# Route 60 Corridor Study Maidens Rd to Cumberland Line





The purpose of this document is to gather and analyze information needed to make informed decisions about development along the Route 60 corridor in western Powhatan County, with the intent to guide development to some segments, preserve rural character in the westernmost part of the corridor, and to manage access to new development.

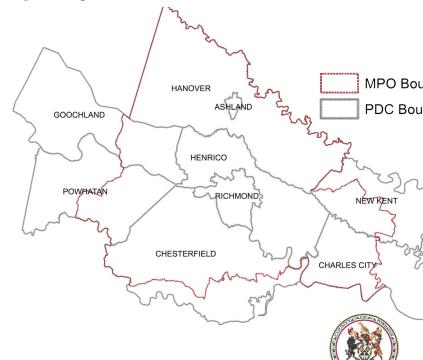
This document is meant to be a guide for future development in Powhatan County along Route 60. It is not a legally binding document, and it does not alter current zoning in the corridor. However, it will act as a guide to future development and can inform changes in zoning, as well as provide positive examples. Powhatan County staff requested the Richmond Regional Planning District Commission (RRPDC) staff prepare the document as part of the technical assistance provided the county through the Rural Transportation Planning Grant that the Virginia Department of Transportation (VDOT) allocates each year. Conception of the details of the project was a joint effort of Powhatan and RRPDC staff. The document can also serve as input for the upcoming TPO-funded study of the eastern section of the Route 60 corridor.

**Description of Study Area** 

Federal transportation legislation dictates that densely populated metropolitan areas are represented by a council of governments which makes decisions regarding Federal transportation funding in the region. In the Richmond metro area this group is called the Transportation Planning Organization (TPO).

Each county in the Commonwealth falls into a state-designated planning district, in which a similar but separate council of governments comes together to collaborate on regional issues. Richmond In region group called the Richmond Regional Planning District Commission (RRPDC).

The boundaries are not the same for both organizations. The Virginia Department of Transportation funds a *Rural Transportation Planning Program* through PDCs focused on planning in areas outside TPO boundaries.





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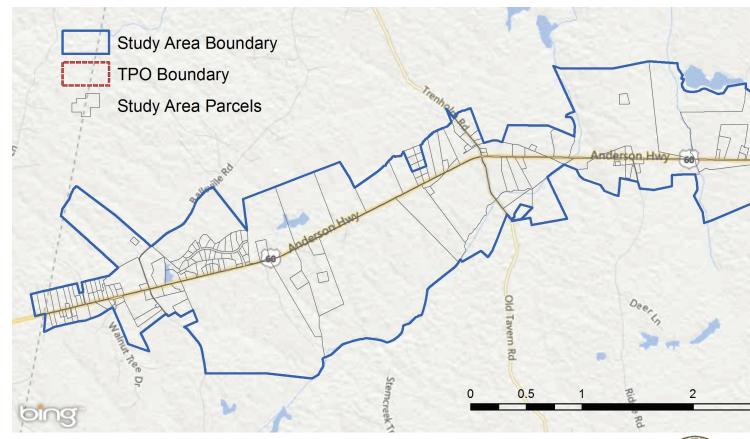
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Route 60 in western Powhatan follows the general path of Old Buckingham Road, a historic rural corridor which bisects the Commonwealth, roughly parallel to the Interstate 64 corridor. Remnants of the old roadway have created a number of odd-angled intersections the remain to the present day. In the study area, the roadway ranges from a four-lane commercial corridor to two-lane scenic rural road. The study area for this project is made up of the entirety of the Route 60 corridor which is inside the PDC boundary and outside the urbanized area of the RRTPO. The map below shows the area of focus made up of parcels immediately fronting the roadway and reaching north and south at major intersections.







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# Relation to Other Plans and Studies



#### US Route 60 Corridor Special Area Plan:

Funded by the Richmond Regional Transportation Planning Organization, the urban portion of the Route 60 corridor from Route 522 east to the Chesterfield County boundary is the subject of an updated look at Route 60. The focus of the study is to revisit the needs for transportation related improvements to Route 60 in the context of current and projected land use and population changes in the area that will affect the function of the highway. Upon acceptance by the County the plan will essentially replace the Route 60 corridor study completed in 2009 which called for widening the road from 4 to 6 lanes in the urban portion and from 2 to 4 lanes in the rural portion. These earlier recommendation were based on anticipated background traffic and varying land use projections which have not occurred as planned. The findings from the study may impact the future land use pattern and transportation movements in the plan area

### **US Route 60 Corridor Special Area Plan:**

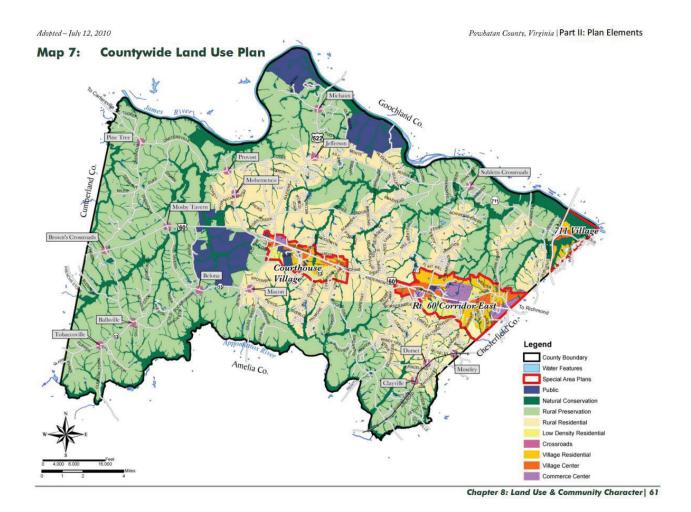
The recently adopted 2016 Powhatan County Economic Development Strategic Plan recognizes the need for the completion of the Route 60 Corridor Special Area Plan that will include "a land use plan for the corridor, identifying development opportunities, transportation improvements/enhancements, and future land use/zoning recommendations, among others." The Strategic Plan also points out how access management standards help to preserve the integrity of Route 60 as an important roadway that serves 30,000 vehicles per day in the eastern, more urban portion. The County's criteria for access limitations actually exceeds that of VDOT, and should continue to include strict signal and median spacing requirements, some of which may apply to the rural portion as growth continues in the vicinity of the Route 522 intersection:

- ½ mile for all major arterials regardless of speed limit; and
- $\frac{1}{2}$  mile between signals and  $\frac{1}{4}$  mile for medians for all minor arterials regardless of speed limit

Additional relevant recommendations of the Strategy provide guidance for collector and minor streets as they intersect with Route 60:

- Consider adopting VDOT standards or providing a more gradual tiered classification system.
- Consider promoting inter-parcel connectivity between developments to minimize driveway- turning movements along major streets. This can be accomplished through ordinance changes (i.e. like King George County's Highway Corridor Overlay Districts (HCODs) along Route 3 and 301) and continued application of VDOT Access Management guidelines.





#### 2010 Powhatan County Comprehensive Plan:

Powhatan's Comprehensive Plan shows the Courthouse Village as one of three Special Area Plan locations, also referred to as "Designated Urban Development Areas". The plan recommends that the County prepare a master plan for each area. The County intends to direct growth to these areas, keeping the majority of the remainder of the land in a rural state - either "Rural Preservation" or "Rural Residential". Part of the Courthouse Village is in this study area. The Courthouse Village Area is intended to be more densely developed, with a mix of uses which creates a "walkable community in close proximity to the government facilities".

The map opposite depicts Future Land Use from the 2010 Comprehensive Plan.

# **2035** Rural Long Range Transportation Plan (RLRTP): (VDOT and RRPDC)

This plan, an element of VDOT's Rural Transportation Planning Program, prepared in conjunction with RRPDC, covers the rural area of Powhatan, Goochland, Charles City and New Kent counties. The plan includes two projects on Route 60 in the study area: intersection improvements and turn lanes at the intersections at VA 627 (Ridge Rd) and VA 684 (Bell Rd). There is no specific funding attached to the recommendations of the Rural Long Range Transportation Plan.



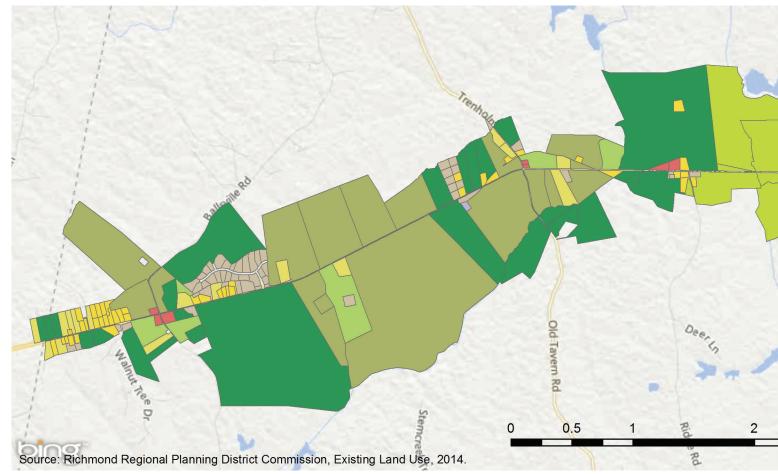


The below map shows existing land use categories for each parcel in the study area, as created by RRP-DC. All residential parcels under 15 acres are divided by parcel size into Medium Density (less than 1 acre), Low Density (1-5 acres) and Rural Residential (5-15 acres).

A house on more than 15 acres is labeled as either Agricultural, Ag/Forest or Forest, depending on the majority land use.

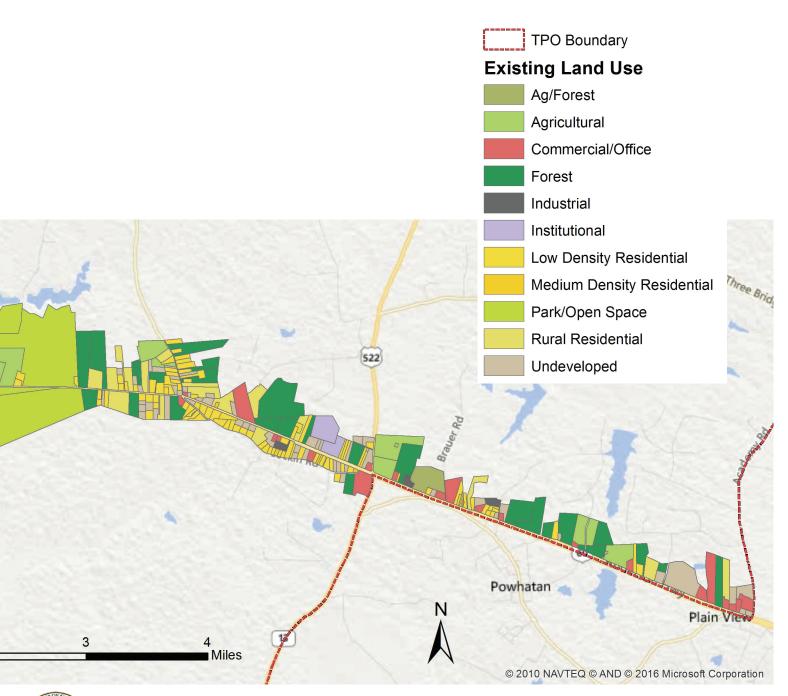
Any parcel which is subdivided (under 5 acres) but with no building improvement is labeled "Undeveloped".

See pp 12-13 for breakdown of parcels and acres by land use.







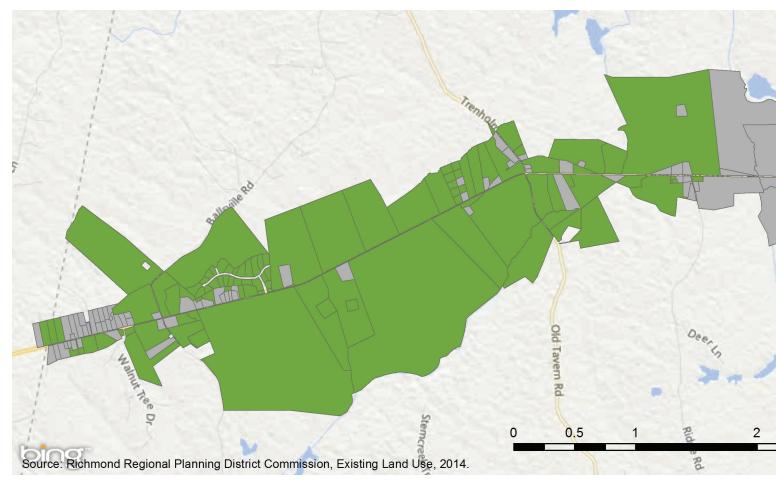




# Developed and Undeveloped Land

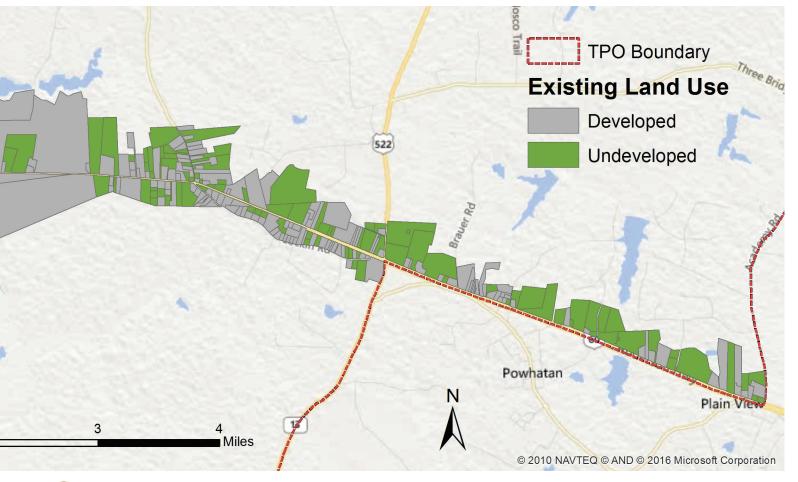
Another, more simplified way of showing the existing land use is to break the land uses down into two categories: developed and undeveloped land.

All parcels for which the land use is already committed, ie "developed", is shown in grey. This includes all residential, commercial/office, institutional and industrial, as well as parks and open space. All land not developed in the traditional sense, is shown in green. This includes farmland, fields and forests, as well as parcels under five acres not developed (called "undeveloped"). See pp 12-13 for breakdown into parcels and acres.









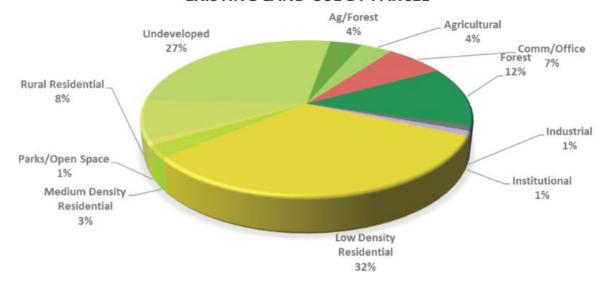




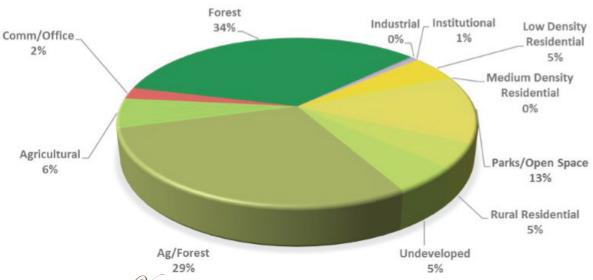
As shown in the first of the two charts below, the majority of the parcels in the study area are developed, with the majority being low density residential (32%). The second largest percentage of parcels are those that are "Undeveloped", meaning subdivided into parcels under five acres, but not yet built.

However, as the second chart shows, the majority of parcels may be residential, but the majority of the acreage in the study area is farm, field or forest. This simply means that more smaller parcels have been developed, while large tracts remain undeveloped. These charts correspond to the maps on pp 8-9.

#### EXISTING LAND USE BY PARCEL



#### **EXISTING LAND USE BY ACREAGE**



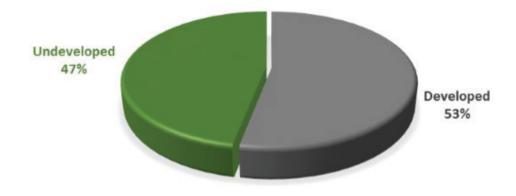




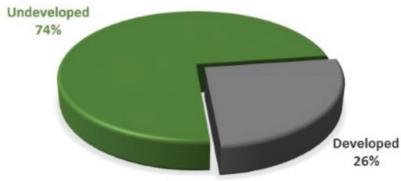
The two charts on this page correspond to the map on pp 10-11, and represent the breakdown of developed versus undeveloped parcels. The story is repeated, albeit more simply. The majority of parcels are developed, though the majority of land is undeveloped. This reiterates that the tracts which remain in farm, field and forest are large.

It should be noted that any perceived value judgement in the words "developed" or "undeveloped" is not intended. The farms, field and forest are in keeping with the natural rural character, and the County's intention to keep that character.

# DEVELOPED AND UNDEVELOPED BY PARCELS



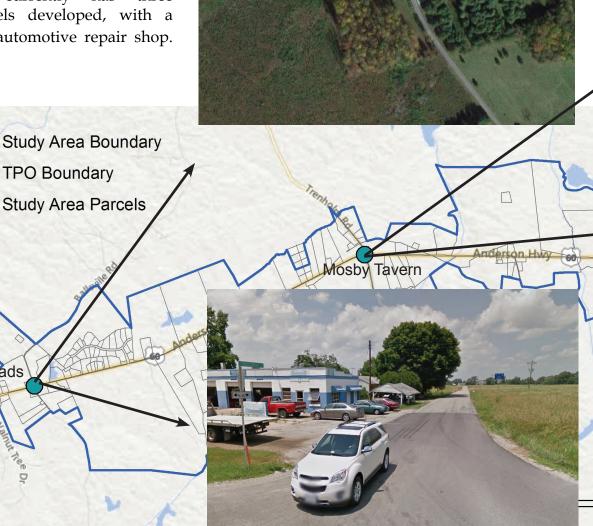
# DEVELOPED AND UNDEVELOPED BY ACREAGE







There are two intersections outside the Courthouse area the Comprehensive plan defines as "crossroads", and toward which growth is planned to be directed. The easternmost is Mosby Tavern, at the intersection with Route 629/Old Tavern Rd. Currently only one parcel is developed, with a convenience store. The second "crossroads" is at Brown's Crossroads, which currently has three of four corner parcels developed, with a cabinet shop and an automotive repair shop.



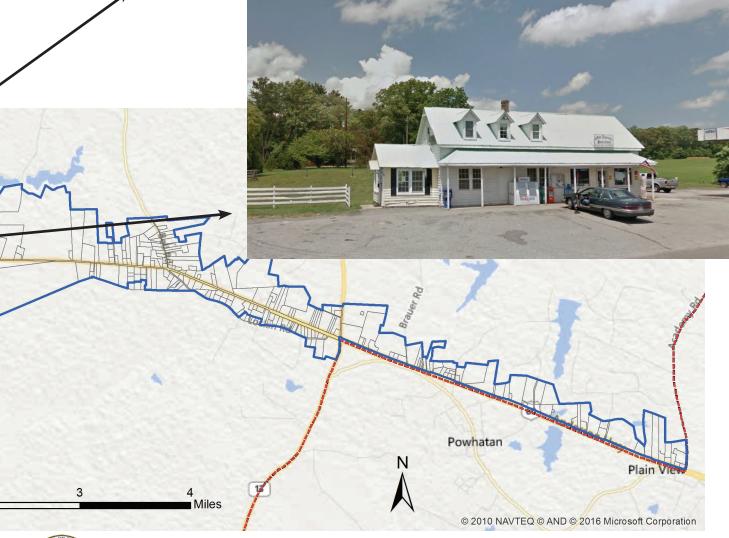
Smith's Cabinets



Brown's Crossroads



Image Sources: Google Streetview and Google Aerials

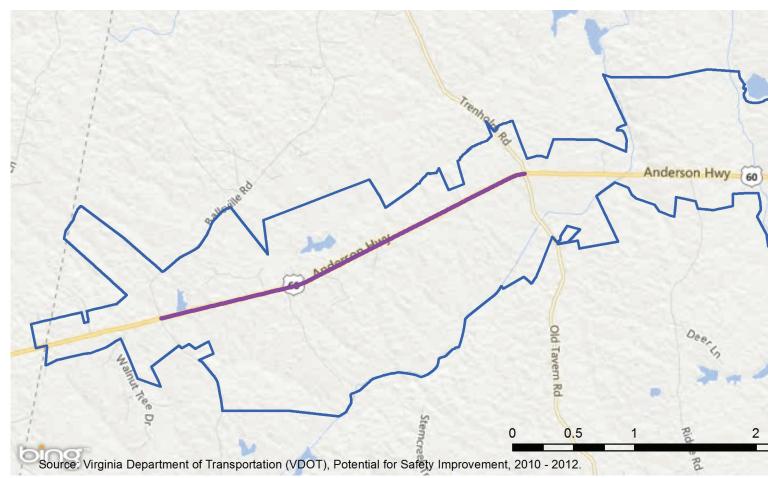




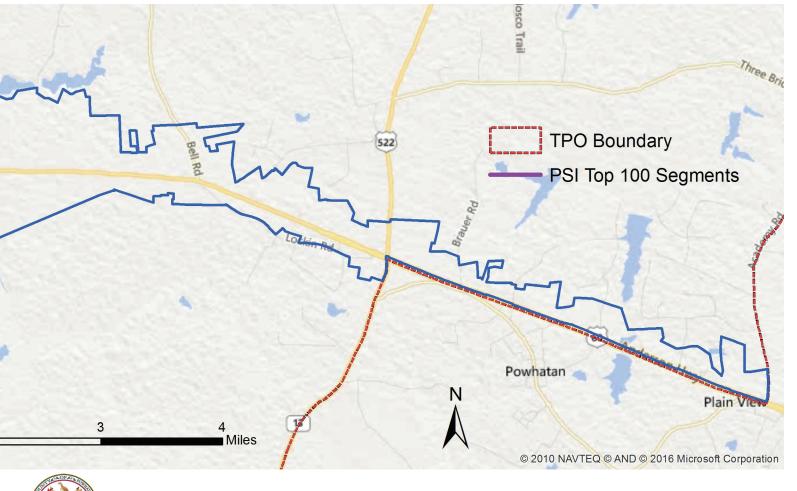
### Crash Data

Virginia Department of Transportation (VDOT) compiles a Potential for Safety Improvement (PSI), which tracks and ranks fatalities plus injury and property damage only for all road intersections and segments within the VDOT Richmond District. Rankings are determined by measuring the difference between observed modified crashes ("expected") and typical crashes ("predicted"). Using injury PSI allows VDOT to identify improvements to reduce deaths and injuries with safety programs and the 2015 Virginia State Transportation Bill. The VDOT Richmond District includes most counties in central Virginia, stretching from Hanover in the north to the Virginia/North Carolina border in the south. This compiled PSI list also ranks both the top 100 intersections and top 100 segments.

The map below illustrates one segment within the study area is ranked in the top 100. Considering this segment is situated in a very rural portion of the VDOT Richmond District this seems very significant. This segments is located on approximately a 3-mile stretch along Route 60 between Old Tavern Road and Ballsville Road. According to the PSI list this section of Route 60 is ranked the 78th worst road segment with 20 total crashes and 15 fatalities and injuries.









## Traffic Data

The chart below shows traffic information about the road segments in the study area from the Virginia Department of Transportation (VDOT) Statewide Planning System database. The final columns show Level of Service, which is a way of depicting level of traffic volumes by assigning a letter, from A (least congested, free-flow traffic) to F (traffic jam). As the colored graphic to the left shows, LOS A-D are considered "acceptable". Only when traffic slows to LOS E or F is it recommended to increase capacity on the roadway.

Only the first eight segments in the VDOT chart are in the study area, and of those, only two are scheduled to reach level D by 2020 or 2025. Please note that this data from VDOT is not consistent with the findings of the Route 60 corridor study by Kimley Horn mentioned on page 2, however the study is being updated as of May 2016 by Timmons Group.

## **Statewide Pla**

#### Powhatan, County

Level of (Based upon Needs Ana

Route	SEQ	Route Type Facility Name	Segment From	Segment To	Len. (mi.)	Analysis Type	2014
00060	010	JAMES ANDERSON H	CUMBERLAND CL	RTE 630	0.97	R2	360
00060	020	JAMES ANDERSON H	RTE 630	RTE 629	3.22	R2	396
00060	025	JAMES ANDERSON H	RTE 629	RTE 684	3.73	R2	560
00060	030	JAMES ANDERSON H	RTE 684	.63 MI WEST RTE 522	1.08	R2	560
00060	040	JAMES ANDERSON H	.63 MI WEST RTE 522	RTE 522	0.6	RM	265
00060	045	JAMES ANDERSON H	RTE 522	RTE 300	1.85	RM	553
00060	050	JAMES ANDERSON H	RTE 300	RTE 13	1.26	RM	763
00060	060	JAMES ANDERSON H	RTE 13	RTE 603	0.22	RM	748



#### QUALITY OF TRAFFIC FLOW DECREASES→ Considered an unacceptable LOS Considered an acceptable LOS LOS D LOS A LOS B LOS C **LOS E** LOS F Speeds Light traffic Slightly Approaching Congestion Road at increased moderate reduced capacity Free flow Irregular traffic levels congestion traffic flow Gridlock speeds Lane levels with · Still free flow changes frequent · Speeds near restricted speeds due to traffic free flow stops

# nning System

Service alysis Traffic Forecasts)

Flow Rate

110W Rate				venicles I et Day / Daily Set vice votame								operating Level of Service				
2020	2025	2030	2035	2040	2014	2020	2025	2030	2035	2040	2014	2020	2025	2030	2035	2040
392	418	445	471	498	0.16	0.18	0.19	0.2	0.21	0.22	C	С	C	С	С	С
430	459	488	517	547	0.18	0.19	0.2	0.22	0.23	0.24	C	C	C	C	C	C
610	651	643	681	719	0.25	0.28	0.29	0.29	0.31	0.33	C	C	D	D	D	D
610	651	643	681	719	0.25	0.28	0.29	0.29	0.31	0.33	C	D	D	D	D	D
288	308	327	347	366	0.12	0.13	0.14	0.15	0.16	0.17	A	A	A	A	A	A
619	674	728	783	838	0.25	0.28	0.31	0.33	0.36	0.38	A	A	В	В	В	В
853	928	1004	1079	1154	0.35	0.39	0.42	0.46	0.49	0.52	В	В	В	В	C	C
836	910	984	1058	1132	0.34	0.38	0.41	0.45	0.48	0.51	В	В	В	В	С	C

Vehicles Per Day / Daily Service Volume



**Operating Level of Service** 

# Socioeconomic and Demographic Data

Very little population is captured in the study area. To draw from nearby households a one mile buffer was defined as the market area. According to the American Community Survey (ACS) 2013 5-year estimates, this market area encompasses a population of 3,719 and 1,419 households, with an average household size of 2.62, compared to 2.95 countywide. The median home value for the market area is \$244,409 with the median year of homes built at 1995, compared to \$269,700 and 1992 respectively, countywide. 82% of the housing units in the market area are owner-occupied comparable to 84% countywide. The median household income in the market area is \$71,440 with a per capita income of \$32,977 compared to \$76,548 and \$31,252 countywide, respectively.

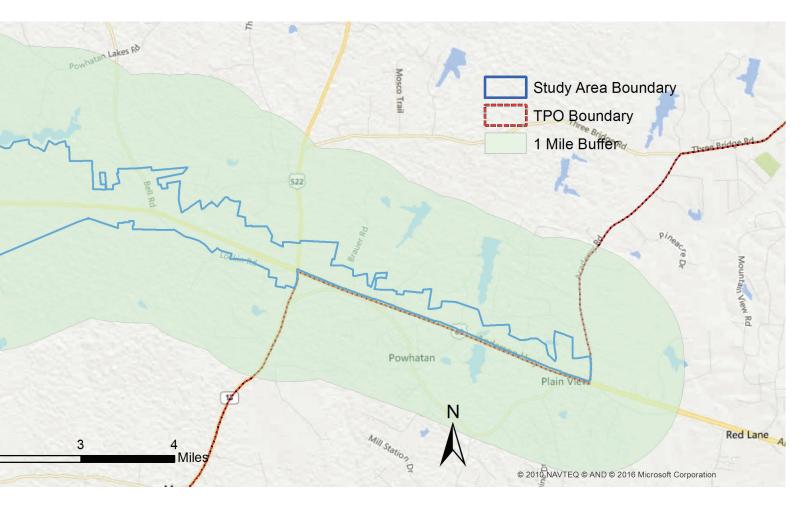
According to the U.S. Census 2014 Longitudinal-Employer Household Dynamics (LEHD) 1,686 workers live in the market area and 1,770 jobs are located within the market area, with only 175 people who live and work here. This suggests most residents living here and workers employed here are commuting to and from outside the market area. According to ACS approximately 82% of workers living in the





market area drive alone to work while 10% carpool compared to 83% and 9% countywide, respectively. Approximately 71% of residents in the market area commute 30 minutes or more to work compared to 59% countywide.

According to the 2012-2040 Socioeconomic Data Report prepared by the Richmond Regional Planning District Commission growth over the next 28 years in the rural western portion of Powhatan (or the area of the County outside the Richmond Regional Transportion Planning Organization) is expected to be strong but still less compared to the County as a whole. Population is expected to increase by 23%, or by 2,557 in the western portion of the County from 2012 to 2040 compared to 52% countywide, or by 14,867. Employment is expected to increase by 70%, or by 1,046 during this same time span compared to 183% countywide, or by 9,901.



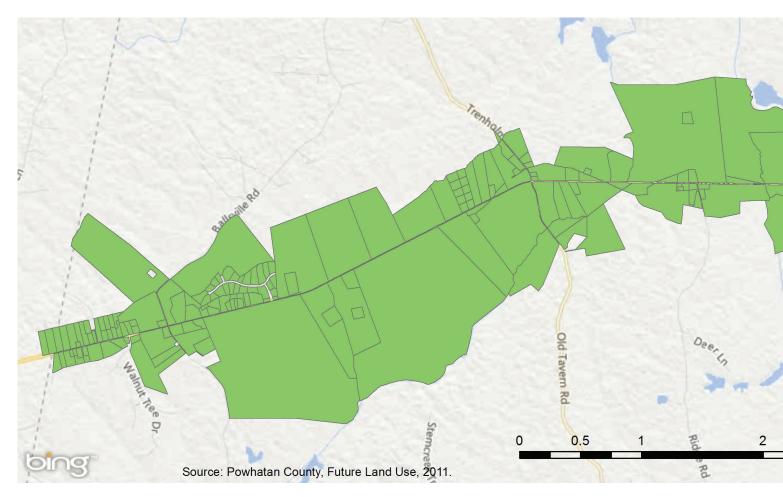


## Future Land Use

The map below represents the future land use along the corridor by parcel from the County Comprehensive Plan. The map to the right represents general future land use without parcel delineation depicted by the Comprehensive Plan.

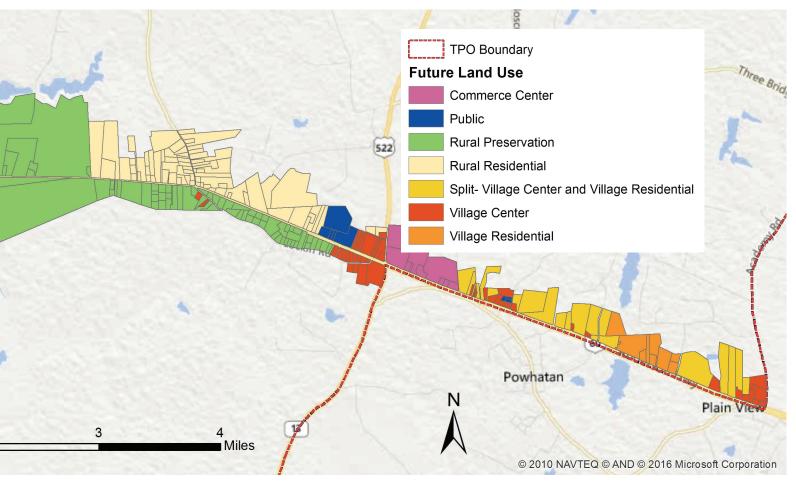
The eastern area shows a more varied land use pattern, north of Route 60 just west of Academy Rd, and north and south of Route 60 just west of Maidens Rd is the Courthouse Village area, a designated growth area. The Comprehensive plan intends that the majority of the westernmost area of the county be preserved as rural. The County intends to use development policies to keep the area rural, including: recognizing agricultural and agri-business as economically desirable businesses, not "vacant" land; encouraging agri-business and agri-tourism; protecting the environmental integrity of stream corridors; encouraging preservation of open space in residential subdivisions through density bonuses and encouraging conservation design in subdivisions.

Growth in the corridor is intended to be directed mostly toward the Courthouse Village area, and in responsible manner throughout.











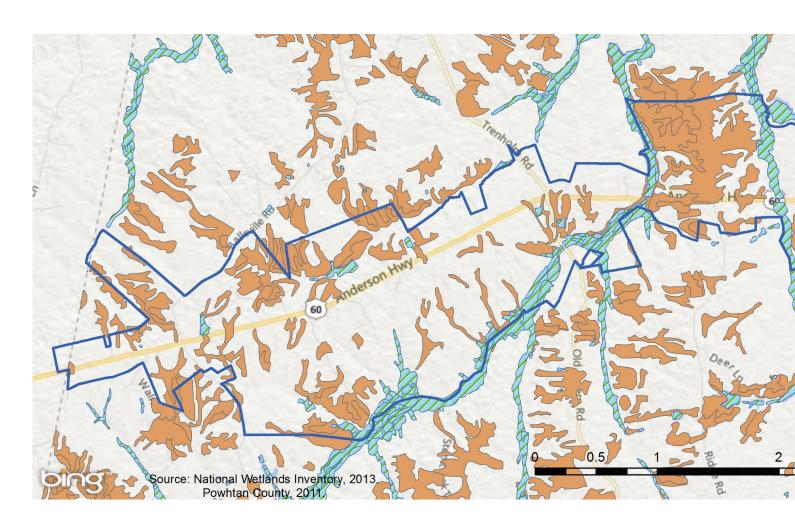
## Constraints to Development

The map below shows both wetlands (from the National Wetlands Inventory) and high shrink-swell soils (Powhatan County GIS), which would affect the development potential as envisioned by the 2010 Comprehensive Plan.

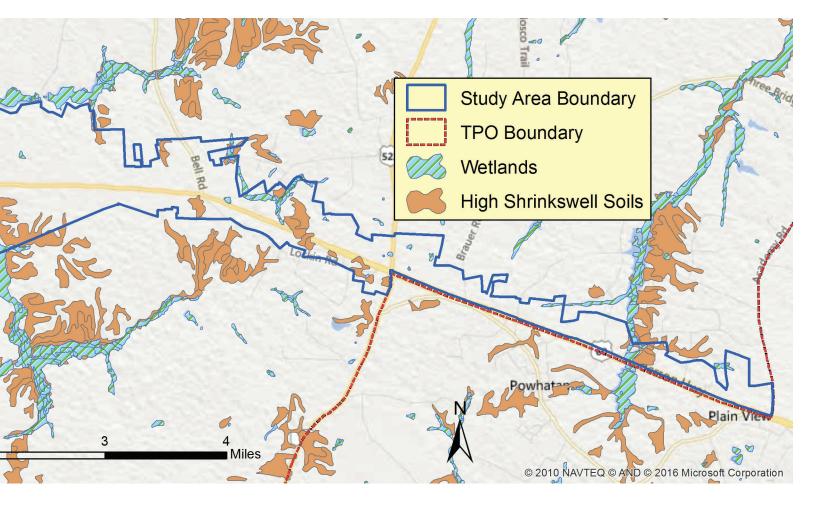
Both are limiting factors for development. Shrink-swell soils refer to the high degree of variability in soil depending on moisture content. Soil expands when wet and contracts when dry, causing damage to the foundations of buildings, as well as utilities and septic systems.

Wetlands are governed by state and federal regulations, requiring additional permitting if impacted by development.

However, even given these conditions, the area identified as a development area has few insurmountable natural constraints to development.







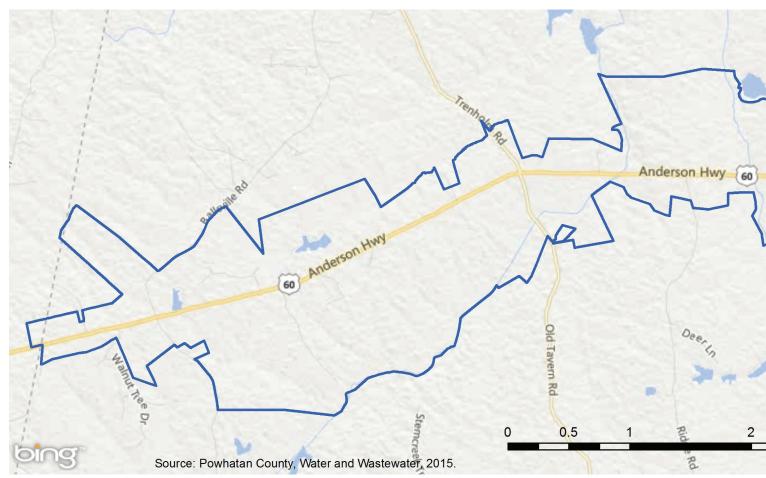


## Water and Sewer

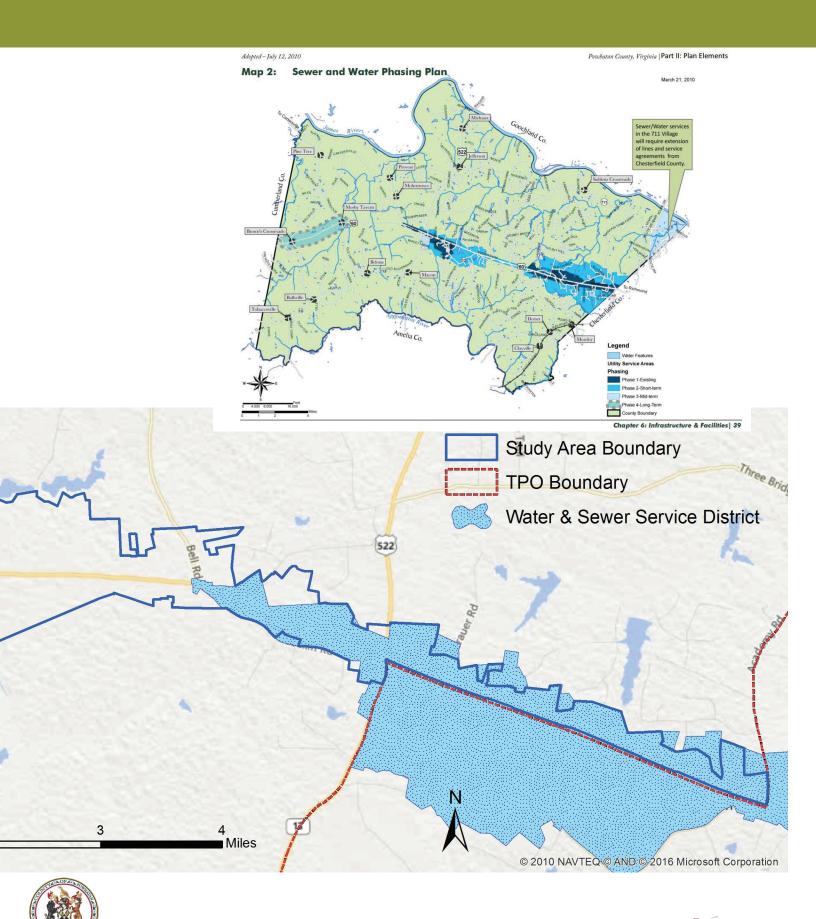
The map to the right is taken from the County's Comprehensive Plan, adopted in July 2010. The map shows existing public water and sewer service area, as well as short–, mid– and long-term phasing. In the study area, between Rte 522 and Bell Rd, there are parcels served by water and sewer on both sides of the road.

The County plans on phasing water and sewer service to three areas along the Route 60 corridor, including expanding service in the easternmost portion of Route 60 in the county, the Courthouse Village Area, a small area on the south side of the Route 60/Route 522 intersection, and eventually along the westernmost portion of Route 60 in the County from Mosby Tavern to Brown's Crossroads. In this study area, there is some existing service, and planned expansion in every phase.

The map below shows water and sewer service in the study area currently, with water outlined in blue and sewer designated with brown hatching.



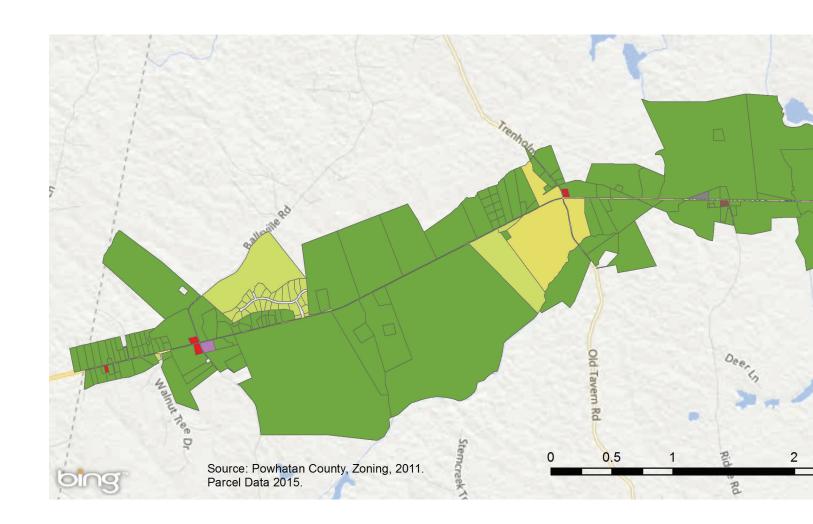




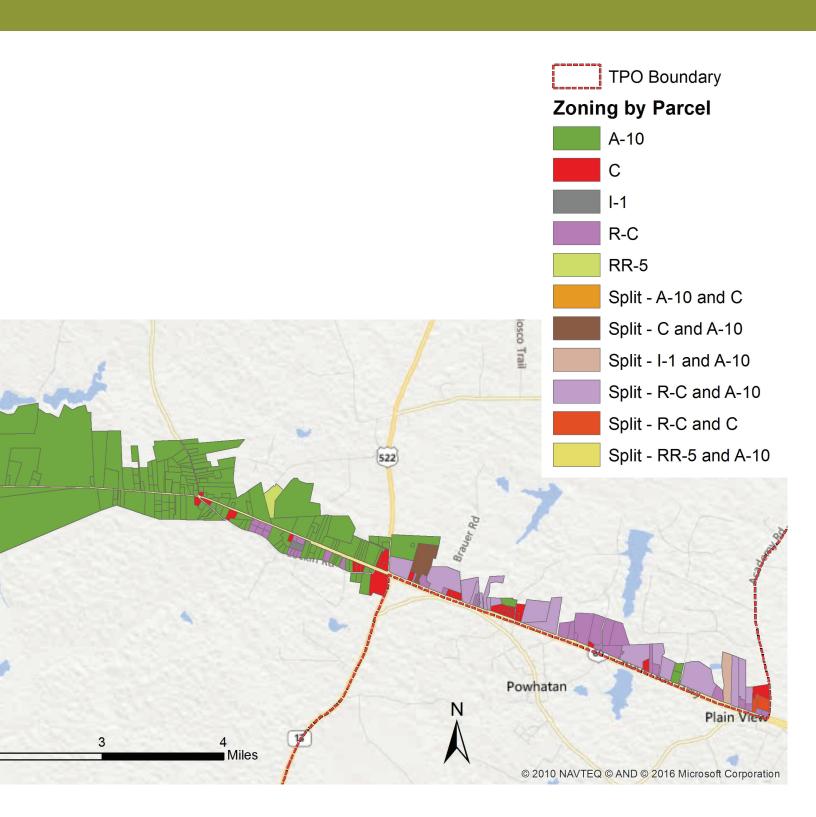
## Zoning

The majority of the land in the corridor is zoned A-10, or Agricultural with a minimum lot size of 10 acres. There are several parcels zoned Rural Residential (RR-5), which reflects suburban-style subdivisions with 2 acre minimum lots, the average lot being 5 acres. There are two parcels zoned I-1 in the corridor: one just west of Ridge Road and one west of Lockin Road, set off of Route 60. In the Courthouse area east of Maidens Road much of the land is zoned Residential-Commercial (R-C) or Commercial (C).

There are many parcels, especially in the Courthouse area, which are zoned in two different categories.









## Split Parcels

Because of a uniformly applied zoning classification extending 500 feet from either side of Route 60 east of Route 522, there are a number of split parcels in the study area. The below map shows all split parcels highlighted in blue.

The classification "Residential-Commercial" or R-C was applied 500 feet from either side of the corridor in the Courthouse area. The division of the study area by the TPO boundary means that only parcels north of Route 60 in the Courthouse area are in the study area for the purpose of this study.

The County zoning ordinance states that no parcel should have more than one zoning classification. Sec. 83-105 (b) (1) reads: "Changes made in zoning district boundaries on the zoning district map shall not result in two or more zoning district classifications on an individual parcel of land".

Please see next page for zoning map that shows split parcels.









# Split Parcels

This map is enlarged to show the Courthouse area of the study area with split parcels symbolized. In total in the study area, there are:

2 parcels split between Commercial (C) and Agricultural (A-10)

1 parcel split between Industrial (I-1) and Agrichtural (A-10)

18 parcels split between Residential-Commercial (R-C) and Agricultural (A-10)

2 parcels split between Residential-Commercial (R-C) and Commercial (C)

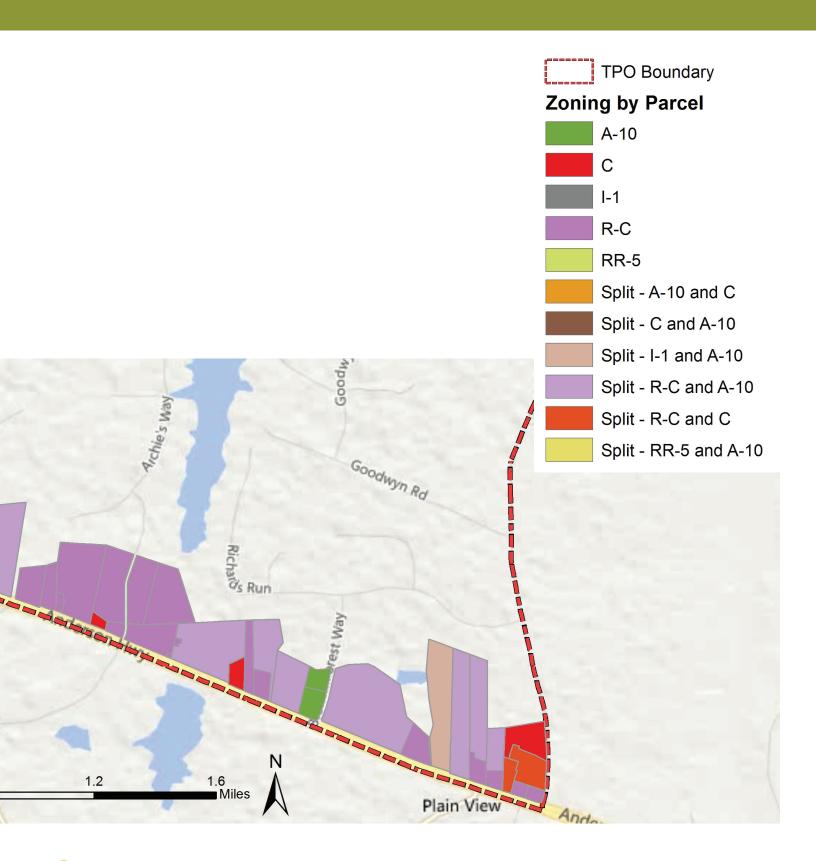
1 parcels split between Rural Residential (RR-5) and Agricultural (A-10)

Each parcel with split zoning must be addressed in order to comply with the legal requirements of the zoning ordinance.

Currently, the County allows development of split parcels as long as the development is contained within the appropriate zoning district.









# Non-Conforming Parcels

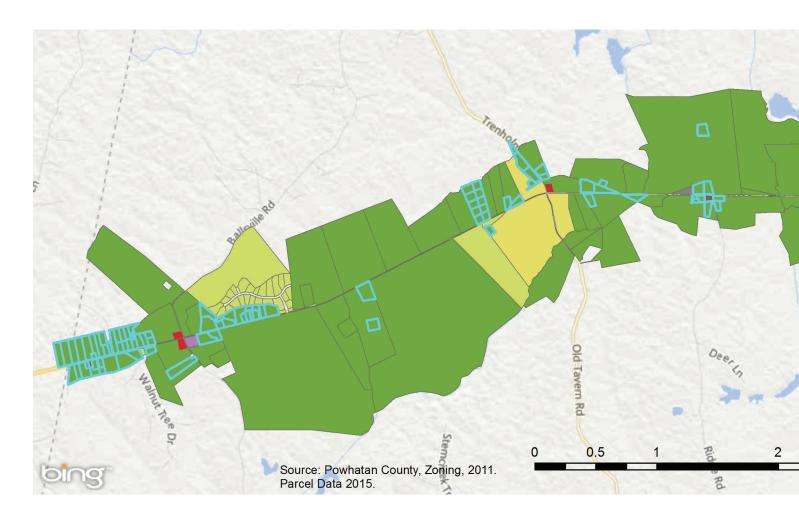
There are a number of parcels in the study area which are zoned A-10 (minimum lot size 10 acres) but are smaller than 10 acres. This makes them non-conforming because they cannot currently be legally built upon according to the zoning ordinance.

There are 218 total parcels zoned A-10 and less than 10 acres. See parcels on below map highlighted in blue outline.

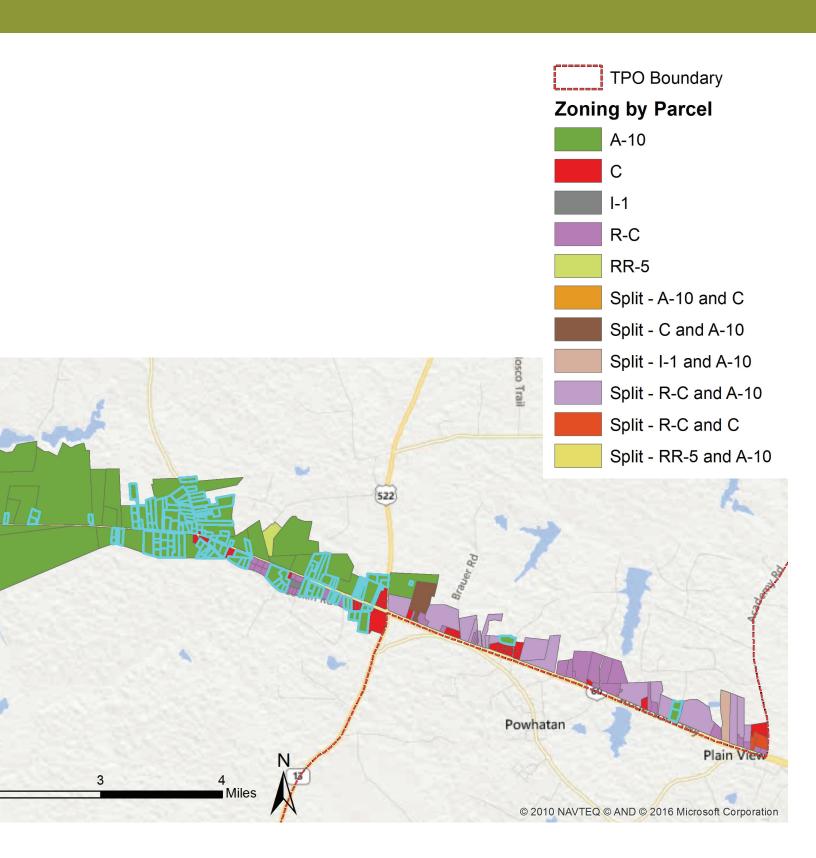
Each parcel currently smaller than zoning requirements allow must be addressed, in order to prevent the property owner from losing the value of his or her property.

Currently, the County allows the development of non-conforming lots provided that setbacks and development standards are met.

Note: the majority of non-comforming parcels in A-10 were split before the current zoning ordinance was adopted in 2014.









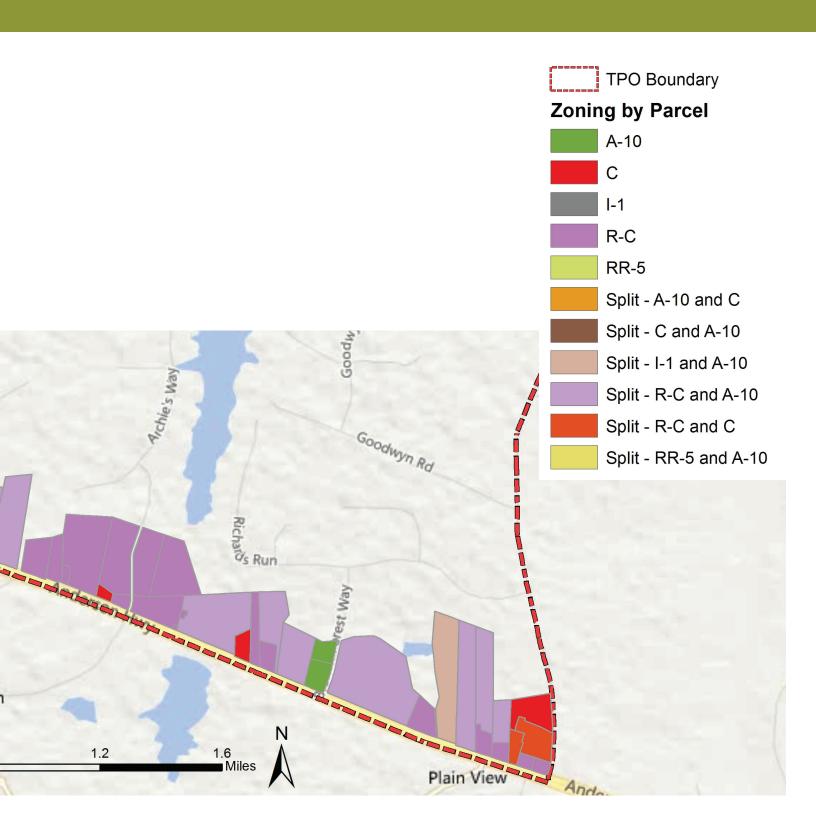
# Non-Conforming Parcels

Of the 218 total parcels in the study area there are 146 parcels zoned A-10 and between 2 and 10 acres.

There are other zoning classifications which can be applied to these parcels so that they can still be developed for residential or commercial use.





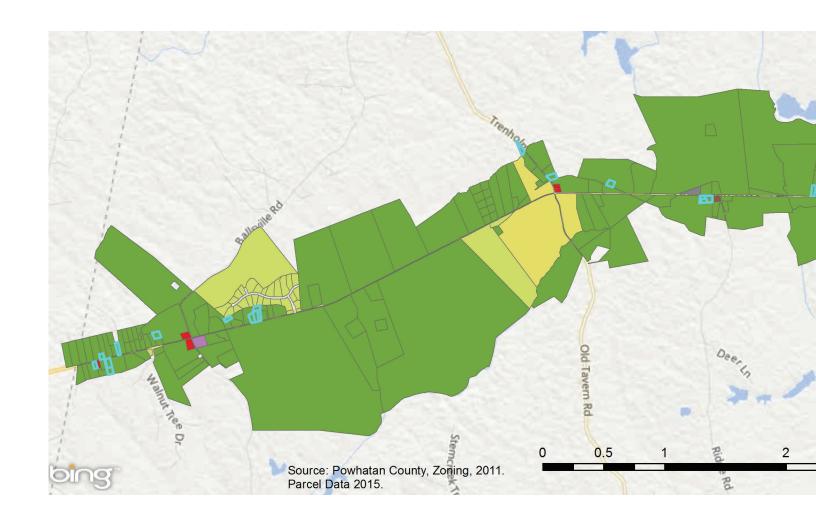




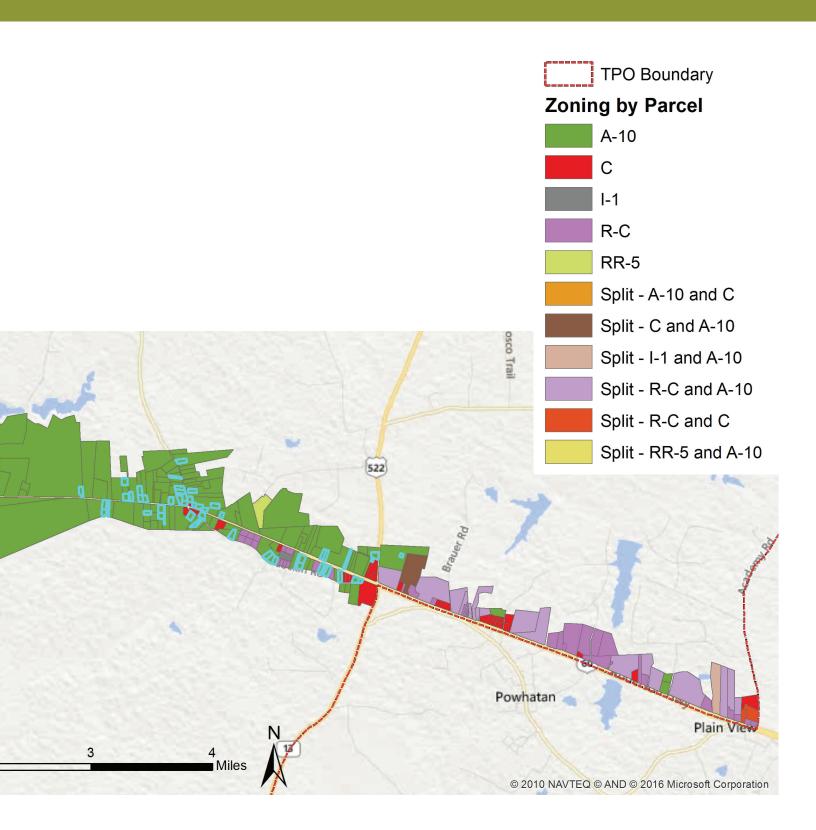
#### Non-Conforming Parcels

There are 72 parcels in the study area which are zoned A-10 but are actually less than 2 acres. Of these parcels, approximately 30 parcels are not built upon.

This puts a limiting factor on development. The County's Subdivision Ordinance requires the installation of two (2) septic tanks in series and a 100% drainfield reserve area to be provided, which does limit the development area of parcels. The requirement applies to undeveloped parcels that have already been subdivided.











# CONCLUSION AND RECOMMENDATIONS

The expectations that increased development in Chesterfield, eastern Powhatan and Cumberland Counties will increase traffic and created congestion points along the study area corridor are not as projected.

Traffic will increase somewhat in the coming decades, but likely will not created unacceptable levels of congestion.

However, responsible development, including but not limited to shared driveways and access roads for new residential development, will ensure that traffic continues to be minimal in the corridor.

There are a number of discordant elements which will prevent the corridor from being developed in a manner that is consistent with the County's wishes as outlined in the Comprehensive Plan, such as smaller subdivided parcels and split zoning. Adjusting zoning and creating a plan for development on non-conforming parcels will help the County ensure that future development does not detract from the current rural character of the road.





### Enforce screening requirements in landscaping to protect rural character

The County's subdivision ordinance makes the following provision (Sec 6.4-3.1) for new interior roads in subdivisions:

"A subdivision on an existing public road shall have access limited through one of the following means:

A. Full access for subdivision lots shall be provided by an interior subdivision road owned and maintained by VDOT. A minimum of fifty (50) foot buffer along an existing public road shall be required with existing or enhanced screening or landscaping approved by the Director; or (see item #2 below)"

The legal framework for screening requirements has been set and is at the discretion of the Director. However, attention should be paid to new development on existing unbuilt lots to ensure that proper screening is applied. There is no requirement in the existing zoning ordinance that requires screens or buffers. In fact, Rural Residential-5 (RR-5) requires that open spaces are left in view of the roadway.





#### Screening

Vegetative screens or buffers can make a big difference when it comes to promoting development while preserving the rural character of the corridor.

The images below show a very good example of existing screening of residential property in the corridor. From the road, all that is visible are trees and accompanying undergrowth, serving to both preserve the impression of a rural, natural corridor as well as insulate the homeowner from traffic and noise.



The image below shows an existing industrial use along the corridor.



The image below shows the same parcel with a vegetative buffer.





## Encourage Commercial Development at Crossroads

At this point, the Comprehensive Plan and Zoning all state slightly different objectives at nodes. (show little maps)

The Countywide Land Use Plan map in the Comprehensive Plan shows Mosby Tavern and Brown's Crossroads as one of nine "Crossroads" in the County, defined as intersections which have historically been comprised of a small mix of commercial, residential and institutional uses.

The first image below shows an exerpt from the Countywide Land Use Plan map, showing "Crossroads" as a pink circle around the intersection. The second image below is an exerpt from the zoning layer in GIS, showing the two existing commercial parcels at the northeast quadrant as commercial, with the remaining as agricultural. This is as it should be, given the size of the existing agricultural parcels.

However, to encourage commercial development at nodes, create pathways for subdividing a small parcel from large, agriculturally-zoned parcels at Crossroads and rezoning to commercial.

(Note that Crossroads (CR) District exists in Zoning Ordinance but is not applied to Crossroads as yet.)





## Reconcile Split Zoning

Pages 30-33 of this document display maps of multiple split parcels which were created as a result of a uniform buffer zone placed over existing parcels. According to are not in compliance with the zoning ordinance, which states that "changes made in zoning district boundaries on the Zoning District Map shall not result in two or more zoning district classifications on an individual parcel of land". Each parcel should be evaluated to determine which classification should be applied to the entire parcel, or if an individual plan for the parcel justifies the maintenance of split zoning.



#### Limit number of driveways in new development

The County's subdivision ordinance makes the following provision (Sec 6.4-3.1) for new interior roads in subdivisions:

"A subdivision on an existing public road shall have access limited through one of the following means: B. Access to the public highway shall not be more than one access per every five hundred (500) feet. If more than one lot occurs within the five hundred (500) foot access minimum, a shared access road or adjacent paired entrances will be provided. The shared access road is accepted from private road review as required in other portions of this ordinance."

The legal framework has also been set for limiting driveways in new subdivisions, but attention should be paid to new development on existing unbuilt lots. There is no requirement in the existing zoning specifications for A-10 or RR-5 for placement of number of driveways, and VDOT Access Management Regulations make no specifications for shared residential driveways.

For example, the image to the right shows three undeveloped parcels at the far western extent of the County. If each parcel were developed, a driveway in the middle of each parcel would put them roughly 300 feet apart.

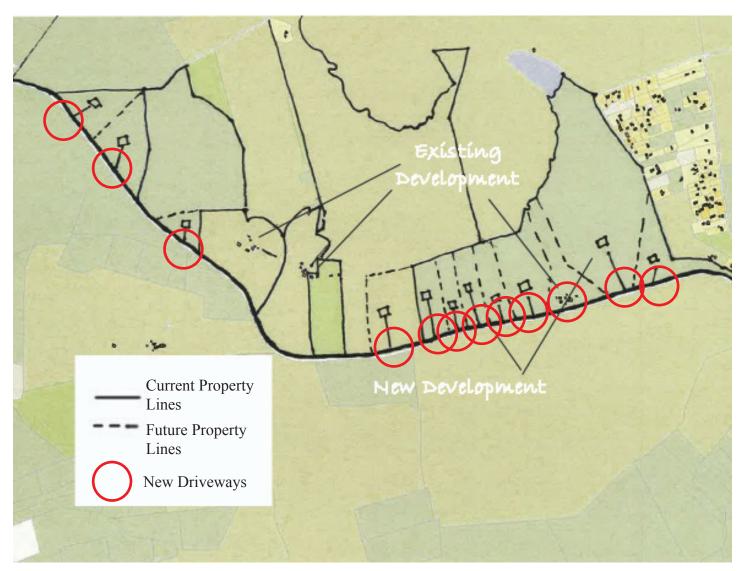




#### Limited Driveways

Limiting the number of new driveways in new development as it occurs is the most significant method of managing access and in ensuring that new development does not negatively affect traffic flow in the corridor. Each time a vehicle slows down to turn into a driveway, traffic slows. The more driveways there are, the more congestion will occur along that section of roadway. Limiting driveways allows traffic to flow more freely.

The two images below show two different development scenarios. The first shows each newly developed parcel with its own driveway. Solid lines denote existing property lines and dashed lines indicate new, subdivided parcels. This is possible on the corridor, however there are also enough small parcels along the corridor that can be developed without subdividing larger parcels.





Each of the below scenarios shows 12 new houses. However, the first also shows 12 new driveways, while the second uses shared driveways and an access road, lowering the number of new driveways to three.

The scenario depicted in the second drawing would allow far greater ease of vehicular movement along the roadway.

This method is supported by the Virginia Department of Transportation's (VDOT's) Access Management Regulations. See Sec 24VAC30-73-70.6: "The use of a shared entrance between adjacent property owners shall be the preferred method of access."

