

# Connecticut Technology Transfer

University of Connecticut, School of Engineering

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## Inside This Issue...

*We Can't Wait for 2008!*  
Page 1

*Solution to October Drainage  
Puzzle*  
Page 2

*Snow Plow Safety*  
Page 3

*On-street Parking: An Untapped  
Resource for Downtowns*  
Page 4

*Winterize Your Vehicle for the  
Season*  
Page 6

*New England Chapter APWA  
Update*  
Page 7

*Calendar*  
Page 7

*Test Your Knowledge Puzzle:  
Signs, Signals and Markings*  
Page 7

## By the Way

*by Donna Shea, Director  
Technology Transfer Center*



## *We Can't Wait for 2008!*

2007 was a busy year for the T2 Center. We held 43 trainings, our Technology Transfer Expo was very well attended, 77 transportation professionals graduated from the T2 certificate programs and 1,200 students attended the Connecticut Construction Career Days. In addition to these formal programs, our roundtable discussions and the Public Works Listserv have become a great resource for sharing and information gathering for our public works community. We are very proud of this year's work and are energized to start 2008.

Here is a sneak peek at some of the programs you have to look forward to in 2008.

### Trainings:

- All About Asphalt
- Basics of a Good Road
- On the Job Safety and OSHA Regulations
- Planning and Managing Local Road Snow and Ice Operations
- Bridge Maintenance for Local Agencies
- Heavy Equipment Training
- Roadway Safety Fundamentals
- Mechanics Training
- Effective Communications II
- Budgeting and Planning for Local Road Agencies

*continued on page 2*

- Gaining Public Understanding and Support for Your Organization
- Pavement Preservation
- Fundamentals of Analyzing and Solving Local Traffic Problems
- Powers and Responsibilities of a Municipal Legal Traffic Authority
- Bicycle and Pedestrian Facility Design

### Special Events:

- Technology Transfer Expo
- Connecticut Construction Career Day
- T2 Graduation
- Safe Routes to School Training Sessions

### Custom Trainings:

We will again offer our custom Flagger Trainings for Local Agencies and watch for news about our expanded OSHA Compliance Custom Trainings.

We look forward to working with you in the coming year. From all of us at the Technology Transfer Center, we wish you a safe and prosperous New Year.

*Donna Mary Shelly Vivian  
Scott*

## Connecticut Technology Transfer

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### *Solution to October Drainage Puzzle*

Solution:



## Snow Plow Safety

Driving a snowplow is hard work. It requires driving for long hours in the worst conditions. While you are concerned with providing safe travel for motorists, you must not overlook your own safety. Here are a few tips to make your work safer:

- Start work physically and mentally rested and properly clothed.
- Check all equipment before each use. Inspect the lights, brakes, windshield wipers, defroster, plow bolts and chains, spreader and auger, flares and other safety equipment.
- Know your route. Perform pre-storm route inspection observing landmarks and the locations of possible hazards (guardrails, curbs, railroad tracks, bridge joints, mailboxes, manhole covers, etc.) which may be hidden by falling or plowed snow.
- Choose the speed appropriate for conditions. Resist the urge to get the job done in a hurry.
- Be considerate of motorists having trouble driving in the snow. Keep your temper and patience when vehicles pass or tailgate.
- Be brief when using the radio. Report stranded motorists and other emergencies when possible.
- Observe all traffic laws and signal your intentions clearly. Remember to wear your seatbelt.
- Before leaving the cab, set the brakes and disengage the power to the spreader and snowplow.
- Watch for signs of fatigue. Staring for hours at the driving snow can have a hypnotizing effect on drivers. The long hours and stress can take their toll as well. If you feel the onset of fatigue, take a short break – get out and walk around the truck and take some deep breaths. You don't want this to happen!!



*Take care of yourself by observing these few tips and keep your shift a safe one.*

## On-street Parking: An Untapped Resource for Downtowns

by Norman W. Garrick and Wesley E. Marshall

Like elsewhere in the country, Connecticut towns and cities are struggling to revitalize their downtowns – many of which have been dormant for decades. New Urbanists often point to key 1950s era planning and design decisions as factors that have contributed to the declining fortunes of our downtowns. Many of these decisions to change the design and operation of these centers were carried out in order to better facilitate the flow of automobiles. One such decision, which has become entrenched in conventional practice, is the elimination of street parking from most of our town centers.

Although this practice of not accommodating street parking is now routine in most places, there has been little or no research done to evaluate or assess its true impact on urban centers. However, in the last decade, a growing number of urban planners have pointed out that those centers that have retained street parking along with other compatible features of pre-1950s town centers are some of the most successful downtowns in the country.

In order to address this dichotomy between conventional practice and emerging urban theory, we designed a series of projects to study the range of issues relating to the provision of on-street parking and its impact on downtowns. One set of research questions was based upon case studies for six New England town centers with a focus on the impact of parking. In the second study, we investigated how

street design affected vehicle speeds and safety, based on a study of over 250 Connecticut roads.

Our primary goal with the case studies was to compare parking at mixed-use, walkable commercial centers to parking at centers built along more conventional development patterns. It turned out to be difficult to identify enough mixed-use centers of the appropriate size in Connecticut, so we ended up selecting only one Connecticut site, West Hartford Center, and two from out of state, the downtowns of Northampton and Brattleboro. The three conventional sites that were used as controls were Avon Center, Glastonbury Center, and Somerset Square in Glastonbury. All three mixed-use study sites had a significant number of on-street parking spaces, while the control sites had relatively little or none.

In the speed and safety study, we collected vehicle speeds as well as safety data and road segment characteristics for over 250 Connecticut sites. The sites were selected to represent a wide array of street types by including streets with different speed limits, adjacent land uses, and the presence of on-street parking.

By relying on multiple lines of research, our intention was to forge a more complete understanding of on-street parking and its effects. We assessed the benefits and shortcomings of on-street parking vis-à-vis the other common methods of supplying parking (off-street surface parking and structured garage parking) as well as

looking at the context in which on-street parking can be successfully employed.

What we found through these studies was that on-street parking plays a crucial role in benefiting activity centers on numerous levels. The main benefits of on-street parking include the following:

### *Higher Efficiency in Serving the Demand for Parking*

Users of the downtowns consistently selected on-street parking spaces over and above less expensive off-street surface lots and garage parking. In other words, visitors to downtowns place a premium on on-street parking, often because of their convenience. These shared on-street spaces served a wide variety of uses while experiencing the most use and the highest turnover.

### *Higher Efficiency in Land Use*

On-street parking also resulted in a more efficient use of land. Using the curbside for parking saves considerable amounts of land from life as an off-street surface parking lot. And with land being a limited resource, this issue is particularly important in areas such as downtowns where density and high activity are desired. Therefore, the benefit of being able to conserve an average of over two acres of land in these small to medium-sized town centers by providing parking on the street rather than with an off-street surface lot is immense. This efficiency in land use can allow for a much higher

density commercial development than is possible if the center relies solely on off-street surface lots to meet its parking needs.

### ***Lower Vehicle Speeds & Increased Safety***

Our results also suggest that on-street parking can help to create a safer environment. While this statement seems to contradict most people's perception, the reality is that in our study lower speed roads (less than 35 mph) with on-street parking have far fewer crashes resulting in a severe injury or fatality. In fact, lower speed streets without parking had a crash rate for severe injuries and fatalities of more than two times higher than the streets with on-street parking. We also showed conclusively that drivers tended to travel significantly slower speeds in the presence of features such as on-street parking and small building setbacks. Slower vehicle speeds provide pedestrians, cyclists, and drivers more time to react, and when a crash does occur, the chance of it being life-threatening is greatly reduced.

### ***More Pedestrian Friendly & Increased Pedestrian Activity***

On-street parking is part of a complete street package that offers pedestrians a safer and more comfortable environment. The strip of parked vehicles along the street serves as a buffer to pedestrian activities immediately beyond the curbside. Our study results showed that centers with on-street parking and other compatible characteristics such as generous sidewalks, mixed land uses, and higher densities recorded more than five times the number of pedestrians walking in these areas compared to the control sites, which lack these traits. These types of advantages are factors in creating vibrant places that more people walk and bike both to, and within, the town centers. They also serve to reduce the demand for parking since visitors view places with these features as 'park once' areas.

Overall, our results suggest that on-street parking is not purely a device to be used in the right environment; rather, it is a tool to help create that

right environment. On-street parking should be used in situations where the street is a vital part of the destination and where the intent is to get drivers to slow down and recognize that they have arrived.

There are many Connecticut cities and towns that fail to provide on-street parking in these potentially beneficial situations. In many cases, the land needed for on-street parking is already available in the form of excess street capacity or existing paved shoulders that are entirely unwarranted for a town center setting. Other researchers have shown that street capacity is actually limited by intersection throughput; a reduction in the number of through traffic lanes along road segments rarely affects travel on a street.

Nearly every town in the state has the street space available that can be reallocated toward a more productive use such as on-street parking, thus helping make these places safer and more walkable, and encouraging increased vibrancy and vitality.

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## Winterize Your Vehicle for the Season

It is that time of year again, winter, and preparation in all areas of life is important, including the vehicle you drive. Take the following steps to ensure that your vehicle will serve you well in the cold winter months.

### Have a professional check and service the following:

- Ignition system, including wiring and plugs
- Battery level and battery cables
- All belts and hoses
- Antifreeze level and freeze zone
- The braking system including rotors, pads, calipers or shoes and drums

**You should have a personal monthly routine maintenance schedule that has been developed from your vehicle's owners manual. This would include:**

- Maintaining proper levels of antifreeze/coolant, oil, transmission fluid, brake fluid, steering fluid
- Maintaining proper tire inflation, tread, and sidewalls.
- Checking all lights front, rear, marker, brake, direction signals, etc.
- Checking windshield wiper arms, replacing worn wiper blades, and topping off windshield washer fluid (washer fluid changed to a type that freezes at a lower wind chill in winter)

**It is also important to have an emergency winter driving kit in your trunk that includes:**

- Flashlight with an extra set of batteries
- Tire chains (depending upon the typical snow levels of your region)
- Jumper cables
- Properly inflated spare tire and the tools to change a tire
- A bag of salt or kitty litter, which can be used as traction material
- Snow scraper/brush
- Warm blanket along with spare hat and gloves
- Non-perishable foods
- First-aid kit
- Flares or reflective triangle
- Winter grade windshield washer fluid

Sources:

#### *NSC Fact Sheet*

<http://www.nsc.org/library/facts/winter.htm>

#### *Tips for Wintertime Operation*

<http://www.state.ia.us/government/dps/isp/winteroperation.htm>

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## Calendar

*We are feverishly working on our 2008 Training Calendar.*

*Visit our website for updates and click on the T2 workshop schedule [www.t2center.uconn.edu](http://www.t2center.uconn.edu).*

### The New England APWA Chapter Update

Don't Miss These Upcoming Events:

- Chapter Executive Committee Meeting* - January 16, 2008 - Worcester, MA
- Chapter Executive Committee Meeting* - February 20, 2008 - Worcester, MA
- Chapter Executive Committee Meeting* - March 19, 2008 - Worcester, MA

*Spring Meeting* - April 9, 2008 - Connecticut - location to be determined

*APWA Self Assessment Workshop* - April 8 or 10, 2008 - exact date and location to be determined

*Mechanics Workshop* - April, 2008 - Taunton, MA - date to be determined

For more information and registration forms, visit the NEAPWA website at: <http://newengland.apwa.net/events.asp>

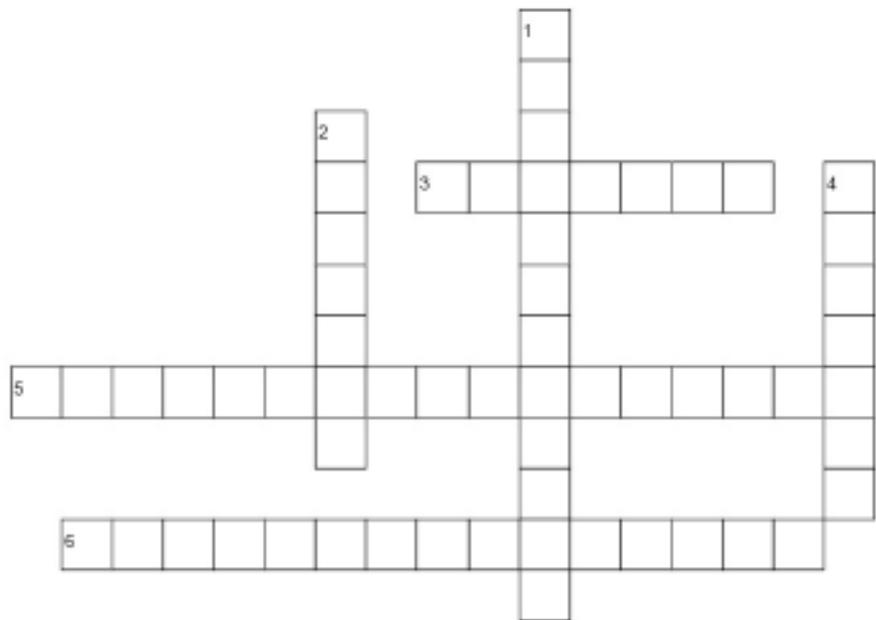
## Test Your Knowledge: *Signs, Signals and Markings*

### ACROSS

- 3 Three primary traffic control devices are signs, pavement markings and \_\_\_\_\_
- 5 Device used for determining recommended speeds for curves
- 6 When using delineators, the color chosen shall conform to the nearest \_\_\_\_\_

### DOWN

- 1 Two primary types of pavement markings are transverse and \_\_\_\_\_
- 2 Three basic types of signs are Regulatory, \_\_\_\_\_ and Guide
- 4 A sign that shall be erected on the outside of a curve



www.CrosswordPuzzle.com

*Think you've got all the answers?  
Be the first to fax a correctly completed puzzle to us at 860-486-2399 and you'll receive a surprise gift!*

# Technology Transfer Center Request Form

\_\_\_\_\_ Please change my address/contact information as indicated below.

\_\_\_\_\_ Please add this person to the mailing list. \_\_\_\_\_ Please remove this person from the mailing list.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Agency/Organization: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

I would like to see a future newsletter article on the topic of \_\_\_\_\_

I would like to submit a newsletter article; please call me at \_\_\_\_\_

I would like to request the following informational resource materials:

\_\_\_\_\_

\_\_\_\_\_

Please fax a copy of this form to 860-486-2399 or mail to:

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## Connecticut Technology Transfer

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