

US 15-501 Corridor Study

Public Comment Responses (version 11/04/20)

Introduction

The DCHC MPO Board published the final US 15-501 Corridor Study in September for public comment and conducted a public hearing at their October Board meeting. This document identifies the key comments that were received by email and at the public hearing from both residents and DCHC MPO Board members and provides a response to those comments. The comment is presented in *italic font* and the response follows. There were numerous minor comments on detailed design, network connection, and operations that staff will need more time to evaluate and consider changing in the final plan.

The comments/responses are organized by the Study segment.

- Segment #1 – Ephesus Church Road to I-40
- Segment #2 – I-40 to US 15-501 Bypass (includes I-40/US 15-501 interchange)
- Segment #3 – US 15-501 Bypass to Chapel Hill Road
- Segment #4 – Chapel Hill Road to University Drive
- General Comments – comments not related to a specific segment

The compilation of public comments, and the final report, executive summary and conceptual design can be found on this DCHC MPO web page: <http://bit.ly/15-501>

Segment #1

Chapel Hill Cross-Section

The Chapel Hill cross-section is too wide for bicyclists and pedestrians to safely and comfortably cross, and too car-centric.

---Travel Growth---

The demand for “to” trips and “through” trips in this segment will continue to grow. This segment is quickly urbanizing with denser development and multiple land uses including the UNC Healthcare facilities, Wegmans grocery store, redevelopment of the Blue Cross parcel, and growing residential development in multi-story apartments in Blue Hill District. The continued growth of employment and residential development beyond both ends of the corridor will increase “through” trips, as well. Transit, cycling and walking will serve some of this trip growth, but a large portion of the growth will go to automobiles given the ample parking lots and structures within the new developments.

---Study Recommendation---

Early in the Corridor Study, traffic engineers first recommended the addition of two travel lanes in each direction, a series of RCIs (reduced conflict intersections, or superstreets), and wide outside shoulders.

A short study by Dr. Joseph Hummer recommended the addition of one to two travel lanes in each direction and numerous RCIs. The Study needed to do more work to prioritize bicycle, pedestrian and transit trips while also taking into account the expected growth in vehicle trips. A more urbanized cross-section was developed, including the addition of one travel lane and one bus only lane in each direction, a single RCI addition at Sage Rd, and curb-and-gutter instead of a wide outside shoulder.

In this cross-section, there are several features that help to mitigate bicycle and pedestrian crossing concerns. Given the spacing of the traffic signals at the intersections and RCIs, the vehicle speed can be progressed to slow down vehicles for safer bicycle and pedestrian crossing but have little negative impact on vehicle travel time. There will be more pedestrian crossings at main intersections and at midblock U-turns, and streetscaping within the median to provide more comfortable separation from vehicles. Bicycle and pedestrian trips along the corridor will use multiuse paths that run along both sides of US 15-501 and have streetscaping between the roadway and multiuse path.

---Alternatives---

Staff has discussed the addition of a single bus-only lane in each direction (i.e., resulting in two travel lanes and one bus-only lane in each direction). Although this alternative would have similar transit benefits as the current recommendation, it would not address the expected increase in vehicle trips. The result would be increased automobile travel delays on US 15-501 and also on local parallel routes such as Erwin Road, Ephesus Church Road, and Old Chapel Hill Road, and regional routes such as NC 86 and NC 54.

Staff also discussed the addition of a single travel lane in each direction (i.e., resulting in three travel lanes in each direction). This alternative does very little for the high capacity transit services that are expected in the US 15-501 corridor.

Dobbins Drive

Some comments asked that Dobbins Drive remain open to through traffic.

A roadway lane of the proposed intersection at US 15-501 and E. Franklin Street infringes on Dobbins Drive by only several feet and therefore the Corridor Study design shows part of Dobbins Drive is closed to vehicles. This closure was also shown in the feasibility study for TIP project U-5304. When this project undergoes more detailed design, such as drainage requirements and construction easements, the community and design engineers could possibly make adjustments to keep all of Dobbins Drive open to vehicles. However, at the conceptual design level of the US 15-501 Corridor Study, part of Dobbins Drive will need to be shown as closed to vehicle traffic.

Eastowne Drive/US 15-501

A comment requested a grade-separated intersection (i.e., interchange) at Eastowne Drive and US 15-501.

The land use along this segment of US 15-501 will be more oriented toward the roadway and therefore an interchange will occupy buildable land and create travel safety hazards. In addition, this intersection

might be too close to the I-40/US 15-501 interchange for safe vehicle operations, e.g., excessive weaving of entering and exiting vehicles.

RED Transit Lanes

There is a recommendation to operate outside bus-only lanes as RED transit lanes, which allow all vehicles to use that lane to access driveways and make right-turns, and for emergency vehicle use. Page 37 of the final report recommends a Business Access and Transit (BAT) lane, which is the same concept as a RED lane. These are operational solutions that can be implemented once the recommended infrastructure in the US 15-501 Study is constructed.

Segment #2

Grade Separations

Several comments asked that the proposed grade separations at Mt. Moriah Road, Southwest Durham Drive, and the proposed collector road/bridge (east of Southwest Durham Drive) be changed to at-grade intersections.

---Future Growth---

It is expected that the area will continue developing as retail but will eventually redevelop to higher density, multi-story office and medical centers, and possibly have a signature corporate building. As it is today, this development will continue to face away from US 15-501 and rely on an internal transportation network. In the future, this network is to become a grid. Based on the high-density redevelopment, the I-40/US 15-501 quadrants (i.e., New Hope Commons and Patterson Place) have had a grade separated intersection at Southwest Durham Drive and a right-in/right-out at Mt. Moriah Road in the MPO's plans since the 1990s.

---Intersections---

Staff believe that a series of four intersections along US 15-501 (e.g., I-40, Mt. Moriah Road, Southwest Durham Drive, and the new collector road on the east end) would experience severe congestion and safety issues, and be extremely dangerous to cyclists and pedestrians. The many traffic signal phases to accommodate turning vehicles and the difficulty in synchronizing the signal cluster will cause great delay to both turning and through vehicle traffic. The wide roadway (which is already nine lanes plus shoulders at current intersections), the long curb radii, and many signal phases make crossing confusing and dangerous to pedestrians and cyclists. Traffic weaving between I-40 and Mt. Moriah Road will be a safety issue.

---Interchange and Bridges---

The Study recommends an interchange at Southwest Durham Drive and grade separations at Mt. Moriah Rd and at the proposed collector road east of Southwest Durham Drive. This design would experience much less delay and likely fewer crashes compared to a series of at-grade, signalized intersections. Motorists from both the east and west can more quickly access New Hope Commons and Patterson Place using the interchange. The bridges at Mt. Moriah Rd and the eastern collector road would provide much safer bicycle and pedestrian travel between New Hope Commons and Patterson Place than if

required to make an at-grade crossing on a roadway that currently has 52,000+ vehicle per day. Transit vehicles also would have faster access to the developments using the interchange, and would circulate faster through the different quadrants using the bridges rather than crossing large intersections.

In terms of funding, staff is not certain how designating at-grade intersections along this segment might impact the status of Transportation Improvement Program (TIP) projects in this segment of US 15-501, i.e., TIP U-6067.

Interchange Connection to New Hope Commons

The roundabout immediately north of the US 15-501/Southwest Durham Drive interchange could become critically congested if traffic at the interchange ramp backs up into the roundabout. Also, the 50+ foot difference between the elevation of the roundabout and interchange could cause traffic operations problems.

Staff recommend moving the roundabout north and away from the proposed US 15-501/Southwest Durham Drive interchange to provide more vehicle storage in case the interchange becomes congested. The roundabout would connect with the proposed east/west connector road, but the frontage road along US 15-501 (e.g., New Hope Commons Boulevard Extension) would need to run north to also connect with the roundabout. When the interchange is funded and detailed alternatives are developed, an operational analysis will help design a roundabout that has adequate vehicle capacity and safe bicycle and pedestrian crossings. The roundabout will be constructed at an elevation that meets roadway grade standards.

Northern Quadrant Road

The northern quadrant road, between New Hope Commons and Eastowne, has been removed from the Study.

The quadrant road/bridge between New Hope Commons and Eastowne is in the US 15-501 Corridor Study. The road is in the final report and there is a callout box on the conceptual design that describes it as “a connection... that serves transit, bicycle, pedestrian, and automobile trips.” The line for the road on the conceptual design has been removed because the alignment is unknown. The alignment can’t be designated at this time because there are pending development plans on the Eastowne side of I-40, and there is a need for detailed planning work to ensure the Natural Heritage Area is minimally affected by the connection.

Connector Roads in Parking Lots

The connector roads go through retail center parking lots.

On the conceptual design, connector roads are shown in areas that are currently parking lots. These roads will not be constructed until the area redevelops into higher density, mixed-use development, and will be coordinated with the layout of the buildings and street network.

Multiuse Paths in Patterson Place and New Hope Commons

Several comments asked that more multiuse paths be added to roadways in the Patterson Place and New Hope Commons developments.

The US 15-501 Corridor Study tries to follow the future transportation network for the Patterson Place Design District. That network creates an urban, grid street pattern that emphasizes bike lanes and sidewalks throughout the grid. The multiuse paths are limited to the outside boundary of the developments and designed so that “through” trips can more easily go from one end of the development to the other without mixing with roadways and having to transition between two-way multiuse path use and one-way bike lanes.

Multiuse Path on Southern Collector Road/Bridge

Some comments asked that a multiuse path be added to the southern collector road/bridge that is to connect the Patterson Place and future Gateway developments.

As described in the previous item, the development is envisioned as a grid transportation network with bike lanes and sidewalks, and the multiuse paths were designed for “through” trips. A multiuse path on this roadway/bridge would require users to transition back-and-forth from one-way bike lanes to two-way multiuse paths. Based on the Patterson Place Design District, the multiuse path will be located further south and connect with the bicycle and pedestrian facilities on Old Chapel Hill Road, which cross I-40.

Outside Bus Lanes

A comment recommended moving transit to the outside lanes of US 15-501 in segment 2.

Further study is needed to determine the most appropriate type of transit service for this segment. That determination will be influenced by the transit service and infrastructure recommendations in the forthcoming Durham County and Orange County Transit Plans, and by the environmental and alternative analyses related to TIP project U-6067 (i.e., improve intersections/interchanges on US 15-501).

At this time, the US 15-501 Corridor Study recommends inside bus lanes (that operate in the median) for operational and safety reasons. The current development in New Hope Commons and Patterson Place is oriented toward parking lots and internal roadways and away from US 15-501. In the future, higher density and mixed-use redevelopment will continue to be oriented toward the internal network of streets, sidewalks and bike lanes. Given this type of development, bus stops inside the development are expected to attract more riders than those along US 15-501 and thus transit vehicles will need to leave US 15-501 and circulate through the developments. The inside bus lanes can have a physical barrier to separate them from the general purpose lanes and have a separate entrance/exit at the interchange. This separation makes inside bus lanes safer and more reliable than outside lanes.

Multiuse Path Along US 15-501

A comment asked that the multiuse path from New Hope Creek to the Oak Creek Village shopping center follow US 15-501 as much as possible. The same comment asked that the multiuse path cross US 15-501 at the eastern connector road instead of the New Hope Creek bridge. (Note: the proposed eastern

connector road would cross US 15-501 by bridge at a point east of Southwest Durham Drive, and connect the New Hope Commons and Patterson Place areas.)

The Durham greenway master plan shows the multiuse path connecting to the shopping center several hundred feet off of US 15-501 and the Study follows the master plan concept. Staff will check the feasibility of extending the multiuse path further east along US 15-501 to connect to the rear of the Oak Creek Village shopping center. The US 15-501/Garrett Road interchange ramps could preclude the construction of this multiuse path extension.

The eastern connector road crossing could be a reality as the transportation network in this segment is designed and constructed. However, staff believe a multiuse path crossing that uses an existing structure, i.e., New Hope Creek bridge, is a better option than a crossing that depends on a structure that is not yet funded, i.e., eastern connector road.

Multiuse Path at Southwest Corner of US 15-501/Garrett Rd

A comment asked that a multiuse path be added along US 15-501 to connect the southwest quadrant of US 15-501 and Garrett Road to a multiuse path crossing of US 15-51 that goes under the New Hope Creek bridge. This multiuse path would allow bicycle and pedestrian travel between the south side of US 15-501 and New Hope Commons without having to cross US 15-501 at Garrett Road.

A multiuse path along this section of US 15-501 is not part of the Durham greenway master plan and the Study followed the concept of the master plan. Staff do not believe that a multiuse path can be properly constructed between the US 15-501/Garrett Road interchange and the drainage system between the apartments and roadway.

Multiuse Path Near Bypass

On the section between Garrett Road and the US 15-501 bypass, a comment recommended placing the multiuse path between the service road and US 15-501 to minimize crossing driveways.

The US 15-501 Corridor Study follows the detailed design for TIP project U-5717 (US 15-501/Garrett Road interchange), which has cleared the environmental analysis and final design phases. Staff believe the TIP project did not put the multiuse path between US 15-501 and the service road because the proposed roadway elevation and retaining wall do not leave enough room to build the multiuse path.

Segment #3

Bicycle and Pedestrian Connection Between Segment #2 and #3

A comment asked that a grade separated bicycle and pedestrian crossing be added to connect the Garrett Road and South Square areas.

The bike lanes and sidewalks proposed on Larchmont Road will provide a connection for non-vehicle travel between those areas.

BOSS Lanes

A comment requested that BOSS (Bus on Shoulder System) be implemented west of Chapel Hill Street.

Staff believe that there will be not be enough transit demand in this particular segment of the corridor for BOSS, and that BOSS does not fit other design elements. The Corridor Study does not anticipate major travel delays in segment #3 in the future and currently there are no public transportation routes along this segment. Segments #1 and #2 have prioritized transit with bus-only lanes and will attract the regional and express bus routes. The ultimate land use along US 15-501 in segment #3 will be oriented toward the roadway. Therefore, there will be a narrow shoulder (e.g., 4 feet) that is not wide enough to accommodate BOSS and the proposed series of roundabouts are unlikely to function properly with BOSS. It should be noted that BOSS is currently authorized only for specific sections of I-40.

Segment #4

Peak Period Transit Lanes

A comment requested that that peak-period transit lanes use the parking lanes east of Chapel Hill Street.

The Corridor Study does not anticipate major travel delays in segments #4 in the future. If transit delays are experienced in segments #4 in the future, the Business Access and Transit lanes (BAT) could be investigated as an operational solution that can be implemented once the recommended infrastructure in the US 15-501 Study is constructed. It should be noted that the parking in segment #4 will be needed to support the small businesses in that community, and that peak hour lanes could become an enforcement burden.

General Comment

Crossing Design

Some comments asked for more details on the designs of the street crossings for cyclists and pedestrians. For example, they asked if there will be raised crosswalks and right-on-red vehicle turns.

These design and operational details are beyond the scope of the US 15-501 Corridor Study and will be determined when the projects are funded and receive more detailed design. These design details can maximize the comfort and safety of the cyclists and pedestrians.