Introduction

The purpose of the meeting, which was a continuation of the May 5 Complete Streets Implementation Team (CSIT) meeting, was to complete the overview of remaining proposed additions to the Design Manual.

Jeff Riegner welcomed all attendees and reviewed the agenda. Leah Kacanda and Jeff led the group through the presentation attached to these minutes. Minutes from the April meetings were not acted on as there was not a quorum at the start of the meeting.
Overview of Remaining Design Manual Additions

Jeff noted that the CSIT will see all of the proposed additions to the Design Manual in the draft revisions when there will be an additional opportunity to provide feedback. The goal for today is to make sure that all new items that should be considered for the Design Manual rewrites are discussed.

Jeff said that the determination of the typical section is one of the first things a designer does at the start of a new construction or retrofit project. For a new road, the horizontal and vertical alignment must be established first. The Design Manual will include a facility zone diagram that illustrates what the typical elements of a street are. Elements comprising a typical section have been discussed in detail by the CSIT when reviewing the Street Types.

A lot of time has been spent developing street types for new streets, but there also needs to be retrofit design guidance, which will be based on the FHWA Bikeway Selection Guide and the Road Diet Informational Guide. As discussed at Wednesday’s CSIT meeting, adjustments to the section to get all the elements to fit should not be carried by changes to the walking and bicycling facilities. This section will offer guidance on when to narrow vehicular lanes and what tradeoffs are needed to accommodate different modes of travel.

The CSIT has already approved the Street Types which are based on land use and transportation function. The Design Manual will have to include an overview of land use context and density, and cross reference a land use map. This will be refined based on work being done to update the Howard County General Plan. Chris Eatough and Leah Kacanda have met with the Department of Planning and Zoning (DPZ) to discuss how this work can be better integrated with the General Plan process.

A section will be added to address how bicycle facilities are handled at transitions between different typical sections. Guidance on managing conflicts between bicycle facilities and transit that is appropriate to Howard County will also be added. The frequency of transit in Howard County is significantly different than the frequency in an urban area like Baltimore.

The placement of utilities will be explained based on current guidance and all the previous discussions.

The Design Manual includes some information on facilities for walking, but more guidance on sidewalk zones and how they are applied in mixed use areas is needed. Although the sidewalk in mixed use areas is much wider, part of the sidewalk is located on private property. The manual needs to detail what uses are expected in those areas, as well as how street furniture, bike racks, and sidewalk cafes are handled. Chris noted that there are additional facilities related to walking that concern street crossings which will be discussed later. Jeff noted that driveway and entrance details, especially as they relate to accessibility will also be included. How sidewalks and paths cross over side streets and driveways is particularly important. For example, a two percent (or less) cross slope is preferred when crossing a side street, but is required when crossing a driveway.

Facilities for bicycling are not well covered in the current version of the Design Manual, so there are a lot of additions related to bicycling. The list of bicycle facility types will focus on what types of facilities are appropriate in different circumstances. This guidance will be consistent with federal guidelines. Facility types are arranged from lowest LTS to highest. Guidance will consider widths, horizontal and vertical alignment, pavement markings, signs, surface treatments, different types of bike lanes and other treatment types. The use of green paint will also be discussed. Some jurisdictions use green paint or thermoplastic for all bike lanes, but green markings can also be used to delineate areas where there may be conflicts between bicycles and motor vehicles.

Speed management is a key principle of Complete Streets, and the Design Manual will include several traffic calming measures as options. The intent is to show a half or full page for each treatment type that explains the treatment and provides an example of a typical application. This is not a requirement to implement these measures, but instead a toolbox that will provide local guidance when it is determined that traffic calming is appropriate.
The current Design Manual does not address crossings at unsignalized locations. The new section on unsignalized crossings will focus on studies and design. Studies will establish the appropriate spacing for unsignalized crossings as well as what traffic control devices are appropriate. Once the appropriate treatment is established, the design section will provide details on the size and configuration of things like refuge islands and raised crosswalks. The Office of Transportation (OOT) and Department of Public Works (DPW) are currently in conversations about a standard design for angled median islands. Chris noted that two of these treatments were just installed on Centre Park Drive and Executive Park Drive. Jeff commented that the angled crossing helps people crossing and drivers see one another, reducing the potential for conflict.

The largest new section will be on intersections. The current Design Manual includes some discussion about the design vehicle, which is the size of vehicle a street is designed to accommodate. The control vehicle is a larger vehicle that doesn’t use the road as frequently, such as a moving truck. There needs to be room for the control vehicle to swing wide into adjacent lanes when making turns, but the goal is to keep turning radii as tight as possible to slow traffic and reduce crossing distance. Information on single and multi-lane roundabouts will be included. Neighborhood traffic circles are currently mentioned in this section although that information may be moved to the traffic calming section. The intersection section will also include information on curb ramps and how they are aligned, crosswalks, and which legs of an intersection should get crosswalks. Channelized right turn lanes are less beneficial for people walking and biking, but there are some traffic circumstances where they are appropriate, which will be described. Curb extensions will be discussed, as well as pedestrian signals including leading pedestrian intervals. Daylighting is important to ensure that there is good visibility. Truck aprons and hardened centerlines will also be covered. Hardened centerlines are small speed bumps along the centerline parallel to traffic that prevents drivers from cutting the corner when making a left turn.

There are also special considerations for bikeways at intersection including combined right turn lanes and bike lanes, bike boxes, and two-stage turn queue boxes. Bike lane markings across side streets and driveways will also be discussed, as well as bike detection at signalized intersections.

These project specific considerations all happen in the context of the broader transportation network. Most of the Design Manual deals with a specific project or street. Network connectivity deals with the creation of a reasonable network for all modes of travel. The trade-off section will cover what happens when there is not enough room to accommodate all modes. For example, Main Street in Ellicott City will never be widened for bicycle facilities, however, guidance on how to get around an area without a facility should be provided. These concepts could be included in the Design Manual or with an update to BikeHoward. Chris replied that mapping out networks and identifying parallel routes is a master planning effort. However, these considerations should be mentioned in the Design Manual and cross reference the maps provided in BikeHoward.

Chad noted that on a much smaller scale, when a developer has to do frontage improvements the County can look 250 feet beyond the limits of the road frontage to identify possible connections to area sidewalks or paths. Jeff asked whether there has ever been a time when 250 feet has presented a significant constraint, for example if a sidewalk was 300 feet down the road. Chad responded that has happened, but there is always give and take. For example, the County could lessen requirements in another part of a development to focus improvements in the area where the connection is more critical. Chad asked that the Design Manual explicitly address the differences between major and minor subdivisions as opposed to an existing lot development to establish the expectations the County has for the developer. This clarification would be helpful to multiple County agencies. Jeff asked if those distinctions are currently housed in the subdivision regulations or if they are addressed in the Design Manual. Chad replied that frontage improvements are generally housed in the subdivision regulations including sidewalk, curb and gutter, street trees, and street lighting.

Jeff noted that additional construction guidance will be included in the new Design Manual, including maintenance of traffic provisions for people walking and bicycling. Another comment received was to make sure striping begins with bike lanes and the buffer and moves toward the vehicular travel lanes to make sure that things are not being squeezed toward the curb. Kris Jagarapu noted that usually, the road is dotted in the field and if there are concerns, they are addressed before the paint goes down. There are times when measurements can be slightly off, especially when improvements are only being done on one side of the roadway. Jeff asked if the same process is followed for
developer projects that are inspected by the County. Kris responded that is the typical process, and if there are any discrepancies the construction inspection division will catch it. Before any roadway is dedicated to the County an inspection is completed.

Chris asked if the comment was regarding the physical striping process or the design process of deciding where the line will go. Jeff asked if there were any specific locations where this has been a problem. Larry responded that the development on Grace Drive is similar. A developer took over a bike lane when they moved the curb line out to accommodate a sidewalk. Jeff noted that if a contractor does not have the quality control process Kris described, there may be an instance where the contractor measures 12 feet of bare pavement instead of 12 feet between the centers of the lane markings when establishing a 12 foot lane. Larry agreed that it seems like an issue with the construction process. John Seefried agreed it was a contractor error. Kristin commented that she made a comment about striping because the Columbia Association has a concern about how facilities are prioritized and wants to ensure that cars are not considered first. Jeff replied that the tradeoff section will focus on that issue. Kris noted that if the width of the shoulder is less than 5 feet it will not be marked as a bike lane. The County often narrows travel lanes to ensure the bike lane is a minimum of 5 feet wide.

Jeff asked if there was any feedback on the list of additions to the Design Manual.

Kris noted that traffic calming devices are viewed by the County as an enhancement to existing roadways rather than a requirement. Although some of the listed features could be included as part of the design of a new project, when the County does retrofit projects, they remain neutral out of respect to the will of the community. Jeff asked if it would be beneficial to show traffic calming devices as tools in a toolbox from a design perspective only. This would allow the County to follow the current process to get to a decision about whether to provide traffic calming. If it is determined to be appropriate, this portion of the Design Manual would give designers the specifics needed to advance the project. Kris replied that the County has tried most of the traffic calming measures on the list, including chicanes which were subsequently removed. Some traffic calming devices have been proposed by developers and been subsequently removed, including speed humps, bump outs, mini-roundabouts, and neighborhood traffic circles. The County does prefer mini-roundabouts as opposed to neighborhood traffic circles. Jeff asked if there is County specific design guidance or if outside resources are used. Kris replied that they are designed based on the site.

Chad commented that there has not yet been much discussion about details besides the typical road cross sections. He asked whether details would be added about how a bike lane should be transitioned to a shared use path. It would be helpful to give greater guidance to developers, and there are no specifics in the Design Manual currently. Specific details about how to install and mark transitions, the width of bicycle facilities and how to measure those widths, or other standards that gives design guidance would be very helpful. Jeff replied if he were a designer new to Howard County, he would look to Volume IV of the Design Manual for details to pull out and put on a plan. The transition between on- and off-street bicycle facilities is a great example that makes sense to include in Volume IV. Simple dimensions such as how things are measured may make sense as graphics in Volume III as opposed to being provided as specific details. Chad agreed it would be great to include standard details as possible. Jeff asked the County to provide a list of any details that should be included in Volume IV.

Kris noted that the County is interested in cluster mailboxes. Chris added that the County also has issues with standard mailboxes, especially during sidewalk retrofits. Kris explained that there are cluster mailboxes within the County right of way that are not maintained by the County since they are not County property. However, USPS is also not making the needed repairs. Kristin asked if Kris is referring to the mailboxes that are all over Columbia. Kris replied yes, but that they are also in areas outside of Columbia. Kristin noted that Columbia Association has had a similar problem since property owners assumed that the Association was responsible for mailbox maintenance. They received feedback from their U.S. Senator and have documentation that the USPS is responsible for mailbox maintenance. She noted that she is unsure who is responsible for maintaining the area beneath and around the mailbox. Kris replied that his primary concern is the mailbox and concrete pad beneath. Sometimes they are incorporated in the sidewalk. Kristin said that she will send the County the written guidance received from the USPS. Jeff noted that the guidance will be incorporated in the Design Manual.
Larry noted that some neighborhoods put out informal signs that read “children at play” or “drive like your kids live here.” He asked if those were effective. Jeff replied those signs are not compliant with the Manual on Uniform Traffic Control Devices (MUTCD). There are also movable street “pedestrian crossing” signs that are MUTCD compliant. Larry asked if the current Design Manual covers those signs. Jeff replied they will be addressed in the crossing section. Larry commented that his wife was walking on Grace Drive and hit her head on a sign that protrudes over the sidewalk. Kris replied that the bottom of the sign should be 7 feet above the ground which is clear in current guidance. Kris noted that the informal signs are not compliant and should not be installed along the County’s right of way. Signs also should not mimic official signs, and if they do the County will remove them. Jeff noted that information on sign placement is in the MUTCD.

Carl commented that in general, the subdivision regulations set up the requirements that must be met for a new subdivision, and the Design Manual explains how to meet those requirements. Most information is included in Volume III, and sometimes a greater level of detail is provided in Volume IV. He asked that all the revisions keep the general philosophy of including the “what” in the subdivision regulations and the “how” in the Design Manual. Jeff replied that is the intent.

Carl noted that the Design Manual has a wealth of detailed design criteria including superelevation, road grades, stopping sight distance, and driveway spacing. These details are important for designers and allow the County to review developer plans. He noted that the list discussed today does not include a lot of that detail, but instead includes guidance as it relates to bicycle infrastructure. He asked how the design details will be incorporated. Jeff replied that some municipalities opt to have a general guidance document, such as the Montgomery County Complete Streets Design Guide, which does not include specific design details. Some documents provide more detailed information but not literal design details, and at the other end of the spectrum, Volume IV only includes design details. Most of what has been discussed today is in the first or second category. Some things are very specific, including information on distances. Details on how to conduct studies will be included. Leah clarified that most of the content currently in the Design Manual is not going anywhere, although it may be modified to address new multimodal considerations. The reason this discussion has been very bicycle focused is because it has revolved around new content for the Design Manual, and the current document does not address bicycle facilities.

Carl was happy to hear that is the approach since there is a lot of valuable information in the current Design Manual that has been developed over time. Jeff affirmed that little content is being eliminated, it will just be supplemented. Carl noted that since the new road cross sections have been agreed upon, it would be helpful to go back to showing the dimensions to the face of the curb, since most design manuals and standards show measurements to the face of the curb. Measuring to the edge of the gutter pan will lead to misunderstandings and mistakes. Chad noted the current Design Manual details show measurements to the face of the curb and he agreed with keeping it that way. John also agreed with this approach. The CSIT reached consensus on this point.

Carl shared that there are already criteria in place for what happens behind the right of way. Downtown Columbia has neighborhood design guidelines customized for each area of downtown that covers how the area behind the sidewalk should be handled as well as the entire design from the face of the building to the center of the road. Maple Lawn has design criteria built into the community development plan and from the comprehensive sketch plan that specifies what happens outside of the public right of way. Carl noted that those standards work well. Jeff asked if the Maple Lawn requirements were established with the developer with approval from the County. Carl responded that the project was based on the developer’s desire to do more than the minimum requirements. Since the criteria for Maple Lawn were documented, the public road Design Manual can stop at the right of way. Jeff replied that several comments have been received from CSIT members that it is not clear what happens behind the right of way. The Design Manual can include some general information, for example in a mixed-use area it is expected that the sidewalk will continue behind the right of way. Jeff agreed that the Design Manual should not dictate what should happen in that space, but that certain types of uses are considered appropriate in those areas and would be addressed by the developer’s plan. This would be more design guidance than design specifics. Carl agreed with that approach. John noted that if a building is being shown in any graphics it is a placeholder for illustrative purposes only. Jeff replied that the issue is approaching the document from a non-engineering viewpoint. Carl noted that the more generic term for the area outside of the right of way is hardscape as opposed to sidewalk, since sidewalk must
be kept clear, but a hardscape can be used for things like café tables and planters. It is best to reference the site development plans.

Carl shared that intersections in Maple Lawn were designed with an interesting approach to handling curb radii. The radii are tight to minimize crosswalk distances, but the curbs are flush throughout the fillet with a reinforced concrete zone strong enough for a truck tire. This functions like a truck apron. The area with pavers has a base of reinforced traffic rated concrete that cannot be damaged by occasional truck traffic. Jeff asked if there have been any issues of cars cutting the corner. Carl responded that he has not seen any issues with smaller vehicles. Bigger trucks that may appreciate a 35-foot radius instead of a 25-foot radius do use that space. John asked if the design detail under consideration is the reinforced surface or the use of brick pavers. Carl replied that the detail is the flush curb, which is still in good condition after 15 years of use.

John asked if DPW is responsible for maintenance of the hardscape. Carl replied that DPW maintenance stops at the back of the curb. Everything beyond that point is maintained by the commercial owner’s association, including the enhanced landscaping, hardscaping, and irrigation. John agreed that this arrangement works in Maple Lawn, but it requires a long-term committed commercial owner. If the development is sold, the County will need to maintain the terms of the contract with the future owner which can present a challenge.

Jeff asked if DPW is open to the hardened corner as an accommodation for trucks as a standard detail if it was shown in concrete instead of pavers. He observed that in the 15 years since the project was installed detectable warning surfaces have been added. John replied that identifying an organization for long term maintenance is one concern. Once trucks are invited onto the hardscape it is good to limit where they go.

John noted that detectable warning surfaces should be used to clearly identify where the crosswalk is located. Detectable domes along the entire corner as shown in the Maple Lawn detail pose a problem. Ramps can be used to direct someone to the appropriate crossing location at the crosswalk. The mountable corners may be a possibility, but more conversations are necessary. Chad commented that the Design Manual will be providing the standards. When the radii or fillets are determined it is important to keep the vehicle in within the roadway. Kris agreed. Chad noted in the past the County used three-centered curves, that went to a 30-foot and 35-foot radius. John agreed that from a safety standpoint, pedestrians should not have to deal with vehicles up on the curb. Carl replied that this may be addressed in the section that deals with the design vehicle and control vehicle.

Larry asked for clarification on how people feel about the Maple Lawn detail. Jeff replied that he has heard pros and cons regarding the treatment in Maple Lawn. The turning radius should fully accommodate the design vehicle within the lane. The control vehicle is a larger vehicle that does not need to navigate the turn as frequently. The control vehicle should be able to turn within the pavement but may swing wide to the extent that the median or opposing curb allows. Jeff agreed that as a pedestrian, vehicles should be kept off the sidewalk. For retrofits, there may be situations where the hardened curb treatment may work.

Jeff noted he agreed with John’s comment regarding the detectable warning surface, which should be limited to the curb ramp at each crosswalk. John clarified that the location of the ramp is what guides someone to the detectable warning surface and the crosswalk.

Larry noted that larger radii encourage drivers to take the turn faster. Jeff affirmed that smaller radii reduce speeds and pedestrian crossing distance, but if the radii are too small it may make it impossible for a truck to make a turn. If there is a warehousing business around the corner a different type of intersection treatment may be required. In a denser neighborhood that should not be a frequent occurrence. Jeff added that this conversation has been very valuable to understand what has worked locally, especially as the team works to apply broader guidance to fit the Howard County context.

Larry asked if a bicycle signal head would be included in the Design Manual, and whether there is anyplace where including a bicycle signal head would be advisable. Chris noted that Montgomery County did include a bicycle signal head in their guidance, although it is not prescriptive. They have a discussion of where bicycle signal heads may be
appropriate. If the bicycle facility runs in contraflow to other traffic that is the main place they are used. If it is a signalized intersection, the bike can use the pedestrian crossing signal.

Jeff noted the only place he has ever applied a bicycle signal head is contraflow for a two-way cycle track. The benefit of doing so is so that any turns across the cycle track would be protected and not permissive. When the bike signals are on, any turning movement across the cycle track is prohibited. This tends to be a more urban treatment. Jeff asked DPW if they have ever gotten a request for a bicycle signal head. Kris replied that there a few locations where there have been requests from commuters, especially in instances where a cyclist is the only person on the approach to an intersection and they fail to trigger the light. The County adjusted the amplifiers on the detectors to make sure that the person on the bicycle is detected. The County’s current equipment does not support the addition of bicycle signal heads. Jeff replied that there are appropriate ways to make sure that bicyclists are detected and have safe movements without the use of bicycle signals in most non-urban places. Chris noted that there is a specified marking in the MUTCD that helps the cyclist position themselves for detection which could be included in the Design Manual.

Jeff noted that the Manual on Uniform Traffic Control Devices (MUTCD) is currently being updated. FHWA is accepting comments until next week, and the new version will likely be published in the next year or so. The Design Manual will be in compliance with the current MUTCD, but there will be a lot more content for walking and biking in the new MUTCD.

**Next Steps**

Jeff commented that the team will begin to develop draft sections of the Design Manual for review with staff and the CSIT. Expect a lot of content in June and July for review and discussion.

Action items from this meeting include:

- CSIT members are to review list of items for inclusion in the Design Manual and provide comments or additions via email by May 12.

The next regularly scheduled CSIT meeting is scheduled for Wednesday, June 2 at 3:00 pm, followed by Friday, June 4 at 1:00 pm.

Leah Kacanda, AICP