

Colorado LTAP

March 2006

Serving local transportation agencies throughout Colorado

Spring Issue

Safe, Accountable, Flexible and Efficient Transportation Equity Act A Legacy for Users

How Will it Benefit Local Governments?

On August 10, 2005, President Bush enacted into law the long awaited six year transportation bill. The **Safe, Accountable, Flexible and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU)** provides \$286.5 billion funding (actually \$244.1 billion for FY2005-2009) for federal-aid highway programs (79%), state and local transit programs (\$18.5%), and highway safety programs (2.5%).

All states are guaranteed a total six-year average highway funding increase of at least 19%, when compared with the state's six-year TEA-21 funding total. Colorado will receive an average annual 46.75% increase (refer to Table 1, page 12). Colorado is expected to receive \$2.45 billion in apportionments for highway programs during fiscal years 2005 (completed September 30, 2005) through 2009; approximately \$491 million per year. It is anticipated that Colorado will distribute their funding as outlined in Table 2 (page 12).

The following outlines a few of the programs funded by SAFETEA-LU beneficial to local governments.

Roadway Safety Provisions

SAFETEA-LU created a dedicated safety program that will provide significant investment in roadway infrastructure safety. Areas of focus

for safety funding include work zones, older driver sign and pavement marking upgrades, bike and pedestrian crossings, railroad-highway crossings, rural roads, intersections, speed management, and safe routes to school.

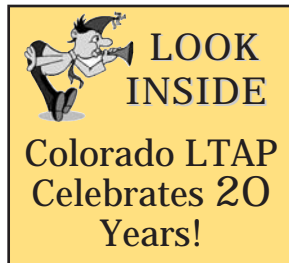
SAFETEA-LU authorizes \$6.536 billion for road safety programs over five years (FY2005-2009). Average annual roadway safety funding is \$1.307 billion per year (compared to \$859 million in FY 2004) including funding for the Railroad-Highway Crossing Program, High-Risk Rural Roads Program, Safe Routes to School, and the Highway Safety Improvement Program.

The Highway Safety Improvement Program

(HSIP) replaces the Hazard Elimination Program, and becomes 1 of 6 core elements of the federal highway program. Funding will be distributed to states for a wide range

of safety improvement projects aimed at reducing the number and severity of highway related crashes. This includes projects aimed at intersection safety improvement, pavement and shoulder widening, rumble strips, signage, and guardrails. Agencies need to get involved early and document all local projects that warrant federal funding.

Under the new bill, the HSIP requires states to develop and implement a **strategic highway safety plan (SHSP)**. The state's SHSP will be data driven ...continued on page 11



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Program Manager's Corner

Happy 2006! I have had the great opportunity to spend New Years 2006 in Japan! New Year (*shogatsu* or *oshogatsu*) is the most important holiday in Japan. The official New Year falls on January 1st, however, the actual season itself runs from December 31st through January 3rd, with most businesses shutting down during this time.

Throughout our stay, I took several photos of Japanese traffic signs and signals and I would like to share them with you. I've included 8 Japanese photos and captions in this issue. (More

to come next issue.) See if you can find them all. My favorite is "Don't get your head bit off while riding the stingray." But that's just me. What's your favorite?

The Japanese are celebrating the year of the DOG. We're celebrating the year of LTAP! The Colorado Local Technical Assistance Program celebrates 20 years, and the Roads Scholar Program turns 15 years old. In 2006, all Roads Scholar graduates will be presented with a commemorative keychain celebrating the event.

Renée Koller



Many people look forward to the new year for a new start on old habits. *~Author Unknown*

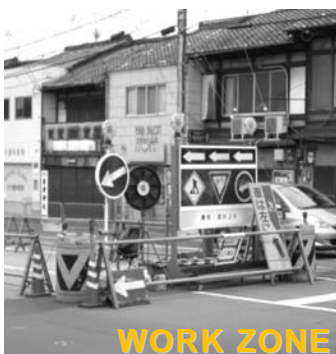
Be always at war with your vices, at peace with your neighbors, and let each new year find you a better man. *~Benjamin Franklin*

An optimist stays up until midnight to see the new year in. A pessimist stays up to make sure the old year leaves. *~Bill Vaughan*

May all your troubles last as long as your New Year's resolutions. *~Joey Adams*

Cheers to a new year and another chance for us to get it right. *~Oprah Winfrey*

The new year begins in a snow-storm of white vows. *~George William Curtis*



WORK ZONE

< Kyoto, Japan. Very colorful signs and bright flashing lights at this work zone.

<http://ltap.colorado.edu>

Visit Colorado LTAP online today for online training, class registration, free lending library, and more.



Local Technical Assistance Program Celebrates 20 Years Serving Colorado's Transportation Agencies




What is Colorado LTAP?

The Local Technical Assistance Program (LTAP), was initiated as the "Rural Technical Assistance Program" (RTAP) by the Federal Highway Administration, and approved by the United States Congress in 1982. Currently a network of 58 centers, LTAP was established to help local transportation agencies learn about: maintaining and improving their roads, innovative methods and materials, and ways to work smarter and safer. Each LTAP center works to improve the quality and safety of the surface transportation system through interactive relationships and information exchange.

In 1985, Colorado became the 39th state to establish a technical assistance program. Originally housed at Colorado State University in Fort Collins, the *Transportation Information Center*, as it was originally called, began serving local Colorado agencies in 1986. Managed by the University of Colorado at Boulder since 1998, the mission of Colorado's LTAP center is to foster a safe, efficient, and environmentally sound surface transportation system by improving skills and increasing knowledge of the transportation workforce and its decision makers.

LTAP's core services provide access to training and information that may not otherwise be accessible. The major thrust of Colorado LTAP is its training classes offered at a variety of locations throughout the state. Offering about 70 training events each year, Colorado LTAP provides participants the opportunity to learn from experts and to network by exchanging ideas and techniques. Courses range in topics from pavement maintenance and snow removal to communication skills.

Sharing of information is accomplished through a comprehensive brochure and newsletter mailing lists of counties, municipalities, DOT, FHWA, and other State and Federal agencies involved in transportation issues. The Colorado LTAP center maintains a free lending library of over 1400 videos, publications, and CDs, as well as research literature, management software, and technical assistance to help local agencies implement the most effective techniques in highway maintenance and construction operations. The center also maintains an informative web page that is continually updated with upcoming training course registrations, conferences, and links to other important related sites.

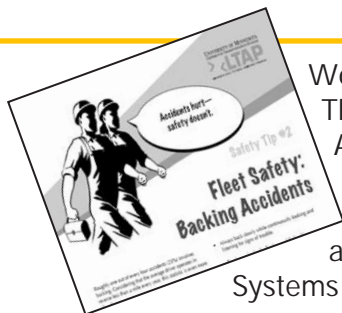
LTAP is a successful nationwide program that disseminates the latest state-of-the-art technology and best practice methods of maintenance for road infrastructure to government municipalities and private agencies involved in transportation throughout the state. 

SHARING KNOWLEDGE, IMPROVING COMMUNITIES

Need a little extra cash? Your knowledge is worth something.



Our center is continuing its program to encourage local participation in the publishing of Colorado LTAP's quarterly newsletter. We would like the recipients of our newsletter to benefit from all the knowledge local agencies have in the areas of roadway maintenance, design, and construction. We are offering \$50.00 to city, town, or county employees that submit an article that is chosen to be published in our newsletter. Articles can address current methods and procedures, best practices, innovative techniques, or projects in the transportation industry. Content should contain as much detail as possible, but we can provide assistance in editing and writing the final version. We request articles not promote any particular product. *Photos are encouraged.* To submit articles/photos, include author name and contact info, and mail or email to cltap@colorado.edu.



Worker and Workplace Safety Tip Sheets

The set consists of ten sheets on the following topics: Abrasive Wheel Machinery and Tools - Fleet Safety: Backing Accidents - Forklift Operation - Heat Stress - Ladders - Safe Lifting Techniques - Medical Services at Construction Job Sites - Personal Fall-Protection Systems - Scaffolding 101 - Excavation Requirements.

海遊館探検隊



Osaka Aquarium. Our translation: "Don't get your head bit off while riding the stingray." >

- ORIGINAL**
Colorado LTAP
Advisory Committee
Members:
- ◆
 - Jan Gertsenberger**
CO Municipal League
 - ◆
 - Allan Jones**
Rio Blanco County
 - ◆
 - Doug Jones**
City of Leadville
 - ◆
 - Paul Metcalf**
City of Yuma
 - ◆
 - Sollie Raso**
Pueblo County
 - ◆
 - Max Rothschild**
El Paso County
 - ◆
 - John Tomsic**
CCI
 - ◆
 - Dennis Donnelly**
CDOT
 - ◆
 - Dallace Unger**
FHWA
 - ◆
 - Darrell Fontane**
Colorado State Univ.
 - ◆
 - Norman Rutherford**
Colorado LTAP
 - ◆
- 1986**

The LTAP Advisory Committee Turns 20 Years Old



An initial meeting of the Advisory Committee for the Colorado “Transportation Information Center”, as LTAP was formerly known, was held in Fort Collins on September 25, 1986. The Advisory Committee was developed to provide direction to the Center’s staff; assist the staff as a resource for developing training and special projects, and provide insight into the needs of local transportation agencies. These goals hold true today.

As there was 20 years ago, there are currently seven voting members of the Colorado LTAP Advisory Committee composed of transportation specialists representing cities and counties across the state. There are also four non-voting members representing the program’s sponsor agencies: FHWA, CDOT, and the University of Colorado at Boulder. The committee meets four times between January and December. Topics addressed

at committee meetings each year include: review of the previous year’s annual report, discussion of upcoming training, suggestions for newsletter topics, review of the annual needs assessment survey and selection of survey drawing winners, review of the strategic plan, review of LTAP’s two training programs, development of the upcoming year’s work plan and suggestions for future training, selection of the statewide “You Show Us” contest winner, and suggestions for training enhancement funds and special projects.

Through the years, there have been many faces to the committee. In 2005, Doug Cline of the City of Grand Junction resigned after serving on the LTAP board for 10 years!

Colorado LTAP would like to thank all past and current members of the committee for their dedication to improving the quality and safety of the transportation system through interactive relationships and information exchange. The committee continues to grow and expand, always exploring new ideas to better serve Colorado’s transportation community.

~Thank You ~



Nara, Japan. Nara park is home to hundreds of freely roaming deer. Considered messengers of the gods in Shinto, Nara's deer have become a symbol of the city and have even been designated a National Treasure.

Did You Know?

Colorado LTAP has graduated 605 “Roads Scholars” since the Roads Scholar Program began in 1991.

The Roads Scholar Program



Turns 15 Years Old

The *Roads Scholar Program* was initiated by the Colorado “Transportation Information Center” (now called the Local Technical Assistance Program - LTAP) in 1991. The program was designed to provide basic training on transportation safety, local road maintenance, and technical skills through a variety of programs at reasonable costs.

1991 Roads Scholar Program

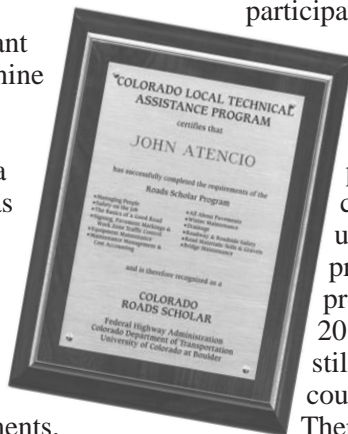
In 1991, Norm Rutherford developed and coordinated the *Roads Scholar Program*. The goal of the program was to provide comprehensive, low cost, convenient training over a reasonable period of time. The program was initially designed so that any participant who successfully completed nine of the eleven predetermined training courses within a 24 month period would receive a certificate designating them as a “Colorado Roads Scholar”. The cost was \$40 per person for a 6-7 hour class. The original eleven course topics that participants got to choose from included:

- ◆ All About Asphalt Pavements,
- ◆ Basics of a Good Road,
- ◆ Drainage,
- ◆ Equipment Maintenance & Mgmt,
- ◆ Managing People,
- ◆ Road Design & Safety Features,
- ◆ Road Materials,
- ◆ Signing, Work Zones & Flagging,
- ◆ Road Surface Management,
- ◆ Safety on the Job, and
- ◆ Winter Maintenance.

Current Roads Scholar Program

In 2002, Colorado LTAP redesigned the *Roads Scholar Program* to provide a greater emphasis on safety. Under current program requirements, to become a designated “Colorado Roads Scholar” each participant must take four required

core curriculum courses and five additional electives of their choice for a total of nine courses. At each course, participants receive a certificate of attendance, and upon completion of the program requirements are presented with a plaque. After 20 years, the registration fee is still only \$40 for a 7-hour course, and includes lunch!



There is no time limit for completing the coursework. There is no prescribed list of electives. An elective can be *any* 7-hour (or longer) LTAP class, excluding courses offered in the Supervisory Skills Program. The four required core curriculum courses include:

- ◆ Drainage
- ◆ Safety on the Job
- ◆ Signing, Pave. Markings & MUTCD
- ◆ Roadway Safety & WZ Traffic Control

Congratulations to the First Roads Scholar Graduates in 1993

CDOT: Conley Ebert, Dick Harris, Ron Hooper, Dave Luna, Carl Mays, Beth Moore, Mike Sanford, Yersel Scott, Bill Slade

CHAFFEE COUNTY: Mitch Butterfield, John Mueller, Mike Smith

GARFIELD COUNTY: Marv Stephens, Ron West

GUNNISON COUNTY: Bill Betz, Marlene Crosby, Bob Harris, Bruce Hutchison, Lee Partch

MESA COUNTY: Mike Barnes, Eric Bruton, Gene Click, Otis Darnell, Andy Rubalcaba, Toni Seybold, Wendell Stewart, Cecil Stites, Ted Wing

PUEBLO COUNTY: Ray Baker, Dave Chavez, Ray Friend

SAN MIGUEL COUNTY: Mike Horner

CITY OF LAKEWOOD: Chuck West

TOWN OF MT. CRESTED BUTTE: Virginia Hamilton

TOWN OF OAK CREEK: Chuck Wisecup



CURRENT Colorado LTAP Advisory Committee Members:

◆
Marlene Crosby
Gunnison County

◆
John Baker
Town of Snowmass

◆
Adam Lancaster
City of Cañon City

◆
Dick McKee
City of Boulder

◆
Tammie Crawford
Routt County

◆
Doyle Villers
LaPlata County

◆
Kevin Scott
Phillips County

◆
Beth Moore
CDOT

◆
Craig Larson
FHWA

◆
Yunping Xi
University of Colorado

◆
Renée Koller
Colorado LTAP

◆
2006

Town of Fraser

Icebox of the Nation

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SNOW MANAGEMENT SURVEY

The Town of Fraser, Colorado is in the process of evaluating their snow management operational procedures and would like your help! They would greatly appreciate it if you could take the time to provide the following information about your community to help their process. We would appreciate your assistance in completing the following survey, and would be happy to share the results with your organization. Please mail or FAX your results to Allen Nordin, Town of Fraser, at the address listed above.

Name of community:

Name and title of person completing the survey:

Total number of street miles within your community:

Total number of street miles you maintain:

Number of *year round* residents

Number of public works staff by position (list):

Quantity and type of snow management equipment that your community uses:

- | | |
|---|---|
| <input type="checkbox"/> Grader(s) | <input type="checkbox"/> Pickup truck/SUV w/plow attached |
| <input type="checkbox"/> Grader(s) with wing/front blade | <input type="checkbox"/> Pickup mounted sander(s) |
| <input type="checkbox"/> Loader(s) | <input type="checkbox"/> Skid steer/bobcat(s) |
| <input type="checkbox"/> Quick couple straight blade attachment(s) | <input type="checkbox"/> Snow blower(s), walk behind |
| <input type="checkbox"/> Quick couple snow box attachment(s) | <input type="checkbox"/> Snow blower attach. for skid steer |
| <input type="checkbox"/> Dump trucks w/plow & sander, single/tandem | <input type="checkbox"/> Snow blower attach. for loader/truck |
| <input type="checkbox"/> Dump trucks w/plow, wing & sander, single/tandem | <input type="checkbox"/> Additional equipment & attachments |

~ CORRECTION ~

In our November issue, we included this Snow Management Survey for the Town of Fraser. We would like to thank all of you who took the time to help LTAP and the Town of Fraser by filling out the survey. However, due to an editing error, only the first page of the survey was included. Please find the survey in its entirety in this issue. If you were able to submit responses to the first page, please consider completing this remaining page. Thank you for your time.

SNOW MANAGEMENT SURVEY CONTINUED

Name: _____ Agency: _____

~PLEASE ATTACH ADDITIONAL SHEETS IF NECESSARY~

- Q.** Do you have a written snow management operational plan? If so, what prompted you to create one? (i.e. town Board? Complaints?) How did you go about gathering the information?
- Q.** How many shifts and staff per shift do you operate with and what time do your crews begin plowing in the morning?
- Q.** Does your department do any “contract” plowing (i.e. parks, school parking, businesses)? If so, describe.
- Q.** Does your dept. remove snow berm’s left in business or private driveways at anytime? Under what circumstances?
- Q.** Do you make any special considerations for disabled or elderly residents? If so, describe.
- Q.** How do you address pedestrian mobility including sidewalks, crosswalks, etc in your business district and residential areas? Describe.
- Q.** What is your policy (or regulation) regarding plowing and storage of snow from private property onto the public ROW? How is that managed?
- Q.** Does your community hold any snow storage easements and/or do you store snow on any private property? What are your requirements and/or agreements (mou’s, verbal)?
- Q.** Do you haul snow? If so, to where and when do you haul?

HELP
YOUR COMMUNITY
GET READY

The *media* can raise awareness about flooding by providing important information to the community. Here are some suggestions:

- ✂ Publish a special section in your local newspaper with emergency information on floods and flash floods. Localize the information by printing the phone numbers of your local emergency services offices, the American Red Cross, and hospitals.
- ✂ Interview local officials about land use management and building codes in your floodplains.
- ✂ Work with local emergency service officials to prepare special reports for people with mobility impairments on what to do if an evacuation is ordered.
- ✂ Periodically inform your community of local public warning systems.

**Did
You
Know?**

On July 31, 1976, the Big Thompson River in northern Colorado overflowed after an extremely heavy storm. A wall of water 19ft high roared down the Big Thompson Canyon where many people were camping. 140 people perished and millions of dollars of property were lost.

Be Prepared for Spring

F · L · O · O · D · I · N · G

Urbanization, erosion, watershed changes and storm damage, can cause flood zone parameters to shift. Although your agency's businesses or buildings may not have changed locations, the flood danger zone may have. It is important to evaluate your agency's flood risk by contacting your local officials or emergency management office for the best resources to learn about the history of flooding for your region. Find out if your agency's property is in a floodplain and if it is above or below the current flood stage water level.

According to the National Hydrologic Information Center, the flood risk this spring is above average in the northern Rockies and northwestern Colorado. Saturated soils, substantial water in the snowpack (well above average), and streamflows well above normal have produced a risk of moderate to major flooding.

By being prepared, you can help either prevent an emergency, reduce the chance of an emergency, or lessen the damaging effects of that emergency.

Here's a list of things you can do to be prepared for spring snowmelt and heavy rains, and help prevent flooding.

- ☑ Proper management of a creek bed can help prevent flooding and is encouraged. Clearing potential blockages of overgrown trees and vegetation, which impede the flow of water, reduces the risk of flooding. Remember, during a storm it's normal for streams to rise. Some parking lots, streets, and parks have also been designed to fill with water.
- ☑ Check storm drains near your agency and clear away any leaves and debris. Clogged grates are often the reason a street floods during a storm.
- ☑ Clear debris from stormwater inlets, ditches, or other waterways. This includes grass clippings, which should be blown out or vacuumed, not blown into storm inlets.
- ☑ Carry out maintenance of any waterways and ditches in the summer months, and clear out the silt. Cut back foliage to ensure that saplings do not get established in the bed or banks of the watercourse.
- ☑ Ensure that piped sections of the watercourse under driveways are rodded and clear. These restricted locations are the most vulnerable to flooding and need the most attention.
- ☑ Expanding or realigning a drainage system may help prevent flooding; however, you must obtain a permit for any earth-moving work from your local government or even obtain a permit from the U.S. Army Corps of Engineers.
- ☑ Do not allow dumping into the drainage systems. This easily creates blockages.
- ☑ Have check valves installed in building sewer traps to prevent flood waters from backing up in sewer drains.
- ☑ Turn off all utilities at the main power switch and close the main gas valve if evacuation appears necessary.
- ☑ Develop an emergency communication plan. Plan and practice an evacuation route.
- ☑ Learn flood-warning signs and your community's alert signals.
- ☑ Make sure that all employees know how and where to respond *after* a flood.



You don't want this to happen to you.
By the way, is this safe?

USEFUL FLOOD SITES

FEMA Floods: <http://www.fema.gov/hazards/floods/>

Current Flood Summaries: <http://iwin.nws.noaa.gov/iwin/us/nationalflood.html>

Colorado Flood Protection Program: http://cwcb.state.co.us/Flood_Intro.htm

National Hydrologic Information Center: <http://www.nws.noaa.gov/oh/hic/nho>

References: Prevent Flooding-<http://www.fcd.maricopa.gov/Safety/Prevent.asp>; Flood Prevention-<http://www.scwa2.com/Flood%20Prevention.html>; Flood Prevention-<http://www3.hants.gov.uk/roads/highway-factsheets/flooding/prevention.htm>; Flood Prevention Tips-<http://www.ci.bellevue.wa.us/page.asp?view=1338>



What's New in the LIBRARY?

All videos, publications and CDs in the LTAP lending library are available for checkout for a two-week period, free of charge. To check out materials or request a library catalogue, contact the Colorado LTAP office at 1-888-848-5827.

Below is a list of most recent materials added to the library. Our library materials can also be ordered online at: <http://ltap.colorado.edu>

New DVDs

Location

Title

DVD50 FWZS

Flagging in the Work Zone - Safety in Your Hands

This DVD covers proper flagging practices and techniques that help make work zones safer for flaggers, workers and roadway users.

DVD40 PMSS

Preventive Maintenance - Pavement Performance Champions

The package explains the advantages, benefits, and economics of Pavement Preservation and Slurry System preventive maintenance treatments for existing asphalt roadways. The brochure and videos explain in lay terms, compelling graphs and graphics, the reasons for acceptance and use of these types of surface treatments.

DVD LYNFR

Lifelines, Your National Forest Roads

This DVD explores the relationship between people and the land as it celebrates the partnership between USDA Forest Service, FHWA, and state and local communities in providing continued stewardship and access to national forests.

New CDs

Location

Title

CD GTTC

Guidelines for Temporary Traffic Control (3 CDs)

These CDs contain the handbook summarizing some guidelines listed in the 2003 Manual on Uniform Traffic Control (MUTCD). It is directed to any entity working on a roadway open to public travel. This handbook contains the basic principles of Temporary Traffic Control (TTC), description of standard TTC devices, and typical application diagrams. Information concerning proper flagging along with the installation and maintenance of TTC devices is also presented.

CD MDM05

Model Drainage Manual 2005

The manual has been developed to provide the designer with a basic working knowledge of hydrology and hydraulics complete with example problems. All basic design elements are included such that the designer can design highway drainage with minimal assistance. However, this manual cannot provide guidance on complex hydrologic or hydraulic problems, and it is no substitute for experience or engineering judgement.

CD RR

Roadside Reminders

This CD contains a copy of a movie of a presentation prepared by FHWA. The presentation provide a strong message on the number of motorists that lose their lives on our highways and emphasizes key areas that safety agencies can focus on to save lives. It makes it clear that just one agency alone cannot accomplish our goal of reducing our nation's fatality rate; it must be a combined effort by many safety agencies that incorporates education, engineering, enforcement, and emergency response.

New Publications

Location Title

40 CPPM *Culvert Repair Practices Manual. Volume 1 & 2*

This manual has been developed to provide guidance to highway agencies on procedures that may be used to repair a wide variety of types of problems that beset metal and concrete culverts of all types. Many of the procedures are also applicable to the repair of timber and stone masonry culverts. Procedures are also presented on ways to improve the inlet and outlet ends of culverts as well as streambed channels leading to and from them.

F60 ECH *Erosion Control Handbook for Local Roads*

A handbook helpful in identifying key issues and concerns of those responsible for controlling erosion on low volume roads. Topics include: The Importance of Erosion Control; Regulation and Permitting; Designing an Erosion Control Plan; Treatment Selection; Erosion & Sediment Control During Construction; Permanent Erosion control; and Erosion Control for Coastal Areas.

22 STT *Summary of Trenchless Technology for Use with USDA Forest Service Culverts*

Summarizes trenchless technologies most appropriate for USDA Forest Service roadway culvert operations. It emphasizes techniques for replacing or rehabilitating corrugated metal pipe culvert, 18 inches diameter; and covers trenchless technology versus open-cut excavation; pipe inspection; pipe maintenance; pipe rehabilitation; pipe replacement; and new pipe constructions.

New Videos

Location Title

V40 SPP *Stormwater Pollution Prevention*

Meet mandatory EPA and state storm water pollution prevention requirements. How and why water discharges are regulated components and goals of prevention plans management practices to prevent contamination housekeeping to keep contaminants out of sewers spill prevention and clean-up procedures.

V50 LOTO *Lock-Out/Tag-Out Safety Training for Employees*

This program can help you easily train your employees on proper lockout/tagout procedures, as required by OSHA under 29 CFR Section 1910.147. Focuses on procedures from shutdown to start-up making it easy to combine with your existing training program, or use for retraining as mandated by OSHA.

V50 TSS *Trenching & Shoring Safety*

Help your employees avoid accidents by teaching them safe excavation-site procedures. This in-depth video focuses on OSHA-regulated safety measures such as protection from hazards with water accumulation, hazardous atmospheres, and design of support, shield underground installations, access and egress exposure to falling loads stability of adjacent structures, protection from loose rock or soil inspections design of sloping and benching systems.

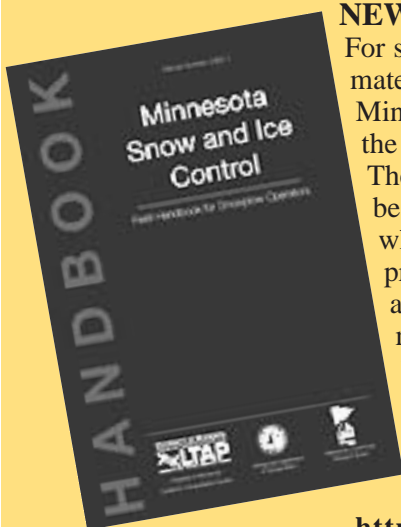
NEW Handbook Helps Plow Operators Control Snow and Ice

For snowplow operators, keeping the roads clear means applying doses of salt and sand—material that can find its way into those beloved waterways. A new handbook produced by Minnesota LTAP, is aimed at helping operators clear the roads while minimizing harm to the environment.

The Snow and Ice Control Field Handbook for Snowplow Operators describes the tools, best practices, and limitations for snow and ice control. It also explains when to use and when not to use these tools and practices. In addition, the handbook encourages progressive changes in snow and ice control practices that will help agencies reduce salt and sand use—and related environmental damage—while still meeting the safety and mobility needs of roadway users.

The tabbed, 30-page handbook is divided into five main chapters: Basic Concepts, Before the Winter, Before the Storm, During the Storm, and After the Storm. In addition to standard best practices, the handbook emphasizes improved practices such as anti-icing, prewetting, and pretreating. Free copies will be available next winter, or you can loan it from the Colorado LTAP library, or download the handbook at:

<http://www.mnltap.umn.edu/publications/exchange/2005-4/2005-4-1-1.html>



SAFETEA-LU

Provisions for Local Governments

continued from page 1...

and will identify safety needs and prioritize state budgets for roadway safety to achieve significant reductions in fatalities and injuries on **all public roads**. Guidelines on developing and implementing these plans have been distributed to each state DOT. Local officials will want to be involved early in the development of these plans as this new core safety program encompasses **all public roads**.

Another part of the HSIP, is a specific set-aside for **High Risk Rural Roads**. 75% of the annual funding for rural roads is specifically targeted to address safety problems on roadways classified as rural major collectors, rural minor collectors and rural local roads. These funds can be used for construction and operational improvements related to safety but must be used on roads that have a crash rate, fatalities and incapacitating injuries that *exceed* the statewide average for those functional classes of roads.

Local officials are encouraged to become active in state and local planning to ensure that needed safety projects are included in the state's High Risk Rural Roads Program and strategic highway safety plan, as well as transportation improvement programs and long range transportation plans.

Safe Routes to School (SRS) is a new federally funded program in SAFETEA-LU that provides specific funding to states to administer SRS at the local level. The program is designed to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make walking and bicycling to school safe and more appealing; and to facilitate the planning, development and implementation of projects that will improve safety and reduce traffic, fuel consumption and air pollution in the vicinity of schools. Funds are administered by CDOT to provide

financial assistance to state and local agencies that demonstrate the ability to meet program requirements. The program requires each state to provide funding for infrastructure and non-infrastructure related projects. Infrastructure related projects are engineering based such as sidewalks, traffic calming, speed reduction, traffic diversion, and bicycle facilities. Non-infrastructure related projects are based on public awareness, education, and enforcement. Each state has a full-time Safe Routes to School Coordinator. In Colorado, the SRS contact is Betsy Jacobsen, 303-757-9982. For more information on the SRS program, check out FHWA's site <http://safety.fhwa.dot.gov/saferoutes/>.

Training & Education Provisions

As transportation demand continues to increase faster than available resources and with a growing number of baby boom generation workers approaching retirement, the need for a skilled, technically competent workforce has never been more critical. The reauthorization provisions support workforce development as a continuum for the transportation professional. Training and Education (T&E) are authorized at \$26.7 million per year FY2005-2009.

T&E Program Elements

✂ **National Highway Institute:** continues program and adds Asset Management to the list of courses.

✂ **Local Technical Assistance Prog:** continues program to provide access to surface transportation technology: 1) to highway and transportation agencies in urbanized and rural areas and 2) to contractors that perform work primary for local agencies and State dots.

✂ **Eisenhower Transportation Fellowship Program:** continues funding for program: 1) to attract the nation's brightest minds to the field of transportation, ...continued on page 12

SAFETEA PROVISIONS IMPORTANT TO MUNICIPALITIES

- ✂ Establishes new safety programs.
- ✂ Eliminates the 35% cap on funding for off-system bridges & includes bridge preventive maintenance as an eligible activity.
- ✂ Expands state & local flexibility by eliminating most discretionary highway grant programs, making funds available under core formulas.
- ✂ Promotes private investment in public transportation projects by permitting state & local gov'ts to issue tax-exempt private activity bonds.
- ✂ Streamlines the environmental review process: modifies time frames for resource agencies to grant permits and establishes a 6-month statute of limitation for appeals.
- ✂ Updates transportation improvement programs and long range transportation plans (for non-attainment & maintenance) every 4 yrs.

Moving Forward, Winter 05-06

Did You Know?

Although the transportation bill was recently signed in 2005, we are already into the third year of the bill. Agencies are already preparing for the next reauthorization.

SAFETEA-LU

Training & Education Provisions

continued from page 11...

2) to enhance the careers of transportation professionals by encouraging them to seek advanced degrees, and 3) to retain top talent in the U.S. transportation industry.

✧ **Garrett Morgan Program:** funds program for outreach to elementary school and secondary school students.

✧ **Transportation Education Development Pilot Program:** establishes a funding and pilot program to develop training and education curricula for surface transportation workers.

✧ **Freight Planning and Capacity Building Prog:** establishes a program to support enhancements in freight transportation planning 1) to better target investments, and 2) strengthen the decision making capacity of State and local transportation agencies with regard to freight trans. planning and systems.

✧ **Surface Transportation Congestion Relief Solutions Technical Assistance and Training:** establishes a program to disseminate the results of the surface transportation congestion solutions research initiative for the purpose of assisting State and local transportation agencies with improving their approaches to surface transportation congestion measurement, analysis, and project programming.

✧ **Transportation Scholarship Opportunities Program:** provides authority for the USDOT Operating Administrations and for "non-governmental institutions" to establish scholarship and mentoring programs. Most USDOT administration did not have statutory authority in this area prior to SAFETEA-LU.

✧ **Core State Program Funds for Workforce Development:** funds from the Surface Transportation Program (STP), National Highway System (NHS), Bridge Program, Interstate

Maintenance Program, and Congestion Mitigation and Air Quality (CMAQ) may be used, at the discretion of the states, for workforce development, training and education purposes. Funds can be used for training and education for current workers, and for transportation career "pipeline" activities including "surface transportation career awareness, student internships and university

or community college support." If the funds are used for workforce development, education or training purposes, federal funds will be available at 100% and matching funds will not be necessary. (broadens ½ of 1% of STP funds for training provided for in TEA-21 by increasing the number of core programs, not limiting amounts that can be used from each program, and by providing for transportation career "pipeline" activities in addition to in-service training - new program.)

ADDITIONAL SOURCES OF SAFETEA-LU INFO

American Highway Users Alliance

State-by-state funding breakdown in the bill. Preliminary bill analysis and programmatic funding are also available. www.highways.org

Research Funding in SAFETEA-LU

TRB tables that provide a comparison of multi-year totals and annual averages for research and technology funding in non-research titles of the bill. http://trb.org/news/blurp_detail.asp?id=5231



References: AEMA Newsletter, 2005 #2; NACE Newsletter, Winter 2005; Penn LTAP Newsletter, *Moving Forward*, Winter 05-06; SAFETEA <http://www.fhwa.dot.gov/safetealu/index.htm>



State	TEA-21 Funding	SAFETEA-LU Funding	% Change
Colorado	\$334,594,734	\$491,008,545	46.75%
Arizona	\$463,157,671	\$651,471,647	40.66%
Utah	\$216,012,661	\$282,073,713	30.58%
Wyoming	\$191,521,113	\$249,595,787	30.32%
New Mexico	\$271,038,261	\$353,224,806	30.32%
Kansas	\$321,304,097	\$383,140,608	19.25%
All States	\$27,923,420,971	\$36,390,600,000	30.32%

Program	Amount
Interstate Maintenance	\$79,694,692
National Highway System	\$101,501,529
Surface Transportation	\$99,945,373
Bridge Replacement & Rehab.	\$22,790,645
Congestion Mitigation & Air Quality	\$27,454,391
Recreational Trails	\$1,382,707
Metropolitan Planning	\$4,727,916
Safety	\$13,861,477
Rail-Highway Crossings	\$2,461,867
Safe Routes to School	\$1,793,931
High Priority Projects	\$48,440,000
Equity Bonus	\$86,954,016
TOTAL	\$491,008,545



Eisenhower Interstate Highway System

Celebrating 50 Years

The Interstate System has been called the Greatest Public Works Project in History. From the day President Dwight D. Eisenhower signed the Federal-Aid Highway Act of 1956, the Interstate System has been a part of our culture—as construction projects, as transportation in our daily lives, and as an integral part of the American way of life. President Eisenhower considered it one of the most important achievements of his two terms in office.¹ Our 46,508-mile web of super-highways has transformed our nation and our economy. State transportation departments that built, own, and continue to operate the Interstate Highway System, will sponsor numerous events and public activities in the coming year commemorating this important anniversary.

Colorado Facts of the Interstate Highway System

✧ As of the end of 2005, the Interstate System included 55,512 bridges. The Interstate System includes many majestic, eye-catching spans that are among the best bridges ever built, and many bridges were built to accommodate unique circumstances, such as the I-70 viaducts through scenic Glenwood Canyon in CO.

✧ I-70 in Colorado's Vail Pass was completed in 1978 through a challenging, environmentally sensitive terrain. Designers incorporated techniques used in the European Alps to minimize scarring, soil erosion, water pollution, and wildlife disturbance. Two miles of I-70 were carried on pre-cast, prestressed, segmented box girders placed on concrete pylons to elevate the highway 90 feet above ground.

The elevated segments were installed by gantries moving on completed portions of the highway to minimize the impact of heavy construction equipment on the mountainsides. Because the highway crossed an ancient migratory path for deer, an underpass was included to allow them to move through the area safely.

June 29, 2006

The 50th Anniversary of the day federal legislation was signed to begin one of the biggest engineering projects ever undertaken: the U.S. Interstate Highway System.

✧ The 1.7-mile, \$112-million I-70 Eisenhower/Johnson Memorial Tunnel opened on March 8, 1973. During a brief ceremony about 500 feet inside the tunnel's entrance west of Denver, Governor John Love said, "This tunnel, as part of the Interstate System, represents the most recent, and possibly the most effective, answer to tying east and west Colorado together and opening the way west."

✧ The I-70 Eisenhower/Johnson Memorial Tunnel is the longest Interstate tunnel and the System's highest point above sea level (11,013 feet (east bore), 11,158 feet (west bore)). The westbound bore, completed March 8, 1973, is named after President Dwight D. Eisenhower, while the eastbound bore, completed December 21, 1979, is named after former Senator and Colorado Governor Edwin C. Johnson, who had fought hard to secure the Interstate mileage west of Denver. (The lowest elevation on the Interstate System is I-8 in El Centro, California, 52 feet *below* sea level.)

For other fun facts related to the Interstate Highway System, go to: <http://www.fhwa.dot.gov/interstate/previousfacts.cfm>

¹FHWA's Interstate 50th Anniversary Web site, <http://www.fhwa.dot.gov/interstate/homepage.cfm>



INTERSTATE HIGHWAY ANNIVERSARY LINKS

Linking the Power of the Past to the Promise of the Future
<http://interstate50th.org/>

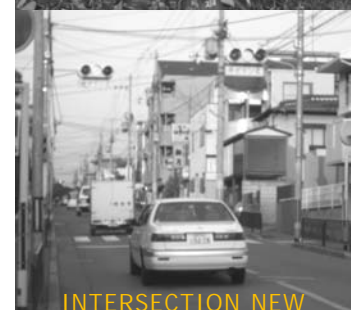
Fascinating Facts by AASHTO:
<http://interstate50th.org/trivia.shtml>

ARTBA and Interstates
<http://www.artba.org/50th/50th.htm>

AGC, Building for the Next 50 Years
<http://www.agc.org/interstate>

TRB, 50th Anniversary of the Ribbon Cutting Ceremony
http://gulliver.trb.org/news/blurb_detail.asp?id=5808

TTI, From Anywhere to Everywhere
http://tti.tamu.edu/interstate_anniversary/



Otsu, Japan

Website Question

To see FHWA's description of how the Interstate Highway System compares to the Great Pyramid of Cheops in Egypt and the Great Wall of China, visit Colorado LTAP's website at: <http://ltap.colorado.edu>

TARGET Road Safety Series

Road Safety 2
April 6, 2006

Improve Safety w/out
Wrecking Your Budget:
Cost-Effective Safety
Solutions

Learn how to take low-cost steps to improve your community's road safety problems. Hear about real life safety problems and ways to improve them—within your budget. We'll review several safety problem scenarios:

- Traffic signals
- Intersections
- Signing & lighting
- Bicyclists and pedestrians
- and and offer cost-effective solutions.

Road Safety 3
June 1, 2006

Traffic Management
Techniques

Do lead-footers, rubber-neckers, and tailgaters plague your community's roadways? Take charge of traffic menaces and make your streets and roads safe, economical to maintain, and a source of pride for your community. In this session, you'll learn how to improve safety, reduce congestion and speed, and generate funds for road safety projects.

We'll discuss:

- Traffic calming practices
- Implementation of red light cameras
- Congestion Pricing

For information: <http://www.apwa.net/Events/>

Ideas That Work

Saving Your Agency Time & Money

2005 National Roadway Safety Award Winner

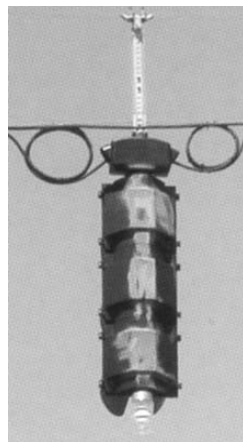
Intersection Enforcement Lights

Florida DOT

The Florida DOT is promoting the widespread usage of enforcement lights at signalized intersections to facilitate the enforcement of red light running (RLR) violations. The lights, also known as "white lights", are electronically attached to the red light and are visible to a law enforcement officer stationed downstream of a traffic signal. White lights are illuminated when the signal turns red, enabling a single officer, who must have a view of the stop bar and a red light indicator, to apprehend drivers who run a red signal. Without the white lights, two officers would be required for a RLR operation - one upstream to observe the infraction and one downstream of an intersection to write the citation. This enforcement light technology must get acceptance from the local traffic court judiciary prior to installation to assure that the citation written will be accepted in court proceedings.



In 2003, there were approximately 111 traffic fatalities and 1,703 serious injuries due to RLR in Florida. This program's effectiveness is clear: as an example, the initial installation at the intersection of SR 60 and US 19 in Clearwater in 2001 resulted in a 50% decrease in RLR violations and an 11% decrease in crashes over a 3-month evaluation period, with 519 citations issued.



Improving intersection safety continues as one of the key areas in the state's 2003 Strategic Highway Safety Plan, with a critical initiative to install white lights at a minimum of 60 signalized intersections per year for the five-year duration of that Strategic Plan. To date, white lights have been installed at over 400 high RLR intersections throughout the state, already exceeding the five-year target, with many more to be installed as the initiative gains support.

For more info, contact:

Patrick Brady, Florida DOT
Tel. 850-245-1504
Patrick.brady@dot.state.fl.us



~ 2006 Pavement Design Manual ~

The purpose of the 2006 Pavement Design Manual is to provide the Colorado Department of Transportation (CDOT) and consultant pavement designers with a uniform and detailed procedure for designing pavements on CDOT projects. This manual has been in effect since *July 1, 2005*.

[http://www.dot.state.co.us/DesignSupport/
Pavement%20Design%20Manual/Pavement_Design_Manual.htm](http://www.dot.state.co.us/DesignSupport/Pavement%20Design%20Manual/Pavement_Design_Manual.htm)

Upcoming Events

Upcoming Training

REMAINING 2006 COURSES

NOTE: The following is a list of courses proposed in the 2006 Work Plan. Please contact the Colorado LTAP office for exact dates or an updated schedule. The 2006 schedule will be posted online when it is finalized, check it out online at ltap.colorado.edu.

Road Scholar Core Classes

Roadway Safety & Work Zone Traffic Control
 April 3, 2006 - Colorado Springs
 April 4, 2006 - Trinidad
 April 5, 2006 - Montrose
 April 7, 2006 - Ft. Collins

Drainage
 Fall, 2006

Safety on the Job
 Fall, 2006

Supervisory Skills Classes

A Whole New World: Nuts & Bolts of Local Government
 April 12, 2006 - Castle Rock

Written Communications
 Fall, 2006

Successful Employees Make Successful Supervisors
 Fall, 2006

Developing the Leader Within
 Fall, 2006

Who's Coming Thru the Door Today
 Fall, 2006

Workshops

Flagger Certification
 (4-hrs, FREE)
 April 10, 2006 – La Junta
 April 11, 2006 – Alamosa
 April 12, 2006 – Durango
 April 13, 2006 – Montrose

Road Scholar Electives

Topics on Concrete Pavements
 March 20, 2006 - Golden
 March 22, 2006 - Pueblo
 March 24, 2006 - Glenwood Springs

Chip Seal Applications
 March 27, 2006 - Ft. Morgan
 March 28, 2006 - Colorado Springs
 March 29, 2006 - Montrose

Basics of a Good Gravel Road
 March 29, 2006 - Trinidad
 March 31, 2006 - Limon
 April 11, 2006 - Glenwood Springs

Heavy Equipment Training
 Prowers County, CO (3-days, \$120)
 April 24 - 28, 2006 - Lamar

Topics on Asphalt Pavements
 May 2, 2006 – Pueblo
 May 3, 2006 – Ft. Collins
 May 5, 2006 – Grand Junction
 May, 2006 - Denver

Heavy Equipment Training
 Grand County, CO (3-days, \$120)
 September, 2006

Easy Methods for Estimating Materials for Roadway Projects
 Fall, 2006

Small Bridge Inspection
 Fall, 2006

Common Sense Solutions to Intersection Safety Problems
 Fall, 2006

Roadway Safety Fundamentals
 Fall, 2006

Conferences

APWA/CARMA Street Conference
 April 19 - 21, 2006
 Grand Junction, CO

Contact Lindsay at Colorado LTAP for registration information.

National Work Zone Awareness Week

April 2 - 8, 2006

Scheduled in April each year, *National Work Zone Awareness Week* is a national campaign that helps increase public awareness of work zone safety. Local community activities help educate the nation on work-zone related injuries and fatalities and the hazards and dangers that can be encountered and avoided when driving through a road construction zone. The theme for this year's NWZAW will focus on the dangers associated with night work zones, "Working at the Speed of Night".

<http://www.atssa.com>

National Public Works Week

May 21 - 27, 2006

NPWW is a celebration of men and women in North America who provide and maintain the infrastructure and services collectively known as public works. Instituted as a public education campaign by the APWA in 1960, NPWW calls attention to the importance of public works in community life. The Week, observed each year during the third full week of May, seeks to enhance the prestige of the often-unsung heroes of our society—the professionals who serve the public good every day with quiet dedication.

<http://www.apwa.net/About/npww/>

NEW FREE PUBLICATIONS

FV50 DS Danger Signs

This video dramatically drives home the devastating results of sign vandalism on victims, their families, and those that commit the crime. Excellent tool for public awareness education, law enforcement and safety officials to curb this growing menace.

F50 FAW Fight Winter and Win: A Survival Guide for Public Officials

This handy "survival guide" provides a sketch of the issues involved in effective snow and ice control to restore safe and passable roads after winter storms.

FCD Anti-icing/Road Weather Information System (RWIS)

This comprehensive training program was developed to assist the transportation community to use information provided from a Road Weather Information System (RWIS), and to use this information to determine which tools (anti-icing, de-icing, plowing) provide the best approach to winter maintenance. This program contains seven modules and is free to NACE member agencies (\$100 non-members).

40 APMFG Asphalt Pavement Maintenance - Field Guide

This field guide provides guidelines for preventive asphalt pavement maintenance techniques for a variety of distresses and conditions. It covers: - crack treatments (clean and seal, rout and seal, full-depth crack repair) - surface treatments (fog seal, seal coat, thin hot-mix overlays) - pothole patching and repair (cold-mix asphalt, spray injection patching, hot-mix asphalt, slurry or microsurfacing material).

F40 DIG Distress Identification Guide

This publication provides guidance in identifying different forms of distress in the pavement, such as cracking, potholes, surface deformation, surface defects and miscellaneous distress. Colored figures accompany the explanations.

The following is a list of **FREE publications** available to Colorado local government agencies in the transportation field. Quantities are limited and available on a first-come, first-serve basis.

Contact the Colorado LTAP office to put in a request for these free publications.

Check out our website for **additional free materials** not listed here.

<http://ltap.colorado.edu>



Colorado LTAP

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3100 Marine St., A-213
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Boulder, CO 80309-0561

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