Oregon Traffic Control Devices Committee

September 28, 2007

Meeting Minutes

Marion County Public Works
Salem, Oregon

Members Present: Cynthia Schmitt, Vice-Chair, Marion County, Brian Barnett, City of Springfield; Ed Fischer, Secretary, ODOT State Traffic Engineer; Robin Lewis, City of Bend; Eric Niemeyer, Jackson County; Charles Radosta, ITE/Kittelson & Associates; Joel McCarroll, ODOT Region 4 (by teleconference)

Members Absent: Alan Hageman, Chair, OSP; Mike Coleman, City of Portland; Joseph Marek, Clackamas County

Others Present: Debby Corey, Katie Johnson, Gary Obery, Chris Rowland, Greg Stellmach, ODOT Traffic-Roadway Section; Angela Kargel, ODOT Region 2 Tech Center; Tamera Abbott, Oregon State Parks; Ed Chastain, Lane County; Karen Dixon, Oregon State University; Nick Fortey, FHWA; Steve Gallup, City of Eugene; Tim Janes, Advanced Traffic Products; Michael Mills, Washington County; Karen Odenthal, Jerilyn Wen, Marion County; Massoud Saberian, City of Lake Oswego; Hermanus Steyn, Kittelson & Associates; Eilene Wolven, Washington County

Introduction – Approval of Minutes – Additional Agenda Items

Vice Chairperson Cindy Schmitt, called the meeting to order. Members and other attendees introduced themselves. Charles Radosta then moved to accept the May 18, 2007 meeting minutes, with one minor change. Ed Fischer seconded and the committee voted unanimously in favor.

NEW BUSINESS

Advisory Speed on Curves

Ed Fischer introduced Doctor Karen Dixon, Associate Professor at Oregon State University. Karen has been the principal investigator in an ODOT-sponsored research project. The project was recommended in October 2004 by the OTCDC to look at implications of changes in the 2003 MUTCD guidance on criteria for arriving at advisory speeds.

Karen's presentation outlined research objectives:

⇒ Identify the basis for the current and proposed advisory speed posting procedures for horizontal curves and passenger vehicles

⇒ Identify current Oregon placement strategies at a variety of locations

⇒ Identify potential future criteria for establishing advisory speeds and determine impact

Karen listed the common assessment of safe speeds on curves as including the ball bank indicator (manual or digital), the computational approach (which considers frictional factors and radii), safe speed on curves data, and a few other cited techniques (85th percentile, engineering judgment, engineering study, driver perception).

Karen noted that Oregon has up until now used ball bank reading scale of 13° (in up to 30 mph zones), 10° (35-55 mph) and 7° (60+ mph), while the MUTCD previously suggested a 14-12-10 degree standard. However starting with the 2003 MUTCD, new guidance stated:

> "The advisory speed may be the 85th-percentile speed of free-flowing traffic, the speed corresponding to a 16-degree ball bank indicator reading, or the speed otherwise determined by an engineering study because of unusual circumstances.

This single 16 degree reading for all speeds is not favored by the National Committee on Uniform Traffic Control Devices. The NCUTCD has proposed additional changes for the next edition of the MUTCD to a 16-14-12 degree standard. They also want to see a requirement for engineering study based on procedures including ball-bank criteria, accelerometer readings, or calculations using equivalent side friction values, a truck advisory speed of 12° and staged implementation of the changes over a period of 10 to 15 years.

Utilizing a standard ball bank indicator and a RDI Digital Inclinometer and the field work of OSU students, the study looked at 160 sites statewide, including sites with advisory speed plaques and sites without them. Students researched safe speeds on 16 state highway and 16 local highway curves within each of the five ODOT regions.

In reviewing data obtained from research at the field sites, Karen came up with compliance definitions as follows: "Equal To" – Posted Advisory Speeds were equal to (2003 MUTCD) recommended advisory speeds based on field ball-bank evaluations. "Less than or Equal To" – Posted Advisory Speeds were equal to or less than recommended advisory speeds based on field ball-bank evaluations. Ed Fischer was pleased with the definitions which had been surprisingly complicated to come up with in earlier work.

The study revealed that current Oregon policy compliance varies, but advisory speeds of 30 to 45 mph consistently have a lower compliance. Compliance defined as "Equal to Recommended Advisory Speed" is much more rigid than a definition of "Equal to or Less than. The proposed MUTCD 16-14-12 threshold at Advisory Plaque Sites is okay for 35% of the sites (with 80% equal to or less than this less conservative criteria). The proposed MUTCD 16-14-12 threshold at All Study Sites was okay for 29% to 38% of the sites (using "Equal To" threshold). Karen said a future study might be good to look at the relationship between

advisory speeds and crash history because she found anecdotal evidence that they were higher in case of no advisory speed plaques going one direction on a curve where there was such signing going the opposite direction.

There was some discussion about the changes in safe speeds as deteriorating road surface results in deteriorating friction resistance. Only the computational approach directly addresses friction and it is labor intensive, requiring more frequent reviews of each curve. This brought up the issue of reduced friction in wet pavement conditions. The research Karen's project did was in dry conditions. Ed thought that Oregon's safe speed on curves method may have historically been more conservative in order to allow for wet pavement conditions. Ed said the (FHWA) Expert Task Group is looking for further research proposals. He may suggest they do follow-on research on Karen's study to investigate safety issues related to the curve advisory speeds. He will follow up with Karen on the possibilities.

Multi-lane Roundabouts Status

Ed Fischer briefed the committee on the current status of the movement to include pedestrian signals at roundabouts and other multi-lane crosswalks. He referred to some proposals for multi-lane roundabout sites on the state highway system. He said he doesn't plan to approve any multi-lane roundabouts on state highways until the Access Board decides whether or not pedestrian signals of one sort or another are going to be required. Two years ago, the Board's preliminary recommendation was to have them on all roundabouts and multi-lane crossings. They have since backed away from that but still are proposing to have some form of signalized pedestrian assistance for crossings at all multi-lane crosswalks. In the case of a multi-lane roundabout, if there are crosswalks, that would apply. He would rather not allow multi-lane roundabouts on state highways if that happens. It would eliminate a major benefit of these alternatives to intersections by requiring signals at all approaches and exits.

Charles said there was some consideration of restarting the subcommittee on roundabouts. Ed said the final recommendation from the Access Board is expected sometime in the next year. Ed said the NCUTCD has made some new recommendations for the new manual regarding lane control signing and pavement markings. It was supposed to be out in September but hasn't yet appeared. With this timing, the subcommittee may be useful to take a look at the proposals and recommend any changes to the Oregon Supplement or to submit comment on new proposals to FHWA.

The City of Bend is working on plans for new roundabouts at SE 3rd Street & SE Reed Market Road, at Cooley Road and 18th Street, and at SE 15th Street and SE Reed Market Road. Brian Barnett suggested having a OTCDC meeting in Springfield so committee members can have a look at some of their sites. He said that he thought a better strategy to resisting pedestrian signalization of roundabouts is to manage appropriately to identify different techniques from the traditional red-yellow-green signals, and how the pedestrian signal is shaped, whether there are black-out phases, and the type of actuation method. He advocates putting signals in on demonstrated need and retrofitting as needed. Ed mentioned a region traffic managers meeting which included visiting two new HAWK beacons installed in Portland. They were on SE Burnside Street at NE 41st Avenue and on NE Sandy Boulevard at NE 18th Avenue. The

signals aren't being operated exactly as the National Committee recommends and are worth seeing. The signals are different enough in operation that the driving public is going to need to learn how to deal with them. They are still in the experimental stage and require an evaluation plan in order to be approved for installation.

Robin said observations from Colorado roundabouts with push-button operated pedestrian signals were that more than 90-95% of pedestrians never hit the push button. She doesn't think signalization will interfere with traffic as much as feared because of this. Ed said that would be true for other than HAWK signals because they are supposed to be in a "DON'T WALK" condition until a pedestrian pushes the button.

Ed mentioned a demonstration at the NCUTCD meeting last June in Tahoe, of a crosswalk beacon system. It has been tested in Florida for about 8 months using a traditional diamond warning sign with an arrow pointing down at the crosswalk. Instead of circular flashing beacon, this treatment had an LED strip with a stutter-strobe effect below the warning sign at vehicle eye level. It is pedestrian activated and early results found 95-98% compliance (vehicle stopping for pedestrian stepping off curb) compared to 20-25% without it.

Robin pointed out that sighted pedestrians are able to make eye contact with motorists and essentially create their own gaps in traffic to safely cross whereas those without sight are not able to. Therefore there's a need to target creating gaps for the sight impaired.

The roundabout subcommittee will continue to monitor developments in the Federal Register and the committee will be updated as needed in the next few months. During the moratorium, jurisdictions may want to mitigate against future requirements by embedding conduit into new installations. Ed said more aggressive truck drivers are sometimes straddling the lane lines in order to avoid problems navigating the roundabouts. Robin said designing roundabouts so that trucks can stay in their lanes requires a wider roundabout leading to faster speeds, and less yielding to pedestrians. There might be a need to change Oregon statutes to address the issue. Brian said his idea was to remove language from the statute to avoid conflicting language.

OLD BUSINESS

Sign Policy & Guidelines Update

Greg Stellmach presented a handout of proposed changes with supplemental information to the committee and reviewed the proposed changes in Chapter 3. The committee acted as follows:

- Approved the deletion of the HIGH LEVEL WARNING DEVICE on page 3-40 of the SP&G. The information with more detail is available on the web as a page of our Standard Details. Greg also provided members a copy of OAR 741-115-0040 titled "Special Requirements for Traffic Signal Interconnections", which includes the DO NOT STOP ON TRACKS sign requirement.

- Delayed approval of a new WHEELCHAIR USER ONLY sign required by passage of Senate Bill 716 in the 2007 Legislature until the November meeting. The bill apparently was

reviewed by DMV and has implications regarding handicapped parking and other related signing/sign color with its new distinction of van accessible spaces as spaces only for wheelchair-bound disabled people. Members wanted time for review of the implications before further consideration. The law goes into effect in January so there is time to make a decision later and possibly make a more comprehensive modification of this group of signage after consultation with representatives of the disabled community.

- Approved the deletion of:
  Sign No. OR22-19 RED LIGHT  & SPEED PHOTO ENFORCED IN BEAVERTON,
  Sign No. OR22-19a, RED LIGHT  & SPEED PHOTO ENFORCED IN PORTLAND,
  Sign No. OR22-20 RED  LIGHT PHOTO ENFORCED, and
  Sign No. OR22-21 SPEED PHOTO ENFORCED.

  The passage of House Bill 2466 requires that signs used for temporary photo radar units shall be posted as TRAFFIC LAWS PHOTO ENFORCED which is covered by sign R10-18 in the MUTCD (Figure 2B-1). The Oregon supplements to the MUTCD indicate that all other permanent installations of photo enforced signs shall use either the R10-18 sign or the R10-19 sign from the MUTCD rather than the previous Oregon designs.

Due to time constraints, review of other proposed changes were put off until the November meeting.

Legislative Concept Ideas (for 2009 Legislature)

Ed Fischer suggested that before the November meeting the committee members think about legislative concepts for changes to statute that the committee would like to bring to the 2009 session through ODOT. Legislative concepts need to be in to the ODOT Director's office by the 1st of January. Some wording concepts need to be framed up in time for Ed to do that.

One possibility is the treatment of dark signals under law. The media and drivers manual says to treat them as all way stops even though current law says to treat them as uncontrolled intersections.

Another possible area of legislation is Brian's idea of making changes to roundabout statutes to help trucks get through roundabouts.

The definition of flashing yellow arrows is another possibility which didn't receive approval the last time it was proposed.

Other possibilities brought up by the committee included:

- allowing U-turns at signals unless otherwise prohibited
- prohibiting parking in front of mailboxes or where curb is yellow, (require accompanying signs?)
- prohibit panhandling and "fill the boot" activities as a traffic hazard

There may need to be a special meeting after the November meeting because time will be short to get something ready by the end of December. After that, ODOT will need to do its own vetting, come up with fiscal impact information, and decide what is doable. There is no guarantee that proposals will go forward from ODOT to the Legislature but they certainly won't if they're not proposed. Eric suggested that fiscal impact information was generated as part of the U-turn study ordered by a previous legislature and Ed agreed. Ed recommended that the person who puts forward a proposed concept should also bring the existing statute and the suggested new language.

✓ Committee staff will get a copy of the U-turn study report out to members prior to the next meeting.

Future Meeting Dates

The committee had no changes to the currently scheduled November 16, 2007 next meeting at Marion County Public Works. They also were in agreement with the first three meetings of 2008 on January 18, March 21 and May 16 at Marion County Public Works (except that if possible, the March 21st meeting will be held in Springfield).

✓ Action Item – Brian Barnett will work on a location and get back to the committee. Cindy will make sure Marion County meeting room is scheduled for future meetings planned in Salem.

{Note: Brian has found and booked a meeting place at the "Library Meeting Room" in City Hall (225 Fifth Street), for our March 21, 2008 meeting in Springfield. He also reported a conflict with the May 16, 2008 meeting date so we are looking at the possibility of a May 9 or May 23, 2008 meeting at Marion County Public Works.}

NON-AGENDA ITEMS

Brian thanked Eric Niemeyer for his years of excellent service to the committee. Ed Fischer joined Brian in appreciation of Eric's OTCDC service as well as service to the National Committee on Uniform Traffic Control Devices and the full committee applauded his service. Eric said he will remain involved with the NCUTCD although he is changing careers in his move to Northern California.

Ed said that Ed Chastain has been nominated to replace Eric as a county representative on the Committee and that Robin Lewis has agreed to be nominated to serve another term as a city representative.

Meeting Adjournment

The meeting adjourned promptly at noon. Massoud Saberian then showed us examples of flashing LED lights added to signs to make them more obvious and add emphasis. He will follow-up at a future meeting. This was followed up by a demonstration of the VCalm® radar display sign by Ron Reed of Capital Enterprise.