Date: September 14, 2021

Date of Meeting: September 1, 2021
Meeting Location: Video conference
Work Order Number: 32189-005
Project: Howard County Complete Streets
Meeting Description: Complete Streets Implementation Team Meeting #21 (Part 1)

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Introduction

Chris Eatough welcomed Bryan Townsend of WRA to the meeting, and thanked Jeff Rieger for his contributions to the implementation of the Complete Streets policy. Bryan introduced himself to the Complete Streets Implementation Team (CSIT), providing a brief overview of his work in Howard County. Bryan will be taking over Jeff's role. Members of the CSIT and meeting attendees introduced themselves to Bryan.

The purpose of the meeting was to review final drafts of Chapters 1 (introduction), 3 (structures), and 5 (adequate public facility test requirements), and provide an overview of comments provided for the draft of Chapter 2. Friday’s meeting will focus on any outstanding Chapter 2 comments, Chapter 5, and the schedule.

Members of the CSIT were provided with a copy of the draft minutes from the August 4 and 6 meeting in advance. Christiana Rigby made a motion to approve the minutes, and Larry Schoen seconded the motion. The CSIT approved the minutes unanimously.

Jeff welcomed all attendees and reviewed the agenda, and then led the group through the materials attached to these minutes.

Final Draft Chapters: Chapter 1 (introduction)

Jeff provided an overview of outstanding comments on Chapter 1 and proposed resolutions. The comment numbers referenced below are keyed to the Comment Log which was distributed in advance of the meeting. Responses to comments are included in the attached meeting materials. Questions and comments from members of the CSIT on comment responses are included in these minutes.

Comment 291

Chris provided an overview of new Level of Traffic Stress (LTS) guidance. He noted that the proposed language is an attempt to clarify what LTS guidance is standard. The outstanding question is whether the default for new bicycle facilities should be LTS 1. The proposed new language is as follows:

Designers will use LTS2 as the minimum standard for accommodation of bicyclists in their projects. In addition, designers will strive to provide LTS1 connections to county schools, county parks and county libraries within a half a mile of the project.

For development projects within a half mile of a county school, county park, or county library, a multimodal transportation study will be submitted to DPZ along with their SDP. The multimodal transportation study will include concept level design for continuous pedestrian connection suitable for an elementary school student to walk to the school, park, and/or library and an LTS1 connection to the school, park, and/or library. The concepts will be incorporated into updates to Howard County planning documents, including the Bicycle and Pedestrian Master Plans.

Chris noted that the new language establishes LTS 1 as the goal for connections to County schools, libraries, or parks. Leah noted that the current LTS overview provided in Chapter 1 supports the language proposed by Chris. Chris noted this mechanism would require the developer to identify the appropriate bicycle facility but does not necessarily compel them to build the facility. The Design Manual would require the traffic study.

Chad Edmondson asked whether the Office of Transportation (OOT) would confirm whether the appropriate threshold of LTS 1 or 2 has been met. Chris agreed that the County will have to review and approve the findings of bicycle studies, and that the Office of Transportation has staff that could handle that function. There may also be some co-reviewers in Jenn Biddle’s office. Jeff noted that the LTS section in Chapter 5 give clear guidance on how to establish LTS for an existing or proposed street.
Carl Gutschick asked how the LTS analysis impacts the Street Types that were developed. Jeff replied it does not impact the selection of Street Type, since all of the Street Type options were designed using LTS as a principal. The majority of Street Types are LTS 1 because they have separated bike facilities. Neighborhood Street Type 1 has a buffered bike lane which would be considered LTS 1 or 2 depending on the speed and volume of traffic on the street. Larry agreed that most of the Street Types achieve LTS 1. Chris noted that for on-site improvements, developers using the new street types will achieve the stated LTS goals. This language would apply to offsite connections to schools, libraries, or parks.

Larry noted that since the new Street Types achieve LTS 1, and the County’s long term goal to most destinations is LTS 1, the language in Chapter 1 may need to be revised.

Kris Jagarapu asked how “concept level design” is defined - a plan with a line designating a preferred route or 30 percent design? Chris replied that the level of detail to be required from developers is up for discussion. Christiana asked Kris and Amah Binde what level of detail would be helpful to the Department of Public Works (DPW). Kris replied that the concern is that the County receives concept designs, but there is not a mechanism to keep track of these piecemeal improvements that are being proposed. Someone needs to be responsible for keeping track of proposed improvements so that they can be used as a reference. Larry noted that a placeholder may be needed in the studies section that allows the county to require the digitization of studies so they can be aggregated.

Chris noted that a similar question has come up with what to do with proposed growth rates. It is recognized that more data collection is necessary to justify an appropriate background growth rate, but there is no mechanism to track that information.

Carl asked how these studies would change the proposed new street types. He noted that one street type features a buffered bike lane and asked whether the street design would have to change if the street in question is within a half mile of a school, library, or park. He also observed that a Neighborhood Yield Street does not have any designated bicycle facilities. Jeff replied that the only circumstance where a requirement may differ is in a retrofit situation where prevailing speeds are higher than they should be. The Street Types are sufficient to provide good bicycle access as currently designed.

Christiana asked whether the half mile distance is by road distance or radial distance. Chris replied that there are a lot of County schools, parks, and libraries, especially in the eastern part of the County. If the radius is a full mile, that covers the vast majority of the county. A half mile creates a differentiation between locations. A simple radius was used for the analysis, but it is up to debate as to which approach is appropriate.

Jeff replied that the half mile radius is easier to establish than measuring by road distance, and it will cover a larger area. If there is a school located on one side an open space, the school may not be within a half mile as measured along a road, but it will be considered close if measuring by radius.

Jessica Bellah asked whether future schools were considered in the analysis. Jeff replied that the Design Manual generally specifies future land uses when determining which types of Street Types to apply. Chris noted that for preliminary analysis existing school locations were used, however if the data is available, future school sites could be incorporated. Jessica recommended coordinating with the Howard County Public School System (HCPSS).

Larry endorsed measuring distance from schools, libraries, and parks using a radius approach for the reasons Jeff provided.

Comment 301

Jeff asked Larry to look at comment 301 and provide feedback on whether it was adequately addressed.
Comment 303

Jeff said that nine foot vehicular lanes were discussed at the August CSIT meeting, and that the provision of 9 foot vehicular lanes is not best practice. Larry replied that 9 foot vehicular lanes would only be utilized in extremely limited circumstances where other modes cannot otherwise be accommodated. He asked whether ten feet is being considered as the minimum. Kris replied that the County considers ten foot vehicular lanes to be the absolute minimum, and that it is difficult to accommodate two separate modes on the roadway when absolute minimums are being used. Tom Auyeung agreed that ten feet is the absolute minimum, and that larger vehicles including school buses, emergency vehicles, or single unit trucks would have difficulty maneuvering a nine foot lane.

Larry replied that nationwide experts have determined that lanes narrower than ten feet can work in limited circumstances and clarified narrow lanes would only be used in places where a new mode cannot otherwise be accommodated. Jessica asked Larry whether guidance about narrower lanes discusses the context. She observed narrower lanes may be appropriate in older communities that were built before cars were even using roadways. The street network in an older city is very different than the street network in Howard County. She asked that Larry send her the guidance he referenced, and Larry agreed to.

Jeff shared that the only place he has seen nine foot lanes applied is in a much older urban context. Baltimore's Complete Streets ordinance requires nine foot lanes for most street types. Anecdotal information indicates that nine foot lanes have been a big challenge, and ten foot lanes would have been much more manageable.

Remaining Chapter 1 Comments

Jeff shared that revised text has been provided for several comments and asked that members of the CSIT review the Comment Log to ensure comments have been adequately addressed. This is the last time Chapter 1 will be reviewed with the CSIT before the Design Manual is approved in October.

Final Draft Chapters: Chapter 3 (structures)

Jeff said no comments were received on the last draft of Chapter 3.

Final Draft Chapters: Chapter 4 (adequate public facilities test requirements)

Jeff reviewed the growth rate provision in Chapter 4. He suggested revising the text regarding background growth rate to remove any reference to a 6% rate. The developer may still propose an alternate growth rate with validated field counts and other traffic data. Further discussion about default growth rates will be held when updates to the subdivision regulations are made.

Chris noted the importance of collecting and organizing data provided by developers so that the County can make a more data driven assessment of background growth rates in the future. He noted that a sentence could be added to this section that requires the County to collect information from traffic studies in a digital format. Jeff asked if the sentence should be included now or should it be added to the list of things to address when the subdivision regulations are update. Chris replied that it is important to begin collecting this data now. Jeff replied that language will be included for consideration by the CSIT.

Jennifer White asked whether the language will be revisited or adjusted based on the future collection of data. Chris replied that if the County does a better job of collecting data, better assumptions regarding background growth rate can be made over time. Jennifer asked if there is anyway the background growth rate could be capped, especially since rates compound over time. She noted if the County establishes modeshift goals at some point in the future, it is important that there is language in this section to allow for changing the background growth rate accordingly. Chris replied that background growth rate is only compounded for the time it takes to build the project, which is typically not more than a few years.
Chad affirmed that the County looks at three years of compounded growth that is local to the specific project. He stated that he does not believe that Howard County’s roads are overbuilt, despite using the 3%-6% background growth rate for years. Some residents do not think that road size has kept up with the County’s growth.

Jessica noted that capacity needs in transportation infrastructure sometimes conflict with the design goals of Complete Streets. She mentioned the Lakefront North project in Downtown Columbia, where Columbia Association and the County want to locate development. Based on the current process, accommodating the Lakefront North development would require widening Little Patuxent Parkway from six lanes to eight lanes to accommodate the projected traffic growth, which is not a desirable configuration. This illustrates how the current system does not work. The regulations should allow desirable development to occur.

Chad noted that the County is working on different concepts for the Lakefront North site and exploring options. Although the County does not want an eight lane road, it isn’t necessary to put something in the Design Manual that would not apply to 99 percent of intersections in the County where an extended left turn lane or right turn lane would make the intersection safer. The only other instance where an issue may come up is along Route 1 which is outside of the County’s control.

Christiana commented that adding a left or right turn lane would impact the safety of the intersection because the wider an intersection is, the less safe it is for pedestrians. Chad replied that the current process is to add turn lanes, signals, and phase the intersection. A longer crossing distance is accommodated by putting the correct pedestrian facilities in place. Christiana replied that these intersections are difficult for pedestrians to navigate. When an intersection is designed to allow vehicles to travel through it more quickly, the County should consider the effect that has on other road users. She asked how the County currently balances those needs. Chad replied that the County gets cars through safely by giving them a signal and dedicated lane, and allowances are made for pedestrians and bicyclists. Chris asked whether the Adequate Public Facilities Ordinance (APFO) requirements force developers to make improvements for bicyclists and pedestrians. Chad replied it does not, but when signals and turn lanes are added, the crossing time for the pedestrian is accounted for. Christiana replied that the County does not adequately prioritize the safety of people outside of their vehicles. Larry noted that right turn lanes almost always make intersections less safe for bicyclists.

Jeff observed that the issues being discussed are more than what is addressed by the paragraph on the background growth rate. He noted a list of outstanding items that need to be discussed during the update of subdivision regulations and any subsequent updates to Chapters 4 and 5. He asked the CSIT if they are comfortable with the background growth rate paragraph as written, with the addition of a sentence regarding compiling data for future use. Jessica agreed, and noted she is in favor of compiling data. She noted she would like to establish a time period after which the background growth rate should be reevaluated. Larry also noted that traffic studies should be required to be in a format that can be easily collected and aggregated. Chad noted it is important to designate who will keep this data. David requested information on the number of many hours that would be associated with this type of data collection it would be helpful to the County.

Jeff replied that if there is no objection from the rest of the CSIT, the discussion of how data is compiled and stored will be handled by County staff.

Larry voiced his support for the three percent growth rate. Data has demonstrated that six percent is too high. The County should pursue other initiatives that incentivize a multimodal transportation network so that a developer studying a road project can justify a much lower growth rate. Jeff replied that this conversation is not over, and as the subdivision regulations are addressed there will be additional opportunities for input on background growth rate.

**Review of comments received on Chapter 2 (street design)**

Jeff explained that due to the volume of comments received on Chapter 2, the focus will be on common themes that would benefit from discussion by the entire CSIT as opposed to individual comments. He clarified that all comments will be considered when edits to Chapter 2 are made.
Target Speed / Design Speed

Jeff presented on the importance of target speed in improving safety for people walking and bicycling. There were several questions received around the significance of target speed and why it is being used instead of design speed. Jeff provided some background information before opening the issue to discussion. Chapter 2 currently defines target speed as:

...a selected speed used to determine the various geometric design features of a highway. It is the desired speed at which motor vehicle drivers should operate to maintain safety, comfort, and convenience for all users of the street to the greatest extent possible.

Jeff then shared details on target speed from the Traffic Engineering Handbook by ITE to illustrate why target speed was chosen as the preferred approach for Complete Streets. It is important to design for speeds that allow all users to recognize potential conflicts and react to them. Speed also relates to crash severity. Controlling speed is the most critical element to providing Complete Streets, since keeping motor vehicle speed manageable is the most important thing that can be done for bike and pedestrian safety.

Jeff explained that the concept of design speed was developed for freeway design. The design speed on a freeway should be kept high to minimize the chances that a driver will be harmed or harm others. Assuming higher speeds on a freeway means certain features need to be provided such as wider shoulders, clear zones, and flatter cross slopes, all of which create a forgiving roadside environment. This works well for freeways because there are no negative consequences borne by other legal users of the system. That approach is not appropriate for streets that are not freeways, since it results in higher operating speeds which should be avoided in order to keep people walking or bicycling from being seriously injured. Target speed is important because the designer should not use operating speeds to determine design speed, they use target speed, or the speed traffic should travel. This results in using features like narrower lanes and traffic calming measures. Managing speed is essential to creating a good environment for walking and bicycling. Maintaining the same procedure as required by the design speed approach is not consistent with Complete Streets. Although the process for determining features like horizontal and vertical alignments is identical, those features are chosen based on a lower target speed.

Jennifer thanked Jeff for the overview, adding that she has learned throughout the review process that roads have been designed in a way that makes it more comfortable for drivers to travel faster. It is important to break away from that old way of approaching street design. This is an opportunity to set a new path forward and to design roads with all users in mind. Our focus should not be designing streets that are forgiving, but to prevent faster speeds. This is about safety. Streets should be designed with a target speed that reflects the speed we want people to travel. The NACTO guide does a good job outlining this issue.

Jessica Bellah noted that ideally, roads are designed in such fashion that people will travel at the speed limit without knowing what the speed limit is. Christiana agreed with this goal.

Chad asked whether the typical street types approved by the CSIT will force people to drive at target speeds. Will people automatically drive at 25 mph because of the design of a street? Jeff replied that there is no research that shows how to design a street to be at an exact target speed. The goal of providing narrower cross section is to get closer to that target speed than what current guidance would support. Chad noted that the way it is phrased in the Design Manual is important so that the County is not liable when people speed.

Kris commented that it is a misconception that when a design speed is selected it encourages speeding. If you lower the target speed on a main road, it also reduces the stopping distance on the side street. The point of design speed is to give additional security to users of the roadway. If a design speed is used that is higher than the speed limit, it accommodates people who may not be aware of the speed limit. He agreed with the concept of target speed, but noted it should not replace design speed. Designers should design the roadway to achieve a target speed but every design decision (such as intersection sight distance) should not be based on the target speed.
Jessica shared that her understanding of target speed is about how the road should function. If a residential street should have 25 mph traffic, the street should be designed accordingly, including the geometry and sight distance. Jennifer suggested using target speed as recommended by NACTO, and noted that it is important to combine narrower lanes, road geometry, and the use of traffic calming measures to prioritize the needs of non-auto users of the street.

Amah agreed with Kris that the use of design speed and target speed are not mutually exclusive. She asked whether it is possible to address both in the Design Manual, while keeping in mind that the design speed is what will dictate the geometric features of the road during the design phase.

Larry asked which sections of the manual this approach would impact. Jeff replied that several sections would be impacted. Design speed is most commonly related to section 2.3, horizontal and vertical alignment. It also impacts intersection sight distance which is in section 2.1.

Larry asked if the County distinguishes between roads where more forgiving design is appropriate, like limited access highways and other street types. Jeff replied that there are not any limited access highways under the County’s control. Kris replied that the current Design Manual states that for higher classification roadways the County has to follow design speed as opposed to target speed. There is also language similar to the target speed philosophy in the current Design Manual.

Jeff outlined a possible path forward, by establishing which elements in the Design Manual would benefit from the use of a target speed to keep speeds low and not compromise the safety for all users of the street. Kris agreed with that approach, as long as target speed is not used for the entire Chapter.

Carl said that there are some street elements that encourage people to drive slower, such as horizontal curvature and the spacing of traffic calming measures. In contrast, drivers do not change their behavior based on factors like stopping sight distance which most drivers do not even notice. He agreed with establishing which criteria are applicable for design speed and which are applicable for target speed.

Jeff noted that the team will assess which elements of street design will influence driver behavior positively and use target speed there. Design speed will be used in other locations.

Kris followed up with the text referencing the design speed/target speed concept in the current manual, which reads:

> For roadways classifications of major collectors and higher, above-minimum design values should be used, where practical. However, on local residential roads, including scenic roads designated by the County Council, the designer should develop a road design that encourages vehicles to operate at or below design speeds.

**Traffic Calming**

Jeff introduced traffic calming, which is included in section 2.2.E.10. He noted that all traffic calming measures included in the draft Design Manual are commonly used in many jurisdictions across the country and there is a lot of established design guidance, including the FHWA Traffic Calming Primer. Some comments indicated concern with the range of traffic calming measures provided. The goal is to establish which measures are appropriate for Howard County streets. Currently, the County uses speed humps, although there are legacy traffic calming measures in place across the County. Although certain measures may not have worked well in the past, revisions to the Design Manual can provide details on dimensions, spacing, and operations. Field testing traffic calming measures before they are installed in concrete can help establish how well the measure would work in a given location. The goal is to give the County a robust tool box of traffic calming measures.

Jenn Biddle said the County sometimes includes traffic calming measures without using the name “traffic calming” to differentiate them from the community request program. That may include intersection bump outs and mini-roundabouts.
Chris replied that what we’ve been calling traffic calming in the County’s program is just retrofitting existing roadways that have a known speeding problem. Traffic calming is not generally provided for new roads. Jenn replied that the best traffic calming is the horizontal curvature of the road and agreed that the county does not proactively install speed humps along new roadways.

Kris affirmed that neighborhood traffic control is provided by speed humps, but all of the measures included in the draft Design Manual are currently used in Howard County. Neighborhood traffic circles were removed in a number of locations because they did not provide appropriate traffic guidance. Others (such as on Shaker Drive) were retrofitted using FHWA’s mini-roundabout guidance.

Tom referenced experimentation in the 1990s using Australian guidance which received negative community feedback. Based on County experience chicanes do not work well. Traffic calming measures are easier to incorporate into capital projects than developer projects. He asked who would be able to tell a developer they could not use a given traffic calming measure. He noted that the use of center medians could conflict with driveway access.

Larry asked whether the question is whether to include a limited number of traffic calming measures as opposed to a larger number of measures. Jeff replied that the intent is to have a large number of tools available to achieve speed goals including horizontal and vertical traffic calming measures. Certain elements work better in certain contexts. Generally, traffic calming will be used for retrofit, or along new roads that are straight where speed may be an issue. Chris shared the example of Brandons Way, a long neighborhood residential street which has pavement narrowing (curb extensions) that requires cars to yield to opposing traffic since only one vehicle can travel through the narrowed road segment at a time. This type of proactive traffic calming only makes sense in circumstances where road geometry cannot be used to control speeds.

Carl asked about the relationship between driver frustration and the effectiveness of using more stop signs within subdivisions. He asked whether four way stops are an effective way to slow speeds. Jenn replied that an intersection has to meet federal (FHWA) warrants (as outlined in the MUTCD) to install a stop sign. Some older locations have stop signs because they were installed before the warrant process was required. People often start rolling the stop since they do not expect other vehicular traffic, which presents an issue when pedestrians are present. Christiana asked whether it is possible to add speed humps before a stop sign. Jenn replied raised cross walks could be used at stop signs, but speed humps are usually spaced further away from stop signs.

Jessica suggested getting into specific issues where there is disagreement at the next meeting.

**Next Steps**

Jeff noted that the team will establish which sections relate to design speed and which relate to target speed, revise the text for the background growth rate paragraph in Chapter 4, and prepare materials for Friday’s meeting based on feedback received.

Amah observed that a review of the schedule is planned for Friday. She asked that a more detailed schedule be provided than the document that lists activities and deadlines. Jeff noted that there is an additional CSIT meeting schedule for Friday and two more regularly scheduled meetings in October. He noted that more discussion and meetings will likely be necessary to meet the October deadlines, and that specifics can be discussed on Friday.

Amah asked that any revisions to the schedule provide a sense for the duration of each step. It is important to understand how many working days remain to accomplish the remainder of the tasks. The way things are currently listed does not give the CSIT the sense of urgency necessary to meet the schedule.
Jeff noted the review of outstanding comments from Chapter 2 and 5 would continue at the next CSIT meeting, which is scheduled for Friday, September 3 at 1:00 pm.

[Signature]

Leah Kacenda, AICP