Spring Transportation Safety Council
Newsletter
April 3, 2009

- Chair's Message
- Did You Know?
- Featured Articles
  - Only Assessing Nominal Safety ... Are You Missing the "Safety Boat"?
  - Bicycle Roundabouts
  - Safety Analysis for a Proposed Light-Rail Transit Corridor
- Online Safety Publications and Resources

Chair's Message

I hope everyone who attended the ITE 2009 Technical Conference and Exhibit in Phoenix, AZ, USA, had an enjoyable and productive time. For the rest of us ... I hear the sun is always shining in San Antonio, TX, USA. The technical program for the ITE 2009 Annual Meeting has been posted on the ITE Web site. The Transportation Safety Council (TSC) has a number of sponsored and co-sponsored sessions at the conference relating to work zone safety and legal case studies. I look forward to seeing you there!

During our conference call in March 2009, our Road Departure Sub-Committee identified two 2009 initiatives for the TSC:

- the preparation of a presentation on road departure problems that can be accessed and used by districts, sections and student chapters; and
- an informational report on urban and suburban clear zones

We are in the process of preparing the project proposal for the latter effort. There will be a general call for volunteers in the next month; however, if you are interested in assisting in the preparation or review of either of the Road Departure Sub-Committee efforts, please contact me at rbrownlee@giffinkoerth.com.
Enhancing Intersection Safety Through Roundabouts: An ITE Informational Report is now available through the ITE Bookstore at http://www.ite.org/emodules/scriptcontent/Orders/ProductDetail.cfm?pc=IR-127. This project was initiated in 2005 and required significant support from our TSC member volunteers and ITE staff. The TSC Executive Committee would like to thank Hillary Isebrands and the chapter authors for their tireless efforts in preparing this essential reference document.

Next Executive Committee Meeting

Our next in-person TSC Executive Committee meeting will be held at the ITE Annual Meeting and Exhibit in San Antonio, August 9—12, 2009. The meeting times have not yet been posted on the conference Web site; however, the TSC generally meets mid-afternoon on the Sunday of the conference. Keep this in mind while making your travel arrangements if you would like to participate in the meeting.

Russell Brownlee, P.Eng. (F)
Chair, Transportation Safety Council

Did You Know?

Motor Vehicle Deaths Down 9 Percent in 2008

According to the National Safety Council, estimated 2008 traffic fatalities totaled 39,800, an 8-percent decrease from 2007 and a 12-percent decrease from 2006. The National Safety Council’s estimate for the cost of 2008 traffic deaths, injuries and property damage is $237.2 billion, an 8-percent drop from 2007. (Note: The 2008 estimate may be revised as more data become available.) For more information, refer to www.nsc.org/news/yearend_trafficreport09.aspx.

Featured Articles

Only Assessing Nominal Safety ... Are You Missing the "Safety Boat"?
Submitted by Russell Brownlee

Any transportation system is made up of vehicles, users, the transportation facility and the environment. These are all factors in determining the efficiency and safety performance of a system. Human errors account for a large percentage of collisions, injuries and fatalities on our transportation systems; however, they do not act alone. It has been estimated that roadway environment may be a contributory factor in more than 30 percent of roadway collisions. Our role as professionals is to determine if one or more of these factors contributed to a collision, and to what extent.

Nominal safety is a measure of a transportation facility design's compliance with prevailing design standards, warrants, guidelines and jurisdiction-specific policies and procedures. In undertaking an in-service safety review of a particular roadway or a collision investigation, the "compliance check" (the nominal safety measure) is only one component of the overall review. The remainder of the review should involve human factors, positive guidance and a substantive safety assessment. Why do many agencies, practitioners and experts only direct their attention to nominal safety measures? Access the entire article at www.otc.org/PDF/magazine/2009_Winter_Magazine.pdf.

Bicycle Roundabouts
Submitted by: Jeffrey Shaw
An exciting byproduct of the acceptance of the modern roundabout by the U.S. transportation community is its application on non-motor-vehicle facilities. A recent article published in the Federal Highway Administration's Public Roads magazine documents the experience with bicycle-pedestrian roundabouts along shared-use paths on college campuses and trail systems:

"The roundabout is becoming more popular at intersections on America’s roadways, primarily because of its ability to improve safety and traffic flow, particularly in situations involving low and medium traffic. The Federal Highway Administration (FHWA) estimates that crews construct 150-250 new roundabouts each year in the United States. The typical modern roundabout is a shared-use facility, serving motor vehicles, bicyclists, and pedestrians.

But another type of roundabout is making an appearance in transportation infrastructure. Transportation agencies now are designing roundabouts dedicated to bicycles and pedestrians, and sometimes bicycles only, on shared-use paths. These paths serve bicyclists, walkers, joggers, skaters - virtually all non-vehicle traffic."

The article in its entirety can be found at www.tfhc.gov/pubrds/09janfeb/01.htm.

Safety Analysis for a Proposed Light-Rail Transit Corridor
Submitted by: Richard Storm

The Central Puget Sound Regional Transit Authority, Sound Transit, published a Draft Environmental Impact Statement (DEIS) to operate an extension of its electric light-rail transit (LRT) system called East Link, which extends from Seattle, WA, USA, across Lake Washington to the "Eastside" communities of the City of Bellevue, WA and Redmond, WA. As part of the DEIS, a safety analysis was performed on alternative alignments through the approximately 20-mile-long LRT corridor. The alignments ranged from an at-grade median running to elevated side-aligned and went through a variety of neighborhoods including a freeway median, an urban downtown, commercial/retail and residential areas. The safety analysis was divided into two distinct parts.

The team first conducted an analytical and predictive analysis of the expected safety impacts the proposed LRT would likely have on the Interstate-90 (I-90) corridor from Seattle to Bellevue. I-90 in this stretch consists of three roadways; westbound and eastbound mainlines and a reversible center roadway for peak directional high-occupancy vehicles.
HOVs). The analysis on I-90 included estimating the change in frequency and severity of crashes that may occur when the reversible center roadway is converted to exclusive LRT operations, which shifts vehicles currently using the reversible lanes to the two outer (eastbound and westbound) roadways. The predictive analysis for the I-90 corridor considered the higher crash rates that occur during peak periods in conjunction with estimated peak congestion spreading that would occur because of the vehicle shift.

The analysis revealed that the traffic shift would result in a similar accident frequency through this corridor because the increase in accidents on the outer roadways is offset by the elimination of accidents in the center roadway due to the addition of the LRT mode. Because the LRT is predicted to increase the volume of people moving through the corridor, the crash rate as a function of person miles traveled decreased when considering the LRT project.

During the second phase, the team undertook a qualitative review of the potential impacts that the alignments within the roadway right of way may have on the arterial streets in the Eastside communities. This analysis considered the LRT alignment design of each alternative, such as median at-grade or side-aligned out of the travel way, and the known and common safety issues for each design type. A qualitative safety rating for each alignment was developed along with a summary of potential issues. In addition, existing crash records were reviewed to identify crashes that may be prevented by the LRT, such as mid-block turning crashes that could be prevented by a median LRT design that restricts mid-block access.

Online Safety Publications and Resources

**HSRC Directions: Winter 2009**

The University of North Carolina's (UNC) Highway Safety Research Center (HSRC) has released the latest edition of its newsletter that highlights highway safety issues and the activities of the center. The UNC HSRC conducts interdisciplinary research aimed at reducing deaths, injuries and related societal costs of roadway crashes.
The TSC Executive Committee would like to thank Mr. Martin Bretherton for contributing this information.

The Effect of Sleep Deprivation on Driving Performance
www.cts.umn.edu/Publications/ResearchReports/

The Intelligent Transportation Systems Institute at the University of Minnesota has released a report that explores the relationship between sleep deprivation and the driving performance of commercial motor vehicle drivers.

The TSC Executive Committee would like to thank Mr. Martin Bretherton for contributing this information.

Best Practices for Low-Cost Safety Improvements on Iowa's Local Roads

The Center for Transportation Research and Education at Iowa State University has released a report that explores various maintenance strategies practiced in Iowa to ensure safe travel on low-volume local roads. The report provides photos and narrative on these maintenance practices and references the agencies that apply these techniques. Visit www.ctre.iastate.edu for color PDF files of this and other research reports.

The TSC Executive Committee would like to thank Mr. Martin Bretherton for contributing this information.

Texas Transportation Researcher (Vol. 44, No.4)
tti.tamu.edu

Moving toward a culture of safety is the theme for the latest issue of the Texas Transportation Institute's Texas Transportation Researcher.

The TSC Executive Committee would like to thank Mr. Martin Bretherton for contributing this information.

NCHRP Report 612: Safe & Aesthetic Design of Urban Roadside Treatments
onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_612.pdf

Especially intended for designers and safety practitioners who work with urban arterials and collectors, this guide addresses safe and aesthetic roadside treatments. It includes a toolbox of effective roadside treatments intended to balance mobility with vehicle, pedestrian and bicycle safety.

The TSC Executive Committee would like to thank Mr. Richard Storm for contributing this information.

NCHRP Report 622: Effectiveness of Behavioral Highway Safety Countermeasures
onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_622.pdf

Creates a framework and guidance for estimating the costs and benefits of highway safety programs that address driver behavior.

The TSC Executive Committee would like to thank Mr. Richard Storm for contributing this information.
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