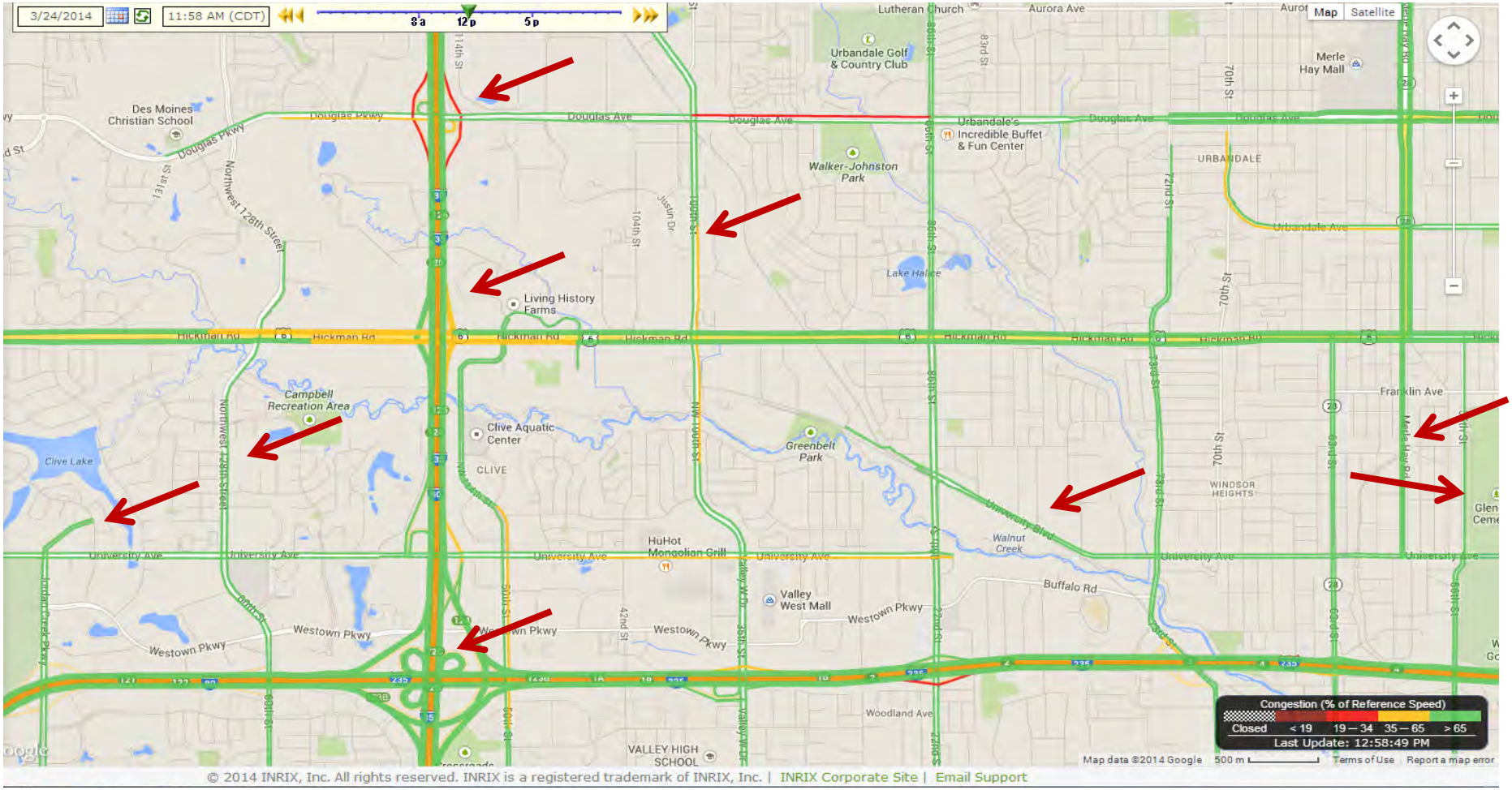
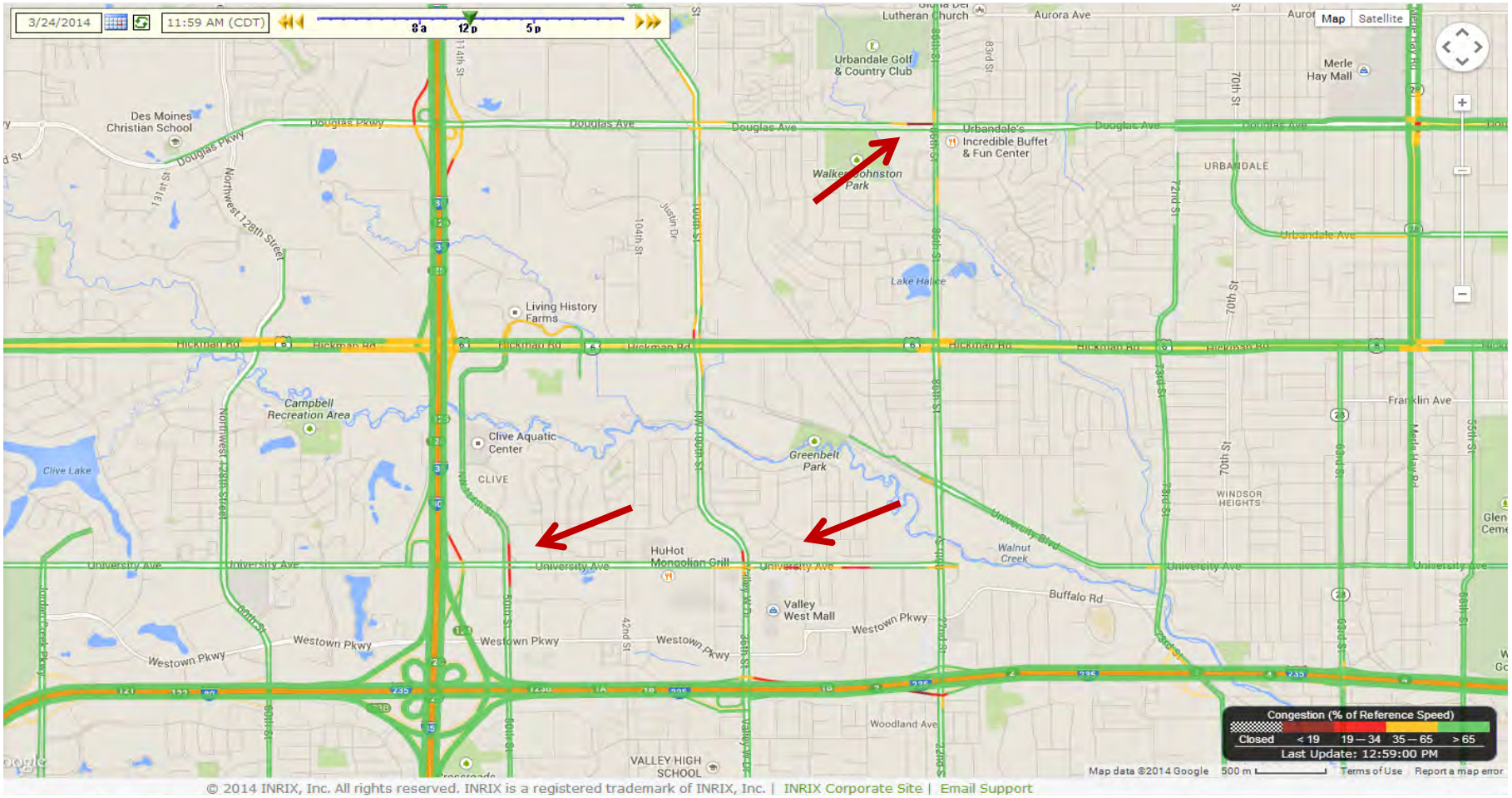
Coverage – XD Segments



Roadway "adder" available

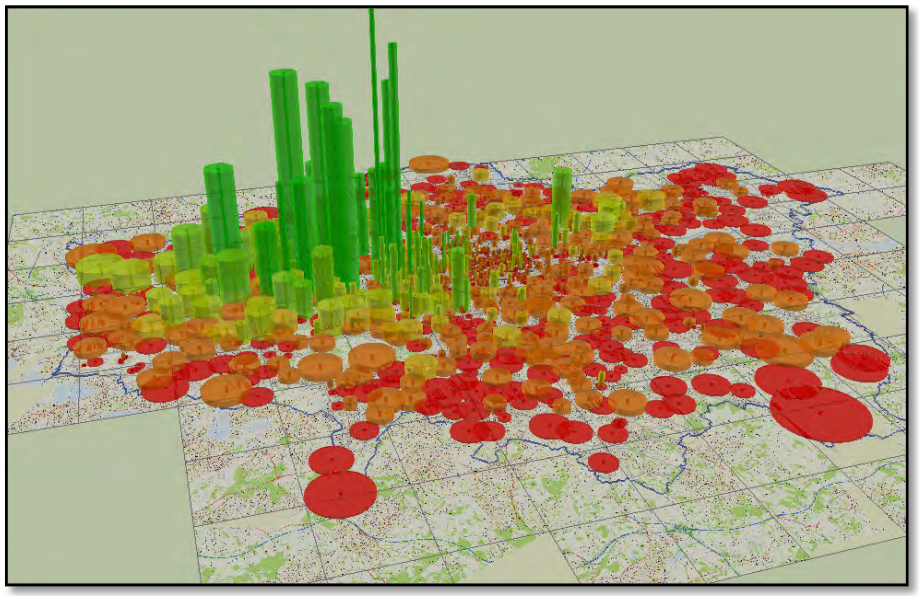
Coverage – XD Subsegments



Roadway “adder” available

Origin-Destination Studies

- Origin Destination data, monitoring daily probe movement.
- **Built for both Cellular AND GPS data sources.**
- Illustrating for a region where its visitors originated, and when that region was in demand.



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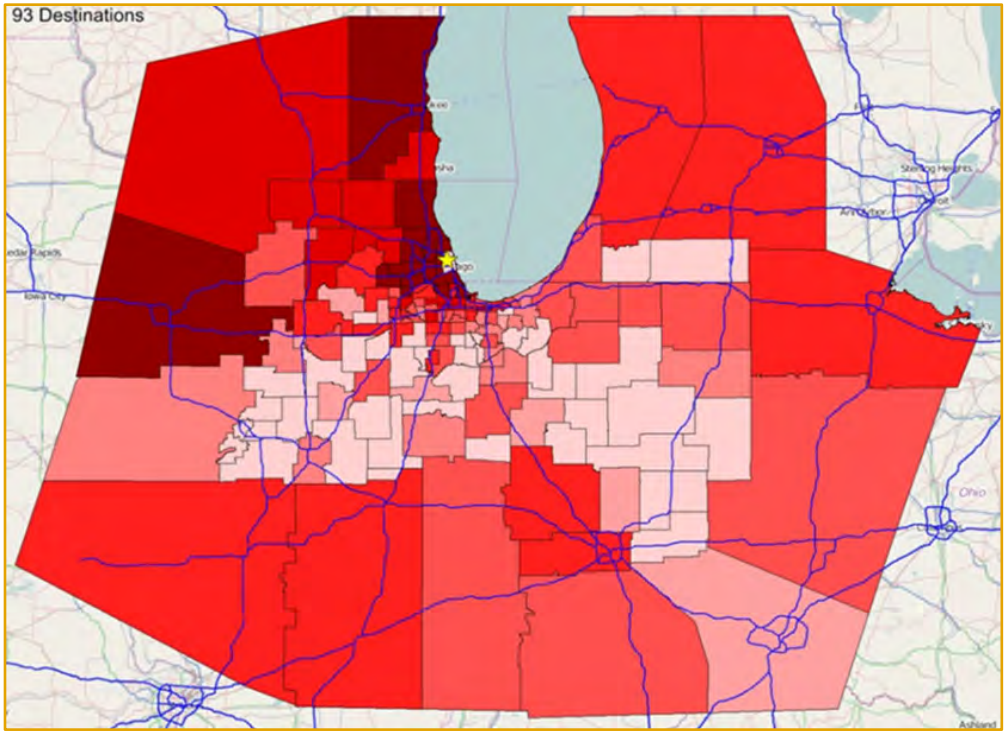
Origin-Destination Studies

- Study Area: Greater Chicagoland Area (154 zones)
- Study Period: July – September 2013 (3 months)
- Total Data Points Analyzed: ~1.5 billion
- Freights Trips Determined/Used: 4.8 million



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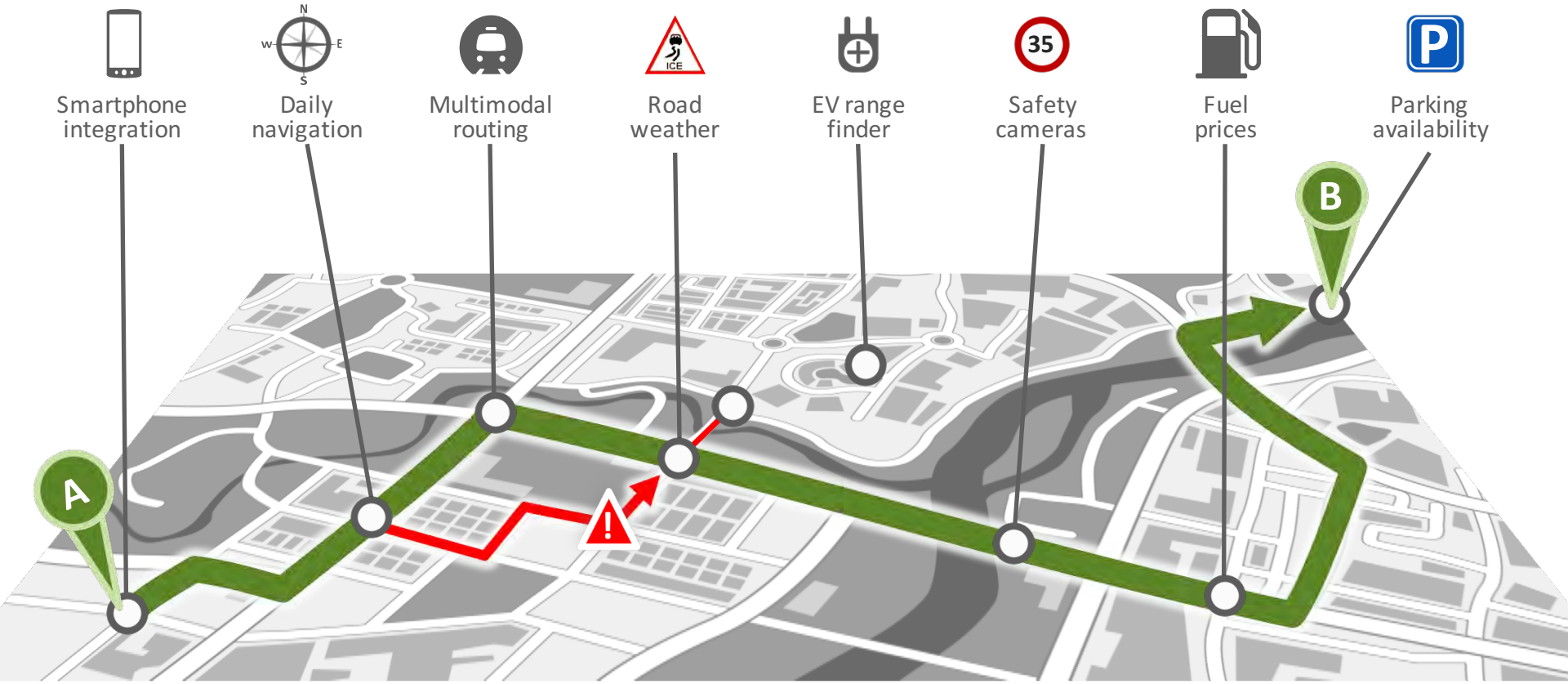
Our Connected Vehicle Vision



Will icy roads impact my route?

Is there traffic ahead of me?

Where is the cheapest fuel?

Will it be faster to drive to the train?

Is parking available close to my destination?

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Vision Zero / Toward Zero Deaths

LinkedIn Group: Vision Zero for Transportation

Thank You!

Pete Costello, pete@inrix.com, (202) 550-5795
www.linkedin.com/in/petecostello

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