



# STAFF REPORT

<b>PC Meeting Date:</b>	February 17, 2020
<b>Agenda Title:</b>	Comprehensive Plan Amendment #CPA2017-00009, Route 29 Small Area Plan
<b>District Impact:</b>	Brentsville Magisterial Districts
<b>Requested Action:</b>	Recommend Adoption of Comprehensive Plan Amendment #CPA2017-00009, Route 29 Small Area Plan
<b>Department:</b>	Planning
<b>Case Planner:</b>	Bryce Barrett

## **EXECUTIVE SUMMARY**

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The Route 29 Small Area Plan further refines the intent and goals of the I-66/Route 29 Sector plan and provides flexibility to address changes in the marketability of office development and proposes a new vision for the Route 29 Corridor. The predominant land use goal of the plan is to maintain a focus on the area's residential, retail, office and cultural assets, while building upon and connecting each element to create a series of cohesive, pedestrian-friendly neighborhoods.

It is the recommendation of staff that the Planning Commission recommend approval of Comprehensive Plan Amendment #CPA2017-00009, Route 29 Small Area Plan, to the Board of County Supervisors.

## BACKGROUND

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- A. Initiation of Comprehensive Plan Update – Under Section 15.2-2229 of the Virginia Code, the Board of County Supervisors may consider amendments to the Comprehensive Plan. On March 21, 2016, the Board initiated a comprehensive plan amendment for the Zetlin Property with an expanded study area to develop a small area plan. (Attachment – BOCS Initiating Resolution).
- B. Previous Plans and Studies – The I-66/Route 29 Sector Plan was adopted on August 6, 2002. The latest version was updated on March 18, 2008 as part of the Comprehensive Plan Technical update. Route 29 Small Area Plan is an update for a portion of the I-66/Route 29 Sector Plan, which identified new opportunities and assessed land use near the I-66 and Route 29 interchange.
- C. Small Area Plans – Small area plans provide greater emphasis on detailed planning, visioning, economic development, and design to develop plans that represent each study area with its own character, vision, and implementation strategy. Small area plans provide opportunities to direct growth to key locations in the County, to provide protection of environmental and cultural resources, and to ensure quality, mixed-use development.
- D. Purpose of the Small Area Plan – The Small Area Plan serves as a basis for the long-term vision for future growth in the Route 29 corridor. The vision and goals of the Small Area Plan are realized through the completion of the action items established in the Plan. The Plan has been prepared to be supportive of existing residential and commercial uses, while creating coordinated areas of nonresidential development and setting expectations for residential density and form in a manner sensitive to adjacent uses and historic resources. The Plan also protects and celebrates the cultural and environmental assets of the area. The Route 29 Small Area Plan is an opportunity to not only improve transportation pedestrian and bike mobility, but also propose recommendations to provide preservation measures for existing cultural resources, incentivize development that is appropriate/compatible and to scale with surrounding existing land uses, ensure appropriate infrastructure, and increase private investment.
- E. Small Area Plan Location – The small area plan generally encompasses approximately 865.5 acres of land that is located in between U.S. Highway 15 and Interstate 66. The area is bisected by the Lee Highway (Route 29). Approximately ½ mile west of the study area is James Madison Highway (Route 15), while to the east lies Interstate 66 and John Marshall Highway (Route 55). There are several two-lane roads such as Carver Road, and Old Carolina Road that weave into the study area from the north and intersect with Route 29 within the study area.
- F. Organization of the Plan – The Small Area Plan consists of eight major components which are identified below and follow an extensive existing conditions and data analysis that sets the foundation upon which the plan is built.

1. Vision and Thematic Principles – Establishes the long-term vision and supporting goals for the creation and guidance of the Route 29 Small Area Plan.
2. Placetypes – Consists of a land use plan with development standards including density, form, and layout. The transect identifies the relationship between density and mobility.
3. Design Elements – Illustrates design concepts and exhibits to ensure high-quality design to help visualize and achieve the intended vision of the small Area Plan.
4. Mobility Plan – Mobility has a close relationship with land use. This plan calls for multi-modal mobility that interfaces with potential future development. The multi-modal component of this SAP includes pedestrian and bike facilities that connect existing and future residential development with nonresidential areas.
5. Green Infrastructure Plan – Encourages open space, active recreation, and passive recreation to be established within the project area. With people living, working, and playing in the Route 29 corridor, there is a demand for outdoor spaces and a requirement for environmental protection.
6. Cultural Resources Plan – Plans for the identification The Settlement area and preservation of architectural and archaeological sites, historic districts, cemeteries, battlefields, cultural landscapes, museum objects, and archival materials in the study area.
7. Economic Development Plan – Encourages the attraction and retention of diverse high-quality businesses and services that strengthen the economic vitality of this area.
8. Level of Service Plan – As the Route 29 SAP changes and grows over the next 20 years, it is necessary to ensure that level-of-service infrastructure improvements are programmed in the plan.

The Implementation Plan section activates the plan, so that action strategies are implemented in the short, mid, long term, and ongoing time frames to ensure the plan is actualized by 2040.

- G. Proposed Comprehensive Plan Amendment – The Route 29 Small Area Plan is intended to replace a portion of the 2008 I-66/Route 29 Sector Plan and be incorporated into the Comprehensive Plan.
- H. Public Participation Process – The Route 29 Small Area Plan benefitted from extensive public participation including:

1. Stakeholder meetings in the community on June 7, 2017, June 14, 2017, and September 21, 2017. Participants discussed transportation, cultural resources, land use, fire and police, economic development, and parks/open space.
2. A community charrette was conducted on January 13, 2018. Members of the public examined existing assets and liabilities within the area, discussed visual preferences to establish goals and objectives, executed a SWOT (strengths, weaknesses, opportunities, and threats) exercise, began to draft plan alternatives, and discussed next steps.
3. A community meeting was held on September 12, 2018 with the Alliance to Save Carver Road to discuss alternatives.
4. Additionally, on February 27, 2019, a public town hall meeting was held to discuss the road network in the area of the Route 29 Small Area Plan. Specifically, the premise of the meeting was to gather public input on the local road network in and near the historic Carver Road community and The Settlement.

Comments provided during the public meetings have been addressed in the attached Plan.

- I. Historical Commission Meeting – The Route 29 Small Area Plan was reviewed by the Prince William County Historical Commission at their regularly scheduled meeting on July 9, 2019. (Resolutions attached).
- J. Planning Commission Public Meeting/Work Sessions – The Route 29 Small Area Plan draft was presented to the Planning Commission for discussion during a public meeting and work session on the following dates:
  1. June 19, 2019 – Presentation introduced the elements of the Small Area Plan and feedback was provided by Planning Commissioners and citizens.
  2. July 10, 2019 – Presentation intended to clarify the differences between proposed Options and to show the estimated reductions between the existing comprehensive plan and proposed land uses contained in Options A & B relative to dwelling units, vehicle trips, nonresidential GFA, students generated. Feedback was provided by Planning Commissioners and citizens.
  3. July 24, 2019 – Presentation provided an update on the changes to the plan that were being developed, reviewed the differences between options, and provided findings as to the anticipated Levels of Service along Old Carolina Road under Options A & B. Feedback was provided by Planning Commissioners and citizens.
- K. Settlement Area Directive – Staff was directed at the September 22, 2020 Board of County Supervisors Hearing to down plan the area known as the Settlement, which is comprised of the entire triangle bordered by Route 29, Old Carolina Road and Carver Road, including both sides of Carver Road and Old Carolina Road, to ensure the preservation of the historic

community formed by freed slaves and ensure local plans support maintaining the integrity of the area for future generations. This would include down planning of both development potential (Long-Range Land Use Plan) and roads, specifically Old Carolina Road, Carver Road, McGraw's Corner Drive extended and Thoroughfare Road. The attached Plan shows a down planning of potential development around the settlement area including the proposed land use, redesignation of Carver Road and Thoroughfare Road as 2-lane local streets, and removing McGraw's Corner Drive on the west side of Somerset Crossing. Old Carolina Road is recommended to be evaluated for a modification of the typical right-of-way requirements of the major collector designation.

- L. Prior Planning Commission Public Hearing – The Planning Commission duly ordered, advertised, and held a public hearing on September 18, 2019, at which time public testimony was received and the merits of plan were considered; the Planning Commission recommended to defer the Route 29 Small Area Plan to a date uncertain. (Res. No. 19 -097 attached)
- M. Planning Commission Public Hearing – The Planning Commission duly ordered and advertised a public hearing for December 16, 2020. On December 9, 2020 the Planning Commission moved to defer the Route 29 Small Area plan to a date certain of February 17, 2021. (Res. No. 20-096 attached)

#### **STAFF RECOMMENDATION**

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The Planning Office recommends adoption of Comprehensive Plan Amendment #CPA2017-00009, Route 29 Small Area Plan into the Comprehensive Plan. The proposed amendment is supported by staff for the following reasons:

- The predominant land use goal of the plan is to maintain a focus on the area's residential, retail, office and cultural assets, while building upon and connecting each element to create a series of cohesive, pedestrian-friendly neighborhoods.
- The elements of the plan represent a blend of the feedback provided by the community, planning and smart growth principles, and necessary updates to existing Comprehensive Plan.
- Based on the majority of the feedback provided by the community and the Settlement Area directive, the proposed small area plan includes a significant downplanning from the existing planned land uses and road network, including reducing the overall density within the settlement area and down planning Carver Road, McGraw's Corner Drive extended and Thoroughfare Road to the local street designation. Old Carolina Road is being recommended to remain a minor collector with a reduced right of way requirement based on the level of service impact analysis.
- The Plan includes goals and policies geared toward identifying and protecting the area's significant historical and cultural resources, in particular, the plan identifies the Settlement area, Mount Pleasant Baptist Church, and Shady Inn Dance Hall.

- The Plan provides detailed guidance and implementation strategies for the development of an important area of the County.
- The Plan supports and furthers the County Smart Growth Principles in accordance with the Comprehensive Plan.
- The Plan results from extensive public participation from citizens.

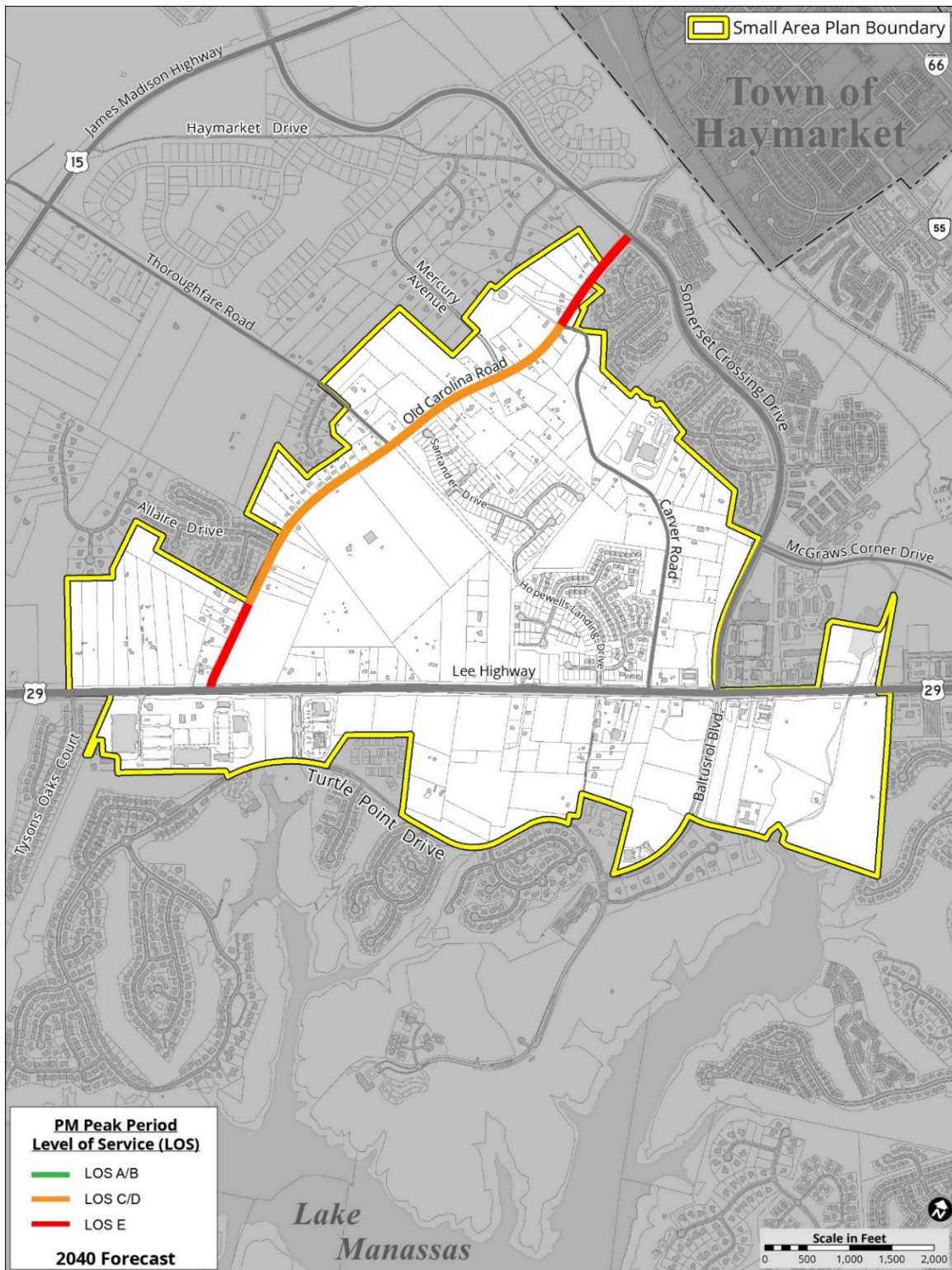
### **Policy**

The Small Area Plan further refines the intent and goals of the I-66/Route 29 Sector plan and provides flexibility to address changes in the marketability of office development and proposes a new vision for the Route 29 Corridor. The predominant land use goal of the plan is to maintain a focus on the area's residential, retail, office and cultural assets, while building upon and connecting each element to create a series of cohesive, pedestrian-friendly neighborhoods.

- Mixed-Use – *Mix land uses in the Development Area.* The Small Area Plan provides for a mix of uses, which is critical in reducing vehicle miles traveled by providing residents and workers with opportunities to walk for many of their trips.
- Compact Design – *Take advantage of compact, environmentally friendly and energy efficient building design.* The Small Area Plan creates coordinated areas of nonresidential development, sets expectations for residential density and form, and encourages an area of compact mixed-use development.
- Diversity of Housing – *Create a range of housing opportunities and choices.* The Small Area Plan is supportive of a diversity of housing by allowing for an area of mixed-use multi-family housing with ground floor commercial development. Additionally, the plan is supportive of preserving the existing single-family detached development pattern in the area, with areas of suburban and semi-rural densities.
- Pedestrian-friendly – *Create walkable neighborhoods.* The Small Area Plan focuses attention on creating a walkable community through design of the streetscape, the proposed street designs promote walkability and bicycle connectivity.
- Sense of Place – *Foster distinctive, attractive communities with a strong sense of place.* The Small Area Plan incorporates the elements necessary for guiding development that is reflective of the area's rich history, existing development pattern, promotes connectivity, and supports a high quality of life throughout the project area.
- Preserve Open Space – *Preserve open space, farmland, cultural resources, natural beauty, and critical environmental areas.* The Small Area Plan includes a green infrastructure plan and cultural resources plan that not only provides for preservation of environmental and cultural resources but provides strategies to build on and enhance open spaces in the study area.

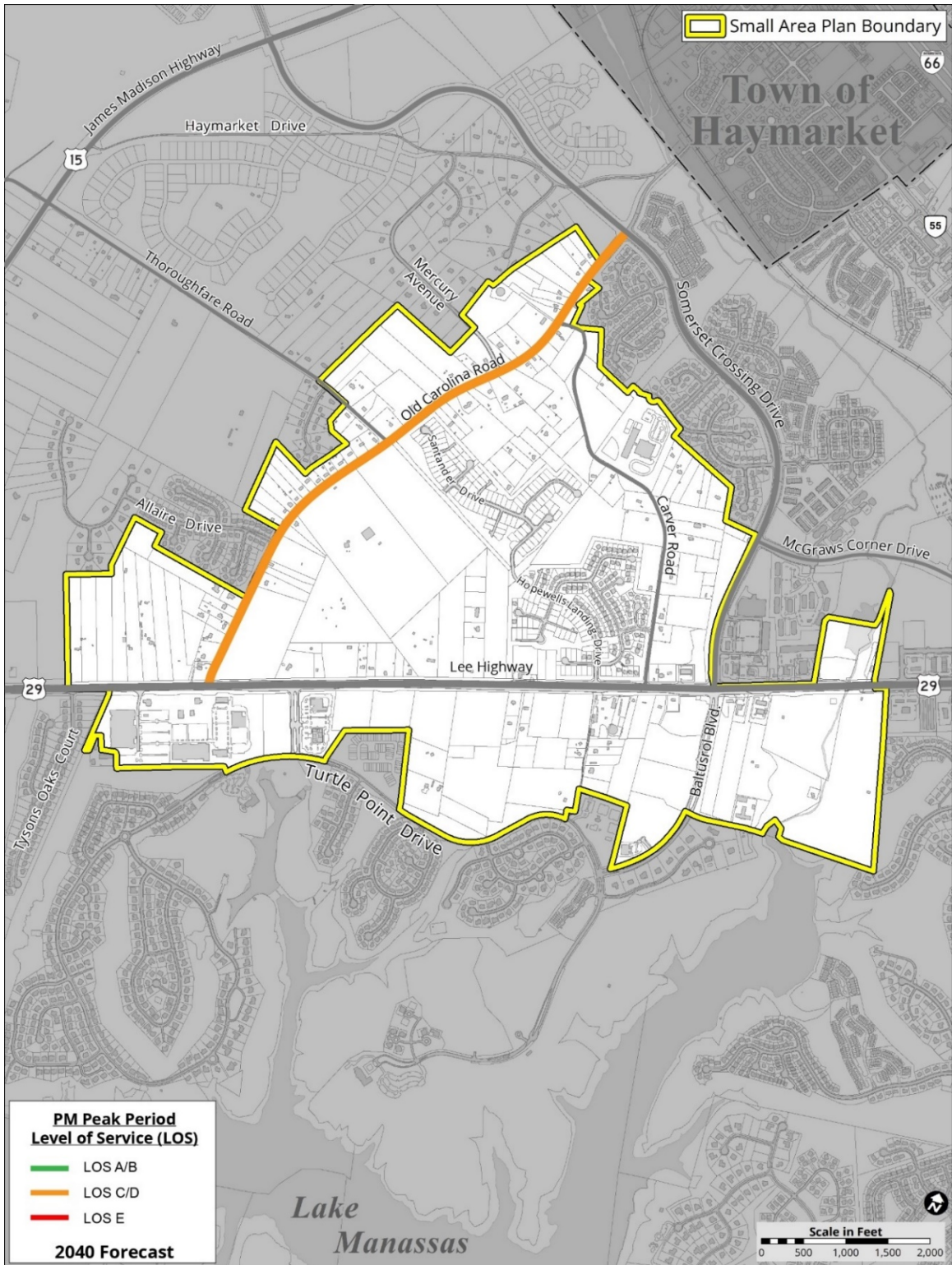
- Using Existing Infrastructure Investments – *Strengthen and direct development towards existing communities and infrastructure.* The Route 29 Small Area Plan is located within the Development Area of the County, and is served by existing roads, power, sewer, and water.
- Multimodal – *Provide a variety of transportation choices.* The Mobility section of the Small Area Plan addresses the proximity of U.S. Highway 15, access to I-66, and the benefits of transit service from the Broad Run/Manassas Station which is approximately 9 miles southeast. PRTC provides OmniRide Express eastbound commuter bus service from the Haymarket Heathcote Commuter Lot, the Gainesville Limestone Commuter Lot, and the Cushing Road Commuter Lot.
- Old Carolina Road Study - A traffic study was completed to assess travel demands and resulting capacity requirements for Old Carolina Road between US Route 29 and the Town of Haymarket based on proposed downplanning within the plan. Key study activities included making changes to demographic data and roadway travel lane assumptions in the Prince William County Travel Demand Model (TDM) and reporting capacity analysis results based on resulting traffic forecasts. The generalized area covered for this analysis is bound by US 15, US 29, and the Broad Run North Fork. The findings from the study indicated a PM Peak Period condition of LOS E along segments of Old Carolina Road (see exhibits below) if Old Carolina Road remains as a 2-lane road. If Old Carolina Road is planned as a 4-lane road the study indicated a PM peak Period condition of LOS D. The minimum LOS acceptable for roadways and intersections in Prince William County is LOS D.

Old Carolina Road – 2-Lane Road with failing LOS along segments (red)





Old Carolina Road - 4-Lane with acceptable LOS (orange)



### **Community Input**

The Small Area Plan process included research, stakeholder and public engagement, and visioning, leading to the final plan. As required by Section 15.2-2225, Code of Virginia, notice of the Comprehensive Plan Amendment (CPA) has been advertised and proposed amendments have been published on the Prince William County government web site and have been available in the Planning Office. Additionally, eNotifications were sent to all who subscribe to PWC Alerts. Public meetings and work sessions were held on three evenings, June 19, 2019, July 10, 2019, and July 24, 2019. Additionally, the Planning Office received feedback during the Comprehensive Plan Update Community Conversations meetings held on October 30, 2018, November 13, 2018, and November 14, 2018. The comments provided at the public meetings have been considered in the proposed amendment.

### **Other Jurisdiction Comments**

Adjacent jurisdictions were provided notifications to review and provide comments. Their comments have been incorporated into the Plan.

### **Legal Issues**

In accordance with Section 15.2-2223, the Small Area Plan will provide guidance for future rezoning and special use permit applications as well as any future infrastructure improvements needed.

### **Timing**

Section 15.2-2229, Code of Virginia allows that if the governing body desires an amendment, it may prepare such an amendment and refer it to the local planning commission for public hearing within 60 days after written request by the governing body or direct the local planning commission to prepare an amendment and submit it to the public hearing within 60 days or such longer timeframe as may be specified after written request by the governing body. A public hearing before the Planning Commission was advertised for December 16, 2020.

### **STAFF CONTACT INFORMATION**

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Bryce Barrett | (703) 792-8007  
BBarrett@pwcgov.org

## **ATTACHMENTS**

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Route 29 Draft Plan

Vicinity & Route 29 Maps

BOCS Initiating Resolution

Historical Commission Resolution

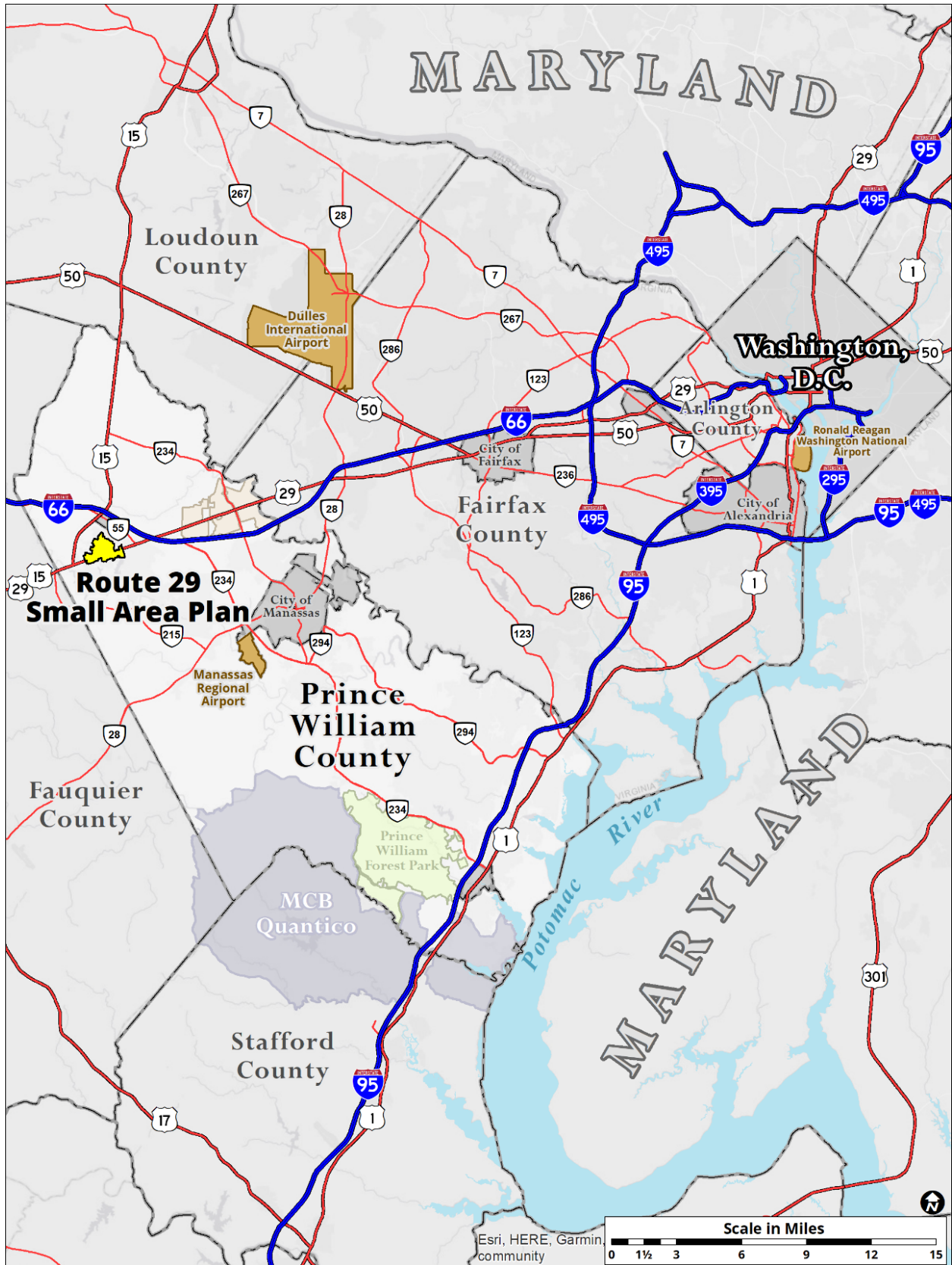
Planning Commission Resolutions

Memorandum – Old Carolina Road – September 5, 2019, by Parsons Corporation

Route 29 Plan is available online at [www.pwcgov.org/PlanUpdate](http://www.pwcgov.org/PlanUpdate)

Or

Link directly [here](#)



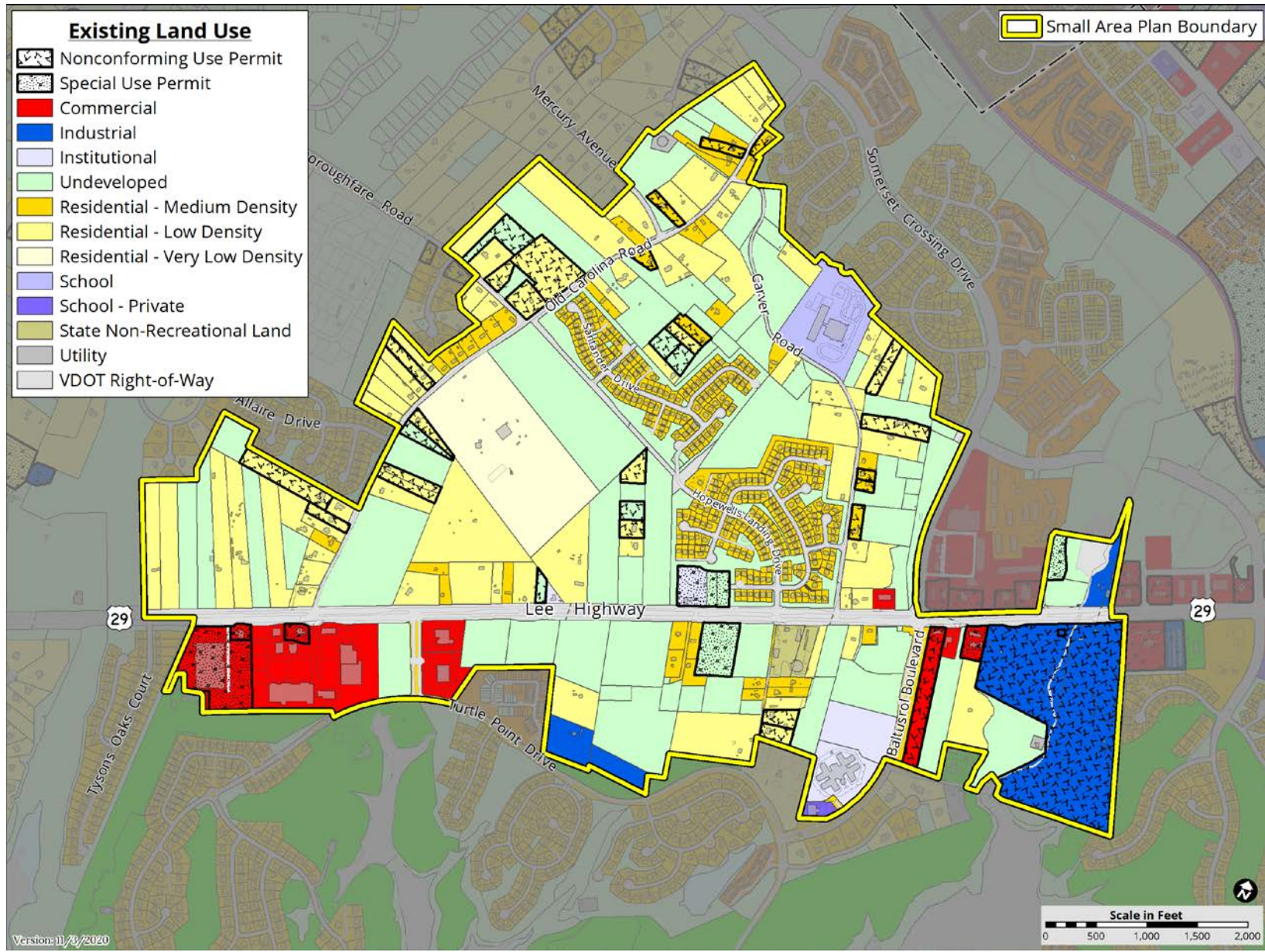


Boundary Map of Small Area Plan

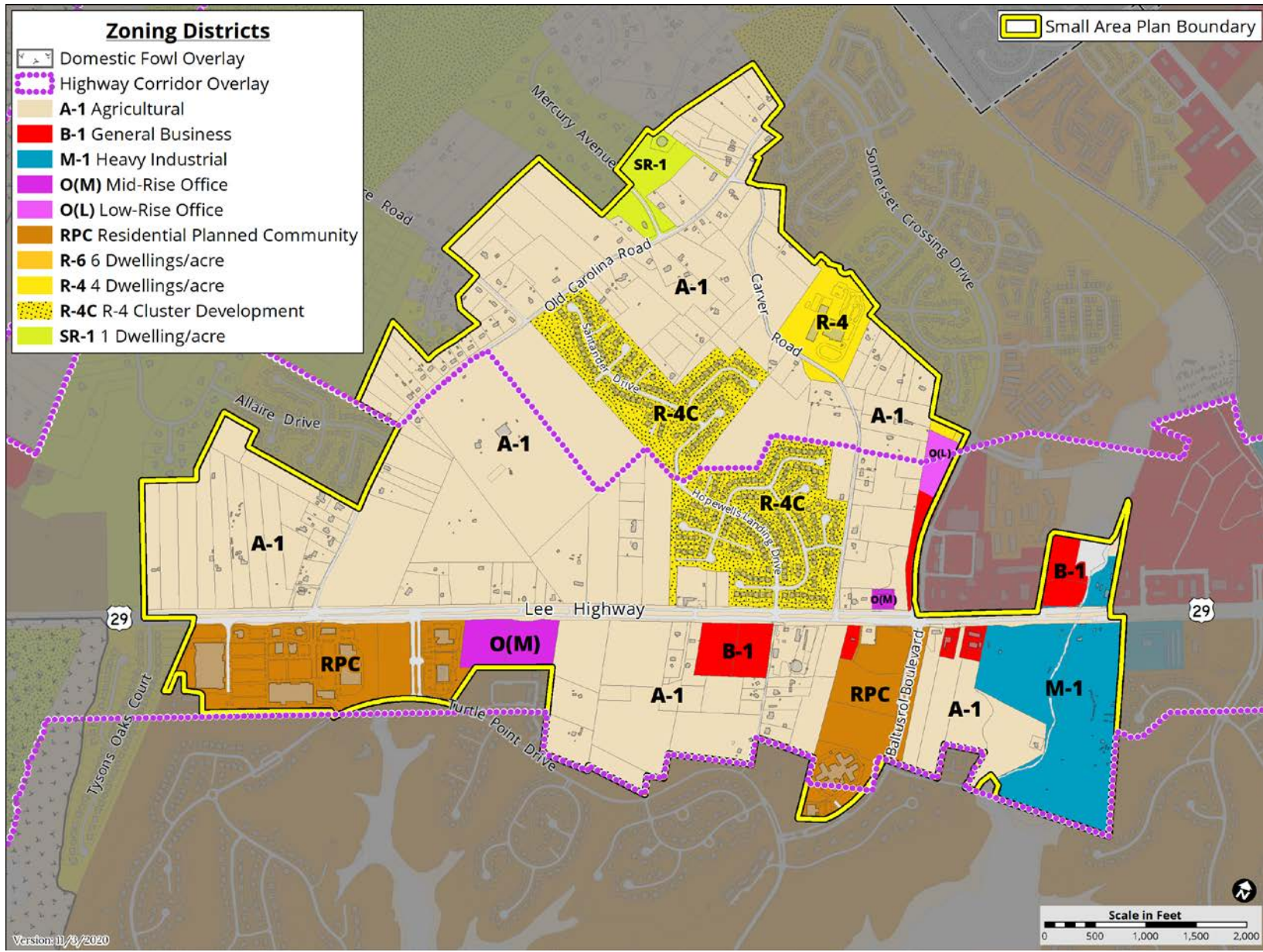




# Current Land Uses Map

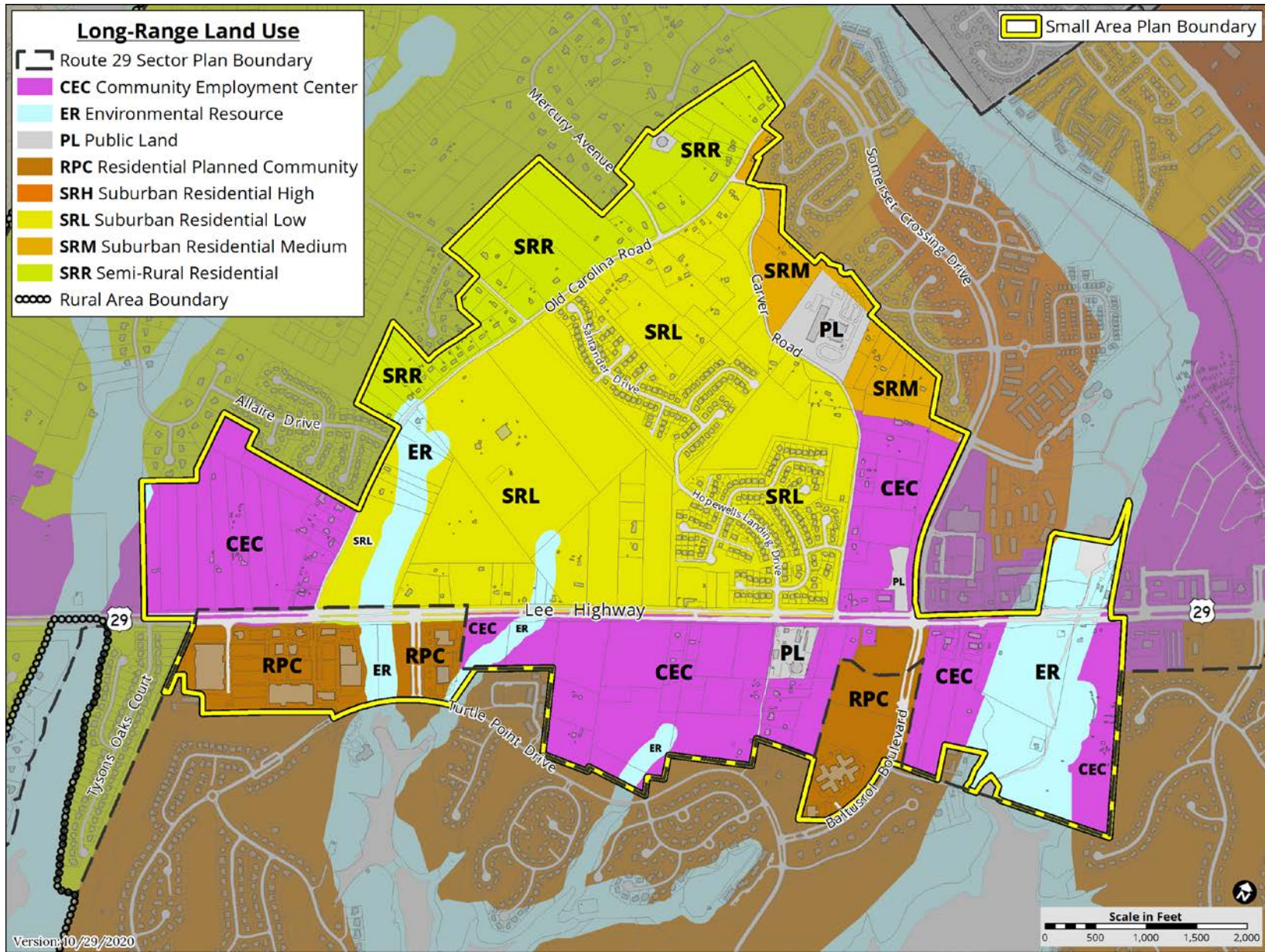






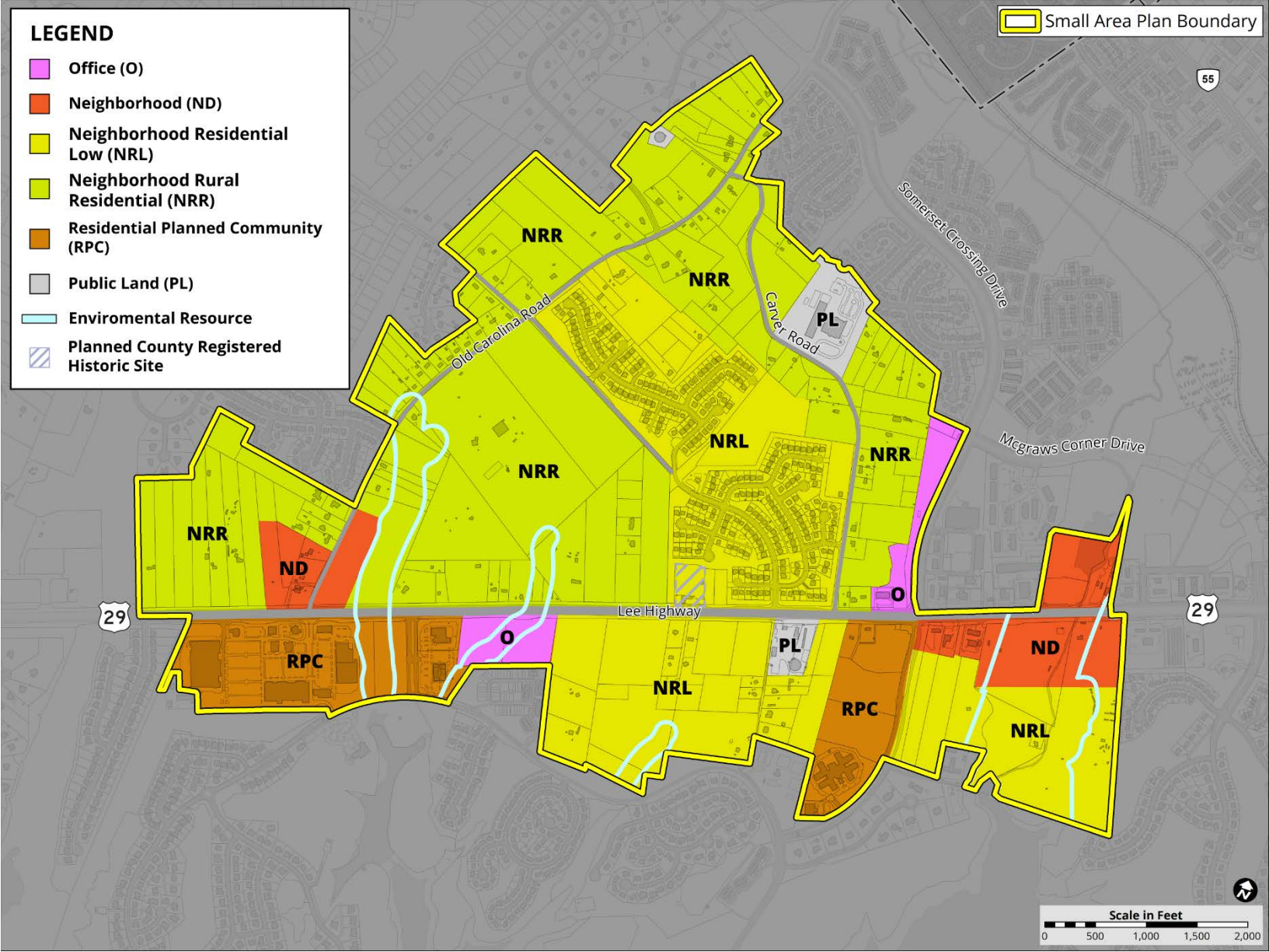


# Existing Long Range Use Designations Map





# Proposed Route 29 Small Area Plan Land Use Map



**BOCS Initiating Resolution**

**MOTION: LAWSON**

**March 21, 2017  
Regular Meeting  
Res. No. 17-128**

**SECOND: NOHE**

**RE: INITIATE A COMPREHENSIVE PLAN AMENDMENT FOR ZETLIN PROPERTY WITH AN EXPANDED STUDY AREA – BRENTSVILLE MAGISTERIAL DISTRICT**

**ACTION: APPROVED**

**WHEREAS**, under Section 15.2-2229 of the Virginia Code, the Board of County Supervisors may consider amendments to the Comprehensive Plan; and

**WHEREAS**, an application for an amendment to the Comprehensive Plan was received to change the Comprehensive Plan designation of approximately 17.12 acres, located immediately northeast of the intersection of Route 29 and Old Carolina Road; GPIN: 7297-51-5436, from SRL, Suburban Residential Low and ER, Environmental Resource to CEC, Commercial Employment Center and ER, Environmental Resource; and

**WHEREAS**, staff recommends an expanded study area to develop a small area plan for this corridor to include undeveloped land planned for Community Employment Center and Suburban Residential Low fronting on Route 29, Lee Highway; and

**WHEREAS**, a small area plan for this corridor can address issues about future land use, access and infrastructure needs in this area;

**NOW, THEREFORE, BE IT RESOLVED** that the Prince William Board of County Supervisors does hereby initiate a Comprehensive Plan amendment for Zetlin Property to change the land use from Suburban Residential Low (SRL) to Community Employment Center (CEC) with an expanded study area to include undeveloped land planned for Community Employment Center and Suburban Residential Low fronting on Route 29, Lee Highway.

**Votes:**

**Ayes:** Anderson, Candland, Jenkins, Lawson, Nohe, Principi, Stewart

**Nays:** None

**Absent from Vote:** None

**Absent from Meeting:** Caddigan

**For Information:**

Planning Director

**ATTEST:**

  
Clerk to the Board

# Historical Commission Resolution

## HISTORICAL COMMISSION RESOLUTION

**MOTION: ERHART**

**July 9, 2019  
Regular Meeting  
Res. No. 19-037**

**SECOND: JOHNS**

**RE: LAND DEVELOPMENT RECOMMENDATIONS**

**ACTION: APPROVED**

**WHEREAS**, the Prince William County Historical Commission seeks to identify, preserve and protect historic sites and structures in Prince William County; and

**WHEREAS**, the Prince William County Historical Commission's review of pending land development applications assists in determining the necessity for cultural resource surveys and other research and evaluations; and

**WHEREAS**, the Prince William County Historical Commission believes that the identification, preservation and protection of historic sites and structures throughout Prince William County is well served by this action;

**NOW, THEREFORE, BE IT RESOLVED**, that the Prince William County Historical Commission does hereby recommend to the Prince William County Planning Commission the action(s) noted for the following properties:

<b><u>Case Number</u></b>	<b><u>Name</u></b>	<b><u>Recommendation</u></b>
REZ2017-00013	Mid-County Park & Estate Homes – 5th Submission	In the interest of safety and preservation request fencing of existing cemetery.
REZ2019-00017	Bradley Square Commercial – 2nd Submission	No Further Work
CPA2017-00009	Route 29 Small Area Plan	Support implementation of the Cultural Resources Policies and Action Strategies outlined in Options A & B. Oppose Option C.
REZ2019-00038	3716 Pennington Lane	Phase I Cultural Resource study.
SUP2019-00045	3716 Pennington Lane	Phase I Cultural Resource study.
REZ2019-00039	Ashley Business Park	Table

## Historical Commission Resolution

July 9, 2019  
Regular Meeting  
Res. No. 19-037  
Page 2

**Votes:**

**Ayes:** by acclamation

**Nays:** none

**Absent from Vote:** Vayer

**Absent from Meeting:** Basler, Brown, Cunard, Duley, Van Derlaske

**MOTION CARRIED**

ATTEST: \_\_\_\_\_



**Secretary to the Commission**



**PLANNING COMMISSION RESOLUTION**

**MOTION:** MCKAY **September 18, 2019**  
**SECOND:** TAYLOR **Regular Agenda**  
**RE:** **COMPREHENSIVE PLAN AMENDMENT** **RES. No. 19-097**  
**#CPA2017-00009, ROUTE 29 SMALL AREA PLAN**

**ACTION:** DEFER TO DATE UNCERTAIN

**WHEREAS**, this is a request to replace a portion of the 2008 I-66/Route 29 Sector Plan and provide greater emphasis on detailed planning, visioning, economic development, and design in order to develop a plan that represents the study area with its own character, vision, and implementation strategy; and

**WHEREAS**, the small area plan generally encompasses approximately 869 acres of land that is located in between U.S. Highway 15 and Interstate 66. The area is bisected by the Lee Highway (Route 29). Approximately 1/2 mile west of the study area is James Madison Highway (Route 15), while to the east lies Interstate 66 and John Marshall Highway (Route 55); and

**WHEREAS**, the Prince William County Planning Commission duly ordered, advertised, and held a public hearing on September 18, 2019, at which time public testimony was received and the merits of the above-referenced case were considered; and

**WHEREAS**, the Prince William County Planning Commission believes that public general welfare as well as good planning practices are served by the deferral of this request;

**NOW, THEREFORE, BE IT RESOLVED** that the Prince William County Planning Commission hereby requests to defer Comprehensive Plan Amendment #CPA2017-00009, Route 29 Small Area Plan, to a date uncertain.

# Planning Commission Resolution

September 18, 2019  
Regular Meeting  
RES. No. 19-097  
Page 2

**Votes:**

**Ayes:** Berry, Fry, Haynes, Holley, McKay, Milne, Taylor

**Nays:** None

**Absent from Vote:** None

**Absent from Meeting:** Moses-Nedd

**Abstain from Vote:** None

**MOTION PASSED**

Attest:

  
Jennifer Dorciss  
Secretary of the Planning Commission





**PLANNING COMMISSION RESOLUTION**

**MOTION: MCKAY**

**December 9, 2020**

**SECOND: TAYLOR**

**Regular Meeting**

**RES. No. 20-096**

**RE: COMPREHENSIVE PLAN AMENDMENT #CPA2017-00009  
ROUTE 29 SMALL AREA PLAN  
BRENTSVILLE MAGISTERIAL DISTRICT**

**ACTION: DEFER TO DATE CERTAIN OF FEBRUARY 17, 2021**

**WHEREAS**, this is a request to replace a portion of the 2008 I-66/Route 29 Sector Plan and provide greater emphasis on detailed planning, visioning, economic development, and design in order to develop a plan that represents the study area with its own character and vision; and

**WHEREAS**, the small area plan generally encompasses approximately 869 acres of land that is located in between U.S. Highway 15 and Interstate 66. The area is bisected by the Lee Highway (Route 29). Approximately ½ mile west of the study area is James Madison Highway (Route 15), while to the east lies Interstate 66 and John Marshall Highway (Route 55); and

**WHEREAS**, this small area plan provides a comprehensive look at the study area including: land use, mobility, green infrastructure, design guidelines, economic development analysis, cultural resources analysis, level of service analysis, implementation and phasing plans; and

**WHEREAS**, the Prince William County Planning Commission duly ordered, advertised, and held a public hearing on September 18, 2019, at which time public testimony was received and the merits of the above-referenced case were considered and determined that public general welfare as well as good planning practices are served by the deferral of this request; and

**WHEREAS**, the Prince William County Planning Commission on September 18, 2019 deferred Comprehensive Plan Amendment #CPA2017-00009, Route 29 Small Area Plan, to date uncertain.



## Planning Commission Resolution

December 9, 2020  
Regular Meeting  
RES. No. 20-096  
Page 2

**WHEREAS**, the Prince William County Planning Commission duly ordered and advertised a public hearing for December 16, 2020 on Comprehensive Plan Amendment #CPA2017-00009, Route 29 Small Area Plan; and

**NOW, THEREFORE, BE IT RESOLVED** that the Prince William County Planning Commission on December 9, 2020 moved to defer Comprehensive Plan Amendment #CPA2017-00009, Route 29 Small Area Plan to a date certain of February 17, 2021.

**Votes:**

**Ayes:** Berry, Fontanella, McKay, McPhail, Moses-Nedd, Perry, Taylor, Milne

**Nays:** None

**Abstain from Vote:** None

**Absent from Vote:** None

**Absent from Meeting:** None

**MOTION CARRIED**

Attest:

  
\_\_\_\_\_  
Robbyn L. Smith  
Clerk to the Planning Commission

**Memorandum – Old Carolina Road  
September 5, 2019, by Parsons Corporation**

## MEMORANDUM

**DATE:** September 5, 2019  
**SUBJECT:** Old Carolina Road – Analysis of 2-Lane / 4-Lane Operations

The purpose of this study is to assess travel demands and resulting capacity requirements for Old Carolina Road between US Route 29 and the Town of Haymarket based on potential downplanning in areas covered by the Route 29 Small Area Plan. Key study activities included making changes to demographic data and roadway travel lane assumptions in the Prince William County Travel Demand Model (TDM) and reporting capacity analysis results based on resulting traffic forecasts. The generalized area covered for this analysis is bound by US 15, US 29 and the Broad Run North Fork. This memorandum describes the analysis methodology, key assumptions, analysis results, and recommendations of the study.

**Quantifying the Effects of Changes in Land Use on Travel Demand**

The travel demand forecasts described in this memo were obtained from model runs of the Prince William County Travel Demand Model (TDM) 2016 Version 2.4. This version of the model reflects roadway lane configurations assumed in Year 2040 Prince William County land use and transportation plans. The model was modified to reflect reductions within the analysis area in both future land use densities and assumptions regarding the number of assumed travel lanes on analysis area roadways. Land use densities were modified based on data provided by the Prince William Planning Office that reflected potential downzoning for 12 traffic analysis zones (TAZs).

The current base year for the Prince William County TDM is 2015, which represents the year that the model was validated to closely replicate existing (year 2015) traffic volumes. To assess the traffic effects of reducing land use intensity within the analysis area, growth in households, population, and employment for each TAZ was calculated based on the 2015 base year data set and the 2040 forecast year data set which assumed implementation of downplanning; as noted above, this data was provided by the Prince William County Planning Department. This demographic data is shown in **Table 1** below.

**Table 1: Demographic Data for Analysis Area**

PWCTAZ **	Households		Population		Employment	
	2015	2040	2015	2040	2015	2040
2467B	269	383	912	1272	992	1220
2468B	64	190	217	631	3	30
2468C	6	549	20	1219	0	5391
2489C	22	52	75	171	2	4
2489D	28	50	95	166	0	0
2490A	111	200	376	664	6	12
2490B	144	160	488	531	22	33
2490C	2	184	7	609	3	6
2490D	9	158	31	441	3	704
2491A	151	532	503	2069	376	3748
2492A	300	708	991	2136	161	1521
2500A	731	1225	1977	3323	542	2026
<b>TOTALS</b>	<b>1837</b>	<b>4391</b>	<b>5692</b>	<b>13232</b>	<b>2110</b>	<b>14695</b>

\*\* PWCTAZ = Prince William County designated traffic analysis zone

2040 estimates are based on “downplanned” land use scenario provided for analysis on July 16, 2019.

Source: Prince William County Planning Office

## Memorandum – Old Carolina Road September 5, 2019, by Parsons Corporation

Comparison of the 2015 and 2040 values allowed for the calculation of growth ratios which were then applied to the Prince William TDM 2015 demographic data set to generate estimates of year 2040 TDM demographic data. This calculated 2040 demographic data was then used as input to the Prince William County TDM to develop 2040 traffic forecasts that reflect the effects of the proposed downplanning. Model runs were performed to assess the effects on forecast traffic volumes and roadway level of service of either a 2-lane or 4-lane Old Carolina Road.

### **Effects on Roadway Operations of 2-Lane and 4-Lane Cross Sections on Old Carolina Road**

The Prince William County TDM reports planning level of service based using tables based on roadway type and volume to capacity ratios. Traffic forecasts and levels of service are provided for the five roadways shown in **Table 2**.

**Table 2** lists the roadway sections where traffic forecasts and operational levels of service were developed and analyzed.

**Table 2 - List of Roadway Segments Analyzed**

Roadway	From	To	Current	Comp Plan	Downplan Option
Old Carolina Road	US Route 29	Town of Haymarket	2 lanes	4 lanes	2 lanes/4 lanes
Thoroughfare Road	US Route 29	US Route 15	2 lanes	4 lanes	2 lanes
Somerset Crossing Drive	US Route 29	Old Carolina Road	4 lanes	4 lanes	4 lanes
Carver Road	US Route 29	Old Carolina Road	2 lanes	4 lanes	2 lanes
McGraws Corner Drive Extended West	Somerset Crossing Drive	US Route 29	Does not exist	4 lanes	Does not exist

Each of the five roadways studied were divided into analysis segments; analysis segment end points were based on where traffic volumes change (usually the result of traffic entering or exiting roadways at key intersections) or where geometrics change (such as where the number of travel lanes changes). **Table 3** summarizes levels of service (LOS) in 2040 on Old Carolina Road for the two studied conditions in the AM peak period, PM peak period, and over a full 24-hour day. As could be expected, constructing Old Carolina Road as a 4-lane facility as shown in the current Comprehensive Plan improves the 2040 LOS for all segments of Old Carolina Road. Note that while operations would improve to some extent on all segments (even if the letter designation remains the same) based on reduced volume to capacity ratios, the majority of segments would also improve by one or more letter grades. **Table 3** shows that most of the segments of Old Carolina Road would operate at Level of Service E during the PM peak period with the 2-lane option.

**Memorandum – Old Carolina Road  
September 5, 2019, by Parsons Corporation**

**Table 3. Year 2040 Level of Service Comparison: Old Carolina Road as 2-Lane and 4-Lane Facility**

Road	From (A)	To (B)	LOS AM				LOS PM				LOS 24			
			2 Lane		4 Lane		2 Lane		4 Lane		2 Lane		4 Lane	
			A->B	B->A	A->B	B->A	A->B	B->A	A->B	B->A	A->B	B->A	A->B	B->A
Old Carolina Road	Allaire Dr	Thoroughfare Road	C	C	B	B	E	D	D	C	D	D	C	C
Old Carolina Road	Thoroughfare Road	Carver Rd	B	C	B	B	D	D	C	C	C	C	C	C
Old Carolina Road	Carver Rd	Somerset Crossing	B	C	B	B	E	D	C	C	D	D	C	C
Old Carolina Road	Somerset Crossing	Haymarket Dr	C	E	B	C	E	E	C	D	E	E	C	C
Old Carolina Road	Haymarket Dr	Town of Haymarket	C	E	B	D	E	E	C	D	E	E	C	C