NOCoE- SOUTHWEST PEER EXCHANGE TOPIC 2- PERFORMANCE MEASURES

Texas Department of Transportation

Session 2- Performance Measures

- What type of performance measures tools do you use to report to the following?

  – Map-21 (anticipated) and Federal requirements.

  – State performance measures and goals.

  – Regional performance measures and goals.

Houston RIMS System

- Incident location and type;
- Incident clearance times, by vehicle type and other factors;
- Travel times, average, by segment and by route;
- Travel times, 80th percentile, by segment and by route;
- "Free-flow" travel times (average travel times during non-congestion conditions)
- Planning time index (PTI – 80th Percentile) for AM Peak Period (6a-10a), Weekday Midday, Weekday PM Peak Period (4p-8p) and Weekend (6a-8p)
- Traveler information (current delay, worst case arrival time when leaving "now") for common routes/O-D pairs
- Top 20 highest PTI80 routes/O-D pairs, by time period

Incident Clearance Performance Report Card

(*as of Sept. 15, 2016*)
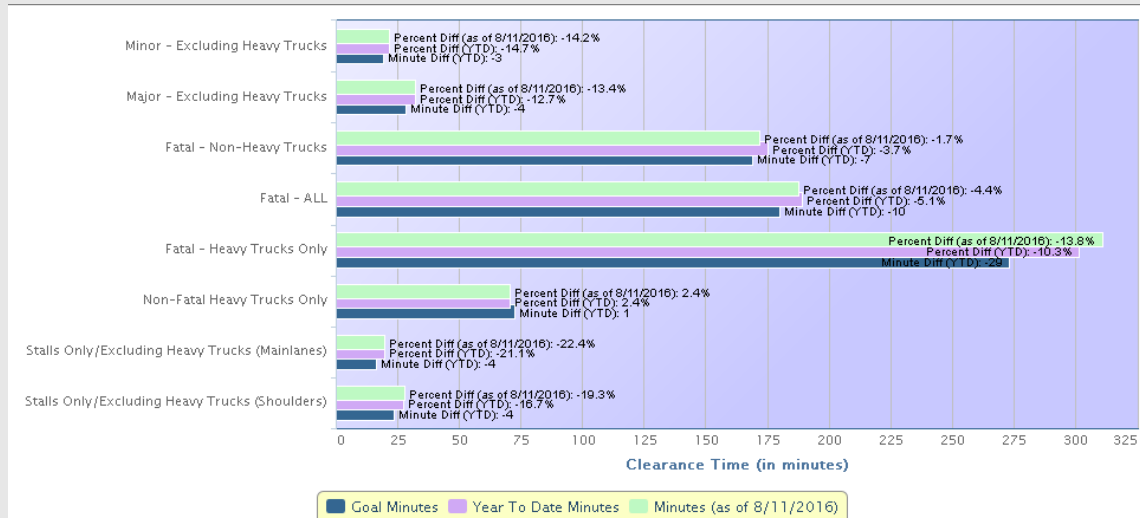
Minor - Excluding Heavy Trucks		
Year	Count	Avg Clearance Mins
2013	4895	19.6
2014	5797	20.5
2015	7766	22.5
2016	5244	21.8

2016 Goal: 19 minutes/ Grade: -3:48
Count Since 8/11/2016: 735

Major - Excluding Heavy Trucks		
Year	Count	Avg Clearance Mins
2013	4204	31.1
2014	4743	31.4
2015	6048	31.9
2016	4012	32

2016 Goal: 28.4 minutes/ Grade: -4:36
Count Since 8/11/2016: 557

Fatal - Non-Heavy Trucks		
Year	Count	Avg Clearance Mins
2013	80	166.3
2014	105	200.9
2015	111	190.4
2016	87	175

2016 Goal: 168.8 minutes/ Grade: -7:12
Count Since 8/11/2016: 11

Fatal - ALL		
Year	Count	Avg Clearance Mins
2013	90	177.6
2014	120	222.7
2015	121	193.7
2016	98	189.1

2016 Goal: 179.9 minutes/ Grade: -10:12
Count Since 8/11/2016: 12

Fatal - Heavy Trucks Only		
Year	Count	Avg Clearance Mins
2013	10	268.6
2014	15	375.3
2015	10	230.8
2016	11	301.3

2016 Goal: 273.2 minutes/ Grade: -29:06
Count Since 8/11/2016: 1

Non-Fatal Heavy Trucks Only		
Year	Count	Avg Clearance Mins
2013	567	89.3
2014	761	79.5
2015	1003	76
2016	685	70.6

2016 Goal: 72.3 minutes/ Grade: 1:42
Count Since 8/11/2016: 88

Stalls Only/Excluding Heavy Trucks (Mainlanes)		
Year	Count	Avg Clearance Mins
2013	2151	15.7
2014	3608	16.9
2015	5314	19.4
2016	3438	19.5

2016 Goal: 16.1 minutes/ Grade: -4:24
Count Since 8/11/2016: 443

Stalls Only/Excluding Heavy Trucks (Shoulders)		
Year	Count	Avg Clearance Mins
2013	732	31.3
2014	6690	25
2015	21102	26
2016	11821	27.2

2016 Goal: 23.3 minutes/ Grade: -4:54
Count Since 8/11/2016: 1835

Session 2- Performance Measures Houston Transtar

OPERATIONS PERFORMANCE MEASURES

IH-10 Katy | IH-10 East | IH-45 Gulf | IH-45 North | IH-610 Loop | IH-69 Southwest | IH-69 Eastex | US-290 Northwest
SH-288 | SH-249 | SH-225 | Beltway 8 | Hardy Toll Road | Westpark Tollway

Trailing 3 Month Averages: **Weekday AM Peak (6a-10a)** | Weekday Midday (10a-4p) | Weekday PM Peak (4p-8p) | Weekend (6a-8p)   ☰ Show Top 20 List

IH-10 Katy Eastbound AM Peak (6 AM to 10 AM)

From/To	Route Length	Free Flow Travel Time (mm:ss)	80th Percentile Travel Time (mm:ss)	Planning Time Index (80th Percentile)
Barker-Cypress to Beltway 8-West	8.90 miles	6:55	12:25	1.80
Barker-Cypress to IH-610 West Loop	15.30 miles	12:49	22:36	1.76
Beltway 8-West to Downtown	12.50 miles	12:12	20:30	1.68
IH-610 West Loop to Downtown	6.10 miles	6:18	10:19	1.64

IH-10 Katy Westbound AM Peak (6 AM to 10 AM)

From/To	Route Length	Free Flow Travel Time (mm:ss)	80th Percentile Travel Time (mm:ss)	Planning Time Index (80th Percentile)
Downtown to IH-610 West Loop	6.10 miles	6:11	7:20	1.19
Downtown to Beltway 8-West	12.50 miles	12:06	13:33	1.12
IH-610 West Loop to Barker-Cypress	15.40 miles	12:44	11:11	0.88

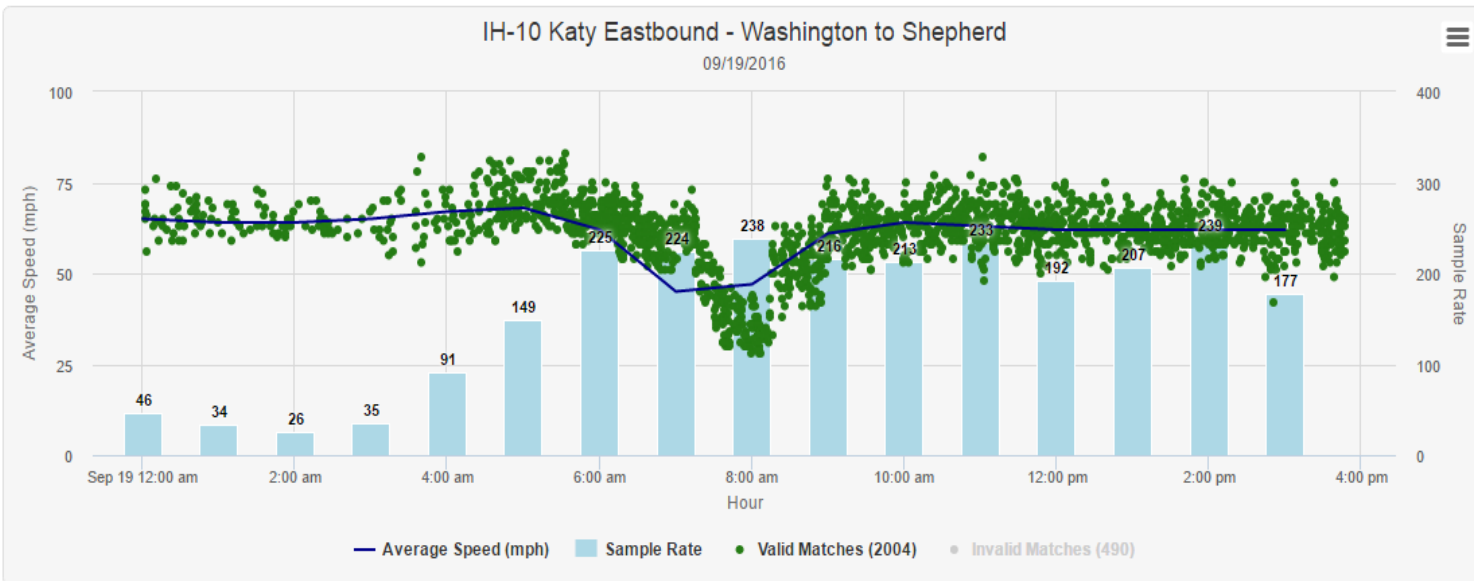# Session 2- Performance Measures Houston Transtar

Session 2- Performance Measures Houston Transtar

HOUSTON TRANSTAR®

🏠 HOME   TRAFFIC CONDITIONS ▾   EMERGENCY INFO ▾   TRANSIT INFO ▾   ROAD SAFETY ▾   ABOUT

OPERATIONS PERFORMANCE MEASURES

**Trailing 3 Month Averages:**   Weekday AM Peak (6a-10a) | Weekday Midday (10a-4p) | **Weekday PM Peak (4p-8p)** | Weekend (6a-8p)   ☰ Show By Roadway

Top 20 Least Reliable Routes PM Peak (4 PM to 8 PM)

Rank	Roadway	From/To	Route Length	ℹ Free Flow Travel Time (mm:ss)	ℹ 80th Percentile Travel Time (mm:ss)	ℹ Planning Time Index (80th Percentile)
1	🛡610 IH-610 Loop Southbound	IH-10 Katy to IH-69 Southwest	5.00 miles	2:09	7:42	3.58 ▬
2	🛡69 IH-69 Southwest Northbound	IH-610 West Loop to Downtown	7.70 miles	8:12	28:45	3.51 ▬
3	🛡45 IH-45 Gulf Northbound	IH-610 South Loop to Downtown	7.90 miles	4:27	14:24	3.24 ▬
4	🛡45 IH-45 Gulf Southbound	Downtown to IH-610 South Loop	7.90 miles	4:30	14:11	3.15 ▬
5	🛡10 IH-10 Katy Eastbound	IH-610 West Loop to Downtown	6.10 miles	6:18	17:52	2.84 ▬
6	🛡610 IH-610 Loop Southbound	IH-69 Southwest to SH-288	10.50 miles	3:29	9:42	2.78 ▬
7	🛡610 IH-610 Loop Northbound	IH-69 Southwest to IH-10 Katy	5.00 miles	2:11	5:33	2.54 ▬
8	🛡69 IH-69 Southwest Northbound	Beltway 8-West to Downtown	14.10 miles	14:51	35:29	2.39 ▬
9	🛡225 SH-225 Westbound	SH-146 to Beltway 8-East	5.80 miles	3:59	9:27	2.37 ▬
10	🏁 Westpark Tollway Westbound	Rice to SH-6	10.40 miles	7:58	18:40	2.34 ▬

Session 2- Performance Measures (Lonestar ATMS)

- Lonestar ATMS Upgraded to Support Incident Management Timeline
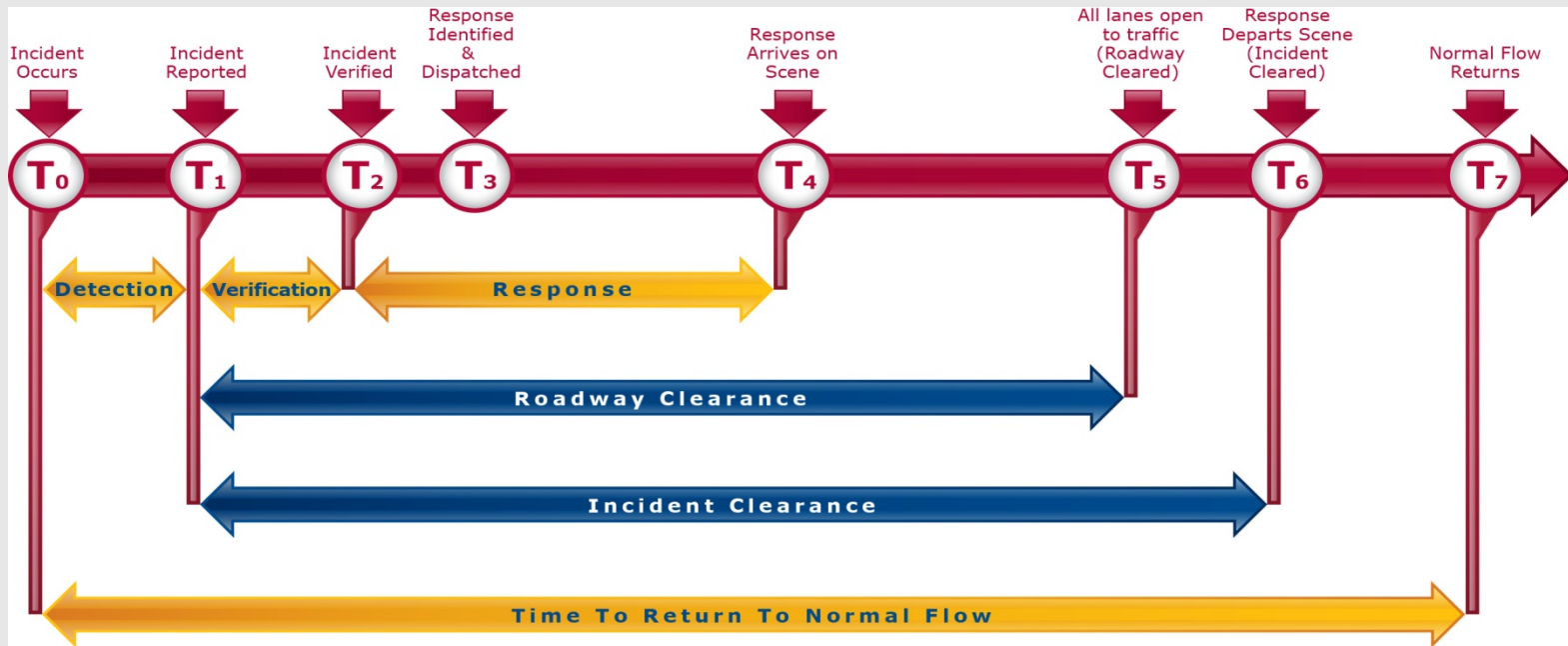

- T1, T2, T4, T5, T6, T7 drop down menu based input, configurable by district
- T3 (and T4 if needed) can be addressed using notes feature
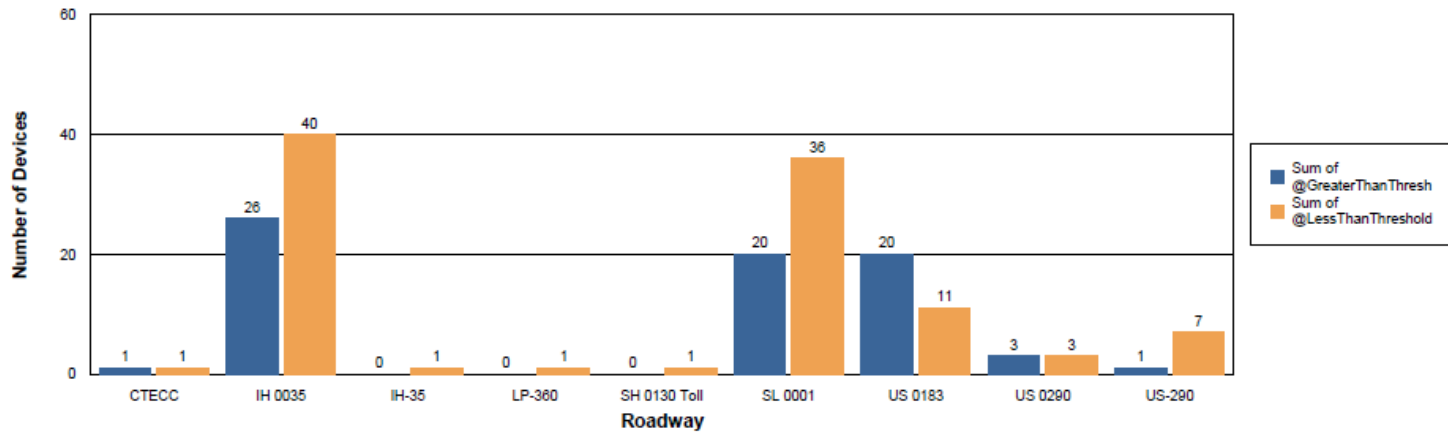
Session 2- Performance Measures (Lonestar ATMS)

- Incidents detection source
- Incident verification type
- Median incident duration
- Average delay across segments
- Travel Time Delay
- Number of crashes in work zones
- Lane Clearance Time
- Incident Clearance Time
- Number of secondary crashes
- Percentage of time that standard response plan activated for an event
- DMS message types (Incident, Travel Time, Construction, PSA, etc.)
- Travel Time data source (Inrix, Radar, Bluetooth)
- Time from incident detection to response plan activation
- % asset uptime
- % process uptime
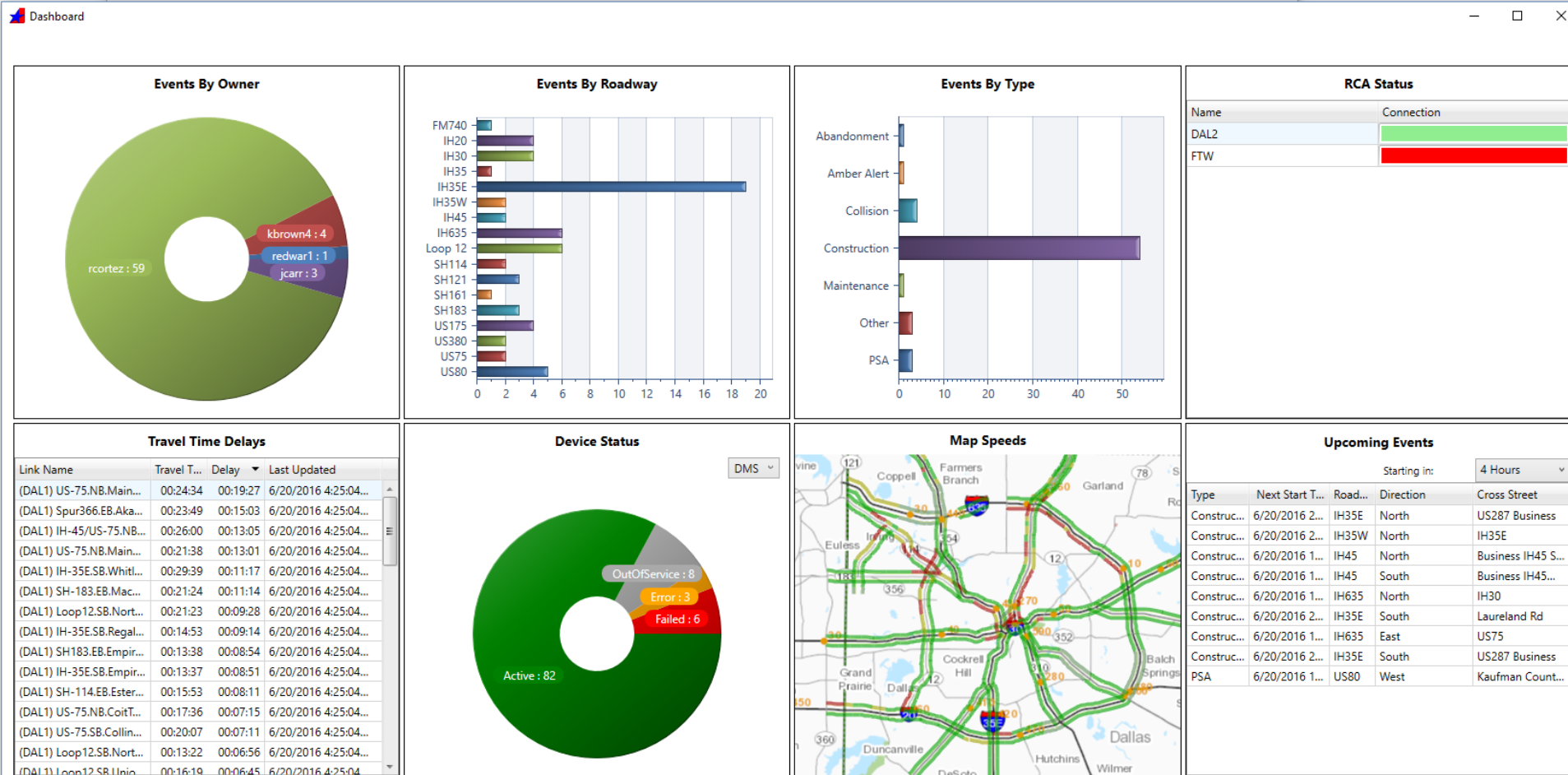
Session 2- Performance Measures (Lonestar ATMS)

CAMERA Up Time By Roadway

Created On :8/10/2016 5:42:09PM   District: AUS   Report Duration:1 Week   Report Period: From 08/01/16 to 08/08/16

Device Summary Data

Up Time Threshold : 75%

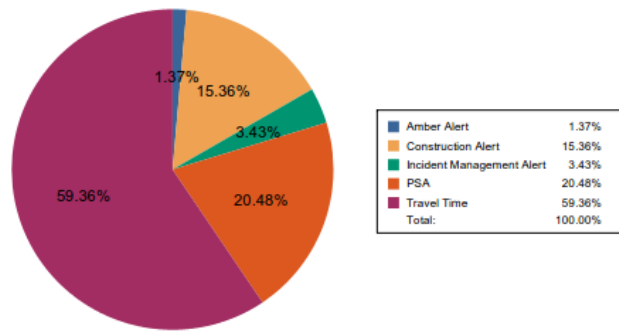**DMS Up Time By Roadway**
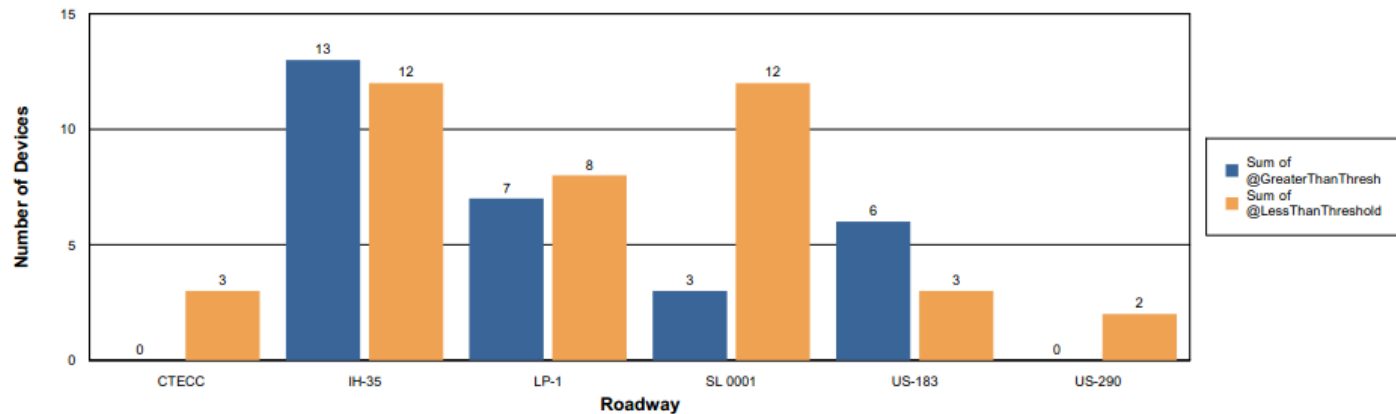
Created On:7/25/2016 8:36:37AM   District: FTW   Report Duration :1 Week   Report Period : From 07/18/16 to 07/25/16
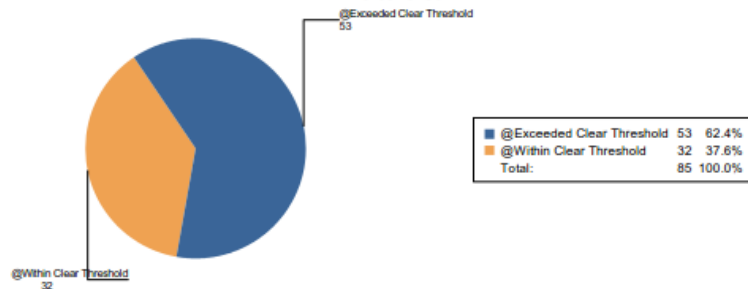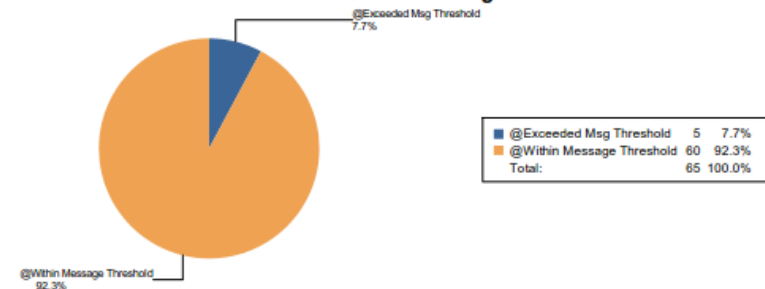
Report Summary

All Message Priorities

Amber Alert	1.37%
Construction Alert	15.36%
Incident Management Alert	3.43%
PSA	20.48%
Travel Time	59.36%
Total:	100.00%

Priorities
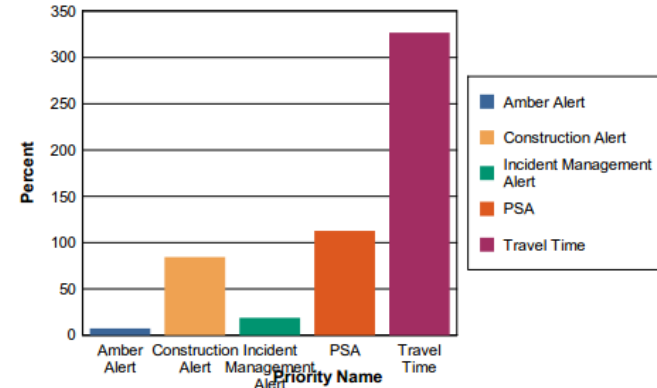
Report Summary Data

Total Number of Incidents: 85
Average Time To Clear Incident: 49 min
Incident Clear Threshold: 30 min
Number of Incidents exceeding threshold: 53

Total Number of Incidents with DMS posted: 65
Average Time To Post Message on DMS: 2 min
DMS Post Message Threshold: 5 min
Number of Incidents exceeding threshold: 5

Time to Clear

@Exceeded Clear Threshold
53

@Within Clear Threshold
32

@Exceeded Clear Threshold	53	62.4%
@Within Clear Threshold	32	37.6%
Total:	85	100.0%

Time to Post Message

@Exceeded Msg Threshold
7.7%

@Within Message Threshold
92.3%

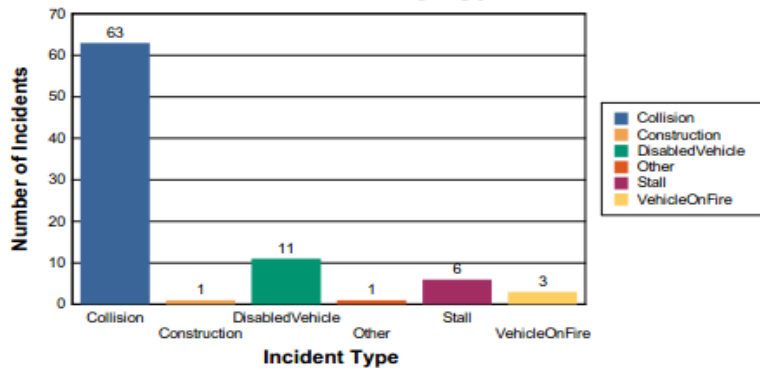|		
@Exceeded Msg Threshold	5	7.7%
@Within Message Threshold	60	92.3%
Total:	65	100.0%

Created On:8/9/2016 1:00:54PM | District: DAL1 | Report Duration :1 Week | Report Period : From 08/01/16 to 08/08/16

Report Summary Data

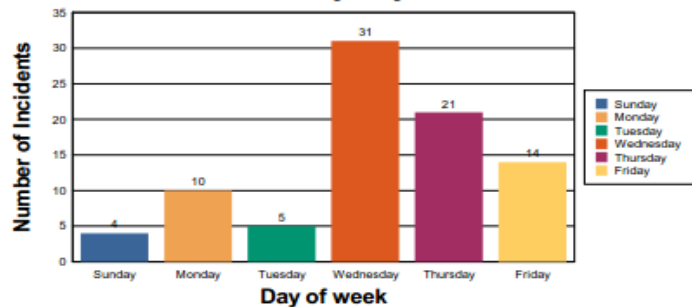Number of Incidents: 85
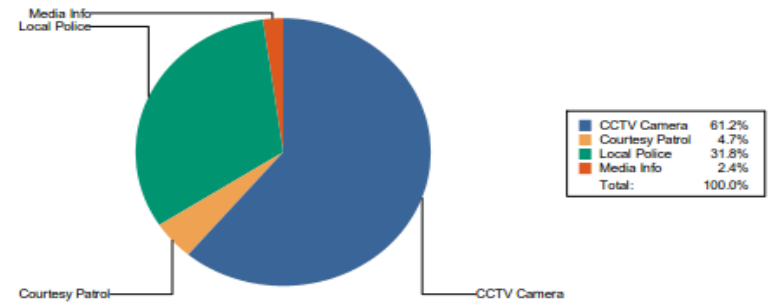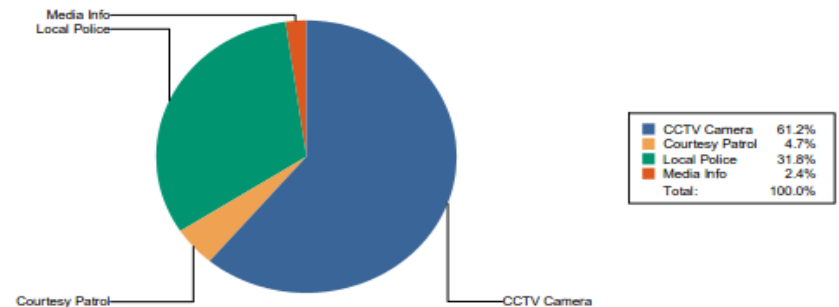
Secondary Incident Summary Data

Primary Event Data

ID: Collision entered @ 7/18/2016
11\:55\:31 AM:em:event:ELP
Description:multiple vehicles
Type: Collision
Source: CCTV Camera
Severity: Minor
Entered By: bred:ELP-750472-W:7508

Event Location

Roadway: IH-10
Direction: West
Description: IH-10 at MM 17
Latitude: 31,785,165
Longitude: -106,518,750
Cross Street: MM 17

Event Timestamp

Detected: 7/18/2016 11:55:31AM
Verified: 7/18/2016 11:56:36AM
Message Posted:
Scene Cleared:7/18/2016 12:36:41 PM
Closed:7/18/2016   1:02:28PM

Secondary Event Data

ID: Collision entered @ 7/18/2016 12\:37\:40
PM:em:event:ELP
Description: Semi
Type: Collision
Source: CCTV Camera
Severity: Minor
Entered By: bred:ELP-750472-W:7508

Event Location

Roadway: IH-10
Direction: West
Description:IH-10 at MM 17
Latitude: 31,785,165
Longitude: -106,518,750
Cross Street: MM 17

Event Timestamp

Detected: 7/18/2016 12:37:40PM
Verified: 7/18/2016 12:38:06PM
Message Posted:
Scene Cleared: 7/18/2016 1:09:03 PM
Closed:7/18/2016   1:02:28PM

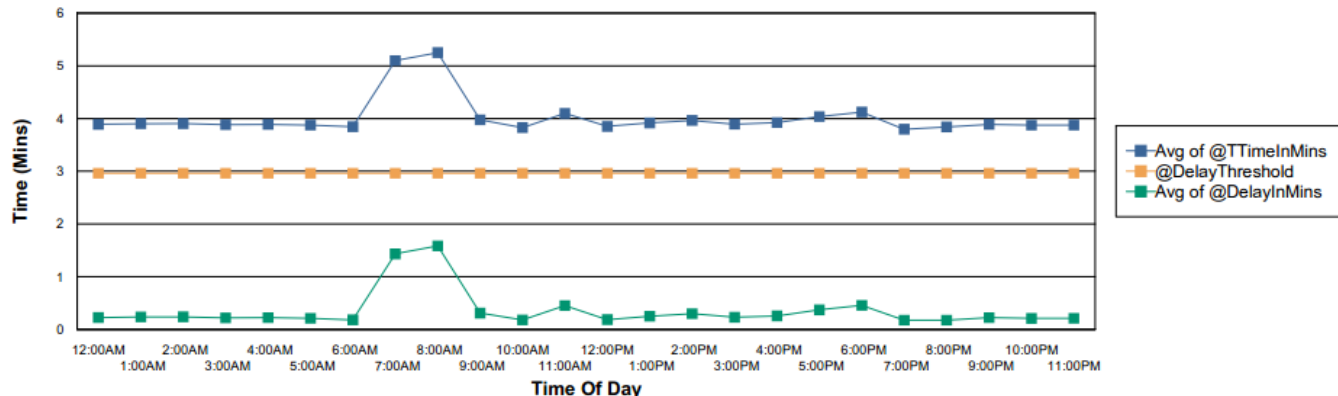| Created On: 7/25/2016 9:08:28AM	District: SAT	Report Duration: 1 Week	Report Period: From 07/18/16 to 07/25/16

Link :INRIX-CMS2-0035S-171.127_1_LP 410 | Direction : South | Distance : 4.28 mile | Nominal Travel Time : 3.95 Min | Delay Threshold : 2.96 min

Session 2- Performance Measures
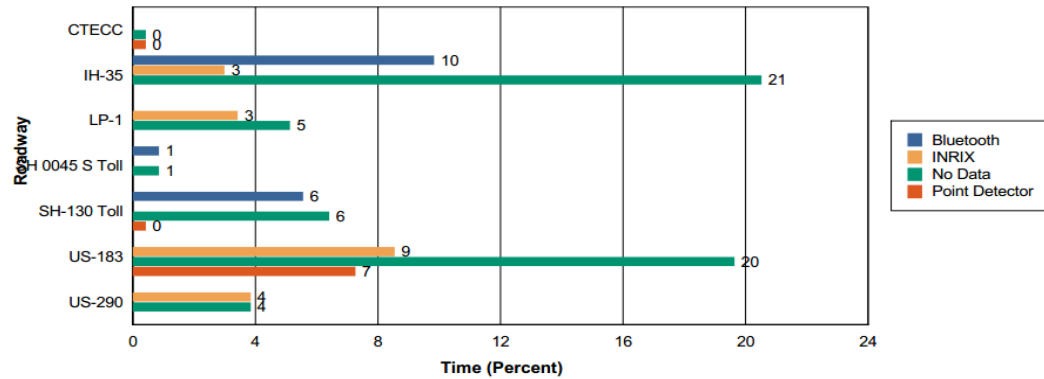
- Describe the help if any, that you need to obtain, monitor or report on performance measures.
  - Houston Transtar-
    - Performance measures are generated from internally generated traffic performance data (primarily from travel time monitoring system and incident management databases).

  - Lonestar ATMS
    - Staffing levels in TMCs are an issue where one or two operators are on duty working multiple incidents, the motivation is to get response plans out and contact emergency responders
    - Consultant/vendor to collect and process data for travel time index and planning time index. System is in place to collect and process incident data.
    - Training operators in common definitions of Incident Management Timeline measures
    - Educate local partners on PM and KPI availability
    - Providing secure access to report generation feature that does not impact ATMS

Session 2- Performance Measures

- How have performance measures that are being used affected operations?
  - Houston-
    - Goals are set each year for incident clearance for differing incident types (heavy truck vs. minor/major's; fatal incidents vs. others), and reported to TIM committee each month.
    - Operations data (congestion/travel time data) is now being used to focus assets (motorist assistance and quick-cleat towing (SAFEClear)) to optimal use.
    - Planning for improvement projects is starting to utilize reliability measures as well as congestion reporting for project development and prioritization
    - Planning Time Index being added to public web site

  - Lonestar ATMS
    - PM & KPI features added recently
    - Helping build case for TSM&O with first responders and the MPO. Showing local data to our partners supports our efforts when we are asking other agencies to change their operations, or provide TSM&O funding.
    - Planning to use for Performance Based TMC, SSP and Maintenance Contracts