



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219-2000

Gregory A. Whirley
Commissioner

May 30, 2012

MEMORANDUM

REQUEST FOR DESIGN PUBLIC HEARING APPROVAL

From: District Administrator or Designer 

To: State Location and Design Engineer
Attention: Mr. Bart Thrasher, P.E.
Assistant State Location and Design Engineer

Project #: 6007-053-133, P101, R201, C501

Federal Project #: STP-5401(518)

UPC: 58599

County: Loudoun County

In accordance with the statutes of the Commonwealth of Virginia and policies of the Commonwealth Transportation Board, a **Design Public Hearing** was held for the above mentioned project on May 9, 2012, between 6:00 p.m. and 8:00 p.m. at the Loudoun County High School (415 Dry Mill Rd SW, Leesburg, VA) located in Loudoun County.

The purpose of this project is to alleviate traffic congestion caused by heavy trucks along westbound Route 7 and improve traffic operations and safety at various locations within the project limits.

Citizens were provided the following information in the form of a project brochure:

- The NEPA environmental document (Categorical Exclusion)
- The existing typical section is a four-lane divided roadway consisting of a minimal shoulder section (varies from approximately 0 to 8 feet) and an existing grass median of approximately 50 feet in width.
- The proposed typical section will provide three 12' lanes on westbound Route 7 and standard shoulder widths. The typical section also includes an outside shoulder width of 13 feet in fill/10 feet in cut, and an inside shoulder width of 8 feet.
- The current average daily traffic is 60,500 vehicles per day and this is anticipated to increase to 84,750 vehicles per day by the design year of 2036.
- The construction of the project will not displace any families, businesses or non-profit organizations (see brochure for project specific information).

- The project cost is estimated at \$4,028,420 for preliminary engineering, \$3,493,945 for right-of-way and utilities and \$31,960,606 for construction. The total estimated cost is \$39,482,971.
- It is anticipated that this project will be accelerated via Design/Build delivery. The tentative schedule for advertisement of the Request for Proposals (RFP) is April 2013. However, FHWA approval of the RFP is anticipated in August 2012, which will allow for FY12 obligation of the 80% federal and 20% state funds.

42 citizens attended the hearing. There were 17 written and zero oral comments received for the record. Four supported the project as proposed and presented, nine supported the project as proposed and presented with modifications and two opposed the project as a whole.

The following is a summary of the comments which were received as a result of the public hearing and staffs recommended action for each concern:

1. Issue – Noise

a. Comment:

Block road noise from the Beacon Hill community with noise wall. (2 comments)

b. Response:

A noise study was completed for this project. Noise impacts are predicted, and some noise barriers are considered “feasible”, however, noise barriers are not considered “reasonable” because they exceed the FHWA and VDOT cost criteria and/or they did not meet the FHWA and VDOT 7 dBA design goal. Below is an explanation of the “feasible” and “reasonable” terms:

Feasible – feasibility deals with the actual construction the noise walls. For a barrier to be considered feasible the following conditions must be met:

1. The barrier must not create safety or engineering problems.
2. The barrier must reduce noise levels by at least five decibels for fifty percent (50%) or more of the impacted properties.

Reasonable – reasonability deals with the cost of constructing the noise barrier. Under the current policy, a barrier is considered reasonable if the Square Footage per Benefited Receptor does not exceed 1,600. A property is considered benefited if it receives at least 5 decibels of noise reduction from the noise barrier.

For further information regarding the noise analysis, see the VDOT project website: (http://www.virginiadot.org/projects/northernvirginia/route_7_truck-climbing_lane.asp).

2. Issue – Additional noise sampling

a. Comment:

Take additional noise samples at the Taylor’s residence. (1 comment)

b. Response:

Noise monitoring occurred as part of the initial report at four (4) locations. The closest monitoring location in relation to the citizen’s complaint is located approximately 125 feet from the Route 7 mainline at Silver Charm Place. The Taylor residence is approximately 340 feet from the westbound off ramp at Route 9. The monitors are used to validate the computed noise levels. The noise

monitoring data and the noise model are in agreement. VDOT's noise meters are calibrated every two (2) years including the field calibrator that is used on the noise meter prior to every noise monitoring session.

Design year (2036) noise levels are predicted to be 60 dBA. Therefore, this site is not predicted to be noise impacted. For a site to be considered noise impacted, noise levels have to approach or exceed the Noise Abatement Criteria of 66 decibels. Because of this, noise barriers were not considered at the Taylor's residence.

For further information regarding the noise analysis, see the VDOT project website (http://www.virginiadot.org/projects/northernvirginia/route_7_truck-climbing_lane.asp).

3. Issue – Noise study

a. Comment:

Noise abatement Barrier #3:

A) The number of benefitted receptors should be 3, not 1. In addition to my house (17855 Leeland Orchard Road) which is most negatively impacted by the road noise from this project 17865 and 17885 Leeland Orchard will be negatively impacted by the expansion of Route 7 as well. The report altogether fails to recognize the separate dwelling located at 17865.

B) The FHWA TNM model fails to account for the impact of deciduous foliage exiting on April 25 and May 23, 2011 when the short-term noise measurements were collected. The existing deciduous trees Route 7 West and Leeland Orchard Road do not have leaves during the months of November through March. Noise levels at that time are higher than in the Spring when leaves are on the trees.

C) No noise attenuation measurements were implemented when Route 7 was expanded to four lanes. By phasing road improvements, and resetting the baseline noise level, projects such as these will never trigger the need for abatement measures even though cumulative noise levels may increase substantially due to multiple road projects. (1 comment)

b. Response:

A) Per the VDOT Noise Guidance Manual, the word 'benefitted' refers to noise receptor units obtaining a minimum of 5 dB(A) of noise reduction from the proposed noise abatement measure. As illustrated on Sheet 4 of 4 in Appendix A of the Noise Impact Analysis Technical Report, only one site (D9) is predicted to be benefitted by barrier 3, with noise reductions of 7 dB(A). Benefitted receptors are shown by the pink circle while the non-impacted receptors are indicated by yellow circles. The property at 17865 is represented by D8. D8 is not predicted to be noise impacted. The property at 17885 was erroneously omitted. However, the property (17885) has been modeled and the property is predicted to experience future noise levels of 61 dB(A), therefore is not impacted. The property is not benefitted by the barrier. In addition, 17885 is further from site D9 and is beyond the 66 dB(A) contour line (green dotted line) and therefore is considered not noise impacted.

B) FHWA TNM does account for the effect of vegetation in predicting future noise levels. However, through extensive research, it has been shown that vegetation has to be dense enough (at least 100 ft) to realize a reduction in noise

levels. Since the vegetation throughout the project corridor is not dense enough, it was not included in the noise model.

C) The expansion of Route 7 to four lanes took place in the 1970's. The VDOT Noise Policy had not been developed at the time (VDOT Noise Policy was developed in 1989). However, the current VDOT Policy aims at making sure that all efforts are made at providing noise abatement to all qualifying projects where it is deemed feasible and reasonable. Further, the policy uses cumulative noise levels (present which represents current noise levels due to past improvements and projected future noise levels due to future growth) in evaluating for noise mitigation.

VDOT staff, who performed the noise analysis for the project, visited the project area on April 25, 2011 and May 23, 2011. The existing noise conditions within the project study area were assessed by performing short term noise monitoring. Staff also performed a windshield survey of noise-sensitive land uses and identified major sources of acoustical shielding to supplement the project area mapping.

The receptors associated with barrier 3 has a cost criterion of 8,672 SF/BR, which is beyond 1,600 SF/BR. Therefore, the barrier is considered not reasonable.

4. Issue – View

a. Comment:

Block the view from the Beacon Hill community by planting tall evergreen trees along Route 7. (1 comment)

b. Response:

An allowance for landscaping will be added to the Design-Build bid documents. Landscaping will be provided within VDOT right-of-way, based on the space available and consideration of roadside safety.

5. Issue – Roxbury Hall Rd deceleration lane

a. Comment:

The deceleration lane from eastbound Route 7 into Roxbury Hall Rd has no physical barricade to prevent vehicles headed through the intersection from confusing this exit with the West Market St exit ramp and running through the intersection with Roxbury Hall Rd. Because of high traffic volume and high speed, the eastbound morning rush hour will have the potential to use this lane as an extra travel lane and negate all three purposes or provide a risky and dangerous mix of the three purposes. The delineation of the lane must occur through signage, lane marking and striping, and more importantly through a physical barrier in the Roxbury Hall Intersection. Grooved concrete rumble areas, rubber stanchions, or some form of physical barrier must be present to provide a safe acceleration for Roxbury Hall right hand turns onto eastbound Route 7. (3 comments)

b. Response:

Raised concrete islands or flexible delineators were considered to provide a physical barricade, however, these devices are not recommended as they may present a greater safety hazard than what they were intended to address. Other

measures that do not constitute a physical barrier, including flush islands, will be considered.

6. Issue – Roxbury Hall Rd acceleration lane
 - a. Comment:

The acceleration lane out of Roxbury Hall Rd needs protection from those exiting at West Market St. (2 comment)
 - b. Response

Due to the relatively short distance between the Roxbury Hall Rd/Route 7 intersection and the West Market Street ramp from Route 7, both a full acceleration lane from Roxbury Hall Rd to Route 7 eastbound followed by a deceleration lane to the West Market Street ramp could not be provided without overlap. Additional measures will be considered to alert motorists of the two separate turns.

7. Issue – Roxbury Hall Rd access for school buses
 - a. Comment:

Coordinate with Loudoun County Public Schools to ensure the proposed design will accommodate bus service. There is currently no County school bus service from Roxbury Hall Rd and the associated homes and families. (2 comments)
 - b. Response

The proposed turn lane improvements at Roxbury Hall Road accommodate tractor-trailer combinations with a 63 foot wheelbase. This vehicle exceeds the turning footprint of a school bus in almost all instances. Therefore, the proposed design proposes no additional barriers to school bus access. This information has been provided to Loudoun County Public Schools for consideration.

8. Issue – Impacts to access during construction
 - a. Comment:

Minimize construction impact on an already congested road. Communicate traffic flow changes during construction. Note that there is only one entrance to the Shenstone community. (1 comment)
 - b. Response

Affected HOA's and property owners will be notified by the roadway contractor in advance of any closures/detours throughout construction of this project.

9. Issue – Neighborhood/business impacts in Beacon Hill subdivision
 - a. Comment:
 - A) Too much traffic traveling at high speeds through Beacon Hill.
 - B) This project hurts rural business in Loudoun County. The project deprives us of the use of our land and will have a huge negative financial impact on our business.
 - C) Move the planned access road from Fort Johnston Rd to eastbound Route 7 to another location (example: Hansen property, marked as parcel 014 could easily connect Fort Johnston Rd to Alysheba Dr. The property is for sale and is bank owned. (1 comment)
 - b. Response
 - A) The new Fort Johnston Road will be posted for a 25 mph speed limit.
 - B) & C) The new Fort Johnston Road connection to Alysheba Drive was shifted

to the south (closer to Route 7) per the property owner's request at a Beacon Hill HOA meeting, in order to minimize the impacts to the Clairvaux property (parcel 012). The new Fort Johnston Road connection allows for improved safety and operations due to the consolidation of intersections. The Fort Johnston Road alignment utilizes existing VDOT right-of-way (former Route 7 alignment) where possible. Financial impact to the business will be considered during the right-of-way appraisal/negotiation process.

10. Issue – Project purpose

a. Comment:

A) Where is the funding coming from to pay for this project?

B) Is this project being constructed to serve the trucking industry in lieu of the community?

C) Where did the grass roots start for the idea for this project?

D) Many studies have pointed out that more highway leads to creating more traffic.

E) Trucks on this part of the highway are not the issue. This congestion is being caused by too many cars which do not keep up their speed while climbing the Hamilton hill going east, and the Leesburg mountain heading west. I've been paying close attention over the past three weeks at the amount of truck traffic on this section of Route 7. I've counted three in three weeks, total. Having a truck lane will not address the congestion issue and will only add trucks to the highway and exacerbate the problem down the road in other sections of the highway where more trucks will then have to merge onto the Route 7 vehicle traffic.

F) Why aren't these funds being used to invest in smarter commuting? (1 comment)

b. Response

A) Funding for this project is coming from VDOT's Six Year Improvement Program (SYIP). Specific funding sources consist of federal earmarks, federal regional surface transportation program (RSTP) funds, federal congestion mitigation / air quality (CMAQ) funds, and state primary formula funds.

B) The purpose of this project is to improve traffic operations and safety along westbound Route 7 associated with the slow moving truck traffic within the project limits. Heavy trucks are unable to maintain sufficient speeds within the study area for the upgrade climb in the westbound direction, which contributes to slow and congested traffic.

C) The idea for the truck climbing lane originated in 2007 from Loudoun County and Town of Leesburg staffs in coordination with the then Catocin District Supervisor.

D) The purpose of this project is to improve safety and traffic operations by separating heavy trucks from the through lanes of Route 7 westbound.

E) Heavy trucks create a speed differential versus passenger cars, which degrades operations and safety in the project area. The current traffic volume is 60,500 vehicles per day, based on a 2011 traffic count; 3 percent of these vehicles are trucks. Over the design life of this improvement, traffic is projected to increase to 84,750 vehicles per day in 2036. The increase in traffic volumes will further cause operational and safety issues as the corridor become more congested.

F) The federal earmark is restricted to highway improvements to Route 7 between Route 9 and West Market Street. The CMAQ funds are used for solving specific

congestion problems on highways such as congestion caused by heavy vehicles climbing a steep grade. The RSTP and primary formula funds are dedicated to highway improvements.

11. Issue – Reduce congestion with project additions

a. Comment:

Address the daily rush hour backup on Westbound Route 7, due to the on-ramps from Leesburg (four of them?) pouring cars out unrestricted into two lanes of gridlocked cars. All with single drivers. I am a daily bus rider and have observed this now for 5 years. The back-up on Monday is near the last on-ramp and by Friday is all the way back to Sycolin. Instead of building a truck-climbing lane only, you can address both of these issues with the following recommendations: A) Meter the on-ramps with stop-lights, as is done along I-66 westbound, during rush hours.

B) Add a third lane from Sycolin to the Route 9 off-ramp and make it HOV 3 only during rush hours (3:30-7:00pm). The third lane provides the truck-climbing lane and this would allow buses, vans and HOV 3 cars to pass on the left during rush hours as the single drivers fight it out for the two inside lanes. As it is those of us who use mass transit are being punished by the multitude of single drivers ignoring car reductions, clogging both lanes. (1 comment)

b. Response

A) A ramp meter acts basically as a stop sign in that all ramp traffic is forced to stop briefly before proceeding onto the mainline. Assuming this type of analysis, the capacity of a single lane with a stop sign is around 825 vehicles per hour. Given the projected volume of 1,000+ vehicles in the peak hour 2014, approximately 200 vehicles would queue up by the end of the hour. Assuming 25 feet per vehicle, that means the queue would extend 5,000 feet and would extend through the Catoctin Circle/Fairview Street intersection. Therefore, based on this preliminary analysis, ramp metering would be infeasible as it would be detrimental to the traffic network overall.

B) Adding a third lane for van pools and HOV-3 serves a different purpose than the issue being addressed by the truck climbing lane improvement. Trucks slowing down as they negotiate the grade of Route 7 create backups and hazardous conditions for vehicles along this section of road.

12. Issue – W&OD Trail underpass safety

a. Comment:

Underpasses are inherently more dangerous for riders than overpasses. They are usually too dark, collect moisture and trash as well as allow for increased personal safety issues. (1 comment)

b. Response

Due to the topography in the area, an underpass beneath the on-ramp from Route 9 to Route 7 is more feasible versus an overpass. Although the W&OD trail is closed during non-daylight hours, lighting will be provided in the underpasses. Drainage will be accommodated with the underpass design. Safety will be improved for trail users as they will no longer have to cross traffic on Route 9.

13. Issue – Suggested bicycle/pedestrian additions

a. Comment:

A) Suggest the addition of a curb ramp from the W&OD Trail to the road near the traffic circle near 312 on the diagram

(http://www.virginiadot.org/projects/resources/NorthernVirginia/Route_7_Truck_Climbing_Lane_Full_Size_Plan.pdf)

B) Suggest adding signage indicating direction of motorized travel where the W&OD Trail crosses the WB Route 7 entrance ramp near 318 on the diagram. When approaching ramps of this type it's not always obvious to a trail user where to look for oncoming traffic.

C) At this same location (318 on diagram), ensure good sight distance for eastbound cyclists. They need to look behind themselves to see oncoming traffic. If possible, increase curve of the trail to allow cyclists to see traffic approaching from their left more easily.

D) Suggest lighting be provided in both underpasses (between 302 and 303 and between 305 and 307). To save energy investigate the use of motion sensitive lighting. Technically the W&OD Trail closes at night but many people use the trail then and NVRPA is investigating allowing users at night.

E) Suggest adding bicycle accommodations adjacent to Route 7. (1 comment)

b. Response

A) A curb ramp in this location (northwest corner of the southern roundabout) may cause confusion. If an on-road bicyclist were headed for westbound East Colonial Highway, it may be preferable to use the existing W&OD trail access (which is to remain) to Dry Mill Road and head westbound through the roundabout to East Colonial Highway.

B) Signage will be added to indicate direction of vehicular traffic.

C) Adequate sight distance will be provided. If the W&OD trail were pushed further west (down the Route 7 westbound on-ramp), significant additional earthwork would be required due to the substantial (approximately 20 feet) vertical differential.

D) Although the W&OD trail is closed during non-daylight hours, lighting will be provided in the underpasses. Motion sensitive lighting will be investigated.

E) Due to the limited access, high volume, and high speed nature of this section of Route 7, it is not recommended for non-motorized vehicles. However, a paved shoulder is being provided along Route 7 westbound within the project limits.

14. Issue – Suggested modifications on Leeland Orchard Rd

a. Comment:

A) Intersection of Leeland Orchard Road and Route 7: the current plan is to make this an 'Emergency Access only' off of Route 7 onto Leeland Orchard Road. I assume this implies having a chain or similar barrier across the road. Our family is asking an alternative approach to this current plan. We would like to completely close off Leeland Orchard from Route 7 and plant trees as a sound barrier and bring more isolation to Leeland Orchard Rd. We think it will also look nicer. In addition there would still be plenty of room between the end of our driveway and our proposed planting of trees near Route 7 to allow for a small parking area at our end of the street. This would help keep visitor parking out of the way of traffic on the new proposed road. Our major concern is that we are the first house on Leeland Orchard and are more vulnerable to intruders. In the last two years we

have had several prowlers on the property and our house was broken into. The purpose of the 'Emergency Access' option was for quicker access for emergency vehicles. We do agree with this reasoning and understand the principle that in an emergency medical situation, every minute will count. This needs to be weighed out by all the people who live on Leeland Orchard Road.

B) Intersection of our driveway with the proposed routing of the new road: Our driveway is rather steep and currently has a small buffer area at the bottom to help merge onto the current lane. The proposed road removes that capability and will make entering the new road rather hazardous in snowy or icy conditions. I do not think it will be difficult to solve this problem, but wanted to bring it up early in the program.

C) Years ago there was a walking path from the east end of Leeland Orchard down onto Phillips Drive that was very close Route 7. This provided a nice and safe method of walking into Leesburg without dealing with Route 7 traffic. It would be a very beneficial to us as well as those on Fort Johnston Rd to refurbish that path (preferrably pave it as a bike path). This would also allow those in Leesburg a safe bike path heading west into our area as well as Beacon Hill. As with my other comments submitted, I would like to pass this idea to our neighbors to see if they are in agreement with this idea. (1 comment)

b. Response

A) The original design plan called for the Leeland Orchard Road and Route 7 intersection to be closed altogether. The issue of emergency access was raised during meetings with the community. The current design plan, including emergency access only at the Leeland Orchard Road intersection, was developed to reduce emergency response times.

B) VDOT will work with the property owner to provide a suitable driveway connection to the road, within the practical limits of providing such improvements.

C) VDOT will investigate the feasibility of providing a path within existing VDOT right-of-way.

15. Issue – Support for project's improvements to W&OD trail

a. Comment:

I am writing to express support for efforts to support the needs of bicyclists and other non-motorized vehicles who use the W&OD trail and surrounding roads. Given the substantial amount of money being used on this project, I would ask that the needs of cyclists to have safe, accessible places to ride be given high priority. (3 comments)

b. Response

Noted.

It is the staffs' recommendation that the major design features of this project be approved as proposed and presented at the public hearing.

Uploaded in iPM for your use in consideration of this project are the public hearing compliance documents, public hearing transcript, environmental document, approved scoping report and a project location map.


Original signature on file

Mr. William C. Cuttler, P.E.
District Preliminary Engineering Manager

Date: 5/30/12