

NCUTCD Bicycle Technical Committee Minutes

Wednesday, June 26, 2013, Portland, Maine

Prepared by John S. Allen, September 6, 2013

Attendance

BTC members (See <http://www.ncutcdbtc.org/members.html> for affiliations.)

Richard Moeur, Chair

Michael Jackson

John Allen

Dwight Kingsbury

John Ciccarelli

Peter Koonce (new member)

Mike Colety

Theo Petritsch

Ted Curtis

John Schubert

Michelle DeRobertis

Bill Schultheiss

Bill Desantis

Ron van Houten

Bill Fox

Guests

John Brooking, Cycling Savvy Portland

Jim Kalchbrenner, PEXCO/Davidson

Sarah Cushman, Maine Safe Routes to School

Charley La Flamme, Maine Bicycle Coalition

Mike Cynecki, Lee Engineering

Paul Niehoff, PACTS

Mike Coleman, Kittelson & Associates

Tony Philpin, Bike West Haven, Connecticut

Eli Damon, Cycling Savvy Pioneer Valley

Jim Shurbutt, FHWA

Josh DeBruyn, Michigan DOT

Joe Stafford, Pennsylvania Bicycle Access Council

Kevin Dunn, FHWA

Lee Stuart, ATSSA

Sally Gunn, New Hampshire DOT

Mighk Wilson, Metroplan Orlando

Lora Hollingsworth, Florida DOT

Preliminaries

Richard Moeur called the meeting to order at 1:07 PM

Approval of January Minutes was tabled.

BTC Membership

An NCUTCD sponsoring organization has full discretion of who will represent it on the NCUTCD Council.

Peter Koonce is a new member representing ITE. At the close of the June 2013 meeting, Richard Moeur

will no longer be representing the League of American Bicyclists, but will be an Associate Member with the AASHTO delegation. Rock Miller will replace Richard, representing the League as its Voting Member, but is not present at this meeting.

A technical committee is supposed to have at least five NCUTCD Council Members or Associate Members representing sponsors. We finally have 5 Voting or Associate members. Nathan Richman, who was at the January meeting, represents NACE as an Associate Member. The others are Moeur (was LAB, now AASHTO), Koonce (ITE), Miller (new LAB), and Schultheiss (was an Associate Member for APBP, now LAB).

David Gleason has missed too many meetings to continue as a member. John LaPlante is still technically a member of the committee, but is unlikely to attend meetings in the future.

Members of other NCUTCD technical committees, including Brent Jennings, may be interested in moving to the BTC.

NCUTCD rules require the BTC to have more than 50% representation from government employees or researchers working for government-sponsored institutions. Dwight Kingsbury is no longer with Florida DOT. The Operating Procedures define what constitutes a "government member" in terms of university employment - "employed by a public university and has substantial responsibility to conduct research in highway traffic operations or the application of traffic control devices under contract to a federal, state, county or municipal government agency." That would not seem to apply at all to people who have part-time or adjunct teaching contracts (Cicarelli, DeRobertis, Miller).. We have a number of prospective members: Mike Coleman, Josh DeBruyn, Lee Stuart and Mighk Wilson are attending this meeting and are expected to be confirmed at tonight's Board of Directors meeting.

Request for comments on structure of the MUTCD

FHWA has suggested a reduction in size of the MUTCD. The effort will focus on streamlining with 4 goals: reassessment of standards, reduction of page space, reorganizing content for topical fluidity, reorganizing orphaned content – random option statements etc. No change in content is anticipated, but if someone makes an obvious recommendation we might do that.

An example of a "streamlined" MUTCD using Part 3 as the example has been posted by FHWA for comment.

The strategic plan for the MUTCD will be the primary topic at tomorrow morning's General Session.

Dunn: on behalf of FHWA, acknowledged that TCs had their agenda hijacked for comments, gave thanks for time put into that. Under the preliminary timeline, a Notice of Proposed Amendment for a new

edition of the MUTCD is February 2015 in anticipation of 2016 publication. To meet this schedule, proposals need to be approved by the June 2014 meeting.

Moeur: We may have to postpone UVC revisions etc. Some sponsors are unhappy with this.

DeRobertis: This could lead to FHWA interim approvals without NCUTCD concurrence.

Dunn: Under the preliminary timeline, there would be no interim approval for bike signals unless there is a delay on the new edition. FHWA is looking for BTC and Signals committees to provide content on bicycle signals. A joint BTC/STC group will work on bicycle signals.

Moeur: If NCUTCD can't issue a formal proposal, a working group could informally give info to FHWA. Sometimes this has worked.

Bicycle Signals Discussion

Dunn: Signals TC may be concerned with drivers mistaking bicycle signals for standard signals.

DeRobertis: presented a video of bicycle signals in Davis to the BTC.

Allen: it is online (at <http://www.youtube.com/watch?v=JG05y2c7i9s>).

Koonce: Motorist confusion issue was resolved with limited-visibility heads in Portland.

Moeur: STC members may be thinking of signals with 55 mph operating speeds.

Ciccarelli: There needs to be a 3-part warrant for bicycle signals: bicycle and pedestrian volume, and crashes.

Jackson: Has anyone had actual experience with confusion issues?

Koonce: No.

Allen: There can be a problem with motorists' taking advantage of bicycle signals.

Van Houten: There is a similar issue with light rail signals.

Uniform Vehicle Code

Moeur: With info we received from FHWA regarding the timetable for a new MUTCD, we have to postpone work on this topic until MUTCD content for the next edition is completed.

Allen: The huge volume of comments from sponsors and late submission from the League (apparently due to an e-mail which got lost on the way to Bob Garrett) also require a delay. Allen will collate comments and send them out by e-mail for review.

Work zone figures for bikeways

BTC & TTC presented this to the NCUTCD Council in January. There were a number of concerns raised and the proposal was tabled. BTC made changes based on those comments. We felt we had addressed all of these.

Ciccarelli: Tab 2, on-road detour, does not address on-street parking.

BTC members concurred with the changes. This will go back to the Council on Friday for final approval.

Colored Pavements

Markings Technical Committee is working on colored pavements and friction treatments for markings. Colored pavement is a special case of markings.

It can be difficult to meet MUTCD bounding boxes specifying colors when integrating color into pavement.

USDOT Bicycle Guide

Dunn gave a presentation what Secretary of Transportation LaHood said would be “a standard guide” for bicycle facilities to be published by FHWA. There is a working group at FHWA. There is to be new guidance on cycle tracks, closing loopholes in the AASHTO Guide.

Moeur: 75% or more of the NACTO guide (<http://nacto.org/cities-for-cycling/design-guide/>) is proposed for the next MUTCD and about half of it is already standard practice.

Dunn: There will be an attempt to rectify 3 CFRS ([see http://www.ecfr.gov](http://www.ecfr.gov)): 23 CFR 625.4 lists reference documents for Federal-Aid projects in the absence of other design criteria: there is no document for bicycle or pedestrian facility design. This could be updated. Example: Florida has a bicycle design guide, and would use that instead. 23 CFR 652.9 includes an antiquated rule on funding, with an allowable ceiling of \$4.5 million per state per year on pedestrian and bicycle facilities and a maximum of \$45 million nationwide. This section also says that designs should use the 1981 AASHTO Bicycle Guide. Designs must also comply with ADA, and public right of way accessibility guidelines (PROWAG) once they are implemented.

Ciccarelli: The FHWA web site is very useful: it could be harmonized with new developments. (See http://www.fhwa.dot.gov/environment/bicycle_pedestrian/)

Stafford: NACTO has a lot of arbitrary experimentation: he is concerned about the DOT jumping ahead with designs which haven't been tested

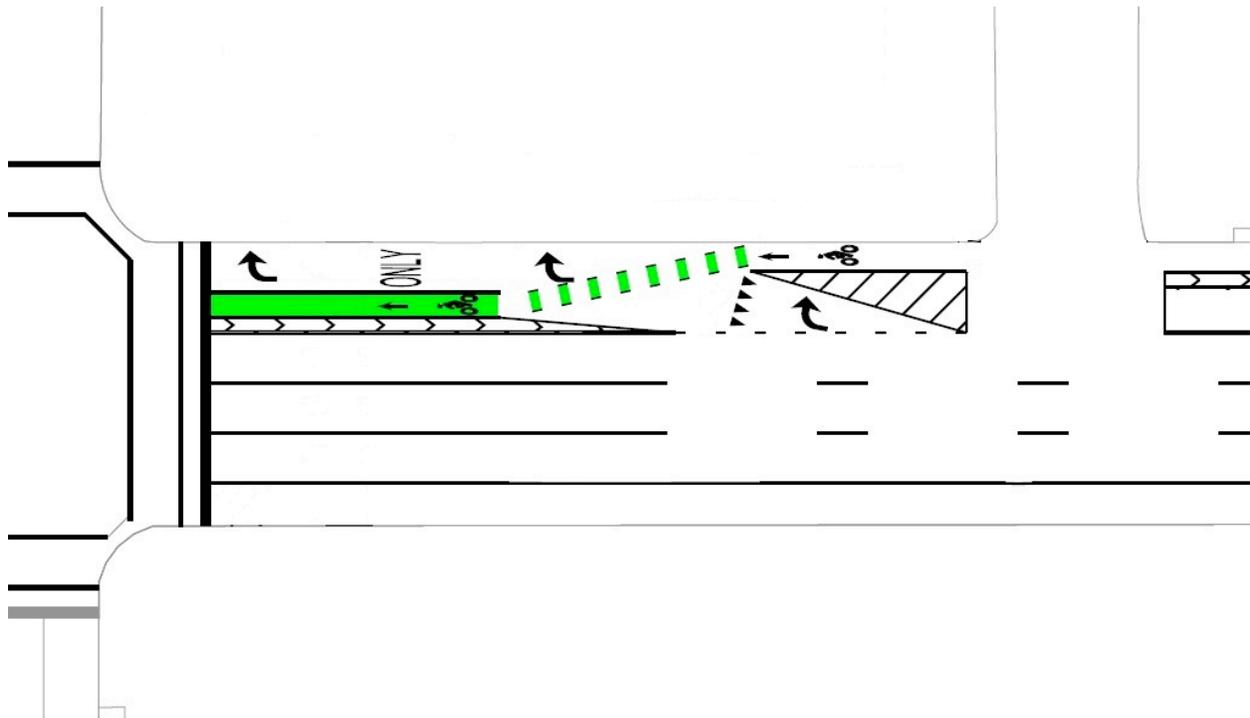
Moer: we don't operate in a vacuum: when the Secretary of Transportation said something in front of 1000 people, something is bound to happen. It is our job to provide the best engineering guidance. We guide and influence.

Petritsch: These developments need to be congruent with the MUTCD We could refine contraflow bike lanes to standard, guidance, option. The more difficult stuff is bike boxes, bicycle signals, etc.

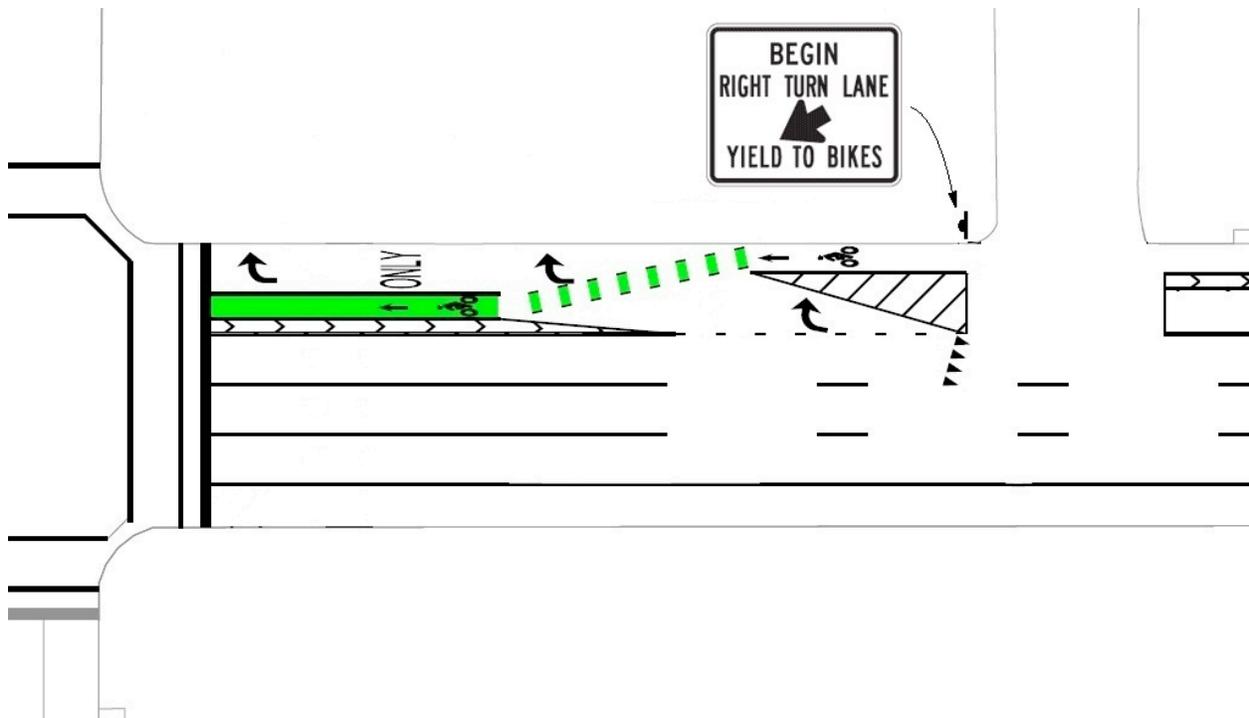
Allen: there are contraflow bike lanes and contraflow bike lanes. Allen volunteered for a task force on contraflow lanes.

Merge areas/mixing zones

Dunn brought up a mixing zone design with a yield bar. This is depicted in the second edition of the NACTO Urban Bikeway Design Guide - people see things like this in the NACTO guide and think that it must be approved for general use. This is one example.



Bike merge area (per NACTO UBDG 2nd ed.)



Proposed revised bike merge area - with R4-4 and yield line in travel lane

Ciccarelli: This design works well at low speeds, in practice. There is a floating parking lane.

Schubert: The yield sign is not where motorist will see it.

Allen: Because of the parked cars and the cycle track to its right, signs at the right side of the street have to be placed very high on posts to be visible to motorists.

Petritsch: This is not a merge, it is a double crossing. The rear end of the vehicle yielding to bicyclists is still sticking out into the through lane, though this occurs in many other places.

Dunn: It violates the manual. We can't do that. A yield sign must apply to all lanes.

Curtis: The yield sign for one lane works in some situations. Document them?

DeRobertis: What about upstream conditions?

Stafford: Why not a shared-lane marking?

Van Houten: In-street signs?

Schultheiss: Low speed is important. People leap to the assumption that the design is for 45-50 mph. He is disturbed by motorists' stopping to yield to cyclists when cyclists should be yielding. Which is worse?

Ciccarelli: This is a preview of what we address with all nuances of cycle tracks. New York didn't care about being MUTCD compliant. Design a sign to place at curbside? Volume, gap acceptance are issues.

Moeur: Human factors play an important role. Road users need to be able to anticipate, detect, & react to potential conflicts.

Allen: mentioned photos, videos and written comments on a similar design from a field trip to New York City by BTC members (Allen, Ciccarelli and Schubert, with host Steve Faust) in December, 2008 -- the Grand Street items at <http://john-s-allen.com/galleries/NYC/> .

Moeur: Allen, Coleman, Ciccarelli, Stafford, Koonce are to work with Dunn on this.

Bicycle Signal Heads

There will be a joint BTC/STC bicycle signal working group meeting at 7:30 PM. There was a discussion of where bicycle signals might or might not be used, also about clearance intervals -- punted to the working group. There was no dispute over definition of bicycle signal heads.

Schultheiss: Does a bicycle signal head always mean you are in a protected movement? That is the case in California.

Petrtsch: Shielding or directionality is needed.

Ciccarelli: What about bicycle turn arrows?

Moeur: We need to crawl on this issue before we sprint?

Discussion is to be continued in the working group.

Adjournment

The meeting adjourned at 5 PM to make way for the Pedestrian Task Force.

NCUTCD Bicycle Technical Committee Minutes

Thursday, June 27, 2013, Portland, Maine

Prepared by John S. Allen, version of September 6, 2013

Attendance

BTC members (See <http://www.ncutcdbtc.org/members.html> for affiliations.)

Richard Moeur, Chair	Michael Jackson
John Allen	Dwight Kingsbury
John Ciccarelli	Peter Koonce
Mike Coleman (new member)	Theo Petritsch
Mike Colety	John Schubert
Ted Curtis	Bill Schultheiss
Josh DeBruyn (new member)	Lee Stuart (new member)
Michelle DeRobertis	Ron van Houten
Bill Desantis	Mighk Wilson (new member)
Bill Fox	

Guests

Tony Barrett, ECGA, Bike Ped Adv. Council	Jim Kalchbrenner, PEXCO/Davidson
John Brooking, Cycling Savvy Portland	Charles Meyer, Colorado DOT
Sarah Cushman, Maine SRTS	Michael Moule, Nelson Nygaard
Mike Cynecki, Lee Engineering	Tony Philpin, bikewalk.org CT
Eli Damon, Cycling Savvy Pioneer Valley	Paul Niehoff, PACTS
Ray Derr, TRB, NHCRP	Jeff Rosenblum, City of Cambridge, Massachusetts
Rob Dingess, Mercer Street Alliance Inc.	Conor Semler, Kittelson & Associates
Kevin Dunn, FHWA	Joe Stafford, Pennsylvania Bicycle Access Council
Gene Hawkins, NCUTCD Vice Chair	David Vega-Barachowitz, NACTO

Colored Pavement/Friction

Rob Dingess from the Markings TC chairs the colored lanes task force. Proposed colors are green for bike lanes, red for bus lanes, purple for tolls. The task force didn't have chance to finish this at the last meeting.

He tries to take interim info into account, and chairs the ATSSA high friction task surface, looking to develop an AASHTO standard for surfaces. Bill Ahearn from AASHTO is looking to work on this. With

wider and wider stripes, this becomes more important. The use of colored lane surfaces is very young in the USA.

Bicycle Signals Working Group

Schultheiss: The group met till 11:15 PM and walked through many of the issues, got the pieces together; Ronnie Bell of the Signals TC led the discussion. Allen, Moeur, Schubert and Wilson from the BTC also attended for much of the meeting. There will be a conference call, and the working group will report back to BTC by the end of the summer. The working group will not push for bicycle signals to be allowed at hybrid beacons. That would sink the proposal with the Signals TC.

Koonce: curious about why prohibiting at PHBs.

Wilson: A cyclist was facing flashing Don't Walk and a motorist a flashing red in St. Petersburg; there was an incident.

Koonce: An extended solid red might resolve that.

Petritsch: remain silent on it. The cyclist also went through a stop sign. These are contrary traffic control devices. A flashing red beacon might solve the problem.

Raised Devices Working Group

Discussion: People from different committees are interested. This concept covers a lot of territory. Preferably keep a proposal simple, adjust existing language. There should be a prohibition of a bike lane to the right of a right-turn lane. Hard prohibition is not required if separating signal phases: it's OK if a conflict is separated in time. On cycle tracks, look at chapter 3, preferential lanes, insert language there, or for inspiration or add a few key words.

Moeur: MUTCD defines devices but details are left to design guides.

Schultheiss: Look onto shy distances. Work on a definition, circulate it. List all various types of devices etc.

Ciccarelli: we are ignoring the largest raised object, a vehicle.

Jackson: saw a bad example of barriers on a bridge.

Moeur: FHWA and the AASHTO guide have taken a stance on this.

Sites Open to Public Travel

DeRobertis: This definition applies to a university campus, airport, shopping mall. If it looks like a road, it should conform to the MUTCD. Each TC has a volunteer on this task force. DeRobertis came up with 3 places in Part 9 where new wording is needed: Scope, Exclusions, and a new section on Sites Open to Public Travel.

Moeur: Have we talked with Regulatory and Warning Signs about this?

Allen: Exclusion from property (no bicycles signs at entrances) is not the same as exclusion from say, a parking garage when there is separate bicycle parking on the property.

Moeur: Federal Signal puts a "no bicycles" sign on all its automatic parking gates at the time of manufacture. If you don't want it, you have to peel it off.

Jackson: How to apply to a shopping center? Often we see signs which say no bicycling, no skateboarding as if they were equivalent. What is the applicability of the MUTCD?

Moeur: If it is open to public travel it is included, but parking lot aisles are not.

Stafford: It is unenforceable if the sign isn't right. Has to be dealt with state by state.

Moeur: We can only define standards, not get into enforcement.

DeRobertis: Location of bicycle parking signs is defined, first most logical location.

Ciccarelli: Do we need a new sign? D4-3 sign has a horizontal line facing left. All other parking signs are designed for curbside application.

DeRobertis: Can we vote?

There were no objections to voting, but we vote in January once the proposal has been fleshed out.

DeRobertis comments: I know we didn't take a formal vote, but we rarely do, and my understanding was that we approved the proposed edits by consensus; and in fact, I reported to the SOPT Task Force that the "the BTC approved the following edits to PART 9 with respect to SOPT by consensus."

NCHRP Report

Ray Derr of TRB and NCHRP spoke about several topics. He has a small project (NCHRP 20-7(350)) dealing with US Bicycle Route signing. Volunteers are welcome and this will be covered in the next edition of the AASHTO Guide. Jim McDonnell is very interested in this.

20-7 research projects (see <http://maintenance.transportation.org/Pages/NCHRPProject20-7.aspx>).are less than \$100K and are decided at spring and fall meetings of AASHTO . Bernie Arsenau of AASHTO's Standing Committee on Highways can bring it forward. He is the NCUTCD liaison to the NCHRP.

Moeur: On the Mississippi River Trail, (US Bike Route 45), there is not enough money for all the needed signage. Research could direct money effectively for signs where needed. Make sure that the bike guide conforms fully to the existing or anticipated version of the MUTCD.

Schultheiss: How do we get our research proposals funded?

Derr: There are projects underway. It is a very competitive process.

Koonce: Same problem with bicycle signals research.

Petrtsch: A champion at the state level gives you have a better chance of getting the project funded.

Allen: The BTC might look into how to make research inexpensive and efficient (example: a project on a resort island where it is easy to count bicycle arrivals and departures by ferry).

MUTCD Strategic Planning

Gene Hawkins (Vice-Chair of Programs for NCUTCD and Chair of the NCUTCD Strategic Planning Task Force) asked for comments on the proposed MUTCD Strategic Plan posted at <http://mutcd.tamu.edu>. This document and process are very important in that they may shape the future of the MUTCD & NCUTCD for many decades. Comments should be posted to the website or routed through the NCUTCD process (but not both).

Bike Boxes

Schultheiss: New version of proposal is cleaned up; only new changes since the January version are shown. Filtering forward into crosswalks is endemic – 40-90% but decreased to 40-70% after installation of bike boxes. The Portland study, <http://otrec.us/project/227>, was the best one. The Austin study, <http://media.oregonlive.com/commuting/other/austinbikeboxreport.pdf> showed bad compliance due to poor signal timing and low numbers of bicyclists.

DeRobertis: Everyone loves color but it doesn't appear to make much difference in behavior.

Schultheiss: There was no instance of a bicyclist suddenly swerving in front of a car. In the Portland study, 5% entered the bike box (defined as the area to the left of the extension of the bike lane). 20% stopped in the crosswalk. 38% would stop behind it and 38% go past. He advocates a 14 feet depth. There is an issue with stop lines getting farther from intersections. Columbus study,

<http://publicservice.columbus.gov/WorkArea/DownloadAsset.aspx?id=55872>: 16% in bike box.

Ciccarelli: Has issues about the figure. Should there be a green area in or beyond the crosswalk?

Koonce: this has been helpful where the capacity is used. Right-turning vehicles can go sooner because they do not have to yield to bicyclists overtaking on their right.

After a scheduled break, the meeting continued with a reading of the definition of the bike box. There was some wordsmithing of the document. Bill Schultneiss distributed it to the BTC by e-mail on July 8.

Allen: James Mackay has a list of what makes bike boxes succeed in Europe, lacking from US implementations (<http://john-s-allen.com/blog/?p=810>).

Wilson: Use a shared lane marking instead of bike lane to encourage motorist to move over to the right edge. It's better to pass on the left.

Kingsbury: Victoria, Australia research shows that SLMs work at approach to roundabouts, same idea.

Schubert: when there's a fatal collision the problem isn't the bike box, it's the bike lane. Why would we choose a treatment which has caused fatal collisions all around the world? Bike boxes are promoted with slogans in videos. "Bike box, get behind it," with the expectation that you follow the green paint, you are good.

Moeur: We have a built environment which conditions that kind of behavior. No other countermeasure than SLM has been effective.

Petritsch: Research has been on roadways 35mph or less and it would be wise to restrict bike boxes to this. Dotted green and dotted white on the approach would be a good idea

Wilson: Should we be encouraging a movement which runs contrary to the basic rules of traffic?

Ciccarelli: We are talking about how the approach affects conflict. The right hook doesn't happen in the approach or in the bike box but beyond it. Some Portland treatments that give him heartburn are after the bike box. If no color is allowed, would that increase vigilance? We need to be very careful about what we put in the figure. Bike lane should have dotted green. Removing color to the right of the bike box would encourage people to move into the bike box.

Moeur: We need to base our work on research. We just can't put things in the manual.

Allen: How wide can a bike box be, and is it used for left turns?

Schultheiss: Left turns only with one through lane. Transitions across wide roads and left turns are not common.

Coleman: It's a well-written proposal: delete bullet item C, left turns.

Moeur: avoid the left turn issue entirely? We're getting into restrictions which make this proposal complicated.

Rosenblum: Change item C, Facilitate...indication.

Allen: There are three transition items in the proposal.

Ciccarelli: A bike lane on Scott Street before Fell Street in San Francisco is used on transitions. If you retain C, you have covered this.

DeRobertis: Do bike boxes inhibit motorists' merging into the bike lane? Portland research is irrelevant because the law is different in Oregon.

Moeur: We have no data on behavior with different bike lane approaches to intersections. But that is outside the scope of the proposal.

Schultheiss showed various examples of bike boxes with/without a right-turn lane and parking.

Brooking: What is the distance for a left-turn merge?

Philpin: It's ambiguous.

DeRobertis: You can't have a regulatory sign that only applies to one lane.

Stafford: Is there anything else in the MUTCD for No Turn on Red? How is that compatible with the stop bar in bike box?

Moeur: All other uses of offset stop line are for safety or operations. If motorists pull over to the right, bicyclists can't access the bike box from the bike lane.

Ciccarelli: has seen "Wait here" painted on the pavement – optional. Stop Here on Red sign?

Consensus: show bike box non-colored, no signs, no "wait here" marking, no turn on red sign could be moved to near side of the intersection. Keep it simple.

Moeur: 10 feet min.

Cicarelli: Show left side of bike lane dotted. No need for No Turn on Red if there is a right-turn only lane to the right of the bike box..

Brooking: do you need a receiving bike lane?

Rosenblum: Not part of this discussion.

Bike box proposal was approved 14 to 3, dissenting: Allen, Schubert, Wilson.

Bicycle Merge Signing

Our package was sent to Regulatory and Warning Signs TC and got a negative reaction. Comments were to undertake review, make it a regulatory rather than warning sign, or use a bike lane ends sign, placed to allow time to react based on motorist speed.

Moeur: Maybe we should have a face-to-face on the January agenda. We have a second draft version which Bill Desantis developed this spring and we needed to discuss before presenting it to R&W Sign TC. (Desantis had to leave for home early and was not present for this discussion).

Coleman: Bicycles are not merging left of other traffic.

Schubert: Bikes merging ahead might not be seen as regulatory.

Schultheiss: Described a bike lane drop scenario at Union Station in DC. Looks right, feels right, no research.

Moule: California uses road markings and that is effective.

DeRobertis: Transverse arrows?

Moeur: We could do that already.

Damon: How much of a problem is this?

Moeur: hold off till January.

MMUCC

Michael Jackson is interested in increased law enforcement, and is working on a video in Maryland. He is aware of NHTSA model minimum uniform crash criteria: according to him, some of the language coding bicycle crashes and industries is counter to FHWA recommendations. Crashes are described as in the crosswalk only when marked; pedalcycle is defined. Road includes shoulders. Definition of highway

doesn't appear; trafficway instead, bicyclists are considered non-motorists. Moped is defined here w/o pedals. States use this and he would like us to get it updated.

Moeur: This isn't specifically a MUTCD/NCUTCD issue. BTC can't take official action. But thanks for the information.

DeBruyn: League of Michigan Bicyclists has developed a guide.

Priority list

Moeur: Indicated where we are on pending and future proposals (<http://www.ncutcdbtc.org/future/btcpriority.pdf>). The bike box proposal will need to go to Markings TC for concurrence prior to going to sponsor review. Bike signals needs to be worked out with Signals TC prior to sponsor review.. Review MUTCD Strategic Planning documents at <http://mutcd.tamu.edu> and post comments there.

Adjournment, future meetings

The meeting adjourned at 6:12 PM.

Next meeting is January 8-10, 2014, as usual at the Crystal City Hilton Hotel, Arlington, Virginia.

The summer 2014 meeting will be June 25-27 in Minneapolis.

The summer 2015 meeting will be somewhere in Texas.