
Running from Rita – Hiking from Ike

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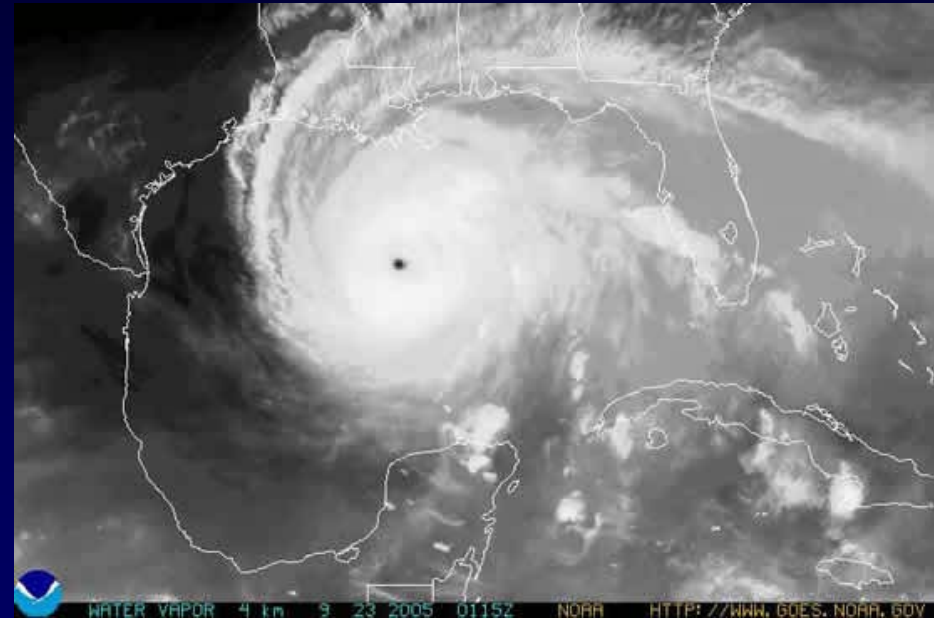
National Evacuation Conference
February 4, 2010

Lets talk about

- Houston Region Evacuation Experience
 - Hurricane Rita in 2005
 - Plan/Resource Improvements after Rita
 - Hurricane Ike in 2008
- Houston Traffic After Ike
- Changes for 2010

Why did Houston Evacuate for Rita?

- Category 5 Hurricane headed towards Houston
- News Media Hype
- Elected officials advice
- “Katrina effect”
- Memory of TS Allison



What happened?

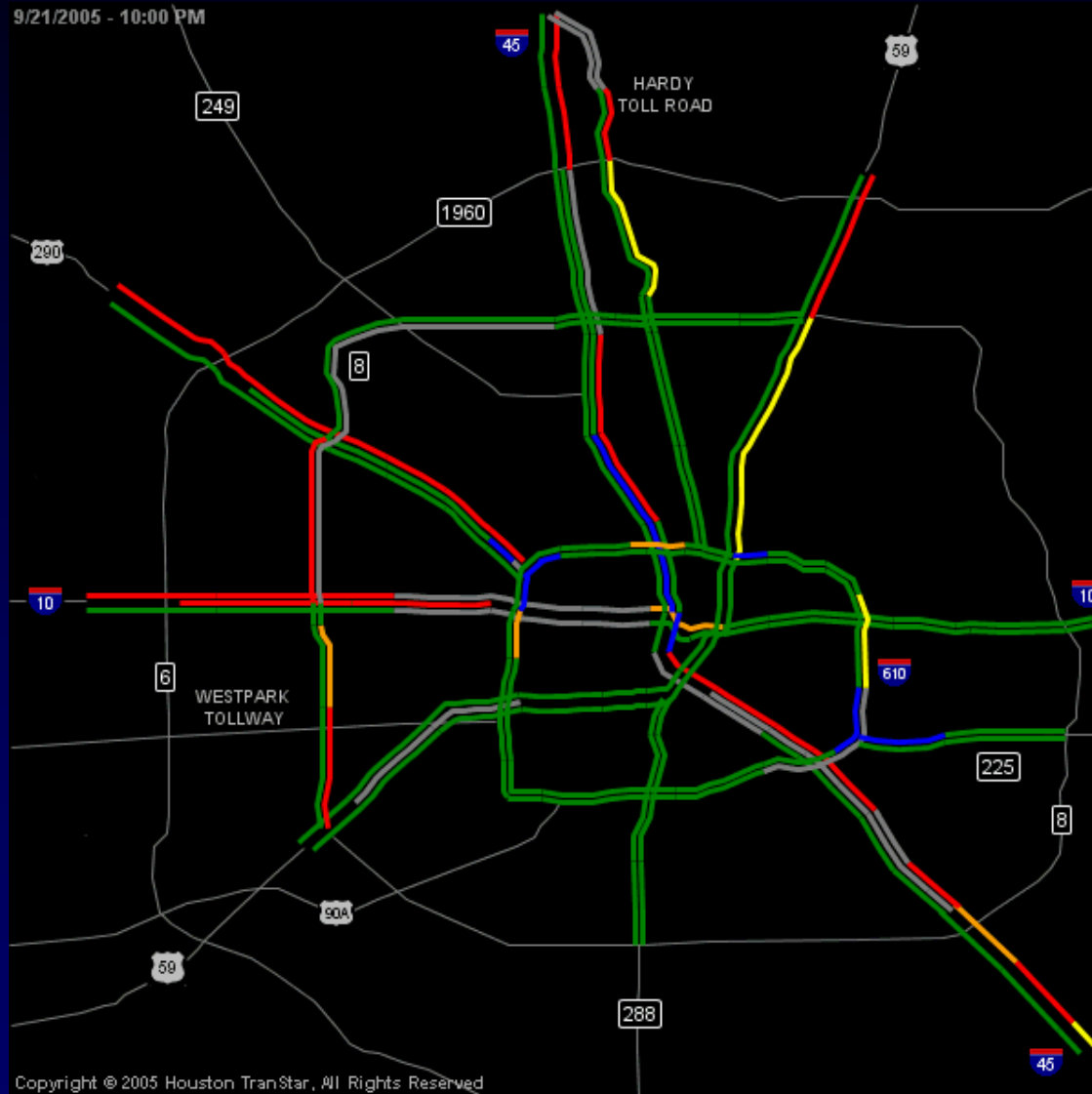
- Evacuation plan not adequate for demand
- 90+ degree temperatures
- Louisiana Residents
- Motels Filled up Quick
- Fuel Shortages



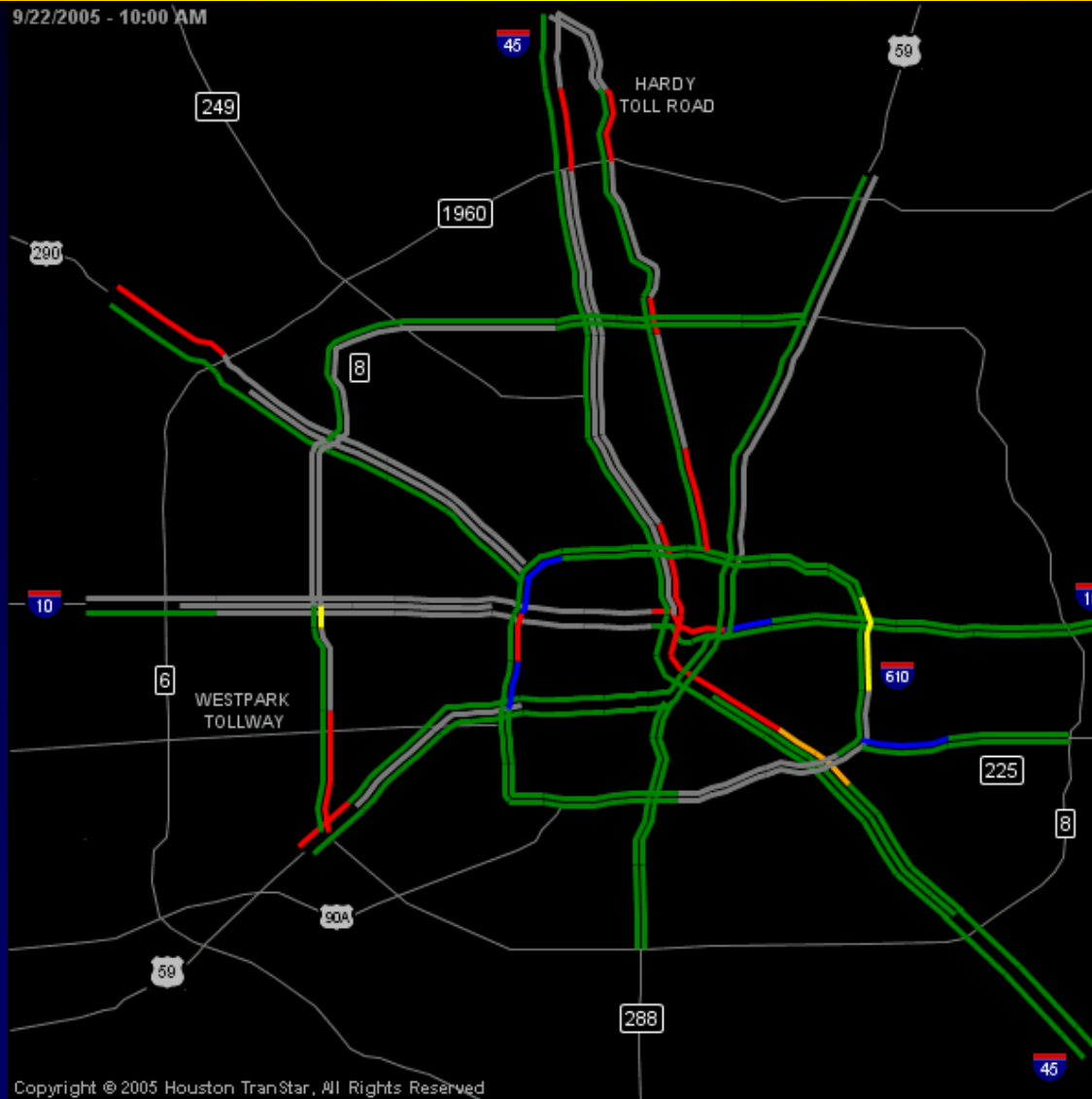
Traffic Monitoring Capabilities - 2005

- Adequate Coverage in Urban Areas
 - Real-time traffic map
 - CCTV images
- Lack information at rural bottlenecks
 - No data
 - No images
 - Relied on law enforcement / citizen reports
 - Called retail establishments for updates

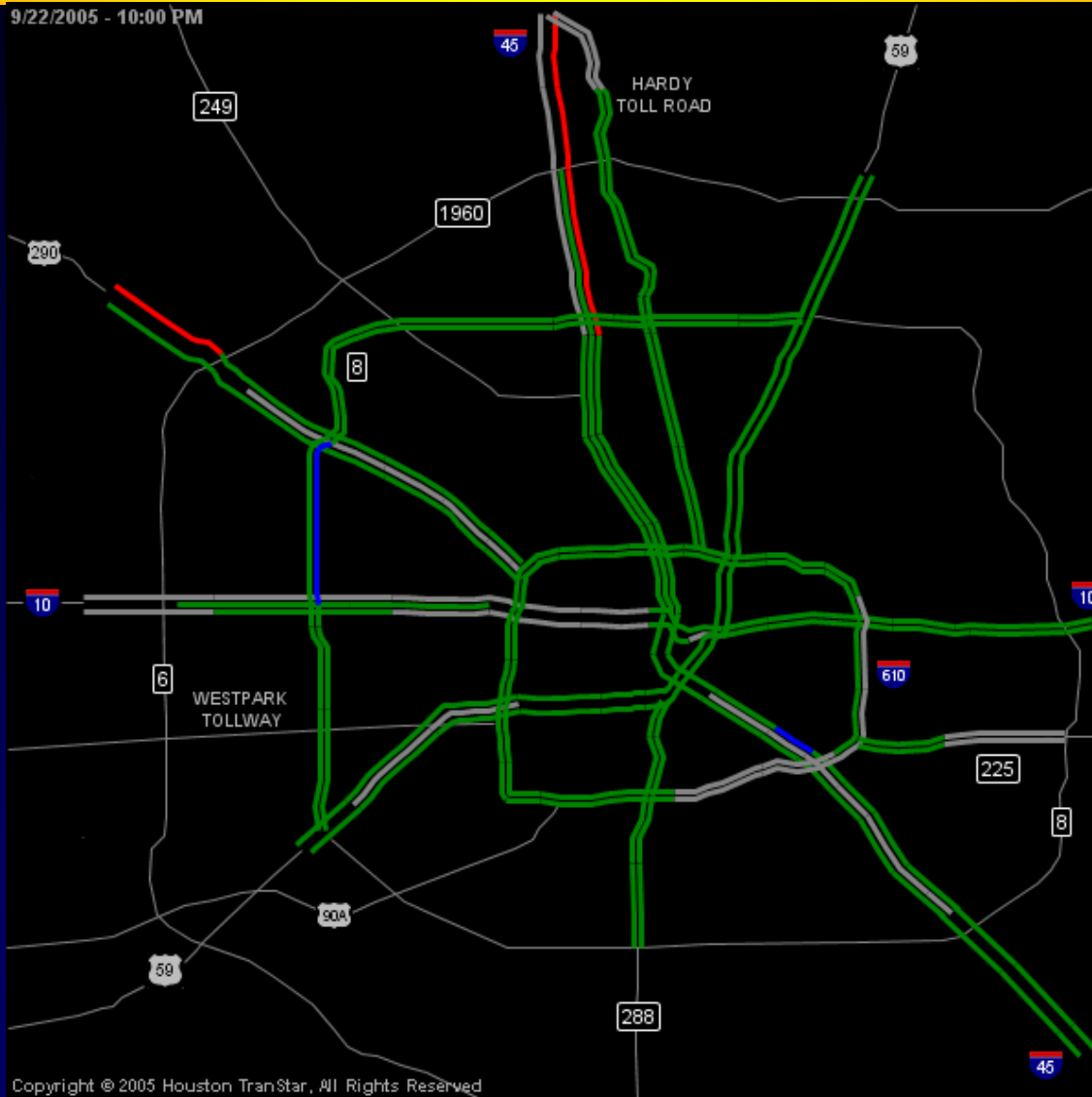
Wednesday – 10pm



Thursday – 10am

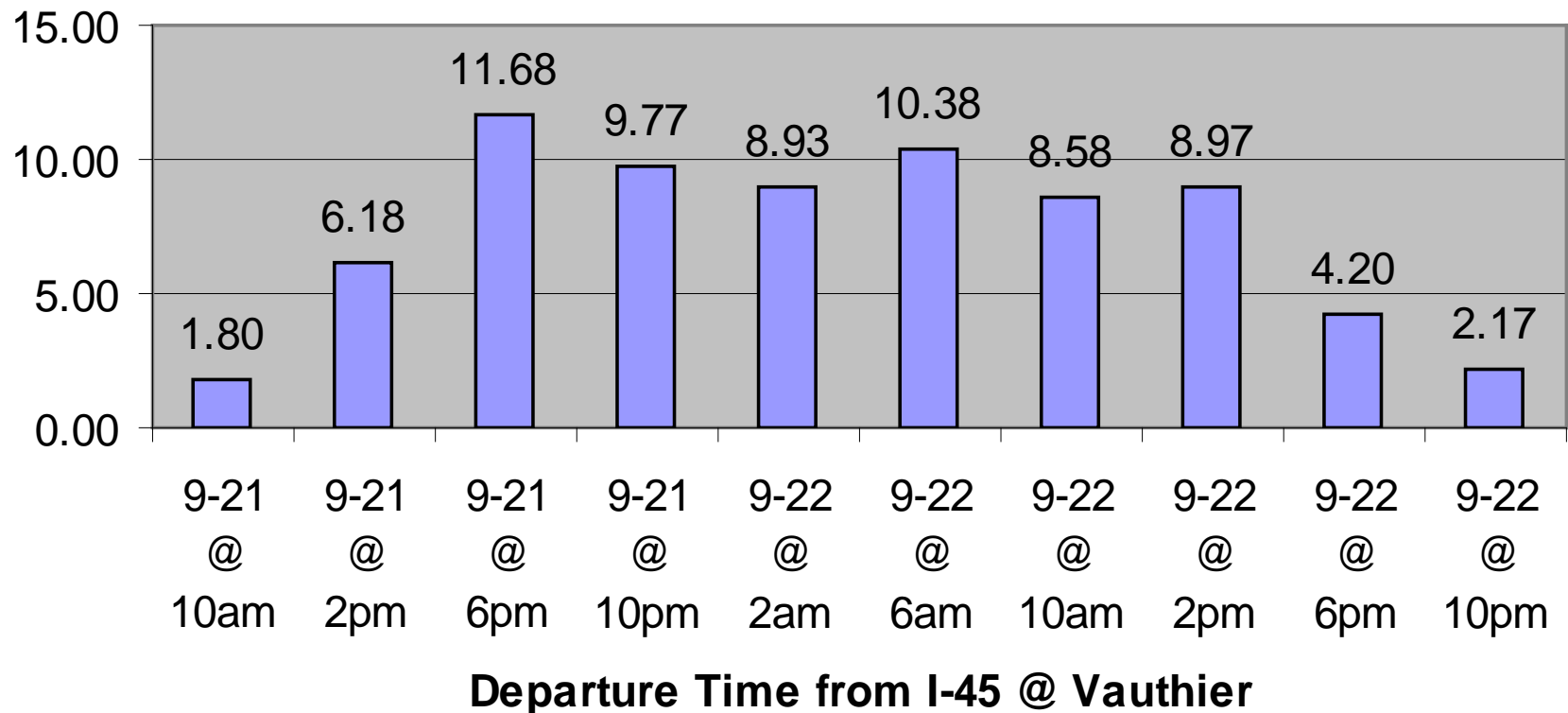


Thursday – 10pm



From Galveston to North of Houston

Hours To Hardy Toll Road [61.2 miles]



My personal Rita "evacuation"

Evacuating a flood prone area

Plan was for 100-mile trip to relatives

Altered our plans and stayed in Houston area

Check point travel	Distance	Start	End	Travel Time	Avg Speed
I-610 West Loop -- NB US 59 to Post Oak	2.90	4:26 AM	4:59 AM	0:33	5.19
----- to US 290 WB @ 34th	4.15	4:59 AM	9:39 AM	4:39	0.89
----- to US 290 WB @ Pinemont	2.45	9:39 AM	1:51 PM	4:11	0.58
Total Freeway Trip	9.50	4:26 AM	1:51 PM	9:24	1.01

Improvements for Better Evacuations

- Revised Evacuation & Contraflow plans
- Identified Rural Bottleneck locations
- Developed “Fuel Plan” with industry partners

Improvements

- TxDOT Deployed Monitoring in Rural Areas
 - 31 radar installations
 - 54 PTZ cameras
 - 20 video servers at traffic signals



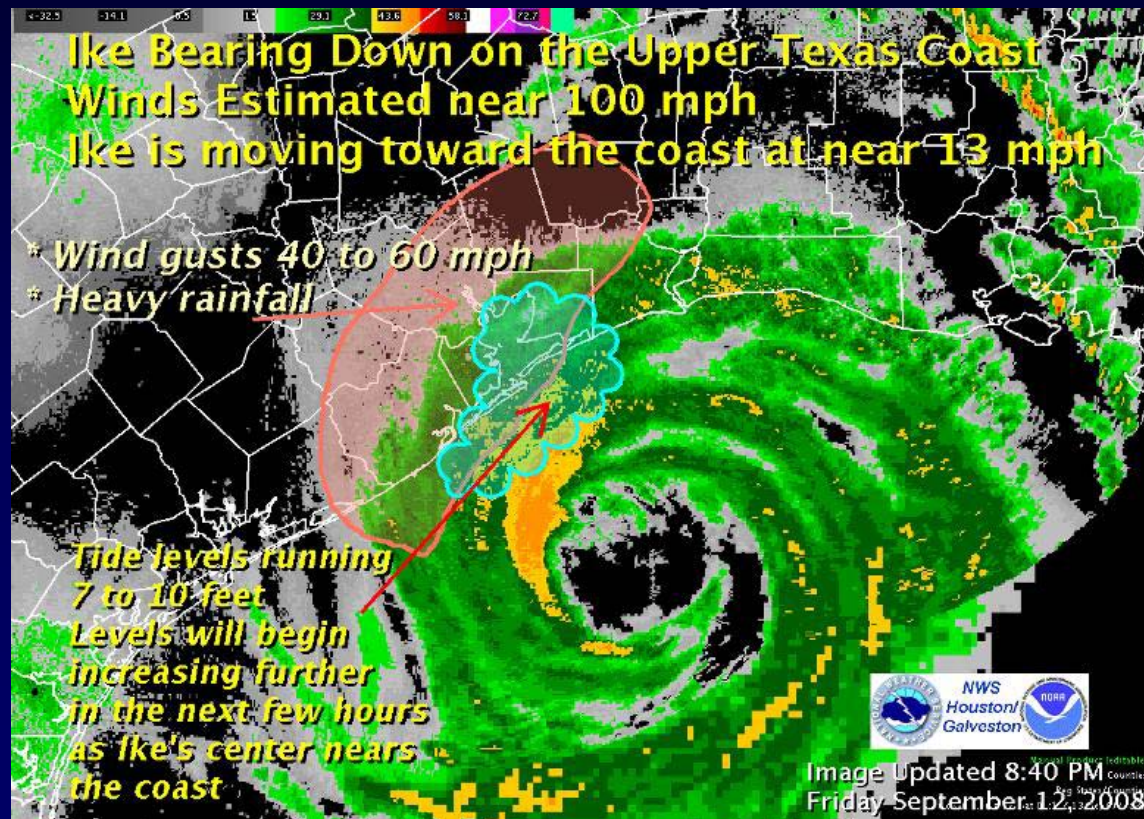
Lesser Evacuation for Ike in 2008

- Concise message from media & elected officials
 - “Hunker Down”
 - Only evacuate if in surge zone or have special needs
 - “Ride it out” and leave after the danger has passed

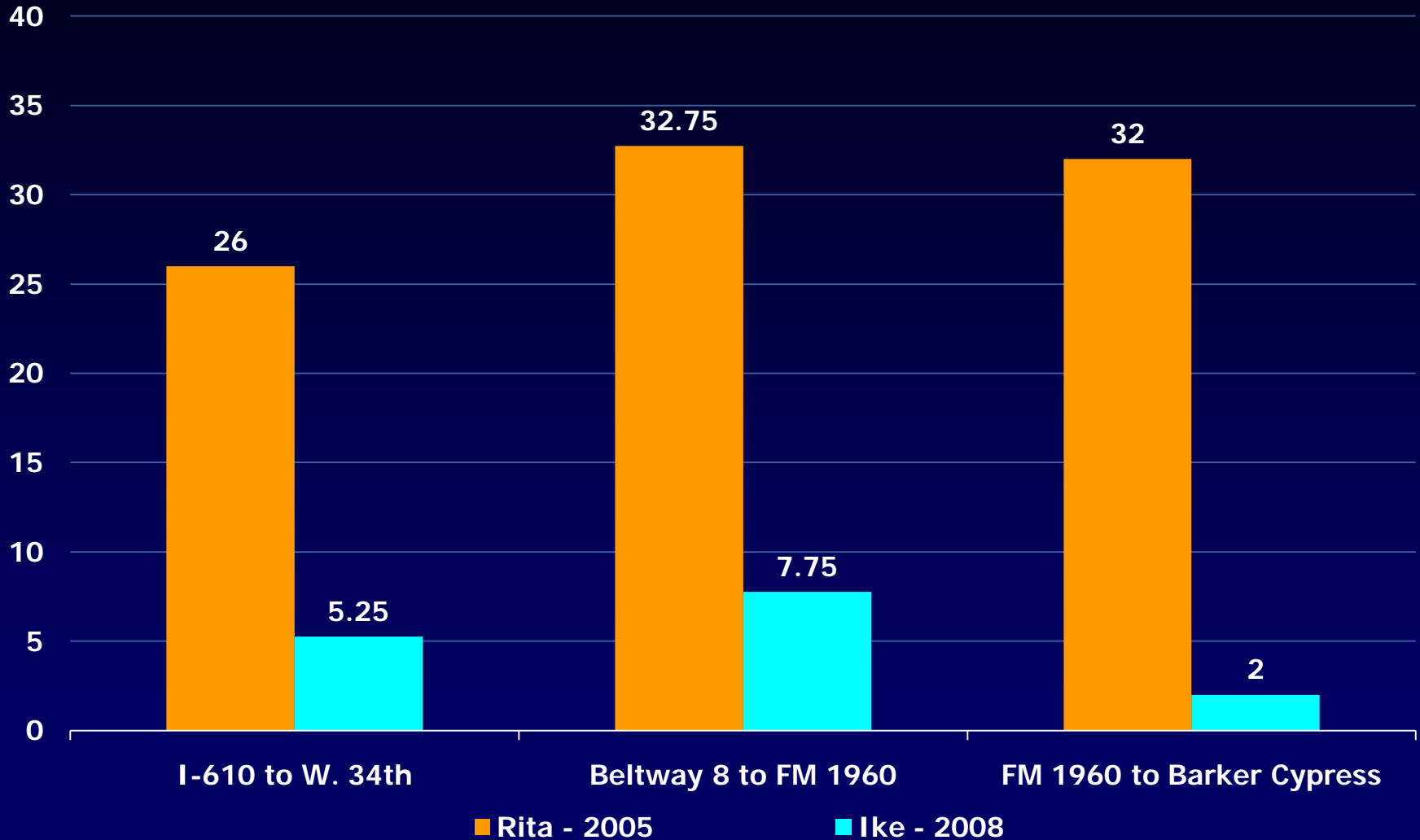


Rita Impacted Ike in 2008

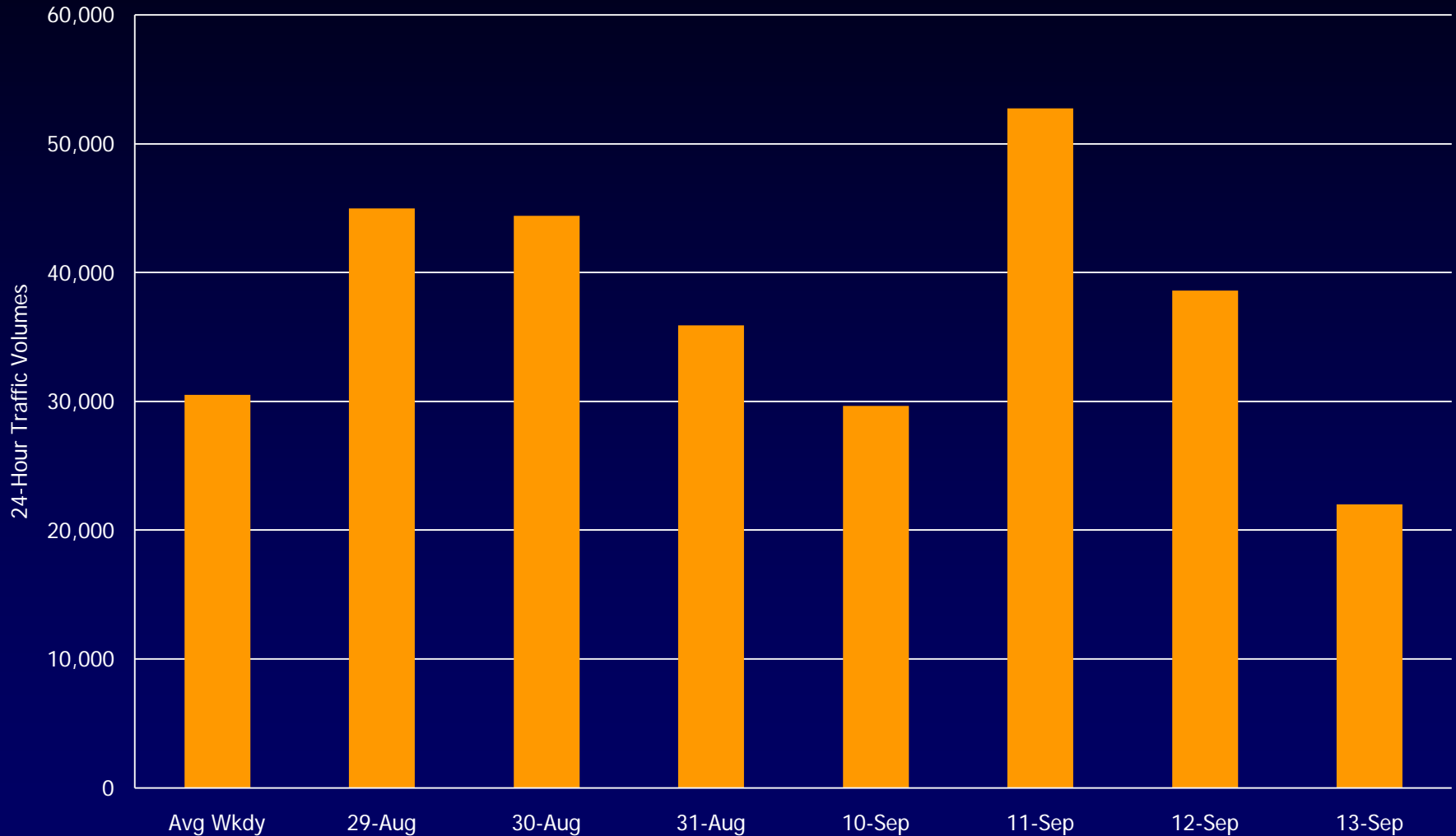
- Ike storm was smaller than Rita
- 2005 Rita evacuation experience



Hours Less Than 40mph on US 290



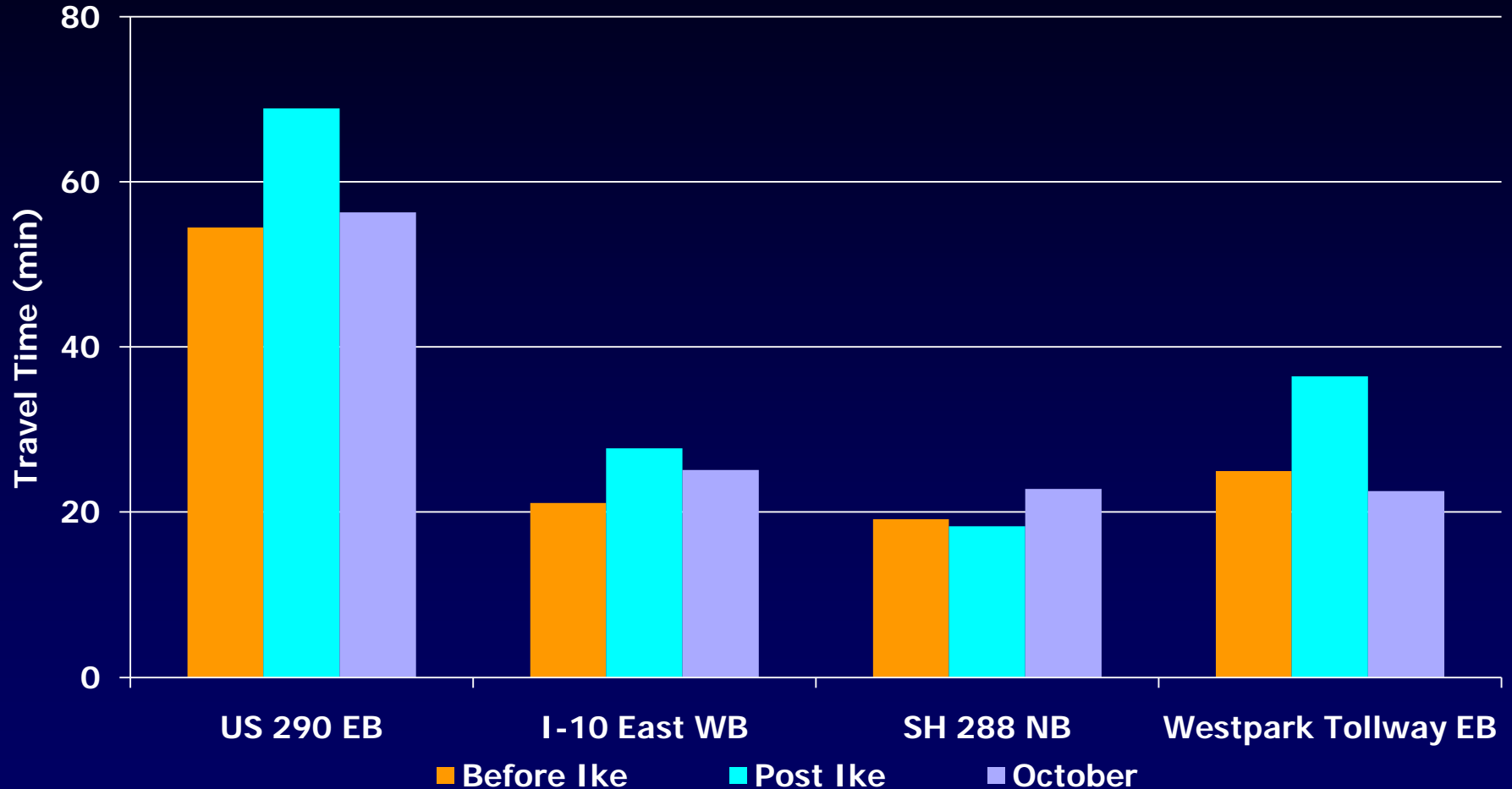
2008 Volumes – I-10 WB @ FM 1463



After Ike Impact

- Over 2,200 traffic signals damaged, or without power, or flashing in City of Houston alone
- TranStar building no damage
- Freeway monitoring system damaged near coastal regions
- About 2-weeks before all devices received power

Commuters flocked to the freeway ...



What's up for 2010

- Additional "Evaculane"
 - I-10 Westbound towards San Antonio [150 miles]
 - Widened Bridges & Improved Shoulder
 - May reduce the need for Contraflow in some situations

IH10W @ SH71 in Columbus 09/12/2008 12:22:28



I10 KATY @ WOODS



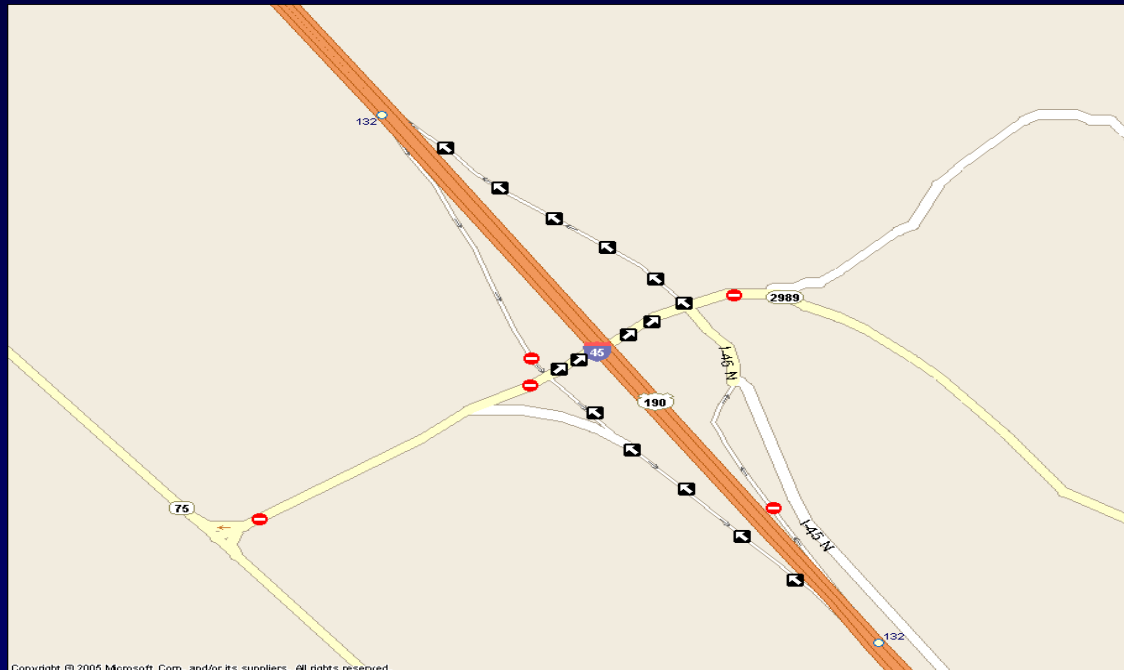
H36 Sealy 09/11/2008 21:43:08



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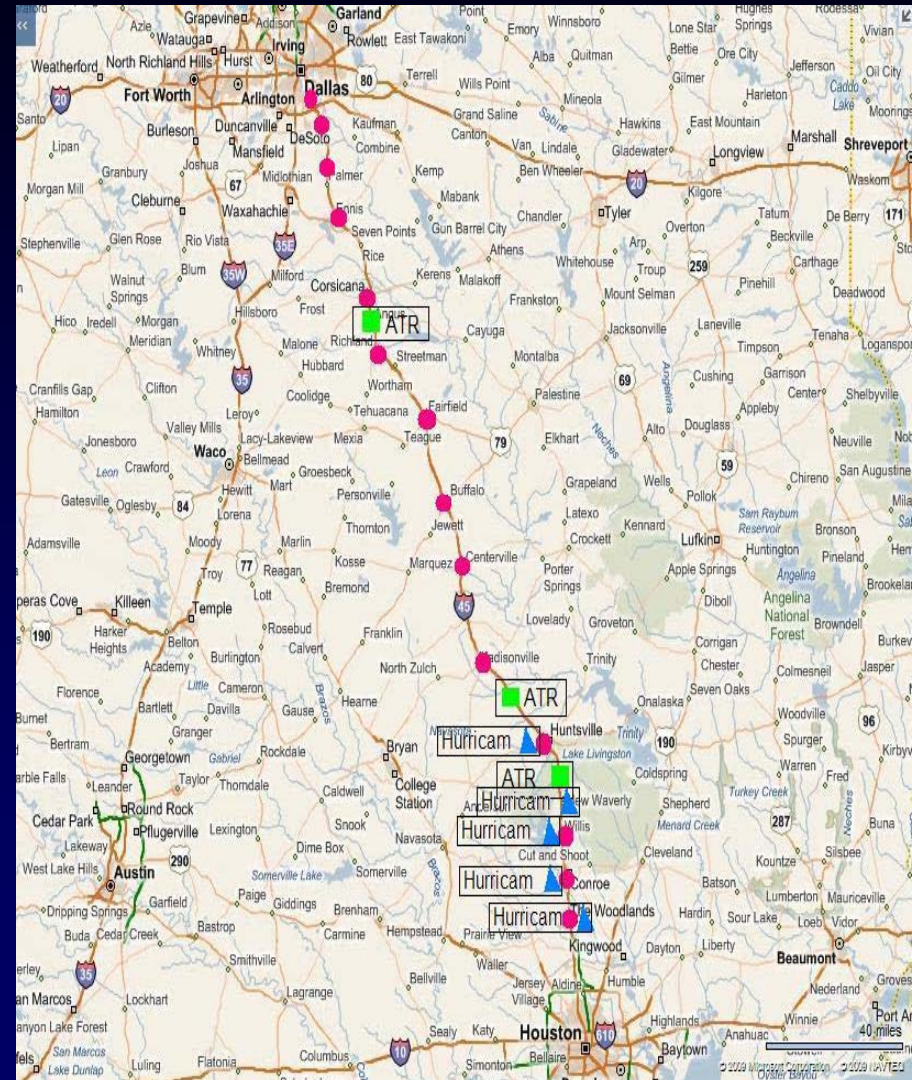
What's up for 2010

- "Mini Contraflow" around Conroe construction
 - About 50-miles in length
 - Likely implemented in High Cat 2 – Low Cat 3 storms
 - Termination points in rural areas



What's up for 2010

- Travel Time Monitoring
Conroe to Dallas
 - Uses "Bluetooth" technology
 - Low cost deployments
 - 10-20 mile segments
 - Cellular communications
- May Expand to I-10
 - East to Beaumont
 - West to San Antonio
- Possible for US 290



Questions?

Bolivar Ferry @ French Town Rd. 09/12/2008 08:44:11



SH-146@US-190 Livingston NB 09/11/2008 15:17:10



IH10E @ SH146 09/11/2008 15:13:11



IH10W @ EB WeighStation 09/12/2008 18:55:06



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