



HANOVER COUNTY BOARD OF SUPERVISORS

BUSINESS AND RESIDENTIAL DEVELOPMENT ROAD IMPROVEMENTS TRANSPORTATION POLICY

ADOPTED MARCH 13, 2013

REVISED JUNE 27, 2016

OVERVIEW

This *2016 Transportation Policy* sets forth Hanover County's policy for addressing transportation impacts along the County's major thoroughfares arising from new business and residential development. The purpose of the policy is to establish a consistent course of action in support of the overall capacity, safety, and operation of the County's road system. This policy is intended to integrate with the County's overall Transportation Policies.

Following the elimination of the cash proffer policy by the Board of Supervisors on November 28, 2012, the Board adopted the 2013 Transportation Policy, which was a revised approach for addressing short and long -term transportation impacts as a result of new development. The revised approach focused on a project-specific relationship between development and roadway impacts, considered existing baseline traffic contributions, and incorporated provisions for lower than expected short term growth rates. The methodology was financially constrained and included a strategy to leverage state and federal transportation funding to the maximum extent possible. This revised policy continues this approach.

The *2016 Policy* continues to recognize that growth places stress on the County's transportation network, but is not solely responsible for traffic demand.

The policies and supporting strategies will be amended as circumstances warrant. Other information presented herein will be kept current through periodic updates. The following policy statements form the foundation of this revised strategy:

I. Land Use Policy

- Reduce off-site traffic impacts through application of mixed-use development
- Reduce the rate of external traffic movements per household through introduction of limited retail/commercial uses in Suburban Residential development
- Maintain the efficient functioning of travel ways through development and implementation of access management guidelines in partnership with VDOT
- Address the impacts of County development in proximity to the Town of Ashland through coordination and sharing road project activities.

II. Thoroughfare Plan Policy

- Protect ultimate rights-of-way shown on the Major Thoroughfare Plan from encroachment by development and accept dedications or reservations of right-of-way for Major Thoroughfare Plan roads and interchanges through the rezoning and development process to mitigate the impact of new development.
- Accept proffered roadway improvements that are needed, or for which an identifiable portion of a need is created, as a result of development and coordinate other sources of funding to implement projects and minimize the adverse effect of new development on capacity and service levels along major thoroughfares
- Encourage interconnection of communities and neighborhoods during the zoning

- process to minimize impacts to existing and planned Major Thoroughfares
- Plan for the interconnection of major thoroughfare corridors
- Increase public awareness of planned interconnections
- Seek to obtain transportation, traffic and corridor access studies in areas planned for significant retail and business development to ensure adequate access is provided

I. LAND USE POLICY

The following policy will be utilized to address residential road impacts during the rezoning process:

For rezoning requests which are projected to generate more than 380 vehicle trips per day (40 lots and greater), but fewer than 5000 vehicle trips per day will be expected to submit a Traffic Impact Analysis (TIA). The final determination regarding the need for a TIA will be determined by the Director of Planning in consultation with the applicant, VDOT, and Director of Public Works. The TIA will be scoped by the applicant's traffic engineer in consultation with the Director of Planning and VDOT. Once the final TIA has been accepted by the Director of Planning, the TIA will serve as the basis to determine the appropriate improvements to the Major Thoroughfare network which, in the case of a residential rezoning, could include a financial contribution towards planned road improvement projects.

1. All requests for rezoning expected to generate 5000 vehicle trips per day or more will be required to submit a Chapter 527 traffic impact study, and the study, once accepted by the County and VDOT shall serve as the basis to determine the appropriate improvements to the Major Thoroughfare network which, in the case of a residential rezoning, could include the appropriate level of financial contribution towards planned road improvement projects.

Land Use Strategies:

- ***Reduce off-site traffic impacts through application of mixed-use development***
Encourage mixed use and multi-use development when appropriate to reduce off-site traffic impacts. Large-scale developments usually include not only residential and commercial uses, but also employment generating uses. Mixed-use developments increase internal capture rates by providing the opportunity for residents to be able to shop and work within the community in which they live.
- ***Reduce the rate of external traffic movements per household through introduction of limited retail/commercial uses in Suburban Residential development***
Many traffic movements in and out of neighborhoods are generated by short-distance shopping trips. The inclusion of convenience commercial uses (e.g., small convenience stores, personal service businesses) within a neighborhood introduces the option of internal pedestrian movement to replace the need for external vehicular trips, thereby reducing off-site traffic impacts.

- ***Maintain the efficient functioning of travel ways through development and implementation of access management guidelines in partnership with VDOT***
 The reduction in efficiency on County roads due to the creation of new access points will be addressed through the application of access management principles. The County, in consultation with VDOT will implement access management to provide consistent expectations for applicants and coordinate land use impacts with design capacities for major thoroughfares.
- During the rezoning process, the County will consider proffers to improve traffic efficiency when the new development creates a need, or an identifiable portion of a need, for improvements to the Major Thoroughfare network. Proffers may include dedication of right-of-way, actual improvements to the Major Thoroughfare network to address expected traffic impacts, or monetary donations to off-set the cost of planned road project in the immediate vicinity of the rezoning request.
- ***Address the impacts of County development in proximity to the Town of Ashland through coordination and sharing on road project activities.***
 The County will partner with the Town to advance funding and road projects to address impacts attributable to development in the County and on the Town's internal road system.

II. THOROUGHFARE PLAN POLICY

The Major Thoroughfare Plan (MTP) for the County was initially adopted in 1972 and was last updated with the adoption of *The Comprehensive Plan for Hanover County, Virginia (2027)*. The MTP establishes the ultimate road network necessary to support residential, commercial, institutional and industrial land uses as generally supported by the General Land Use Plan.

Thoroughfare Plan Strategies:

- ***Protect ultimate rights-of-way shown on the Major Thoroughfare Plan from encroachment by development and obtain dedications of right-of-way for Major Thoroughfare Plan roads and interchanges***
 The rezoning process provides an opportunity for the County and applicants to evaluate necessary road improvements, including the reservation and dedication of right-of-way to accommodate the ultimate functional classification of the thoroughfare system. Reservation of right-of-way is important to preserve future highway corridors. Right-of-way costs can represent 25% or more of the cost of a road improvement project. Advance acquisition/reservation of right-of-way will reduce overall project costs and allow projects to be completed sooner. In collaboration with VDOT, the County would consider the use of planning level studies to more specifically identify corridors and incorporate those studies in the Comprehensive Plan.

- ***Seek to obtain roadway improvements where development creates a need, or an identifiable portion of a need , for improvements and coordinate other sources of funding to implement projects that will minimize the adverse effect of new development on level of service along major thoroughfares***

The County and applicants will evaluate necessary Major Thoroughfare Plan improvements through the zoning review process. When roadway improvements can be readily identified, particularly requests for commercial and industrial rezoning, construction of such improvements are generally preferred over cash contributions. The purpose for negotiated transportation improvements or cash contributions is to address anticipated transportation safety and capacity issues arising through the zoning process. Thus, it is more beneficial and expedient to have the impact addressed through an improvement rather than for the County to receive a cash proffer to be applied toward a future improvement. Cash proffer payments may be the best alternative where funding can be leveraged against other road matching funds and advance improvement to the overall network.

- ***Propose interconnections during the zoning process between existing and planned developments to minimize impacts to a single corridor***

Interconnection between communities/commercial developments minimizes traffic impacts along identified thoroughfares. When communities or commercial developments are interconnected through internal roads and driveways, the need for traffic to enter a major thoroughfare is minimized, thus minimizing traffic impacts.

- ***Plan for the interconnection of major thoroughfare corridors***

When traffic can be dispersed along several corridors, the impact to a particular roadway or thoroughfare is minimized. Interconnection between major thoroughfare corridors minimizes dependence on any one particular route.

- ***Increase public awareness of planned interconnections***

The public is often unaware of planned interconnections. Signs shall be posted at the location of future connections to increase public awareness and expectation.

- ***Seek to obtain transportation, traffic, and corridor access studies in areas planned for significant retail and business development to ensure adequate access is provided***

Studies are a necessary planning tool for the establishment of new corridors and for major improvements within existing corridors. Proper detailed studies allow more informed decisions regarding transportation needs, and funding.

III. CANDIDATE PROJECT LIST

The Long Range Transportation Project List represents transportation needs over the build-out of the comprehensive plan. Projects appearing on the “Candidate Project” list are constrained by the financial resources expected to be available for design and construction. The need for the projects is driven by the near term 10-15 year traffic demand for capacity, operation, and

safety. Funding from all sources will be utilized and prioritized to accomplish the identified needs.

The “Candidate Project” list will be updated annually with the assistance of the Roads Committee based on an assessment of the County road network and expected revenues from identified sources.

IV. PROJECT DEVELOPMENT METHODOLOGY

1.1 TRAFFIC GENERATION

The connection between the *General Land Use Plan* and the *Major Thoroughfare Plan* makes it possible to predict future traffic demand based on expected land uses and land use densities. A number of assumptions drive the expected demand on the transportation network. Existing zoned properties and development plans improve the predictability of the estimates and are used to help set priorities for future road improvements. Evaluation of the transportation network is recognized as a fluid and changing process. Annual reevaluations will be conducted to adapt the project plans and scopes based on growth and changes in expected traffic demand. In general VDOT's roadway traffic count data will be used to establish base line traffic capacity status. The following assumptions will be used to predict threshold changes necessitating new projects.

- The residential traffic generation was calculated based on a rate of 9.5 trips per day per dwelling unit. This is based on data from the Institute of Transportation Engineers *Trip Generation Manual, 9th Edition*.
- The non-residential traffic generation was calculated based on the available non-residential acreage, times a floor to area ratio (FAR) of 0.20 and a rate of approximately 11.25 trips per 1,000 ft². The 11.25 trips is a composite average from non-residential land uses contained in the Institute of Transportation Engineers *Trip Generation Manual, 9th Edition*. Additionally, each non-residential land use was designated a specific percentage of development within the land use plan. These percentages included business park (60%), industrial park (10%), research and development (10%), and office park (20%). This distribution of residential and non-residential land uses were agreed to during a particular zoning or in the update to the *General Land Use Plan* and thus used in determining current and future traffic generation.

1.2 LEVEL-OF-SERVICE (LOS)

LOS is a quality measure used to characterize the operational conditions within a traffic stream, such as speed and travel times, freedom to maneuver, traffic interruptions, and comfort and convenience. There are six LOS measures that range from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is typically the lower limit of acceptable operations. When a road segment falls to LOS D, maneuverability is restricted due to traffic congestion, travel speeds are reduced by the increased volume and only minor disruptions can be absorbed without extensive queues forming or the service deteriorating. The overall Long Range Transportation Project List is developed based on build out of the comprehensive plan and a LOS D assumption. The Candidate Project list is a subset of this broader Long Range Transportation Project List and is generally developed based on acceptable thresholds for

capacity and safety. The Candidate Project list will be identified based on roadway type and vehicle trips per day recognizing level of service will likely fluctuate significantly based on time of day and other factors. The general threshold criteria assumptions are as follows:

- Two lane minor collector routes are assumed to have a capacity between 3,000 – 6,000 vpd, after which interim improvements for safety, turn lanes and intersection improvements are warranted. Accidents history will be a factor in prioritization.
- Two lane major and minor arterials and major collector routes are assumed to have a capacity between 3,000 – 6,000 vpd, after which interim improvements for safety, turn lanes and intersection improvements are warranted. Accidents history will be a factor in prioritization.
- Two lane major and minor arterials and major collector routes are assumed to have a capacity between 14,000 – 16,000 vpd trigger capacity, after which the road or road segment should be upgraded to 4 lanes.
- Unusual alignment, accident history and other limiting conditions may be the basis for project inclusion or acceleration when compared to similar segment types.
- Four lane and higher capacity roadway segments will be evaluated based on existing and future traffic projections in association with proposed developments.
- Individual development may require individual traffic studies to fully evaluate impacts to the transportation network.

1.3 TRAFFIC IMPACT CONTRIBUTION

The impacts from existing zoned and base traffic will be a first tier consideration to determine road improvement thresholds. Base traffic is assumed to be represented by VDOT daily traffic volume estimates for affected roadway segments at the time of project consideration for the candidate project list.

The County has identified a broad relationship between planned development (rezoning cases) and candidate projects. This relationship is based on proximity to candidate road projects and relationship to parallel or intersecting major thoroughfares. During the course of review of a particular zoning request, overall corridor alignment and expected travel patterns and the relationship between the proposed development, traffic displacement, and accumulation of regional traffic patterns will be the final determining factors to identify necessary improvements and /or contributions toward the Major Thoroughfare network.

Pass-through traffic is defined as either traffic that utilizes the County's road network but does not have a trip start or stop point in the County or traffic that begins and ends outside of the County. Pass-through traffic will be assumed to be captured by the VDOT daily traffic volume estimates.

Base and Pass-through traffic will be considered when negotiating transportation improvements or contributions during the rezoning process. These responsibilities will be represented as percentages in determining the allocation of total project cost.

1.4 PLANNING LEVEL COST ESTIMATES

Project costs for candidate projects are estimated based on VDOT's Statewide Planning Level Cost Estimate unit values, project specific take-offs, and bid experience from similar projects. Experience suggests that overall project costs grow as uncertainty factors not apparent during planning level estimating emerge. Recent bid histories for the construction phase cost suggest lower than expected bids. Right of way and engineering cost are rising. Overall, cost estimates will be updated at least annually as new information is available; however, there are uncertainties in the cost estimates which vary with the individual project scopes.

X. APPENDICES

- A. Candidate Project List**
- B. Candidate Project List Map w/ Existing Zonings 2 mile Radius**

Appendix A.

FY 13 Candidate Project Lists:

Project	Category	Description	Est. Cost
Atlee Station Rd Widening	Capacity	Widen from 2 to 4 lanes between Warren Ave. and Kings Acre Rd	\$20,000,000
Cool Spring Rd Safety Improvement	Safety	Improve the horizontal alignment and add shoulders between Blakeridge Ave. and Hughesland Dr.	\$2,500,000
Rt. 54 / Goddins Hill Rd Left Turn Lane	Operational Efficiency/Safety	Add a left turn lane on Rt. 54	\$1,600,000
Rt. 54 Woodside	Operational Efficiency/Safety	Add a left & right turn lanes on Rt 54, right turn lane on Woodside	\$1,600,000
E. Patrick Henry Rd Widening	Capacity	Widen from 2 to 4 lanes between Ashland ECL and Frances Rd	\$4,500,000
I-95-Ashland Interchange	Capacity/Operational Efficiency/Econ. Dev.	Add left turn lane from WB Rt. 54 to SB I-95; extend Hill Carter Pkwy to the north as part of a new SB I-95 exit ramp; extend I-95 NB off-ramp acceleration lane; reconfigure interchange to a “diverging diamond” or alternate interim improvement	\$10-\$15M
Pole Green Rd Widening	Capacity	Widen from 2 to 4 lanes between Bell Creek Rd and Rural Point Rd	\$11,000,000
33 / Ashland Intersection	Operational Efficiency/Safety	Widening / Turn lanes, deficit	\$300,000
Sliding Hill Rd Widening	Capacity/Econ. Dev.	Widen from 2 to 4 lanes between Atlee Station Rd and New Ashcake Rd	\$10,000,000
Studley Rd / Rural Point Rd Roundabout	Operational Efficiency/Safety	Install a roundabout to eliminate the skewed intersection	\$900,000
Creighton / Cold Harbor Intersection	Operational Efficiency / Safety	Widening / Turn lanes, deficit	\$500,000
Elletts Crossing Rd Realignment	Econ. Dev.	Realign Elletts Crossing Rd to eliminate skewed intersection	\$1,275,000

Appendix B. Candidate Project List Map w/ Existing Zonings 2 mile Radius

