

TRAFFIC MANAGEMENT PROGRAM

PRESERVE INFRASTRUCTURE ◊ **OPTIMIZE MOBILITY** ◊ ZERO FATALITIES ◊ STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The Traffic Management Program uses state and federal funding to improve UDOT's ability to collect and disseminate traffic information focused on optimizing mobility.

The program provides for expansion of UDOT's fiber optic communication network and the devices and software that allow UDOT to:

- ◆ Provide road users with information about traffic incidents, travel times, and weather
- ◆ Help maintenance crews anticipate weather and clear snow efficiently
- ◆ Manage Express Lanes to keep all lanes operating at optimal levels
- ◆ Support UHP efforts to clear incidents quickly
- ◆ Adjust freeway ramp meters to smooth out traffic flow
- ◆ Coordinate signals to move traffic more efficiently

PROGRAMMED

2012: \$ 6.4 million

2013: \$ 6.5 million

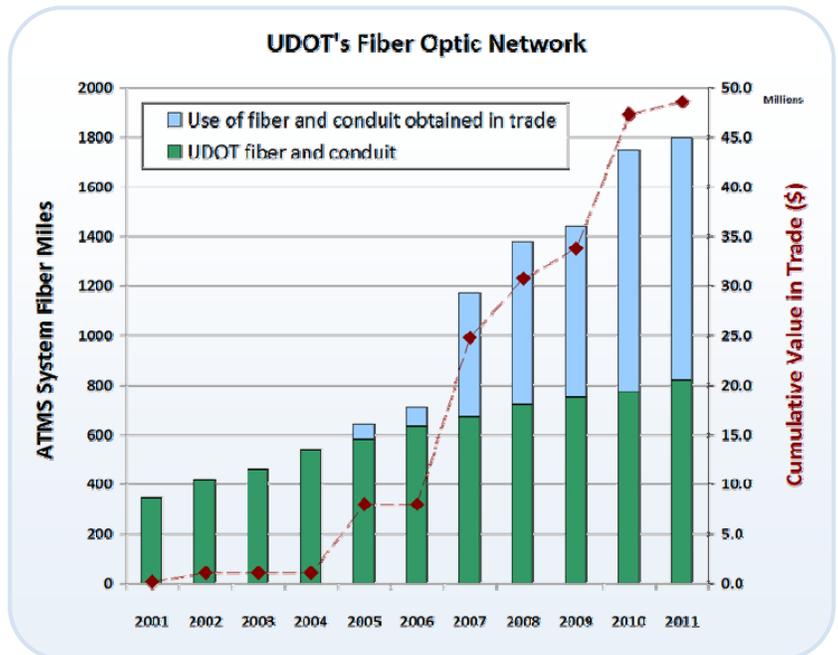
CONTACT

Blaine Leonard, P.E.
801 887-3723
bleonard@utah.gov

ACCOMPLISHMENTS

In addition to devices installed with UDOT projects, such as I-15 CORE and Mountain View Corridor, the program has:

- ◆ Connected several municipal agencies to traffic cameras to monitor traffic and support emergency response
- ◆ Deployed and improved the UDOT Traffic smartphone app
- ◆ Increased alerts and weather updates on the UDOT Traffic website
- ◆ Expanded the fiber network along I-15, Bangerter Highway, and in Logan and Big Cottonwood Canyon
- ◆ Deployed highway advisory radios with new voice-over-IP technology
- ◆ Added VMS on SR-201 and I-15 in Southern Utah



UDOT has partnered with local telecommunications companies to expand fiber optic connectivity through trading access to UDOT right of way for use of excess fiber optic cable capacity.

- ◆ Connected to dozens of metro-area signals
- ◆ Added traffic cameras in key corridors statewide

REGION CONCEPT DEVELOPMENT

PRESERVE INFRASTRUCTURE



OPTIMIZE MOBILITY



ZERO FATALITIES



STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The Region Concept Development program allocates funding to the each of the four UDOT Regions to study and develop a practical scope, schedule, budget, and list of potential risks for future projects.

These studies are normally completed for major construction projects, including reconstruction, choke point, and passing lanes.

Following the April Transportation Commission meeting, each region begins identifying projects for the next Statewide Transportation Improvement Program Workshop.

Each Region is allocated \$100,000 to complete concept reports that reflect a practical budget, scope and summary of risks for the purpose of project selection.

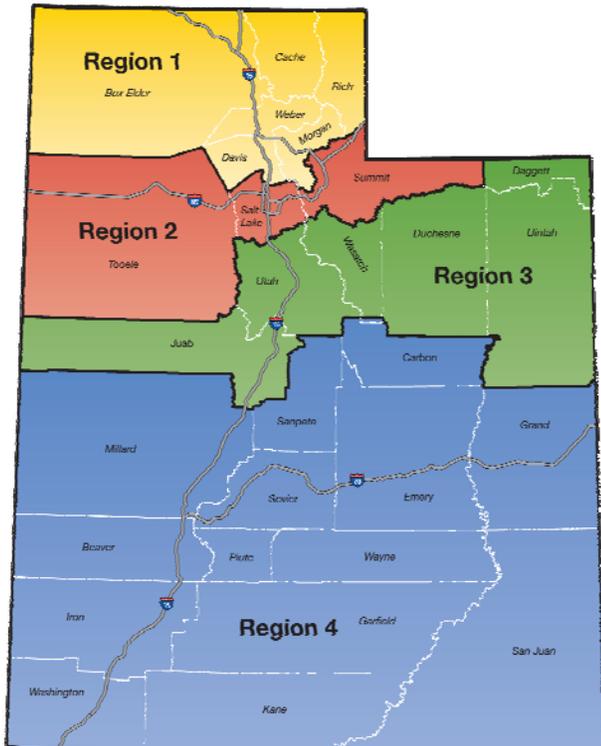
PROGRAMMED

2012: \$ 400,000

2013: \$ 400,000

CONTACT

William Lawrence
801 964-4468
billlawrence@Utah.gov



ACCOMPLISHMENTS

Some reports completed in 2012:

- ◆ I-80; Coalville to Echo Rehabilitation
- ◆ SR-68; Redwood Road Rehabilitation
- ◆ SR-265; University Parkway in Orem
- ◆ Utah County Interchange Improvements
- ◆ SR-108; 1800 North to 4000 South
- ◆ Corridor/Passing Lane Studies for US-191, US-89 and US-6

PUBLIC COMMUNICATION EFFORTS

PRESERVE INFRASTRUCTURE ◊ OPTIMIZE MOBILITY ◊ ZERO FATALITIES ◊ STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

UDOT's public communication efforts assure that travel information is readily accessible to the traveling public.

Having easy access to traffic information helps road users avoid delay. UDOT's primary communication programs and efforts provide dependable, useful information for road users:

Media Relations — Keeping the media informed about UDOT activities helps promote news stories about road work and safety. UDOT produced traffic video is provided to media outlets so the traveling public can make good day-to-day travel decisions.

PROGRAMMED

2012: \$600,000

2013: \$645,000

CONTACT

Nile Easton
801 965-4387
neaston@utah.gov



A new app, UDOT Traffic, uses Google Maps to show weather and traffic information.

TravelWise Outreach — UDOT's TravelWise trip reduction program promotes effective strategies, like teleworking, carpooling or taking public transit, that road users can adopt to avoid delay, save energy and help benefit air quality. The TravelWise website also has an online tool to set travel goals and track progress.

Traffic Operations Center Media Desks — Having a reporter at the TOC allows media outlets inform the public about real-time road conditions.

Know Where, Know Why — UDOT's primary campaign to inform the public about road construction uses a website, a printed guide, and texting service to distribute helpful information.

A Facebook page and a Twitter feed — Social media messages inform and alert road users.

ACCOMPLISHMENTS

In 2012:

- ◆ A free app, UDOT Traffic, was developed for iPhone and Android users. The app has been downloaded 138 thousand times since the launch. During storms, the app is downloaded an average of one time per minute.
- ◆ Successful media relations efforts resulted in 862 Stories. During the construction season, local news aired an average of 3 and one-half stories per day.
- ◆ Know Where, Know Why printed guides were distributed weekly to over 5 hundred motels and hotels, forty-six visitor centers and eight car rental desks.



MAINTENANCE SPOT IMPROVEMENT PROGRAM

PRESERVE INFRASTRUCTURE



OPTIMIZE MOBILITY



ZERO FATALITIES



STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The Maintenance Spot Improvement Program corrects localized problems that could become a safety concern, but currently do not meet the Safety Spot Improvement Program guidelines.

The ongoing work done by UDOT Maintenance crews is critical to maintaining and improving safety and mobility. Funding provides ongoing support for completing important improvements that cannot be met by other funding sources.

A wide variety of projects are eligible for funding. Some examples include:

- ◆ Adding a left turn, right turn or through lane
- ◆ Slope repair
- ◆ Barrier upgrades or repair
- ◆ Culvert repair, replacement, cleaning

Project Funding, Management and Selection

The program is funded annually as an appropriation by the Utah Transportation Commission from the Transportation Fund. The Central Maintenance Division has program oversight and the region offices have direct responsibility for plan development, and contract management, and to verify that the completed work meets the project objectives.

Each Region Engineering Team identifies candidate projects and develops a priority ranking based on available funding, field review and District Engineer recommendations

ACCOMPLISHMENTS

Since 2007, Maintenance crews and contractors under UDOT supervision have completed over 100 projects to maintain safety on state routes.

PROGRAMMED

2012: \$ 500,000

2013: \$ 500,000

CONTACT

Lloyd Neeley
801 965-4789
lneeley@utah.gov



Top, repairing de-icing equipment on a bridge deck, and above, clearing a culvert.

NEW TRAFFIC SIGNALS PROGRAM

PRESERVE INFRASTRUCTURE ◊ OPTIMIZE MOBILITY ◊ **ZERO FATALITIES** ◊ STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The Traffic Signal Program promotes community safety by funding projects that improve safety and efficiency at intersections.

UDOT's central Traffic and Safety Division identifies intersections that may benefit from improved signal operation and works with region traffic engineers to oversee projects through investigation, design and construction.

The Signal Program objectives are to reduce high severity crashes by:

- ◆ Expediting signal installation
- ◆ Installing left-turn phasing and dual left-turn lanes at warranted locations
- ◆ Providing safe pedestrian access
- ◆ Replacing outdated traffic signals

Project planning and eligibility

Traffic studies determine if the intersection meets the requirements to trigger a signal warranting process. Locations that meet criteria are evaluated, and traffic engineers determine the best options to meet safety and traffic needs.

Traffic and Safety engineers at the region level design new signal systems and oversee construction.

UDOT uses a streamlined contracting process and constructs signals from stockpiled materials to address community safety and mobility issues as quickly as possible.

ACCOMPLISHMENTS

In 2012:

- ◆ 12 new traffic signals were built
- ◆ 24 traffic signals were upgraded
- ◆ 11 pedestrian/school crossings were improved

PROGRAMMED

2012: \$7 million

2013: \$7 million

CONTACT

Larry Montoya
801 965-4924
lmontoya@utah.gov



A High intensity Activated crossWalk, or HAWK, uses flashing yellow and red lights to warn motorists to stop. The system is appropriate for use at high volume or wide arterial streets with minor street intersections.

REGION CONTINGENCY FUND

PRESERVE INFRASTRUCTURE



OPTIMIZE MOBILITY



ZERO FATALITIES



STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The Region Contingency Fund is provided to UDOT regional offices to assist local areas with unanticipated, critical or emergency needs.

Projects are conducted in partnership with local governments and are intended to meet needs associated with the state highway system.

Most projects are small and do not include typical road-construction. Some examples of typical contingency fund projects include improving drainage, repairing and optimizing signals or improving safety on a pedestrian facility.

UDOT has four region offices located across the state; each receives \$1 million each state fiscal year.

PROGRAMMED

2012: \$4 million

2013: \$4 million

CONTACT

William Lawrence
801 964-4468
billlawrence@Utah.gov

ACCOMPLISHMENTS

As of April 3, 2013, ninety projects have been initiated for \$3.9 million.

Projects vary, and some include transportation partnerships, transportation studies, safety, signage and pedestrian facility improvements.



Three examples of Contingency Fund projects:

Top left, radar speed signs are intended to slow traffic and improve safety by giving motorists immediate feedback about travel speed.

Several municipalities have used contingency funds to place the signs in strategic locations to improve safety.

Bottom left, a curb, gutter and sidewalk project in Cedar City helped improve traffic flow and pedestrian safety.

Right, retro style street lamps in Eureka reflect the city's colorful past and improve safety at night.

SAFETY SPOT IMPROVEMENT PROGRAM

PRESERVE INFRASTRUCTURE ◊ OPTIMIZE MOBILITY ◊ **ZERO FATALITIES** ◊ STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The Safety Spot Improvement Program funds infrastructure and non-infrastructure projects that are expected to achieve a significant reduction in traffic fatalities and serious injuries.

SSIP Funding comes entirely from the State of Utah and supports projects on the State Highway system that advance the ZERO Fatalities strategic goal.

Project planning and eligibility

Projects are selected annually using a five-step process that includes planning, analysis, prioritization, programming, and implementation. SSIP infrastructure projects must be in a location with a correctable crash history and have a positive expected benefit to cost ratio.

PROGRAMMED

2012: \$ 2 million

2013: \$ 2 million

CONTACT

W. Scott Jones
801 965-4285
wsjones@utah.gov

ACCOMPLISHMENTS

SSIP projects help UDOT achieve the ZERO Fatalities Strategic Goal.

The most effective way to reduce highway fatalities is through a comprehensive, integrated approach that includes safety improvements and education. By combining efforts and resources of all safety partners, Utah has achieved a downward trend in fatalities.



BARRIER TREATMENTS

PRESERVE INFRASTRUCTURE ◊ OPTIMIZE MOBILITY ◊ **ZERO FATALITIES** ◊ STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The state-funded Barrier Treatments fund is used to identify and replace substandard barrier and barrier end treatments on state and federal highway systems.

The Program is a partnership between the UDOT Traffic and Safety Division, FHWA, UDOT region offices, and fulfills a memorandum of understanding between UDOT and FHWA.

Replacing substandard barrier furthers UDOT's ZERO Fatalities strategic goal.

PROGRAMMED

2012: \$300,000

2013: \$300,000

CONTACT

Shawn Debenham
801-965-4590
sdebenham@utah.gov

Project Planning and Eligibility

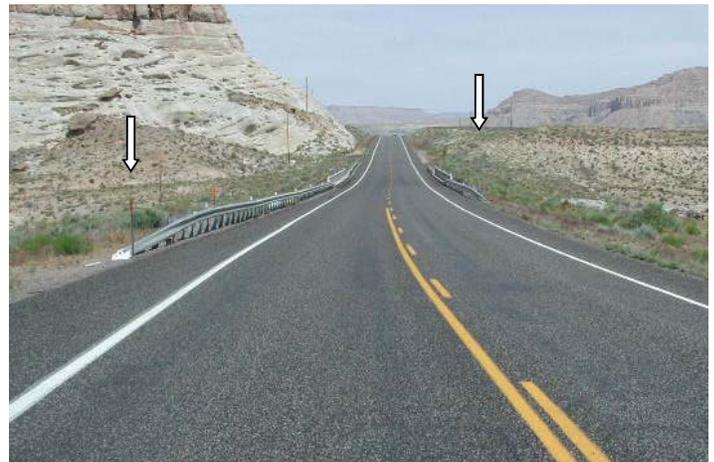
The UDOT Traffic and Safety Division works with regions to identify potential project locations and participate in the screening and prioritization process.

Projects are evaluated using a five-step process that includes planning, analysis, prioritization, programming and implementation.

Region offices oversee project delivery.

ACCOMPLISHMENTS

UDOT Traffic and Safety has used funding to improve hundreds of locations on interstate highways for the past 5 years.



Top: sub-standard Texas Turn-downs barrier, indicated by arrows, poses a rollover risk to motorists.

Bottom: Replacing sub-standard barrier and barrier end treatments improves highway safety.



SIGNAL MAINTENANCE & OPERATIONS PROGRAM

PRESERVE INFRASTRUCTURE ◊ OPTIMIZE MOBILITY ◊ ZERO FATALITIES ◊ STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The Traffic Signal Maintenance and Operations Program helps optimize mobility by preventing malfunction, employing innovative technologies and improving operation of signals on state routes.

Efficient, well-maintained signal systems:

- ◆ Improve safety, especially at intersections
- ◆ Improve fuel consumption and reduce emissions
- ◆ Reduce traffic congestion, delay, and road user costs
- ◆ Improve travel-time reliability

Recent initiatives include:

Increased Proactive Maintenance – Traffic engineers address potential problems before road users experience inconvenience.

Dynamic Dilemma-Zone Detection – New equipment adjusts signals so motorists can avoid breaking suddenly. Crashes can be reduced by up to 54 percent using this technology.

Adaptive Signal Control Lite – Smart signals in Park City and Heber City auto-adjust to accommodate traffic volumes.

Traffic Signal Event Management – UDOT has reduced delay during events by working with local venues and deploying signal timing plans to handle changes in travel demand.

Real-Time Traffic Signal Operations Management – New equipment sees volumes, speeds and other metrics in real-time allowing for adjustments to be made more efficiently and proactively. UDOT is one of a just a few agencies nation-wide using these real-time performance metrics in making changes to signal operations.

ACHIEVEMENTS

UDOT is reaching world-class traffic signal management with the following results:

- ◆ **ACS Lite deployed on US-40, Heber Main Street.**
Reduced daily average delay: 30 percent
- ◆ **Real-Time Management of Traffic Signal Operations deployed at several intersections.**
See: www.udottraffic.utah.gov/signalperformancemetrics
- ◆ **Traffic Signal Event Management saved hundreds of hours of delay during 2012.** Example: BYU game-day delay was reduced from over 120 minutes to 70 minutes
- ◆ **Dynamic Dilemma-Zone Detection deployed at several intersections statewide.** Projected user costs savings: \$15 thousand per intersection per year

PROGRAMMED

2012: \$3 million

2013: \$3 million

CONTACT

Mark Taylor
801 887-3714
Marktaylor@utah.gov



ACS Lite deployed on US-40, Heber Main Street reduced daily average delay by 30 percent.

SIGN MODIFICATION & REPLACEMENT PROGRAM

PRESERVE INFRASTRUCTURE ◊ OPTIMIZE MOBILITY ◊ **ZERO FATALITIES** ◊ STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

State funding allows UDOT Traffic and Safety to identify and replace freeway signs that have become deteriorated or outdated.

Freeway signs provide important directional guidance to drivers.

Retroreflective freeway signs are critically important at night because visual cues on the roadway are less apparent. UDOT replaces groups of signs or individual signs when:

- ◆ A message becomes outdated or incorrect
- ◆ The daytime or nighttime visibility is lost
- ◆ A project can be completed using overlay of existing signs, and therefore offers a high benefit at a reasonably low cost

Signs that will be replaced by a project within three years are not considered.

Project Selection:

Region Traffic Engineers provide a list of potential projects, and UDOT Traffic and Safety and UDOT Regions prioritize projects. Requests by communities affected by UDOT projects are considered.

ACCOMPLISHMENTS

In 2012, UDOT Traffic and Safety replace 144 deteriorated, outdated or damaged freeway signs statewide.

WHAT IS RETROREFLECTIVITY?

Retroreflectivity describes a surface quality that causes light to bounce directly back to the light source as opposed to reflectivity, which causes light to diffuse in all directions.

Retroreflective sheeting used for signs aids drivers at night when half of fatalities occur, according to nationwide data.

Signs have good retroreflectivity when installed, but the sign surface can degrade over time. — safety.fhwa.dot.gov

PROGRAMMED

2012: \$ 400,000

2013: \$ 400,000

CONTACT

John Leonard
801 965-4376
jleonard@Utah.gov



Signs that are outdated or worn and damaged from exposure are less effective at providing information and may even cause confusion as drivers make driving decisions.

SMALL-AREA LIGHTING PROGRAM

PRESERVE INFRASTRUCTURE ◊ OPTIMIZE MOBILITY ◊ **ZERO FATALITIES** ◊ STRENGTHEN THE ECONOMY

PROGRAM SUMMARY

The Small-Area Lighting Improvement Program allows UDOT to partner with municipal officials to promote community safety and visibility at a specific location or along a state highway corridor.

Program goals include:

- ◆ Decreasing crash potential and severity
- ◆ Improving nighttime safety and visibility
- ◆ Improving energy efficiency
- ◆ Replacing outdated lighting infrastructure



LED fixtures can improve energy efficiency.

Program eligibility:

UDOT and community representatives work together to formulate a plan to address a lighting need. The community or municipality is usually required to provide some funding and/or work.

Funding may also be applied to a plan already in place or used to supplement a community-driven project. The cost to maintain and power the installation is turned over to the municipality at project completion.

PROGRAMMED

2012: \$300,000

2013: \$300,000

CONTACT

Richard Hibbard
801 965-4171
rhibbard@utah.gov

ACCOMPLISHMENTS

In 2012, UDOT worked with five municipalities to improve lighting and safety:

- ◆ **Cedar City Main Street Lighting:** Program funding was allocated to assist the city with replacing aging infrastructure.
- ◆ **Kanosh Main Street Lighting:** Program funding was allocated to replace aging infrastructure and reduce energy usage.
- ◆ **Gunnison Main Street Lighting:** Program funding was allocated to assist the city with improving lighting at pedestrian crossings.
- ◆ **Naples, US-40 Lighting:** Program funding was allocated to assist the city with installing a new system to vastly improve lighting uniformity and visibility.
- ◆ **Roosevelt, US-40 Lighting:** Program funding will be allocated to assist the city with upgrading old infrastructure.