

UTAH DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS CENTER MONTHLY REPORT **JANUARY 2005**

2060 South 2760 West, Salt Lake City, UT 84104
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Field Devices Summary

Freeway Closed Circuit Television (CCTV)	189
Surface Street CCTV	45
Dial-up CCTV	32
Total CCTV	266
Freeway VMS	45
Surface Street VMS	17
Portable VMS	2
Total VMS	64
HAR (6 deployed, 5 portable units)	11
TMS	243
RWIS	43
Connected Traffic Signals (includes closed loop)	847
Connected Ramp Meters	23



Travel Times Displayed on VMS

Operations Summary

VMS Messages Displayed	861
Signal Timing Calls	65
Signal Maintenance Calls	224
New Work Orders	415
Incident Responses	693
Website Visitor Sessions	190,460
511 Calls	87,056
Email Alerts Sent	1062
Weather Desk Calls	551
CommuterLink Questions	41

KUDOS!

“I make my commute choices based on the alerts I receive by email before I leave my office and the messages about "congestion" posted on the signs above the road. It will take time to determine the usefulness of the travel times. What a great idea. Keep thinking of things to help.

I appreciate ALL information that helps me avoid stop-and-go traffic.”

Carolyn Gonzales
Bountiful to Sandy Daily Commuter

TOC Employee of the Month



Amanda Ritzert – Control Room Operator


TOC Mission

1. To Support UDOT and the Department of Public Safety in Improving Highway Safety.
2. To Help Provide Reliable and Efficient Travel.
3. To Provide Useful and Timely Real-time Traffic Information.
4. To Work Together with Other Government Agencies to Serve the Public.
5. To Provide Excellent Customer Service.

ACTIVITY HIGHLIGHTS

TOC Activities

This Month

1. A six-month pilot program posting travel times on the VMS began this month in an attempt to better inform motorists of the actual time that it will take to get to major interchanges. Data from TMS detectors in the freeway facilitate the calculation to determine travel times. The pilot includes the VMS on northbound and southbound I-15 from 10600 South to Downtown Salt Lake. The VMS display travel times in the peak volume hours on the freeway (from 6:00 AM to 9:00 AM and from 3:30 PM to 7:00 PM). Motorists can also check travel times before they leave their homes or offices by visiting <http://commuterlink.utah.gov> and viewing current messages displayed on the VMS. UDOT Executive Director, John Njord said, "Our goal is to help commuters 'Know Before They Go.' We think that posting current travel times will help drivers make better decisions about their travel routes and plan ahead for possible delays." If UDOT officials are satisfied with the six-month trial results, then the posting of travel times will be added to electronic roadway signs throughout Salt Lake, Davis, Summit, and Utah counties. A link has been set up on the CommuterLink website for motorists to provide feedback concerning travel times on the VMS.
2. The Traffic Signal Systems Section of the Traffic Management Division assisted Region 2 on a Pre-Yellow Warning Sign System. The system was deployed at SR-201 at 7200 West. The signs are intended to help motorists determine if there is sufficient time to cross through an intersection. The signs, which are blank during the majority of the green light, post a message that reads, "PREPARE TO STOP," six seconds before the light changes to yellow. Three more systems have been installed on Bangerter Highway, and will be operational in the following months. Brigham Young University is researching the effectiveness of these traffic signal early warning signs.

SR-201 and 7200 West
Pre-Yellow Warning Sign System
3. The Traffic Signal Systems Section aided in the recent Sundance Film Festival. The section created and installed timing plans either locally or from the TOC using the *i2TMS* traffic signal management software. The section monitored the areas near the festival venues using CCTV cameras and also stationed timing personnel in the Park City area from 8:00 AM to 8:00 PM in order to accommodate the fluctuations in traffic.
4. Sam Sherman and Bryan Chamberlain presented at two meetings of the Utah Trucking Association to promote CommuterLink use among commercial vehicle operators. One group met in Ogden and the other in Salt Lake. A specific item of discussion was the 511 System and the usefulness that commercial vehicle operators can gain from it.

ATMS Improvement and Expansion Activities

The following is a list of active and newly completed ITS projects, as of the end of this month:

Statewide:

- The Dynamic Curve Warning LED Sign System has been advertised. This advertisement follows a study performed on US-6 in Spanish Fork Canyon, one of the proposed project sites. The project will consist of signs that will warn drivers, particularly truck drivers of the danger of rolling their vehicle due to excessive speed. This will be the first project of its kind in Utah. The contract is a multi-step bid that opens February 23rd.
- The Field Ethernet Switch State Contract has been advertised and opens the 9th of February. This State Contract will give project personnel the ability to purchase field hardened Ethernet switches for projects throughout the State. These Ethernet switches are a critical component of the new field deployments and IP/Ethernet upgrades.

Region 1:

- Local government agencies in Cache Valley met with the State to discuss interconnects and architecture flows as part of the ITS system architecture study.

Region 2:

- Proposals have been received for the Traffic Adaptive Signal Project and are being reviewed. The future project will be in and around the Park City area. Traffic Adaptive Control of traffic signals provides more dynamic and real-time solutions to traffic congestion by adjusting timing parameters to meet demands, even when the demand is not coming from the coordinated direction(s). Park City is an ideal location to deploy Traffic Adaptive Control because of the irregular traffic patterns caused by tourism, concerts, construction, and daily traffic.
- Crews completed relocation of the fiber optic backbone and drop installations between Hub 6 and the TOC as part of the SR-201 reconstruction. The new backbone is in place to provide a redundant path to the TOC. Relocation of the backbone was required to avoid damage during the reconstruction.

Region 3:

- Negotiations with UTA continue for the Utah County Interconnect Project. Engineers are working with UTA in an attempt to sign a user agreement, which will allow UTA to utilize the UDOT fiber optic network, and ATMS system. UDOT in turn will be allowed to install a fiber optic backbone in existing UTA conduit from the Point of the Mountain to the UTA Timpanogos Hub located on Geneva Road at University Parkway. UDOT also plans to extend the fiber network to Spanish Fork.
- Engineers will connect 6 CCTV cameras in Provo City onto city owned fiber. These CCTV cameras are installed, but have not been connected because the CommuterLink fiber optic backbone project to provide the final transport has not been completed. Provo City has offered the use of their fiber, which will allow for the video image to be viewed in their Public Works building. Once the CommuterLink network is completed, all participants will gain access to these camera views.

Region 4:

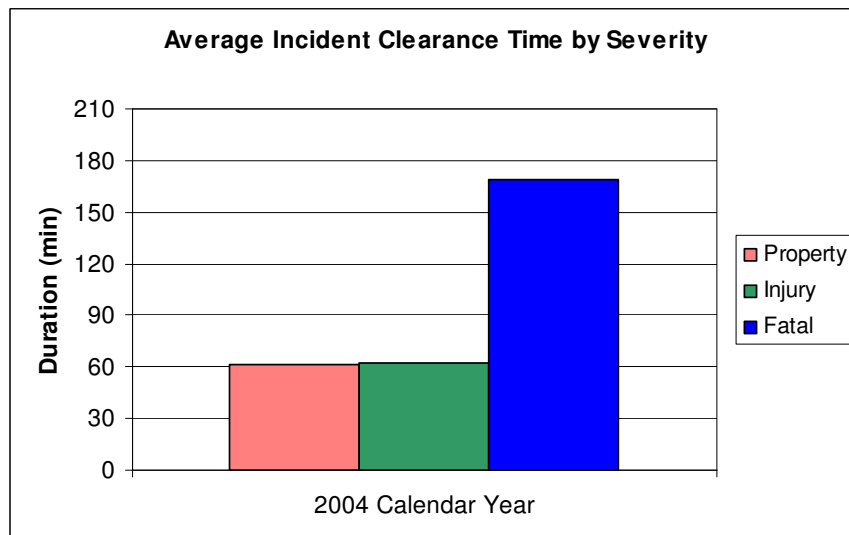
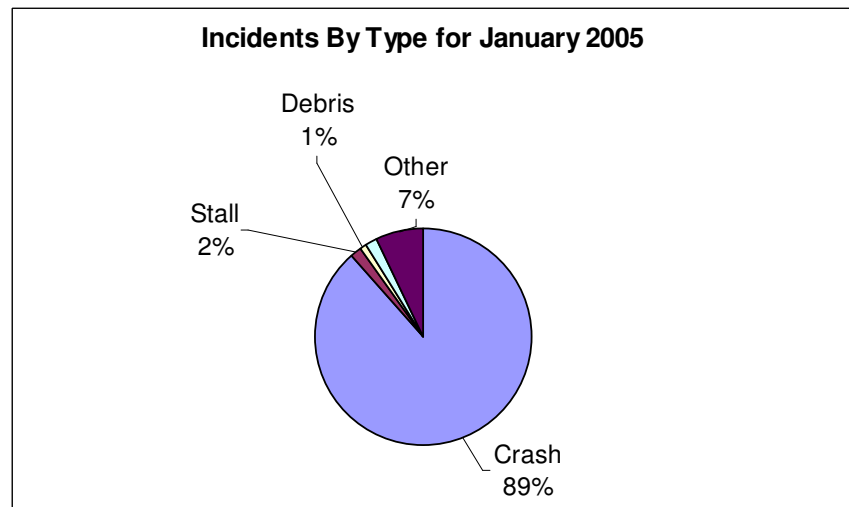
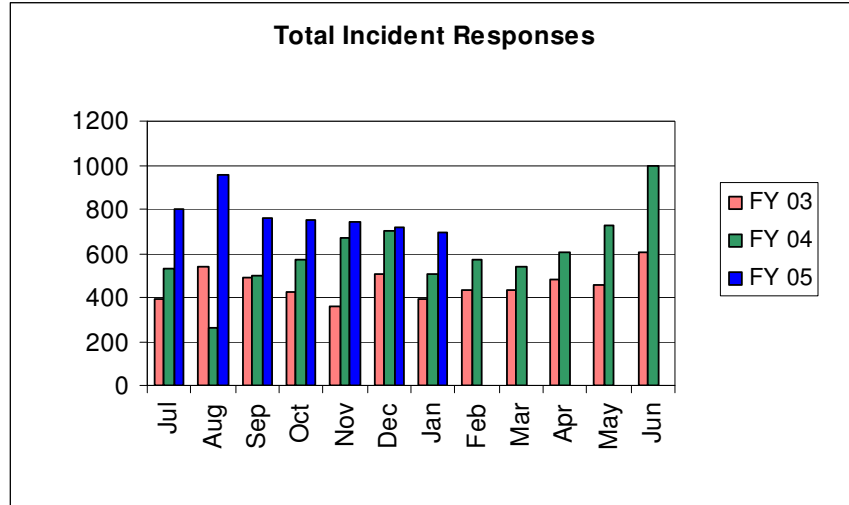
- Funding has been identified to construct a fiber interconnect on St. George Blvd. from River Rd. to 1000 East. This will connect 4 signals (that are currently on a copper interconnect) with the CCTV camera and the canopy wireless radio located at St. George Blvd. and 1000 East. By installing this fiber interconnect and integrating it with the radio, engineers will be able to remotely monitor and control these signals via the St. George Public Works Building *i2TMS* system.

Acronyms

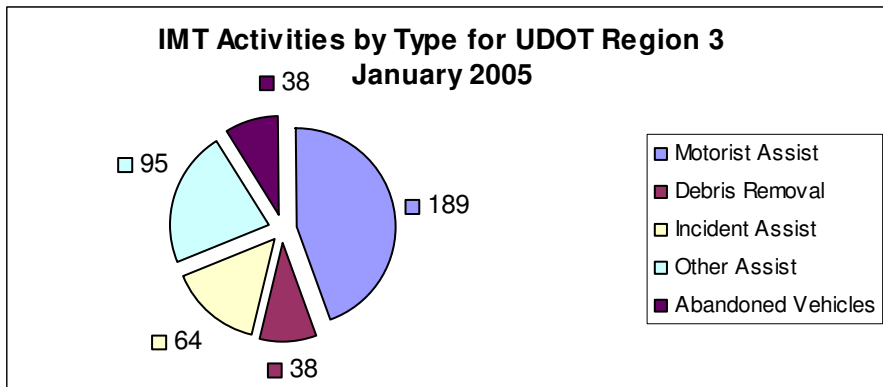
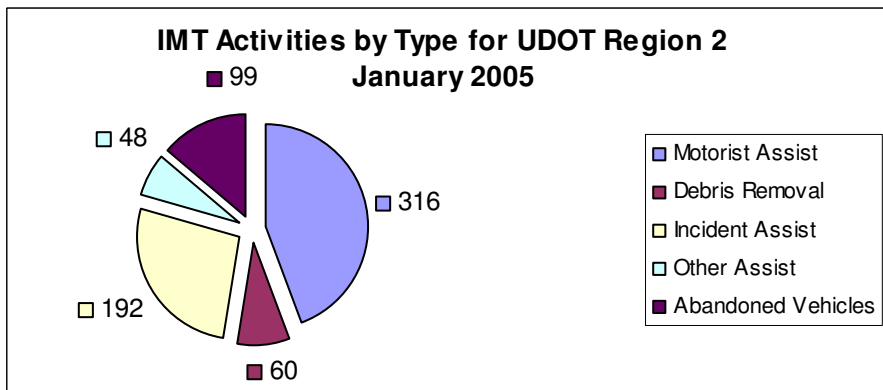
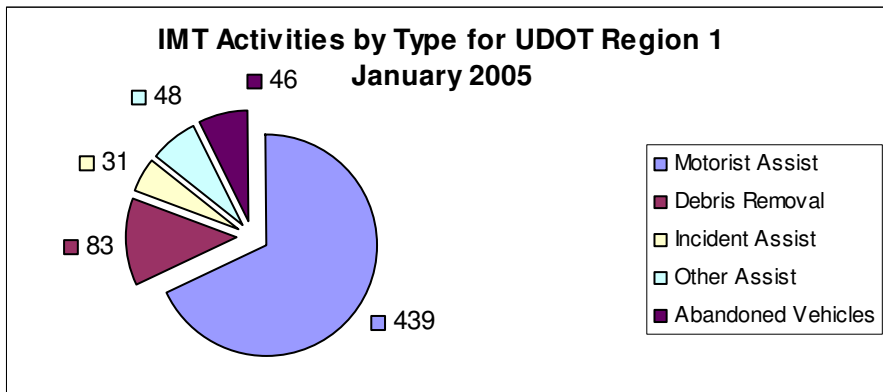
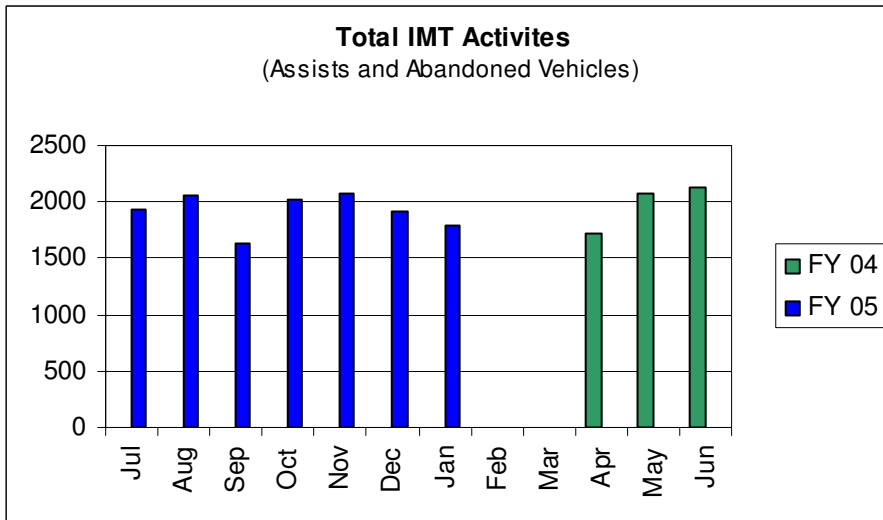
ATMS	Advanced Traffic Management System	TMS	Traffic Monitoring Station (count station)
CCTV	Closed Circuit Television	TOC	Traffic Operations Center
DPS	Department of Public Safety	TTI	Travel Time Index
HAR	Highway Advisory Radio	VMS	Variable Message Sign
RWIS	Road-Weather Information System	i2TMS	Integrated Interagency Traffic Management System

Safety

An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.



Incident Management Team (IMT) Activities



Freeway Traffic Level of Service

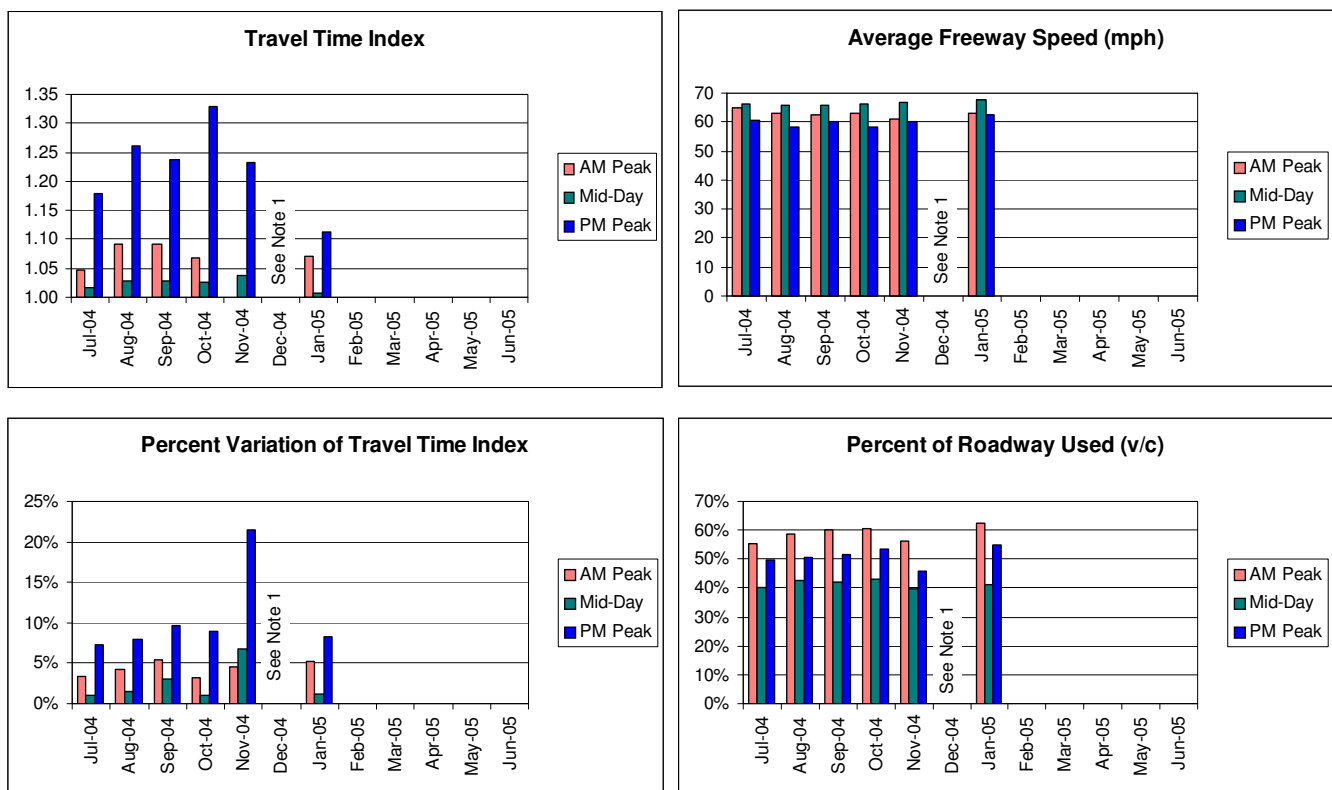
Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Salt Lake Valley. As more TMS sites are installed throughout the state, they will be included in these performance measures.

Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

Average Freeway Speed: The freeway speed is weighted by volume.

Percent of Roadway Used: The percent of roadway used is the ratio of the volume on the segment to its capacity. This is otherwise known as the volume to capacity ratio, or (v/c).



The 5 links with the highest average Travel Time Index for the month are:

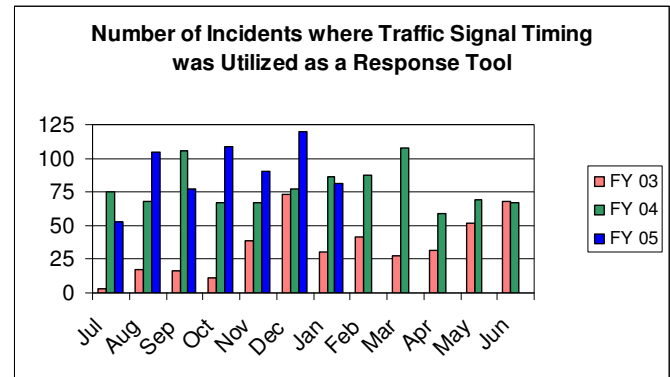
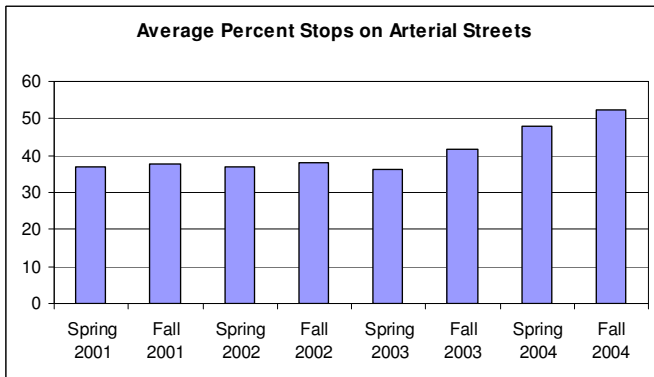
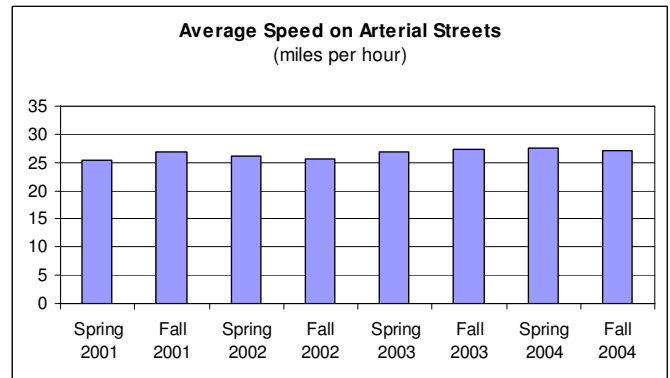
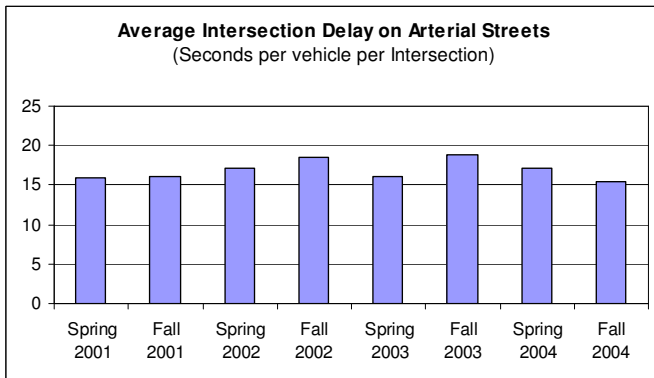
Segment	Period	Avg Of TTI
I-15 NB from Point-of-the-Mountain to 10600 S	AM Peak	1.88
I-15 NB from 600 N to I-215 W	PM Peak	1.44
I-15 SB from 600 N to 600 S	PM Peak	1.24
SR-201 WB from I-215 W to 7000 W	AM Peak	1.24
I-15 SB from 600 N to 600 S	AM Peak	1.22

Note 1: Sufficient TMS data was not collected during December 04 due to the transition to a new database.

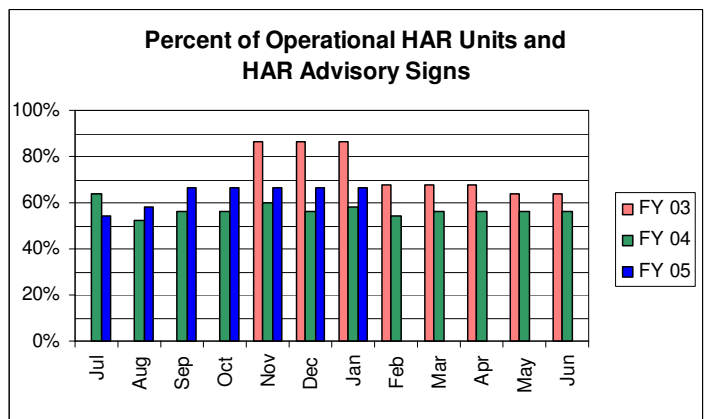
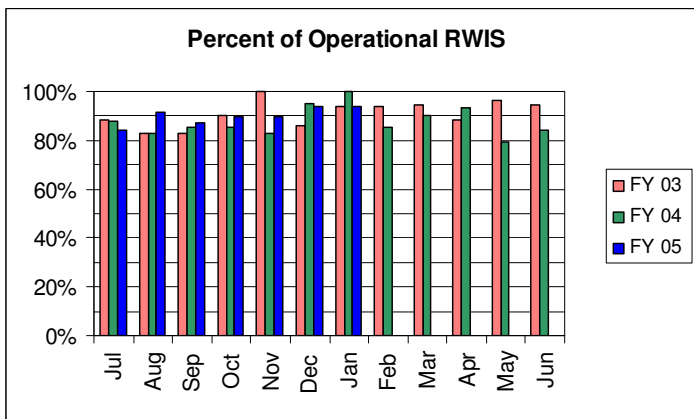
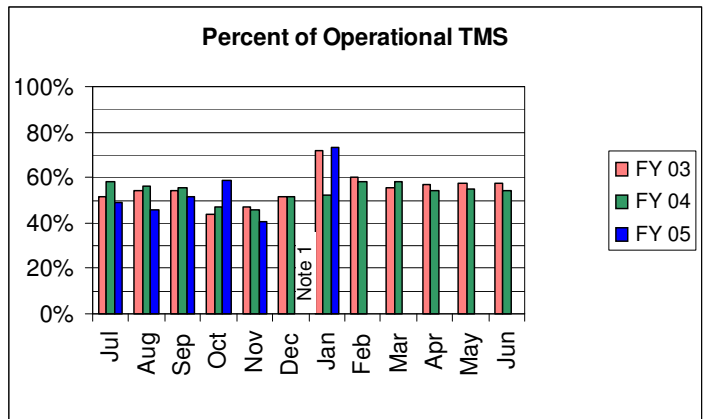
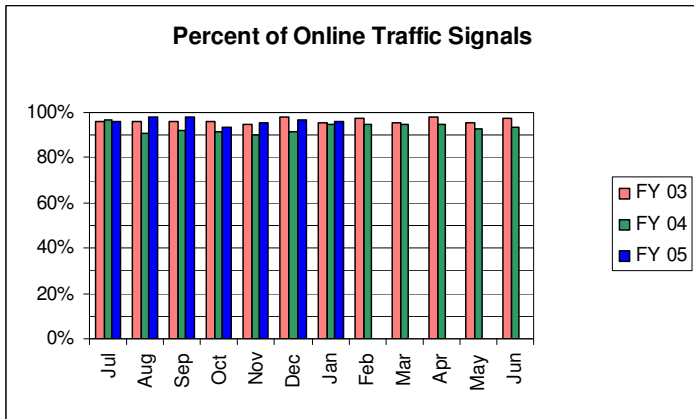
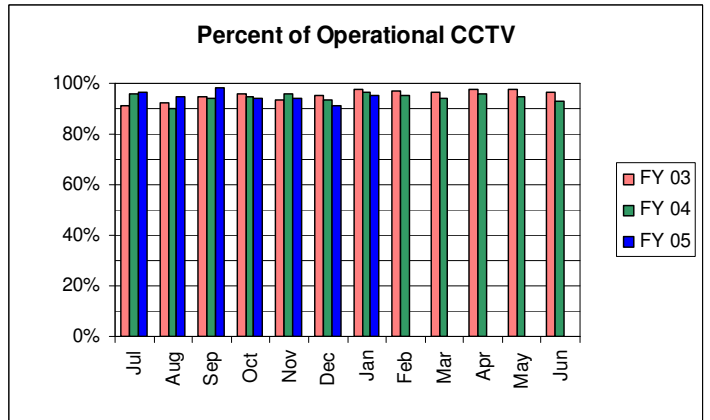
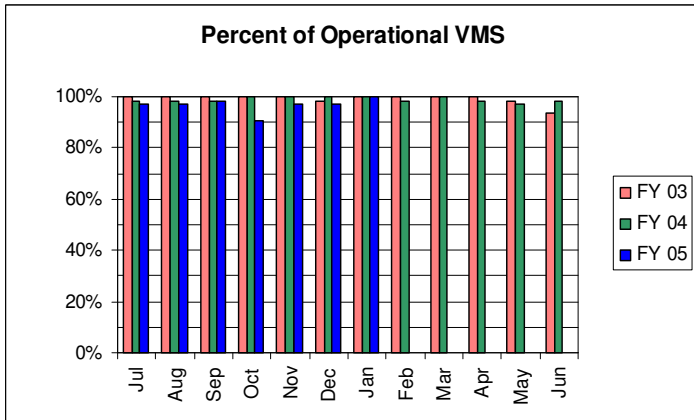
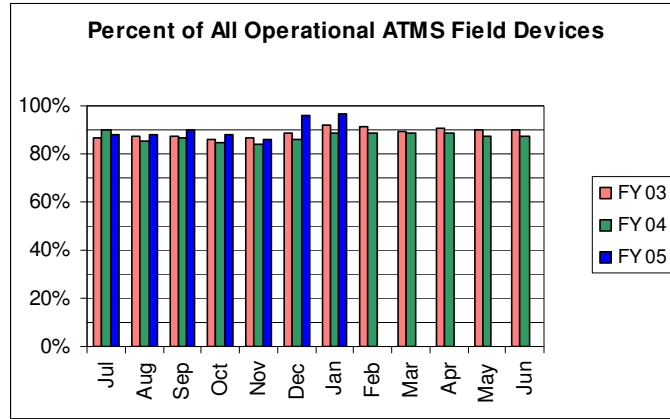
Surface Street Traffic Level of Service

The surface street traffic statistics are generated through a series of Travel Time measurements. These are conducted using a special equipped vehicle which measures the average travel time, the average percent of intersections at which a vehicle must stop, the average time stopped at an intersection, and the average speed. The Traffic Systems Section gathers these measurements from Regions 1, 2, 3, and 4 twice each year. The chart in the lower right hand corner shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.

The following charts illustrate data gathered during semi-annual timing runs up to Fall of 2004. The following months will show data gathered for each of the four UDOT Regions.

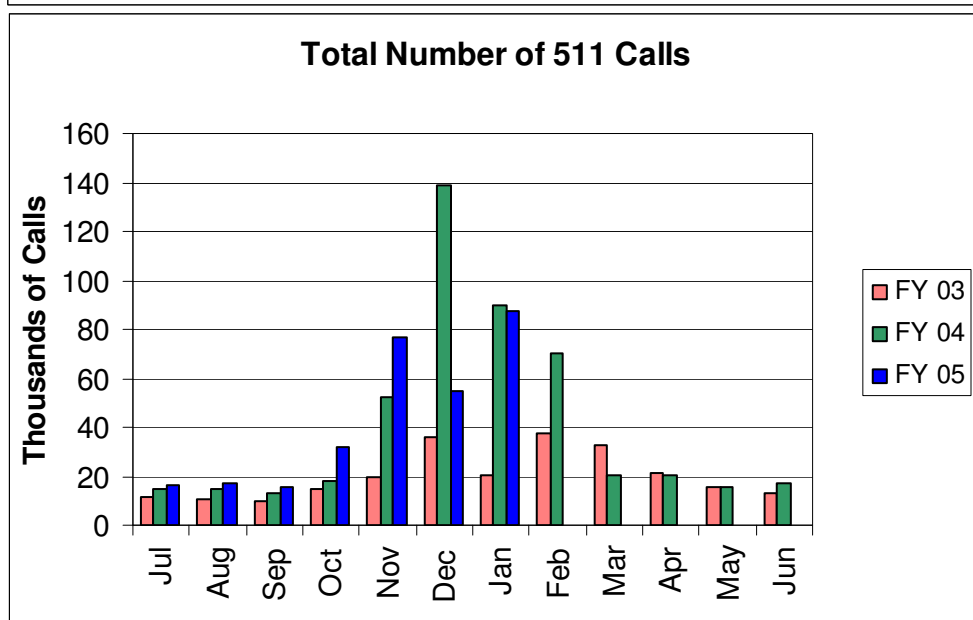
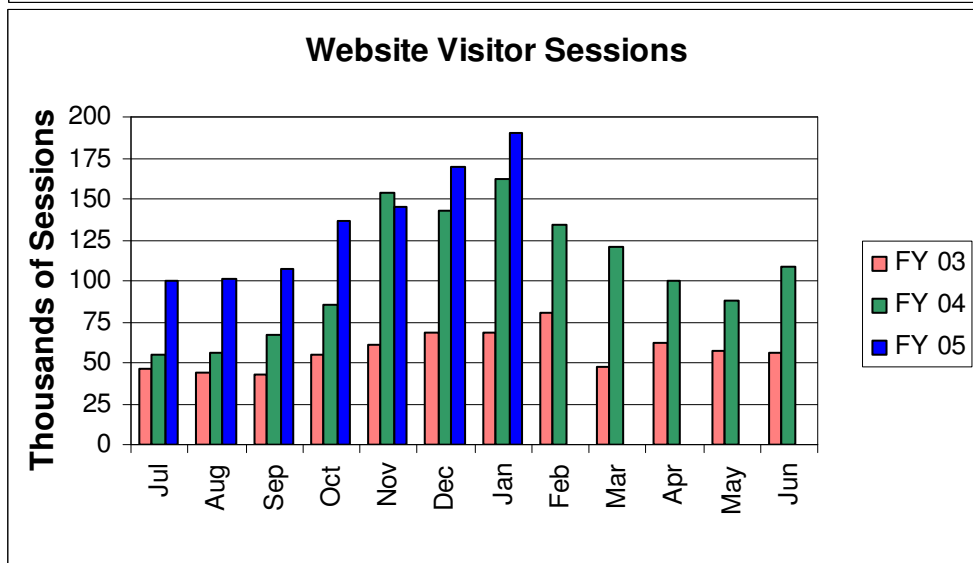
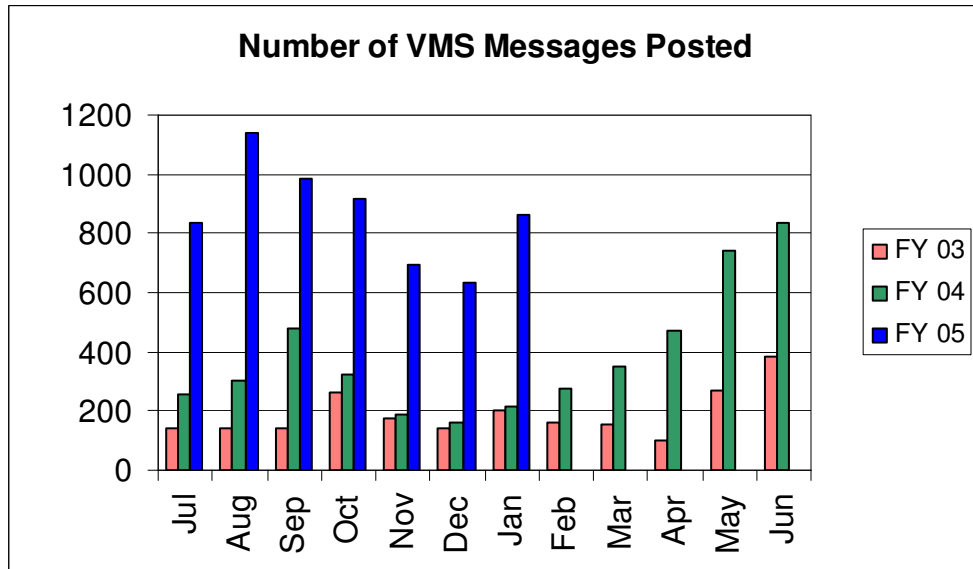


Maintenance



Note 1: Percent of Operational TMS not available due to the transition to a new database.

Traveler Information



Customer Service

