

**DOWNTOWN LINKS BICYCLE/PEDESTRIAN CONCERNS SUMMARY TABLE**

KEY CONSIDERATION	INITIAL TDOT FEEDBACK	INITIAL CAC BICYCLE/PEDESTRIAN SUBCOMMITTEE INPUT	SECONDARY TDOT FEEDBACK	CURRENT CAC BICYCLE/PEDESTRIAN SUBCOMMITTEE RESPONSE	CURRENT TDOT FEEDBACK
a. Conversion of westbound bus lane on Broadway Boulevard under the UPRR Bridge with a cycle track connecting to the Aviation bikeway (RTA VA SR04-005).	<ul style="list-style-type: none"> <li>TDOT is currently studying this as a separate Roadway Safety project for Congress/4th Avenue/Toole. Psomas is the consulting firm preparing the study.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the May 29, 2013 subcommittee meeting. Subcommittee acknowledged the separate Roadway Safety project being pursued by TDOT.</li> </ul>	<ul style="list-style-type: none"> <li>A cycle track is currently under design via a separate project. TDOT will coordinate this design effort with the Downtown Links project.</li> </ul>	N/A	N/A
b. MUP Connection at the Snake Bridge and west of Stevens Avenue to 4th Avenue.	<ul style="list-style-type: none"> <li>Initial connection between the Snake Bridge and Broadway Blvd was made in January 2013 and presented to the full CAC at the January 21, 2013 meeting.</li> <li>Additional stretch of MUP parallel to northbound Links Avenue was added in May 2013 and was presented to the full CAC at the May 13, 2013 meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the May 29, 2013 subcommittee meeting. Subcommittee liked both the connection between the Snake Bridge and Broadway Blvd and the new stretch of MUP parallel to northbound Links.</li> <li>No formal recommendation has been made.</li> </ul>	N/A	N/A	<ul style="list-style-type: none"> <li>Maintain both the new Snake Bridge connection and parallel stretch as shown in the 75% plans submitted in October 2013.</li> </ul>
c. MUP ramp connection to the 4th Avenue pocket park.	<ul style="list-style-type: none"> <li>It is possible to make a connection, however doing so would be costly and require significant alteration of the recently constructed pocket park on the southwest corner of 4th Avenue and Stevens Alley.</li> <li>The current stairway connection at the park to the MUP would need to be maintained while a secondary, bicycle accessible, connection to the MUP that currently exists on the east side of 4th Avenue behind the Coronado Hotel would be maintained.</li> <li>At the August 19, 2013 meeting, TDOT asked the subcommittee for a recommendation. This connection was not discussed with the subcommittee prior to this meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at August 19, 2013 subcommittee meeting.</li> <li>No formal recommendation has been made.</li> </ul>	N/A	N/A	<ul style="list-style-type: none"> <li>TDOT concurs with the importance of a connection from the MUP to 4th Avenue. While TDOT supports the inclusion of this design element, impacts to the existing park have not been fully vetted with Mayor and Council, and City Managers Office.</li> </ul>
d. MUP narrowing at MSF.	<ul style="list-style-type: none"> <li>Initial cross-section of Links Avenue included a 4' wide westbound bike lane.</li> <li>After it's construction, the MSF was surveyed. Based on this information, it was confirmed that a 5' westbound bike lane could be accommodated on Links Avenue. Doing so, however, would require narrowing a 50' length of the MUP at the interface of the MSF and the 4th Avenue pocket park from 12' to 10' wide. A 2' shoulder is still present between the MUP and back of curb.</li> <li>Per the AASHTO Guide for Development of Bicycle Facilities (2012 Fourth Edition) the standard width for a shared-use path is 10' to 14' and a minimum width of 8' is allowed for short distances due to physical constraints.</li> </ul>	<ul style="list-style-type: none"> <li>No formal recommendation has been made.</li> </ul>	N/A	N/A	<ul style="list-style-type: none"> <li>The 10' wide path currently shown in the 75% plans meets AASHTO standards. Additionally, a 5' westbound bike lane will be provided on Links Avenue.</li> </ul>
e. MUP crossing at the 8th Street Spur.	<ul style="list-style-type: none"> <li>Initial design (30%) did not prohibit any vehicular movements at this intersection.</li> <li>MUP access ramps directed users to cross the 8th Street Spur behind the curb returns.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the May 29, 2013 subcommittee meeting.</li> <li>TDOT was asked if any vehicular turns were prohibited.</li> <li>Discussion occurred regarding a similar scenario on Barraza-Aviation Parkway with the existing MUP along that roadway.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>TDOT determined that the 8th Street Spur should be designed for right-in, right-out access only, and directed HDR to include this in the 75% plans submitted in October 2013. This includes extending the raised median on Links Avenue beyond this intersection to physically prohibit eastbound left turns from Links Avenue and southbound left-turns from the Spur.</li> <li>To enhance both MUP user and vehicle awareness of each other, the MUP access ramps were re-positioned to the center of the curb returns in order to re-align the MUP and prevent side/crossing collisions.</li> </ul>	N/A	N/A
f. MUP north/south transition at 6th Avenue.	<ul style="list-style-type: none"> <li>Initial design (30%) provided a separate tunnel for the MUP to cross beneath Links Avenue just east of 6th Avenue. There was a short piece of MUP north of Links Avenue connecting the MUP to the east side of 6th Avenue.</li> <li>To improve both safety and connectivity, the MUP tunnel was removed and the MUP was re-routed beneath the new Links Avenue bridge over 6th Avenue. The MUP is on both the east and west sides of the 6th Avenue Underpass and utilizes the existing road/path in this location. This was presented to the full CAC at the May 13, 2013 meeting.</li> <li>Additionally, the MUP was extended to 7th Street on both sides of 6th Avenue.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the May 29, 2013 subcommittee meeting.</li> <li>Discussed at the August 19, 2013 subcommittee meeting.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>TDOT believes that the objective of subcommittee discussions has been met given the constraints at this location (ROW, bridge structure, UPRR).</li> <li>TDOT understands a "Parklet" is proposed for the northwest corner of 6th Avenue and 7th Street. Coordination with the Downtown Links project is strongly recommended to avoid impacts to this element during construction.</li> </ul>	N/A	<ul style="list-style-type: none"> <li>It is possible to provide a two-way MUP and meet AASHTO standards for width and vertical clearances.</li> <li>Two-way MUP concept has been extended to 7th Street to increase connectivity.</li> </ul>
g. MUP crossing at 7th Avenue/UPRR	<ul style="list-style-type: none"> <li>Initial design (30%) did not provide a MUP crossing of Links Avenue at 7th Avenue. As an alternative, the MUP was extended to direct MUP users to either the 6th Street/Links Avenue intersection, or 6th Avenue where the MUP crosses beneath Links Avenue under the new bridge.</li> <li>Existing 7th Avenue north of Links Avenue will be abandoned, thus if MUP users were to cross Links Avenue at this location, they would still be directed to either the 6th Street/Links Avenue intersection or 6th Avenue.</li> <li>Represents the overall concept plan as developed by the CAC and approved by Mayor and Council. This was presented to the full CAC at the October 8, 2012 meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the May 29, 2013 subcommittee meeting.</li> <li>Discussed at the August 19, 2013 subcommittee meeting.</li> <li>No formal recommendation has been made. However, it is evident the subcommittee wishes to provide this crossing for MUP users.</li> </ul>	<ul style="list-style-type: none"> <li>Due to the roadway grade of Links Avenue required for clearance over 6th Avenue, it is not possible to achieve an ADA compliant 2% cross-slope for this crossing.</li> <li>Because viable alternate routes are being provided, there may not be a user desire to cross Links Avenue at this location. Once the project has been constructed and user behavior has adjusted (system calibration) a study can be performed to see if a crossing is warranted.</li> <li>At this time conduit and other infrastructure can be provided for if a crossing is warranted in the future.</li> </ul>	N/A	<ul style="list-style-type: none"> <li>The United States Access Board has issued draft Public Rights-of-Way Accessibility Guidelines (PROWAG) that allow for mid-block crossings cross slope equal to the street or highway grade. Furthermore, at signalized crossings, the cross slope shall not exceed 5%.The cross slope at this location is roughly 4.5%</li> <li>As a result, TDOT has agreed to provide a signalized crossing at this location. The design of which will be included in the 90% plan submittal.</li> </ul>

**DOWNTOWN LINKS BICYCLE/PEDESTRIAN CONCERNS SUMMARY TABLE**

KEY CONSIDERATION	INITIAL TDOT FEEDBACK	INITIAL CAC BICYCLE/PEDESTRIAN SUBCOMMITTEE INPUT	SECONDARY TDOT FEEDBACK	CURRENT CAC BICYCLE/PEDESTRIAN SUBCOMMITTEE RESPONSE	CURRENT TDOT FEEDBACK
h. MUP crossing at 6th Street/Links Avenue intersection and connection to 7th Avenue.	<ul style="list-style-type: none"> <li>Initial design (30%) provided a MUP to the southwest corner of the 6th Street/Links Avenue intersection. Beyond this point, MUP users would utilize either the on-street bike lanes or sidewalks. To cross 6th Street to 7th Avenue, MUP users would utilize the crosswalks provided at the intersection.</li> <li>Represents the overall concept plan as developed by the CAC and approved by Mayor and Council. This was presented to the full CAC at the October 8, 2012 meeting.</li> <li>In response to the updated traffic report, a channelized right turn from eastbound 6th Street to southbound Links Avenue was added to improve intersection capacity and operations. This was presented to the full CAC at the January 21, 2013 meeting.</li> <li>An additional length of MUP was added to connect the western crosswalk of the 6th Street/Links Avenue intersection to 7th Avenue. This was presented to the full CAC at the May 13, 2013 meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at May 29, 2013 subcommittee meeting.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>The geometry of the eastbound to southbound channelized right movement has been modified to be similar to those recently constructed at the Grant/Oracle intersection.</li> <li>Modified geometry was included in the 75% plans submitted in October.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the July 10, 2013 and August 19, 2013 subcommittee meetings.</li> <li>Subcommittee asked if a speed table could be included as the crosswalk crossing the channelized right turn movement.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>The channelized right geometry will remain as currently designed. Further design details in regards to signing and striping will be addressed with in the 90% plans.</li> <li>In response to the concerns with an MUP crossing at the channelized right turn and with the recent addition of the signalized pedestrian crossing at 7th Avenue, TDOT proposes relocating the MUP to the east side of Links Avenue between 6th Street and 7th Avenue. This will enable users to cross the 6th Street at a traditional signalized crosswalk. Furthermore, this meets the objective of maintaining the 7th Avenue to 7th Street connection well utilized in existing conditions.</li> </ul>
i. Stone Avenue/6th Street intersection size.	<ul style="list-style-type: none"> <li>Initial design (30%) of this intersection provided the 6th Street approaches with two through lanes in each direction and dedicated left-turn lanes. The Stone Avenue approaches provided for two through lanes in each direction and dedicated right and left turn lanes.</li> <li>Represents the overall concept plan as developed by the CAC and approved by Mayor and Council. This was presented to the full CAC at the October 8, 2012 meeting.</li> <li>In response to the updated traffic report, dedicated right turn lanes were added to both of the 6th Street approaches. Additionally, turn lane lengths were revised to accommodate vehicle storage requirements identified in the traffic report. This was presented to the full CAC at the January 21, 2013 meeting.</li> </ul>	<ul style="list-style-type: none"> <li>This point has not been discussed at any of the subcommittee meetings with the exception of an audience member at the October 16, 2013 bike-a-long who questioned the size of the intersection.</li> <li>No formal recommendation has been made.</li> </ul>	N/A	N/A	<ul style="list-style-type: none"> <li>The dedicated turn lanes have been identified in the approved traffic report as a means to improve both safety and capacity of the intersection. Furthermore, this intersection will be timed for a full pedestrian crossing.</li> <li>This intersection will remain as currently designed, especially given the high volume of right turning vehicles that exist today.</li> </ul>
j. MUP crossing at 9th Avenue/UPRR.	<ul style="list-style-type: none"> <li>Initial design (30%) provided for this crossing, however no details for the crossing itself have been designed.</li> <li>Represents the overall concept plan as developed by the CAC and approved by Mayor and Council. This was presented to the full CAC at the October 8, 2012 meeting.</li> <li>Initial design concept for the crossing developed in March 2013 and presented to the full CAC at the May 13, 2013 meeting. Design provides a 12' MUP and a 20' emergency crossing of the UPRR tracks.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the May 29, 2013 subcommittee meeting.</li> <li>Discussed at the July 10, 2013 subcommittee meeting. At this time, the subcommittee questioned how patrons of Citizens Warehouse would access the warehouse. It was suggested vehicles accessing the warehouse could do so via the Deck Plaza.</li> <li>The width of the MUP at this location was questioned and if there are sight visibility issues around the northeast corner of the warehouse.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>The MUP north of existing 6th Street on the east and north sides of Citizens Warehouse has been modified to be a 20' shared access lane for both MUP uses and patrons of Citizens Warehouse. This was done to prevent vehicular access to Citizens Warehouse via the Deck Plaza.</li> <li>Stop Signs and bollards will be placed on the westbound approach of the shared access lane at the Deck Plaza.</li> <li>Concept was presented to the full CAC at the August 12, 2013 meeting.</li> <li>MUP crossing of the UPRR tracks underwent an initial field review on August 7, 2013 with the FRA, UPRR and other associated entities and was found to have the basic amenities needed to support a Quiet-Zone. The crossing concept will continue to be refined as design progresses.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the August 19, 2013 subcommittee meeting.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>In response to the concerns about north/south connectivity at 9th Avenue, a deck plaza will be included in the 90% submittal. The plaza will include landscaping, seating, public art and event space as identified during the Deck Plaza subcommittee meetings.</li> <li>Details regarding the type of safety equipment required at the at-grade crossing with the UPRR have yet to be finalized. Additional design is necessary in this regard.</li> </ul>
k. Church Avenue eastbound channelized right turn	<ul style="list-style-type: none"> <li>Initial design (30%) provided for this movement and is a continuation of the existing vehicular movement at this location.</li> <li>Represents the overall concept plan as developed by the CAC and approved by Mayor and Council. This was presented to the full CAC at the October 8, 2012 meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the May 29, 2013 subcommittee meeting.</li> <li>Discussed at the July 10, 2013 subcommittee meeting.</li> <li>Subcommittee questioned the geometry of the channelized right turn to southbound Church Avenue and what could be done to slow vehicles making this movement.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>TDOT is vetting the inclusion of a speed table for the crosswalk crossing the channelized right turn onto southbound Church Avenue. However, there are roadway geometry considerations that need to be accounted for and it may not be possible to provide the speed table.</li> </ul>	N/A	<ul style="list-style-type: none"> <li>The channelized right turn geometry has been modified post the 75% plan submittal in October 2013. The radius of the southwest curb line has been shortened and pushed to the northwest. This results in a shortened crosswalk length and provides additional sight distance for both pedestrians and vehicles. The initial design revision has been approved by TDOT and will be reviewed in detail with the 90% plan submittal.</li> </ul>
l. Church Avenue north/south crosswalk	<ul style="list-style-type: none"> <li>Initial design (30%) did not provide a north/south crosswalk at this location.</li> <li>Represents the overall concept plan as developed by the CAC and approved by Mayor and Council. This was presented to the full CAC at the October 8, 2012 meeting.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the July 10, 2013 subcommittee meeting. Subcommittee questioned whether or not a north/south crosswalk crossing 6th Street would be provided at Church Avenue.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>Because of the longitudinal grade of 6th Street, a north-south crosswalk at Church Avenue would have a cross-slope greater than 2% and would therefore not be ADA compliant.</li> <li>Due to the future 6th Street alignment being depressed to cross beneath the new UPRR bridge, the 6th Street/Church Avenue intersection will be significantly lower than existing. This results in two retaining walls on the north side of 6th Street at this location - one to support the sidewalk above the roadway and the other to support existing ground above the sidewalk. Even if an ADA compliant crosswalk could be provided, pedestrians would have to walk either west to Main Avenue or East to Stone Avenue to continue north. Viable alternatives are already being provided at Main Avenue and 9th Avenue via the Deck Plaza.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the August 19, 2013 subcommittee meeting. Subcommittee again questioned whether a north/south crosswalk crossing 6th Street would be provided at Church Avenue.</li> <li>Notes taken at the January 20, 2014 subcommittee meeting indicate members are still expressing their desire for a north/south crosswalk at this location.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>ADA requires crosswalks to have a maximum 2% cross-slope. It is not possible to achieve a compliant cross-slope at this location. The draft guidelines presented in the PROWAG require crosswalks at controlled intersections shall have a cross slope of 5% maximum</li> <li>TDOT will investigate if a variance from Federal guidelines is attainable at this location.</li> </ul>

**DOWNTOWN LINKS BICYCLE/PEDESTRIAN CONCERNS SUMMARY TABLE**

KEY CONSIDERATION	INITIAL TDOT FEEDBACK	INITIAL CAC BICYCLE/PEDESTRIAN SUBCOMMITTEE INPUT	SECONDARY TDOT FEEDBACK	CURRENT CAC BICYCLE/PEDESTRIAN SUBCOMMITTEE RESPONSE	CURRENT TDOT FEEDBACK
m. Physical barrier between bike lanes and vehicle lanes	<ul style="list-style-type: none"> <li>Initial design (30%) did not provide a physical barrier between the bike lane and vehicle lane. Instead, the roadway cross-section provides for a 6' bike lane separated from the vehicle lane by a 2' striped buffer.</li> <li>Represents the overall concept plan as developed by the CAC and approved by Mayor and Council. This was presented to the full CAC at the October 8, 2012 meeting.</li> </ul>	<ul style="list-style-type: none"> <li>This has not been an agenda item, but has been discussed at the subcommittee meetings in relation to the 6th Street/Church Avenue intersection, 6th Street/Links Avenue intersection, and 6th Street through the underpass.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>TDOT is vetting options with internal staff that will provide separation while at the same time will not require on-going maintenance.</li> </ul>	<p align="center">N/A</p>	<ul style="list-style-type: none"> <li>Where it could be accommodated spatially, a 2' buffer was included in the 75% plans submitted in October 2013. This design will be carried forward.</li> <li>TDOT is currently working on a pilot program to be installed on the St. Mary's Phase of Downtown Links. The goal of the program is to evaluate a possible solution beneficial to bicycle riders and, at the same time, does not require ongoing maintenance. It is anticipated the solution identified from the pilot program can also be installed on Phase 3 of Downtown Links.</li> </ul>
n. Main Avenue Crossing	<ul style="list-style-type: none"> <li>The Main Avenue crossing of 6th Street is in the St. Mary's phase of Downtown Links (Phase 2) that is currently under construction and beyond the scope of Phase III currently under design.</li> <li>Construction plans provide access ramps and median openings to allow users to cross 6th Street at this location. However, there is no striped crosswalk at this location.</li> <li>Pullboxes and conduit are provided for a future HAWK signal if necessitated.</li> </ul>	<ul style="list-style-type: none"> <li>Discussed at the August 19, 2013 subcommittee meeting. Members questioned why a signalized crossing for bikes and pedestrians was not being provided at Main Avenue.</li> <li>No formal recommendation has been made.</li> </ul>	<ul style="list-style-type: none"> <li>TDOT has made accommodations for a future signalized crossing by including median openings, conduit, pullboxes and other required infrastructure in the construction of the St. Mary's phase of Downtown Links.</li> <li>It is worth noting that this crossing is in close proximity to the signalized intersections of St. Mary's Road/Granada Avenue (350') and 6th Street/Church Avenue (450').</li> </ul>	<p align="center">N/A</p>	<ul style="list-style-type: none"> <li>TDOT is awaiting the final resolution of subcommittee concerns at the 6th Street/Church Avenue intersection before making a final determination of whether a signalized crossing will be provided at Main Avenue.</li> </ul>