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Operational Savings

Port of Entry Bypass Program

*Savings: $4,200,000*

**Efficiency:** By entering into the public/private partnership, UDOT eliminated a $200,000 annual maintenance contract, and was able to save more than $4 million dollars in equipment costs.

The Motor Carrier Division has entered into a public/private partnership with Help, Inc. to offer safe and reputable carriers the opportunity to bypass port of entry facilities throughout the State. Carriers may apply for this privilege by submitting themselves to a stringent safety, credentials and operations review. Carriers are given a score based on this review, which determines their bypass/pull-in rate by percentage.

Carriers save 15-20 minutes by being pre-cleared and allowed to bypass the ports. This saves the industry millions of dollars each year in reduced down time and fuel savings. The Division benefits by realizing a reduction in congestion and improvements in safety by not risking having commercial vehicles backed on to the interstates. Port personnel use this system to sort commercial vehicles by safety and credential factors, which aids in focusing inspection and enforcement resources toward known needs or high risks. This allows us to manage the increasing truck traffic without increasing personnel.

This system employs the latest weigh-in-motion and vehicle-identification technologies.

The St. George, Perry, Loma, Echo and Wendover ports of entry employ this system. These facilities are realizing bypass rates of near 36%. The previous system never exceeded 1% bypass rates.
Statewide Rest Area and Welcome Center Study

*Savings: $64,000 per Rest Area*

*Efficiency: The savings of closing one rest area is $64,000 due to reduced maintenance costs.*

A planning study was begun in 2006 to conduct a rest area condition inventory, determine rest area user expectations based on a customer survey, and review literature to identify current practices and emerging technologies. This work is to be used as the basis to develop a 20-Year Statewide Rest Area Plan. The study portion of the project has been completed and reviewed by the Utah Transportation Commission, AAA, and the Utah Office of Tourism. We have implemented Public/Private Partnerships in five locations (Springville, Scipio, Beaver, Fillmore, and Cove Fort). We have only closed one of the existing rest areas which results in $64,000 in reduced maintenance costs. We are planning to determine how many more rest areas we can eliminate in the future as we grow with our Public/Private Partnerships.

Performance Evaluation Quality Improvement Team

*Savings: $5-6 million On-going*

*Efficiency: The reduction of 95 full-time employees and an on-going evaluation process for filling vacancies.*

In late 2003, UDOT underwent a self-evaluation process to find efficiencies within the department that would allow for more money to be spent on the roads. The Performance Evaluation Quality Improvement Team was given the task of finding the areas where budget reductions could be made. The team eventually identified a savings of $5 million that began in fiscal year 2005 and continues annually. The savings came from reductions in various groups and divisions inside UDOT. UDOT reduced its full-time employee (FTE) positions by 95 as part of the evaluation process. The reductions ranged from senior level to field employees and were Department-wide. The 95 FTEs represent the vacancies accrued due a hiring freeze period. The ongoing legacy of the Performance Evaluation was FTE Management becoming embedded in the UDOT culture. FTE Management requires that whenever a position becomes vacant the Division Director is required to evaluate the highest and best need for the resource.

Inter-Agency Rental of Equipment

*Savings: $3,620 Initial*

*Efficiency: Vehicle utilization year-round which results in dollar savings to UDOT and DNR.*

In an effort to better utilize our equipment, UDOT has established a procedure to lease vehicles to other state agencies. We have started working with the Department of Natural Resources (DNR) to
lease our vehicles during off-season. This allows our vehicles to be utilized throughout the year. During this early implementation phase we have already seen a savings of $3,620 to UDOT and multiple savings for DNR (equipment costs, insurance and higher rental rates).

Combining Maintenance & Construction Functions & Web Based Training

*Savings: $205,000 in Labor and Training Costs*  
*Efficiency: By training using web-based methods, an additional $75,000 was saved in the first year, and $205,000 per year thereafter.*

Two of the most important activities of UDOT are road construction and maintenance. There are natural peaks and valleys in these activities because of the seasons. Construction peaking in the summer while maintenance peaks in the winter. UDOT recognized if we could crosstrain our construction and maintenance employees, we could realize some savings—reduced overtime, improved labor efficiency and training cost.

When UDOT moved to the Transportation Technician program, one of the challenges was to require the Trans Tech’s to go through the Transportation Education Program. As the number of employees in the program grew the cost and impact to maintenance and construction work also grew. In discussions with region trainers and Salt Lake Community College we felt the best way to solve the problem was to move the TEP program to web-based classes. Level one of the TEP program is now online with about 110 people taking classes. Some of the efficiencies from changing to web-based training are:

- Trans Techs don’t have to be pulled off of construction projects, or from maintenance activities.
- Trans Techs can take classes from about any location.
- Trans Techs have more time to complete TEP classes.
- Instructors don’t have to be away from work.
- Managers have better flexibility in moving people between maintenance and construction.
- We save the costs of facilities for teaching, hotel rooms, vehicles for travel and per diem.
Savings to the Public

Accelerated Bridge Construction (ABC)

Savings: Travel time cost reduction of up to $2,000,000

Efficiency: Reduced construction time, increased construction safety and quality, reduced impact to the traveling public in both time and cost. Accelerated construction of two bridges on I-215 yielded approximately $2,000,000 in user cost savings (time, fuel, vehicle wear and tear).

Finding faster, less disruptive ways to replace and repair our aging bridges is a key objective of UDOT. One of the most promising solutions on the horizon is Accelerated Bridge Construction, commonly called “ABC”. The ABC technique essentially involves building entire bridge decks, or major portions of it, at nearby locations, and then moving it as a unit into place in a very short period of time. Applications of this technique by Florida DOT have shown, amazingly, that entire bridges can be removed and replaced with pre-built components in days, or even hours!

Utah is only one of the few states seriously implementing this strategy. UDOT engineers and local contractors have observed this procedure first-hand. In addition, UDOT has brought experts from other states to Utah to provide training and implementation. We have done several projects such as 3900 South over I-215, a Wanship bridge, and 800 North over I-15. For example, the 800 North bridge was cast in two large pieces just a few hundred feet from the bridge. With this approach, the deck could be cast in non-traffic conditions, where the safety and quality control issues are much improved. Then, in a matter of just days, these large components were lifted into place, with minimal disruption to I-15 traffic. The impact to the traveling public was greatly reduced.

UDOT is excited to use this new ABC technology in several upcoming projects, saving time, increasing safety and quality, and minimizing impacts to the traveling projects. We will use this methodology on future projects, such as Beck Street under I-15 and 4500 South over I-215.
Express Lanes

Savings: Increase Speeds and Reduced Travel Time

Efficiency: This concept has shown a better utilization of the HOV lanes by allowing other vehicles to use them under certain conditions. This spreads the traffic during peak times and reduces congestion and delays in all lanes.

A 2005 UDOT Planning study entitled “I-15 HOV/HOT Lane Feasibility Study” identified that the I-15 High Occupancy Vehicle (HOV) Lane, in Salt Lake County, was under-utilized. At the time of the study, peak hour HOV volumes were about 900 vehicles per hour. Actual capacity of the HOV lane is, conservatively, 1500 vehicles per hour.

The Department decided to investigate the feasibility of selling the additional capacity of the HOV lane to Single Occupant Vehicle (SOV) drivers for $50 per month per vehicle. This concept is known to the Transportation Industry as High Occupancy Toll (HOT) Lanes. The primary benefit of the HOT lane concept is that a number of SOVs would stop using the General Purpose lanes, which are exhibiting severe to moderate congestion at some areas within the corridor, and start utilizing the HOT lane which is currently under-utilized. Traffic modeling of I-15 from 3300 South to 9000 South indicated that moving 600 SOVs to the HOV lane during the peak hour of the I-15 commute would not adversely effect the travel times or speeds in the HOV lane and would increase the speed and reduce the travel time. Evaluation of this project is on-going.

Wildlife Connectivity Across Utah’s Highways

Savings: $377,000 in Accident Reduction at One Site

Efficiency: 29 hits were reduced to only one hit and $380,000 cost was reduced to $3,000 per year.

On May 11 and 12, 2004, the Utah Department of Transportation sponsored a workshop to identify major sections of Utah’s highways that disrupt wildlife connectivity. This workshop was attended by representatives from the Utah Department of Transportation, Utah Division of Wildlife Resources, U.S. Forest Service, U.S. Fish and Wildlife Service, and several private consulting and conservation groups. sixty-four separate connectivity zones that are bisected by Utah’s highways were identified. From this, it is estimated that 37 miles of Utah’s highways and freeways cross through connectivity
areas considered critically important to wildlife, 83 miles of roads cross through high priority areas, and 973 miles cross through moderate priority areas. It is expected that this analysis will aid in designing facilities that will reduce wildlife/vehicle accidents on Utah’s highways.

For example, I-15 in the Pine Creek area a deer fence was installed between milepost 120-132. The animal-vehicle collisions averaged 29 hits per year and were reduced to only one after the deer fence installation. Crash costs were reduced from $380,000 per year to less than $3,000 per year.