

State of California

DEPARTMENT OF TRANSPORTATION CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE

Minutes of Meeting
August 9, 2018

Caltrans District 11
Garcia Auditorium 1-125
4050 Taylor Street
San Diego, CA 92110

Committee Members in Attendance:

Hamid Bahadori, Vice-Chair
David Fleisch
Lt. Rick Hatfield
Xavier Maltese
Andrew Maximous
Reza Meghissi
Mike Sallaberry
Duper Tong

Alternate Committee Members:

Doug Bilse
Zoubir Ouadah

Committee Staff:

Vijay Talada, Executive Secretary
Nestor Cuellar, Caltrans
Arshad Iqbal, Caltrans

Presenters:

Troy Bucko, Caltrans
Matthew Capuzzi, Chen Ryan Associates
Roger Clugston, Deputy Director, California Public Utilities Commission
James Esparza, California Public Utilities Commission
John Liu, Deputy District Director
Izzy Loh, Chen Ryan Associates
Jaime Maldonado, MTC Safe
Joe Rouse, Caltrans Division of Traffic Operations
Massoud Saberian, Supervising Engineer, City of Santa Rosa
Kevin Schumacher, California Public Utilities Commission
Edgar Torres, SANDAG
Jennifer Williamson, SANDAG

Public Comment

Jim Baross, California Association of Bicycling Organizations
Esmeralda Falat, Chief, California Highway Patrol

Albert Kramer, Travelers Marketing
David Royer, City of Santa Maria
Kathie Tirado, Caltrans

ORGANIZATION ITEMS

1. Introduction

Vice-Chair Bahadori welcomed those attending the meeting. A quorum was achieved. The Committee Members, staff, and audience introduced themselves and gave their affiliations. Vice-Chair Bahadori thanked Caltrans District 11 for hosting the Committee.

2. Membership

Committee Member Maximous stated that Doug Bipse with the City of Carlsbad has agreed to be the CTCDC Alternate for the Southern California League of Cities.

3. Approval of Minutes of the May 10, 2018 Meeting

MOTION: Committee Member Fleisch moved to approve the May 10, 2018 California Traffic Control Devices Committee Meeting Minutes as presented. Committee Member Hatfield seconded. Motion passed unanimously.

4. Public Comments

Jim Baross, President, California Association of Bicycling Organizations, called attention to the hazard in the standard design for bike lanes next to parallel-parked vehicles. The standard lane width encourages bicyclists to ride in the “door zone.” The California Association of Bicycling Organizations plans to address this within the next year.

5. Items under Experimentation

17-15: Request for Experimentation – Red colored pavement markings for Transit Only Lanes in left turn only lanes – In person status report

Massoud Saberian, Supervising Traffic Engineer with the City of Santa Rosa, stated that over a year ago the city had requested a red Bus-Only left turn in the downtown area because of a significant number of violations in which motorists were entering a transit mall. He described the pavement markings.

Data was initially collected in July 2017 to monitor the number of cars making the violation. Follow-up data was collected last month to see how the left-turn pocket markings have helped. The results show a net decrease in violation. The city will continue with enforcement and education; more focus on right turn violations will continue for the next year.

There has been a significant decrease in the number of people following the bus into the bus mall. There has been no noticeable change in the right turn, which was not marked and not the focus of the experiment.

Main objectives were achieved of reducing driver confusion and conflicts, and enhancing traffic flow and pedestrian safety.

Questions and Discussion

Committee Member Sallaberry asked if the results have been shared with the Federal Highway Administration (FHWA). Mr. Saberian answered that the results will be sent to them.

Committee Member Fleisch suggested that it might be helpful, considering the average daily reduction in violations from 24 to 21, to separate out the right turns from the left turns. Mr. Saberian agreed and stated that they do have those details, but did not include them in this report.

AGENDA ITEMS

6. Public Hearing (*none*)

7. INFORMATION ITEMS (New items that may be voted on or brought back as Action Items in a future meeting)

18-14: Request for installation of new Freeway Service Patrol (FSP) Sponsor Acknowledgement Signs

Jaime Maldonado, Metropolitan Transportation Commission (MTC), reported that the California State Transportation Agency asked the FSP partners (MTC, Caltrans, and CHP) to work on a pilot program for a sponsorship for FSP. The concern is that FSP is a successful program but many motorists are not aware of it. FSP's goal of moving disabled vehicles out of the way of traffic then ends up being unsuccessful.

The pilot involves putting signs on the trucks and the freeways; FSP was seeking a sponsor.

FSP wants to do about two signs per beat – 30 signs for 15 beats – then evaluate the performance metrics.

FSP has a questionnaire that goes out to every motorist. For the question, "How did you hear about the FSP program?" the answer "Freeway signage" will be added to the list of possible answers. Another answer will be included that requests more information for those who have not heard of the program.

Mr. Maldonado displayed a beat map of the Bay Area.

Joe Rouse, Office of System Operations, Caltrans Traffic Operations, stated that they are looking to roll out this pilot program possibly on a statewide basis. Not all of the FSP vehicles would be included, but some potential corridors have been identified.

About 38 other locations across the United States have similar sponsorship programs in which a company puts its branding on the Service Patrol Vehicles.

Questions and Discussion

Committee Member Maximous asked about the open space for a company logo at the bottom of the sign. Mr. Rouse replied that the space would be used for whoever is selected as the sponsor. It would vary according to the particular Safe program of that area.

Committee Member Hatfield asked how this advertisement pilot would solve the problem of motorists being unaware of FSP. Mr. Maldonado replied that sponsorship is like marketing for FSP. Mr. Rouse explained that the trucks themselves would be emblazoned with the sponsor's logo in order to enhance their visibility.

Vice-Chair Bahadori referred to the Freeway Assist call boxes installed 12 years ago.

Committee Member Fleisch agreed with Committee Member Hatfield that it was unclear how having a sponsor name displayed would help motorists to understand what FSP is. Mr. Rouse stated that the signs are one piece of a comprehensive marketing package. Drivers would be wearing coveralls embossed with the sponsorship logo; materials would be handed out to the motorists who are assisted. Committee Member Fleisch felt that it would be more beneficial for motorists to understand FSP before they actually need it. He suggested marketing before the fact.

Committee Member Maximous suggested having the secondary text “Free Tow Service.” Vice-Chair Bahadori stated that FSP only tows the driver to a safe spot off the freeway – it is not an actual tow service.

Committee Member Hatfield expressed concern with vehicles being emblazoned like a wrap. Mr. Maldonado stated that they did not want to do a wrap – that had been CHP’s concern. The sponsor’s logo will be larger than the FSP logo on the trucks. Committee Member Hatfield thought that might add to the confusion.

Committee Member Maltese agreed that this method would not clarify FSP.

Vice-Chair Bahadori asked how the Adopt-A-Highway program compares. Mr. Rouse answered that it is similar in that a public or private entity can approach Caltrans and obtain an encroachment permit to do highway cleanup and get their name placed on a sign. In this instance, FSP would be working with the sponsor to get the name on the signs. Vice-Chair Bahadori asked the cost to the sponsor. Mr. Maldonado answered that it would be approximately \$1.5 million per year.

Vice-Chair Bahadori asked how they would measure the effectiveness of the signs. Mr. Maldonado responded that the survey question for the motorist, “How did you hear about the program?” would be the measure. One year into the pilot the measurement would be taken.

Committee Member Tong pointed out that the sign for this kind of program is already allowed by the FHWA – it is not experimental or new.

Public Comment

Zoubir Ouadah, Traffic Engineer for the County of San Diego, commented that the sign is appropriate but it is missing the education side of what FSP wants to do. He suggested going through the insurance companies, having them add an educational pamphlet for when their drivers get stuck on the freeway.

Esmeralda Falat, CHP Chief, asked what other states that allow this and under what circumstances. Regarding the questionnaires, she asked where the data comes from showing that people in California are not aware of FSP. She added that \$1.5 million for a sponsorship would generate some revenue – but this is a free program paid for by the taxpayers. Where would the money generated go?

- Mr. Rouse answered that 38 different states or agencies use this type of sponsorship program; FHWA had provided California FSP with examples from Indiana and New Jersey.
- Mr. Maldonado answered that at this point this is just a pilot, so the money generated will go back into the FSP program.

Questions and Discussion

Vice Chair Bahadori asked why this item was on the agenda if it is already allowed by FHWA and is in the federal manual. Committee Member Tong replied that there is no standard design for the sign. They had approved this sign by issuing a memo; currently they do not have a standard.

Committee Member Hatfield still felt that there are other avenues for media outreach to make this service more clear for the motorist. Vice-Chair Bahadori agreed.

Vice-Chair Bahadori asked if Caltrans has criteria for how people will qualify for sponsorship. Who will run this program? Mr. Rouse replied that it will be FTC. Mr. Maldonado explained that there will be a Request for Proposal with some advertising restrictions, similar to a bus shelter or BART (no alcohol, firearms, cannabis, political statements, etc.).

Committee Member Moghissi asked how far the service will tow a disabled vehicle from the freeway. Mr. Maldonado answered that there are drop sites for each beat, usually every two or three exits. There is usually a phone there or a business. He confirmed that in effect, each car has to be towed twice. He stated that FSP tows only 8-10% of cars that it helps out.

Committee Member Hatfield addressed the question about where the data had come from regarding motorist confusion. Mr. Maldonado replied that it had come from questionnaires FSP received.

MOTION: Committee Member Tong moved to approve the sign design.
Committee Member Sallaberry seconded.

Vice-Chair Bahadori asked about the CTCDC's involvement going forward once the sign is approved and displayed on the freeway. Will the CTCDC be involved in the results of the marketing, its effectiveness, etc.? Executive Secretary Talada answered that CTCDC involvement will end here.

VOTE: With three opposition votes (Hatfield, Maltese, Moghissi), the Motion failed.

Committee Member Hatfield suggested tabling the item for clarification; he requested more data-driven information with specifics on the motorist confusion. He would like to see a proposal for the images themselves with the larger FSP portion, number of signs, and their placement on the vehicles.

Committee Member Maltese added that information on the RFP would be appreciated. Mr. Maldonado said that he could share a scope. Committee Member Maltese's concern was eligibility.

Committee Member Moghissi noted that some unanswered questions had been brought up by CHP; it would be beneficial for FSP to provide additional information next time to help the CTCDC to understand the program better.

Committee Member Hatfield summarized that for next time that the CTCDC wanted to see more information about the program criteria and a larger FSP logo.

Vice-Chair Bahadori suggested that if FSP staff chooses to bring back the item at a future date, they should talk with the CTCDC members directly to ensure that the desired information is available.

Committee Member Fleisch underscored that the CTCDC comments show the need to understand how the sign applies to the education objective – not disagreement with the sign itself.

Public Comment

Albert Kramer representing Travelers Marketing stated that this company had originated the sponsorship program throughout the country. (Vice-Chair Bahadori informed Mr. Kramer that the item was now closed.)

18-10: Intersection Control Evaluation – Draft Language

Committee Member Tong reported that the committee had helped to draft the language.

Executive Secretary Talada walked the Committee through the language, including Section 4C.01 where line 01a is now a *shall* statement.

Questions and Discussion

Committee Member Fleisch appreciated that the local agencies had been given the option, but wished the language had been left to the state highways. This implies that local agencies have to do it, but then they are given the option to define the criteria. For many of the intersections for the local agencies, it is going to be a complicated process, particularly on rural roads.

Vice-Chair Bahadori clarified that when Caltrans wants to do something on the state highways, it is an internal decision and does not need to go through the CTCDC. In the CA MUTCD there is no distinction between state highways and local streets – it is one transportation system. At the previous meeting, Committee Member Jones had pointed out that we have to force the local agencies to look at roundabouts before installing traffic signals at intersections.

Committee Member Maximous asked what would satisfy the statement “...shall be studied...” Does the local agency determine that a letter suffices from the local Public Works Director or the proper authority, deeming that the roundabout is not feasible? He felt that this is a lot to impose on all agencies statewide. We may need some time to check in with colleagues and obtain their feedback before we vote on it.

Executive Secretary Talada added that the proposal is consistent with Strategic Highway Safety Plan and the local agencies participate and support the action items. Committee Member Maximous asked if there was a letter of support from the local agencies. Executive Secretary Talada stated that he did not have a letter of support at this time.

Committee Member Tong emphasized that the text shown in red states for each agency to develop its own criteria.

Committee Member Fleisch shared Committee Member Maximous’s concern, although he supported roundabouts; from a legal liability perspective it could lead to problems. Vice-Chair Bahadori agreed that we need some kind of legal protection for when accidents happen at intersections.

Executive Secretary Talada noted that with paragraph 01b proposed to be struck out and the new *shall* statement included, at the same time local agencies are given the option of developing their own criteria.

Vice-Chair Bahadori asked if we even want to have this in the MUTCD, and if we do, it is obviously for all streets and highways; so what is the language?

Public Comment

Mr. Ouadah felt that this is a good first step but it is missing a lot of things. The agencies have a wide range of sizes, so the guidance from Caltrans for Intersection Control Evaluation (ICE) is key if we want to put it in the MUTCD and the CA MUTCD.

Committee Member Tong stated that at the 2017 meeting this committee had directed Caltrans to develop stronger language. At this point, we cannot go back and forth again.

Committee Member Maximous felt that at this point the CTCDC should take this language back to the city and county attorneys to see if they would support it. We just want to know what is in compliance.

Committee Member Fleisch stated that there is no question that roundabouts are a safe method to which we should be moving. However, there are 58 counties in California and only 13 are urban – the remainder are fairly small and cannot afford the study process. This is really a design issue rather than a traffic control device issue and perhaps design guidance should be in the design manual instead.

Committee Member Moghissi stated that Caltrans has brought the item back with stronger language, but it may be too strong in that it may have significant implications for the local agencies. Perhaps the obligation could be toned down but the encouragement could remain.

The Committee confirmed that they were not ready to vote on the item.

Executive Secretary Talada agreed to table the item for now. The legal teams of the League of California Cities and CSAC will be given the opportunity to review the language and Executive Secretary Talada to work with the Strategic Highway Safety Program (SHSP) on some sort of letter showing support of this kind of language.

8. Action Items (Continuing discussion from prior meetings with vote expected)

15-18: Proposal for street names for bridges over Class I bikeway and at Class I bikeway intersections

Committee Member Tong reported that a subcommittee had drafted language for the proposal.

Executive Secretary Talada gave the background and explained the language changes.

- A proposed guidance statement for street names is to be inserted in Sections 2D.43 and 9B.20.
- Another guidance statement for sign lettering is to be inserted in Section 2D.43.
- A new section, 9B.104, Signs on Overcrossing Structures, is proposed.

Public Comment

Mr. Baross stated that it is a great idea. He noted that the sign that says BIKE ROUTE refers to a Class III facility, however, it should be Class I. Another sign says TRAIL CROSSING, but he did not think that Caltrans puts in trails.

MOTION: Committee Member Tong moved to pass the item with the clarifications and corrections made by the Public Comment. Committee Member Maximous seconded. Motion passed unanimously.

9. Request for Experimentation

18-15: Request for experimentation with modified 4-section traffic control and R10-15b sign

Matthew Capuzzi, Chen Ryan Associates, presented the item. The goal of the Bayshore Bikeway is to build a Class I 28-mile bike loop around the San Diego Bay. The planners had decided not to provide fully-protected bike movements in intersections. Instead they implemented a Leading Pedestrian Interval (LPI) which allows bikes and pedestrians to leave ahead of the vehicles, and to incorporate a NO TURN ON RED blankout sign. They came across an approved experimentation for Spartanburg, South Carolina upon which they had basically modeled the proposed experimentation.

Izzy Loh, Chen Ryan Associates, continued the presentation. The City of San Diego is concerned about motorists yielding the right-of-way to pedestrians and bikes crossing the street. Several segments of the Bayshore Bikeway have been built where the Class I path runs parallel to an urban road.

The project was proposing to use a modified R10-15 sign with both a pedestrian and a bicyclist symbol, and a modified application of a 4-section signal which would include a bicycle signal and flashing right-turn yellow arrow to be used as a shared signal.

Mr. Loh explained the operation of the signal.

Mr. Capuzzi described the four proposed locations, timeframe, and evaluation metrics.

Questions and Discussion

Committee Member Sallaberry asked if they had considered implementing the bikeway with typical signals for the “before” data collection. Mr. Capuzzi felt that it was a reasonable idea.

Committee Member Moghissi noted that the flashing yellow arrow and the green ball come on at the same time; he suggested eliminating the green ball and just having the flashing arrow for the right turn movement. Mr. Capuzzi answered that it is a shared right through lane, so this is a better application. Mr. Loh stated that for MUTCD compliance, shared signal heads for permissive right turns must show the green ball.

Committee Member Fleisch suggested having the R10-15 sign on the turn side as well as the far side of the intersection. Mr. Capuzzi liked the suggestion.

Committee Member Maximous asked, if this Request for Experimentation is approved, whether other cities wanting to use this signal head can use it for a normal ped or bike crossing – not just a shared path. Executive Secretary Talada replied that this was not allowed.

Vice-Chair Bahadori stated that he was not sure the Vehicle Code allows this. It is for the CHP to opine upon: you are showing a driver two signal indications at one time. He added that the flashing yellow arrow has a warning value but no legal meaning. Mr. Capuzzi stated that the flashing yellow arrow is an experimentation because there is no space for a protected right turn lane.

The group discussed this question as it pertained to the two intersection configurations. Mr. Capuzzi said that they could research the Vehicle Code.

The group perused the Vehicle Code. Vice-Chair Bahadori directed that CHP should check with their legal department.

Public Comment

Dave Royer, representing the City of Santa Clarita, stated that this city uses the green ball with flashing arrow for protected permissive left turn signals. He stated that Santa Clarita separates all bicycle traffic to its own facility. They have made the R10 sign an LED blankout sign – it is an active sign so people will pay attention to it. It is a relatively simple but expensive solution that he recommended.

Mr. Baross stated that the California Association of Bicycling Organizations had difficulty with the proposal.

- It is called a Class I shared use facility but is easily confused with Class IV.
- Motorists are allowed to make a right turn across two directions of bicycle and pedestrian traffic.
- In the explanation for controlling the traffic on the separated facility, there were no bicycle signals although there were pedestrian signals.
- Left turns are allowed from the roadway across the facility when bicycles are allowed to go straight.
- For adjacent one-way or two-way bike facilities, Mr. Baross proposed all red for motorist movements across the facility or all green only for bicyclists – no right turn or left turn when bicyclists or pedestrians are present.
- The CVC should be adjusted to reflect changes that are made for bicycle and pedestrian safety.

Mr. Ouadah recommended that the experiment be more comprehensive, and that it include an evaluation of the bicyclists' compliance with the signs as well as the motorists'. Regarding Mr. Royer's comments about the "near side hand" – they do that in the design for right or left turns, always with one at the near hand and one at the far side.

Questions and Discussion

Mr. Capucci asked Mr. Royer if Santa Clarita had done before-and-after analysis. Mr. Royer replied that they had not done a formal study.

Mr. Capucci informed Mr. Baross that all left turns are protective; bikes are allowed to use the WALK sign to cross the street; there is a sign in the MUTCD saying BIKES USE PED SIGNAL, and the study is proposing to use that as well.

He stated that as they are through the environmental process, this project will not be able to incorporate a fully protective phase (they do not even have an LPI through the rest of the Bayshore Bikeway).

Committee Member Maximous expressed caution about keeping this type of use of right turn on green for this configuration only (bike use facility or shared use facility) – it could open the door to be used everywhere.

Executive Secretary Talada agreed that this application cannot be allowed by the CTCDC on a blanket basis.

Committee Member Moghissi expressed concern about safety – once bicyclists come to a crosswalk, they are going at a speed much faster than a pedestrian speed. There may not be enough time for a right-turning vehicle to react even with the flashing yellow signal.

Committee Member Sallaberry stated that ideally there is complete separation between the bike lane and the right turn lane. However, in this situation there are very few right turns, which can create a lot of delay. An excessive number of signal phases tends to lower compliance, but this is one more tool to help improve safety. It is an experiment so we will learn from it.

MOTION: Committee Member Maximous moved to approve the experiment provided that it is legal to have two signal faces; and that near side signal head and near side signage be added. Committee Member Fleisch seconded. Motion passed unanimously.

Executive Secretary Talada stated that the Request for Experimentation was approved contingent upon FHWA approval.

18-16: Request to experiment: Non-standard red colored pavement

Troy Bucko, Transportation Engineer, Caltrans District 11, presented the item. State Route 15 in San Diego has two Bus Rapid Transit (BRT) stations along a 2.4 mile stretch. A single lane runs in each direction within the median of the facility. There are two stops in each direction for picking up pedestrians. The problems are that the bus-only lane somewhat resembles a High Occupancy Vehicle lane, so some general-purpose vehicles are using the lane and some pedestrians are crossing the facility.

The intent is to mitigate these problems by putting a red-colored treatment on the pavement, primarily at the entrance zones. The material is made of dyed crushed glass applied with epoxy. It has some friction.

Mr. Bucko described the high number of citations issued since May 2018.

Upon approval to experiment from the CTCDC, Caltrans will request approval to experiment from the FHWA.

The experimental process is robust with a rollout within a six-month period including an evaluation portion. Caltrans has four months of pre-data.

Questions and Discussion

Vice-Chair Bahadori noted that today's meeting agenda contained a request from another agency (Santa Rosa) for red pavement for another purpose.

Committee Member Sallaberry commented that this use of red is very much in line with past uses.

Committee Member Tong noted that at the federal level, red pavement is for transit or bus use – this is consistent with the FHWA implementation.

Public Comment

Mr. Ouadah commented that the sign itself is red; the MUTCD Section 1A.12 states that red is reserved for stop or prohibition. This is more of a regulation than a prohibition, so the sign should be black and white. He also commented that the acronym “MTS” may be unknown to someone who is not local; the word “TRANSIT” should be used instead.

Mr. Bucko responded that the sign will indeed be black on white – the pavement will use the red. He also said that only MTS buses – no other types of buses – are to use the facility.

Committee Member Hatfield added that we will not be able to exclude enforcement for other buses; any bus qualifies for the lane. Mr. Bucko stated that they are hoping that the markings themselves will create enough distraction for other buses to stay in the general purpose lanes.

Public Comment

Mr. Royer commented that he was pleased to see consideration given to friction enhancement on the colored pavement, to alleviate the problem of slipperiness. He also commented that bus exits out of fast track lanes are very confusing, so the red colored pavement would be a great help at the entrance to the bus lanes.

MOTION: Committee Member Fleisch moved to approve the experiment.
Committee Member Tong seconded.

MOTION WITH AMENDMENT: Committee Member Fleisch added the Amendment to ensure that the pavement treatment should have adequate friction.
Motion passed unanimously.

18-17: Proposal for experimental use of a nonstandard traffic control device – green stripe next to edge line

John Liu, Deputy Director for Caltrans District 6, stated that the primary reason for the proposal was to provide additional awareness to both motorists and bicyclists that there are portions of freeways that are open to bicycles. The proposal puts down a 6 inch green stripe next to an edge line or a Detail 30 bike lane stripe. Green currently has an interim approval by FHWA for use in bike lanes as well as extension of bike lanes. It is not approved for use within shoulders. However, there are some applications of green that are not bike lanes, such as sharrows.

Mr. Liu described the freeway areas in Fresno that can be used for bicycle travel.

He described the three locations proposed for the experiment.

They intend to do a before-and-after study to discern whether this measure encouraged bicycles to use the facility; bicycle counts will be taken. In addition, surveys would be given to motorists as well as bicyclists to see if they understand the purpose of the green stripe.

Questions and Discussion

Committee Member Sallaberry noted that a green stripe makes the shoulder more noticeable, but in some ways it also seems to affect the visibility of the bike stripe. Mr. Liu responded that this is an opportunity to try different variations of the striping. The green does not have to be adjacent to the white stripe; also, different widths can be tried.

Committee Member Fleisch noted that the issue of lane striping changing from 4 to 6 inches had come up last March. Nothing has been decided. He was not in favor of the change in this proposal to 6 inches. We need to be consistent in our application.

Committee Member Sallaberry shared this concern. Perhaps this could be used for onramps and offramps, and longer sections in the middle would have a sign every 1,000 feet or so to suffice.

Vice-Chair Bahadori stated that to his thinking, a green stripe on the edge line means the shoulder is open to everyone, not that it is for bicyclists only.

Committee Member Maximous noted that in District 7 on State Route 23 there is a similar cross-section, and they have placed the regular R81 BIKE LANE signs along the highway. Is there an internal Caltrans approval to do that? Maybe the striping could work for onramps and offramps, but in the middle, it could cause more confusion.

Vice-Chair Bahadori asked how much this will cost per mile. Committee Member Tong stated that typically a 6 inch stripe cost 60 cents per linear foot.

Public Comment

Mr. Bilse stated that a casual driver may interpret the green line as a low-cost alternative to a green lane. The City of Encinitas has done this – using a green line as an option to a green lane.

Mr. Baross stated that the sign suggested by Mr. Liu is appropriate to show that bicycles are allowed on the freeway (but only on the shoulder). He stated that if this marking is used, it should only be where the shoulder is adequately smooth and maintained.

Mr. Bucko asked if they are planning on using a shadow stripe. Mr. Liu answered that at all the proposed experimental locations there are asphalt shoulders, so there isn't a need to place a black shadow stripe next to the white stripe. With the green stripe, there may be less need for the shadow stripe because the green should stand out from the concrete pavement whereas the white sometimes becomes invisible.

Questions and Discussion

Vice-Chair Bahadori still felt that people will think they can use the lane when they see the green. Bicycle stencils, signage, or sections of green pavement could help.

Committee Member Moghissi agreed that the lanes should be supplemented with signs.

Committee Member Sallaberry suggested going back and studying this more, and being more specific on the entrances and exits. He saw this as an opportunity to improve the signs used on freeways. If this experiment is approved, he would like to see measurement of whether drivers are using the shoulder and whether cyclists are riding on illegal sections of roadways.

Mr. Liu stated that the original idea included a very large implementation of the green stripe – the majority of the state highways for bicycle travel. This was to encourage more bicycle

travel. The current mindset of Caltrans is to encourage mode shift and active transportation. Most of the motoring public is not expecting to see a bicyclist on the freeway, but if they are aware of a green stripe on the proposed three-mile segment, it will increase recognition of the possibility of bicycles.

Committee Member Sallaberry asked if the signs that could be used along the shoulder are intended for cyclists and motorists. Mr. Liu answered that the signs are intended for both bicyclists and motorists. As they are on the freeway, they would have to be fairly large.

MOTION: Committee Member Tong moved to approve the item to limit the green edge line stripe needed at the entrance and exit of the freeway, but in the body of the freeway, to use signage (BIKE OK ON SHOULDER) rather than pavement marking. Committee Member Moghissi seconded.

Committee Member Fleisch commented that if the intent is to encourage bicycles, this is a strange way to go about it. Changing signage language and enlisting the help of bicycle representatives for more research may be more effective.

Committee Member Maximous agreed. For more uniformity, if District 7 is doing a Class II bike lane with full signage and markings, in order to enhance it the request should include changes to the MUTCD for that section.

Committee Member Tong stated that Caltrans wants the experiment to see how they can promote use of this mode of transportation. If it is successful, eventually they can add it to other facilities, not only District 6.

Committee Member Fleisch suggested doing more research on this and coming back with an updated Request for Experiment that considers some of the discussion.

Mr. Liu asked about approving an experimental bike sign stating that bikes are OK on the shoulder. Committee Member Hatfield stated that the signs are already legal. Mr. Liu asked about a sign with a symbol. Executive Secretary Talada answered that if the sign involves a symbol, approval from both the CTCDC and the FHWA is required. He did not believe that such a sign currently exists.

MOTION: Committee Member Sallaberry moved to approve an experiment for a regulatory sign with a symbol stating that bicycles are OK on the shoulder, to be tested on these locations.

The motion could not be carried as the sign was not part of the agenda package. Committee Member Tong stated that he would bring it back to the committee next time.

18-18: Proposal for experimental use of red pavement markings at a railroad at-grade crossing

Roger Clugston, Deputy Director for the Office of Rail Safety, California Public Utilities Commission (CPUC), presented the item. At California's 12,500 railroad at-grade crossings, many issues arise with how the public deals with them. The CPUC is looking for a low-cost solution to make vehicle drivers aware of their surroundings. A number of entities are attempting to use red pavement markings.

Mr. Clugston described a 2014 grade crossing study in Fort Lauderdale using yellow paint on a dynamic envelope, six feet on each side of the track, to identify the danger zone. (The PUC

has instituted a near-miss reporting system with the railroad conductors, but it is voluntary. Collecting accurate data is very hard to do.)

The CPUC was proposing to paint the dynamic envelope with the type of materials that Mr. Clugston described – good for a lot of wheel resistance. The CPUC would use red paint rather than yellow to increase driver awareness.

Mr. Clugston described the crossing at State Highway 120 in Escalon which was chosen for the experiment. He also showed crossings in Kingsbury and Merced. The towns are very interested in doing the project.

He stated that he is trying to think outside the box, using this type of pavement marking at grade crossings to see if it increases driver awareness and decreases poor driver behavior. This low-cost solution (\$2 per square foot) will appeal to many people.

Questions and Discussion

Vice-Chair Bahadori asked who will implement this program. James Esparza, Senior Utilities Engineer Specialist at CPUC, answered that the cities proposed for the experiment along with the railroad staff are willing to work with the CPUC and Caltrans.

Committee Member Hatfield asked about the unavailability of collision data. Mr. Esparza answered that near-miss data is something they do not have. When Mr. Clugston was discussing the project with the local agencies, they were the ones who brought up the locations of concern.

Committee Member Fleisch felt that yellow is the color internationally understood as caution, and it can be readily seen at night. Mr. Clugston responded that they had thought long and hard about this, but red is more indicative of danger.

Committee Member Sallaberry had a similar comment – if the Florida experiment showed that yellow worked, why not use it? Mr. Clugston responded that red has never been tried in an experiment. Committee Member Sallaberry commented that yellow has been shown to be the most visible color for people with sight impairments.

Committee Member Moghissi suggested trying each color for experimentation purposes.

Vice Chair Bahadori noted that Human Behavior scientists at UC Berkeley had found yellow to be the most visible color.

Committee Member Tong commented that the practice of red-colored pavement is reserved by the FHWA for transit or buses.

MOTION: Committee Member Tong moved to approve the experiment, pending FHWA approval.

Committee Member Maximous suggested a caveat that if red is not approved by the FHWA, the CTCDC pre-approves yellow as well.

MOTION RESTATED: Committee Member Tong moved to approve the experiment, pending FHWA approval; if the FHWA does not approve the red pavement color, the CTCDC approves the yellow color for the testing location. Committee Member Moghissi seconded. Motion passed unanimously.

18-19: Proposal for experimental use of a non-standard traffic control device – signing for I-805 and SR-94 transit only lane pilot project

Edgar Torres, of the consulting team for Caltrans District 11 and the San Diego Association of Governments (SANDAG), presented the item. The intent is for Caltrans to convert the shoulder into a transit-only lane along I-805.

Vice-Chair Bahadori inquired as to whether this same request had come in August 2017. Mr. Torres answered that it had come the year before that, when the request was to obtain approval for the project from Caltrans; what they are requesting today is approval for signage on the ramps.

Committee Member Fleisch noted that in August 2017 the minutes showed that the same item (17-17) had been proposed and failed. Committee Member Tong responded that the Committee had then directed the requestors to obtain the support and concurrence of CHP, which had been accomplished. There were now some modifications. Mr. Torres stated that over the last year additional stakeholder meetings had been held between all the agencies – CHP, Caltrans, and SANDAG – to discuss signage and other elements for the improvement of the project.

Mr. Torres continued that it is a three-year demonstration that begins in 2019. Today's request regarded the signage as it relates to the ramp meter itself. The request is about Section 2C.49 and seeks to provide additional information to the motorist specific to this project: warning signs in advance of the conflict at the ramp meter, indicating that buses are merging ahead from the Transit Only lane into the entrance ramp. They would be static signs in advance of the ramp meter and dynamic signs at the ramp meter itself.

Mr. Torres showed examples of the proposed signage layout.

Public Comment

Mr. Rouse spoke about CHP's support of this type of project. Over the last year, Caltrans and CHP management had held several discussions about the bus-on-shoulder concept in general. They are now working with CHP to develop high-level guidance for these projects which will incorporate several of the features contained in this proposal regarding ramp metering, advance notice on the ramps, and other considerations. Some draft guidance will be available before too long.

Vice-Chair Bahadori noted that the minutes from last year showed that the CHP representative reported that the CHP uses the shoulders for writing tickets and they direct broken-down cars to go there. A bus may not see these vehicles. Committee Member Hatfield reported that those concerns were addressed in the stakeholder meetings. The CHP's position remains the same – they are open to these ideas. The stakeholder meetings will continue.

Vice-Chair Bahadori noted that tow truck providers use the shoulders and rely on their safety. Mr. Torres agreed that these factors of traditional shoulder use remain. The approved operating rules for this project state that buses will vacate that lane and go into the general-purpose lane to provide needed space. Their forward collision-warning technology has been demonstrated; it gives more than 30 seconds of warning. Bus drivers sit much higher than traditional vehicle motorists; their sight distances are taken into consideration. Gaps in the proposed shoulder locations are for multiple reasons – not only shoulder width, but also sight distance.

Mr. Torres continued that the shoulder lane can only be used when adjacent general traffic is below 35 miles per hour. The bus cannot exceed 35 miles per hour and it cannot exceed 15 miles per hour faster than the adjacent traffic. These operating parameters have been strictly agreed upon by the various parties. For the regulatory environment associated with the signage, we have come to the CTCDC.

Vice-Chair Bahadori asked if the project is still hypothetical. Mr. Torres replied that the decision document is being routed; Caltrans has signed it.

Committee Member Hatfield stated the concern that the same issue as before exists with MTS only: we would be unable to enforce this for other buses using the shoulder.

Vice-Chair Bahadori asked how this would be addressed for school buses, tour buses, etc. that want to use the shoulder. Jennifer Williamson with SANDAG stated that although CHP cannot enforce those issues, SANDAG is working with them to have CHP monitoring the lanes as this demonstration is in progress. If we see other buses using the lanes, we will do significant outreach to bus companies. If we get a significant number of copy-catters using the lanes, Caltrans or CHP have the authority to shut down the project until we can resolve the issues. Buses will be using the shoulder only every 15 minutes; they will not be constantly traveling there.

Public Comment

Mr. Esparza related a concern with the use of the BUS CROSSING sign. Normally advance warning signs are associated with crossings. Kevin Schumacher, CPUC, stated that a current Los Angeles project has many similarities to railroad crossings – they are proposing gates and lights – but it is a busway. It is a question to consider: would they conflict and have different uses in these cases? Mr. Torres responded that the clarification for buses merging could be discussed with Caltrans.

Questions and Discussion

MOTION: Committee Member Tong moved to pass the Request for Experimentation. Committee Member Moghissi seconded. Motion passed unanimously.

8. Next Meeting

Vice-Chair Bahadori stated that the next meeting was scheduled for November 1. According to the bylaws, the CTCDC is required to have three meetings per year and that has been accomplished. Committee Member Tong proposed that if there are less than six items submitted for the November meeting, the committee should skip the meeting. Committee Member Fleisch suggested leaving the summer meeting out in the future.

9. Adjourn

Vice-Chair Bahadori adjourned the meeting at 1:11 p.m.