MASS INTERCHANGE

Volume 22, Number 1 Winter 2008

TRANSPORTING EQUIPMENT SAFELY

Remember the saying, "There is never enough time to do it right, but always time to do it over?" If you are in the business of loading and transporting equipment, this should not be your motto.

When transporting equipment, the driver is responsible for many things including the truck and trailer, the equipment loaded on it, and, most importantly, public safety. If equipment is loaded in an unsafe manner it can cause injury, destruction of property and even death. It's too easy to be in a hurry or overanxious to load the truck. It is very easy to ignore good safety practices and legal requirements. In order to keep management happy, it is tempting to rush to get to the job site. Always slow down enough to address safety correctly.

It is the responsibility of the driver to make sure the truck and trailer are safe for transporting and not loaded to exceed rated capacity. Most trailers have a stamped plate located on the frame stating the rated capacity; mechanical failure cannot be used as an excuse. The driver and agency would then be assuming all liability risk. Overloading will weaken or damage the trailer and can seriously affect acceleration, braking and overall handling. Add wet or icy conditions, and an overload situation increases the danger of an accident even more.

Before loading the trailer, do a walk-around inspection. Check the tires for excessive wear or proper inflation pressure. If you are in the field and a gauge is not available, at least give the tires the hammer test, which provides a good idea if tire pressure is low. Check the lights to make sure they are all in working order, including brake and turn signals. Examine the trailer bed to make sure it is free of dirt, mud, snow and ice. If the bed is not clean, loading can be dangerous as well as creating a possible hazard on the road. Also, check the securing points on the trailer, and make sure the tie-down rings are secure and welds unbroken.

Prior to loading equipment, make sure the trailer is on solid, level ground. Also, make sure brakes are set and/or wheels are chocked so the trailer won't move during loading operations. Loading onto a trailer during rain or simply loading over wet ramps and onto a wet deck is very dangerous. Wet steel or planks get very slippery. The piece of equipment being loaded can easily slip off the ramp or deck and roll over. Next, consider the load to be transported. Walk around the piece of equipment and check for tools that may have been carelessly left on the machine and unlatched doors or chock blocks that may fall during transport.

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2007 MASSACHUSETTS BICYCLE TRANSPORTATION PLAN

Seven corridors of the proposed Bay State Greenway include:

Mass Central
Berkshire
Connecticut River Valley
Nashua River - Buzzards Bay
Boston - Cape Cod
North Shore
Merrimack River - Charles River

The longest east/west rail trail is Mass Central running from the Boston metropolitan area and ending in Northampton. It includes eleven portions some of which are already in existence.

The Plan, prepared by the Executive Office of Transportation and Public Works, seeks to advance bicycle transportation by:

1. Providing the most complete, current inventory of existing on-road and off-road facilities (shared use paths), projects in the pipeline, and long-term facility proposals.
2. Recommending an identified 740-mile, seven-corridor Bay State Greenway (BSG) network consisting of on-road and off-road facilities.
3. Providing an implementation strategy aimed at launching the BSG initially as mostly an on-road system, geared to both utilitarian and recreational travel, and complemented by a long-term investment strategy.
4. Recommending other programmatic enhancements and interagency initiatives.

In accordance with Governor Deval Patrick's Sustainable Development principles, the Plan addresses a number of important transportation, economic development, public health and recreation needs by creating the groundwork for implementation of the BSG. The corridors incorporate 195 miles of existing shared use paths and could ultimately include 500 miles of shared use paths. As currently proposed, the majority of the BSG is on-road. Establishing the BSG is motivated by a number of factors, including the Commonwealth's inherently bicycle-friendly nature, the need for more bicycle routes and more coordinated information on them, projected economic benefits, and the ability to implement the BSG incrementally.

Several factors shaped the BSG's seven corridors. These include: the state legislature's directive to establish at least three north/south and two east/west routes; the desire to capitalize on prior bicycle facility investments; and the goal to connect and serve major population and activity centers. Other Plan recommendations aim to:

- Better identify state roads and bridges where bicycles are legally permitted but do not accommodate bicycles today.
- Expand the "Share the Road" signs and outreach programs.
- Develop bicycle tourist publications through the Massachusetts Office of Travel and Tourism.
- Improve safety through education and enforcement initiatives and facility performance measurement.
- Further quantify benefits of its investments in projects and programs that improve bicycling conditions.

The appeal of the proposed BSG is that implementation can begin immediately with very little initial investment. Realizing the vision of the ultimate BSG, which includes more than 500 miles of shared use paths, will require dedication, support, and commitment, as well as capital and operational investments in facilities and programs over many years. Partnerships among state agencies, regions, and municipalities will be critical to the success of the BSG, as will the involvement of non-profit groups and the private sector.

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MOVING TOGETHER 2007

We hope you were able to join the 230 other enthusiasts who attended this year's bicycling and pedestrian conference in Boston on October 17. Workshop topics ran the gamet from "Building the Trail Community Style" to "A Long Distance Corridor Vision for DCR's Park System." During the lunch break, participants heard from Bernard Cohen, Secretary of Executive Office of Transportation and Public Works, and Dr. JudyAnn Bigby, Secretary of the Executive Office of Health and Human Services.

If you missed this year's successful presentation, please join us in October 2008. Check the Baystate Roads website for details: www.baystateroads.org

Secretary Bernard Cohen delivering the keynote speech to a full house at lunch.

Dr. JudyAnn Bigby advocating safe pedestrian and bicycling policies for the Commonwealth.

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Transportation Secretary Bernard Cohen mentioned in his remarks at the Moving Together 2007 Conference recently that **"This document is being developed with the implicit understanding that bicycling is not only a healthy and enjoyable way to travel and stay active, but that it can also address other transportation-related challenges, such as helping to improve air quality, stimulating economic development, and reducing congestion in densely populated urban areas."** The full draft of the Plan was released on October 19, 2007, and can be downloaded at: **www.massbikeplan.org**

NEW VHS & DVD TRAINING BAYSTATE ROADS PROGRAM

BIKE SAFE. BIKE SMART **9 min.**
USDOT/NHTSA (VHS) June 2004
Safety video uses a peer-to-peer approach to teach elementary and middle school age audiences about rules of the road, signaling, riding at night, safe riding practices, risky behaviors, and purchasing a helmet.

RIDE SMART. IT'S TIME TO START **9 min.**
USDOT/NHTSA (VHS) June 2002
Uses real-life examples, computer graphics and a peer-to-peer approach to teach children about how a bike helmet can protect them from serious injuries and death. Explains how to purchase an approved helmet that fits correctly and road rules.

ALL IN A DAY'S RIDE/BOSTON **9 min.**
Rob Fine, Bicycling Advocate (DVD) 2007
Advocacy film illustrates a biker's viewpont of current bicycling conditions in Metro Boston and provides practical suggestions for improvements. Emphasizes benefits of biking for transportation.

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Know the proper loading position on the trailer. There is not always someone to guide you onto the trailer, but if there is the slightest doubt about the safety of loading a piece of equipment, get some qualified help. Know the safety effects of weight and balance and whether to drive forward or backward when loading. If in doubt, consider the operator's manual for proper loading positioning. Remember, too much weight on the trailer's tongue can affect the steering and too much weight on the rear can decrease traction and braking ability and make steering less responsive. Also, too much weight on one axle, or set of axles, is an illegal overload even if the gross weight is within legal limits. Disregard for rules can result in expensive fines.

Only qualified operators familiar with all machine controls should load and unload equipment. Make sure seat belts are fastened. Keep in mind the only safe place is in the Roll Over Protective Structure (ROPS) while moving a machine. If help is available, make sure hand signals are understood as this may be the only means of communication due to the noise of equipment. Good operators can judge the center but in most instances guidance is helpful. When loading equipment such as backhoes or excavators, make sure to avoid overhead power lines that could entangle a boom. Once loaded, lower all booms, buckets or attachments and remove the keys. It is wise to tape the exhaust stack opening to protect the turbo charger.

Hauling heavy equipment

Now it is time to secure the load. Check the operator's manual for correct tie-down points for equipment being hauled for the first time. It is better to be safe than sorry. Too often statements like this are made: "Oh, we are just going a little way." Secure the load whether traveling a few feet or many miles. It is actually illegal to move a load without proper tie-downs. Safety standards require a minimum of two tie-downs no matter how small the load.

Chains and slings are the most common means of securing a load to the trailer. Chains and load binders that are legal for transport tie-down use will have a load rating and should be checked before use. Most binding applications require a transport grade 70 binder chain of adequate size. A load binder suitably matched to the size of the chain must be used. Ratchet binders are preferred versus snap-over-center binders. It is very inexpensive to replace chains and binders compared to the financial responsibility for an accident if the restraint fails and serious consequences result.

When securing a load, visualize pulling in opposite directions. Pull towards the front and rear simultaneously, as you pull from the sides. It is helpful to visualize chains as making a big "X" on the trailer deck.

When hauling rubber-tired equipment, secure and then check the load a few miles down the road. Tires will sometimes deflect while being transported and tie-downs can loosen. When hauling steel tracked equipment such as dozers and excavators, remember that steel against steel can slip and shift while being transported. Some equipment needs to be secured with straps and not chains to avoid damaging cargo such as generators or light plants. Again, use proper tie down equipment.

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DEAD END and NO OUTLET SIGNS:
What's the difference?

Some residents like living on a "dead end" street, but don't like how it sounds. They'd rather live on a street that has "no outlet." **Can these two signs be used interchangeably?** The answer is sometimes yes, sometimes no. This article will tell you which sign to use where.

The *Manual on Uniform Traffic Control Devices* (MUTCD) Millennium edition, defines the use of dead end and no outlet signs. The MUTCD codes for the signs are W 14-1 and W 14-2 respectively.

DEFINITION OF "DEAD END"

According to the MUTCD, the dead end sign "may be used at the entrance of a single road or street that terminates in a dead end or cul-de-sac." A dead end refers to an entrance way where there are no options for turning onto another street or system within a network. The sign is placed on the street that dead-ends.

DEFINITION OF "NO OUTLET'

W 14-2

On the other hand, a no outlet sign "may be used at the entrance to a road or road network from which there is no other exit." Once you turn into the network, there can be a series of other turns onto roads. However, the way you came in is the only way to exit out of the network. Often times, an entranceway into a subdivision is the only option for entering and exiting the area. But once inside the subdivision, there can be a system of streets interconnecting with each other.

W14-1aR

W14-2aR

W 14-1

So...the answer to the question about whether these signs are interchangeable is this: A "no outlet" sign can be used instead of a "dead end" sign, but not the other way around. If you have a road network with no outlet, you must use a "no outlet" sign.

SIGN PLACEMENT

The MUTCD has established the standard that when either a "dead end" or "no outlet" sign is used, *"the sign shall be posted at the entry point or at a sufficient advance distance to permit the road user to avoid the dead end or no outlet condition by turning off, if possible, at the nearest intersecting street."* "Shall" in the MUTCD language indicates that the instructions are a requirement that must be followed. In other words, you should place the sign on the dead end or no outlet street as close as possible to its intersection with the through street, so drivers will readily see the sign when they are considering entering the road.

The MUTCD standard for using plaques states: "The DEAD END (W14-1a) or NO OUTLET (W14-2a) signs shall not be used instead of the W14-1 or W14-2 signs where traffic can proceed straight through the intersection into the dead end street or no outlet area." Plaques are not visible to cross street traffic going straight into the dead end/no outlet area.

Source: http://mutcd.fhwa.dot.gov/pdfs/millennium/06.14.01/2cndi.pdf

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WORKER VISIBILITY APPAREL

A greater risk of injury or death for highway workers has resulted from the increase of maintenance and reconstruction of the nation's highways. To help make work zones safer and provide additional safety to everyone on the roadway, FHWA recently finalized its proposed **Worker Visibility Rule**.

The rule requires that "all workers within the right-of-way of a Federal-aid highway who are exposed to either traffic or to construction equipment within the work areas shall wear high-visibility safety apparel." The rule is effective on November 24, 2008. Workers are defined as those people on foot whose duties place them within the right-of-way of a Federal-aid highway, such as highway construction and maintenance personnel, surveyors, utility crews, responders to incidents, and law enforcement personnel when directing traffic, investigating crashes, and handling road situations.

In addition, mowing crews, gardeners, Adopt-A-Highway volunteers, etc. will also have to wear the high-visibility clothing to be in compliance with the new rule. The only exception will be law enforcement personnel during manhunts, traffic stops, and searches.

High visibility apparel means personal protective safety clothing that is intended to provide conspicuity during both daytime and night-time usage, and that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled "American National Standard for High Visibility Safety Apparel and Headwear." **Rule 23 CFR Part 634** in the Code of Federal Regulations was published in response to SAFETEAU-LU and can be accessed at: http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/E6-19910.htm

The selection of CLASS 1, 2 or 3 apparel is based on proximity to traffic, the speed of traffic expected in a work area and whether attention can be paid to traffic while working.

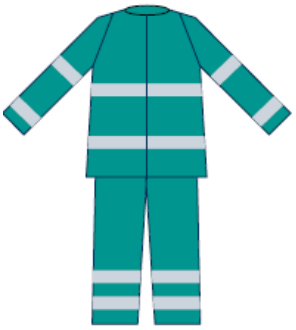
CLASS 1 Apparel

This apparel is for workers exposed to traffic traveling less than 25 MPH and, therefore, not acceptable for workers on or near Federal Aid Highways. The main difference between CLASS 1 and 2 is the amount of fluorescent background material and retroreflective material used on the clothing. Typical workers required to wear CLASS 1 include parking lot attendants, warehouse workers, shopping cart retrievers, and sidewalk maintenance personnel.

CLASS 2 Apparel

The most common garments are shirts, jackets, or sleeveless vests. This apparel provides 360 degrees of torso visibility with horizontal and vertical retroreflective stripes. Typical occupations for workers who must wear CLASS 2 are: forestry operations, roadway construction, trash collection, high-volume parking, emergency response, and law enforcement. Some "safety" vests look similar to CLASS 2 so you must inspect the tag to be sure it complies to avoid violations.

CLASS 3 Apparel



CLASS 3 covers more of your body than CLASS 2. It is for workers who are constantly exposed to high-speed traffic and who cannot pay attention to approaching traffic. If you are not sure which class to wear, choose CLASS 3 to be safe. Workers who must wear this type include roadway construction personnel, utility workers, survey crews, and emergency responders.

MASTER ROADS SCHOLAR

Curt MacLean
Hanover DPW

Curt MacLean began his working career picking corn for a local farmer in Southeastern Massachusetts. After falling off the back of a Dodge Power Wagon at age 11, the farmer let him drive the truck and tractor on his property for the rest of the day. The rest is history.

Curt started his public works career with the Hanover DPW in 1973 at age 13 working through the CETA Youth Corps. Over the years he gained experience and skills starting as a general laborer trainee and progressing through the the public works system as a general laborer, skilled equipment operator, water distribution mechanic, public grounds foreman, and highway foreman. Unafraid to answer a new challenge, Curt has used these skills as well as good old common sense in his current roll supervising field operations as Deputy Superintendent of Public Works. In this capacity he is responsible for highway and public grounds facilities but also serves as the tree warden for the Town of Hanover.

Mr. MacLean grew up in Hanover and attended public schools there. He now lives in Halifax with his wife and two sons, enjoys cruising around New England on his motorcycle, and spends time hunting and relaxing at his vacation camp in Byron, Maine. A loyal employee of the Town of Hanover for 36 years, Curt credits the vision and patience of town employees for his career opportunities. At the same time, he never misses an opportunity to broaden his viewpoint and sharpen his skills through educational opportuities such as those offered by the Baystate Roads Program through training workshops and publications.

Active in the Southeastern Massachusetts Tree Wardens Association and the Plymouth County Highway Association, Curt has built strong working relationships with colleagues in neighboring communities and sees these relationships as an underutilized tool that public works organizations can tap into to help meet the expectationas of the residents in their communities. Now a senior manager at the Hanover DPW, Curt cites loyalty to the organization, teamwork, and cooperation between fellow employees and departments within the Town as necessary ingredients for success. There also needs to be a willingness on the part of employees to roll up their sleeves and try new approaches if communities are to continue to respond to the new challenges they will face. Urban areas continue to sprawl, converting once sleepy little farming and bedroom towns, such as Hanover, into metropolitan extensions requiring more creative approaches to planning and transportation issues..

As he looks toward the end of his career, Curt is excited about the diversity of the challenges that he faces every day. “Regardless of what we are asked to do, give us a task or a problem to solve and the DPW will find a way to get it done.”

Congratulations to the newest Baystate Roads Scholars on their fine achievement. Keep saving those certificates and you could be listed here.

Please provide T-shirt size, your address and your supervisor's name and address when notifying Baystate Roads Program of your status. Our workshop database will confirm attendance.

William Ahearn
Westminster DPW

Charles Bonanno
Belmont DPW

Alfred E. Burgess
Middleboro DPW

James Carvalho
Swansea DPW

Mary Donahue
Chicopee Conservation

Michael Eccles
Belmont DPW

Richard Kaczmarczyk
Palmer DPW

Paul Mosca
Belmont DPW

Matthew Sokop
Holyoke DPW

John K. Westerling
West Boylston DPW

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Finally, know the height and width of your vehicle. Legal width is 102 inches and legal height is 13 feet, 6 inches. Make sure you stay within these limits. If this is not possible, a special permit will be needed on most highways, and restricted height or width conditions near bridges and overpasses will apply. Do a final walk-around inspection after loading. It is best to drive with headlights on when transporting.

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The Baystate Roads Program, which publishes Mass Interchange each quarter, is a Technology Transfer (T2) Center created under the Federal Highway Administration's (FHWA) Local Technical Assistance Program (LTAP). This newsletter is prepared in cooperation with The Excecutive Office of Transportation (EOT) and the United States Department of Transportation Federal Highway Administration. FHWA is joined by EOT, UMass Transportation Center at the University of Massachusetts/Amherst, and local public works departments in an effort to share and apply the best in transportation technologies. In addition to publishing Mass Interchange, the Baystate Roads Program facilitates information exchange by conducting workshops, providing reports and publications and videotapes on request, and offering one-to-one technical assistance on specific roadway issues. Because the program relies on input from many sources, inquiries, articles and ideas are encouraged.

LTAP Local Technical Assistance Program

To contact the Baystate Roads Program call (413) 545-2604 or FAX 413-545-6471

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