



October 15, 2015

To: Urban Design Committee, City of Richmond

RE: *10-Foot Lanes for GRTC Bus Rapid Transit Project*

UDC/PC Comment 21: That a 10-foot vehicular lane width is maintained except for bus lanes.

Applicant Response: A 10-foot vehicular lane width will be maintained along the GRTC BRT project corridor with the exception of travel lanes that will carry local buses or BRT buses. An 11-foot lane will be provided for exclusive BRT lanes both in the median- and curb-running segments. Outside travel lanes within the median-running segment of the corridor will vary between 10'-6" and 11' wide. The outside travel lane will maintain a minimum 10' – 6" width to safely accommodate the local buses.

SUPPORTING DOCUMENTATION

Lane width is an important aspect of the design of the GRTC BRT Project. The GRTC BRT Project does not propose to widen Broad Street, 14th Street, or Main Street to accommodate BRT operations. Therefore, it is important to balance the needs of multimodal users along the corridor within the existing roadway width and to accommodate general purpose travel lanes, BRT lanes, parking lanes, left-turn lanes, sidewalks, and medians.

Lane width was discussed extensively by the project's Technical Advisory Committee (TAC) at meetings on February 25, 2015, March 16, 2015, and March 27, 2015. The TAC determined that 10-foot travel lanes are acceptable when those lanes are not carrying a local bus or BRT bus. A 10-foot travel lane allows allocation of additional width to the median thereby enhancing safety for pedestrians. Additionally, a 10-foot travel lane maintains or enhances existing lane widths along the Broad Street corridor.

A 10-foot travel lane is not acceptable on roadway segments that will carry local buses or BRT buses. A GRTC local bus manufactured by GILLIG is 10' – 3" wide (mirror to mirror) and cannot safely fit in a 10-foot travel lane. Additionally, there have been numerous documented side-swipe crashes in recent years between GRTC local buses and other vehicles traveling in the same direction on Broad Street which are attributed to inadequate lane widths. Therefore, the TAC agreed to allow a minimum of 10' – 6" lanes for the outside travel lanes in order to accommodate local buses.

Within a typical section, the outside lane will be 11' wide to provide ample space for local buses. However, at certain areas, such as locations with left-turn lanes or BRT stations, the lanes that contain local buses will maintain the minimum lane width requirement of 10' – 6". This is necessary to fit each component of the BRT project (i.e., stations, left-turn lanes, travel lanes, parking lanes, etc.) within the existing curb to curb width. The change in lane width to accommodate different components of the BRT project is shown in Figure 1.

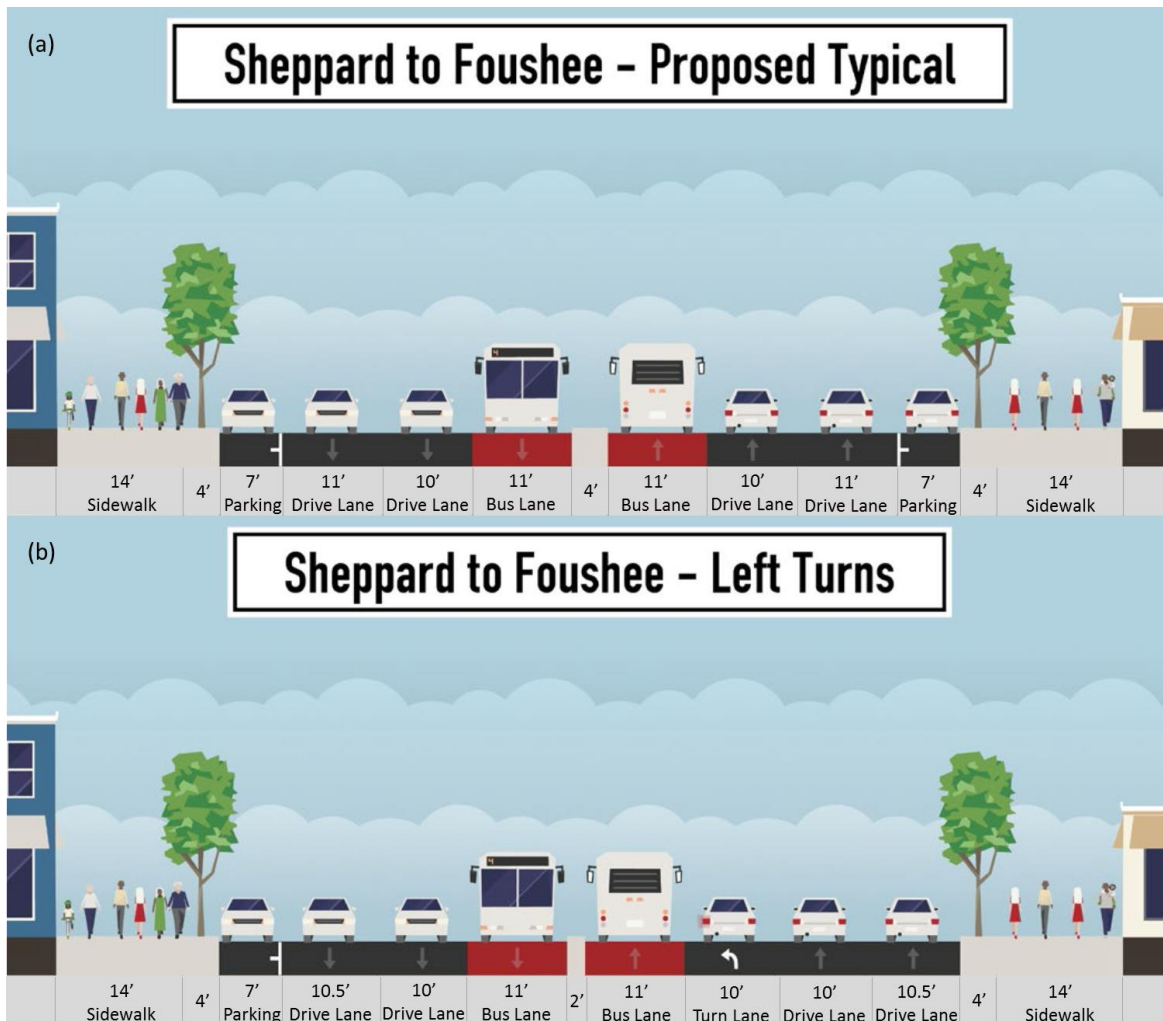


Figure 1. (a) An example of a proposed typical section with 11-foot outside travel lanes to accommodate local buses. (b) An example of a 10' – 6" outside travel lane to accommodate local buses and a left-turn lane.

Based on the information presented and for the safety of cars and buses, it is not recommended to have a 10-foot wide lane where a local bus or BRT bus will be traveling. However, where a local bus or BRT bus is not traveling, a 10-foot wide lane is recommended and provided. The GRTC BRT Project strives to take into account the safety of all road users and the lane configuration decided on by the TAC balances multimodal users: buses, vehicles, cyclists and pedestrians.