

LTAP MATTERS

Montana's Answers To Technical Education of Roads & Streets
Vol. 35, No. 3

Summer 2017

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MONTANA
STATE UNIVERSITY

Local Technical
Assistance Program

From Montana LTAP

Summer has arrived! As road managers, any moisture is welcomed in this semi-arid state. After watching the devastation with the summer fires in Montana, snow will actually be a welcome sight!

LTAP is not only adjusting to a new director with new ideas, energy and approach to customer service, we are also internally adjusting to anticipated FHWA reporting requirements that will be our annual metrics.

We currently have a major technical assist that was tabled due to a large wildfire in the county where the project is located. The wildfires, busy schedules and funding challenges for our County and City customers is also making the logistics of meeting with customers during the summer season more of a challenge this year.

We have recently added a social media component to messaging and communication. We hope to reach a larger audience by adding this method, and follow many other LTAP programs into this new area of outreach.

Planning for future with unknown funding challenges is always a challenge. We are a part of a team responding to a National solicitation that will provide service to Tribal customers – those that have been served by the TTAP program for years. This may bring new opportunities and funding to our program, but it is likely to not be significant. We are always looking for ways to serve Montana's transportation community in any way we can.

LTAP would also like to welcome Shawna Page, our new Field Training Professional to our program. She has over 25 years of working in the transportation and safety training industry. Along with this knowledge she is also bringing various new courses to the LTAP program. She has been certified to teach OSHA 10 and 30 and MSHA courses, and, defensive driving. If

you have any training requests or suggestions, please feel free to contact Shawna at [shawna.page\(a\)montana.edu](mailto:shawna.page(a)montana.edu).



Shawna Page, LTAP Field Training Professional

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Shawna Page

Field Training Professional
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The LTAP/TTAP Mission is to foster a safe, efficient, and environmentally sound surface transportation system by improving skills and increasing knowledge of the transportation workforce and decision makers.



Our website lists upcoming training courses, registration forms, library information, our contact information, newsletters, various links, and MACRS information. Please go to: <http://www.montana.edu/ltap/>

The Local Technical Assistance Program/Tribal Technical Assistance Program (LTAP/TTAP) is a nationwide network of 58 centers - one in every state, seven serving Native American tribal governments and one in Puerto Rico.



Local Technical Assistance Program

LTAP Matters is published by the Local Technical Assistance Program. LTAP is located at Western Transportation Institute, College of Engineering, Montana State University, Bozeman, Montana.

We can be reached at the following:

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MT LTAP ADVISORY COMMITTEE

The Advisory Board meets annually to make recommendations and evaluate the effectiveness of the Montana LTAP program.

Steve Albert

WTI Director

Harold Blattie

MACo

Kris Christensen

Montana Dept of
Transportation

Thomas Danenhowar

MMIA

Kelly Elser

Town of Ennis

Eric Griffin

Lewis and Clark County

Justun Juelfs

Montana Dept of
Transportation

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Montana League of
Cities & Towns

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City of Helena

David Mumford

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Jim Muskovich

MACo

Jim Rearden

City of Great Falls

Bob Seliskar

Federal Highway
Administration

John Van Delinder

City of Bozeman

Front Page Photo: By Michele Beck. Drainage work at Montana State University.

Why drinking water alone does not “hydrate” the body.

by Chris Padilla, Training Manager, NDSU Upper Great Plains Transportation Institute, ND LTAP

You’ve heard it many times before, “drink lots and lots of water! You should be drinking a minimum of half your body weight in ounces of water each and every day.”

Sounds great...but are you hydrating or just flushing your system?

Hydration is NOT simply drinking water. It involves far more than that. You need to drink so that you allow your body to actually absorb water (hydrating). You may not be absorbing much of that water you’re drinking because you don’t have the essential minerals, electrolytes and salts to keep it in your system.

Staying hydrated is even more critical now that it is hot... you’re sweating more. Every pound of weight lost while sweating can equal up to 16-20 ounces of fluid lost. That’s fluid that needs to be replenished as soon as possible. Sweating and weight loss during a work day or a workout is a natural process, but you must replenish both the fluid and the nutrients lost for your body to adapt and recover.

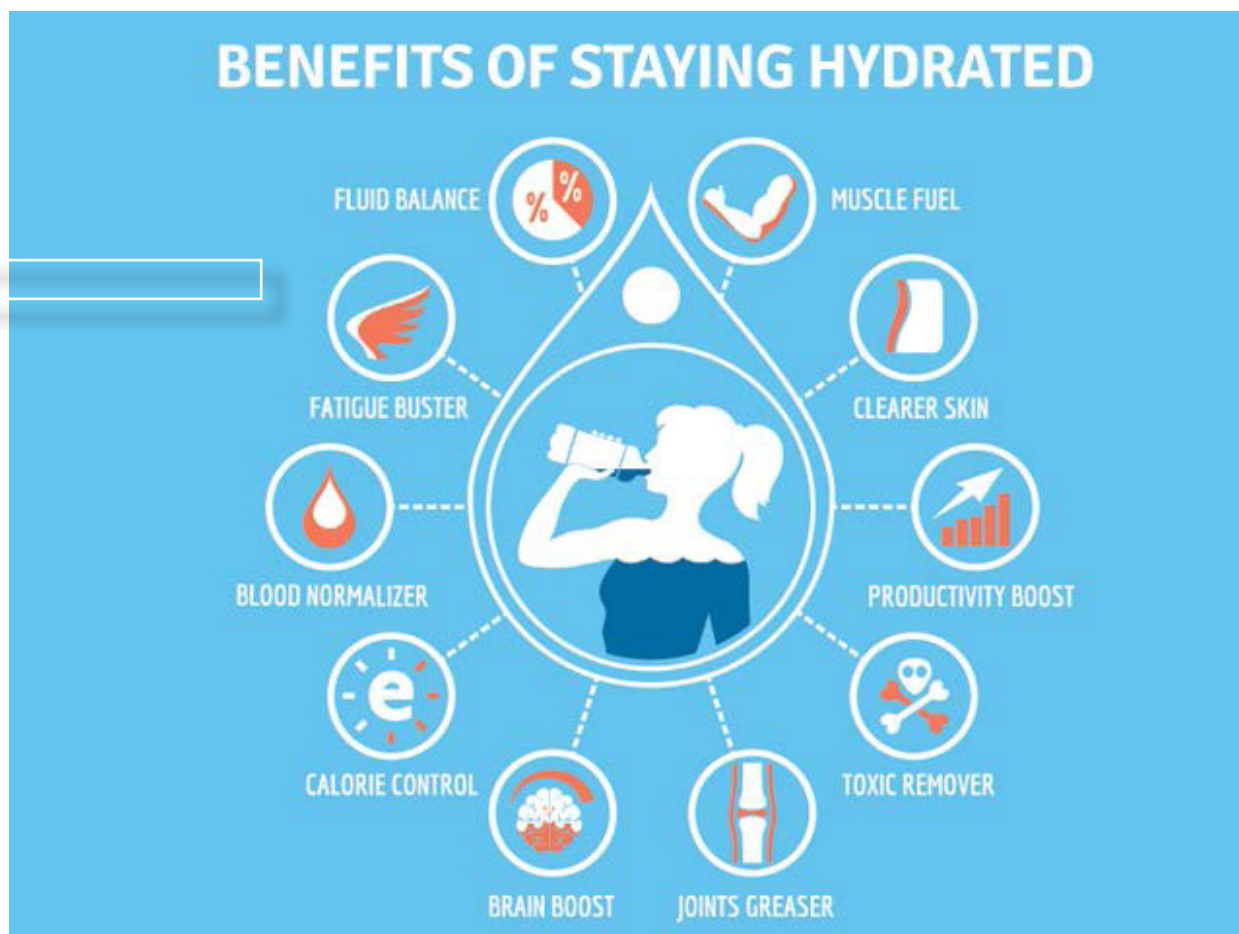
The solution? Electrolytes! Electrolytes are chemicals (primarily sodium, potassium, calcium,

magnesium, and vitamin c) that form ions in body fluids. They help make sure specific bodily functions run at optimal levels. When your body lacks electrolytes, it cannot become truly hydrated. Electrolytes help reduce muscle cramps, fatigue, promote ligament and tendon durability, provide mental clarity, help regulate blood flow, and many other unseen benefits.

Try to avoid sugar-laden electrolyte drinks, such as Gatorade®, Powerade®, soda, and energy drinks. In most cases, these products dehydrate the body and spike insulin response in the body, which in turn promotes fat and dangerous elevations in heart rate. If you’re looking for a simple way to get the most out of your water, taking a pinch of salt will always work.

However, for more flavor and benefit, try to find an electrolyte supplement, such as Nuun – Active Hydration, Camelback Elixir, Hydralyte, etc. They come in many flavors and there is no excess sugar and flavoring in their products. These products have the essential electrolytes, minerals, and salts to help you absorb the water you’re drinking. Some of them even come in a caffeinated version for a slow release caffeine fix.

Stay safe and hydrated everyone!



Application Rate of MagChloride Used

By Ken Skorseth, SD LTAP Special Projects Manager
Author: Gravel Roads Maintenance & Design Manual & Gravels
Construction & Maintenance Guide

What is the recommended amount and application rate of Magnesium Chloride used for DUST abatement for a second treatment applied about a year later?

It is hard to give a concise answer due to these factors:

The quality of the surface gravel has so much impact on this. Good surface gravel prepared well for MagChloride ($MgCl_2$) generally performs well, but ---

The rate of application of initial treatment also has an impact on following treatments. We generally use between 0.45 and 0.6 gallons per square yard for the initial treatment.

Thereafter, traffic volume and moisture received through the season will have some impact on the succeeding year as well.

Having said all of the above, we often see second year treatment at the same rate as the first year, or 0.1 to 0.2 gallons per square yard less than the initial treatment.

In succeeding years, we sometimes see treatments down to half of original application rates.

The local agencies who do this very well nearly always say something like this, "there isn't a set rate for treatment; you have to observe the road and use field judgement to determine it."

These photos show several different situations to demonstrate.



GOOD: 6-6-13 Just after treatment at 0.5 gal per sq yd. Commercial dairy road. Heavy truck traffic ~AADTT 30 - 40. Road looks good.



POOR: 7-16-13 Same road, already failing!



POOR: 7-16-13 Almost total dust control failure



GOOD: Residential road, Initial treatment 0.5 gal per sq yd. Same treatment Year 2.

GOOD: Treated with $MgCl_2$ continuously since 1988. Initial treatments of 0.5 gal per sq yd in first 2 years; 0.25 to 0.4 treatments since. Applied in May, 1,000 ADT



POOR: 10-7-13 After another 0.3 gal per was applied same season still not performing well. This is such poor surface material it won't go into a bound state no matter how you maintain it. There is no way the $MgCl_2$ can work even with 0.8 gal per sq yd applied in one year!
Here's the critical issue: It was applied to poor material (reclaimed concrete) usually not compatible with chloride treatment.

FHWA Withdraws “Greenhouse Gas” Tracking Measure for Transportation Projects

By Nick Goldstein, ARTBA vice president of regulatory affairs
ngoldstein@artba.org

Regulatory Roundup

RTBA's regulatory advocacy in May resulted in a big win for our industry as the Federal Highway Administration (FHWA) suspended a requirement to track greenhouse gas (GHG) emissions at transportation construction projects. The proposal was part of larger performance measures required under the 2012 “Moving Ahead for Progress in the 21st Century” (MAP-21) surface transportation reauthorization law.

In 2016 comments to the agency, ARTBA charged the proposal exceeded both the authority of the FHWA and the intent of MAP-21. ARTBA noted that neither Congress nor the Obama administration sought emission measurements in the MAP-21 performance management process. Such proposals also were not included in the December 2015 “Fixing America’s Surface Transportation” (FAST) Act surface transportation reauthorization law.

ARTBA followed up the comments by meeting with House and Senate staff, as well as Office of Management and Budget (OMB) officials to voice objections over the proposal. The association helped to round up 39 other trade associations to sign a letter to FHWA. It stated: “The simple fact is that MAP-21 was approved with broad bipartisan majorities in the House and Senate and the inclusion of an unrelated GHG proposal violates this bipartisan spirit. It is hard to see this proposal as anything other than a maneuver to achieve a policy objective the prior administration failed to advance in the appropriate legislative arena.”



Earlier Warning

ARTBA had foreseen these problems more than three years earlier. In a 2013 letter, an ARTBA task force cautioned

the U.S. Department of Transportation (U.S. DOT) that “the authors of MAP-21 had the opportunity to include a host of external goals such as livability, reduction of transportation related greenhouse gas emissions, reduction of reliance on foreign oil, adaptation to the effects of climate change, public health, housing, land-use patterns and air quality in the planning and performance process.” But they did not. ARTBA has long said the greenhouse gas measure requires a separate rulemaking process. FHWA has suggested it might return with a new proposal, though a timeline hasn’t been announced and it seems unlikely to be a priority for the Trump administration. Nevertheless, it will be important to continue to monitor the issue.

FHWA’s decision to suspend the greenhouse gas rule demonstrates the power of a consistent, focused regulatory advocacy program. ARTBA will continue to advocate for regulatory reform on a wide range of issues with the Trump Administration and Congress. ❖



SAVE THE DATES: SEPTEMBER 6 & 7, 2017

28TH APWA SNOW RODEO & COMPETITION

Gallatin County Fairgrounds, Bozeman, Montana

Calendar of Events • July 2016 - December 2016

July 2016

S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

31

4: Fourth of July Holiday - Offices Closed

18-21: National LTAP/TTAP Summer Conference, Madison, WI

Training on Request:

Summer Survival

Hand Safety

Slips, Trips, & Falls

August 2016

S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

16 - 18: Montana Safety Fest - Bozeman - <http://www.safetyfestmt.com/>

Training on Request:

Forklift

Sign Safety

Road Audits

September 2016

S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

5: Labor Day Holiday - Offices Closed

7 & 8: 27th Annual Equipment Safety Training and Snow Rodeo - Helena, MT (MT LTAP) Brochure available in July

18-22: MACo 107th Annual Conference, Billings, MT

www.mtcounties.org or MACo's Karen Houston 406-449-4360

20: MT LTAP Safety Webinar: TBA 7:30am-8:00am

Some dates and locations are subject to change.

Call Genevieve Houska, LTAP, 1-800-541-6671 to confirm.

October 2016

S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

MACRS Fall District Meetings: TBA

4: 6: 11: 12: 13:

5-7: 85th League of Cities & Towns, Hilton Garden Inn, Missoula, MT

5: Public Works Directors Meeting - Hilton Garden Inn, Missoula, MT

TBA: Put The Brakes On Fatalities Day - 16th Anniversary (go to: www.brakesonfatalities.org)

10: Columbus Day - Observed (Montana LTAP Offices Open)

18: MT LTAP Safety Webinar: TBA - 7:30am-8:00am

18-20: 31st Regional Local Road Coordinators Conference, Rapid City, SD

November 2016

S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

8: Election Day - Offices Closed

11: Veterans' Day - Offices Closed

15: MT LTAP Safety Webinar: TBA - 7:30am - 8:00am

16: LTAP Leadership - Great Falls - 8am - noon

16 & 17: MACRS Planning Meeting, 1-5pm and 8am -noon; Great Falls

24-25: Thanksgiving Holiday - Offices Closed

If you injure or kill someone while DUI, you can be convicted of vehicular homicide while under the influence. Expect a prison term up to 30 years and fines up to \$50,000, or both. DON'T DRINK & DRIVE! § 45-5-106, MCA

December 2016

S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

20: MT LTAP Safety Webinar: TBA - 7:30am-8:00am

26: Christmas Holiday - Offices Closed

Safety Meeting Webinars from Montana LTAP

Monthly Safety Webinars held at 7:30am usually on Tuesday Mornings
Call Montana LTAP at 1-800-541-6671 for more information!

Some dates and locations are subject to change.

Call Genevieve Houska, LTAP, 1-800-541-6671 to confirm.

Calendar of Events • January 2017 - June 2017

January 2017

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

2: New Year's Day - MT LTAP Offices Closed
 8-12: 96th Transportation Research Board, Washington, DC
 16: Martin Luther King Day - Offices Closed
 17: MT LTAP Safety Webinar-TBA 7:30am
 23-24: 15th Annual Safety Congress - Great Falls, MT (MT LTAP)

February 2017

S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

TBA: MACo Mid-Winter Conference
 20: President's Day - Observed (Montana LTAP Offices Closed)
 21: MT LTAP Safety Webinar -TBA 7:30am
 28: Asphalt Institute - Helena, MT (MT LTAP)

SAVE THE DATES:
MACRS 2017 Spring Conference
March 27 - 30, 2017

March 2017

S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

13-17: MSU Spring Break
 13: Work Zone Flagging - Missoula (MT LTAP)
 14: Work Zone Flagging - Great Falls (MT LTAP)
 15: Work Zone Flagging- Miles City (MT LTAP)
 16: Work Zone Flagging - Billings (MT LTAP)
 17: Work Zone Flagging - Billings (MT LTAP)
 23: MT LTAP Safety Webinar TBA 7:30am
 27 - 30: MACRS 37th Annual Conference-
 Heritage Inn, Great Falls, MT (MT LTAP)

April 2017

S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

TBA: National Work Zone Awareness Week (ATSSA)
<http://www.atssa.com/Events/NationalWorkZoneAwarenessWeek.aspx>
 18: MT LTAP Safety Webinar: TBA 7:30am
 9-13: NACE Annual Conference 2017, Cincinnati, OH

May 2017

S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

3: Gravel Roads Maintenance & Design - TBA
 4: Gravel Roads Maintenance & Design - TBA
 5: Gravel Roads Maintenance & Design - TBA
 9: Work Zone Flagger Certification - Great Falls
 10: Work Zone Flagger Certification - Havre
 21-27: National Public Works Week(APWA)
<http://www.apwa.net/discover/National-Public-Works-Week>
 TBA: SafetyFestMT - www.safetyfestmt.com
 16: MT LTAP Safety Webinar: TBA 7:30am
 TBA: APWA North American Snow Conference: Des Moines, Iowa
 More info: <http://www.apwa.net/Snow>
 29: Memorial Day - Offices Closed

June 2017

S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

TBA: LTAP North Central Regional Meeting
 6: Work Zone Flagging - Bozeman
 7: MACRS Executive Meeting, 1-5pm - Bozeman
 8: MT LTAP Annual Advisory Board Meeting, 9am-12pm - Bozeman
 20: MT LTAP Safety Webinar -TBA 7:30am

Training Opportunities at Montana LTAP Website:
<http://www.montana.edu/ltap/training/index.html>

CHAINSAW SAFETY

by Chris Padilla, Training Manager, NDSU Upper Great Plains Transportation Institute, ND LTAP

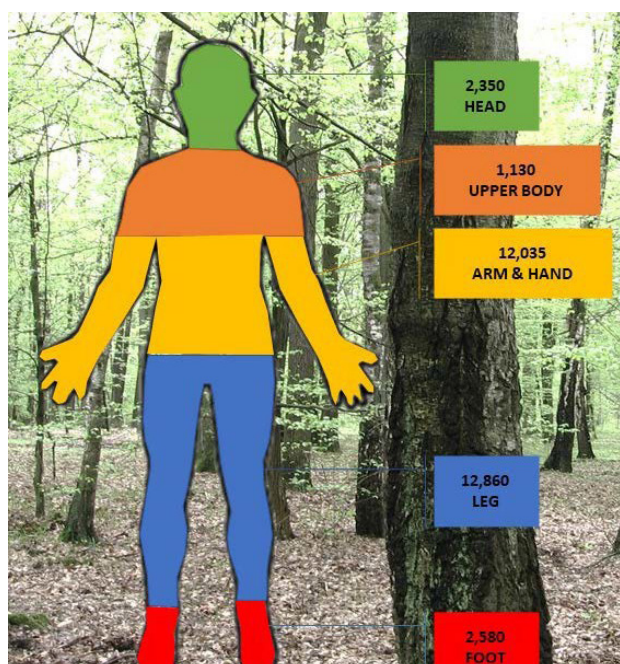
Whether clearing out dead trees, fallen trees and braches, or occasional operation, it is critical to use proper safety measures when operating a chainsaw. However, not everyone who is handed a saw is properly trained. According to the US Consumer Products Safety Commission, there are an estimated 30,955 chainsaw-related accidents each year. Chainsaws are powerful cutting machines that need to be operated with a high level of care. Learn how to protect yourself before using that chainsaw!

BEFORE STARTING A CHAINSAW:

- Check controls, chain tension, bolts, handles for proper adjustment
- Ensure chain is sharp and lubrication reservoir is filled with manufacturer-recommended bar and chain oil
- Check the air filter
- Use an approved fuel container for transporting fuel
- Dispense fuel at least 10 feet away from any source of ignition
- Do Not use fuel with ethanol
- Do Not use fuel over one year old
- Do Not Smoke while fueling
- Use a funnel or flexible hose to fill tank on chainsaw
- Do not fill a running or HOT chainsaw
- Check the environment. Look up, down and around. Plan for an escape route.

COVER BEFORE YOU CUT:

Last year's chainsaw injuries occurred to the following areas of the body:



PROPER PPE IS CRITICAL IN REDUCING INJURIES



- Gloves
- Eye protection, including helmet with face shields
- Hearing protection
- Chaps or pants
- Should have rip stop and fibers that stop the chainsaw if contact is made
- Cut-retardant shirts
- Safety boots

CHAINSAW OPERATION:

- Start the chainsaw at least 10 feet away from fueling area
- Start with the chainsaw on the ground or other firm support. Drop starting is not safe and should not be done.
- Clear away dirt, debris, small trees, limbs and rocks away from the bar path
- Look for metal objects (nails, wire, spikes, etc) before cutting.
- In some cases, using a metal detector on the timber is recommended to identify any hidden metal objects
- Engage the chain brake or shut engine off when carrying the saw
- Keep hands on saw and maintain secure footing while operating.
- Do not wear loose clothing or loose jewelry
- Be aware of potential kick-back and do not saw with the tip
- Watch for branches under tension that may spring out when cut
- Be aware of cuts that may bind against the saw
- Never cut above your shoulders
- Position yourself in a stable, natural position when cutting
- You should never cut above your head or in an awkward, unstable position
- Use good body positioning, like you are performing a deadlift or partial squat, avoid bending over causing a loss of your lumbar curve

After operating the chainsaw and saw has cooled, check the chain for damage, sharpness, tension and make necessary adjustments. Once completely cool, store in a protective case away from combustibles.

Practicing safe chainsaw operations will reduce related accidents, promote a safe work environment and extend the life of your equipment. Stay safe out there!

When it Comes to Mowing, Be Safe Out There

By Lisa Harris. Kansas LTAP

Mowing controls vegetation on rights-of-way and is very important to roadway safety. It keeps an area clear beyond the road shoulders for better driver sight distance. Mowing also maintains the visibility of post-mounted delineators and hazard markers that high grass can obscure. More-labor-intensive trimming may be needed to supplement mowing in places mowers can't reach, such as the grass immediately around delineators and markers.

Trimming branches and working with adjacent landowners to control roadside vegetation also helps maintain driver sight distance. These, along with a consistent mowing program, keep vegetation from obscuring driveways, intersections, and even curves in the road from the driver.

Traffic control for mowing

Mowing is a moving operation that takes place on and off

the roadway, and therefore it requires different traffic control than other maintenance operations. The most important thing to remember is to make the mower unit highly visible to drivers. That way drivers will be alert to you and be able to avoid any potential collisions.

Warning signs such as MOWING AHEAD, ROAD WORK AHEAD, and similar signs may be placed along the road. The MOWING AHEAD sign is preferred. The sign is to be used in advance of mowing operations on the right of way. Place it on the shoulder so the approaching driver can read the message easily. As work progresses, move the signs so they are one to two miles between the sign and mowing work.

Mount the sign on a sturdy portable support that will not be knocked over or blown down easily. Cover or remove the sign during the lunch break or any other times when work is not in progress. Do not cover or remove the signs if you have stopped mowing to repair or adjust equipment; the warning to drivers is important as they pass by your equipment.



Make the Mower Visible Be sure to:

- Operate rotating yellow beacons on mower tractors.
- Install slow-moving-vehicle signs on all mower tractors.
- Install yellow flasher lights on roll bars or the top of tractor cabs and operate these at all times.
- Install an orange flag or pennant on a whip to show the location of the tractor in high grass or over the edge of slopes.
- Operate the tractor with headlights on at all times.

Why Mow?

Road and street maintenance workers do three general types of mowing. In order of importance, these include:

Safety mowing. Makes sure signs and other traffic control devices, guardrails, and other safety features can be seen. Provides good sight distance for drivers approaching intersections, driving along curves, and approaching interchanges.

Transition mowing. Makes a smooth change from a narrow mowed width to a wide mowed width when different widths of right-of-way are mowed.

Contour or selective mowing. Makes a natural blending of the maintained roadside with native or planted growth. Shows off landscaping or wildflower areas or dresses up an interchange entrance to an urban area. and the actual

Continued on Page 10...

Mowing (Cont'd from Page 9)

DO

- Read the operator's manual thoroughly.
- Protect yourself from the sun. Use the canopy on the mower. Wear sun screen, a hat, and shirt.
- Consider using MOWING AHEAD or MOWING AREA signs or signs with similar legends to warn traffic, especially in hilly areas or on roads with heavy traffic. Signs should not be more than one to two miles ahead of the mowing.
- Before you mow, visually inspect the area. Watch for washouts and debris that could be thrown.
- Use flashing lights and Slow-Moving-Vehicle emblems and road signal to alert traffic.
- Strip grass from around the tree, in a circle, to help avoid mower wounds that can kill trees. The radius of the circle should be 1 to 3 feet depending on the size of the tree. Remove low tree branches that can clip an eye or throw the operator off balance.
- Leave room for a mower between trees and other structures .
- Ballast or weight the tractor properly. This is especially important when mowing on a hillside or when using a boom mower.
- Mow slopes steeper than 1:2.5 (vertical:horizontal) with a side-mounted mower on a boom .
- Operate side-mounted or boom mower units on the uphill side of the tractor to limit the possibility of overturning the tractor.
- Be sure the mower has a roll-over protection structure (ROPS). Use the seat belt at all times.
- Replace broken or lost chain guards to deflect debris immediately. Using flail type mowers reduces the amount of debris thrown.
- Cover all V-belts, drive chains and power takeoff shafts.
- Raise mowers when crossing driveways or roadways.
- Shut off power before checking any mower unit.
- Block a mower before changing, sharpening or replacing a blade. Any blade being re-installed should be checked for cracks or damage that will lead to failure.
- Check for leaks before leaving the shop.
- Refuel away from waterways.
- Keep spill kits/materials on hand in case of oil or fuel leaks in field.

DON'T

- Mow too often. This wastes money, exposes mowing crews to traffic hazards more than needed, and can damage the vegetation.
- Mow at the wrong time. Good timing reduces the frequency of mowing required by cutting the vegetation in the right stage of growth.
- Mow too short. Leaving the proper height helps maintain the stand of vegetation and keeps small litter objects hidden. [A good guide for mowing frequency and height is the Best Practices Handbook on Roadside Vegetation Management by the Minnesota Local Road Research Board at <http://www.lrrb.org/media/reports/200019.pdf>.]
- Mow steep slopes if you don't need to. Steep slope operations increase risk of mower accidents.
- Mow when wet. This is hard on equipment.
- Operate equipment carelessly and scar trees and shrubs. Mowing is tedious but care must be taken to avoid accidents and preserve valuable plantings.



Withhold mowing during drought conditions.

Mowing is part of a roadside maintenance plan to increase safety on the roadway while retaining vegetation to control runoff and ruts. Mowing during a drought can damage your desirable roadside vegetation. Plants are stimulated to grow when they are mowed, and if they don't have water for growing, the plants will be stressed. If you mow during an extended drought, you may lose a lot of desirable plants.

Montana LTAP Library

Welcome to the LTAP Lending Library where publications, videos, DVD's, and software may be borrowed for a two-week period. We have a limit of three videotapes or DVD's for a rent-free two-week period. Some publications are free or for a nominal charge upon request.

For information or checkout procedures, please call Genevieve Houska, LTAP, 1-800-541-6671. If you have computer access, please e-mail: [genevieve.houska\(at\)montana.edu](mailto:genevieve.houska(at)montana.edu).

We have new lists for the library publications, software, DVD's, and videos at our web site, just click on Resources: <http://ou.montana.edu/ltap/index.html> (Note: Many of our publications are electronically available.)

At this web site, you can also keep track of upcoming workshops, past and present newsletters, and workshop announcements.

Our 2017-2018 Needs Assessment Survey is available at this web site. Thank you in advance for taking time to complete it.

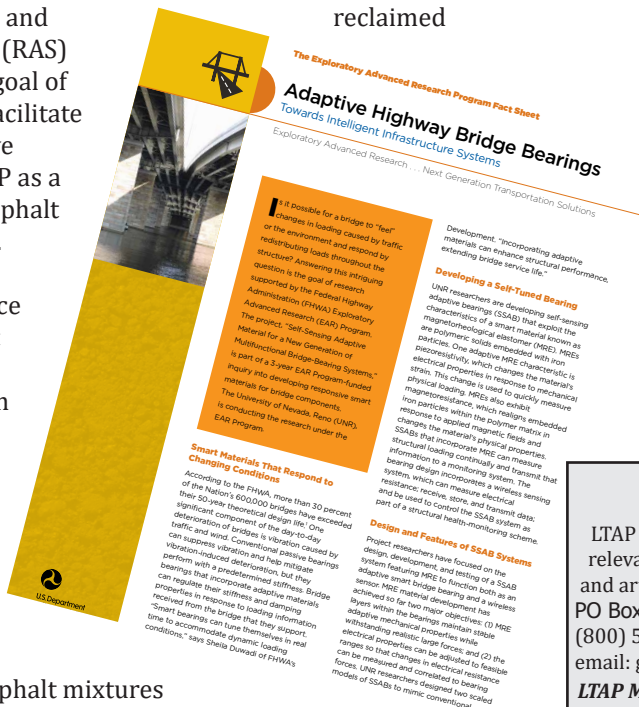
Publications

p-398 Best

Practices for RAP and RAS Management (NAPA

January 2017) This document covers the current best practices for management of reclaimed asphalt

pavement (RAP) and asphalt shingles (RAS) as of 2015. The goal of this guide is to facilitate the most effective utilization of RAP as a component in asphalt paving mixtures. This document provides guidance for management of RAP from the time of collection through processing, sampling and testing of RAP for mix design, and quality control practices during production of asphalt mixtures containing RAP. A brief section also presents best practices for management of RAS for use in asphalt paving mixtures. Good RAP and RAS management practices are important to ensure the greatest economic benefit of these materials and the highest quality asphalt. **On-line ONLY:** https://www.asphaltpavement.org/PDFs/EngineeringPubs/QIP129_RAP_-_RAS_Best_Practices_1r.pdf



p-438.100 Long-Term Pavement Performance Automated Faulting Measurement (FHWA February 2015)

This report documents the development of the Long-Term Pavement Performance (LTPP) automated faulting measurement (AFM) algorithm to identify transverse joint locations on jointed plain concrete pavements and compute faulting at these locations using the profile data collected by LTPP high-speed inertial profilers. (36 Pages) <https://www.fhwa.dot.gov/publications/research/infrastructure/pavements/ltpp/14092/14092.pdf>

p-919 Training and Certification of Highway Maintenance Workers (NCHRP Synthesis 483) 2015

This synthesis series reports on current knowledge and practice, in a compact format, without the detailed directions usually found in handbooks or design manuals. Each report in the series provides a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems. **Online ONLY:** http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_483.pdf

p-1000.100 Safety Evaluation of Wet Reflective Pavement Markers (FHWA October 2015) FHWA

organized a pooled fund study of 38 States to evaluate low-cost safety strategies as part of its strategic highway safety effort. The wet-reflective pavement markings evaluated in this study are intended to reduce the frequency of crashes by improving the level of retroreflectivity during wet-road conditions. (49 Pages) <https://www.fhwa.dot.gov/publications/research/safety/15065/15065.pdf>

Editorial Contributions Welcome

LTAP welcomes contributions to **LTAP MATTERS**. Those wishing to submit relevant material to be published in the next newsletter can submit their ideas and articles to: Genevieve Houska, Local Technical Assistance Program, PO Box 173910, Bozeman, MT 59717-3910 (800) 541-6671 or (406) 994-6100 Fax: (406) 994-5333 email: [genevieve.houska\(at\)montana.edu](mailto:genevieve.houska(at)montana.edu)

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This newsletter is designed to keep you informed about new publications, techniques, and new training opportunities for you and your community.

• Present and past issues are available at <http://ou.montana.edu/ltap/newsletter/index.html> or by calling 1-800-541-6671.

• Please contact LTAP if you are in need of a printed copy. This newsletter is now electronically disbursed to over 350 agencies and available on our website.

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• Please send us any comments or concerns you may have regarding this newsletter with your name and address in order that we may respond in a timely manner.



"Don't let yesterday take up too much of today."

Will Rogers

Meet Shawna Page . . .

Shawna began her long career as an instructor over 25 years ago. As a certified Emergency Medical Technician, she knew that bringing this life saving knowledge to others in her very rural area of Montana would save lives. Through the success of bringing valuable knowledge to others, Shawna has learned that although basic health care classes are crucial, there are many on the job safety issues that can also play a critical role in the safety of ones employees. Shawna continues to strive to gain new knowledge and certifications that will allow her to bring knowledge to volunteers, employees and communities at an affordable price in areas that may not otherwise be served. All of Shawna's certifications are nationally recognized except for Flagging Certification which is a state to state process. With that said, Montana does have a reciprocal agreement for certified flaggers with the states of Washington, Oregon and Idaho.

Montana LTAP is excited to announce Shawna Page as the LTAP Field Training Professional. Shawna Page will bring new training opportunities to the LTAP program!!



Shawna Page
LTAP Field Training Professional