

Colorado LTAP

June 2005

Serving local transportation agencies throughout Colorado

Summer Issue

¿Usted habla Español? Spanish Training Materials Available



Hispanics constitute the largest ethnic minority group in the United States. Hispanics accounted for one-half of the overall population growth of 2.9 million between July 2003 and July 2004.¹ As a result, the growth rate of the Hispanic workforce has become four times that of the non-Hispanic workforce.

While workplace fatalities for Anglo and African Americans have steadily declined in recent years, the opposite appears true for Hispanics. Deaths among Hispanics rose 11% in 2000 and 9% in 2001.² It is therefore our responsibility to ensure that all our workers are completely and safely trained.

Hispanics are a very diverse group representing 20 different countries - some of whom speak English, and some don't. Training materials that suit non-Hispanic and other employees may not necessarily work for Hispanic employees. Therefore, since language can be one of the biggest obstacles in creating a safe workplace for Hispanics, Colorado LTAP has begun to collect training materials that have been translated into Spanish. Our lending library and free

Photo: Bilingual traffic signs are often used in areas with Spanish speaking populations and tourists.

Foto: Las señales de tráfico bilingües se utilizan a menudo en áreas con las poblaciones y los turistas que habla hispana.

Los hispanos constituyen a grupo étnico más grande de la minoría de los Estados Unidos. Los hispanos consideraron una mitad del crecimiento total de la población de 2.9 millones entre Julio de 2003 y Julio de 2004.¹ Consecuentemente, el índice de crecimiento de la mano de obra hispánica se ha convertido en cuatro veces que de la mano de obra el no-Hispanico.

Mientras que las fatalidades del lugar de trabajo para los americanos anglo y americanos africanos han declinado constantemente en años recientes, el contrario es verdad para los hispanos. Las muertes entre hispanos se levantaron el 11% en 2000 y el 9% de 2001.² Es por lo tanto nuestra responsabilidad asegurarse de que entrena a todos nuestros trabajadores totalmente en seguridad.

Los hispanos son un grupo muy diverso que representa 20 diversos países - algunos hablan inglés y algunos no. Los materiales del entrenamiento que satisfacen al no-Hispanico y a otros empleados pueden no trabajar necesariamente para los empleados hispánicos. Por lo tanto, puesto que la lengua puede ser uno de los obstáculos más



**LOOK
INSIDE
for a list of
FREE Spanish
materials.**

...continued on page 5

In This Issue

¿Usted habla Español? Spanish Training Materials Available

Manager's Corner	2
Faces Behind Phone	3
Free Spanish Materials	4
Meth Lab Cleanup	6
LEAF Program	8
Salute to PW	8
Roads Field Guide for Riparian Restoration	9
"You Show Us" 2005	13
Ideas That Work	14
Need extra cash?	14
New in the Library	15
Mailing List Update	17
Upcoming Events	19
FREE PUBLICATIONS	20

Routing Slip

After reading this issue of Colorado LTAP, please initial below and pass it along to the rest of you staff.

- _____

Return to:

...continuado en la página 5

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The Colorado Local Technical Assistance Program is sponsored by the Federal Highway Administration, the Colorado Department of Transportation, and the University of Colorado at Boulder.

The Colorado LTAP Newsletter is published quarterly. Articles, pictures and comments are welcome.

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Program Manager's Corner

Due to a recent grant, Colorado LTAP staff is excited about all the new programs that are being developed for this fall. We are currently ironing out the details for an Amendment to the 2005 fall work plan. The amendment will add many free training opportunities, including some interesting special projects including traffic counting for local agencies. Keep an eye out for brochures we'll send outlining all the details and registration requirements. A proposed fall schedule is available online and will be continuously updated as further details are available.

YOU CAN HELP US HELP YOU

We recently sent out our Annual Needs Assessment Survey. This survey is instrumental in the development of our future work plans. Especially if additional funding becomes available - we want to make sure we've got your suggestions on hand! Please take a few moments and let us know what areas would be most beneficial to your agency's operations. You could even win \$25 in the survey drawing. If you did not receive a survey by mail, it is going to be available to complete online through our website.

Quotes of the Day

Safety Quotes & Slogans from *Naval Safety Center*:
<http://www.safetycenter.navy.mil/articles/quotes.htm>

Alcohol reduces performance, impairs judgement, and increases the willingness to take risks.

Alert today. Alive tomorrow.

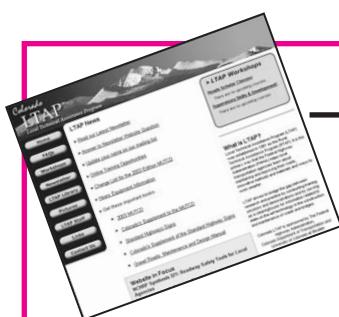
As soon as you see a mistake and don't fix it, it becomes *your* mistake.

Before you do it, take time to think through it.

Don't learn safety by accident.

Informed is better than deformed.

Safety's not a job, it's a way of life.



<http://ltap.colorado.edu>

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



I'm sure you've always wondered - "Who's behind that bubbly voice on the other end of the line." Well, that's probably Lindsay, but there are a couple others here to help as well.

The Local Technical Assistance Program or **LTAP** is a very successful nationwide non-profit program jointly sponsored by the Federal Highway Administration (FHWA) and state transportation agencies. There are 58 centers throughout the country; one in each state including Puerto Rico, and seven Native American tribal centers.

In Colorado, the program was established nearly 20 years ago with the headquarters at Colorado State University in Ft.Collins. In 1998, the Colorado LTAP headquarters moved to the University of Colorado in Boulder, where it remains today. Current sponsors include FHWA, CDOT, and CU Boulder.

It is our goal to disseminate the latest state-of-the-art best practice maintenance methods for road infrastructure to government municipalities involved in transportation throughout the state.

Offering over 60 training events a year, Colorado LTAP provides participants the opportunity to learn from experts and to

MISSION
To improve the quality and safety of the surface transportation system through interactive information exchange.

Meet the Faces Behind the Phone

Renée Koller
Program Manager
(center)

Lindsay Nathaniel
Training Coordinator
(left)

Lydia Abarr
Library Assistant
(right)

network by exchanging ideas and techniques. Lindsay manages LTAP's two training programs: *Road Scholar* and *Supervisory Skills & Development*.

Each center also maintains a FREE lending library of videos, publications, and CDs, as well as research literature, management software, and technical assistance to help local agencies implement the most effective techniques for their daily operations. With over 1,000 items for loan in our library, give Lydia a call today!

Colorado LTAP also maintains a comprehensive and informative web page that is continually updated with upcoming training schedules, course registrations, conference info, online training resources, links to other important transportation related sites, and much more. You can add yourself to our mailing lists, browse our library catalogue, submit material requests, register for courses all online at: <http://ltap.colorado.edu>.

You can reach all of the LTAP staff at one number or email.

Call us toll-free at
1-888-848-LTAP (5827) or email:
cltap@colorado.edu.



VISION
To foster a safe, efficient, and environmentally sound surface transportation system.

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**DRIVING IN
RAINSTORMS**
Tips for Spring/Summer
by AAA Colorado

1. Regularly clean windshields & windows, both inside and outside. Smokers take extra care interior windows are clear of smoke residue.

2. Regularly check that headlights, taillights, brake lights and turn signals are working properly. Keep low beam headlights on at all times.

3. As soon as rain begins, turn on headlights and wipers. Many states require headlights to be turned on when it is raining or if visibility is reduced to less than 500 feet.

4. When visibility is so limited that the edges of the road or other vehicles cannot be seen at a safe distance, it is time to pull over & wait for the rain to ease up. Stop at a rest area or other protected area. If the roadside is your only option, pull off as far as possible, preferably past the end of a guard-rail. Keep headlights off and turn on emergency flashers to alert other drivers.

5. Rain creates slippery roads that require extra caution. Slow down and increase distance between vehicles to compensate for reduced tire traction. To prevent hydroplaning-slow down & avoid hard braking & turning sharply.

¿Usted habla Español?

FREE Spanish Training Materials



The following is a list of Colorado LTAP's available Spanish materials for Colorado local government agencies in the transportation field.

Free materials are available on a first-come, first-serve basis.

Materials for loan are available for checkout for a two-week period, free of charge. Materials can be requested by contacting the Colorado LTAP office, or order online through our library at:

<http://ltap.colorado.edu>. Just type "Spanish" in the search line.

FREE SPANISH MATERIALS

Catalogue

Catalogue #	Title
FCD SJB	CD: Bicycle Safer Journey: Interactive Bicyclist Safety Awareness
FCD SJP	CD: Pedestrian Safer Journey: Interactive Safety Awareness
FV31 RP	Video: Restoration Of The Profile In Asphalt Highways
FV40 MNHS	Video: Maintaining Non-hard Surfaces Spanish CDs
F50 FHS	Book: Manual Del Abanderado (Flagging Handbook)
F50 CWZBPS	Book: Guia de Mejores Practicas de Seguridad en las Zonas de Trabajo (Colorado Work Zone Best Practices Safety Guide)
F50 LMS	La Metanfetamina (NIDA Methamphetamine Info Sheet)

SPANISH MATERIALS FOR LOAN

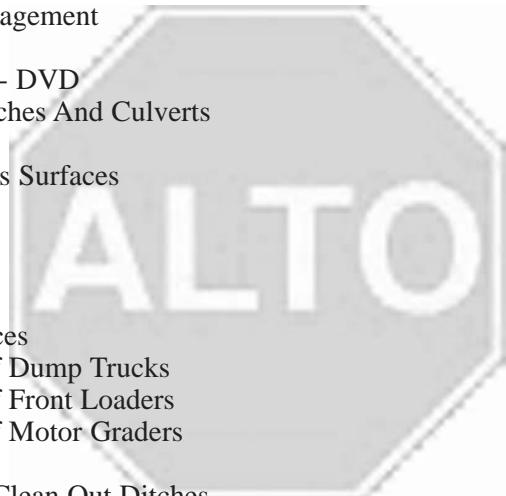
Catalogue

CDs

CD SJB	Bicycle Safer Journey: Interactive Bicyclist Safety Awareness
CD SJP	Pedestrian Safer Journey: Interactive Safety Awareness
CD SSC	Successful Supervision: Communications
CD SSLM	Successful Supervision: Leadership & Motivation
CD SSM	Successful Supervision: Management

Videos

DVD ABCWZS	Abc's Of Work Zone Safety - DVD
V22 PCDC	Procedures For Cleaning Ditches And Culverts
V24 APR	Asphalt Pavement Repair
V24 LLBS	Lane Leveling Of Bituminous Surfaces
V31 BSCP 1	Bituminous Seal Coat: Part 1
V31 BSCP 2	Bituminous Seal Coat: Part 2
V40 BR	Base Repair
V40 MD	Maintaining Drainage
V40 MNHS	Maintaining Non-hard Surfaces
V40 PMDT	Preventative Maintenance Of Dump Trucks
V40 PMFL	Preventative Maintenance Of Front Loaders
V40 PMMG	Preventative Maintenance Of Motor Graders
V40 PPR	Permanent Pothole Repair
V40 RMSS	Remove Minow Slides And Clean Out Ditches
V40 SCS	Sealing Cracks
V40 SI	Structural Inspection: Bridges
V40 TCMW1	Traffic Control For Maintenance Work Zone: Part 1
V40 TCMW2	Traffic Control For Maintenance Work Zone: Part 2
V40 TPR	Temporary Pothole Repair
V50 ABC	Abc's of Work Zone Safety - VHS
V50 AC	Avoiding Collisions
V50 FTRT	Flagging Techniques For Roadway Traffic
V60 ERR	Edge Rut Repair And Grade Gravel Shoulders



If there are other materials in our library that you would like *translated* into Spanish, PLEASE let us know!

¿Usted habla Español? Spanish Training Materials Available

continued from page 1...

materials are comprised of a wide range of transportation related resources including books, CDs, and videos. Our collection of Spanish videos offer training through demonstration for those who prefer visual learning over reading. A current list of Colorado LTAP's Spanish materials is listed on page 4. Remember, if there are materials you would like available in Spanish that are not listed there, please let us know! 

References

1. *Hispanics Now One-seventh of U.S. Population*, Associated Press, June 10, 2005
2. http://www.osha.gov/SLTC/spanish/hispanic_outreach.html
3. *Strength in Diversity*, Cindy Ratcliff, editor, *Grounds Maintenance*, Nov 1, 2003.

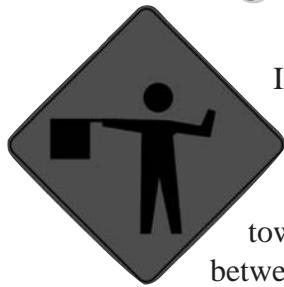
continuado de la página 1...

grandes de crear un lugar de trabajo seguro para los hispanos, Colorado LTAP ha recogido los materiales de entrenamiento que se han traducido a español. Nuestra biblioteca de préstamos y materiales libres se abarca de una amplia gama de los recursos del transporte incluyendo los libros, CDs, y los videos. Nuestra colección de videos españoles ofrece el entrenamiento con la demostración para la gente que prefiere esto que aprende en vez de la lectura. Una lista actual de los materiales españoles de Colorado LTAP es presentada en la página 4. ¡Recuerde, si hay materiales que usted quisiera disponible en español que no se presenta allí, por favor nos dicen! 

Methamphetamine Free Materials in Colorado LTAP's Library

F50 LMS	La Metanfetamina (NIDA Methamphetamine Info Sheet, Spanish)
F50 M	Methamphetamine (NIDA Methamphetamine Info Sheet, English)
F50 SMA	Smoked Methamphetamine/Ampetamines (DASIS Report)
F50 MTT	Tips for Teens: The Truth About Methamphetamines (Brochures)

Building Safer Work Zones One Participant at a Time



In April, Colorado LTAP received a 402 Safety Grant from CDOT to do *Temporary Traffic Control & Flagger Certification* courses for local agencies. The Flagger Certification courses were offered free-of-charge to city, town and county employees. Each year, the locations alternate

between the north and south half of the state. This year, five classes were held in Ft. Collins (2), Sterling, Frisco, and Rifle. Upon completion of the 4-hr training course, participants take CDOT's flagger certification exam. We are proud to announce that out of 107 participants, **five** (a record number) received a score of 100% on the exam. **Congratulations!**

Darrell Presley - City of Blackhawk Stan Fouts - City of Blackhawk
Bryan Mackay - Town of Rangely Jeff LeBleu - Town of Rangely
John Combs - City of Central City



OSHA en Español Hispanic Outreach Efforts

OSHA has noted special concern for non-English speaking and other hard to reach workers. In response to the rising fatality rate among Hispanic workers, OSHA established the *Hispanic Outreach Taskforce* in late 2001 to address this issue and provide greater access to safety information for Spanish-speaking workers. The task force is looking at three areas - sharing best practices, expanding outreach, and determining where more information is necessary.

OSHA has also begun to translate all of its safety literature into Spanish, including "All About OSHA" and "OSHA to Serve You." It has even created a Spanish version of its Web site.

For a list of OSHA's outreach efforts for the Hispanic worker community, visit their Fact Sheet at:
www.osha.gov/SLTC/spanish/hispanic_outreach.html

POSSIBLE METH LAB INDICATORS

Here are some possible indicators of the existence of a meth lab provided by the Boulder County Health Department:

Very strong, unusual odors,
Cat urine
Ether
Ammonia
Acetone
Strong fuel scent

Suspicious behavior,
Windows blacked out,
Rent payment in cash,
A lot of traffic at
unusual times for
example at night.

Excessive trash,
which might include
beakers, over the
counter drug
packaging, Coleman
fuel or HEET
containers, and
unusual amounts of
clear glass containers

Did You Know?

The average cost of cleaning up a clandestine meth lab site is about \$5,000 but some cost as much as \$150,000. Cleanups of labs are extremely resource-intensive and beyond the financial capabilities of most jurisdictions.

KCI The Anti-Meth Site
www.kci.org/meth_info/faq_meth.htm

Protect Your Agency from Costly Meth Lab Cleanups

By: Lindsay Nathaniel, Colorado LTAP

Methamphetamine abuse and the small scale production is showing up in communities around the country with a destructive force that is affecting both rural and metropolitan areas alike. Methamphetamine is a synthetic, relatively easy to make, highly addictive drug. It is commonly referred to as meth. Some other names are crank, speed, crystal, or ice. It can be smoked, snorted, injected, or eaten.¹ Unlike other drugs, meth is synthetic and can be made from ingredients that are not difficult to obtain, such as over the counter cold and asthma medications that contain ephedrine or pseudophedrine, drain cleaner, battery acid, lye, lantern fuel, and antifreeze.² Meth is being made across the United States in meth labs. The labs can be found both in rural areas and in metropolitan areas, in houses, hotel rooms, fields, barns, vehicles, vacant buildings and cardboard boxes.²

In Colorado, the number of meth labs that the Bureau of Investigation has seized has increased dramatically over the past several years: 150 in 1999, 264 in 2000, 452 in 2001, and over 700 in 2002.¹ The ease of making this drug has made it more obtainable than some other drugs. This drug is desirable for financial reasons as well. It costs about \$100 to make a batch of meth and it can be sold for roughly \$1,000 on the street.³

Meth is a highly addictive drug. In the beginning, the user experiences an euphoria because the drug releases high levels of neurotransmitter dopamine that stimulates brain cells and this enhances the mood and body movements of the user. However, as use of this drug continues over time it has some really detrimental affects on the body. The drug reduces levels of dopamine that may cause symptoms like Parkinson's disease.² The drug can cause irritability, insomnia, confusion, tremors, convulsions, anxiety, paranoia, and aggressiveness. Increased heart rates and blood pressure may cause permanent damage to blood vessels in the

brain which may cause strokes. Methamphetamine can result in cardiovascular collapse and death.

Methamphetamine doesn't only take a toll on the people and the families of the people using. Our communities are also paying a great price. The materials used to make meth, when put together create a highly flammable and explosive mix. The cooking process that the ingredients go through to turn into meth generates toxic gases. Neighbors, law enforcement, and public works employees working on the streets are all at risk with the great potential for an explosion and breathing in the harmful gases. There have been cases of this substance exploding and releasing deadly fumes.³

As public works employees out on the streets, it is important to know what to look for and be prepared to identify possible meth lab locations.

The production of methamphetamine damages the environment. Meth production creates a great amount of toxic waste. Five to six pounds of toxic waste are made for every one pound of drug produced.⁴

This toxic waste is often dumped into water sources, down storm drains, and directly on the ground. Even when law officials find this waste before it is dumped illegally, they must still properly dispose of the toxic waste. One particularly toxic substance that is used in the production of this drug is anhydrous ammonia. This is a substance used by farmers and often stored on their farms, and Meth producers often steal this chemical. It can cost thousands of dollars to replace the stolen chemicals.

The monetary costs associated with meth production and abuse are astronomical. Municipalities spend money on increased law enforcement and crime prevention. The costs related to trials and imprisonment of drug abusers is another expense states and tax payers must pick up. People jailed for methamphetamine abuse cost tax payers an average of \$20,000 to \$50,000 per person per year.³

The secondary crimes that result from meth use take a huge toll. Thefts and violent crimes, including homicide, are often associated with methamphetamine



use.³

One of the most significant costs that municipalities face in dealing with the production of meth is the cleanup of the areas used as meth labs. Often the people making the meth abandon the labs and leave behind all of the toxic waste and the materials that were used to cook the meth. This leaves law enforcement officials dealing with highly explosive and toxic chemicals. Due to the inherent danger, the Colorado Department of Public Health and Environment has developed guidelines that should be followed when dealing with and cleaning up meth labs. These can be found at:

www.cdphe.state.co.us/hm/methlab.pdf

Related costs can be expensive because of the extensive amount of cleanup involved and the required use of a trained hazmat cleanup team. Cleanup can cost municipalities anywhere from \$5,000 to \$150,000 for clearing one small clandestine lab.⁴

It is important to know the signs to look for in order to identify meth labs. As public works employees, you are out on the streets and have a great opportunity to possibly identify these labs. A list of suggested actions is included in the side column.

The costs that municipalities and families face as a result of meth abuse and production are great and growing as the number of meth labs and abusers increase. It takes us all coming together in an effort to educate about and fight against this drug that has the capacity to hurt so many people.

If you find in your community that the expenses of fighting, educating, and cleaning up are more than you can afford,

For additional information on cleanup regulations, contractors list, and fact sheets, visit the Tri-County Health Depts. website at: <http://www.tchd.org/methlab.htm>

there are some possible grants for which communities can apply:

- **The Mobile Enforcement Team**

Program (MET) - This program was created by the DEA in early 1995 as a response to the overwhelming problem of drug-related violent crime that plagues neighborhoods and communities throughout the United States. The challenges facing law enforcement today are daunting. The increasing sophistication of drug-trafficking organizations and the availability of automatic weapons make drug law enforcement more difficult and

dangerous than ever before. Unfortunately, police departments must face these challenges with smaller budgets and fewer police officers. The MET program helps local law enforcement entities attack the violent drug organizations in their neighborhoods and restores a safer environment for the residents of these communities.

For more information,

<http://www.dea.gov/programs/met.htm>

- **The Community Capacity Development Office (CCDO)** -

Operation Weed and Seed is foremost a strategy--rather than a grant program--which aims to prevent, control, and reduce violent crime, drug abuse, and gang activity in targeted high-crime neighborhoods across the country. Weed and Seed sites range in size from several neighborhood blocks to 15 square miles. The strategy involves a two-pronged approach: law enforcement agencies and prosecutors cooperate in "weeding out" criminals who participate in violent crime and drug abuse; and "seeding" brings human services to the area, encompassing prevention, intervention, treatment, and neighborhood revitalization. For more information visit:

www.ojp.usdoj.gov/ccdo/nutshell.htm.

References

1. Colorado Department of Health and Environment
2. Boulder County Public Health
3. Drug Abuse in America-Rural Meth
4. KCI The Anti-Meth Site
www.kci.org/meth_info/faq_meth.htm

DISCOVERING A METH LAB

If you have suspicions of a meth lab location:

- Do not enter the area where the meth is produced, this is a dangerous environment
- Do not confront tenants or people you suspect are producing the meth. Meth users are typically paranoid and exhibit violent behavior.
- Do not open trash bags or containers that might have been used in producing the meth. There can still be harmful, even fatal fumes in the bags, or substances on trash which can burn you.
- If you are suspicious, immediately notify your local law enforcement of the situation.

Did You Know?

Each 1lb. of meth leaves behind 5-6 lbs. of toxic waste.

Leftover chemicals and byproduct sludge is often poured into nearby plumbing, storm drains, or directly onto the ground. Chlorinated solvents and other toxic byproducts used to make meth pose long-term hazards because they can persist in soil and groundwater for years. *KCI The Anti-Meth Site* www.kci.org/meth_info/faq_meth.htm



Salute to Public Works Airs on Public TV

APWA's latest project is set to debut on Public Television in late May, but you can preview it now online. As part of a highly acclaimed public information series, *Spotlight On...Public Works* is a 5-minute overview of the varied nature and functions of public works. This segment will be seen by 3 million Public TV viewers in the next few months and will help give the public works profession the recognition it deserves.

You can increase the likelihood of reaching our target audience by calling your local PBS station to request they air *Spotlight On...Public Works* as soon as it becomes available.

To view the online video, go to www.apwa.net/SuperPush/index.asp?ID=40

**Way to go
Public Works!**

LEAF Program Funded to Help Colorado Municipalities



Colorado State Law appropriates funding for a program to prevent alcohol and drug related traffic offenses. This program is called the *Law Enforcement Assistance Fund* (LEAF). The Leaf program creates an opportunity for Colorado municipalities, city and counties, to apply for state grants to put into place plans that will decrease the number of people driving under the influence of drugs and alcohol. The first LEAF projects started in 1983 and new applications have been accepted every year since as a result of the state funding.

There are minimum program requirements which must be met in order to be considered for the funding. According to the LEAF website, these are:

- a. A complete description of proposed program activity and the goals and objectives to be achieved.
- b. A budget
- c. A designation of administrative responsibility.
- d. A statement of area and population group to be affected.
- e. A description of how the program will be evaluated.
- f. A prioritization of requests.

In addition to meeting the above requirements, a qualified program proposal must address *at least two* of the following elements:

- a. A description of how the program effort will be coordinated with programs already in existence.
- b. A statement of how the program will be coordinated with other cities and counties.
- c. A description of how the program will correct or improve current (existing) efforts.

d. A statement of benefits (products) to be achieved.

e. A statement of how the program will increase or improve enforcement of alcohol and drug related traffic offenses.

f. A statement of how the program will increase or improve public awareness, education and prevention efforts.

g. A statement of how the program will increase or improve the agencies' technical capabilities.

When planning your project, keep in mind that a qualified project is one designed to coordinate and expand efforts to prevent drunken driving and enforce the law pertaining to alcohol and drug related traffic offenses. Here are some examples of qualified programs:

- Programs to initiate or increase the number of hours devoted to alcohol and drug related traffic enforcement.
- Programs to improve or expand the capability to handle or process alcohol and drug related traffic activity.
- Programs to provide a coordinated enforcement and prevention effort between cities and counties.
- Programs to increase the public awareness of the problems created by drinking drivers and the consequences resulting from arrest and conviction of alcohol and drug related traffic offenses.

Applications for 2006 will be available at the LEAF website by July 1, 2005. The deadline for applications for funding in 2006 is September 1, 2005.

Further information about the LEAF program is available at the LEAF website or contact the State LEAF Administrator, Glenn Davis, at 303-757-9462 or glenn.davis@dot.state.co.us.

**Law Enforcement Assistance Fund
(LEAF)**
www.dot.state.co.us/Safety/alcohol/leaf.htm



A Roads Field Guide for Riparian Restoration

*Submitted By: Rick Fletcher, USDA Forest Service
Edited By: Lindsay Nathaniel, Colorado LTAP*

Riparian areas are lands bordering bodies of water. Riparian areas and wetlands make up a small percentage of total land area in the United States, but are essential for maintaining water quality and quantity, ground water recharge, and dissipating stream energy. They also provide tremendous community benefits in the form of wildlife, fisheries and recreation, along with other uses, and are indicators of watershed health, as they are among the first landscape features to reflect damage from improper management. A common threat to these sensitive areas is improperly constructed or maintained roads. Negative effects can include: decreased vegetation cover, water quality and recreational opportunities; and increased bank and channel erosion, sediment deposition, flooding, and animal mortality or injury; and dewatered meadows.

In August 1999, the Forest Service sanctioned the formation of the National Riparian Roads Team (NRRT) to provide training on the techniques used for roads in riparian areas – techniques that will minimize negative impacts on riparian/wetland areas and restore or improve ecosystem health. This select group of water specialists has collected extensive information to produce a two-volume **Field Guide for Riparian Restoration** that presents information in a practical, user-friendly format to help resource managers and professionals restore riparian areas near roads.

Volume I of the field guide covers: riparian area considerations; monitoring; planning projects; laws and regulations; Forest Service road maintenance levels; construction methods and sequencing; controlled public access; road relocation or realignment; temporary erosion control; and outsloping.

Volume II of the field guide provides examples of techniques to use in the field. Each field technique is briefly mentioned here.



Riparian Area Considerations

The diversity of riparian areas across the country and within an ecoregion is remarkable. Rocky Mountain Research Station Research hydrologist Roy Jemison, says it is important to identify physical and biological differences to successfully maintain, protect and restore these areas. “Five basic elements – topography, hydrology, local climate, soil properties and vegetation – define the structure and function of riparian areas and need to be assessed before restoration efforts begin,” says Jemison. “Road construction and operation in and adjacent to riparian zones can cause negative impacts to processes, structures and functions. These road impacts can be reduced and riparian areas restored by using solutions in the field guides.” he said

A threat to these sensitive areas is improperly constructed or maintained roads.

Monitoring

Monitoring is an effective way of documenting the degree of success or failure of road restoration efforts. Monitoring should be identified as a cost component in the restoration project. In the guide, NRRT

suggests a complete seven-step template for restoration monitoring. Additional monitoring tools can be found on the Internet at: www.itre.ncsu.edu/cte, and <http://search.bts.gov/ntl>.

Planning Projects

Volume I of the field guide contains a section on helping the reader develop guidelines for planning and design of restoration monitoring projects.

Laws and Regulations

Work on roads in riparian areas on federal lands may require a federal permit

FOREST SERVICE ROAD MAINTENANCE LEVELS

The USDA Forest Service recognizes five road maintenance levels.

Level 1: Is assigned to intermittent service roads during the time they are closed. The closure period must extend 1 year. Basic maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road for future use. The road may be of any type/standard or may be managed at any other maintenance level when open. At level 1, rds. are closed to vehicular traffic, but may be open to non-motorized uses.

Level 2: Roads are for high clearance vehicles only. Passenger cars are not a consideration. Traffic levels are minor.

Level 3: Roads are open and maintained for a prudent driver in a standard passenger car. User comfort/convenience are not considered priorities. These roads are typically low speed, single lane with turnouts & spot surfacing.

Level 4: Roads provide a moderate degree of user comfort/convenience at moderate travel speeds. Most roads are double lane & aggregate surfaced, but may be single lane, paved, or dust abated.

Level 5: Roads provide a high degree of user comfort/convenience. These roads are normally double lane & paved. Some may be aggregate surfaced & dust abated.

Source: Forest Service Handbook 7709.58.10

CONSTRUCTION METHODS AND SEQUENCING

Some common design techniques to minimize road construction impacts to riparian or wetland areas:

Compaction: Vary routes to disperse compaction from equipment, or use fewer haul routes to reduce overall compaction. After use, rip temp routes to reduce compaction & help infiltration.

Clearing Limits: Avoid rock formations, trees, & other unique features at the edge of the clearing.

Access: Maintain & repair access routes to project sites. i.e. signing, watering, dust abatement, surface wear replacement, maintenance collections, & traffic control/flaggers.

Seeding: Seed and/or mulch disturbed areas asap, either yearly or during construction. Use native plants if possible.

Water: Find alternative sources of water for construction needs. Limit use from riparian areas.

Backfilling Culverts: Lean concrete (slurry) as backfill for culverts can save time/money. Slurry backfills do not require compaction & allow for narrower trenches.

Cushion Blasting: Provides a natural look in areas needing blasting. The roughened surface does not show the straight, neat appearance resulting from drilling boreholes. Vegetation establishes more readily on roughened surfaces.

or compliance with state laws and regulations. Volume I offers a brief overview of the most common federal laws and regulations pertaining to wetlands and waters of the U.S. Contact the appropriate agency, especially your state agency, before project work begins for information about permitting and compliance, as state laws and regulations vary.

TECHNIQUES TO USE IN THE FIELD

The last section of Volume I, and all of Volume II, contain chapters on field techniques. The following is a short description of each topic covered. Refer to the field guides for more detailed info.

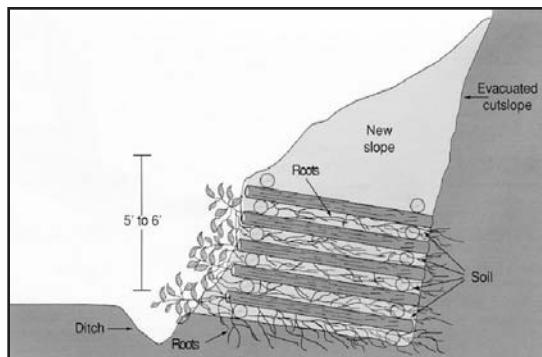
Controlling public access removes or modifies recreational and other uses within a riparian area. The guide provides methods to help reverse the effects of unrestricted public access and restore vegetation diversity and vigor, improve water quality, decrease erosion and sediment transport, maintain or restore wildlife and fish habitat, and improve riparian function.

Road relocation or realignment removes a road from areas of concern or changes the placement to reduce or eliminate negative impacts on the surrounding ecosystem. Benefits include: improved wildlife and fish habitat; restored floodplain structure and function; reduced risk of road failures; and creation of new recreational areas.

Outsloping reduces erosion by minimizing concentration of surface runoff. Outsloped roads are designed to drain all surface water to the downhill side. This eliminates inside ditches, decreases road maintenance, occupies less land, and lowers initial costs associated with road clearing and construction.



Outsloping of roads has been used effectively where it is important to maintain dispersed surface runoff for ecological reasons.



Live cribwalls, a form of soil bioengineering stabilization, are box-like structures constructed of timbers, back-filled with soil, then planted with branch cuttings extending outward. Cribwalls cannot resist large, lateral earth stresses.

Soil bioengineering stabilization uses live vegetation (roots and stems) as the main structural and mechanical element in a slope protection system to stabilize surface erosion features and shallow rapid landslides. These treatments provide sufficient stability so that native vegetation can gain a foothold and eventually take over.

Temporary erosion control devices slow runoff, trap small amounts of sediment, and are usually associated with construction activities. Such applications include sediment barriers such as: filter fences and straw bales, retention structures and mulches.

Retaining walls, such as mechanically-stabilized backfill, stabilize slopes where erosion and safety are a concern by eliminating the output of soil and debris to the ditchline. Retaining walls reduce road maintenance needs and subsequent costs.

Slope rounding lays back hillslopes to a natural angle of repose to reduce runoff and sediment transport, and promotes vegetation growth. These slopes are often more visually appealing as well.

Revegetation following road construction is critical to regulating stream microclimates, providing food and cover for wildlife, and controlling erosion.

Invasive species (exotic plants and animals) can disrupt ecological processes. Roaded riparian areas are particularly vulnerable. Volume II covers control strategies such as prevention, identification, prioritization, treatment and monitoring.



Road-associated landslides are cut-slope failures and fill-slope failures caused by the road and/or natural landslides.

Landslide mitigation strategies include avoidance, stabilization, control, prevention and acceptance of recurring road maintenance. Mitigation techniques highlighted in Volume II include: surface and subsurface drainage, increased resisting forces and reduced driving forces.

Biotechnical stabilization is similar to soil bioengineering, but uses mechanical elements such as concrete, wood and stone, in combination with plants, to arrest and prevent slope failures and erosion.

Ditch treatments are man-made features that channel water away from the road. Variations include vegetated, rock-lined and lead-out ditches, and raised curbs and berms. These treatments can have immediate and long-term benefits to roadside areas, including less erosion, better habitat, reduced sediment transport, and lower long-term maintenance.

Roadway dips modify road drainage by altering the road template and allowing surface flows to frequently disperse across the road. They may replace or supplement culverts for cross drainage. Dips may reduce maintenance costs, sediment transport, the need for culverts, and the risk of catastrophic road or slope failure.

Low water crossings and fords pass water and transport debris over a road continuously or intermittently. They include vented or un-vented fords and low water bridges. These structures can range from simple, stream-grade elevations, to larger more massive structures. Benefits include lower construction and maintenance costs.

Log jam complexes are multiple log structures placed in rivers and streams to protect channel banks, roadways and other

adjacent features by emulating natural river processes. They protect roads; deflect and control woody debris; promote vegetation establishment; improve fish habitats; and restore and maintain natural river system characteristics.

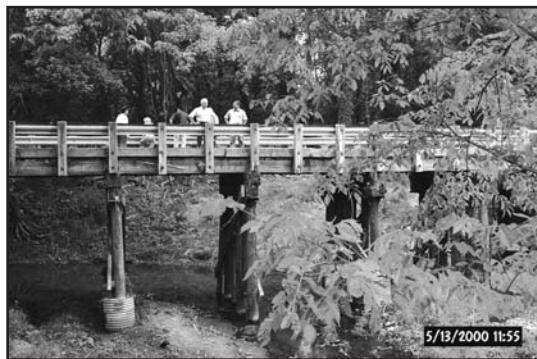
Fish passage provides unrestricted passage for fish across roads or other barriers via bridges or culverts. Structure type, length, width and installation grade are re-determined by stream, fish and site surveys.

Wildlife crossings, such as culverts or bridges, can effectively reduce wildlife/vehicle collisions and restore habitat connectivity. High bridges are the most effective type of wildlife crossing structure. Directional fencing may be necessary to encourage larger wildlife to use constructed crossings.

Beaver pond structures can maintain fish and wildlife habitat created by beavers, while reducing damage to roads. They allow water movement but prevent complete removal of water from the ponded area.

Wetland maintenance structures, such as culverts, are commonly used along diked, dammed and drained river floodplains to restore and maintain wetland functions where hydrology has been altered and is no longer capable of functioning naturally.

Bridges provide safe and easy access over naturally impassable features such as waterways, canyons or tidal areas. They minimize road impacts on surrounding areas by limiting disturbance, and provide better passage for fish and wildlife than culverts.



Bridges that span entire riparian areas at flood-prone width instead of just the active stream channel width allow larger wildlife species such as deer and bear to pass safely under roads.

ROAD RELOCATION

A road can be relocated or realigned to reduce negative impacts.

Negative impacts of roads on stream and river corridors include:

- Restricted floodplain functions (ie. meandering & transporting materials)
- Increased flood frequency and damage
- Eroded sediments & runoff washed into channels
- Blocked fish passages
- Increased wildlife-vehicle collisions
- Reduced numbers of riparian species
- Fragmented wildlife habitat

TEMPORARY EROSION CONTROL

Barriers: Sediment barriers intercept and detain sediment and decrease runoff velocity. The most common are filter fences, straw bales, and straw wattles.

Retention Structures: The most common type is the sediment basin, especially if large storm events are a concern. Typically used as mitigation measures, they are constructed below known sources of sediment.

Mulches: Straw, woodchips, and soil adhesives can protect bare soil or recently seeded areas. Gravel can be used on temporary roadways/parking areas.

LANDSLIDE MITIGATION STRATEGIES

Some of the multiple landslide mitigation techniques include:

- Surface Drainage
 - Ditches to prevent surface flows from entering the slide
 - Grading of slide to drain the surface and prevent ponding
- Subsurface Drainage
 - Underdrains and trenches
 - Horizontal Drains
- Increased Resisting Forces
 - Rock buttresses
 - Retaining walls
 - Reinforced earth
 - Revegetation and soil bioengineering
- Reduced Driving Forces
 - Removal of top (head) of slide mass
 - Backfilling a portion of slide mass with light-weight fill

BRIDGES

Bridges can be used to restore and maintain riparian function in ecosystems where roads:

- Create cutoff channels
- Interrupt stream flow
- Fragment wildlife habitat
- Create fish passage problems

Other uses include:

- Flood prone areas
- Crossings w/undersized culverts for better flow
- Channels w/ excessive bank erosion/sedimentation above/below crossing

Energy dissipaters and debris racks are used at culvert inlets and outlets to reduce water velocity and erosion. Dissipaters include riprap, vegetated ditches, concrete or steel baffles, and tiger teeth. Debris racks should be installed only when regular maintenance is possible. These techniques maintain water levels of wetlands located upstream from roads, simulating the natural hydrology.

Permeable fills with culvert array are generally used to cross meadows and promote the passage of sheet and subsurface flows with minimum flow concentration and maximum spreading.

Culverts are used for roadway drainage and channel crossings. They are made of a variety of materials, including corrugated pipe, concrete and plastic. Culverts control flow path and keep water separate from roadways.

Raised culvert inlets are raised by constructing a dike around the culvert, or by installing a culvert elbow. They keep water on the land longer and promote infiltration. These inlets increase vegetation vigor and diversity, reduce flash flooding, create sediment barriers, and raise water tables.

Surfacing techniques bind or seal roadway material. These treatments reduce dust, decrease erosion, and help maintain roadside vegetation, biological health and diversity.

Mobile rock crushing/rotor trimmer machines crush oversized waste rock into graded material suitable for road surfacing. Road maintenance reconstruction costs using crushers is generally 10 percent of the cost of traditional gravel road resurfacing.

Stream channel modification structures protect road embankments from channel scour and erosion. Inchannel and channel bank structures can reduce the high maintenance or reconstruction costs resulting from road prism failures due to scour and erosion.

Reconnecting cutoff water bodies can result in significant restoration of aquatic habitat, and help the long-term recovery of floodplain structure and function.



Debris racks at culvert inlets can prevent clogging.

This article was submitted by Rick Fletcher of the USDA Forest Service, and was originally printed in *RMRScience*, July 2003; edited with permission.

RMRScience is a publication of the USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.

Copies of *Management and Techniques for Riparian Restorations Guide*, Volumes I and II, are available through the Colorado LTAP office, or request a copy online at <http://ltap.colorado.edu>.

For CDOT specific information, contact the Environmental Planning Manager in your region. This information can be found under the Key Personnel Roster through CDOT's homepage at www.dot.state.co.us.



Related Websites

Colorado Division of Wildlife Riparian & Wetland Mapping Page
<http://ndis1.nrel.colostate.edu/riparian/riparian.htm>

Colorado Riparian Association
<http://coloradoriparian.org>

U.S. Environmental Protection Agency
www.epa.gov

CO Department of Natural Resources
<http://dnr.state.co.us>

Can You Build a Better Mousetrap? "You Show Us" 2005



*Colorado's 2004 "You Show Us" contest winning entry:
Boulder County's Asphalt Equipment Cleanout System.*

Colorado LTAP is pleased to announce the 2005 "You Show Us" contest! This is the contest's 11th year. The concept began in 1994 with the "You Show Us How" contest.

We are aware that in many instances there are not enough transportation dollars available to maintain our transportation systems to the desired level of service. This is particularly true when it comes to local government transportation programs. The costs for repairs and improvements are increasing while the available finances, at least the real value, are actually decreasing.

Solving these problems requires efficient use of existing funds, and the application of cost-reducing & innovative techniques. Today's problems are not easily solved with yesterday's solutions!

What is the best idea you have implemented in your county within the last few years? In prior contests, entries have been related to safety and operational efficiency improvements. Your entry could be related to these areas or other areas where you have had new developments. This is your opportunity to showcase something that has worked and of which you are proud, and to share this information with your counterparts across the state, and even the nation.

The contest is open to all county governments in Colorado. All participating Colorado counties will receive a certificate of participation and their entries will be published in our newsletter. The winning Colorado entry will be submitted to compete with counties in Nebraska, North Dakota, South Dakota, and Wyoming to determine the regional winner.

Colorado LTAP will sponsor one county employee to represent the state winning project at the 2005 County Roads

Calling all Counties

We want to know your innovative ideas!

Advisors Conference. The state and regional awards will be presented at the conference, to be held in Rapid City, South Dakota October 12-13, 2005

Entries should be no longer than two typewritten pages and should include:

1. County Information
 - County Name
 - Contact Person
 - Contact Address
2. Problem Statement
3. Discussion of Solution
4. Labor, Equipment, Materials Used
5. Cost
6. Savings/Benefits to the County

~Photographs are encouraged.~

All entries must be received by August 31, 2005 to be considered. You may mail or e-mail your submission. The state winner will be notified by September 12, 2005.

Mail entries to:

"You Show Us" Contest
Colorado LTAP
University of Colorado at Boulder
3100 Marine St., Rm. A-213
UCB 561
Boulder, CO 80309-0561

E-mail entries to:

cltap@colorado.edu

For additional information call:

Renée Koller or Lindsay Nathaniel at the Colorado LTAP Center, 303-735-3530 or toll-free 1-888-848-5827.

We look forward to your entry!

FCC Designates 811 as Nationwide Number for Excavation Activities

On March 10, 2005 the Federal Communications Commission designated 811 as the nationwide number for contractors and others to call before conducting excavation activities.

The 811 nationwide abbreviated dialing code will provide an effective replacement for an array of numbers used across the nation to connect to communication systems operated by underground utility operators and state and local governments.

Damage from excavation activities can cause outages to our nation's energy supply, communications networks, law enforcement agencies, hospitals, air traffic control operations, emergency response providers, and military bases.

Established by the U.S. Department of Transportation in 1994, the nation's 71 *One Call* centers received about 15 million calls annually. An estimated 40% of the incidents in which underground pipelines and other facilities were damaged were caused by those who did not call before digging.

***Call 811
Before You Dig!***
8 1 1

SAFETY GRANT PROGRAM

NACE & 3M sponsor the *National Transportation Safety Initiatives Grant Program*. Four grants are awarded each quarter from the four grant program categories.

1. School Zone Safety
2. High Hazard Road Safety
3. High Incident Intersection Safety
4. Pedestrian Safety

Grant recipients receive 3M in-kind materials customized to the specific safety solution described. Based on the merit of application, the in-kind awards will range from \$1000 - \$10,000.

To be eligible for the Safety Grant Program, applicants must be members of NACE. Entries are judged by a panel of representatives from the sponsoring organizations, NACE and 3M Traffic Safety Systems Division.

Applications, criteria, guidelines, and more information can be found at 3M's website at www.3m.com/us/safety/tcm/news/nace.jhtml. NACE's website is www.countyengineers.org.

The next deadline for this quarterly contest is September 30, 2005. If you don't win this quarter, you are encouraged to apply again next quarter.

Good Luck!

Ideas That Work Saving Your Agency Time & Money

Adding a Heady-Duty Wing Wheel, Iowa DOT

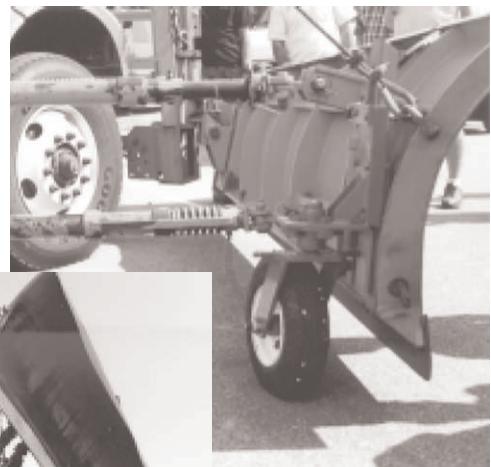
The "heavy-duty wing wheel" is one of several winning innovations from the Better Mousetrap competition at the Iowa Maintenance Training Expo in 2003. For information about Iowa's other winning mousetraps, see Iowa LTAP's CTRE website at www.ctre.iastate.edu/ (Popular Links).

Herb Morley, mechanic with the Iowa DOT found that, during snow removal, the wing blade on his snowplow sometimes scraped gravel from the shoulders into ditches.

Morley wanted to keep gravel from being plowed away, so he added a heavy-duty wheel to the wing blade. The wheel holds the outer end of the wing up, and since the wheel follows the contours of the shoulder, less gravel is scraped into the ditch.

He used hardware and old plow wheels for his innovation. And he's perfecting the invention by making it hydraulic.

For more information about adding a wing wheel to your plow, email Herb Morley at herbert.morley@dot.state.ia.us.



The heavy-duty wing wheel installs easily on the end of the plow blade and prevents the snowplow blade from scraping gravel off the shoulders.

**On a slow summer day,
prepare yourself for winter - add on a wing wheel!**

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



Our center has recently initiated a 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. Colorado LTAP is offering **\$50** 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, without specifically promoting any particular product. *Photos are encouraged.* For more information, or to submit articles/photos, include author name and contact info, and mail to the Colorado LTAP office at the address listed on page 2, or email to cltap@colorado.edu.



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.coloradodot.edu>

New DVDs

Location	Title
DVD RR	<i>Road Risk</i> This 22 minute DVD video contains <i>Road Risk</i> television special that aired on the Weather Channel. The program describes the impact of weather events on roadways and technologies being developed and deployed to address these events and improve the operation of roadways in good and bad weather.

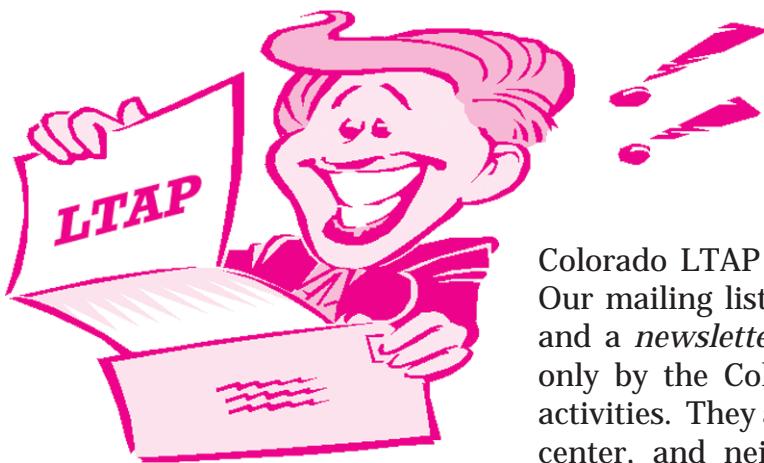
New CDs

Location	Title
CD AI	<i>Anti-Icing/Road Weather Information System (RWIS) Training</i> AASHTO developed this program to assist the transportation community to understand and use info from RWIS; using this information to determine which of the tools (anti-icing, de-icing, plowing) to use to provide the best approach to winter maintenance. The program contains seven modules and can be used as a self-paced training program.
CD ESA	<i>Endangered Species Act - Build Smart</i> This CD provides an interactive explanation of the key elements of the Endangered Species Act as it relates to highway construction activities. Disk 1 provides an introduction & compliance to ESA, and a review of the independent duties an agency has under ESA. Disk 2 addresses constructing to meet the requirements of the ESA, provides two case histories and additional resources for field personnel.
CD PP2	<i>Pavement Preservation 2: State of the Practice</i> This CD gathers the latest pavement preservation info from across the country. It contains a variety of program guidelines and technical information to help State and local transportation agencies develop and advance their pavement preservation programs. Has an accompanying handout - see 40 PP2.

New Publications

Location	Title
50 WES	<i>Workplace and Equipment Safety Fact Sheet</i> This is a simply written, specific list of considerations that will serve as a resource for safety conversations between workers and supervisors and managers.
20 PEDH4	<i>A Policy on Geometric Design of Highways and Streets</i> This 5th edition contains the latest design practices in use as the standard for highway geometric design. Also has been updated to reflect the latest research on superelevation and side friction factors.

50 GAC	<i>AASHTO Guide for Addressing Collisions with Trees in Hazardous Locations; NCHRP Report 500</i> This guide provides strategies that can be employed to reduce the number of run-off-the-road crashes with trees. The report will be of particular interest to safety practitioners with responsibility for implementing programs to reduce injuries and fatalities on the roadway system.
New Videos	
Location	Title
V50 WSIC	<i>Why Should I Care?</i> This 7 minute video produced by ATSSA's Legislative Committee is designed to impress upon MPOs (and others with transportation budgeting influence) the importance of investing in traffic safety.
V50 ABC	<i>ABC's of Work Zone Safety (Spanish)</i> This 12 minute Spanish video helps train employees to know and understand three simple rules that will help them work safely through a work zone. The ABC's: Awareness, Be Visible, Communication.
V50 BDIWZ	<i>Barrier Delineation in Work Zones: Arrow Panels - the Well Designed Path</i> This 25 minute video covers the pros and cons of various methods and devices used with concrete safety devices and services. The directory is divided into four basic sections: (1) an alphabetical index of members; (2) a state listing; (3) a list of international members; (4) a list of companies.
V5 EYCS	<i>Everyone in Your Company is a Salesperson</i> This 10 minute video demonstrates classic selling skills that can be applied to all positions within an organization: establishing rapport, uncovering needs, making recommendations, closing & following up.
V50 ITZ	<i>In the Zone</i> NASCAR driver Todd Bodine stars in this fast-paced 7-minute video designed to help educate teen drivers of the dangers associated with roadway work zones. The video contains a number of real-life scenarios and then provides the necessary steps new drivers can take to reduce accidents and travel safely when passing through orange cones and barrels. Worker safety is also considered. This film will be an instant success in any high school driver education course, or could be easily inserted into existing driver-improvement curriculum anywhere in the nation.
V50 LWSR	<i>Leading the Way to Safer Roads</i> This is a public awareness video that is good to show to local groups, public officials, or in schools when you speak about what your company does in and around your communities.
V50 TP	<i>Inspector's Guide to Pavement Markings: Traffic Paint</i> This 15 minute video covers the basics of traffic paint application, including: material preparation; weather/temp restrictions; pavement preparation; workmanship; retroreflectivity; and documentation.
V50 PMI	<i>Pavement Marking Inspection: Two-Part Epoxy OR Thermoplastic</i>
V50 PMIT	These two 21 minute videos cover the basics of PM materials, including: material prep; weather/temp restrictions; pavement prep; testing adequate bond, thickness; retroreflectivity; and documentation.
V50 RBYE	<i>Right Before Your Eyes</i> This 10 minute video describes how a good PM maintenance program can help highway agencies provide higher levels of service and safety to their customers. It stresses the need for regularly-scheduled maintenance of more durable pavement marking materials. An excellent educational tool.
DVD RR	<i>Road Risk</i> This DVD video describes the impact of weather events on roadways and technologies being developed and deployed to address these events and improve the operation of roadways in good and bad weather.



Mailing List Update

Colorado LTAP maintains a comprehensive mailing list. Our mailing list is divided into two sections: a *brochure* and a *newsletter* mailing list. Each mailing list is used only by the Colorado LTAP center in support of LTAP activities. They are the sole property of the Colorado LTAP center, and neither mailing list is sold or distributed.

Brochure Mailing List: Includes the names of the contact people at each agency who receive notification of upcoming training and registrations through class brochures.

Newsletter Mailing List: Includes those people who receive our quarterly Newsletter.

In an attempt to keep our mailing list up-to-date, please make any changes, updates, or additions below and return to the Colorado LTAP office.



Mail to: Colorado LTAP, University of Colorado Boulder
3100 Marine St, UCB 561, Boulder, CO 80309-0561



Fax to: 303-735-2968



Email to: cltap@colorado.edu



Changes and additions can also be made online
on our website at: <http://ltap.colorado.edu>.



Brochure Mailings

- Add
- Delete
- Update

Newsletter Mailings

- Add
- Delete
- Update

Name:

Agency:

Job Title:

Address:

City:

State:

Zip:

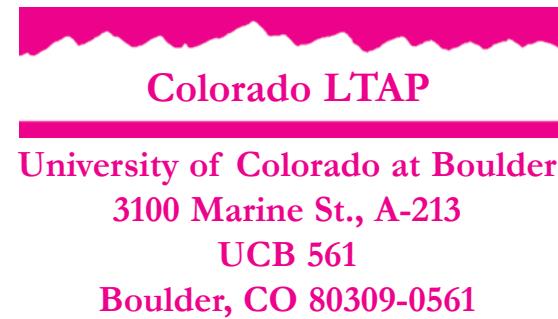
Phone:

Fax:

Email Address:

PLEASE COPY THIS FORM FOR OTHERS IN YOUR AGENCY
~THANK YOU~

.....fold.....



.....fold.....

Upcoming Events

Upcoming Training

Fall 2005

NOTE: Dates and locations are subject to change. Please contact the Colorado LTAP office for an updated schedule, or check it out online at ltap.colorado.edu.

Road Scholar Core Classes

Drainage

November 1 - Alamosa
 November 3 - Montrose
 November 9 - Frisco
 November 15 - Greeley
 November 17 - Colorado Springs

Roadway Safety & WZTC

December 5 - Ft. Morgan
 December 7 - Castle Rock
 December 8 - La Junta
 December 13 - Glenwood Springs
 December 15 - Durango

Road Scholar Elective Classes

Heavy Equipment Training
 Ouray, CO
 September 12 - Classroom
 September 13-14 - In-field, Group 1
 September 15-16 - In-field, Group 2

Defensive Driving
 September (or December) - Denver

Public Relations: Dealing with the Media and Public
 October 11 - Denver
 October 13 - Grand Junction

Roadway Surveying
 October 17 - Denver
 October 18 - Pueblo
 October 20 - Durango
 October 21 - Grand Junction

Introduction to Roundabouts
 October 25 - Denver
 October 27 - Grand Junction

Culvert Installation & Maintenance
 November 7 - Denver
 November 8 - Pueblo
 November 10 - Grand Junction
continued...

Erosion Control

November - Denver, Grand Junction

Designing Pedestrian Facilities

November 21 - Grand Junction

Work Zone Safety Inspection

November - Castle Rock

Winter Maintenance

December - Denver, Glenwood Springs, Pueblo, Durango

CDOT Research Expo

December - Denver

Supervisory Skills Classes

Are You Understood?
 Verbal Communication
 September 14, 2005 - Grand Junction

Successful Employees Make Successful Supervisors
 September 19, 2005 - Rifle

Who's Coming Thru Door Today?
 Dealing with People
 October 3, 2005 - Castle Rock

Developing the Leader Within
 November 21, 2005 - Commerce City

A Whole New World
 Nuts & Bolts of Local Government
 December 5, 2005 - Denver

Written Communication
 December 8, 2005 - Denver

Workshops

Confined Space Entry Awareness
 (4-hrs, FREE)
 December - Denver

Conferences

APWA West Slope Snow & Ice
 September 7-9 - Gunnison, CO

County Road Advisor's Conference
 October 12-13 - Rapid City, SD

Congratulations to our latest Road Scholar Graduates!!

Linda Hood
 City of Greeley

John Gutierrez
 City of Boulder

David Holm
 City of Evans

Vicky Shipler
 CDOT Greeley

Larry Zuber
 Phillips County

David Norman
 Montrose County

Randy Cox
 La Plata County

David Semadeni
 La Plata County

Thayne Parr
 Town of Snowmass

Nick Reitter
 Town of Snowmass

Bruce Quintana
 Archuleta County

Rob McArthur
 CDOT

Don Galay
 El Paso County

Bruce Taylor
 El Paso County

Steve Burnick
 City of Montrose

Bill Brown
 La Plata County

Gary Pei
 Otero County

Hope to see you in Supervisory Skills!

FREE PUBLICATIONS

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>

FCD SJB	Bicycle Safer Journey: Safety Awareness CD
FCD CIRL	Comprehensive Intersection Resource Library CD
FV50 DS	Danger Signs Video
FV NL	Night Lights Video
F40 TE	A Guide to Transportation Enhancements
F70 GTG	A Guidebook to Grants
F70 AWUC	Getting Better Sleep: A Guide for Shift Workers
F12 AAR	Analysis of Alkali Aggregate Affected Structures
F50 ARS	Applying Road Safety Audits to County Roads
F31 APMR	Asphalt Pavement Maintenance & Repair Field Manual
F11 GASB	Basic Guide for GASBE 34 Phase III Governments
F50 CWZBP	Colorado Work Zone Best Practices Safety Guide
F50 CETs	Cost Effectiveness of Traffic Sign Materials
F50 CSWZ	Creating Safer Work Zones
F40 EEWAW	Economic Eval. of Winter Maintenance Strategies
F50 EIAPo	Everyone is a Pedestrian (Packet)
F40 E	Excavations
F50 FRG	Flagger Reference Guide
F50 FHE(S)	Flagging Handbook: English (E) or Spanish (S)
F40 FRC	Full Road Closure for Work Zone Operations Study
F12 GSG	Getting to Smart Growth: 100 Policies for Implement.
F32 CRC	Guide for Curing Portland Cement Concrete Pavement
F50 GDTI	Guide for Devel. Traffic Incident Mgmt Plans for WZ
F12 HSS	Handbook on Successful Supervision for Local Roads
F50 ILA	Implementing Local Agency Safety Management
F50 IHSB	Improving Highway Safety at Bridges for Local Roads
F50 MS	Maintenance of Sign & Sign Supports for Local Roads
F40 MTRR	Management and Techniques for Riparian Restoration
F22 MLV	Minimizing Low Volume Road Water Displacement
F50 BSHWZ	Building Safer Highway Work Zones: Measures to Prevent Worker Injuries from Vehicles and Equipment

Colorado LTAP

University of Colorado at Boulder
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