

Kansas City Scout Traffic Management Center Monthly Report

November 2009



Prepared For:

KC Scout Board of Directors

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Cover photo: Two members of the KCFD HAZMAT unit work on cleaning up hydrochloric acid that spilled from an overturned semi on I-35 NB at Front Street on November 30, 2009.

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Introduction

Kansas City Scout (KC Scout) is a comprehensive traffic and incident management system designed to address the traffic impacts on over 100 miles of contiguous freeways in the bi-state Kansas City metropolitan area. The Missouri Department of Transportation (MoDOT) and the Kansas Department of Transportation (KDOT) jointly operate the system. Scout integrates 128 closed circuit television (CCTV) cameras, 38 dynamic message signs (DMS), 277 vehicle detector stations (VDS), a highway advisory radio (HAR) system, and a dynamic web site, www.kcscout.net.

This report describes the operation and specific activities of Scout's Traffic Management Center (TMC), located in Lee's Summit, Missouri, during November 2009.

Operations Summary

A summary of the operational results and activities of the TMC staff during the reporting period is presented below. The numbers in parentheses shown with some of the items refer to the explanatory notes on those items included in the "Notes on Operations Summary" section following this section.

Incidents

- The TMC actively responded to **678 incidents**, representing a 5% decrease compared to last month.
- 10 were Level 3 incidents with an average duration of 257 minutes (1)
- 219 were Level 2 incidents with an average duration of 52 minutes (1)
- 309 were Level 1 incidents with an average duration of 14 minutes (1)
- 113 were scheduled roadwork (2)
- 11 were within a work zone (2)
- 0 were Ozone Alerts
- 0 were an AMBER Alert
- 33 involved big rigs
- 53 involved injuries (4% decrease compared to last month)
- 3 involved fatalities
- 13 involved DOT property damage
- 0 could be classified as secondary incident
- 39 cited bad weather as a possible contributing factor
- The TMC managed the following corridor events: 34 I-70, 1 I-29, and 2 I-35
- Dynamic Message Signs (DMS) were activated 984 times (3)
- 1,701 DMS messages were displayed (3)

ATIS (Web Site) Messages

- 2,560 total messages were placed for incidents, including 428 for roadwork (4)

Highway Advisory Radio (HAR)

- Activated 0 times this month (5)

Equipment Operability

- On average, 98% of the CCTV cameras were completely operational.
- On average, 98% of the DMS were completely operational.
- On average, 83% of the Detector Stations were completely operational, with 2% reporting some bad detectors, 15% reporting all bad detectors, and 0% not responding. (6)

Introduction

Tours / Media/Events

Tours

11/20 Law enforcement officers toured Scout while attending the ramp metering launch party. There were approximately 11 officers in attendance and the tour was led by Rusty James.
 11/20 Gina Myles led a tour to a few gentleman who heard about the ramp metering launch on 810 Sports.
 11/21 The Intelligent Transportation Engineers Chapter KSU toured the Scout facility. Mark Sommerhauser led the tour.

Public Appearances

11/3 Nancy Powell - KC Scout Weather Integration Project
 11/3 Don Spencer - KC Scout Weather Integration Project
 11/3 Cathy Jones - KC Scout Weather Integration Project
 11/3 Gary Covey - KC Scout Weather Integration Project
 11/3 Mark Sommerhauser - KC Scout Weather Integration Project
 11/3 Jason Sims - KC Scout Weather Integration Project
 11/3 Rusty James - Incident Management Symposium
 11/3 Jason Sims - Incident Management Symposium
 11/3 Jeremy Ball - Incident Management Symposium

Media appearances

11/18 Nancy Powell - KMBC/KCWE News
 11/19 Mark Sommerhauser - KSHB News
 11/20 Nancy Powell - WDAF Fox 4 News
 11/20 Gina Myles - WDAF Fox 4 News
 11/20 Jason Sims - WDAF Fox 4 News
 11/20 Mark Sommerhauser - WDAF Fox 4 News
 11/23 Nancy Powell - KMBC/KCWE News
 11/23 Gina Myles - KMBC/KCWE News
 11/23 Jason Sims - KMBC/KCWE News
 11/23 Mark Sommerhauser - KMBC/KCWE News
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 11/25 Mark Sommerhauser - KMBC/KCWE News

Additional Information

- TMC operators logged 419 telephone calls with partner agencies. (7)
- TMC operators dispatched 1,465 Missouri Motorist Assist Calls. (9)
- Customer Service Representatives logged 3,093 contacts from external and internal sources, including phone calls, E-mails, and walk-ins. (8)

Notes on Operations Summary

1. Duration levels used by the TMC are the levels defined in the Manual on Uniform Traffic Control Devices (MUTCD) as follows:
 - Level 1 (Minor) – under 30 minutes
 - Level 2 (Intermediate) – 30 minutes to 2 hours
 - Level 3 (Major) – more than 2 hours

Introduction

November 2009

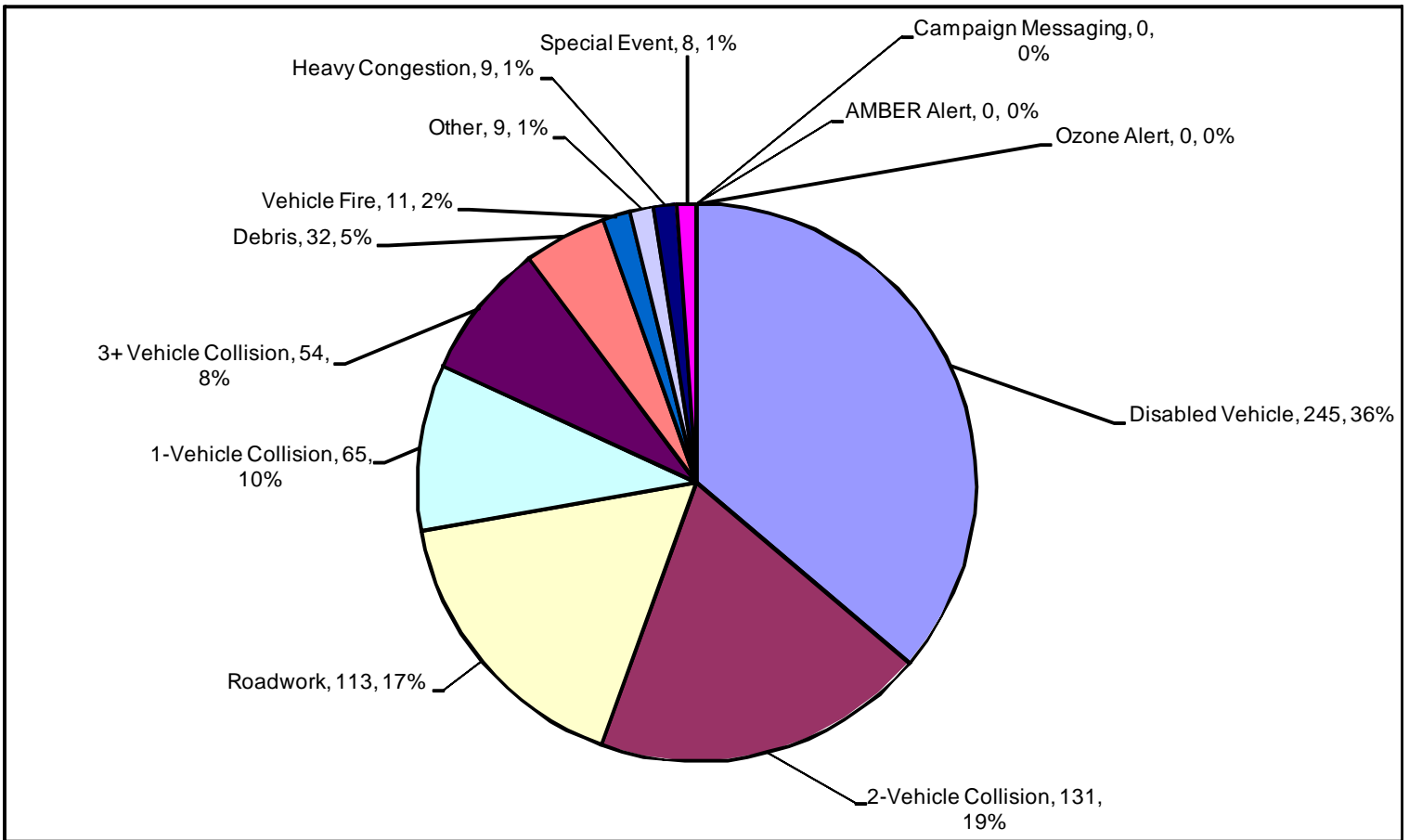
2. The number of scheduled roadwork incidents represents the number of short-term work zones, usually lasting 8 hours or less, that involve lane, road, or ramp closures for which the TMC staff has placed DMS messages. The number of incidents within work zones represents the number of accidents, stalled vehicles, debris, etc. that involve lane or ramp closures within existing work zones, either long-term or short-term.
3. Each incident report provides the number of DMSs activated for that incident and the number of messages displayed on each DMS during the incident. The total numbers of DMS activations and messages displayed in the DMS Operations Summary reflect the numbers from each incident report totaled for all incidents occurring during the reporting period.
4. The ATIS (Advanced Traveler Information System) is the KC Scout Web Site. The number of ATIS messages reported in the Operations Summary is the total number of messages sent by the operators to the web site. Each message sent creates an icon on the web site map that corresponds to the type of incident being reported; e.g., accident, scheduled event, and emergency work. This number does not reflect the number of messages posted in the scroll on the web site home page. Those scroll messages are posted as necessary and may include AMBER Alert notices, web site updates, emergency closures, etc.
5. The HAR is deployed on the Missouri side only and is not integrated with the ATMS software. Operators interface with the system through a dial-up modem.
6. A vehicle detector station (VDS) consists of detectors (induction loops or radar units) capable of detecting vehicle speeds and volumes in each traffic lane. The VDS status in the Operations Summary provides the number of stations that were completely operational (i.e., all detection capability in that station is operational), partially operational (i.e., some but not all of the detection capability in the station is operational), not operational (i.e., none of the detection capability in the station is operational), and not responding (i.e., there is no apparent communication between the station and the TMC).
7. Partner agencies consist of MoDOT Motorist Assist, Kansas Highway Patrol (KHP), local law enforcement and incident management agencies, and MoDOT/KDOT maintenance/construction personnel. The tally also includes all incidents MoDOT Motorist Assist units were dispatched on.
8. External and internal sources consist of the general public, the media, public and private agencies, and other MoDOT offices. Contacts comprise phone calls, E-mails, and walk-ins.

Incident Statistics by Incident Type
November 2009

Incident Statistics by Incident Type

In November, the TMC responded to 678 incidents in the Kansas City area. This number represents a decrease of 5% compared to last month. All incidents are shown by incident type in Figure 1. Disabled Vehicle was the most frequent incident with 245, representing 36% of the total incidents managed. 2-Vehicle Collision was the second most frequent with 131 (19%). Roadwork (113, 17%) and 1-Vehicle Collision (65, 10%) were the next highest incidents. These 4 incident types accounted for 82% of the total incidents managed by the TMC. The three accident categories accounted for (248, 37%) of the total incidents managed. For the purposes of this report, *Disabled Vehicle* incidents are generally counted only if they involve lane closures.

Figure 1 – Incidents by Type



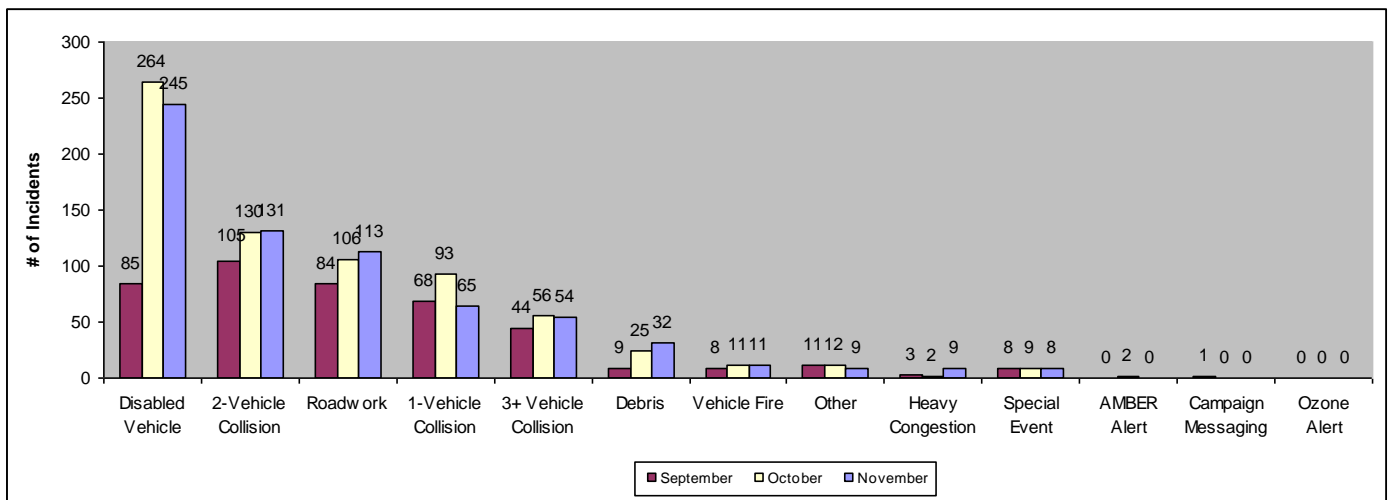
Incident Statistics by Incident Type
November 2009

Additional Incident Details:

- 11 were within a work zone
- 33 involved big rigs
- 53 involved injuries
- 3 involved fatalities
- 13 involved DOT property damage
- 0 could be classified as secondary incidents

Figure 2 shows the number of incidents that the TMC managed during each of the last three months. It is intended to show short-term trends in the types of incidents that are occurring on the area's freeways.

Figure 2 – Incidents by Type / 3-Month Summary

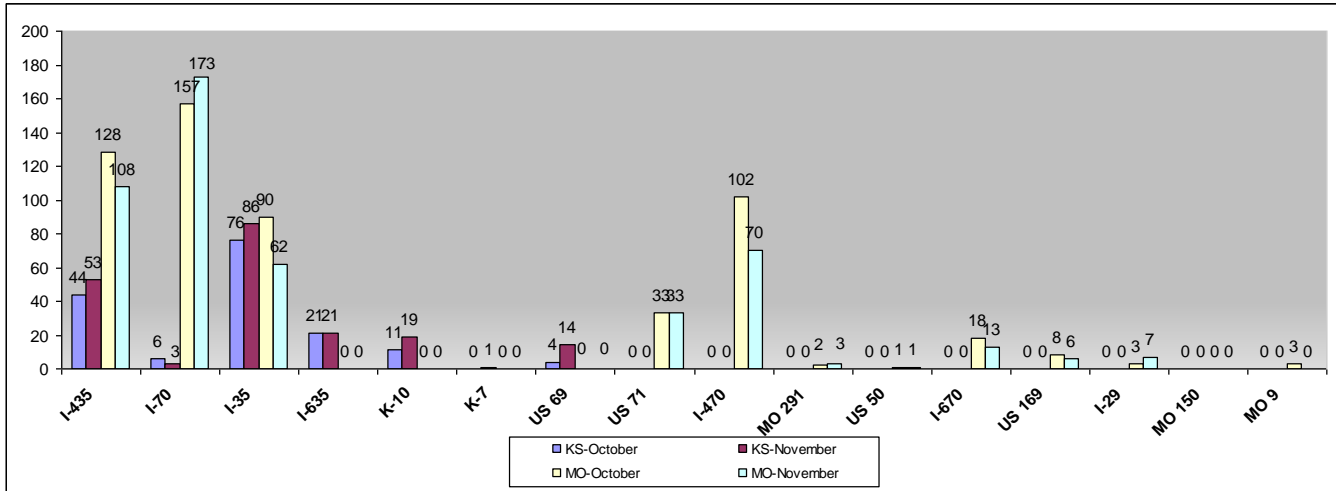


Additional Statistics

Incidents by Facility

The first 4 facilities listed are those interstates that have vehicle detection installed. All others are facilities monitored by Scout via CCTV or interaction with public and private entities. Incidents on each Scout facility are shown in Figure 3.

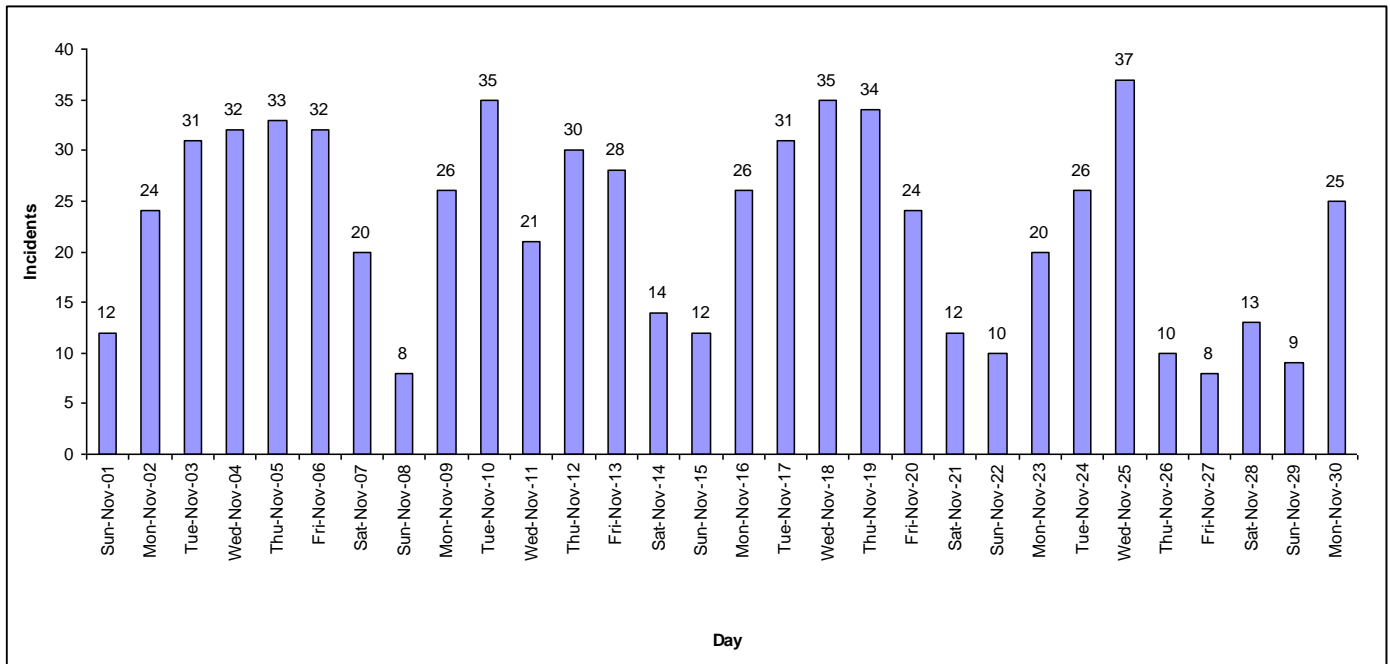
Figure 3 – Incidents by Facility



Incidents by Day

Figure 5 shows the number of incidents occurring on each day of November. The number of incidents per day varies widely, with the average being approximately 23 incidents per day. Weekdays generally incur more frequent incidents, averaging 28.4 incidents/day, compared to 13.8 on weekends. If only non-roadwork incidents are considered, the rates for weekdays and weekends are 23.6 and 11.8 incidents/day, respectively.

Figure 5 – Incidents by Day

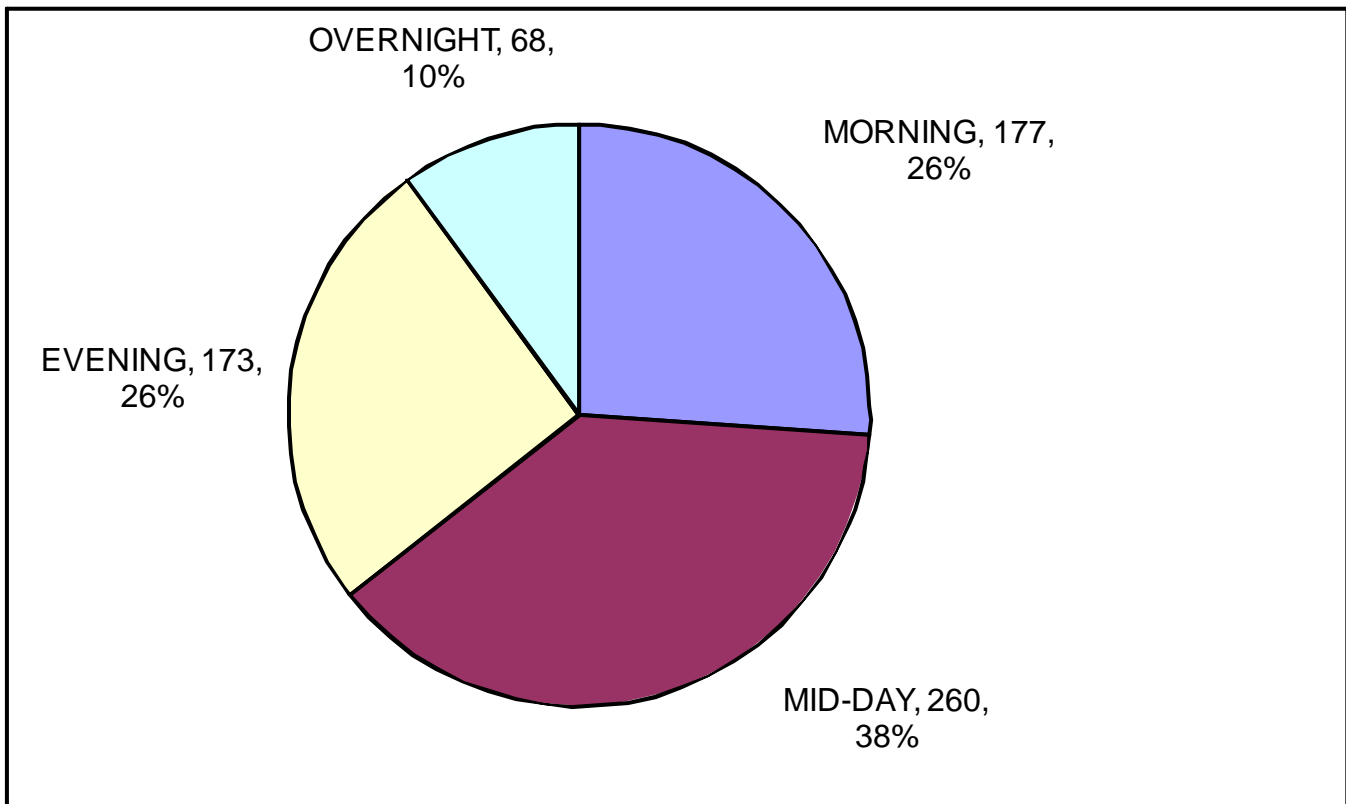


Incidents by Time of Day

Figure 6 shows the breakdown of incidents by time of day. The time periods in the graph are defined as follows.

- *Morning* begins at 5 a.m. and ends at 9 a.m.
- *Mid-day* begins at 9 a.m. and ends at 3 p.m.
- *Evening* begins at 3 p.m. and ends at 7 p.m.
- *Overnight* begins at 7 p.m. and ends at 5 a.m.

Figure 6 – Incidents by Time of Day

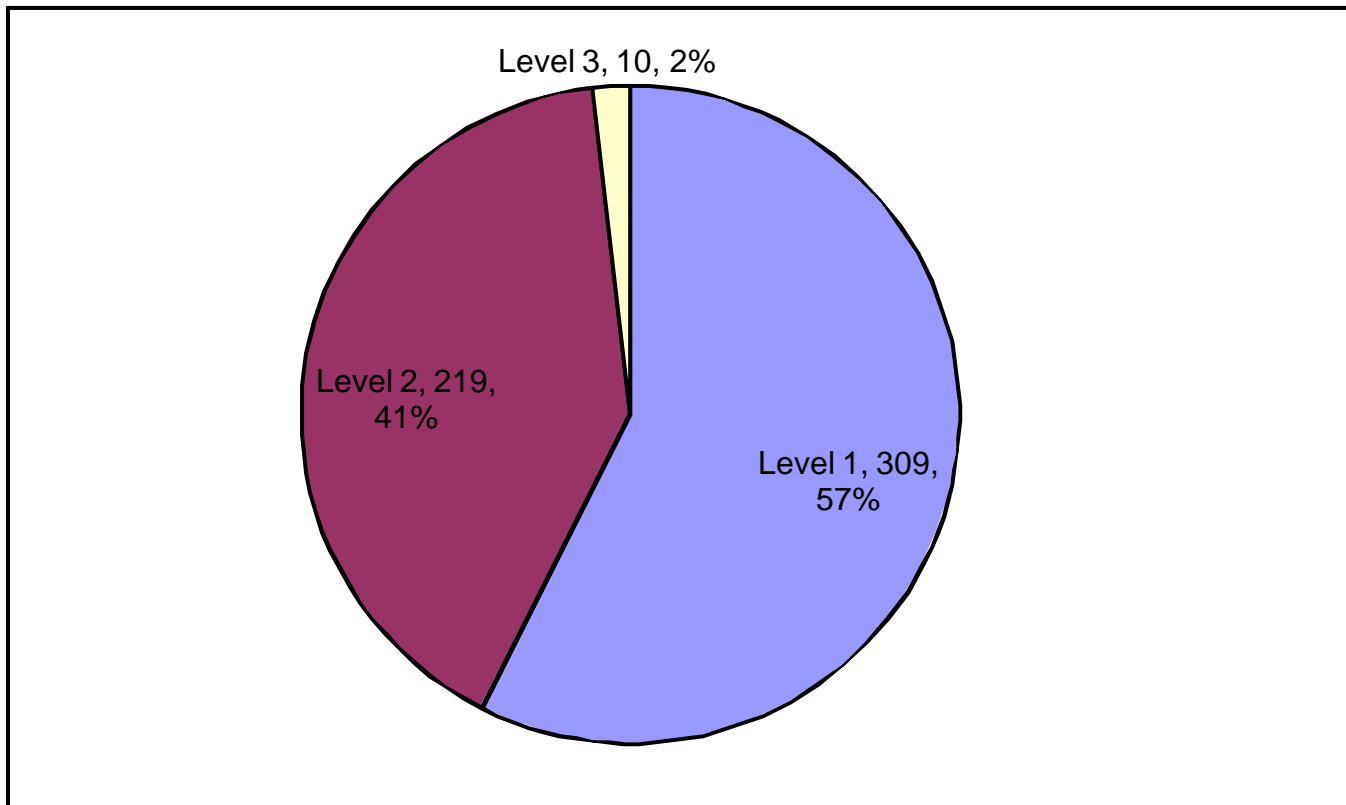


Incidents by Duration Level

Figure 7 shows the number and percentage of incidents that fall within each of the defined duration levels. (See definitions under “Notes on Operations Summary” on page 2.) Not included in this graph are incidents solely related to the support of roadwork, since these tend to have longer durations that would skew the data. Also not included are incidents related to the posting of Ozone Alert or AMBER Alert and Safety messages, which also tend to have longer durations.

This month’s graph shows that there were 10 Level 3 incidents. Level 1 and Level 2 incidents remained relatively unchanged from October. Details of the Level 3 incidents and other unusual incidents/events are provided in the section, “Summary of Major Incidents/Events” on page 15.

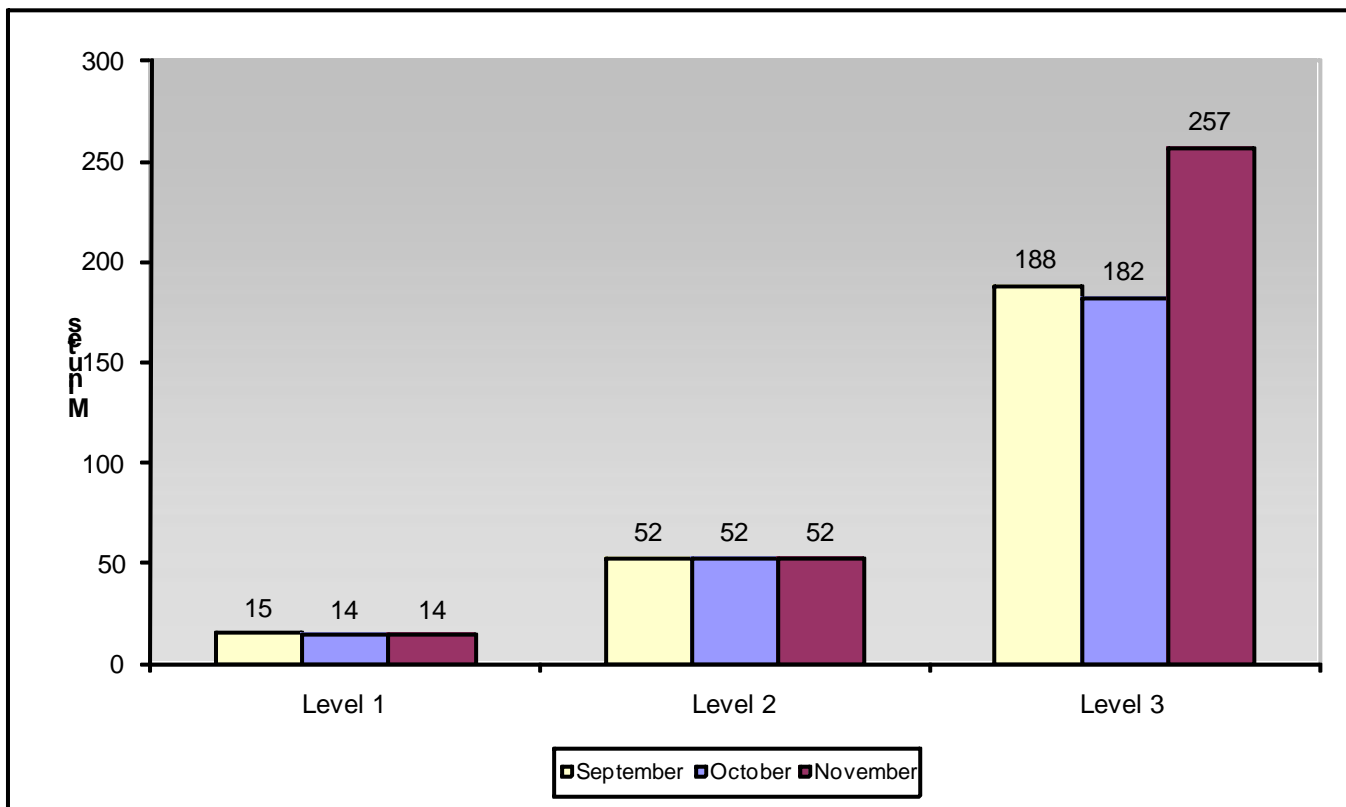
Figure 7 – Incidents by Duration Level



Incident Duration by Level

Figure 8 shows the average duration of incidents by duration level for the past three months. As stated earlier, these levels are defined by the MUTCD and do not include incidents solely related to the support of roadwork, posting of AMBER Alert, Ozone Alert or Safety messages. Because Levels 1 and 2 are defined in a set range, it is expected that these averages will remain consistent somewhere near the middle of their respective ranges. The data in Figure 8 bears this out. Average Level 3 incident durations are typically based on only a few incidents per month. Consequently, the duration can vary widely from month to month, despite the best incident management efforts.

Figure 8 – Incident Duration by Level / 3-Month Summary



Incident Duration by Incident Type

Figure 9 breaks down the average duration of incidents by incident type. It is clear that roadwork incidents have significantly longer durations than other types of incidents worked, which is why *Roadwork* incidents were omitted from Figure 7 and Figure 8. The average *Roadwork* duration was 567 minutes.

Figure 9 – Incident Duration by Incident Type

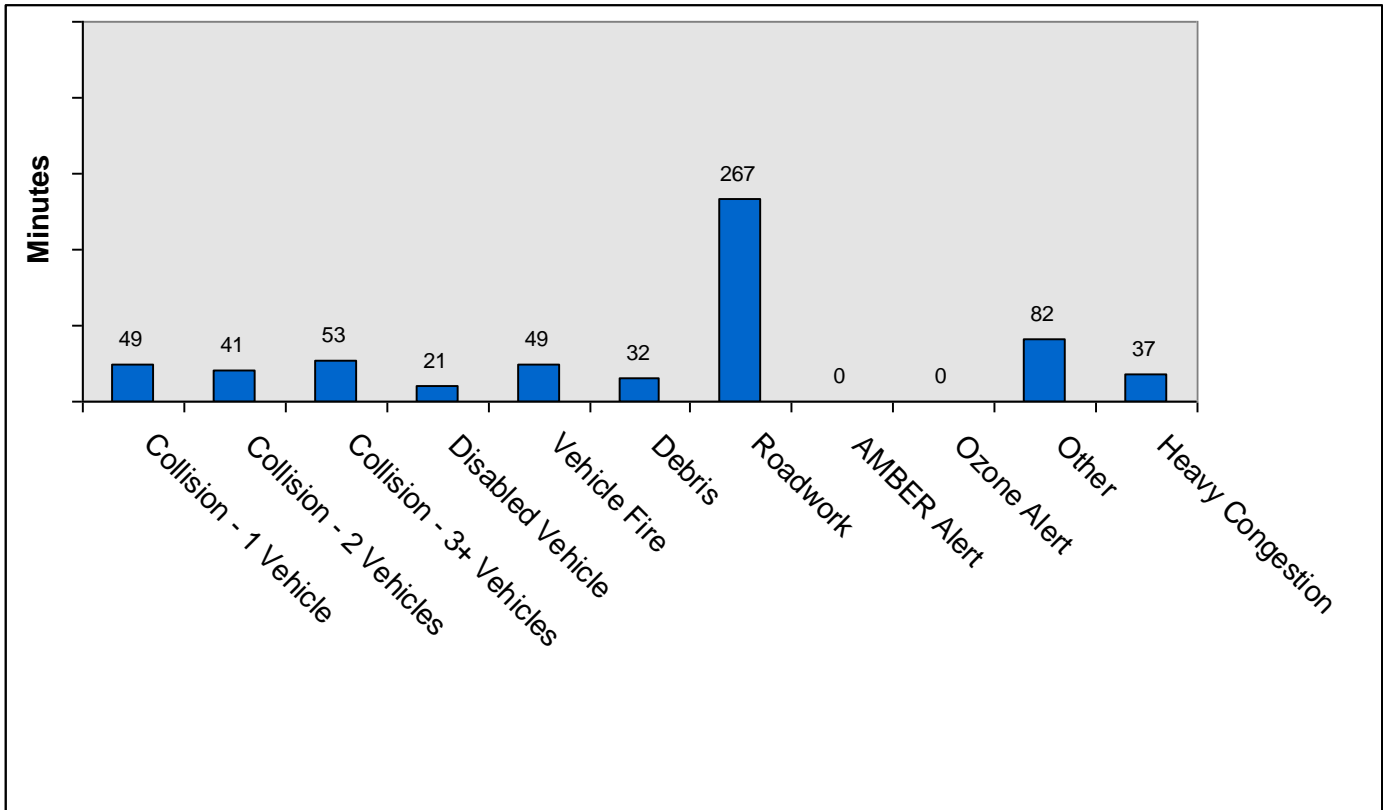
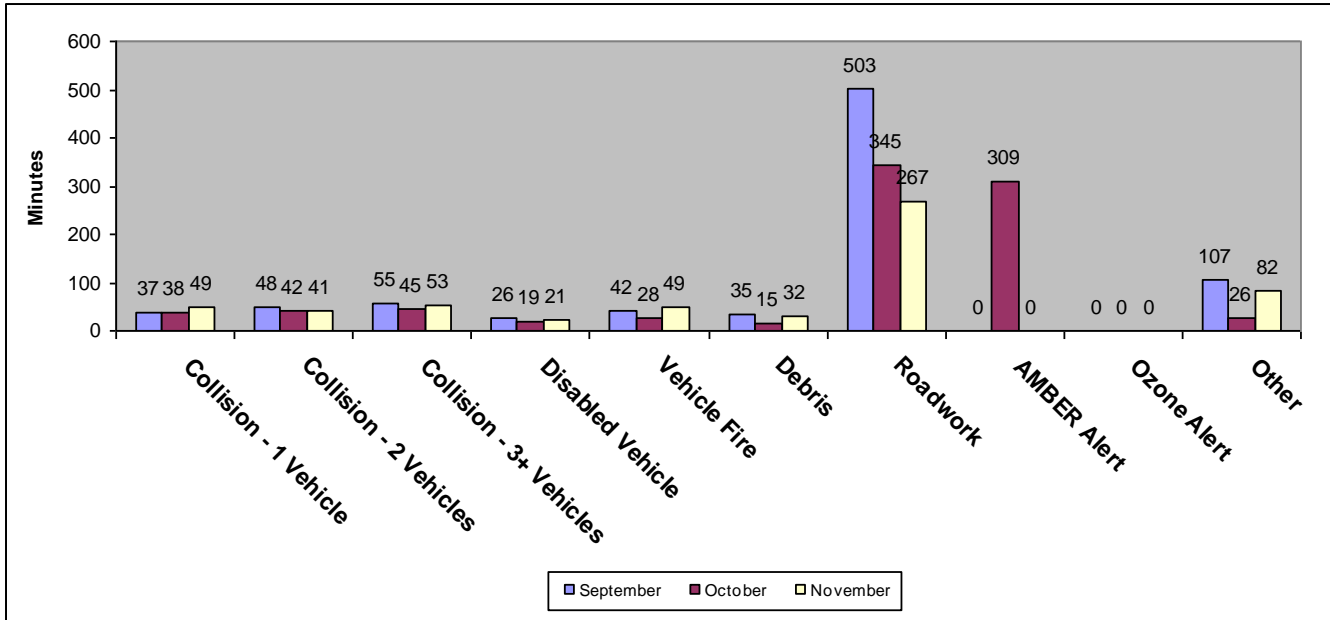


Figure 10 shows trends over the last 3 months. Campaign Messaging has been excluded due to the length of time.

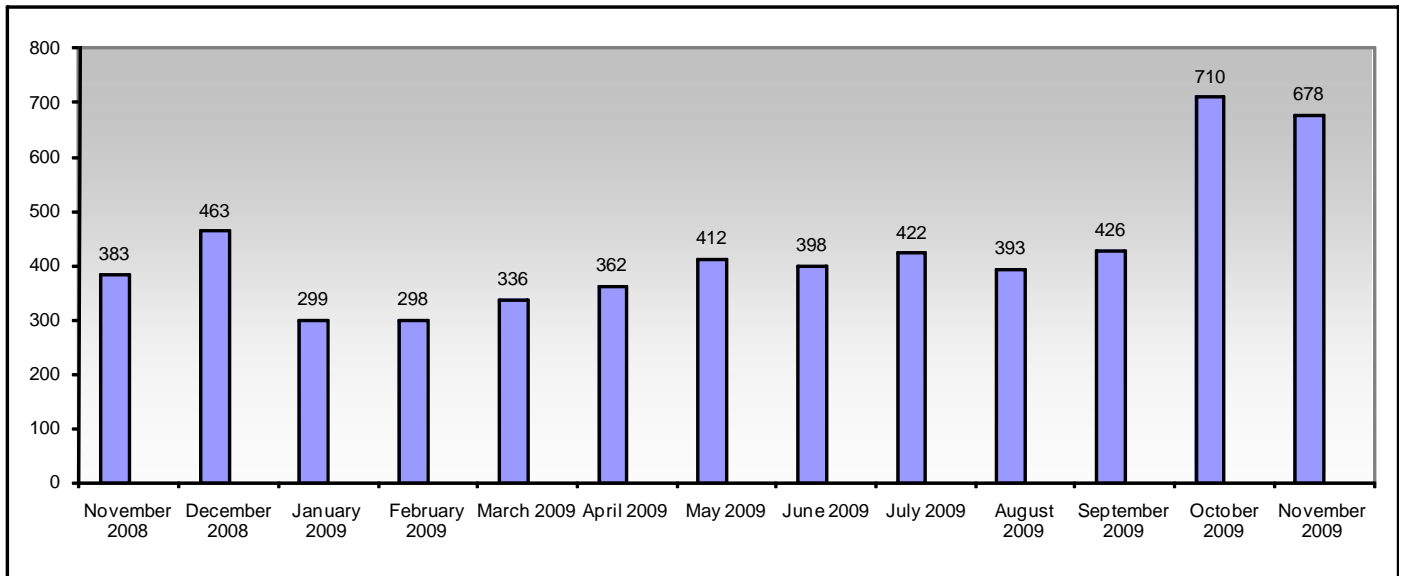
Figure 10 – Incident Duration by Incident Type / 3-Month Summary



13-Month Incident History

Figure 11 shows the number of incidents that TMC operators have managed during the past 13 months.

Figure 11 – Incidents by Month



Summary of Major Incidents/Events
November 2009

Summary of Major Incidents/Events

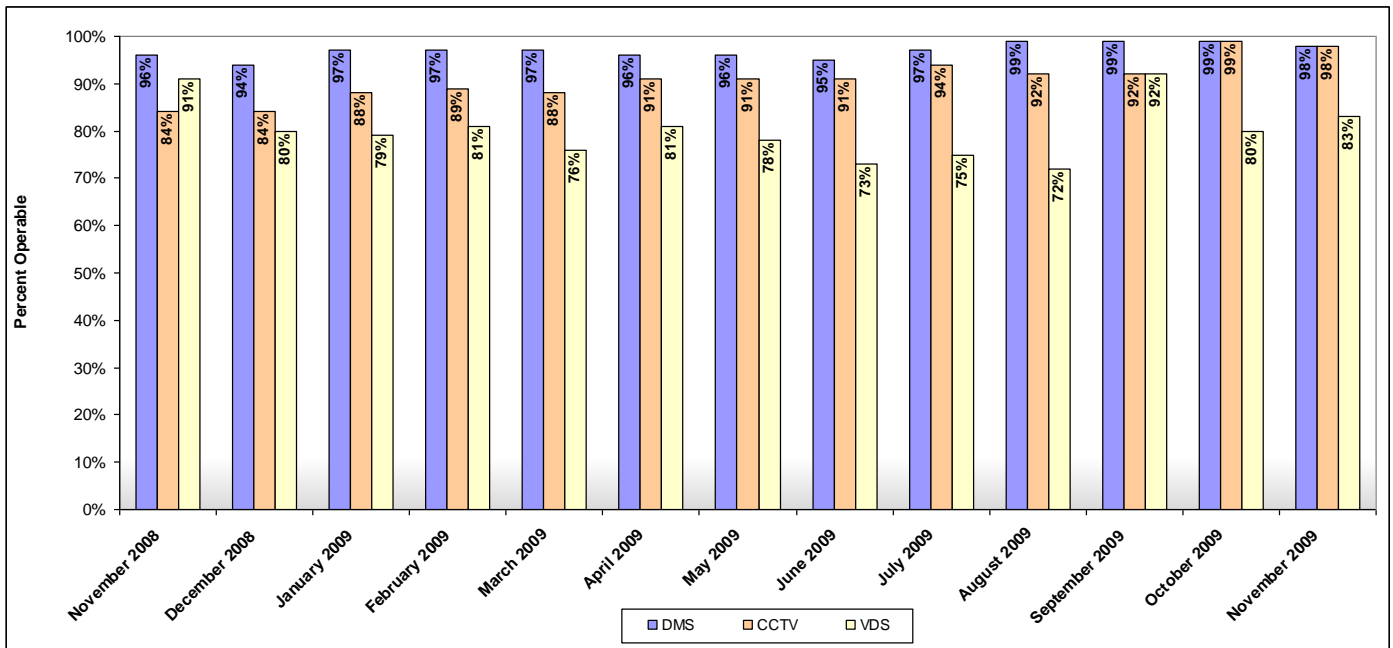
The TMC responded to the following major and other unusual incidents/events during November:

1. November 9, Friday, 6:02 p.m. (Ramp Closure) A Garbage truck had it's load catch fire and had to drop the load to extinguish it. The ramp from I-35 NB to Brighton was closed 20 minutes. The event lasted from 6:02 p.m. to 8:35 pm.
2. November 7, Saturday, 5:24 p.m. (Road Closure) Two motorcycles collided resulting in one injury and one fatality. The incident closed K-7 Highway at 75th St for four hours. The event lasted from 5:25 p.m. to 9:31 p.m.
3. November 21, Saturday, 8:33 p.m. (Exit Closure) A vehicle involved in a police chase overturned on the exit to Truman Road closing the exit. KCPD AIU investigated. The event lasted from 8:33 p.m. to 10:41 p.m.
4. November 26, Thursday, 3:24 a.m. (Road Closure) A vehicle fire closed I-435 NB past Front Street. Debris and fluids on the roadway required cleanup prior to the road being opened. The event lasted from 3:24 a.m. to 5:28 a.m.
5. November 26, Thursday, 6:20 p.m. (Road Closure) A one vehicle rollover accident resulted in one fatality. The accident occurred on I-435 EB at Holmes. The roadway was closed at State Line at 6:38 p.m. The event lasted from 6:20 p.m. to 9:02 p.m.
6. November 30, Monday, Thursday, 7:09 a.m. (Road Closure) A tractor trailer carrying hydrochloric acid overturned in the kclCON project at I-35 NB at Front St. KCFD haz-mat responded. There was damage to the roadway and minor injuries reported. The event lasted for 13 hours. The event lasted from 7:09 a.m. to 8:27 p.m.
7. November 30, Monday, Thursday, 7:18 a.m. (Road Closure) The above incident on I-35 NB closed the SB lanes also. The SB lanes were opened at 4:12 p.m. The event lasted from 7:18 a.m. to 4:12 p.m.
8. November 30, Monday, Thursday, 6:06 p.m. (Exit Closure) A two vehicle accident closed the exit from I-29 SB to 169 SB. The event lasted from 6:06 p.m. to 8:12 p.m.

Summary of Major Incidents/Events
 November 2009
Status of Equipment

Tracking the operational status of equipment is important both for system maintenance and for system operation. This tracking assists the maintenance staff in determining repair priorities and allows operators to be aware of the resources at their disposal. Figure 12 shows the monthly operational status of the DMS, the CCTV cameras, and the loop detectors.

Figure 12 – Operational Status by Month



Interagency Coordination

During November, the Scout team participated in the following interagency activities:

November 2 – Rusty James met with the KCPD Training Academy

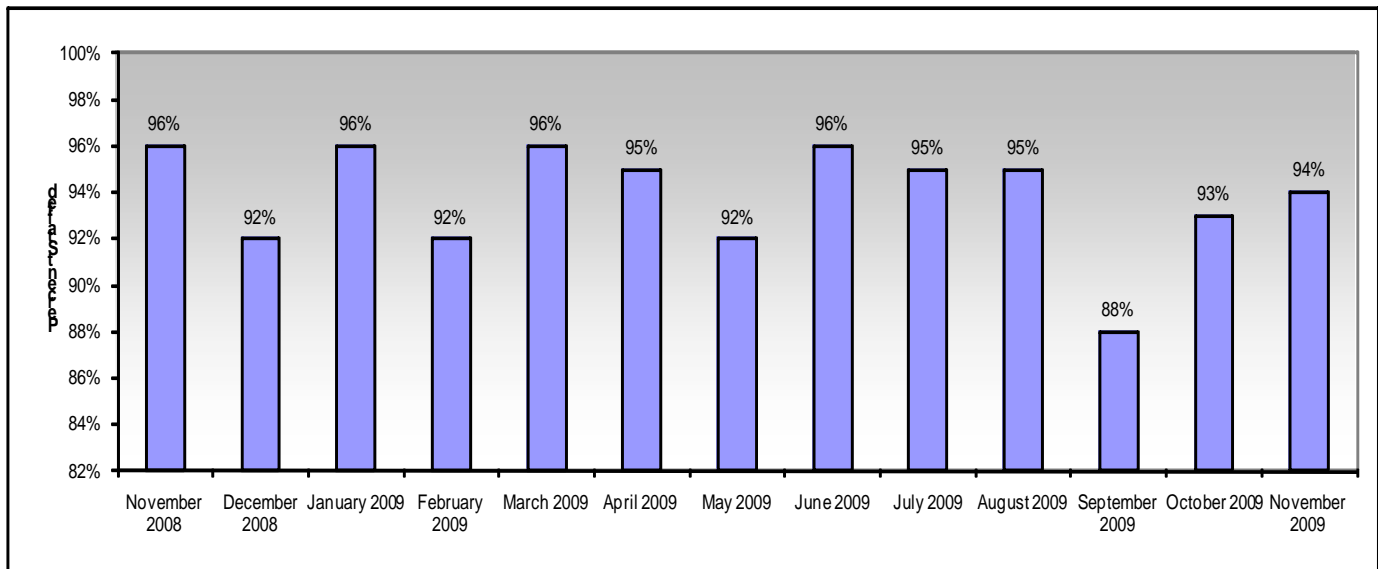
November 3 – The Traffic Incident Management Symposium was held at KCPD Regional Police Academy

Staff Management Report

During November, Scout operators logged a total of 2643 calls with agency partners assisting in operating the TMC. The total number of calls included 1902 with MoDOT Motorist Assist (MA) staff, 51 with the Kansas City Police Department (KCPD) staff, 62 with the Kansas Highway Patrol (KHP) staff, and 628 with staff from other agencies.

Figure 13 indicates the staff utilization for the past 13 months. The graph represents the percentage of actual hours worked versus hours scheduled for the TMC staff. Utilization of less than 100% reflects vacation, sick, and training/meeting time used by operators.

Figure 13 – Staff Utilization by Month



Web Site Utilization Data

The Scout Web Site (www.kcscout.net) received a total of 28,698 visits in November, a 0.66% increase compared to last month. Since its inception in June 2004, the web site has received a total of 15,282,064 visits through November. The average visit duration was about 12 minutes. 5,529 unique visitors utilized the web site, a 17% decrease compared to last month. The average number of visits per visitor was 5.19, a 22% increase. The larger the average number of visits per unique visitor, the more times individual users are coming back to use the site, thus indicating how helpful the site is to these individual users. Web site visits and unique visitors by month are shown in Figure 14 and Figure 15, respectively.

Figure 14 – Web Site Visits by Month

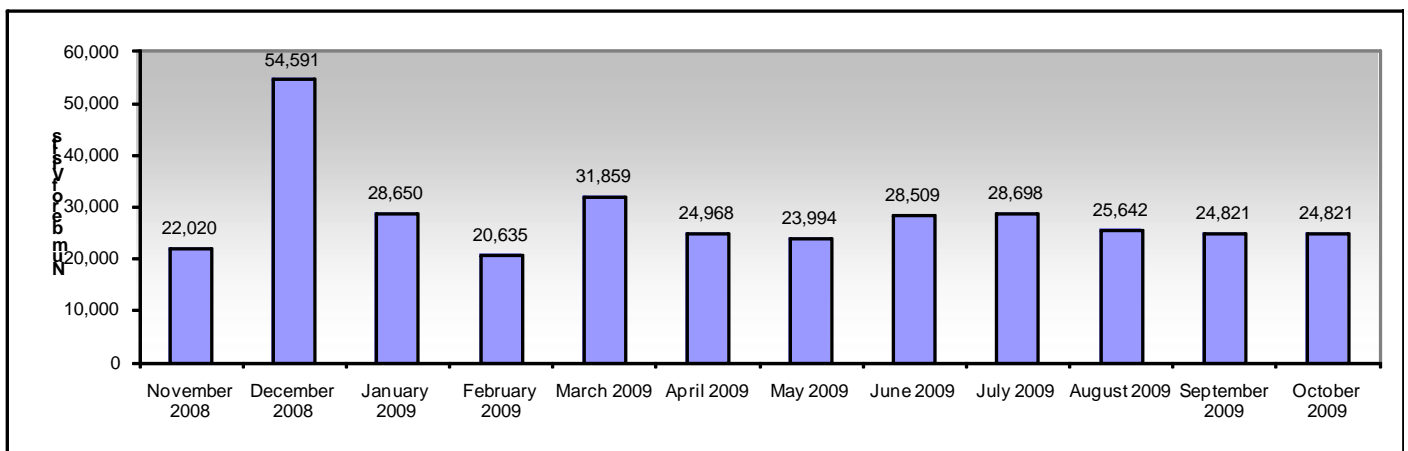
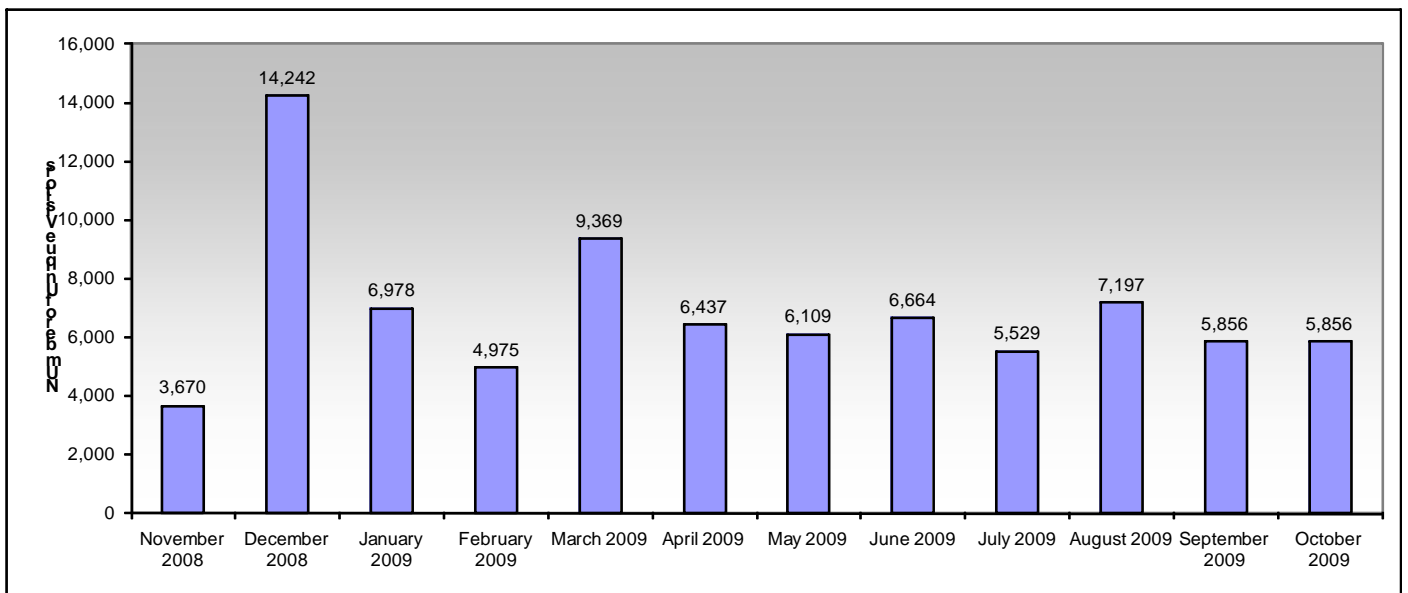


Figure 15 – Web Site Unique Visitors by Month



System Hardware/Software and Maintenance Activities/Issues
November 2009

System Hardware/Software and Maintenance Activities/Issues

The following activities/issues regarding Scout system hardware/software and maintenance occurred during April:

1. Mike DeBrot attended Cisco Training for a week.
2. Mike DeBrot and Gary Covey supported hardware maintenance and installation issues in support of the I-435 ramp Metering Project. Gary Covey worked with Delcan to debug the FTC Software.
3. Kenny Lynch supported getting all of the excess equipment sold through Gov-Deals. He also supported getting the non-sellable items recycled in a "Green" way.
4. Gary Covey developed and sent the KDOT September/October Invoice materials to Jefferson City.
5. Don Gentry supported configuring the OGL workstation in the TMC for connection to the KC Scout Network. Gary Covey loaded TransSuite and configured a new user group with limited access for OGL personnel.
6. Gary Covey developed the first draft of the Cleaning and Minor Maintenance RFP for Mark Sommerhauser's review.
7. Don Gentry created the APRs for the MIST workstation, VOIP hardware, and the TMC wireless hardware.
8. Delcan loaded the Ramp Metering Software (Version 2.5.0) on the FTCs along I-435 and setup the Ramp Metering Configuration. Ramp metering was started on Tuesday 11/17/09. There are still some issues that will need to be resolved over the next few weeks, but Ramp Metering is up and running along I-435.
9. Gary Covey configured the Fluke Network Analyzer for the KC Scout Network. He can view all of the communication devices down to the lowest switch level in the Field.