Date: October 22, 2021

TO: John (JT) Thomas, Kelly Griffin, Loudoun County DTCI

FROM: Route 9 Focus Group Members Maura Walsh-Copeland and John Lovegrove

CC: Supervisor Buffington, Christi Maple, & Route 9 Focus Group Members

SUBJECT: Citizen request for Traffic Analysis, Review and Traffic Calming for Route 9 to Route 7 North/South Routes west of Route 287.

PURPOSE: To document the justifications for the analysis of traffic volume and safety issues resulting from current DTCI transportation projects impacting north and south connecting roads between Route 9 and Route 7 in the Blue Ridge District and resulting **traffic calming** required.

INTRODUCTION: The following report was initially requested as a Board Member Initiative (BMI) request from Supervisor Buffington's office. As confirmed in the DTCI's Route 9 Study September 22, 2021 Public Meeting Report (p. 3), a follow-on study to investigate Route 690 (Hillsboro Road) issues on the east side of Short Hill Mountain is already planned as an extension of the current Route 9 Traffic Safety & Operational Study. Scope of work for this effort is underway for introduction to the Board of Supervisors planned by year end 2021 and project plan tentatively by late spring 2022.

The Public Input Report also indicates that a parallel effort to review requirements for north/south routes between Route 9 and Route 7 on the <u>west</u> side of Short Hill Mountain is not yet initiated. Such an effort would investigate traffic and safety issues on Cider Mill, Stony Point and Woodgrove Roads.

This report provides citizen request and justification for investigation of traffic safety and traffic calming for the north/south routes on <u>both sides</u> of Short Hill Mountain.

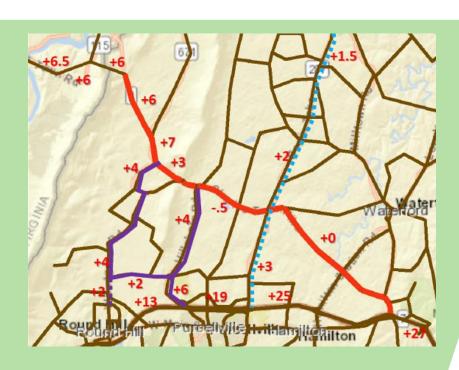
The findings to date for the Route 9 Safety and Operational Study support this request. In addition to the Route 9 Safety and Operational Study, there are currently three separate Loudoun County capital improvement related projects that will impact the flow and volume of traffic on north/south routes between Route 9 and Route 7, as well as a key West Virginia capital improvement. These projects are:

- 1. Route 7/690 Interchange
- 2. Route 7/287 Interchange Modifications/Improvements (adopted FY 2019-2024)
- 3. Route 9/287 Roundabout (adopted FY 2019-2024)
- 4. WVa US-340 widening from 2 to 4 lanes and elimination of traffic lights. This will be a main reason Route 9 expected 2040 growth will be low after project #3 is complete.

At the July 28, 2021, Route 9 Focus Group meeting DTCI Staff and VHB Consultants confirmed that Route 7 is the "preferred" east/west route (vs. Route 9). Staff and consultants also provided traffic demand model data confirming the above projects, when completed, will significantly increase the volume on north/south intersecting routes between Route 9 and Route 7.

Requests for review of the north/south routes have been made during past two decades. Documented at public input meetings in 2010, 2013 and 2018, such requests were considered "out of scope" for the DTCI studies and projects at those times. The current Route 9 Safety and Operational Study produced the demand and volume data that supports the need for traffic safety, speed review and traffic calming on the Route 9 to Route 7 intersecting routes. Therefore, <u>now</u> is the time to initiate parallel traffic calming studies for the north/south routes on both the east and west sides of Short Hill Mountain.

Route 9 Safety & Operational Study



Focus Group Citizen Request for Traffic Analysis, Review & Traffic Calming for Route 9 to Route 7 North/South Routes west of Route 287



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BACKGROUND:

Concerns about traffic volume, speed and safety for the north/south routes between Route 9 and Route 7 have been raised for twenty (20) years. In 2007 area residents learned of a proposed "toll road" planned west of Short Hill Mountain between Cider Mill Road (Route 751) and Stony Point Road (Route 719), and successfully removed all reference in the Countywide Transportation Plan (CTP).

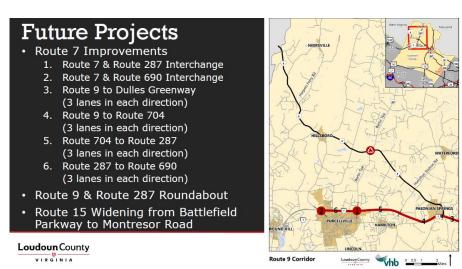
Requests for review of Route 690 and Route 611 north/south routes east of Short Hill Mountain began in 2001 related to proposed school locations on Allder School Road (Route 711) and were documented through 2010 during public review due to concerns for bus turns and student drivers.

As indicated at the July 28, 2021 Focus Group meeting, requests for review continued during the planning and public input for planned Route 7/690 interchange in 2013 and 2018. Although multiple requests were made for volume and speed studies to address the anticipated traffic changes with each project, the response received to request for each project was that analysis of north/south routes was "out of scope." (See Attachment E)

ROUTE 9 SAFETY & OPERATIONAL STUDY INPUT & FINDINGS

Focus Group Input

The purpose of the Route 9 Safety and Operational Study is to identify safety and traffic operational issues and recommend solutions for consideration by the Board of Supervisors. Results of the Study to date have identified the challenges and impacts that improvements and projects on and between Route 9 and Route 7 will have on intersecting roadways.



Safety & Operational Study of Route 9, VDOT Traffic Forecasting Milestone Review, Update 4/7/2020

¹ First highlighted during meetings to discuss the location of now Woodgrove HS and Mountain View ES in Sept. 2001.

At the July 16, 2020 Route 9 Safety and Operational Traffic Study Public Input Meeting Staff and VHB consultants were asked how the study would be coordinated with the other Hillsboro-Purcellville area projects:

There are other western Loudoun traffic projects that will impact this study – <u>ON Route 9</u> (Primarily, the Route 287 circle, and Town of Hillsboro), and also <u>OFF Route 9</u> – such as the Route 690 & 7 Interchange. For the new interchange -- In 2013 the public was told (I quote),

- "a traffic study projected that 15% of traffic (<u>196 vehicles AM peak hour in 2020</u>) would divert down Route 690 to use the new interchange"
- and that speeding on Hillsboro Road would be an "enforcement issue."

The point was raised again in 2018, highlighting the Route 9 Hillsboro volume of 17,000 trips would mean 15% going down Hillsboro Road would be 2,550 vehicles, (much more than 196). This is just one example of the need for <u>coordination</u> for several <u>north/south routes</u> between Routes 9 and 7. <u>For the Route 9 Study</u>, how and when do you plan to review and incorporate the changes in traffic patterns and volume before and after other western Loudoun projects are implemented?

At the September 30, 2020 Route 9 Focus Group Meeting #2 several members raised the issue of resulting traffic on north/south routes from Route 9. Comments include the following:²

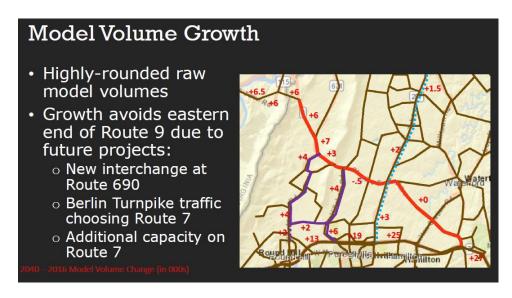
- 6) The 2040 traffic forecast and traffic volumes were reviewed, and several members noted the higher growth rates occurring along the western portion of the corridor to/from West Virginia compared to the projected rates east of the Town of Hillsboro.
 - a. The travel demand model and traffic forecasts indicate increased volumes on side streets, specifically vehicles using Route 9 to the far west. Instead of staying on Route 9, vehicles use north-south routes on the western end of the corridor to travel to/from Route 7. This travel pattern is due to proposed future improvements and increased capacity and access to Route 7 making it a more desirable option under those future conditions.
 - b. Members of the Focus Group were concerned with increases in the number of vehicles projected to use Cider Mill Road (to Woodgrove Road) and Hillsboro Road to head north/south to and from Route 7 in 2040. The Focus Group is concerned that current roadway design and condition of these side streets are not ready to accommodate increases in volume.

Forecasting Methodology and Data

On July 20, 2021, in response to request from John Lovegrove for the traffic study for anticipated 2040 levels DTCI Staff distributed a document titled "Forecasting Methodology to Route 9 Focus Group members. Page 2 provided the following statement:

- 7. Growth Rate Review: After the initial determination of proposed annual growth rates, the study team reviewed several different items to understand "real world" constraints and how the model may, or may not, be adequately reflecting these:
- b. Re-Route: The study team reviewed the Adopted 2019 CTP to determine the impact of future projects and roadway improvements on the Route 9 corridor. There are several planned roadway projects in the vicinity of the study corridor that would incentivize alternative routes to Route 9 such as the widening along Route 7. Conventional wisdom indicates that some trips along Route 9 will re-route to this improved facility. The model estimates growth on the western end of the corridor of 6,000 vehicles per day (vpd) or more. This new traffic, as well as some existing traffic, is shown as re-routed to Route 7.

² Route 9 Focus Group Meeting No 2_Meeting Summary.pdf, page 3



Safety & Operational Study of Route 9, VDOT Traffic Forecasting Milestone Review, Update 4/7/2020

Daily anticipated traffic volume increases after completion of area projects:

PROJECT & FORECASTS	Cider Mill (Route 751) VA Byway	Stony Point (Route 719) VA Byway	Hillsboro (Route 690)	Purcellville (Route 611)	Berlin Turnpike (Route 287)
2018 VDOT Avg Annual Daily Traffic (AADT)	1,200	400	4,200	400	6,700
2025: Route 7/287 Roundabout completion					
2027: Route 7/690 Interchange completion					
2030 Intersecting Road Forecast Daily Traffic	1,700	700	5,500	400	6,200
Percent Increase 2018-2030	42%	75%	31%	0%	-7%
2040 Intersecting Road Forecast Daily Traffic	3,500	600	7,100	400	8,300
Percent Increase 2018-2040	192%	50%	69%	0%	24%

Long-Term Corridor Challenges to Address

DTCI and VHB consultants highlighted operational impacts to intersecting roads over time:³

<u>Operational</u>: Several of the challenges that exist on the corridor today are projected to worsen as volumes increase on the corridor and the intersecting roadways over time. These challenges include excessive delays in peak commuting periods, long rolling queues at the major intersections, as well as variation in travel speeds as traffic comes to a stop at signalized intersections then accelerates between intersections before coming to the back of the queue at the next downstream intersection.

³ 7.28.2021 Route 9_Long-Term Concept Alternatives_Focus Group Mtg 3 (RFS).pdf, page 1

The intersections estimated to have the longest queues on Route 9 in 2040 are: eastbound at Harpers Ferry Road (AM peak hour), westbound at Hillsboro Road (PM peak hour), eastbound at Hamilton Station Road (AM peak hour), and westbound at Clarkes Gap Road (PM peak hour). In the future, there are also some intersections with increased side street volumes that would benefit from new intersection control and/or new turn lanes where they currently don't exist.

Anticipated Operational and Safety Outcomes:

DTCI and VHB consultants acknowledged that traffic volumes turning to and from the intersecting roads are estimated to increase in 2040. Their documents and July 28, 2021 presentation also acknowledge their current primary focus is the traffic flow, safety and eastbound/westbound queuing issues on Route 9, not impacts to the north/south connecting roads.

Traffic to/from Route 9 and Hillsboro Road is expected to increase in 2040, specifically the eastbound right turn vehicles heading south on Hillsboro Road in the morning peak hour and the northbound left turning traffic heading west on Route 9 in the evening peak hour. In 2040, the heavier northbound left turn traffic flow from Hillsboro Road to westbound Route 9 would be entering the Hillsboro Road roundabout at a higher flow rate than it does today, thereby preventing westbound Route 9 through vehicles from entering the roundabout during more of the peak hour. This would result in an extensive queue on westbound Route 9 during the evening peak periods.⁴

Route 9 Study Proposed Long-Term Alternatives:

At the July 28, 2021 Route 9 Focus Group Meeting #3 DTCI Staff and VHB Consultants reviewed their preliminary Long-Term Alternatives A and B, which were the culmination of an evaluation of concepts and variations assessed by current data and deemed the most appropriate for further consideration.

Both Alternatives A and B proposed "spot improvements" to key intersections on Route 9, including Sweet Spring, Purcellville Road (Route 611), Berlin Turnpike (Route 287), Old Wheatland Road (Route 698), and Beacon Hill Drive (Route 1189).

Alternative A proposed signalized improvements at Harpers Ferry Road (Route 671), Cider Mill Road (Route 751), Hamilton Station Road (Route 704), and Clarke's Gap Road (Route 662)

Alternative B proposed roundabout improvements at Harpers Ferry Road (Route 671), Cider Mill Road (Route 751), Hamilton Station Road (Route 704), and Clarke's Gap Road (Route 662), as well as roundabout expansions at Stony Point Road (Route 719), Hillsboro Road and Mountain Road (both Route 690).

⁴ 7.28.2021 Route 9_Long-Term Concept Alternatives_Focus Group Mtg 3 (RFS).pdf, page 6

FINDINGS: PROVES 4 LANING ROUTE 9 IS NOT REQUIRED

Four Laning of Route 9

One of the surprising conclusions of the study was that traffic on Route 9 in the long term will not grow significantly. Volume of the corridor in some cases decreases for some of the segments. Volume between Hillsboro and Berlin Turnpike decrease by 0.1% per year.

The four laning of Route 9 was also studied in the traffic model. The conclusion of this part of

the study is that traffic volume would increase significantly with four laning. The cause of the increased traffic is the phenomena of "induced demand". Induced Demand is a well-known phenomenon to traffic engineers, but obscure to the general public. Induced demand refers to the idea that increasing roadway capacity encourages more people to use the improved route, thus failing to improve congestion.

The July 28th Focus Group members expressed a preference for the Alternative B roundabout improvements, primarily due to Staff/VHB confirmations regarding the benefits of roundabouts:

According to the Federal Highway Administration (FHWA), roundabouts are a Proven Safety Countermeasure because they can substantially reduce crashes that result in serious injury or death. Roundabouts can*:

- Improve safety
- Promote lower speeds and traffic calming
- Reduce conflict points
- Lead to improved operational performance
- Meet a wide range of traffic conditions because they are versatile in size, shape, and design.
- * As recently seen near Hillsboro, catch cars speeding at 100mph attempting to evade police.

PRIMARY ISSUES AND CONSIDERATIONS:

The following points have been raised by Route 9 Focus Group members for further consideration:

Cider Mill Road / Stony Point Road

Background

Cider Mill Road and Stony Point Road are historic roads that pass through some of the best-preserved artifacts of pre-Civil War life in Loudoun County as well as the results of the "Burning Raid" by Sheridan in 1864. The Potts Mill, located at the intersection of Cider Mill and Stony Point Roads, was burned down by Sheridan to stop the food supply for the Confederate elements who were active in the area. Stony Point Farm, located on Stony Point Road, is a century farm that predates the founding of the United States. The Potts Homestead, located a short distance from Cider Mill Road, is one of the earliest settlements by Europeans in Loudoun County and dates from 1744.

Induced Demand

Induced demand does not encourage people to drive; it attracts more divers to use the improved route.

Once the drivers induced to use the route peaks, the route is once again saturated with traffic and the improvement is no longer an effective means to improve traffic flow. Both Cider Mill (Route 751) and Stony Point (Route 719, including Woodgrove Road) Roads are designated Virginia Byways. Per the 2019 Countywide Transportation Plan, the Virginia Byways designation ensures valued heritage resources are considered as part of road improvement and maintenance projects.

Description of the Problem

The 2020-2021 closure of Route 9 for the Town of Hillsboro *ReThink* 9 Traffic Calming project led to a tremendous increase of traffic on historic Stony Point and Cider Mill Roads. The planning of the Route 9 project assumed that most car traffic and all the truck traffic traveling eastbound on Route 9 would divert taking US-340 to Route 7, a major arterial approximately five miles to the south. The project also put in place a last-ditch Route 9 diversion that used Stony Point and Woodgrove Roads to carry any traffic arriving at the boundary of the Town of Hillsboro project.

The detour did <u>not</u> work as planned. Most of the Route 9 traffic chose to take the Stony Point to Woodgrove Road detour, rather than divert via US-340 to Route 7. In addition, many motorists chose to take Cider Mill Road (Rte. 751) rather than Stony Point Road (Rt. 719) to get to Woodgrove Road. The end result of this process was an unplanned, unsafe, and chaotic traffic diversion that created major disruptions for motorists, and additional spending by the state, county, and project to mitigate the effects.

Problems encountered when motorists chose the Stony Point/Cider Mill to Woodgrove Road detour were legion. They included:

- Tractor Trailers attempting to use Stony Point Road, a route that in some sections is 15 feet wide and contains numerous blind spots and grades as high as six percent;
- A major increase in traffic on Cider Mill Road, from 500 to 5000 trips per day;
- A major increase in traffic on Woodgrove Road and through the Town of Round Hill, an historic town with narrow streets;
- A major increase in traffic through a Round Hill suburban neighborhood, directly past an elementary school; and
- Major daily delays at the one lane bridges on the route as traffic alternated across the bridges.

The ReThink 9 project was completed in June 2021, and traffic on Stony Point/Cider Mill to Woodgrove Rd has returned to its prior traffic pattern. However, the actual traffic issues encountered during ReThink 9 detour are set to happen once again, as shown in the Route 9 Safety and Traffic Study.

The three major projects scheduled to occur over the next five years outlined above will directly affect traffic on Route 9 and north/south interconnecting roads. In addition to the three western Loudoun projects (roundabout at Route 287, Routes 7/690 interchange, and Route 287 interchange improvements), the widening of US-340 to four lanes in West Virginia, south from Charlestown to the intersection with Route 7 will also add to the traffic pattern changes.

The Route 9 traffic study shows traffic on Stony Point/Cider Mill to Woodgrove Road increasing once again from 500 to 4000 trips per day during construction, as this time, <u>without mitigation</u> put in place to prevent traffic using this route. The Route 9 traffic study also shows that once the three projects are in place, the perceived need for a Hillsboro Bypass will no longer be valid. The traffic study concludes that once the three improvements are in place, the traffic levels on Route 9 will stay constant or decrease and the delays commonly encountered by motorists will be eliminated.

Creating a de-facto Hillsboro Bypass by doing major improvements to Cider Mill and Stony Point Roads to Woodgrove Road will destroy the historic and treasured nature of these Virginia Byways, generate enormous community opposition, and ultimately will not be required.

What will be required is to intelligently plan the traffic modifications, and ultimately implement traffic calming measures on Cider Mill and Stony Point Roads to preserve these historic Virginia Byways.

Hillsboro Road (Route 690)

Background

Hillsboro Road (Route 690) also has a rich western Loudoun history, including the fact that it took over 125 years to complete the road from Purcellville to Route 9. Loudoun County Road Case #300 dated September 1828 initiated Valentine Vernon Purcell's proposed new road from his home on (now) Ashbury Church Road (Route 718) to "Purcell's Store" (still in operation on Hatcher Avenue in Purcellville), now the Town of Purcellville. The route proposed by the viewers was the current Route 690 to Route 812 (Gaver Mill Road). Hillsboro Road was approved in October 1828 with viewers determining compensation to all landowners for condemnation for the portion of the lands through which the road would pass.⁵

The October 1941 Board of Supervisor meeting minutes recommended improvement of the bridge across Catoctin Creek on Gaver Mill Road. However, in September 1950 a Federal Aid Project instead proposed relocating the bridge to the west at the intersection with Hillsboro Road. The project also proposed extending Hillsboro Road approximately 2/3 mile to connect with Route 9 near the eastern corporate limits of the Town of Hillsboro. By 1955 a new bridge was constructed across Catoctin Creek at the northeastern edge of the Copeland property. Gaver Mill Road was renumbered to be Route 812, and Hillsboro Road, Route 690 was continued north to Route 9, just west of the Hillsboro Cemetery completing its 125-year construction.

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⁵ Road Case #300, September 6, 1828 Survey of Roads for Mr. White. "The route deemed by us as being most conducive to the public welfare as well as committing the least possible injury to individuals is a s follows – Beginning at Purcell's Store we proceed in a northwesterly direction though Wm White's land we strike the private road again between the lands of James Copeland and Eli Pierpoint, . . here we make an angle and passing through a part of Copeland's land arrive at a lot belonging to Valentine V. Purcell, . . . thence through a part of said lot to Hillsborough making a distance in whole about give miles and three eighths of a mile."

Description of the Problems

The portion of Hillsboro Road from Purcellville to Gaver Mill Road/Catoctin Creek was constructed between 1829 to 1853, with the current configuration and blind curves resulting from parcel boundaries at that time. This includes two curves in the road that result in the most significant current safety issues, with traffic exceeding the posted (legal) speed or recommended (operational) speed. The first curve traveling south from Hillsboro is at Koerner Lane (Route 702), which resulted from the proposed road path on the original Copeland Farm boundary, surveyed by George Washington (circa 1765).

The second blind curve is at the intersection of Hillsboro Road and Ashbury Church Road (Route 718). Ashbury Church Road was the original road used to reach the Town of Hillsboro before approval and construction of the "new" road. This explains the 45-degree angle of the road, which is now an extreme safety hazard due to lack of line of sight sufficient for the posted (50 mph) speed of the road and operational speed (35mph) for the blind curve.

The house at the corner of this intersection was built in 1917 – long before cars used the "new" Hillsboro Road. Two sheriff officers have lived in this house⁶ and used their radar guns to test traffic speed, regularly tracking speeds in excess of 50 to 60 mph around the blind curve instead of the recommended 35 mph operational speed. The officers and residents have regularly witnessed near misses and crashes, which increased with the opening of Woodgrove High School in 2010 and students rushing in the morning. Incidents also include school buses attempting to turn left at the 45-degree angle, having to back up in the middle of the road to complete the turn – with students on board.

Information outlining these concerns was submitted to County Staff and Supervisors in 2013 and 2018 (see Attachments E & H) as part of the public meetings for discussion of the Route 7/690 interchange but were told issues were "out of scope" for the current projects.

Recommendations

Similar to Cider Mill and Stony Point Roads, the goal is to improve the safety of the road and implement *traffic calming*, not accommodate faster travel times for commuters, students or other traffic exceeding the speed limit. Traffic calming recommendations included constructing a roundabout at the intersection of Ashbury Church Road and Hillsboro Road (similar in size as on Allder School Road at Short Hill Road). Placement of a roundabout at this location would provide a natural traffic calming addition to the other existing points of traffic calming at regular intervals on Hillsboro Road: Route 9 roundabout, Koerner Lane curve, proposed new roundabout, Allder School Road roundabout and Route 7/690 interchange (see Attachment H).

⁶ Names available upon request.

Gaver Mill Road (Route 812)

Background

In a series of articles in the Loudoun Times Mirror published in July 1926, Dr. James Edward Copeland, and later his daughter Maria Copeland, recounted locations and events of significance throughout western Loudoun. One such location, known as "Barbeque Spring," was located on the Copeland Farm on the west side of the bridge on Hillsboro Road (Route 690) over Catoctin Creek. After the American Revolution a Fourth of July Celebration was held at this site, attended by Daniel Morgan's riflemen and a great number of residents in the area, continued until the 1820's.⁷

Gaver Mill Road (Route 812) was established in May 1829 to extend Hillsboro Road from the southern end of Ashbury Church Road north toward Hillsboro. Instead of constructing a bridge across Catoctin Creek at Hillsboro Road at that time the County instead created the "L" shaped Gaver Mill Road by compensating James Copeland \$28 for the taking of the northeast corner of the Copeland Farm.

The original Gaver Mill bridge crossing at Zilpha's Rock was destroyed in the May 1889 Johnstown flood. It was replaced in June 1889 to its current location and remained the primary public road to the Town of Hillsboro until the construction of the bridge to the east in the 1950's.

Description of the Problems

The history of Gaver Mill Road as the primary road to the Town Hillsboro until the 1950's explains the current 45-degree angle at Hillsboro Road. For many years Gaver Mill Road has been used as a primary "cut-through" between Hillsboro Road and Route 9. Northbound vehicles (PM traffic) traveling in excess of 50 to 55 mph bear left onto Gaver Mill Road without slowing to the 25 mph posted speed until reaching the right turn at the bridge, ignoring signs posted indicating "children at play."

The cut-through traffic increased exponentially in the mid 2000's when a light was installed at the intersection of Route 9 and Hillsboro Road near Hillsboro Cemetery (since removed with the construction of the eastern roundabout). Although some construction has continued, the cut-through traffic has been resumed after completion of the Town of Hillsboro ReThink 9 traffic calming.

The DTCI/VHB proposal to create a new extension of Hillsboro Road one-way north to the east of Hillsboro Cemetery to Mountain Road and making a portion one-way south will, beyond a doubt, exacerbate the cut-through traffic on Gaver Mill Road without traffic safety and traffic calming intervention. Measures discussed previously with the County and VDOT include time of day restrictions similar to the measures taken by the Town of Purcellville, speed bumps, electric signs and greatly improved traffic speed enforcement.

⁷ Barbeque Spring annual toast, "To the memory of George Washington and all his gallant band, Who fought the haughty redcoats and drive them from our land. The gallant lads of '76 will ever bear in mind, And I, myself, was one of them as you will shortly find. My gun was heard at Trenton, aye at Princeton, too. . . . For I made some give up the ghost, upon my word 'tis true."

RECOMMENDATIONS AND GOALS

The primary goal is to **preserve** the historic areas of these designated byways, and the pastoral nature of the corridor. To do this, we must focus on both temporary and permanent *traffic calming* measures that include, but are not limited to:

- Ensuring that commuter traffic stays on the corridors that have the capacity to handle that traffic;
- Discouraging "cut-through" traffic;
- Re-examining the speed limits currently used on these roads as there are unsafe blind corners and abrupt elevation changes that were not considered when the speed limits were established; and
- Designing passive measures to accomplish all the above that work without the additional requirement of scarce manpower from the Loudoun Sheriff's office

The construction imminent on Route 9 at Berlin Turnpike has been shown by the model to cause unsafe levels of diverted traffic to both Woodgrove and Hillsboro Roads. Temporary restrictions are required to slow traffic down and encourage diversion to safer routes such as Route 7. Some of the traffic safety and traffic calming measures that should be considered are speed bumps, closure to through traffic, prohibition of trucks, and selective speed control measures and congestion management.

Permanent restrictions that should be considered are speed bumps, alternative routing for truck and through traffic, and other mitigation measures to be determined. The County should also consider adding these roads to the historic roads project that has designated many Loudoun Roads as protected assets that are a valuable resource that must **not** be changed without thorough evaluation of alternatives.

All of the above must be evaluated *concurrently* with the parallel area projects in progress, with the goal for implementation to be completed before or concurrent with the opening of the Route 7/690 interchange.

ATTACHMENT A: 2019 Countywide Transportation Plan June 20, 20198

Virginia Byways designation ensures valued heritage resources are considered as part of road improvement and maintenance projects. The designation does not guarantee the conservation and protection of roadways or their adjacent corridors. Local land use controls are still needed to preserve the unique character of the Virginia Byway corridor. Seventeen Virginia Byways are located in the County including discussed in this report:

- Route 719 (Woodgrove Road) from Round Hill to Hillsboro;
- Route 751 (Cider Mill Road) in its entirety from the intersection of Route 719 (Woodgrove Road) to the intersection with Route 9 (Charles Town Pike)

Health and Safety

Health and safety are the most critical factors in evaluating the usability of the transportation network and the supportive role the transportation network has in promoting community and economic development. By emphasizing health and safety throughout every component of the 2019 CTP, this objective seeks to ensure that multimodal access is integrated into design and development; impacts from the transportation network to residences, schools, and businesses are mitigated; and that safety is of paramount concern throughout each stage of design and construction.

Quality of Life

The purpose of providing transportation facilities is to enhance quality of life. The transportation network and policies in the 2019 CTP ensure that people and goods can reach their destinations, whether commuting to a job, visiting friends and family, enjoying leisure activities, or returning home. In this way, transportation ensures access to the elements that make for high quality of life through improvements that decrease congestion, provide alternative routes and travel options, and make it easier to get to selected destinations

Traffic Calming

Following construction of a road, observations and data may indicate that vehicles are traveling at a rate of speed that is higher than was intended or is desired. Traffic calming is intended to modify driver behavior, reduce vehicle speed to legal limits, increase safety for all users of the roadway, and improve the quality of life through minimizing the negative effects of motor vehicles on neighborhoods. By slowing vehicles, it encourages the use of other modes of transportation such as walking and cycling. Traffic calming is typically implemented on residential streets, but can also be applied in activity centers with high pedestrian activity.

Common techniques for implementing traffic calming on residential streets include vertical changes to the street (speed tables, raised intersections), lateral changes to the travel way (chicanes, offset intersections, lateral shifts), constrictions to the travel way (narrowed pavement widths, pinch points, islands, traffic circles or roundabouts, entrance features, small corner radii), and streetscape improvements (surface textures, edge treatments, colors,

⁸ https://www.loudoun.gov/DocumentCenter/View/152287/CTP---Combined-with-small-maps-bookmarked

landscaping, street trees and street furniture). Traffic calming may also include measures such as community education and enforcement. The County works closely with VDOT to implement traffic calming measures where needed.

3-1.27 Types of Traffic Calming

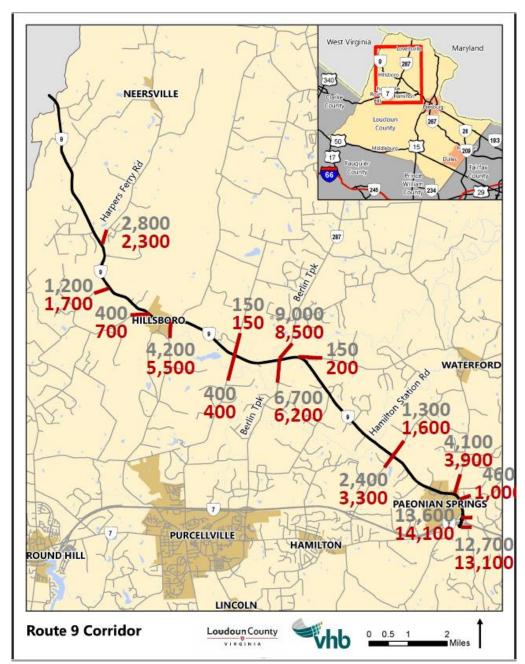
The County will work collaboratively with VDOT and the community in identifying appropriate traffic calming measures within the context of the surrounding area. Measures will be analyzed to determine the most effective tool for each project in coordination with surrounding residents and businesses.

Major Collector (Level 5)

This classification relates to planned at-grade collector roadways that serve to provide connections between communities and arterial corridors. These seek to balance access and mobility by providing equitable measures for all travel modes, while also providing separated areas between each type of roadway user. Major Collectors are intended to feature the following standards:

- 40 MPH design speed.
- Somewhat controlled at-grade access, with local access provided via a single access point and consolidation of access highly preferred.
- Left-turn lanes at all intersections. Right turn lanes at major intersections and where warranted.

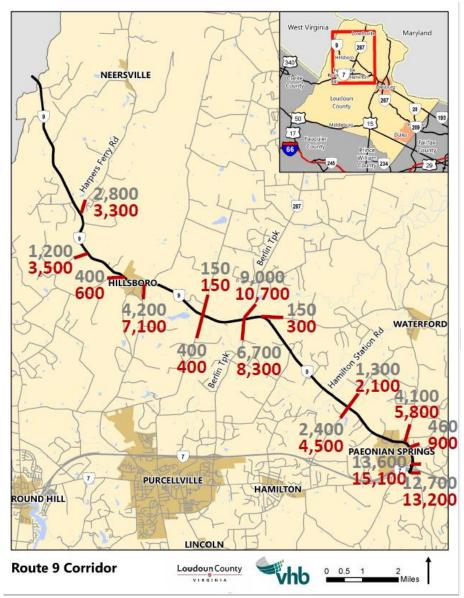
ATTACHMENT B: 2030 Intersecting Streets Forecast Daily Traffic



VDOT 2018 AADT 2040 Forecase Volume

Safety & Operational Study of Route 9, VDOT Traffic Forecasting Milestone Review, Update 4/7/2020

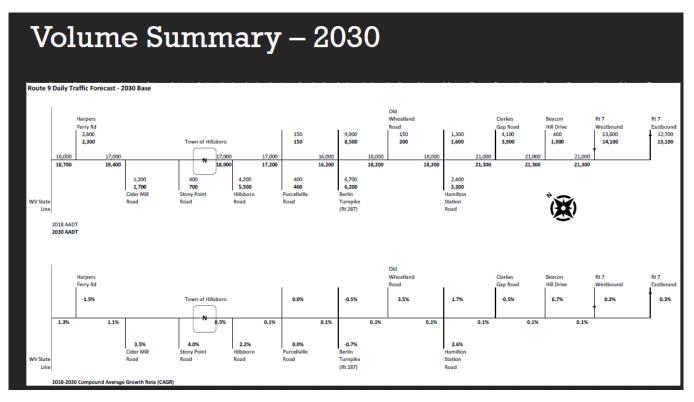
ATTACHMENT C: 2040 Intersecting Streets Forecast Daily Traffic (Growth rate applied to 2018 VDOT AADT)

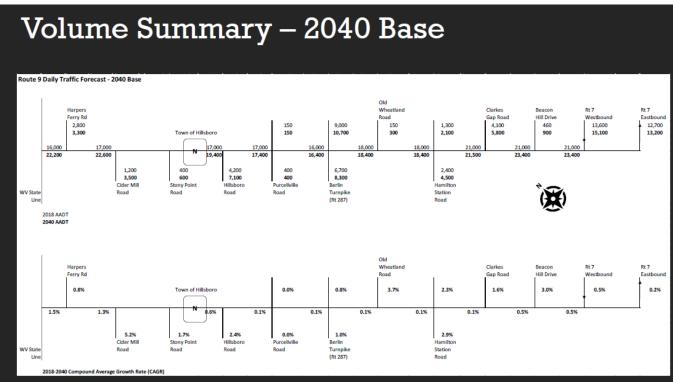


VDOT 2018 AADT 2040 Forecase Volume

Safety & Operational Study of Route 9, VDOT Traffic Forecasting Milestone Review, Update 4/7/2020

ATTACHMENT D: ROUTE 9 TRAFFIC VOLUME SUMMARY





Safety & Operational Study of Route 9, VDOT Traffic Forecasting Milestone Review, Update 4/7/2020

ATTACHMENT E: 2013 PUBLIC COMMENTS & RESPONSES

Public Information Session: Comments and Responses

October 1, 2013

Alternative #1 would increase traffic from the ramp at 690 increase traffic in the northern direction to and from Hillsboro. A traffic volume study should be done on Route 690/Hillsboro Road between the Rte 7/690 interchange location and Route 9. (3 comments)

b. Response:

This has been done. The traffic study shows that 15% of traffic (196 vehicles in the AM peak hour in 2020) using Route 9 would divert down Route 690 to use the new interchange. This study was developed and refined in cooperation with VDOT through an iterative process and was approved by VDOT on August 13, 2013.

7. Issue - Traffic Volume

a. Comment:

Alternative #2 would increase in traffic though a residential area where kids play.
(2 comments)

b. Response:

The traffic study is just the first step to look at traffic impacts in all surrounding areas...especially residential areas. Mitigation for any adverse impacts will be coordinated with the community as the design progresses. A Traffic Calming study would follow the process identified in VDOT's Traffic Calming for Local Residential Streets Program where it is applicable.

Issue – Traffic Speed

a. Comment:

A traffic speed study should be done on Route 690/Hillsboro Road between the Rte 7/690 interchange location and Route 9. (1 comment)

Response

Once design progresses, a speed study will be performed on Route 690 between Allder School Road and the new interchange which is standard practice. Speeding outside of the study area is an enforcement issue.

9. Issue - Traffic Safety "Intersection Sight Distance"

a. Comment:

Route 718/Ashbury Church Road does not meet Code of VA, 24VAC30-73 requirements for "Intersection Sight Distance" as defined in VDOT Road Design Manual Appendix F: Access Management Design Standards for Entrances and Intersections. An interchange design will need to include traffic safety improvements, including but not limited to speed limit changes or stop signs on Rte 690. (1 comment)

b. Response:

This intersection is outside of the scope of the study.

Issue – Business Impact

a. Comment:

Alternative #2 runs through a property length wise, making the operation of a small horse boarding and breeding business impossible. (2 comments)

b. Response:

Financial impacts to residences and businesses will be considered during the right-of-way appraisal/negotiation process.

11. Issue - Project Purpose

- a. Comment:
 - i. What is the cost for Alternate #1?

ATTACHMENT F: 7-16-20 Route 9 Safety and Operational Study Public Input Meeting - Live Questions & Answers.pdf



Q39. This comment refers to Display Board 2 (prepared for the July 16 public input meeting) and the ongoing task of estimating future traffic volumes. In estimating future traffic volumes, the study team should take into account the number and density of subdivisions currently planned and under construction along the corridor. Display Board 2 highlights a minor development on Heskett Road north of Hillsboro, but does not refer to other much larger developments, such as Millers Reserve.

A39: At the time the Display Board was created, the Millers Reserve development was not yet approved, however, it is now approved.

The traffic forecasts are going to be based on much more than those projects shown on that display board. Forecasts will be based on the Loudoun County Travel Demand Model and the land use as shown in the Adopted Loudoun County 2019 Comprehensive Plan.

Q40. There are projects planned on and around the Route 9 corridor, including those that may divert traffic off Route 9. A previous study estimated that 15% of traffic would divert from Route 9 by traveling along Route 690, particularly with the new interchange at Route 7 & Route 690. Various side streets are not sufficiently designed to handle this additional traffic, how is that being considered?

A40: The Loudoun County Travel Demand Model includes the roadway improvements on and around Route 9 that align with the 2019 Countywide Transportation Plan, including the interchange at Route 7 and Route 690. The model will provide estimated volumes on Route 690 as a result of that change, and those will be available at future stages of the study.

The Route 9 Corridor Safety & Operational Study is focusing on improvements to Route 9 and does not include detailed evaluation of improvements to other roadway segments. Should volumes appear high and this issue deserve additional consideration, further study of such issues on other roadways could be a recommendation that comes out of the Route 9 Corridor study.

ATTACHMENT G: SEPT. 2020 FOCUS GROUP COMMENTS



estimated growth for location-specific studies such as Route 9, the model is considered in combination with other data such as historic growth. The growth factors developed for Route 9 were also reviewed and approved by VDOT.

For those who are interested in exploring the Loudoun County Travel Demand model files, please contact the Route 9 Corridor Safety and Operational Study team through email Route9@loudoun.gov or by phone 703-737-8299.

Q3. What other previous studies and corridor decisions (either former CTP decisions or NVTA study outcomes) are going to be reviewed as part of this study and will they be given any consideration or are they not being addressed at all for this study?

Following the meeting, Maura Walsh-Copeland provided more detail behind this question through a phone call and email. Specifically, the question was whether the study team would be considering earlier CTP considerations and Northern Virginia Transportation Alliance recommendations associated with a new bypass roadway that would connect Route 9 to Route 7 west Hillsboro.

A3:

The historical perspective offered by previous studies along Route 9 are certainly important for understanding previous community interests and context. However, the study team was asked to revisit the needs of this corridor with a renewed approach. The Route 9 Corridor Safety and Operational Study is not working toward any predetermined outcome from earlier studies; rather, the current study is looking forward, and will be guided by the policy framework in the Adopted Loudoun County 2019 Comprehensive Plan. Any and all information that is collected through public survey and this Focus Group will be reviewed by the study team to help develop a detailed understanding of the corridor, including more current public perspectives, travel experiences, and roadway priorities.

To provide further background into this need for a renewed look, the rural corridor safety and operational studies were requested by the Board of Supervisors during the 2017 Transportation Summit. Documents related to that direction are accessible through the links that follow.

2017 Transportation Summit:

June 29, 2017 Rural Primary Roads Presentation

June 29, 2017 Rural Primary Roads BOS Information Item #6

Subsequent Direction from Board of Supervisors Business Meeting July 3, 2018
July 3, 2018 Rural Primary Roads BOS Action Item #4

The Countywide Transportation Plan also acknowledges this study is being conducted. Specifically, on the Countywide Transportation Plan roadway maps in Appendix 1, Note (VI) "Safety and operational studies will be conducted along primary roadways in the Rural Policy Area to assess current roadway conditions and identify potential solutions to improve traffic flow and safety. Improvements based on these studies will be implemented as directed by the Board of Supervisors."



Q7. Please review the VDOT standard for residential and commercial driveways, especially for drainage and other things that would facilitate business and residents getting in their driveway plus sight distance.

A7:

It is not within the scope of this corridor study to review existing conditions or design elements such as drainage for all private driveways or commercial parcel entrances. If crash data revealed a specific angle crash pattern at a particular driveway or public roadway, then sight distance would have been investigated.

Q8. If we are going to have a shared use path, is it going to be separated and what are you going to do with driveways and intersections? For the crossings, these will have to be separated because if you put them along the roadway, it will increase the speed.

A8:

For the sections of Route 9 outside of the Town of Hillsboro, the 2019 Countywide Transportation Plan calls for a shared use path on one side of Route 9. Such a path would be parallel to and outside of the travel lanes and beyond the edge of the pavement area established for vehicles. For cross streets that intersection Route 9, the path would cross those side streets at grade. The ultimate design of those crossings would need to take into consideration the future intersection control (e.g., stop-control, signal, roundabout) and follow established guidelines and standards for crossing design.

Q9. Trying to keep the flow moving along Route 9 at a reasonable pace is the main objective, but there is concern with the decrease of traffic on Route 9. Can we make sure we are not syphoning off traffic onto all the secondary roads, such as Woodgrove Road? From past studies, the attempt to make Woodgrove Road another major road (and that means widening the road) would not sit well with others.

A9:

The results from the traffic forecasting effort revealed a future travel pattern whereby vehicles from the western end of Route 9 may choose a path to/from Route 7 using minor north-south roadways to the west, such as Woodgrove Road. History and driver behavior tell us that drivers will choose the path of least resistance, whether that be for convenience, travel experience, or reduced travel time. The proposed improvements that are programmed to be implemented on Route 7 by 2040 make Route 7 a preferred east-west route choice for some drivers over Route 9. This is not an intentional choice by the study team and the intent is not to make those north-south routes major roadways. The intent is to understand resulting future traffic volumes on Route 9 to assess the necessary improvements to Route 9 to accommodate the future traffic.

However, the additional volumes on the minor roadways were certainly recognized by the study team and the Focus Group, and the concern for existing conditions of those roadways were noted in the meeting record.



Q16. The current and future travel model data shows that secondary road use is inevitable. People are going to take those small roads regardless of their conditions. We need to start the process to not let these roadways not become commuter routes as well as finding ways to reduce travel speeds, restrict traffic, and ensure these items in the future.

A16:

Please see also the answer to Q9. The issue and concern for these roadways is acknowledged and it is possible that future study of those roads may be a recommendation of the Route 9 corridor study.

Q17. It is really important to not just lower the speed limit, but to enforcement it with increase fines. The speed can be reduced from Route 7 to Route 704 (Hamilton Station Road) by 10 mph and improve safety with little cost and no change to the roadway within that area.

A17:

At the location in question, speed data collected by the study team revealed:

- Just east of Hamilton Station Road, the 85th percentile speed* was 54 mph (9 mph over the posted speed limit)
- Between Clarkes Gap Road and Route 7, the 85th percentile speed was 51 mph (6-10 mph over the posted speed limit depending on the direction of travel)

In 2017, VDOT conducted a speed limit study for Route 9, which examined existing crash data, traffic volumes, speeds, and roadway characteristics. This previous study resulted in the speed limits that are in place today on the corridor. The Loudoun County Route 9 Corridor Safety & Operational Study will not be revisiting those decisions already identified and recently approved by VDOT.

Research indicates that simply lowering the posted speed limit on a roadway is not likely to have the expected outcome of reduced travel speeds, which are desired by the Focus Group. Both observational studies as well as nationwide federal research has demonstrated that reducing a speed limit does not typically result in a change in driver speeds. In case studies, the majority of motorists did not alter their speed to conform to posted speed limits that they perceived as unreasonable for prevailing road and traffic conditions.

That being said, there are noted safety hot spots in the area described in this comment, and the need for safety improvement is acknowledged and supported by data. Although a change in speed limit is not being carried forward under this study, other safety improvements are proposed that are in alignment with the crash data findings, and those are under review by VDOT.

*The 85th percentile speed is the speed at which 85% of drivers travel at or below during the data collection period.

ATTACHMENT H: PUBLIC COMMENTS TO DEWBERRY, 2013 & 2018



Route 7 and Route 690 Interchange Location and Design Public Hearing Comment Sheet

Project Contact:

Greg Barnes Loudoun County

Department of Transportation and Capital Infrastructure

101 Blue Seal Drive, Suite 102

Leesburg, VA 20175

Email: DTCI@Loudoun.gov

	Dewberry
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All comments submitted will become part of a record document and will be made available to the public.
Name or Organization Representing (optional): Maura Walsh-Copeland Address:
1) Do you support the alignments as shown? (Please circle) 1a) Do you support the project with modifications? (Describe the modifications, use back if needed) YES NO
The final plan to use Alignment #1 from the 2013 proposal is appropriate, however the project has not addressed speed
and volume impacts on Route 690 NORTH of the planned interchange, as well as known line of sight issues at key
intersections that will be exacerbated by additional volume with the new interchange.
2) Do you have any specific concerns regarding the proposed project? (Please circle) If YES please explain your concerns below, if additional space is needed please use the back
My concerns were documented and submitted during the July, 2013 Public Input sessions. These concerns were NOT
addressed in the December 4, 2013 Staff Report to the Board of Supervisors, and were NOT addressed at the 2018
Public Input meeting. In 2013 consultants stated they expec "15%" of Hillsboro traffic to flow to the new interchange, with
a stated volume estimate of "196 vehicles" (see attached report). The actual Hillsboro volume is ~17,000, meaning 15%
equals 2,550 vehicles a SIGNIFICANT discrepancy. Specific concerns include line of sight for Route 718 (see attached).
3) Please provide us with any additional information or concerns: (If additional space is needed please use the back.)
As was indicated at the April 16th meeting, this interchange does not impact only Town of Purcellville traffic; it also impacts
all County residents living on or on side roads to Route 690/Hillsboro Rd. The current plans do not address the AREA WIDE
safety, speeding, intersection line of sight, and traffic volume concerns.
4) How did you hear about this meeting? Newspaper Direct Mail Other: Ongoing monitoring of project since inception.
NO Were Loudoun County and Design Team representatives able to answer your questions? (Please circle) YES NO The County Team indicated to the audience present that they heard the concerns of residents
NORTH of the planned interchange, including overall increased volume of traffic traveling south from Hillsboro, as well as concerns for the speed and safety at intersections. Of primary concern are the blind curves including Ashbury Church Rd.

Please leave this comment sheet at the designated location, mail, or email your comments by May 16, 2018 to the address listed above.

NEW SUBMISSION: May 15, 2018

As an alternative method of traffic flow/calming on the Route 690 corridor a mini roundabout should be considered at the half way point between Route 9 and Allder School Road (Rte 711), at the blind curve intersection located at Route 718/Ashbury Church Road.

If traffic volume justified a small roundabout at the Allder School Road/711 and Short Hill Road/716 intersection, then the stated increase in traffic volume, speed, and safety concerns at a blind intersection due to the Route 690/7 Interchange should justify a similar solution at Route 718/Ashbury Church Road.

COMMENTS ORIGINALLY SUBMITTED JULY 24, 2013:

During the design phase of Rte 7/690 Interchange analysis should include not only traffic volume studies, but also traffic SPEED studies on Route 690/Hillsboro Road between the Rte 7/690 interchange location and Route 9. Several meeting attendees pointed out that volume on Route 690 will increase with an interchange.

An increase in traffic volume will make 45-60 degree angle intersections that do NOT have the VDOT required line of sight for the current speeds even MORE of a hazard. As more vehicles drive on curves with intersections at speeds exceeding not only the Operating Speed limit (safe speed as determined by design speed) of 35mph, but also the posted Legal Speed Limit of 50mph there will be an increase in rear-end collisions or near misses.

This applies directly to Route 718/Ashbury Church Road that does not meet Code of VA, 24VAC30-73 requirements for "Intersection Sight Distance" as defined in VDOT Road Design Manual Appendix F: Access Management Design Standards for Entrances and Intersections.

An interchange design will need to include traffic safety improvements, including but not limited to speed limit changes or stop signs on Rte 690.

See attached previously submitted issues/concerns not addressed in 2013 or 2018.

Public Information Session: Comments and Responses

October 1, 2013

Alternative #1 would increase traffic from the ramp at 690 increase traffic in the northern direction to and from Hillsboro. A traffic volume study should be done on Route 690/Hillsboro Road between the Rte 7/690 interchange location and Route 9. (3 comments)

b. Response:

This has been done. The traffic study shows that 15% of traffic (196 vehicles in the AM peak hour in 2020) using Route 9 would divert down Route 690 to use the new interchange. This study was developed and refined in cooperation with VDOT through an iterative process and was approved by VDOT on August 13, 2013.

7. Issue – Traffic Volume

a. Comment:

Alternative #2 would increase in traffic though a residential area where kids play. (2 comments)

b. Response:

The traffic study is just the first step to look at traffic impacts in all surrounding areas...especially residential areas. Mitigation for any adverse impacts will be coordinated with the community as the design progresses. A Traffic Calming study would follow the process identified in VDOT's Traffic Calming for Local Residential Streets Program where it is applicable.

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a. Comment:

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b. Response:

This intersection is outside of the scope of the study.

10. Issue – Business Impact

a. Comment:

Alternative #2 runs through a property length wise, making the operation of a small horse boarding and breeding business impossible. (2 comments)

b. Response:

Financial impacts to residences and businesses will be considered during the right-of-way appraisal/negotiation process.

11. Issue – Project Purpose

a. Comment:

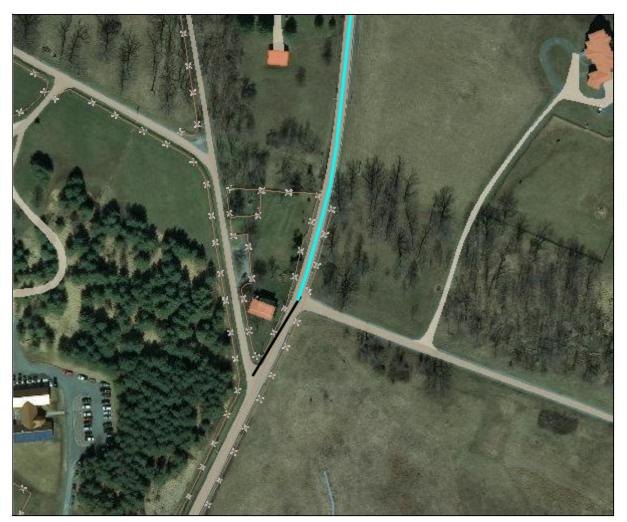
i. What is the cost for Alternate #1?



Loudoun County, Virginia www.loudoun.gov

Wednesday, October 31, 2012

(map not to scale)



Route 690/Hillsboro Road Speed Limit: 50 mph

"Advisory" (yellow) speed Limit Posted: 35 mph

CODE OF VIRGINIA LINE OF SIGHT REQUIREMENTS:

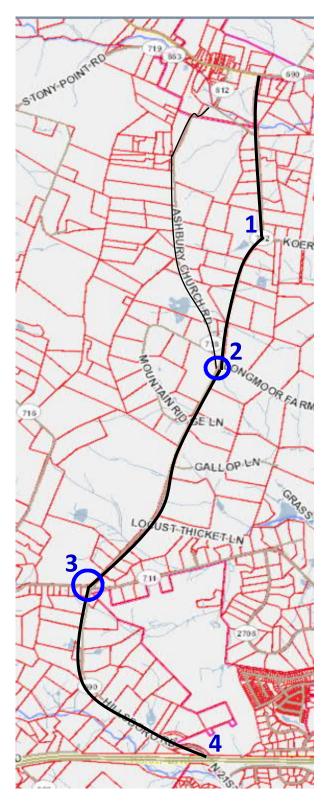
Height of Eye (3.5 ft.)

Height of Object (3.5 ft.)

Miles per hour (mph) Design Speed *		30 mph	35 mph	40 mph	45 mph	50 mph	55 mph
2 or 3 Lane Major Road+	280	335	390	445	500	<mark>555</mark>	610
	ft.	ft.	ft.	ft.	ft.	ft.	ft.

CLEAR VIEW LOOKING LEFT FROM ROUTE 718/ASHBURY CHURCH RD: 190 FT.

CONCLUSION: Intersection does not meet required line of sight, resulting in safety impacts, to be increased by Route 7/690 interchange with expected 2,550 additional vehicles traveling at 50-60mph vs. 35 mph around blind curve. Traffic calming required. Recommendation: Small roundabout.



PROPOSAL FOR Rt 690/HILLSBORO ROAD Route 9 to Route 7: 4 miles

- 1. Route 9 to Koerner Lane: .85 miles. Dangerous curve, clear line of sight
- 2. Route 9 to Ashbury Ch 718: 1.5 miles
 - Dangerous curve, <u>limited line of sight</u>,
 35 mph operational (50mph posted,
 55-60 actual travel speeds).
 - Route 718/Ashbury Church Road is half-way point between Route 9 and Route 711/Allder School Road (roundabout location).
- 3. Route 9 to Allder School 711: 3 miles

- 4. Route 9 to Route 7: 4 miles
 - * Allder School to Rte 7: 1.25 miles
- 1. Small (three-way) roundabout at Route 718/Ashbury Church Road (#2) would a enable traffic calming, reduce excessive speed on blind curve, and b. provide safety for turning vehicles, busses and tourists visiting Rural Economy venues.
- 2. Increased traffic with Route 690/7 Interchange will likely exceed traffic volume anticipated for Allder School Road(Rt 711)/Short Hill Road, that had small three-way roundabout installed 2017-2018.

INSUFFICIENT LINE OF SIGHT:

ROUTE 690/HILLSBORO ROAD & ROUTE 718/ASHBURY CHURCH ROAD



Traveling SOUTH on route 690, no visibility for Route 718 intersection.

Operational speed: 35mph

Actual (clocked) speeds at curve: 50-60mph)



Looking LEFT (north) from Route 718/Ashbury Church Road.

Insufficient line of sight for vehicles turning from Route 718 AND vehicles traveling south on Route 690.

Comment Form

Any comments or concerns regarding the County's study of interchange alternatives near the existing crossing of Route 7 and Hillsboro Road (Route 690)

Name	Address	
Maura Walsh-Copeland	15530 Ashbury Church Rd, Purcellville, VA 20132	copeland05@aol.com
		Contact Phone or E-mail

Comment:

As highlighted during the 7/24 meeting, it appears the Rte 7/690 Interchange Alternative I is the same alignment depicted on the 2004 map created by Dewberry and Davis titled "Route 9 Relocation West of Hillsboro to Rt 7 Bypass and Hillsboro Bypass Alternative."

Rte 7/690 Interchange Alternative 2 is also depicted in maps with the same title, dated 2005 and 2007. Per a letter dated June 19, 2007 written by George Phillips (Loudoun County Office of Transportation Project Manager), "Mr. Robert Chase, representing NVTA [Northern Virginia Transportation Alliance], ... provided a map that the County retained. During the meeting the consultants (Baker) asked Mr. Chase to have a copy of the materials provided to them. On behalf of NVTA, Dewberry and Davis sent a map of a proposed Hillsboro Bypass.... The maps provided at the meeting and following the meeting include Route 9 Relocation west of Hillsboro to Route 7 Bypass and the Hillsboro Bypass."

As stated at the 7/24/13 meeting, it appears Dewberry was awarded a \$997.4K contract to present interchange designs they had already created on behalf of the NVTA and local developers to promote a "Route 9 Relocation" and a "Hillsboro Bypass Alternative" (along with an updated traffic analysis). Therefore, IF the Rte 7/690 Interchange Alternative 2 is the one to move forward after the completion of the IJR, then BEFORE any final vote ALL Western Loudoun residents should be made aware of the potential for this "interchange" project to become a "stepping stone" to reactivate the plans for a developer-promoted Hillsboro Bypass (which were struck down in the 2007 CTP by an overwhelming majority).

Lastly, during the design phase of a Rte 7/690 Interchange analysis should include not only traffic volume studies, but also traffic SPEED studies on Route 690/Hillsboro Road between the Rte 7/690 interchange location and Route 9. Several meeting attendees pointed out that volume on Route 690 will increase with an interchange. An increase in traffic volume will make 45-60 degree angle intersections that do NOT have the VDOT required line of sight for the current speeds even MORE of a hazard. As more vehicles drive on curves with intersections at speeds exceeding not only the Operating Speed limit (safe speed as determined by design speed) of 35mph, but also the posted Legal Speed Limit of 50mph there will be an increase in rear-end collisions or near misses. This applies directly to Route 718/Ashbury Church Road that does not meet Code of VA, 24VAC30-73 requirements for "Intersection Sight Distance" as defined in VDOT Road Design Manual Appendix F: Access Management Design Standards for Entrances and Intersections. An interchange design will need to include traffic safety improvements, including but not limited to speed limit changes or stop signs on Rte 690.

> Please submit comments by August 5, 2013. Comments can be mailed to: Loudoun County Office of Transportation Services Attn: Chris Glassmoyer 1 Harrison Street SE 4 th Floor Leesburg, VA 20175