



To: Members of Dublin City Council
From: Marsha I. Grigsby, City Manager
Date: February 28, 2014
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Re: Bridge Street District Transportation Review

Background

Staff has been asked to provide a brief review of the development of the transportation component of the Bridge Street District (BSD). As the BSD plan has evolved, the transportation system, like all other major infrastructure systems, needed to support the plan has been a key element studied by the City. This report reviews how the transportation and the associated street network planning have advanced during the BSD planning and implementation efforts and includes key findings from that work.

Planning Efforts

The City of Dublin initiated the BSD planning and visioning work in 2009, with the assistance of Goody Clancy and Associates. One of the key recommendations of those early planning and visioning efforts was the need to explore and analyze the transportation component of the plan. Using the future development types/patterns contemplated within the BSD visioning efforts, Nelson/Nygaard was engaged to help the City determine if the proposed grid roadway network would be sufficient to accommodate the planned development of the BSD.

The key conclusions of the Nelson/Nygaard report were:

1. A dense, grid-style street pattern was verified to operate well in the urban core context of the BSD,
2. Multiple grid connections help alleviate congestion so turn lanes are not required except at key locations,
3. A dense, mixed-use development environment (as envisioned for the BSD), supported by a multi-modal transportation system likely results in about a 40 per cent internal capture of vehicle trips in the District,
4. New river bridges improve overall neighborhood connectivity but do not relieve current or projected congestion for the Bridge Street/High Street intersection,
5. "Street Family" classifications are used to better convey the character of the area's streets and the BSD as an urban core, rather than traditional suburban roadway functional classes which convey street hierarchy.

During 2011-2012, the BSD form based code was also being written. The new code incorporated the dense, grid-style street pattern verified during the Nelson/Nygaard study. The BSD zoning code was subsequently adopted by Dublin City Council on March 26, 2012.

A mass rezoning of the parcels within the BSD occurred after the adoption of the BSD code on May 9, 2012. The regulatory process established with the adoption of the code results in a different approach to determine future traffic impacts of individual projects on the adjacent street system. Since the land use, development patterns, and the transportation analyses were all comprehensively performed and verified by the City for the entire BSD, individual Traffic Impact Studies (TIS) are no longer needed for each project within the BSD. This is in contrast to the more traditional, suburban, greenfield development model.

The City of Dublin Community Plan, which includes the BSD Area Plan and Thoroughfare Plan, has been updated to reflect the recommended development patterns and infrastructure plans for the BSD. Dublin City Council adopted the updated Community Plan on July 1, 2013. Proposed development projects are now reviewed and evaluated within the context of these adopted plans.

As a next step, the City hired LJB, Incorporated to study the roadway impacts of the phased development for the full build out of the BSD, and to assess, at five-year intervals, which events will likely trigger needed improvements. Obviously, the assumptions contained in this study are based on the best information available at the start of the work. The actual timing for any of the recommended improvements will be adjusted through the five-year Capital Improvement Program process to align with private development opportunities. Major conclusions of this study are:

1. Turn lanes are needed at key intersections along Bridge Street, Riverside Drive, and Dublin Road,
2. Confirms needed number of lanes previously assumed,
3. The phasing plan must evolve and be further assessed as the actual timing of development projects becomes clearer,
4. Vehicular Levels of Service will improve as mode splits and transit share increases over time,
5. This study serves as a guiding document or framework and not as a specific prescription regarding the precise timeframes or phasing for the recommended improvements,
6. Several projects are needed independently of any impacts from of the BSD development projects, including:
 - a. SR 161/Riverside Drive intersection improvement
 - b. SR 161/Bridge Street/Frantz Road/Post Road intersection improvement
 - c. Tuller Road/Riverside Drive intersection modification to restrict movements to right-in/right-out.

Shaping the Grid

The grid roadway network has been thoroughly reviewed and verified during several studies and supports the urban setting of the BSD. The key transportation features of an urban system in the BSD are:

1. The grid-style road network disperses traffic over many smaller streets,

2. Multiple, redundant connections increases the potential number of travel routes exponentially, thus no need for turn lanes at intersections internal to the BSD
3. Rather than developers submitting individual TISs and identifying mitigating strategies for projects since we know that turn lanes are not needed at intersections internal to the BSD, developers must incorporate and construct the recommended grid network with their project and dedicate the necessary right-of-way,
4. As the grid develops, there will be some growing pains, interim locations of congestion, and periods of less than ideal roadway continuity.

Congestion

A generally understood transportation principle in areas such as the BSD is: some level of congestion is an acceptable trade off for the creation of the high-density, vibrant, walkable urban living environment. Congestion and parking limitations, both off-street and on-street, promotes changes to travel patterns and mode choice. Vehicular level of service alone should not dictate success or failure of a road because:

1. Vibrant streets accommodate on-street parking, provide narrower travel lanes, have lower vehicular speeds, and larger pedestrian, cyclist, and transit spaces,
2. Streets that provide high vehicular levels of service generally contain large expanses of asphalt, higher driving speeds, smaller pedestrian spaces, little to no transit service, and are generally less desirable to live near or walk and bike along.

The Community Plan recommends a balance between maintaining reasonable LOS standards and other quality of life issues. Dublin has already started to embrace the policy that lower levels of service are often acceptable tradeoffs rather than building significantly larger intersections or adding through lanes in certain corridors such as:

1. Avery-Muirfield Drive/Perimeter Loop Road/Hospital Drive intersection future intersection improvements
2. Avery-Muirfield Drive/Perimeter Drive intersection future intersection improvements
3. Dublin Road corridor
4. Brand Road corridor
5. Avery Road corridor
6. Emerald Parkway corridor

SR 161/Riverside Drive Simulation

American StructurePoint is preparing a simulation for Dublin that will include a computer generated visualization of future year 2030 traffic moving through the intersection as a roundabout and relocated Riverside Drive during the PM peak hour. A 3-D rendering of the future roundabout will be developed and integrated into an aerial photograph of the existing SR 161/Riverside Drive area. The future traffic simulation, will move through the proposed roundabout, demonstrating how traffic will function. Existing features, such as buildings and parking lots, will remain adjacent to the improvements.

A aerial video of the intersection as it operates today will also be provided. A helicopter will fly over the intersection during peak hour traffic and capture how the intersection currently processes

regular volumes of traffic. This flyover is expected to occur during the week of February 24-28, 2014. Both of these segments will be incorporated into a larger video to highlight the SR 161/Riverside Drive intersection current and future operations. The video is anticipated to be submitted to Dublin staff by March 10, 2014 weather permitting.

Recommendation

In conclusion:

- Staff believes that the transportation system planning and analysis for the planned Bridge Street District have been both comprehensive and appropriately performed.
- Given the goals to create a dense, vibrant and walkable mixed-use environment for the City of Dublin within the BSD, staff believes that the planning and analysis have demonstrated that the City's existing transportation system (supported by the planned BSD grid and recommended improvements) can accommodate the planned development of the BSD, with acceptable levels of service.
- The intended character and uses of the BSD will be reinforced and well served by the recommended transportation system, especially the planned roadway grid and its related improvements.
- The actual timing of the recommended transportation system improvements to the existing roadway system will be ultimately driven by the actual amount and location of implemented BSD private development projects, as well as by transportation system improvement needs unrelated to BSD development.
- The recommended transportation improvements for the BSD will support the City of Dublin's move towards a more balanced, multi-modal transportation system, which considers the needs and service levels all users of the system.