

# M A S S I N T E R C H A N G E

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## You Survived Last Winter..... Did You Learn Anything?



*You would think that with Mother Nature sending such clear messages concerning our winter seasons, we would have learned from seasons past.*

There are many examples in which winter maintenance programs were challenged and, in most cases, they came up short without the necessary resources (equipment, deicing materials, and trained labor force) to do the job, much less exceed the customers' expectations. The answers aren't always simple, but if you don't take time to debrief from last winter and figure out the weak links in the system, then, when Mother Nature decides to repeat herself in two to five years, you'll probably be singing the same old blues and come up lacking in the good winter maintenance category. So what can you do as a highway or street agency respon-

sible for safety and mobility during the winter season?

What kind of agency do you want to be?

What kind of service do you want to provide?

The winter season will be here with ice and snow, so what can be done to reinforce your winter maintenance program right now?

What can you do to eliminate the weak links in your winter maintenance system? Here is a quick reference list:

1. Have a debriefing meeting with operators, contractors, businesses that depend on mobility and any other interested parties with a vested interest in the success of your winter maintenance program. Create a written winter maintenance policy that will exceed your customers' expectations and communicate that policy with all of the groups that partici-

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pated in the debriefing process. Get their buy-in into a written winter maintenance performance plan.

2. Look specifically at the three key areas of winter maintenance resources (materials, equipment, and labor) to determine what you can leverage to put pressure on the financial decision-makers to provide you with additional funding to obtain enough resources to do the job.

3. Material -- do you need more storage capacity? Do you have at least 100% of your average estimated need storage capacity? Better yet, do you have enough storage capacity to take care of you during a major winter without having to make an additional emergency call for salt to be delivered during the middle of winter -- the worst time to try to get an on-time-delivery made? If you don't have enough storage, right now is the time to use the memories of past winters and how salt supplies fell dangerously short to meet your demand to provide the levels of service you have established. Get the financial commitment to fund more storage capacity before everyone gets involved in other activities and quickly forgets the struggles of past winters. If you don't get more storage capacity, and you ran short of salt in the past, then when Mother Nature decides to provide us with our next blizzard, you shouldn't be complaining about running out of salt.

4. Equipment -- if you need more snowplows, or your old equipment just can't hold up to prolonged use during back-to-back storms or an extended snowstorm which dumps 2 to 3 feet, then now is the time to leverage public awareness to get new equipment or more snowplows. Order your needed equipment now.

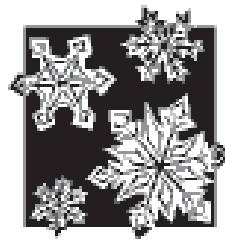
5. Labor -- Evaluate your labor needs. Do you plan to use agency labor or outside contractors? Or do you plan to use both? What do you need to do to make sure that all of your labor force (including contractors) is trained for efficient operations? Will they need training on any new equipment you intend to add to your fleet of operations to enhance their performance?

6. Explore -- any new techniques or equipment that you want to add to your winter maintenance resources. Now is the time to get those items ordered and installed so you won't be in line with all the other highway agencies wanting to add the same program or equipment, and therefore, the ability to get these new concepts in place becomes more challenging. You certainly don't want to be training on this

new equipment the day before the first snowfall hits. By then, it is too late to get a good quality-oriented training program.

7. Document -- Finally, make the commitment to put your needs in writing and submit them to the powers-that-be (a city council, the county commissioners, the township supervisors) so they know exactly what type of winter maintenance performance you will be striving for during this winter. That way, if for some reason Mother Nature decides to hit your community with the Blizzard of 2003 (or 2004) you will either be more than ready for it or you will have in writing what you needed and requested from the financial decision makers and proof they chose not to fund and provide the driving public with the levels-of-service you know they are demanding.

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## **8th Annual Eastern Winter Road Maintenance Expo**

**Save the Date:  
September 3-4, 2003**

The 8th Annual Eastern Winter Road Maintenance Expo is sponsored by the Federal Highway Administration (FHWA). This year the NHDOT is a co-sponsor and the UNHT<sup>2</sup> Center is involved with the training component. There will be 3 training tracks: environmental, safety and technical.

The event will be held at the Center of New Hampshire - Holiday Inn in Manchester, NH and features the latest in winter maintenance equipment, materials, technologies and strategies. The expo is held in a different state each year. In 2001, it was held in Worcester, MA.

There is no registration fee for attendees. In late spring FHWA mailed a flyer to people on the UNH T<sup>2</sup> Center mailing list. It asked participants to pre-register. See the website at [www.easternsnowexpo.org](http://www.easternsnowexpo.org) and see you there.

# Watch Your Back! (and your Front)

The driver behind you is riding your truck's license plate a bit too close. What's a driver to do? You may think that the only way to teach this tailgater a lesson is to abruptly apply your brakes. Wrong answer. The point is not to teach anybody a lesson. The point is to drive as safely and courteously as possible. Remember, you are in an agency vehicle and responsible for the safety of your passengers. There are several driving techniques you can use to deal with tailgaters.

## Stay alert

Tailgating is one of the most common causes of traffic crashes. To keep tabs on these bumper-riders--and to maintain your response flexibility--pay very close attention to your traffic environment. You can do this by checking the road ahead and by checking your rear-view and side mirrors every three to five seconds. Awareness of other drivers is the first key to driving safety.

## Do what you can

There are three main reasons why people tailgate large trucks.

First, some tailgaters are simply in too much of a hurry. Second, some drivers feel uncomfortable not being able to see ahead because a bus is in front of them. They tailgate in preparation for passing.

While you can't dissuade these first two kinds of tailgaters, you can reduce your risk somewhat by protecting the front of your vehicle. Maintain a safe "space cushion" between you and vehicles traveling or moving in front of you. Allow no less than 4 seconds between your vehicle and others during the day, 5 seconds at night, and 6

seconds during bad weather. You'll be better able to maneuver quickly and safely out of troublesome situations or if you have a sudden flat tire or an accident occurs ahead. Such sudden emergencies may cause a tailgater to rear-end you, but if you maintain space in front of your vehicle you can help prevent a chain-reaction pile-up and additional damage to your vehicle.



The third reason some drivers tailgate is they have trouble anticipating your intentions. They may be unaware of the number of stops your truck needs to make or the traffic regulations you must follow.

You can do something to reduce this kind of tailgating. Make sure your truck is equipped with devices to communicate with drivers behind you such as working brake and tail lights. Reflective tape on rear surfaces helps other drivers see your vehicle from a distance.

If you have to double park, turn on your hazard flashers. If you must stop in an unusual location or if your vehicle breaks down, use emergency reflective equipment and get as far off

the road as possible. Always make sure you use the proper signals well in advance to let those behind you know what you are doing.

It is very difficult and can be dangerous to ignore tailgaters, and you should take the necessary measures to keep yourself and your passengers safe. As a last resort, you may be able to change lanes or pull over to the side

and let the tailgater pass you, but be sure you can do so safely. Be careful out there!

## Sources

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"Can Drivers Avoid Being Rear-Ended?" *CalAction*, Autumn 2001.

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[www.seniordrivers.org](http://www.seniordrivers.org)

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# Recruitment: How to Reel in a Keeper

**I**t takes time to review applications, conduct interviews and check references. But short-cutting the hiring process can result in hiring a candidate who later creates even more time-consuming performance problems, and can eventually lead to additional costs to recruit, train and select a replacement. So it pays to properly screen your transit employees before you hire them, and create an environment that encourages good employees to stay.

**Screen them.** Before you place and, establish the job's requirements. For example, when hiring a transit driver, identify the license and training applicants must already have. Be specific about functions and tasks required, then develop interview questions that relate to each qualification. This should help you find a candidate who can do the job.

**Interview them.** After you have selected candidates who meet your qualifications, it's time for the interview. Here are a few interview tips.

Ask the same questions of each applicant so that each receives equal treatment.

Check for inconsistencies in interview responses and on application materials.

Ask only job-related questions, such as how many years he or she has been a bus driver or dispatcher. Where did the applicant receive his/her training?

Ask questions that force the applicant to display the knowledge and ability required for the position. For example, ask drivers what they would do to secure a wheel chair, or ask dispatchers how they prioritize calls.

Incorporate scenario questions in the interview. These are questions which ask a candidate how he/she would respond to a job-related situation. For example, when hiring a driver, ask the interviewee how he or she would handle an irate rider.



Participate with the applicant in a role-play exercise to determine how he or she might react on the job. When hiring a dispatcher, you could role-play a situation where a driver has just called in an accident to dispatch.

Document applicant responses so that you will be able to refer to them after the interview.

Have more than one person conduct the interviews so that impressions can be compared. And include peers. For example, if you are hiring a bus driver have a current driver sit in on the interview.

**Choose them carefully.** How do you determine the best candidate? Meeting qualifications is important, but so is fitting into your organization. Many agencies make the mistake of hiring someone with the right skills but the wrong mind-set. Look for the candidate compatible with your organization's passions, values, and interests. Ask the candidate why they are applying for the position; if he or she is primarily interested in making money, think twice before hiring. Good responses will focus on the satisfaction of working with elderly or handicapped riders. Another way to help determine whether a candidate would fit into your organization is to have several people conduct the interview; this can provide a broader perspective on how the candidate relates to your staff and volunteers.

**Retain them.** After you reel in your new employees, how do you retain them? Retention relies on job satisfaction, growth potential, and a good working environment.

*Job satisfaction*—The essence of job satisfaction is to meet challenges, deal with challenges successfully, and feel a sense of accomplishment. To be successful, employees must be presented with challenges that call on their experience and range of abilities.

*Growth potential*—Once a particular challenge has been met, being required to repeatedly meet the same challenge loses its appeal and ceases to provide satisfaction. Thus, to be assured of ongoing satisfaction, a position must continually challenge skills and abilities so your employees can grow as individuals. Equally important, offer your employees the po-



tential for greater responsibility and authority within the organization.

*Working environment*—An environment of respect, trust, and mutual support will encourage productivity while retaining top talent. When you respect your employees, you foster their self-esteem, and this in turn motivates them to do their best. Trust forms the foundation for effective communication. Keep your employees informed, and be honest. Confront difficult issues in a timely fashion.

Support your employees in both their career and in their personal lives. A working environment that gets the best from people is more than just a place to work in. It's about how people work together and how they are motivated to excel. Hiring and retaining quality employees requires both advance work and long-term effort, but it is worth it. It results in hiring employees who have the qualifications, education and personality your agency needs, and empowers them to be productive within your agency.

## Sources

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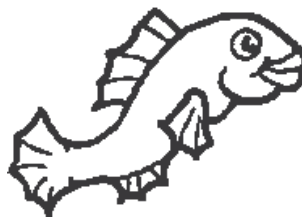
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written by Arin Gustafson and reprinted with permission from Kansas LTAP Transporter, July 2002

# Top Ten Tips to Attract, Retain and Motivate

by Don Grimme, Training Authority  
[www.employee-retention-hq.com](http://www.employee-retention-hq.com)

- 1— Pay employees fairly and well, then get them to forget about money.
- 2— Treat each and every employee with respect. Show them that you care about them as persons, not just as workers.
- 3— Praise accomplishments—and attempts:
  - ☐ both large and small
  - ☐ at least four times more than you criticize
  - ☐ publicly . . . and in private
  - ☐ verbally and in writing
  - ☐ promptly (as soon as observed)
  - ☐ sincerely
- 4— Clearly communicate goals, responsibilities, and expectations. Never criticize in public; redirect in private.
- 5— Recognize performance appropriately and consistently:
  - ☐ Reward outstanding performance (e.g. with promotions and opportunities).
  - ☐ Do not tolerate sustained poor performance; coach and train, or remove!
- 6— Involve employees in plans and decisions, especially those that affect them. Solicit their ideas and opinions. Encourage initiative.
- 7— Create opportunities for employees to learn and grow. Link the goals of the organization with the goals of each individual in it.
- 8— Actively listen to employee's concerns—both work-related and personal.
- 9— Share information—promptly, openly and clearly. Tell the truth . . . with compassion.
- 10— Celebrate successes and milestones reached—organizational and personal. Create an organizational culture that is open, trusting and fun.



# New Publications

Check out other current publications at:

[http://www.ecs.umass.edu/baystate\\_roads](http://www.ecs.umass.edu/baystate_roads). Please fax your requests using the library code number to (413)545-6471

Code#	Title	Source	Date
ASP-99	Hot-mix Asphalt Paving Handbook - 2000	U.S. Army Corps of Engineers	2000
COM-18	Pavement Management Catalog of Software	FHWA	2002
D&C-86	Guidelines and Recommendations to Accommodate Older Drivers and Pedestrians	FHWA	2001
D&C-87	Geometric Design Practice for European Roads	FHWA	2001
D&C-88	Context Sensitive Design	University of Minnesota	2002
DRA-54	Culvert Repair & Rehabilitation	Reagan Engineering	2002
MAI-29	Crack Seal Application	FHWA	2001
MAI-30	Asphalt Pavement Maintenance: A Field Guide	Minnesota LTAP	2001
PED-13	Pedestrian Facilities Users Guide: Providing Safety and Mobility	FHWA	2002
SAF-103	Identification of Driver Errors: Overview and Recommendations	FHWA	2002
S&I-57	Guidelines on the Use of Thermistor and Time Domain Reflectometry Instrumentation for Spring Thaw Road Management on Low-Volume Asphalt Roads	FHWA	2001
TRA-76	Traffic Sign Handbook for Local Roads	NY LTAP	2002
WET-11	Establishment, Protection and Reestablishment of Urban Roadside Vegetation Against Salt/Ice	Minnesota LTAP	2000

## Diesel Fumes Linked to Cancer

The Environmental Protection Agency recently announced its findings that prolonged exposure to diesel-engine fumes contributes to lung cancer and other lung and respiratory diseases.



The 651-page report is the result of decades of research, and concludes that evidence is "persuasive" that diesel exhausts have negative health impacts for humans, including the potential for lung cancer.

The report comes at a time when diesel-truck manufacturers are attempting to delay the imposition of regulations dramatically reducing emissions from large trucks and buses. The regulation, issued under the Clinton Administration and upheld by the Bush Administration, requires that particulate matter emissions be reduced by 90 percent, and nitrogen oxide emissions be reduced by 95 percent, beginning in 2007. The administration is also considering tight-

ening regulations for off-road diesel-driven machinery, such as road graders and large equipment.

Some administration officials have indicated they may consider incentives or a market-based approach to enforcing new emission standards, an approach not popular with environmentalists.

*From AASHTO Journal, Vol 102, No 35, Sept 6, 2002, by the American Association of State Highway and Transportation Officials, Washington, D.C., Used by permission*

## New on the Web

### AASHTO Strategic Highway Safety Plan Web Site

The purpose of this web site is to share ideas, examples, and contact names with individuals who develop highway safety policy and programs. The goal is to promote the implementation of the goals and strategies of the American Association of State Highways and Transportation Officials' (AASHTO's) Strategic Highway Safety Plan. The database available on the site contains hundreds of records about programs, publications, and people. More information about this site, complete with numerous web links, is available on the "About This Site" web page at: [www.transportation1.org/SafetyPlan/](http://www.transportation1.org/SafetyPlan/)

# Factors Influencing the Workforce Crisis



## Retiring baby boomers

As much as 40 to 50 percent of the existing local, state, and federal transportation workforce will be eligible to retire in the next 5 to 15 years. These post-World War II, baby-boom generation retirees will take their transportation knowledge, expertise, and institutional memory with them.

The Rockefeller Institute of Government estimates that 42 percent of the 15.7 million state and local government employees are between 45 and 64 years old, and that 40 percent of the state and local government employees will be eligible to retire in the next 15 years. There are similar projections for the private sector.

The Federal Highway Administration's Workforce Planning and Professional Development Task Force projects that 45 percent of the agency's staff will be eligible to retire in 10 years, including 92 percent of the current executive staff.

## Increasing demand for transportation

An expanding economy fueled by large gains in the information technology and service industries is increasing the demand for business and personal travel. The U.S. population has increased by 25 million since 1990 and is expected to reach 300 million by 2010. Vehicle miles traveled (VMT) is growing twice as fast as the population, and freight transportation is increasing rapidly with the growth of just-in-time inventory systems and e-commerce. This growth in demand for our transportation system is met with the challenge of maintaining an aging infrastructure.

## Changing public values

Infrastructure development must be balanced with the public's growing concern for land use, air and water quality, and historic preservation. Transportation security and safety is of paramount concern today. Such shifts in public values and concerns require new skills and competencies of the transportation workforce.

## Demands to "do it faster with less"

Over the past decade, state DOTs have experienced an average decrease in full-time employment of 5.3 percent, while department program delivery budgets have increased 56 percent. State DOTs are turning to the private sector to help meet the demands of the increasing workload. This changing public policy and business environment requires the states to expand workforce skills to include a broader range of abilities necessary to effectively manage their projects and programs. Outsourcing, privatization, and program delivery streamlining are continuing trends in response to increased program delivery demands as well as the drive for efficiency—all of which have considerable impacts on our transportation workforce needs.

They may be among the top 40 to 50 percent of the transportation workforce retiring in the next 5 to 15 years.

## Tightening budgets for education

Anticipated financial constraints can affect critical employee training and development opportunities that make our workforce more productive as well as help retain experienced employees by enhancing their job satisfaction. The mass exodus of retiring experienced employees, the rapid speed of technological change, the multimodal/multidisciplinary nature of today's transportation needs and solutions, the changing workforce demographics...all highlight the importance of strong education programs and continuous employee training. Transportation agencies must be creative in a time of limited funding and reluctance by legislators to raise taxes or impose user fees. In addition, transportation education providers—particularly vocational/technical programs—are experiencing significant shortfalls in expected budgets due to reduced student enrollments in programs such as civil technology. —Cheri Marti

--Adapted from FHWA materials and reprinted with permission from Minnesota Technology Exchange, Fall 2002

# Moving Together 2003

## Statewide Pedestrian and Bicycle Conference

October 22, 2003

Worcester, MA

See the Workshops section of  
[www.ecs.umass.edu/baystate\\_roads/](http://www.ecs.umass.edu/baystate_roads/)  
for more information

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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 MassHighway and the United States Department of Transportation Federal Highway Administration. FHWA is joined by Mass Highway, College of Engineering 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.

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