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**ANNUAL PLANNING MEETING AGENDA  
BOARD OF SUPERVISORS  
FEBRUARY 1-2, 2019**

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**FEBRUARY 1, 2019**

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**12:00 NOON LUNCH (MAIN DINING ROOM)**

**12:45 P.M. CALL TO ORDER - ROLL CALL OF MEMBERS (JEFFERSON ROOM)**

**CLOSED MEETING**

**1:15 P.M. REVIEW OF THE BOARD OF SUPERVISORS' PRIORITIES**

1. A. STRATEGIC PLAN  
B. OTHER MAJOR PROJECTS/PRIORITIES

**2:00 P.M. HEALTHY GROWTH**

2. A. PUBLIC ENGAGEMENT  
B. COMMUNICATION STRATEGY

**3:45 P.M. BREAK**

**4:00 P.M. DOWNTOWN STAFFORD**

3. A. ZONING AND DESIGN STANDARDS

**5:30 P.M. ADJOURN**

**6:30 P.M. DINNER (MAIN DINING ROOM)**

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**FEBRUARY 2, 2019**

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**7:30 to 8:30 A.M. BREAKFAST (MAIN DINING ROOM)**

**8:30 A.M. CALL TO ORDER - ROLL CALL (JEFFERSON ROOM)**

**TRANSPORTATION**

4.      A. PROGRESS UPDATE AND DISCUSSION OF PRIORITIZATION PROCESS  
         B. COST OF NEW ROAD CONSTRUCTION  
         C. PRELIMINARY DISCUSSION OF TRANSPORTATION FUNDING  
         ALTERNATIVES

**10:30 A.M. INDIVIDUAL BOARD MEMBER ISSUES**

5.      A. DISCUSSION

**12:00 NOON ADJOURN**

This agenda may be amended on the day of the meeting. Participation of all citizens is encouraged. For all individuals with special needs, please notify County Administration of any accommodations required at least 24 hours in advance of the meeting. The agenda and related materials may be found on the County's website at [www.staffordcountyva.gov](http://www.staffordcountyva.gov)

## Stafford County 2040 Strategic Plan

		Outcome/Deliverable
<b>Strategic Priority: Healthy Growth</b>		
<b>Strategic Goals:</b>		
1.1	Identify and execute growth management strategies that align our Comprehensive Plan and infrastructure (i.e., roads, broadband, schools, water and sewer) without negatively impacting taxation.	Potential ordinance and/or Comprehensive Plan changes. Development and promotion of incentive strategies.
	- Incentivize growth in the Targeted Growth Areas (TGA).	"
	- Evaluate zoning outside areas served by public water and sewer to maintain the rural character of the County.	"
1.2	Complete an analysis of comparative localities and develop a plan of action to address the County's stormwater challenges.	New program or guidelines for County action
1.3	Develop a sustained education program and communication plan to encourage voluntary land conservation.	New education and communication program
1.4	Identify funding source options and stewardship opportunities to assist with the Purchase of Development Rights.	Staff analysis of funding options for review w/BOS and development of policy
1.5	Evaluate additional opportunities for the protection of open space.	Develop comprehensive open space program
<b>Strategic Priority: Responsive Transportation System</b>		
<b>Strategic Goals:</b>		
2.1	Establish clear transportation priorities that improve safety and reduce congestion.	Priority list approved by Board
2.2	Develop a comprehensive funding strategy that establishes a dependable revenue source to maximize transportation improvements.	BOS decision on funding strategies
	- Re-visit Impact Fee Analysis	Complete impact fee study and implement new fee
2.3	Research and identify other transportation alternatives to reduce congestion.	Staff analysis of alternatives for Board consideration
<b>Strategic Priority: The Heartbeat of Recreation, History and Culture</b>		
<b>Strategic Goals:</b>		
3.1	Identify a location and funding stream for the Stafford County Museum and Cultural Center.	Identify location and funding for Stafford County Museum and Cultural Center approved and incorporated into downtown design or Courthouse renovation
3.2	Promote the County's recreational, historical and cultural programs and facilities and obtain feedback on future improvements.	Evaluate programs including a Recreation Survey and develop options for improvement
3.3	Evaluate the current process for connecting sports tourism to our other County amenities and engage the business community in developing recommendations for future improvements.	Recommendations for changes to the Board for consideration
3.4	Evaluate and/or update the Parks and Recreation Plan to focus on providing a wider range of recreation opportunities, including inclusive programming.	New P&R study with broad public input & recommendations
3.5	Initiate the construction of a multipurpose field house through a public/private partnership to serve local programs and to attract regional sports tourism.	Identify location and initiate construction of Field House and long term rental agreement
<b>Strategic Priority: Quality Educational Opportunities</b>		
<b>Strategic Goals:</b>		
4.1	Evaluate and secure the purchase of land to ensure school capacity to meet the growing needs of the community.	Provide options for school locations to the BOS and School Board for approval; amend comp plan for inclusion of school property
4.2	Develop education and community partnerships to enhance education-to-employment opportunities that fill the identified gaps in our business and government employers.	Programs and partnerships for job related education
<b>Strategic Priority: A Vibrant and Exciting Business Community</b>		
<b>Strategic Goals:</b>		
5.1	Begin construction of the first phase of Downtown Stafford through a public-private partnership to enhance Stafford's identity and promote economic development.	RFP and PPEA for development of County-owned property. Explore opportunities to partner with adjoining property owners to coordinate and maximize downtown development potential. Amend Comp Plan for street network, parking garage and Courthouse Construction

## Stafford County 2040 Strategic Plan

5.2	Update our ordinances, streamline our permitting processes and improve coordination with other regulatory agencies to be more supportive of our business community, and to promote business expansions and new investment opportunities.	Proposed ordinance changes; new processes in place. Develop clear process flow map for applicants
5.3	Implement the Economic Development Strategic Plan in partnership with the EDA.	Implementation plan with target dates
5.4	Evaluate agribusiness opportunities including the potential for a farm-to-table program with grant funding.	Develop Farm to Table program
5.5	Promote and support workforce development programs and initiatives to serve the business community.	Programs and partnerships for job related education
<b>Strategic Priority: Dedicated and Responsive Public Safety Team</b>		
<b>Strategic Goals:</b>		
** 6.1	Assess public safety facilities and develop a plan of action to address both current and future needs.	Report on assessment with action plan
6.2	Complete a needs analysis and develop a plan of action for the establishment of a state of the art Joint Public Safety Training Facility.	Needs analysis with proposed plan of action for CIP proposal; Comp Plan amendment
6.3	Develop and implement policies aimed at reducing public safety turnover.	New policies/actions to focus on retention
6.4	Approve a staffing model that addresses existing shortfalls in staffing and keeps up with the pace of growth and a funding approach for implementation.	Recommended staffing model; 5-Year Plan proposal
6.5	Complete and implement the Fire and Rescue Strategic Plan.	SP document for BOS approval w/target dates
6.6	Implement the recommendations of the School Safety Task Force.	Task Force report w/funded plan of action
<b>Strategic Priority: Organizational Excellence</b>		
<b>Strategic Goals:</b>		
7.1	Develop the County's organizational capacity to deliver all County projects effectively and efficiently.	Develop processes, obtain systems and train and certify staff to manage County projects
7.2	Develop a plan for financial oversight of school construction projects.	Develop new policies, processes and standards for reporting on Construction projects to verify work accomplished and funding spent.
7.3	Develop and execute a comprehensive shared services strategy with the school system.	Priority list of opportunities and target dates for evaluation
7.4	Implement policies and programs aimed at enhancing employee recruitment and retention, including systems which address compensation competitiveness and talent management.	Complete Comp and Class Study and develop and maintain system to ensure current data is kept up to date. Implement talent management system with focus on learning development and succession planning.
7.5	Implement a comprehensive communications system to keep the public informed and engaged.	Comprehensive Engagement/Information Center (On our Website) that is accessible and provides easy delivery of information to citizens and has multiple means for citizens to provide input and feedback. (Note: This has been initiated but will take the full three years to complete.
7.6	Secure a triple AAA bond rating.	Moody's designation - <b>COMPLETE</b>
7.7	Implement a continuous feedback mechanism with stakeholders that identify potential areas of service improvement.	A comprehensive approach to citizen feedback which includes a biannual citizen survey, social media archiving and retrieval system (FOIA), Agenda/Meeting participation tools (like Granicus), all used to prioritize resources and provide metrics for department services and goal status.
<b>Note: Items in yellow are proposed as year one priorities</b>		





# [ STAFFORD COUNTY 2040 ]

*Where heart, home and a healthy  
business environment come together  
in one community!*

STAFFORD  
*Virginia* 



1  
♦ ♦ ♦  
Healthy  
Growth



2  
♦ ♦ ♦  
Responsive  
Transportation  
System



3  
♦ ♦ ♦  
The Heartbeat  
of Recreation,  
History and  
Culture



4  
♦ ♦ ♦  
Quality  
Educational  
Opportunities



5  
♦ ♦ ♦  
A Vibrant  
and Exciting  
Business  
Community



6  
♦ ♦ ♦  
Dedicated and  
Responsive  
Public Safety  
Team



7  
♦ ♦ ♦  
Organizational  
Excellence

**STRATEGIC  
PRIORITIES**


# Work Since Plan Adoption

## - Plan Adoption in November of 2018 -

- Establish Proposed Priorities and Assess Timelines
  - Year 1, 2 or 3
  - Clarify Outcomes
  - Ultimate Outcome
  - 2019 Outcome for Year 1 Priorities
- Assess Resources Needs
  - 2020 Budget Proposal
  - 5 Year Plan
- Develop Work Plans – Staff Work Teams
- Begin Process of Realigning Staff Priorities
- Establishing a Tracking and Reporting System

# Today's Review

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- Review of Proposed First Year Priorities
  - Feedback on Outcomes
  - Year 1 Priorities – Overall Status
    - Fully Underway
    - Getting Started
    - Work Plan Development – Completion in March
  - Year 2 and 3 Priorities
    - Work Plan Development – Completion by May
  - Discuss Other Major Projects/Priorities
- 

# Strategic Plan -Year One Priorities

## Fully underway

- Growth Management Strategies
- Transportation Priorities and Funding
- Fieldhouse
- Downtown Stafford
- Economic Development Strategic Plan
- Fire and Rescue Strategic Plan
- School Safety Task Force
- Financial Oversight of School Construction Projects
- Shared Services – Central Purchasing
- Enhance Employee Recruitment and Retention
- Comprehensive Communication System

# Strategic Plan – Year One Priorities

## Getting Started


- Development Process Review
- Public Safety Training Center
- Enhanced Project Management

## Work Plan Development – Completion in March

- Storm Water
- School Land Purchase
- Update Park and Recreation Plan

# Other Major Projects/Priorities

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- Courthouse Expansion
  - School Capacity Projection Methodology
  - 2020 Census and Redistricting
  - Evaluation of Reuse of Moncure Elementary School Site
  - CSA Funding Strategy
  - High Performance Organizational Culture
- 

# QUESTIONS AND FEEDBACK



# Board of Supervisors Strategic Priorities Healthy Growth

Stafford County  
February 1, 2019

# Overview

- Healthy Growth Priority Review
- Comprehensive Plan Goals
- Where are we now?
  - Current and Approved Development
- Where are we Heading?
- Rural Area Evaluation
- What can we do?
  - State Code Provisions
  - Comparative Localities

# Healthy Growth Priority



Desired Future State - 2040

## HEALTHY GROWTH

Stafford County is a well planned community. Healthy growth is channeled into Targeted Growth Areas, allowing the County to focus infrastructure improvements to efficiently serve the citizens of Stafford with levels of service that enhance their quality of life.

Additionally, Stafford's approach protects the County's natural and historic resources, open space, and farmland, preserving the rural nature of the County and allowing it to prosper

## BOARD OF SUPERVISORS THREE YEAR PRIORITIES

1. Identify and execute growth management strategies that align our Comprehensive Plan and infrastructure (i.e. roads, broadband, schools, water and sewer) without negatively impacting taxation.
  - Incentivize growth in the Targeted Growth Areas (TGA).
  - Evaluate zoning outside areas served by public water and sewer to maintain the rural character of the County.

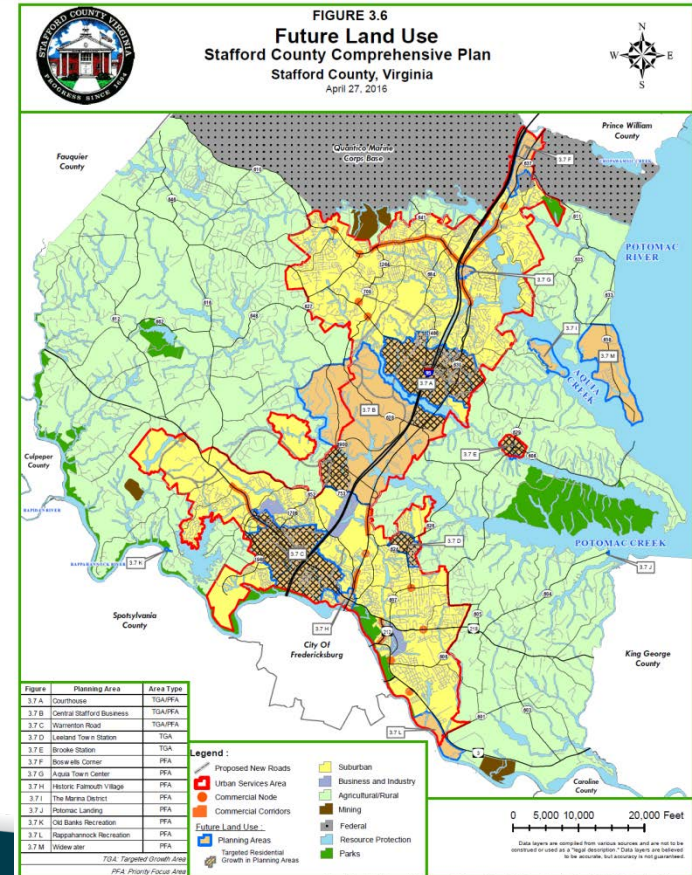
# Comprehensive Plan

Stafford County's Comprehensive Plan calls for an:

- **80/20 split** in residential development between the Urban Services Area (USA) and rural area (or outside the USA) in the county.

## Growth Projections / Recommendations

	In USA			Outside USA – Rural	County-Wide
	TGA	Suburban	Total		
Dwelling Units	9,418	6,278	15,696	4,054	19,750

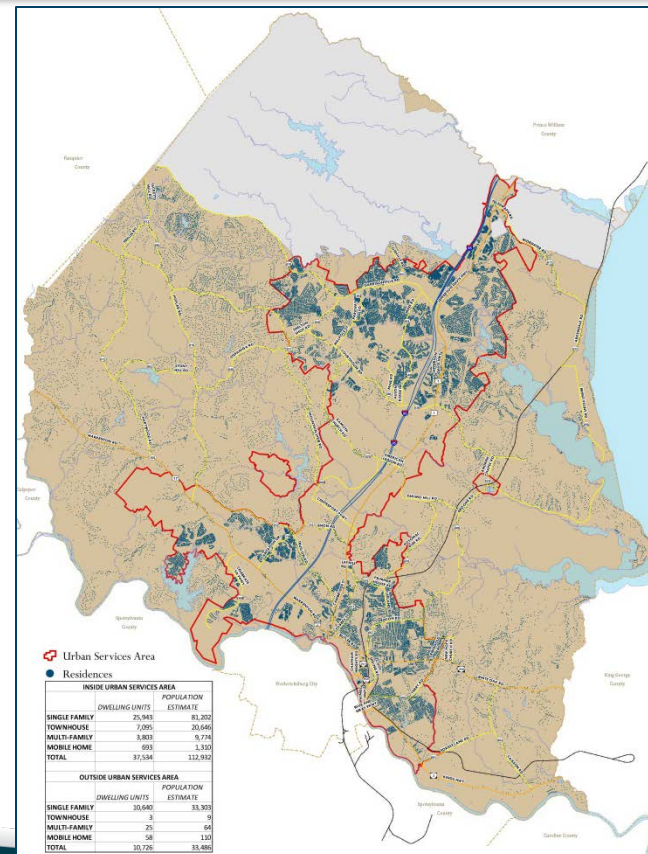


# Current and Approved Development

## Existing Housing Stock/Active Development

- The **current housing stock** is close to meeting the 80/20 growth goal.

	USA		Rural Area		County-Wide
Existing Units	37,534	(77.8%)	10,726	(22.2%)	48,260 (100.0%)
Recently Built Units (from active projects)					
Future Units (from active projects)					



- The **current housing stock** is close to meeting the 80/20 growth goal.
- Recent trends of **homes built in active projects** show more activity in rural areas, moving the numbers away from the 80/20 growth goal.



Produced by the Stafford County GIS Office





- The **current housing stock** is close to meeting the 80/20 growth goal.
- Recent trends of **homes built in active projects** show more activity in rural areas, moving the numbers away from the 80/20 growth goal.
- The remaining units to be built in active projects show acceleration of this trend.



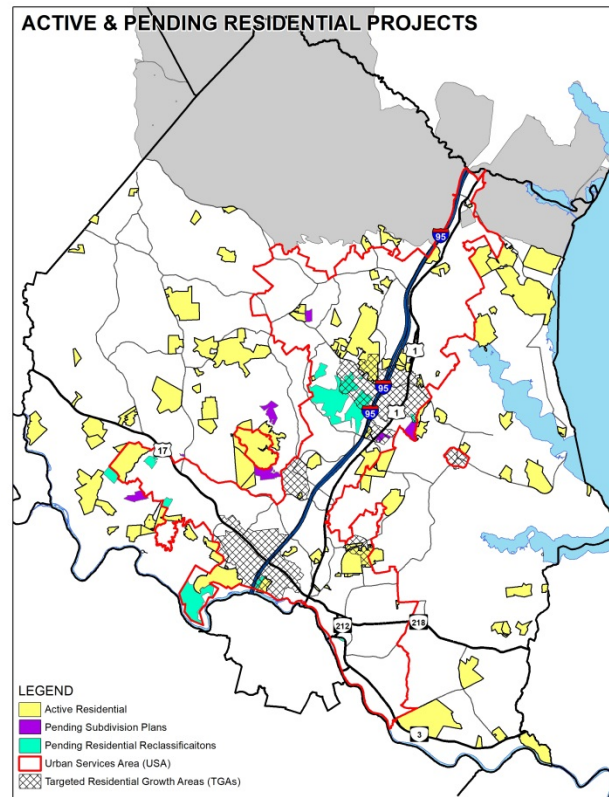
Produced by the Stafford County GIS Office



# Current and Approved Development

- Pending subdivision plans locate a higher percentage of growth in rural areas
- Potential zoning reclassifications under consideration would swing the growth trends into the Urban Services Area, in conformance with Comprehensive Plan goals.

	USA		Rural Area		County-Wide
Future Units (In active projects)	5,617	(73.7%)	2,001	(26.3%)	7,618 (100.0%)
Future Units (pending subdivision plans)	294	(70.2%)	125	(29.8%)	419 (100.0%)
Sub-Total	5,911	(73.5%)	2,126	(26.5%)	8,037 (100.0%)
Potential Units (zoning reclassifications)	4,680	(100%)	0	(0%)	4,680 (100%)
Total	10,591	(83.3%)	2,126	(16.7%)	12,717 (100%)





# Current and Approved Development

Percent of the Comprehensive Plan's 20-year projected growth currently approved for development.

- A higher percentage of projected growth is approved in the Rural areas, than that of the Urban Services Areas.

## Inside USA:

**37.7%**

- Projected Future Units (Per the Comp Plan)
  - 15,696
- Approved Units
  - 5,911
- Additional Units Left
  - 9,785

## Outside USA (Rural Areas):

**52.4 %**

- Projected Future Units (Per the Comp Plan)
  - 4,054
- Approved Units
  - 2,126
- Additional Units Left
  - 1,928

# Where are we heading?

Should the current development trends continue, there would be at total of **5,234** additional dwelling units in the rural areas **by year 2036**, exceeding the recommended **4,054** units recommended in the Comprehensive Plan.

	USA		Outside USA – Rural Area		County-Wide
Current Trends	14,516	(73.5%)	5,234	(26.5%)	19,750 (100.0%)
Comprehensive Plan Goal	15,696	(80.0%)	4,054	(20.0%)	19,750 (100.0%)

To reconcile future residential growth with the desired Comprehensive Plan goal of planning for no more than 20% of future residential growth in the **rural areas** (4,054 future units), there should be **no more than 1,928 additional units** above what is already approved.

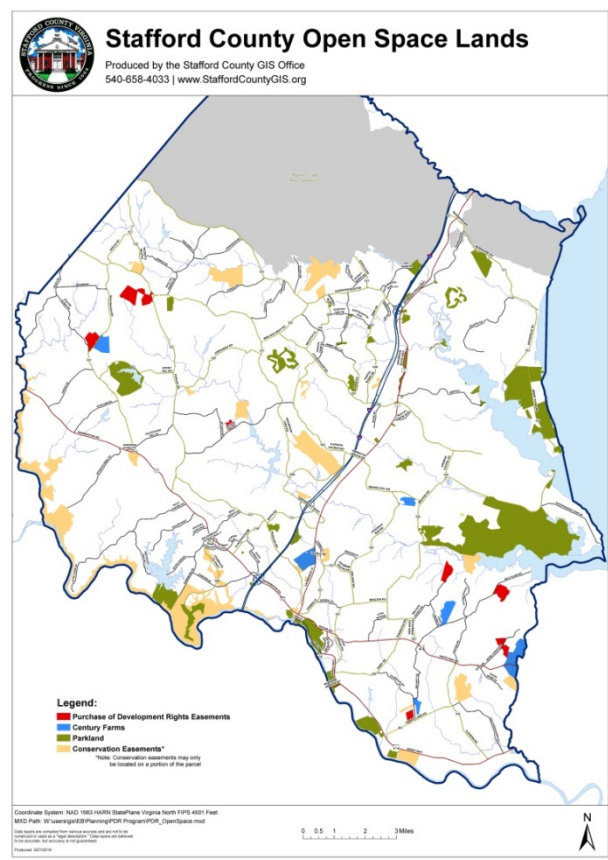
Furthermore, efforts should focus on planning for additional growth **inside the USA**, **allowing for 9,785 additional units** above what is already approved.

# RURAL AREA EVALUATION

# Land Conservation

- Thousands of acres of land have been preserved from future development resulting from various easement programs and publicly owned land.

	Acres	Equivalent Development Rights
Easements	3,668.17	940
PDR Program	660.66	170
State Land	4,102.00	1,753
County Park Land	594.00	152
Total	9,024.83	3,015



- 2017 PDR Applications**  
Stafford County

Produced by the Stafford County GIS Office 540-658-4033 | www.StaffordCountyGIS.org

**Open Space Lands**

  - Current PDR Exemptions
  - Pasture Farms
  - Conservation Exemptions
  - Pasture

**2017 PDR Applications:**

Map #	Application Name
17-01	Littigano, Janet
17-02	Johnson, Mary
17-03	Jones, Kevin
17-04	Snyder, John
17-05	Moore Estate
17-06	Brack, Carlton
17-07	Harris, John and Cathy
17-08	Shelton, Frank
17-09	Brent Point LLC
17-10	Seccord, David
17-11	Moore, William
17-12	Cotton, Charlotte

**Supervisor Election Districts**

  - AKIA
  - FALMOUTH
  - GEORGE WASHINGTON
  - ROCK HILL
  - AQUIA
  - FALMOUTH
  - GEORGE WASHINGTON
  - ROCK HILL

Coordinate System: NAD 1983 HARN StatePlane Virginia North FIPS 4501 Feet  
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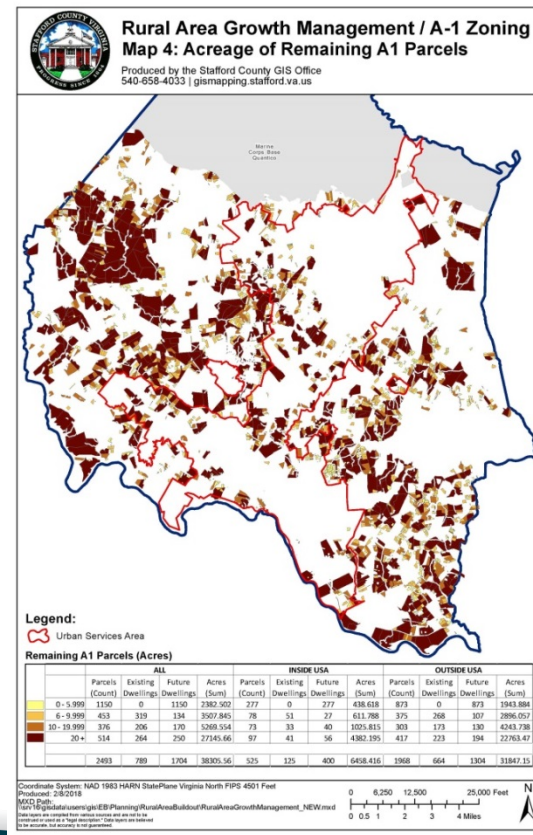
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North Arrow

# Potential Rural Area Buildout

- While land conservation efforts have been advancing, Stafford still has experienced an acceleration of rural residential development.
  - Since 2007, residential development in the rural area has produced 1,266 new homes, consuming 7,771 acres
- Looking ahead, there is a potential buildout of 9,598 additional lots If all available A-1 zoned land outside the USA was to be developed under the current zoning standards.

Development Potential	Number of A-1 Parcels	Total Acres	Future Lots - at 3 acre min. lot size
	1,968	31,847	9,598



# Costs of Rural Development

## Qualitative and Quantitative Factors of Residential growth in rural areas.

- Public Safety (Sheriff/Fire and Rescue):
  - Higher response times with increased travel and limited routes (decreased return on investment).
  - Lack of readily available water sources that increase response time, and increase the requirement for water tankers. Additional equipment requirements in rural areas: 3 tankers and 1 engine.
  - Capital Costs: \$752,000; Annual Operation Costs: \$2.19 million
- Transportation:
  - Rural roads pose capacity and safety issues as most do not meet modern construction standards.
  - Recent improvements - Average cost per mile: \$6.7 million (\$19.4 million total)
- Schools
  - Buses can be used more efficiently in urban locations.
  - All but one school is located inside the Urban Services Area resulting in lengthy school bus trip times.
  - Per-mile cost to operate a bus: \$3.28. Cost of bus replacement: \$103,472

# WHAT CAN WE DO?

Potential Growth Management Strategies



# State Code Provisions

## Residential growth incentives granted to localities under the state code.

- Sec 15.2-2280 Zoning power – permits localities to regulate the use and area, size, or density of land to be occupied.
- Sec 15.2-2223.1 Establishment of Urban Development Areas (TGAs in Stafford) – provides the County authority to incentivize development in these areas;
- Sec 15.2-958.4 Waiver of permit fees for agencies constructing affordable housing;
- Sec 15.2-2286 Incentive Zoning – permitting increased by-right project density in return for providing features, uses, services, or amenities desired by the locality;
- Sec 15.2-2286.1 Permit Cluster development density bonuses;
- Sec 10.1-1701 Purchase of Development Rights (PDR) – Authority to acquire property for use as open space land;
- Sec 15.2-2316.2 Transfer of Development Rights (TDR) – permits density bonuses where development rights are transferred from sending areas to receiving areas.

# Comparative Localities

- Rural Growth Management Strategies

Strategy	Peer Locality Growth Management Strategies						
	Stafford	Albemarle	Fauquier	Hanover	Loudoun	Prince William	Spotsy
PDR Program	✓	✓	✓				✓
Voluntary Easement Program		✓	✓	✓	✓	✓	
TDR Program	✓						
Rural Econ Dev't Program			✓	✓			
Ag/Forest Districts		✓	✓	✓	✓		✓
Land Use Taxation	✓	✓	✓	✓	✓	✓	✓
Combine with Cultural, Scenic and Envir. Component		✓	✓			✓	
Public Education/Communication		✓	✓				
Partner with Land Trusts		✓	✓	✓	✓	✓	
Set Acreage Target for Open Space			✓		✓	✓	
Establish Conservation Design Policies		✓			✓		

# Comparative Localities

- Urban / Suburban Growth Management Strategies

	Peer Locality Growth Management Strategies						
Strategy	Stafford	Albemarle	Fauquier	Hanover	Loudoun	Prince William	Spotsy
Designated UDA's	✓	✓	✓		✓	✓	
Special Area Master Plans	✓	✓	✓		✓	✓	
Promotes Infill & Redevelopment	✓	✓		✓	✓	✓	✓
Promotes higher density areas as more desirable places to live		✓			✓		
Allows density bonuses when conditions met (affordable housing, design elements)		✓	✓		✓	✓	
Urban / Rural Growth Policy	80/20			70/30			

# Rural / Agricultural Area Densities

Locality	Conventional Subdivisions – minimum lot areas
<b>Stafford</b>	A-1: 1 lot per 3 acres A-2: 1 lot per 1 acre
<b>Albemarle</b>	RA, Rural Area: 1 lot per 2 acres. 5 lots on parcels up to 21 acres. 1 lot per 21 acres on parcels greater than 21 acres.
<b>Fauquier</b>	RC & RA: 1 lot per 10 acres; Max. 11 lots per 205 acres. RR-2: 1 lot per 2 acres.
<b>Hanover</b>	A-1: 1 lot per 10 acres. AR-6: 2 lots on up to 13.99 acres; 3 lots on up to 24.99 acres; 1 lot per 6.25 acres over 25 acres RC: 1 lot per 6.25 acres
<b>Loudoun</b>	AR-1 & AR-2: 1 lot per 20 to 40 acres (80,000 sq ft min lot size) A-3 & A-10: 1 lot per 3 to 10 acres
<b>Prince William</b>	A-1: 1 lot per 10 acres SR-1, 3, 5: 1 lot per 1, 3, or 5 acres
<b>Spotsylvania</b>	A-2 & A-3: 1 lot per 5 or 10 acres RA: 1 lot per 2 acres

# Public Engagement Process

- Last fall, the Board of Supervisors identified “healthy growth” as a priority when they adopted Stafford’s first-ever Strategic Plan.
- The goal is to examine options on how to balance the preservation of the rural character of the County while also allowing it to thrive and grow.
- At the December’s meeting, the Board was informed of a work plan to identify and execute growth management strategies that align with Stafford’s Comprehensive Plan without negatively impacting taxation.

# Public Engagement Process

## Comprehensive Analysis

This effort calls for:

- Collecting data from Stafford's comparative localities.
- Developing a list of tools available to incentivize desired development in the USA.
- Engaging with stakeholders and analyzing the costs to the County for developments within and outside the Urban Services Area (USA).

## Public Education and Engagement

To promote impartiality, a consultant will assist with the gathering of Board of Supervisors approved data and engaging stakeholders.

- Two facilitated roundtable discussions are planned for stakeholders consisting of an educational component along with a discussion by roundtable participants.
- There will be two larger public sessions with educational segments along with opportunities for public discussion.

# Public Engagement Process

At the conclusion of the public meetings, the information will be compiled and brought to the full Board of Supervisors for the Board to decide the next steps.

A proposed timeline for the work plan is shown.

## Schedule

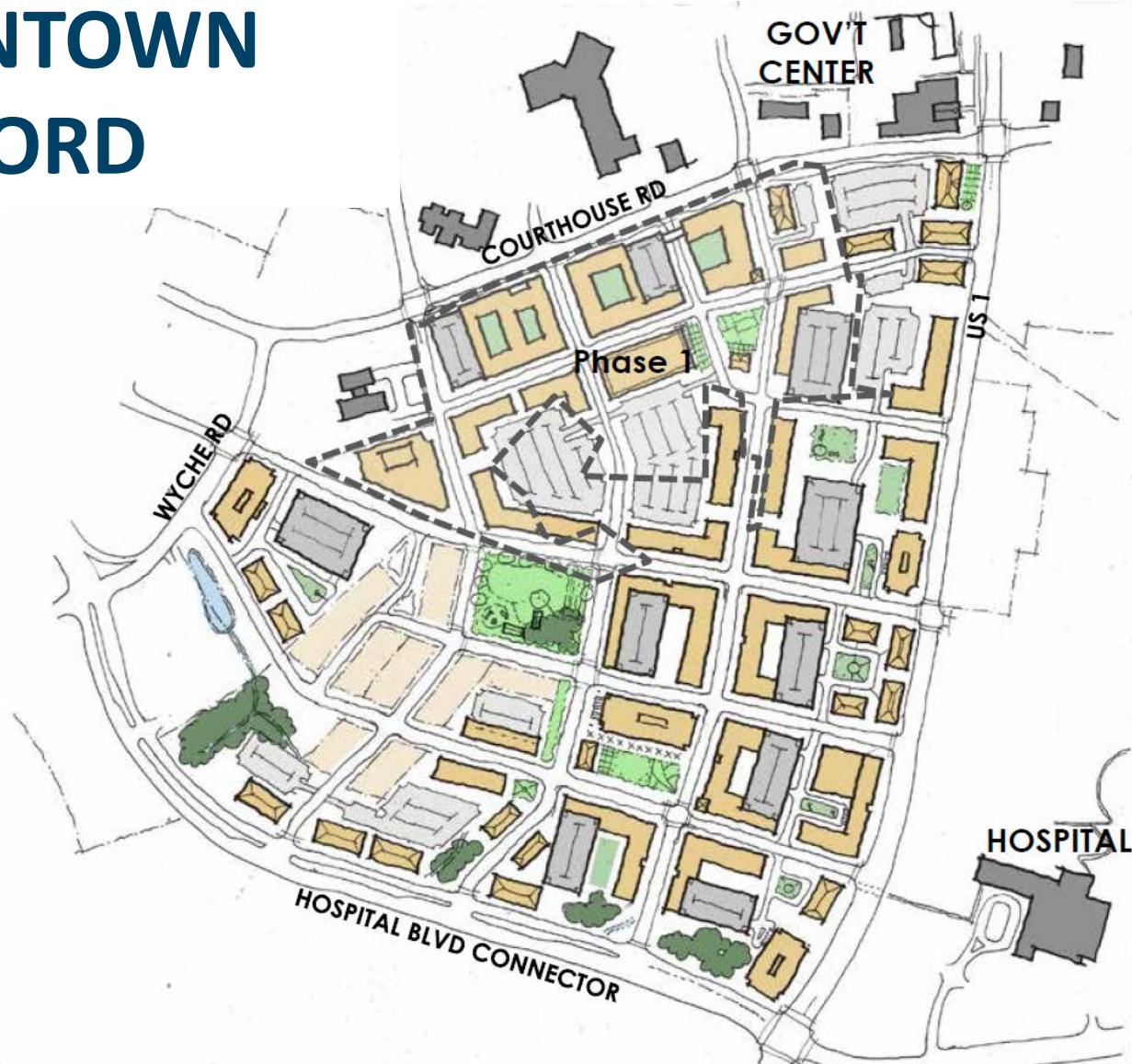
- January through February 2019 – Comprehensive Analysis
- March through April 2019 – Conduct Public Outreach/Facilitated Roundtables and Public Meeting
- May 7, 2019 – Presentation to the Board of Supervisors
- May 21, 2019 – Recommendations to the Board for Next Steps

# QUESTIONS


Board of Supervisors Strategic Priorities  
Healthy Growth



# DOWNTOWN STAFFORD



# Overview

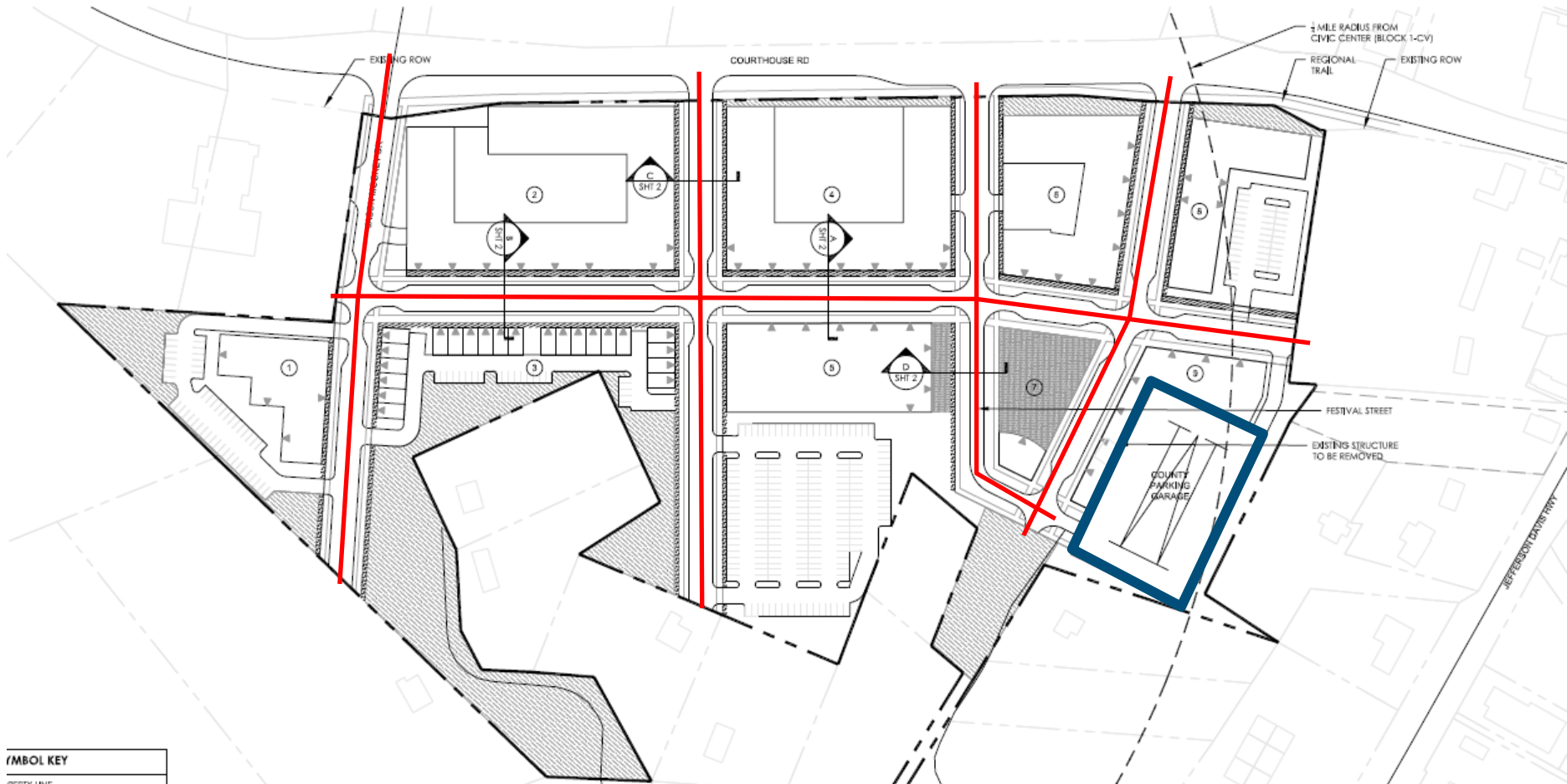
- Project Status on Generalized Development Plan (GDP)
  - Project Status on Urban Development District Ordinance Amendments Review (UD)
  - Density Examples of Other Localities
  - UD District Ordinance Amendments
  - Next Steps
- 

# Project Status on GDP:

Stantec prepared a generalized development plan (GDP) for County-owned land regarding the Downtown Stafford project:

- The intent of the GDP is to depict the general features desired for Stafford's downtown
- Prospective developers will present their own concepts which incorporate these general features

# Generalized Development Plan



MBOL KEY
PROPERTY LINE
ENTRAINMENT/CAFE ZONE
PEDING SETBACK
INTER QUALITY DETENTION
LA/OPEN SPACE
PEDING ENTRANCE/EXIT

Two-lane street grid with on-street parallel parking  
County/shared parking garage

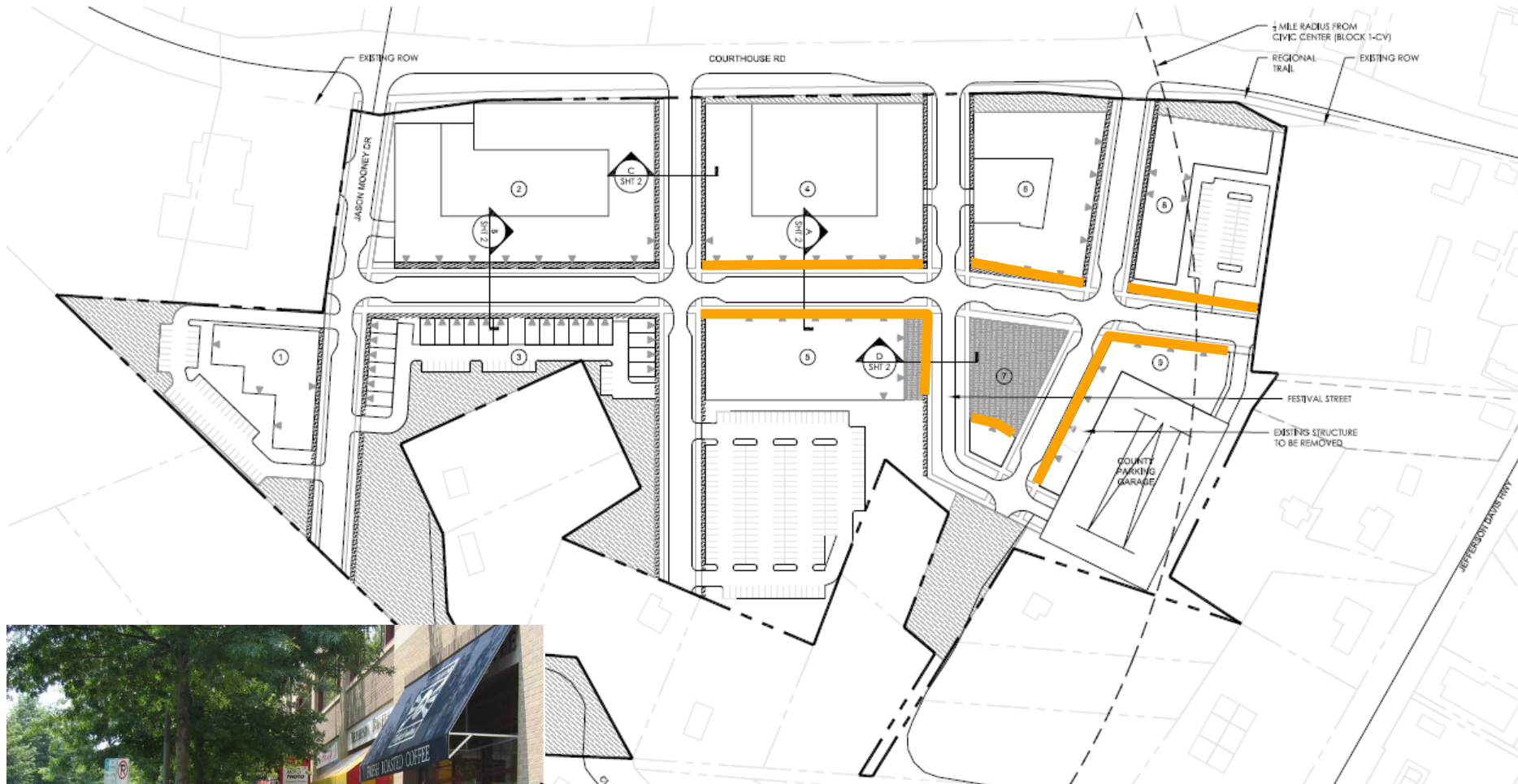


# Generalized Development Plan



Town Center/Plaza  
Gathering/Special Events Space

# Generalized Development Plan



Ground Floor Retail – 71,700 sqft

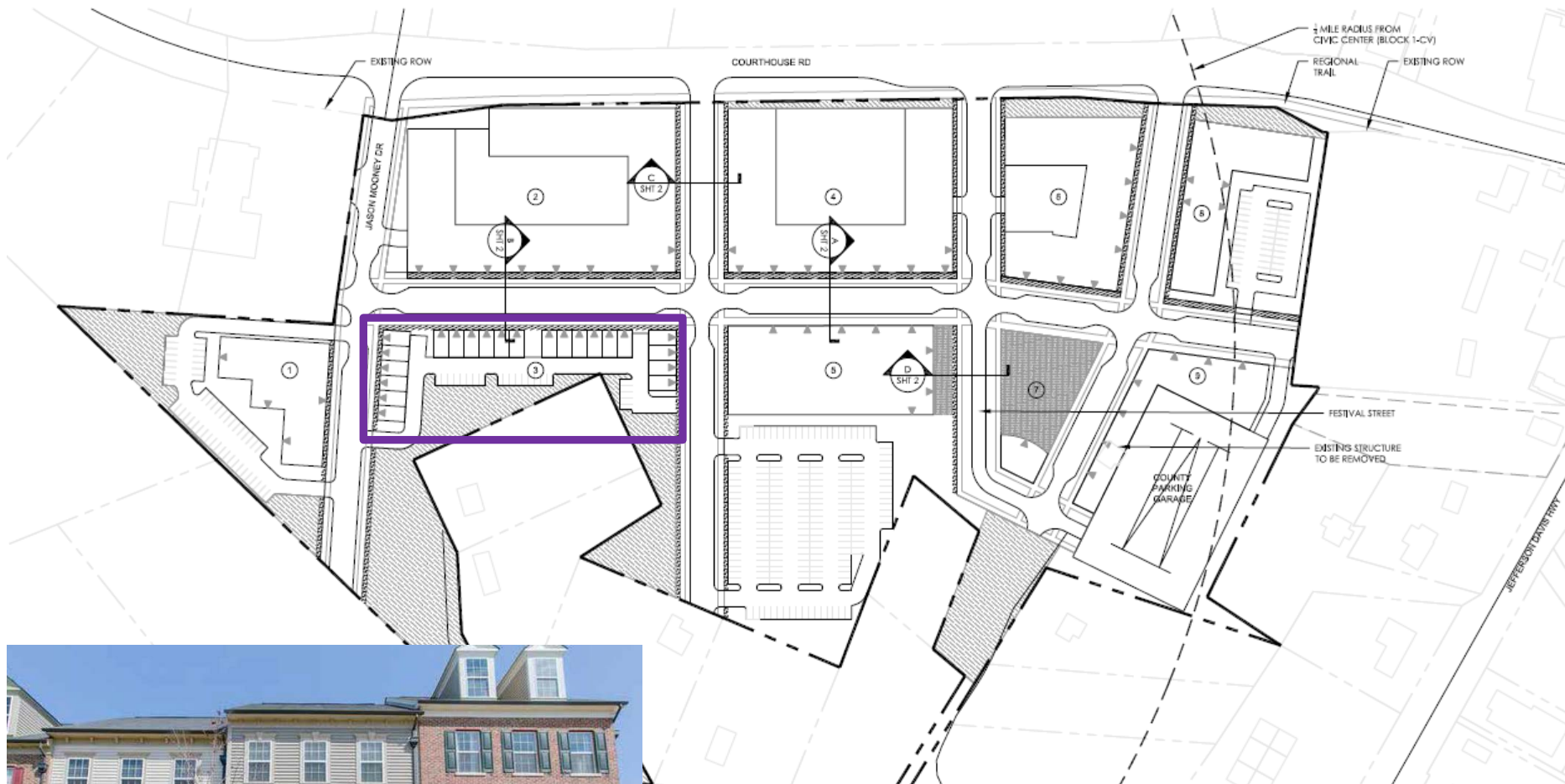
# Generalized Development Plan



Multifamily & Mixed Use  
5 stories, 650 Units, structured parking



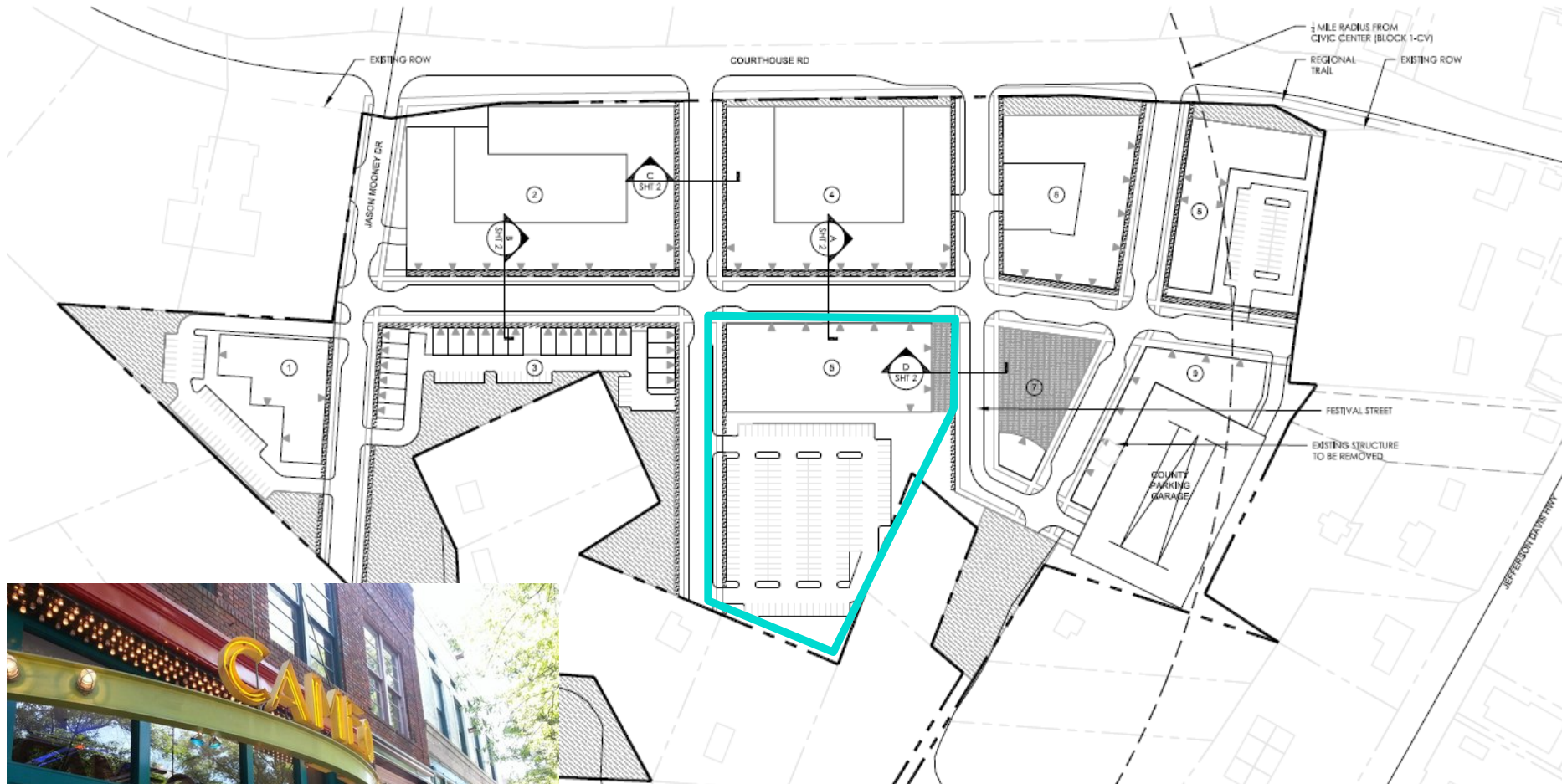
# Generalized Development Plan



Single-Family Attached  
22 Units



# Generalized Development Plan



Entertainment  
70,000 sqft, surface parking

# Generalized Development Plan



Office

3 stories, 53,000 sqft, surface parking

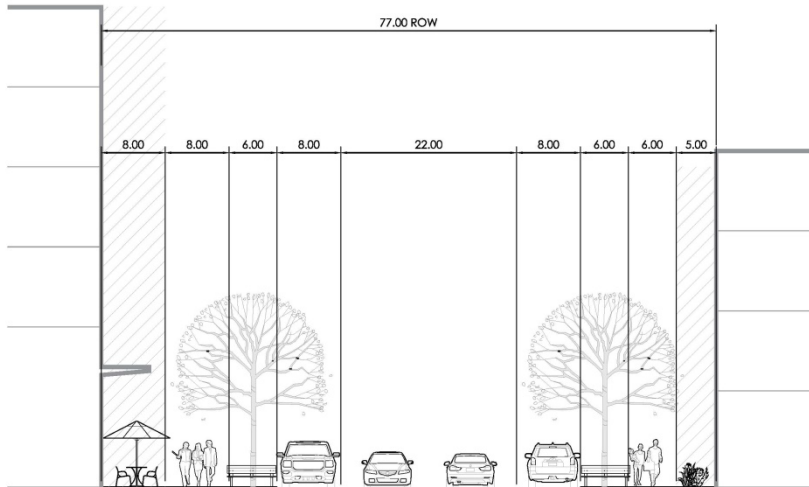
# Generalized Development Plan



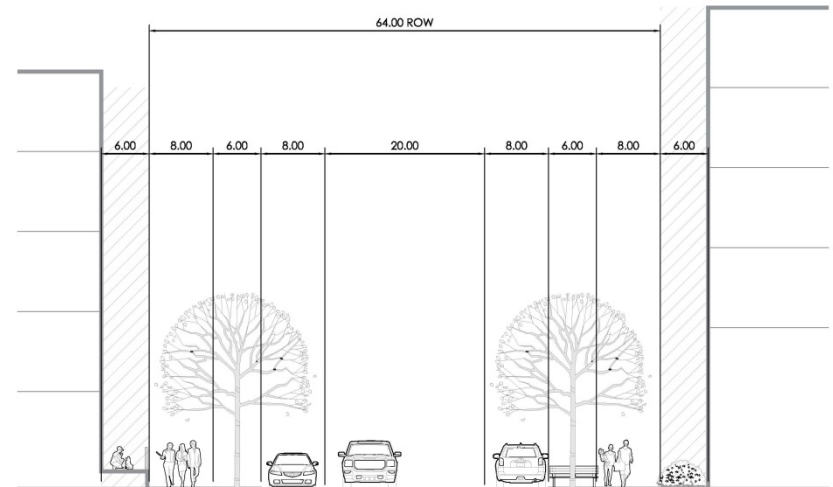
Civic Center  
56,000 sqft, surface parking



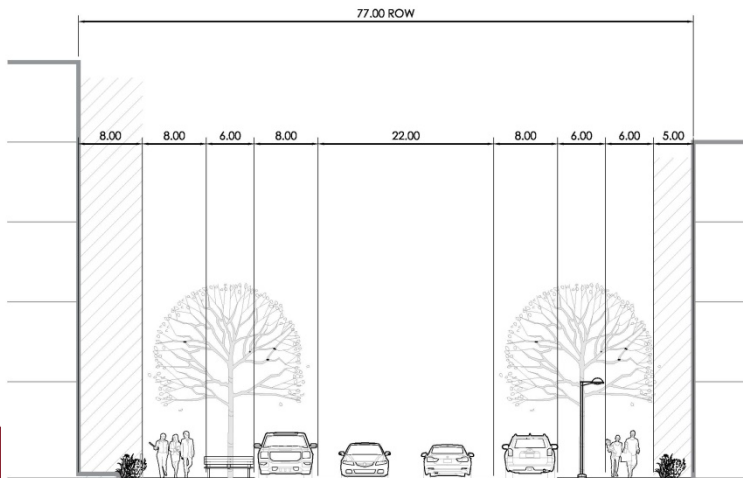
# Generalized Development Plan



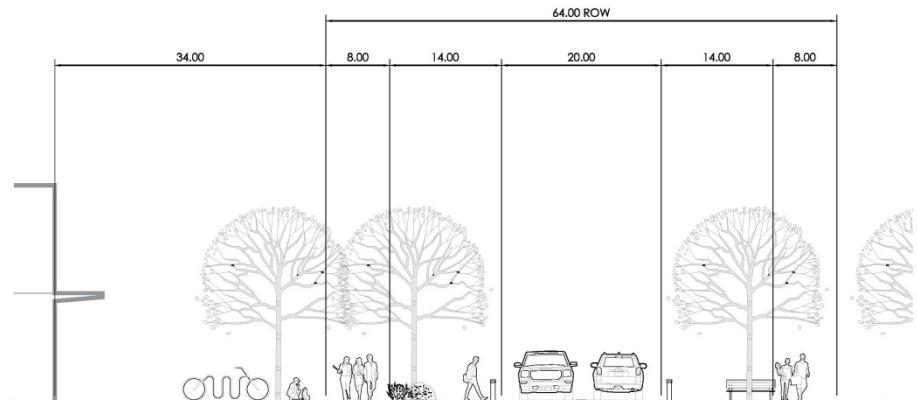
**A** MAIN STREET SECTION AT RETAIL COMMERCIAL  
SHT 1  
1-1/2" = 1'



**C** NORTH/SOUTH STREET SECTION  
SHT 1  
1-1/2" = 1'



**B** MAIN STREET SECTION AT MULTIFAMILY RESIDENTIAL  
SHT 1  
1-1/2" = 1'



**D** FESTIVAL STREET AT PLAZA  
SHT 1  
1-1/2" = 1'

Streets/Roads

# Generalized Development Plan

## Overall Statistics

- Property:
  - Project Area: 23.9 acres - After ROW Dedication: 17.69 acres
- Usage:
  - 673 Residential Units
  - 250,000 square feet of commercial uses
- Density:
  - Overall Residential Density: 38 units/acre
  - Highest Residential Density by Block: 124 units/acre
- Floor Area Ratio (FAR)
  - Overall FAR: ~1.3
  - Highest FAR by Block: ~2.78

# Project Status on UD:

Current Urban Development (UD) ordinance amendment efforts to accommodate the proposed downtown development:

- Stantec reviewed the UD ordinance regulations and provided recommendations
- County staff are currently reviewing the GDP and suggested ordinance amendments

# UD District Ordinance Amendments

- Major recommendations from Stantec:
  - Consolidate sub-district UD-1 and UD-2 into one sub-district
  - Increase residential densities and remove Floor Area Ratio (FAR) limitations
  - Reduce setback requirements
  - Increase building heights (to up to 8 stories in UD-5)
  - Reduce minimum parking requirements and allow for shared parking

# UD District Ordinance Amendments

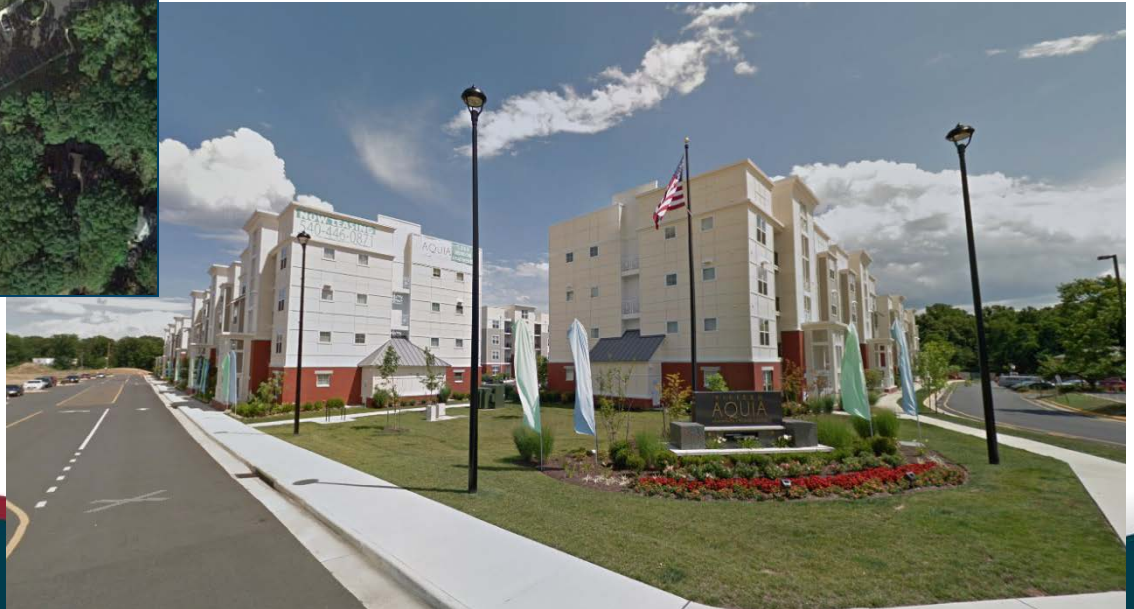
- Address multifamily density and FAR limitations
  - Currently UD is limited to 14 units/acre
    - Recommend increased density in UD-4 and UD-5
    - Minimum 40 units/acre for an urban environment with structured parking
  - Currently UD is limited to 1.0 FAR, which limits development density
    - Recommend increased FAR for UD-4 and UD-5
    - A 3.0 FAR maximum would be appropriate for the proposed scale of development
  - Alternatively, residential density and FAR limitations could be removed to allow other regulations (lot standards, setbacks, height limits) to govern density



# Density Examples

## Aquia Fifteen Apartments - ~0.93 FAR

- 4 stories, ~33 units/acre, surface parking
- Density based on entire 35-acre P-TND tract: 7.2 units/acre



# Density Examples

## Abberly Apartments - ~0.56 FAR

- 2-4 stories, ~13 units/ac, surface parking, open spaces





# Density Examples

## Downtown Fredericksburg - ~2.2 FAR

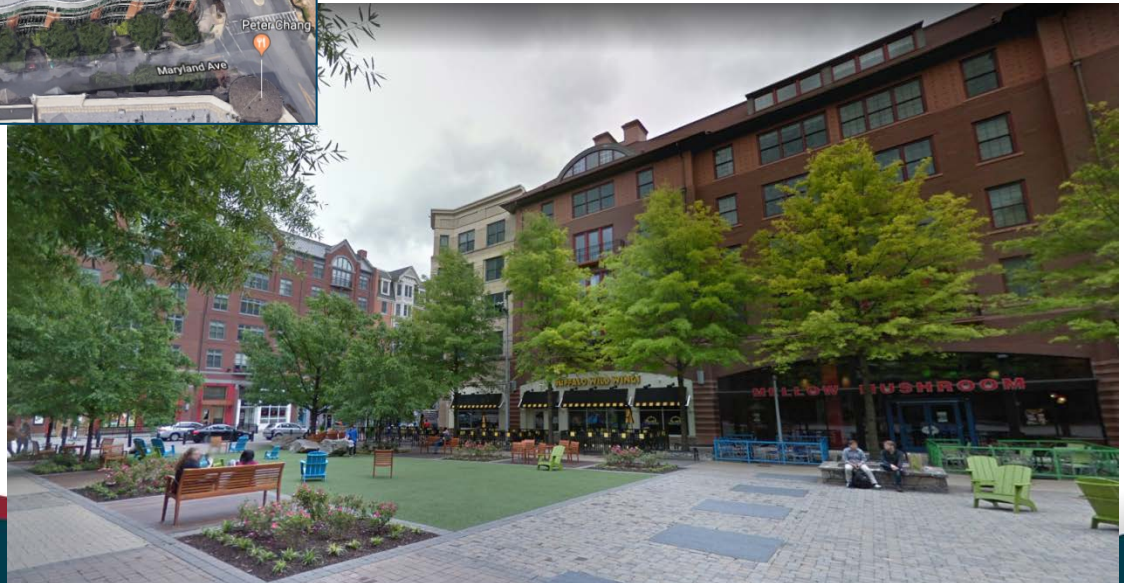
- 2-3 stories, street/structured parking



# Density Examples

## Rockville Town Square - ~3.0 FAR

- 5 stories, street/structured parking



# UD District Ordinance Amendments

- Adjust parking requirements
  - Option 1: reduce parking requirements and allow for shared parking similar to P-TND
  - Option 2: remove parking requirements for market-driven approach
  - Staff prefers Option 1



# UD District Ordinance Amendments

## ➤ Street maintenance & design

- VDOT street maintenance
  - Must conform with VDOT design requirements, or VDOT must approve an alternative design
  - VDOT would maintain curb to curb, not wide sidewalks & streetscapes
- County and/or private maintenance
  - More flexibility in design
  - A Community Development Authority (CDA) could be utilized for funding

# Next Steps

- Provide GDP and UD ordinance amendments comments to Stantec
- Finalize the draft GDP and UD ordinance amendments
- Board of Supervisors initiates rezoning and refers ordinance amendment to the Planning Commission

# Questions



# Strategies for a Stafford County Smart Community

Board of Supervisors Retreat

February 1, 2019

Michael Q. Cannon

Chief Technology Officer



# What is a “Smart Community?”

A community that has developed technological infrastructure that enables it to collect, aggregate, and analyze real-time data to improve the lives of its residents, businesses and visitors.



Sensors in roads buildings and open spaces - IoT

Wireless Broadband Everywhere

Dedicated lanes for autonomous personal vehicles and mass transit

Real-time information

Public Safety – gunshot detectors, smart cameras with facial recognition





# Why become a smart community?

- Economic development
- Broadband everywhere-all citizens connected
- GenXers and others will choose to live there
- Reduces traffic congestion
- Cuts energy Consumption
- Improves vehicle and pedestrian safety
- Can make your community safer



# Why become a smart community?



# Elements of a Smart Community

Access	Applications	
Broadband Enabled	Smart Grid Free Public Wi-Fi Smart Meters Smart Street Lighting Solar Roadways	Unmanned Aerial Drones Surveillance Cameras License Plate Recognition
Mobility	Automated Vehicle (AV) Technology Autonomous Trucking and Transit Peer-to-Peer Car/Ride Sharing	Smart Parking Real-time Bus and Transit Scheduling On-demand Urban Air Transport
Energy	Green and Renewable Real-Time Energy Monitoring Energy - Smart Buildings	





# Implementing

- Installs sensors
  - In roads, parking etc
  - Air quality sensors
  - Smart buildings
- Secure these systems and IoT devices
- Begin collecting data
- Utilize machine learning and AI
- Provide real-time data to the public



# Virginia Smart Cities Council Readiness Workshop

- Attended workshop in late October with John Holden
- Discussed Downtown Stafford with Delegate and Minority Whip Alfonso Lopez
- Met folks from the Center for Innovative Technologies (CIT)





# Center for Innovative Technologies

- Non Profit Organization based in Herndon
- Mission: “....creates technology-based economic development strategies to accelerate innovation, imagination and the next generation of technology...”
- Receives Funding from State of Virginia
- One area of focus is Smart Communities



# CIT and Stafford County

- County staff hosted three meetings with CIT and a partner of CIT, OST Global, & Del. Lopez
- CIT presented a proposal to the Downtown Stafford Planning Team
- CIT would utilize State funding to provide professional services for a “Smart Downtown Stafford” project



# CIT Statement of Work

- Develop a specification for a “Smart Downtown Stafford”
- The specification will likely include four components: for a Smart Downtown Stafford:
  - Technology Plan
  - Financial Plan
  - Operating Plan
  - Information and Innovation Plan
- Six weeks to produce draft specification
- 12 weeks to produce final specification



**Board of Supervisors**

Gary F. Snellings, Chairman  
L. Mark Dudenhefer, Vice-chairman  
Meg Bohmke  
Jack R. Cavalier  
Thomas C. Coen  
Wendy E. Maurer  
Cindy C. Shelton

Thomas C. Foley  
County Administrator

**MEMORANDUM**

To: Thomas C. Foley  
County Administrator

From: Keith Dayton  
Project Manager

Date: January 28, 2019

Subject: Comprehensive Road Evaluation

This will provide updated information regarding the status of the Comprehensive Road Evaluation (Evaluation) in preparation for the Board of Supervisors annual planning meeting, preliminary staff suggestions related to road project selection, and information relative to funding.

**EVALUATION UPDATE**

Following the Board update at the December meeting, staff conducted three public meetings, one in mid-December at Stafford Hospital, and the other two in January at Edward E. Drew Middle School and Anne E. Moncure Elementary School. With the exception of the Stafford Hospital meeting, public participation was limited, although the presentation at Edward E. Drew Middle School was captured on video, and has been subject to thousands of views in that format. Although public participation has been limited, feedback on the Evaluation has been largely positive.

Staff also provided the preliminary results of the study to Chief Cardello and Sheriff Decatur, and requested comments. Chief Cardello responded that his personnel were satisfied with the list as prepared, while Sheriff Decatur provided numerous comments from the Traffic Safety Division. These comments are attached to this memorandum.

The version of the Evaluation presented to the Board in December included 14 projects over 1,700 vehicles per day per lane (vpd/l), and included recommendations for improvements with a cost estimate for those improvements exceeding \$250 million. The remainder of the 38 projects in this category had improvements completed or underway, were not recommended for improvements, or recommendations had not yet been developed. Staff has proceeded to complete the evaluation for the remaining roads with traffic counts over 1,700 vpd/l.



January 28, 2019

Following this subsequent review, staff has modified the draft priority list as follows:

<u>Roads Removed</u>	<u>Rationale</u>
1. Garrisonville Road-Onville to Eustace	Project complete
2. Berea Church Road	Project under design
3. Doc Stone Road	Problems related to commercial area
4. Hartwood Church Road	Accidents located at intersection with Rt. 17
5. Mine Road	Connection to Rt. 630 nearly complete
6. Plantation Drive	High cost to widen this 3-lane road

<u>Roads Moved to Shoulder Wedge List</u>	<u>Rationale</u>
1. Ramoth Church Road	Improvements at Rt. 630 underway
2. Andrew Chapel Road	Interim measure pending future funding
3. Poplar Road-Rt. 17 to Stefaniga	High cost of reconstruction-lighter traffic
4. Winding Cr. Road-Embrey Mill to Shelton	Interim measure pending funding source
5. White Oak Road-Ferry Rd to King George	High cost of reconstruction-lighter traffic
6. Telegraph Road	Lighter traffic counts
7. Joshua Road	Lighter traffic counts
8. Enon Road-Stafford Ind. Ln. to Truslow	Interim measure pending future funding
9. Courthouse Road-Ramoth to Shelton Shop	Interim measure pending future funding
10. Ferry Road	High cost of reconstruction, property impacts
11. Winding Creek Road-Courthouse to Embrey	Lower number of accidents in this section
12. Barrett Heights Road	Interim measure pending future funding
13. Poplar Road-Stefaniga to Hartwood Rd	Lighter traffic counts
14. Eustace Road	Interim measure pending future funding
15. Mountain View-Centreport to Kellogg Mill	Lighter traffic counts
16. Hope Road	Lighter traffic counts
17. Garrisonville Road-Lk Arrowhead to Fauquier	Lighter traffic counts

The roads with traffic counts greater than 1,700 vpd/l were moved to the attached shoulder wedge list and placed according to their total score with the original ranking in red font.

<u>Roads to be Considered for Alternative Measures</u>	<u>Rationale</u>
1. Garrisonville Road-I-95 to Onville Road	STARS Study-high cost for improvements
2. Butler/White Oak Road	STARS Study- high cost for improvements
3. Garrisonville Road-Shelton Shop to Joshua	STARS Study- high cost for improvements
4. Primmer House Road	Study score does not merit improvements at this time
5. Garrisonville Road-Joshua to Lk Arrowhead	High cost of 3-lane widening

These adjustments leave ten projects for consideration for major improvements, at an estimated cost of nearly \$190 million. The project descriptions, Evaluation scoring, and estimated costs are shown on the attached Evaluation matrix.

## **PROJECT CONSIDERATIONS**

### **Major Road Reconstruction Projects**

As noted above, ten projects are remain on the Evaluation list for major projects and recommended for funding consideration. Staff has prepared and attached two examples of how projects could be grouped for a total cost of approximately \$100 million. That total cost may be amended as desired by the Board.

The first example selects the first 4 projects as described in the Evaluation, along with the #7 project, Layhill Road, as it is an extension of the #4 project, Morton Road. This results in a 5-project list totaling just over \$100 million.

The second example modifies the scope of the Shelton Shop Road project to complete much of it as a 2-lane reconstruction at a significantly lower cost. This reduced cost allows two additional projects to be added, Enon Road and Leeland Road, while holding the total cost to just under \$105 million.

Additional possibilities for project groupings exist and can be provided if desired. **It should be noted that the costs provided herein are estimates developed using recent projects as examples; however, there has been significant upward pressure in road construction costs of late.**

### **Shoulder Wedge Improvements**

With the addition of 17 roads from the heavier traveled road list, there are now 39 roads/road segments recommended for shoulder wedge treatment. Three roads, Lichfield Boulevard & West Cambridge Street (wedge treatment not beneficial) and Brent Point Road (scheduled for paving under unpaved road program) were removed from the list. As shown on the attached priority list, wedge treatment of these 39 roads is estimated to cost over \$11.26 million, *if completed in conjunction with routine repaving*. If completed as standalone work, it is estimated the cost will be doubled.

Although the attached list is ranked in priority order based on scoring, consideration of the VDOT repaving schedule may result in completion of this work in a different order. It is also not certain which of the roads on the shoulder wedge list are suitable for the shoulder wedge process. It is necessary to have 2' of available shoulder area between the edge of the paved surface and the top of the ditch. Many of our roads will not have this available, and roadway widening is not permitted under this road maintenance program. Staff is scheduled to conduct a field review of the roads on the shoulder wedge list on January 30 and will have more information after that review.

## **TRANSPORTATION FUNDING**

Stafford has used a variety of local, state and federal funding sources while completing multiple transportation improvements over the last 15 years. Some of the principal sources of funding and the application to the 10 projects remaining on the list is summarized below.

### **Federal Funding**

Several federal funding programs exist and have been used on multiple completed and planned transportation improvements in the County. Use of these funds results in the federalization of a project, increasing the complexity of regulations for compliance and documentation, extending completion and increasing cost. Federalization of a project should be considered only when there is a substantial amount of federal funding offered.



### Congestion Mitigation and Air Quality (CMAQ)

This funding source is particularly suitable for congestion relief projects, and could be applied to the Butler Road, Garrisonville Road, Layhill Road and Enon Road projects. Some CMAQ funding is currently programmed for the Enon Road project as part of the unsuccessful Smart Scale application. This source of funding is competitive, and requires consent by FAMPO. Funding streams are rather limited, and presently scheduling for availability after 2025.

### Regional Surface Transportation Program (RSTP)

Similar to CMAQ, but more flexible in application, RSTP funds can be applied to a wider variety of projects, and could possibly be used to help fund any of the 10 projects on the list. Whereas FAMPO support is required, strong consideration to the use of these funds for regional transportation priorities (Butler Road), and those project intended to improve Route 1 (Enon Road and Layhill Road) should be given. Combining CMAQ and RSTP funding on a project planned for federalization should also be considered.

### Highway Safety Improvement Program (HSIP)

Applications for funding under HSIP have generally been managed by VDOT staff, after coordinating with the County. These funds can be applied to improve unsafe roads and provide for multimodal use of highway corridors. Over \$3 million in HSIP funding is currently applied to Leeland Road, but is targeted for the construction of a multi-purpose trail to connect Deacon Road to the Leeland VRE Station.

### Transportation Alternatives Program (TAP)

This funding source has been used multiple times in the completion of trail and sidewalk improvements around the County. While not suitable for use on strictly road improvement projects, it may be possible to include TAP funds on a road improvement to fund sidewalk enhancements. The Butler Road project could be partially funded with TAP (and HSIP) funding to extend a sidewalk from Route 1 in Falmouth past Brooks Park and the YMCA.

## **State Funding**

Virginia has a variety of funding programs available that could be used to improve the roads included on the list. Stafford has used each of the programs listed below to complete projects in the past. While these funding sources are managed by the state, certain of them have federal reporting requirements attached to them.

### Smart Scale

Virginia has transitioned to the Smart Scale program as the largest source of transportation improvement funding available to localities. All of the projects on the priority list could apply to have Smart Scale funding; however, the scoring process for this program appears not to favor the types of safety and congestion relief projects included on the priority list. The Butler Road project may be best positioned for success under the Smart Scale program, although the next round of applications is not due until 2020, for funding available in FY2026 and 2027.

### Revenue Sharing

The revenue sharing program has been pared back to shift more funding to Smart Scale, with \$100 million available for the program. A maximum of \$5 million per year (\$10 million per biennial cycle) is available to localities under a 50% match system. Each of the projects on the priority list would qualify for revenue sharing, although competition for these funds has increased over time, and the amount of funding would be dependent

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upon the number and type of other applications received during an application cycle. It appears that each of our projects would be considered a Priority 2 under the review criteria.

### Secondary Six Year Plan (SSYP)

The County is programmed to receive approximately \$500,000 each year under the SSYP, and is provided with significant flexibility to use these funds for secondary road improvements. With the exception of the Butler Road and White Oak Road projects, all projects on the priority list would be eligible for SSYP funds.

The Board has previously programmed SSYP funds for shoulder wedge improvements, and removing these funds for major road reconstruction would impact the schedule for shoulder wedge improvements.

### Local Funding

Stafford has applied a variety of local funding sources to advance road improvement priorities in recent years. The County has considerable control over how these funds may be applied, although the available amounts are limited and may fluctuate in future years. A summary of these sources is provided below.

#### Transportation Fund

Derived from fuels tax revenues, most of the annual revenue stream from this source of funding is now committed for regional transit support and debt service for previously funded road projects, and not available for new road improvement initiatives. Recent projections for fuels tax revenues indicate approximately \$600,000 per year may be available, and these funds can be applied to any project on the priority list.

#### Existing Service Districts (Garrisonville Road and Warrenton Road)

The existing transportation district along Garrisonville Road generates about \$500,000 per year in revenue, which is applied in large part to fund the debt service on the recently completed Garrisonville Road widening project. The priority list includes an extension of the widening effort along Garrisonville Road from Eustace Road to Shelton Shop Road which could be funded by the service district, although this would require a significant increase in the tax rate.

Funding collected in the Warrenton Road Service District has been expended or committed in support of road improvements, with the tax rate currently set at \$0. No projects on the priority list are within the boundaries of this service district.

#### Proffers

The County collects developer proffers dedicated for transportation improvements as a result of past rezonings. While staff estimates collection of approximately \$800,000 in transportation proffers this fiscal year, the proffer language often restricts the application of these proffers to specific improvements. Furthermore, changes in proffer language enacted by the state will result in a decline of this source of funding over time. Additional analysis is required to determine how much, if any, proffer funding could be applied to the priority projects.

#### Transportation Impact Fees

The Board passed County-wide Transportation Impact fees in the amount of \$2,999 per residential unit. Staff estimates collection of \$600,000 this fiscal year, which must be applied to one of 20 projects included on the road list that was attached to the ordinance. Garrisonville Road and Enon Road are on the impact fee list and the priority road list and could be funded with future transportation impact fees. Prior collections of impact fees have been dedicated to funding road improvements recently completed or underway.

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### Real Estate Taxes

With current real estate values, the County collects about \$1.6 million per penny on the real estate tax rate. The Board could establish a tax rate to support road improvements. This levy would affect all zoning categories applicable to the general real estate levy, and the funding could be applied to all projects on the priority list.

### Transportation Service District

The Board has the option to establish a service district to provide for the funding of road improvements. The County Attorney is preparing information on this option.

### Bond Referendum

To provide substantial funding for a greater number of projects to proceed at a quicker pace, the Board could pursue a bond referendum similar to the one approved by Stafford residents in 2008. For example, a \$100 million general obligation bond will require approximately \$8.4 million annually to service the debt, or about 5¢ on the tax rate. This will result in an annual payment of \$157 for a \$300,000 home, provided the real estate tax rate is used. If a transportation service district is established, the rate may vary according to the area and zoning categories included.

It is reasonable to assume that the County will be successful in receiving funding from the various federal and state programs to apply to completion of road improvement priorities. Furthermore, funding from proffers, impact fees and the fuels tax, though limited, could supplement proceeds from a bond referendum. The Board could lower the amount of the bond referendum with the expectation of receiving this additional funding. Conversely, the Board could include all 10 of the road improvement project priorities in a \$100 million bond referendum with the understanding that the additional \$90 million would be provided from other sources. Should those other funding sources fail to materialize to the extent necessary, some projects would be deferred.

This memorandum is intended to provide the Board with information to facilitate the discussion at their upcoming annual planning meeting. Following their input from that meeting, the Comprehensive Road Evaluation can be modified to reflect this feedback.

Enclosures (as noted)

KCD:kcd

## Sheriff's Office Feedback

Here's some feedback and opinions from some of the folks in Traffic Safety.

All of the roads listed in the <**1700** cars per day evaluation should move forward with shoulder improvements, with the exception of the following:

#2 Falls Run Drive – no improvements needed at this time.

#5 Lichfield Blvd. - no improvements at this time.

#6 & #9 Brent Point Road - no improvements needed on the gravel portion (except pot hole repairs), but shoulder improvements are needed on the paved portion from Arkendale to the end (increased park traffic).

#10 McWhirt Loop – no improvements at this time.

#12 West Cambridge Street – no improvements at this time, but improvements are needed on connecting King Street from W. Cambridge to Rowser Road to include portions of River Road where drainage is a problem (Winter time ice issues with water on the roadway).

#13 Truslow Road – Shoulder improvements should be from Berea Church Road to Poplar Road first, and then from Cambridge Street to Enon Road second. The portion from Enon to Berea has already been upgraded.

#20 Potomac Run Road – already had improvements.

Roads with >**1700** cars per day:

#1, #4, #9, #20 Butler Road/White Oak Road - is a priority with widening from Carter Street to Castle Rock Drive. Other portions of Rt. 218, Castle Rock to Baron Park nothing at this time, Baron Park to Ferry Road could use a 3 lane improvement, Ferry Road to K.G. could use a shoulder improvements.

#5 & #11 Morton Road & Layhill Road from Primmer House to Rt. 1, at least a 3 lane widening with ditch/drainage improvements at Forbes Street (south side).

#7 Ramoth Church Road – shoulder improvements from end to end, with overall road improvements on Kellogg Mill from Ramoth to Woodcutters.

#2, #6, #10, #33, #37, #38 **Garrisonville Road – A 3 lane widening/improvement from Joshua to the Fauquier line should be priority**, or at least shoulder improvements in this area.

#16 Winding Creek Road – Shoulder improvements, and widen the sharp turn before Walpole.

#24 Plantation Drive – No improvements needed.

#26 Enon Road – 3 Lane widening from Rt.1 to Stafford Indians Lane, remainder shoulder improvements, and widen the curve by Hulls Chapel.

#32 Eustace Road – No improvements needed.

Roads from #19 to #38 don't have an improvement recommendation listed, but should at least have shoulder improvements.

On the >1700 vehicles per day:

3 of the problems are listed as #5 Morton Rd, #11 Layhill Rd. and #35 Primmer House Rd. All three are technically the same road. To me the worst is the stretch that connects to Forbes in the blind corner. The road backs up frequently, poor sight distance, dangerous curves and floods frequently with no shoulders.

#28 Ferry Rd is listed as mainly with the intersection of Rt. 3, but I would add the intersection with Town and Country/Colebrook is just as dangerous

#32 Eustace Rd. in my opinion is almost entirely centered on Rt.610, so move this down the list

I would also add the following: Intersection of US 1/Coachman Circle, US 1 and Woodstock and US 1/Acadia. I feel like all three of those are dangerous intersections with poor sight distance.

On the <1700 vehicles per day:

Agree with #1 Woodstock and US 1 (as I pointed out above)

#2 Falls Run Dr is not a problem from what I have seen. It is a short connection between Rt. 17 and S. Gateway Dr. with minimal traffic. Move this to low priority.

#9 Brent Point to Arkendale- while there is light traffic now, we can expect an uptick with the new Widewater State Park, so this project may become important.



COMPREHENSIVE ROAD EVALUATION -PRIORITY PROJECTS - ROADS > 1,700 VPD/L																																							
	No#	Road Segment	Route Number	Number of Lanes	Facility Type	Roadway Characteristics		Vehicle Use					Safety												Operational Considerations					Implementation									
						Description	Score	ImprvmntC mpltd,plnd, updrdw	AADT (Low)	AADT (High)	VPD/Lane	Score	Potential For Growth	3-yr Crash Rate	Score	3-yr Injury Rate	Score	3-yr Fatality Rate	Score	Reported Road Concerns	Special Traffic Conditions	Safety Study	Subtotal Score	Total # of Crashes	Length (Miles)	Initial Review Comments	Crashes per Mile	Score	Cap/hr	veh/hr	vol/cap ratio	Rating	Score	Recommended Improvement	Total Cost	Total Score	Running Total	COMMENTS	
1	3a	BUTLER RD Falmouth Int to Castle Rock	218	2	Minor Collector	CL, EL and small shoulders, curb and gutter and sidewalks closer to Falmouth Int.	100	No	24153	24153	12077	500	300	270	300	67	300	18	300				1800	45	0.9	Congested 2-lane rural section sandwiched between improved 4-lane sections. 37 intersection caused crashes and 7 road width; 3 fatalities.	50.0	300	2100	2174	1.04	F	400	2 to 4-lane widening (urban)	\$ 18,900,000	2500	\$ 18,900,000	Eliminates 2-lane "pinch point" between Castle Rock and the Falmouth Intersection improvements. Much of the necessary ROW is County owned.	
3	11	SHELTON SHOP RD	648	2	Minor collector	CL, EL and small shoulders	100	No	11643	15328	7664	400	300	242	300	116	300	0	0		Yes		1400	83	1.9	This is a heavily traveled, rural style road in a developing area with high schools on either end. 48 of the 80 crashes are intersection related, with most of the rest road width caused.	43.7	300	2100	1380	0.66	E	400	2 to 3 lane widening	\$ 32,300,000	2100	\$ 51,200,000	Widening from a 2 to 3 lane section might alleviate the intersection and road geometry accidents at less cost than a 4-lane section	
5	15	MORTON RD	624	2	Minor collector, major local	CL, no EL (except 500' beyond its intersection with Primmer House Road) and no shoulders	200	No	9600	9600	4800	200	300	276	300	251	500	0	0				1500	11	0.38	8 crashes appear intersection related and 3 road width related (run off & head on)	28.9	300	2100	864	0.41	D	200	2 to 3 lane widening	\$ 6,460,000	2000	\$ 57,660,000	Increasingly congested east-west access road to Route 1 & I-95, with high peak traffic periods. Could be combined with Layhill Road & Rt. 1 improvements to improve north-south	
6	1c	GARRISONVILLE RD Eustace Road to Shelton Shop	610	4	Major Collector	CL is a physical median or a continuous left turn lane, EL, wide shoulders	0	No	33000	33000	8250	400	300	167	200	65	100	2.03	300		Yes		1300	82	1.38	Vast majority of crashes were congestion/intersection related.	59.4	300	4800	2970	0.62	E	400	4 to 6-lane widening (urban)	\$ 34,500,000	2000	\$ 92,160,000	Continuation of improvements on Rt. 610, extending 6-lane section to Shelton Shop.	
8	18	ONVILLE RD	641	2	Minor collector	CL, EL and no to small shoulders	100	No	9400	9400	4700	200	300	293	300	81	100	8	300	Yes			1300	36	1.2	36 crashes distributed along road with increase at intersections. Multiple run off road accidents.	30.0	300	2000	846	0.42	D	200	2 to 3 lane widening/2 lane reconstruction	\$ 15,700,000	1800	\$ 107,860,000	Correction of congestion related accidents near Rt. 610 and road geometry accidents further north	
9		WHITE OAK RD Baron Park to Ferry Rd	218	2	Major Collector	CL,EL with shoulders and clear zone	0	No	15690	15690	7845	400	200	196	300	120	300	0	0				1200	31	1.82	31 crashes, 19 injuries with most intersection related	17.0	200	2500	1412	0.56	E	400	2 to 4 lane widening (rural) & 3-lane widening	\$ 33,800,000	1800	\$ 141,660,000	Widen to 4 lanes on the more congested western section to Little Whin, then 3 lanes to Ferry Road	
11	14	LAYHILL RD	624	2	Major local	CL, EL and small shoulders	100	No	9700	9700	4850	200	300	324	300	172	300	0	0				1200	17	0.5	9 crashes appear intersection related with 7 width related (run-off and sideswipe)	34.0	300	2100	873	0.42	D	200	2 to 3 lane widening	\$ 8,500,000	1700	\$ 150,160,000	Increasingly congested east-west access road to Route 1 & I-95, with high peak traffic periods. Could be combined with Rt. 1 improvements to improve north-south flow as well	
12		MOUNTAIN VIEW RD Kellogg Mill to Choptank Road	627	2	Major local	CL, no EL (except at major intersections) and no shoulders	200	No	7851	11070	5535	300	300	159	200	63	100	0	0	Yes	Yes		1100	33	3.13	Numerous accidents, combination of intersection and road geometry	10.5	200	1400	996	0.71	E	400	2 lane reconstruction	\$ 26,195,000	1700	\$ 176,355,000	Highest traffic use between Stephaniga and Choptank-use 2-lane reconstruction (1.3 mi); Balance use 3R (1.83 mi)	
17	24a	ENON RD Rt.1 to Stafford Indians Ln	753	2	Major Local	CL, EL and small shoulders	100	No	10762	10762	5381	300	300	147	200	62	100	0	0	Yes	Yes		1000	24	0.68	Preponderance of intersection related crashes. Calculation at right adds crashes on Enon to those counted on rt 1 at intersection with Enon	35.3	300	2200	969	0.44	D	200	2 to 3 lane widening	\$ 8,000,000	1500	\$ 184,355,000	The 2018 Smart Scale application was unsuccessful. The safety and congestion problems in this area will continue for another decade at least unless the County prioritizes improvements.	
18	13a	LEELAND Jilian Dr to Portland Dr	626		Major Local	CL, no EL (except from Colemans Mill Drive to Deacon Road), small to no shoulders (bike lane 600' long from Deacon Road), sidewalks where Leeland Station subdivision is located	200	Yes	14762	14762	7381	300	200	114	100	68	100	0	0				900	5	0.4	Intersection type crashes. HSIP project funded and under design.	12.5	200	1300	1329	1.02	F	400	2 to 3 lane widening	\$5,270,000	1500	\$ 189,625,000	VDOT recently raised the estimated cost of this project to \$9 million, requiring \$5.3 million in supplemental County funding.	
2	1a	GARRISONVILLE RD I-95 to Onville Road	610	6	Minor Arterial	CL is a physical median, No EL (curb and gutter instead), no shoulders but sidewalks on both sides of the road	0	No	72000	72000	12000	500	300	273	300	104	300	1.9	300				1700	269	1.36	269 crashes on this 1.36 mi section, overwhelmingly congestion related	197.8	300	7800	6480	0.83	E	400	STARS Study	TBD	2400			Very high crash density on this congested section. Widening is impractical, but other safety improvements may be feasible
4	9a	BUTLER/WHITE OAK RD Castle Rock to Baron Pk Rd	218	4	Major Collector	CL is a physical median, EL and wide shoulders	0	No	15977	15977	3994	200	300	317	300	138	500	6.9	300				1600	46	0.86	36 crashes intersection related with 4 others sideswipe-same direction (4-lane road). 1 fatality,20 injuries	53.5	300	5000	1438	0.29	C	200	STARS Study	TBD	2100			High crash density on this congested section. Widening is expensive, but other safety improvements may be feasible
33	1d	GARRISONVILLE RD Shelton Shop to Joshua	610	4	Major Collector	CL is a physical median, No EL (curb and gutter instead), wide shoulders, sidewalks in some areas	0	No	16000	16000	4000	200	300	173	200	44	0	0	0				700	51	1.75	Crashes are mainly intersection and congestion related.	29.1	300	5000	1440	0.29	C	200	4 to 6-lane widening (urban)	\$ 43,750,000	1200			This is presently a 4-lane section. Widening to 6 lanes would be very expensive. Could possibly identify less expensive options with a STARS study?
35	16	PRIMMER HOUSE RD	624	2	Minor collector, major local	CL w/ curb and gutter, no shoulders and sidewalks on both sides of the road	0	No	9600	9600	4800	200	300	102	100	68	100	0	0				700	6	0.56	6 crashes, 4 were intersection related and none road geometry related.	10.7	200	2200	864	0.39	D	200	2 to 3-lane widening	\$ 9,520,000	1100			Improvements not recommended at this time.
37	1e	GARRISONVILLE RD Joshua to Lk Arrowhead	610	2	Minor Collector	CL, EL and small shoulders	100	No	10000	10000	5000	300	100	105	100	48	0	0	0				600	42	3.65	Significant number of crashes spread along the entire stretch of road, but closer review indicates a lower priority overall.	11.5	100	2200	900	0.41	D	200	2 to 3-lane widening	\$ 62,050,000	900			Improvements not recommended at this time.

PROJECT LIST - OPTION 1																																						
	No#	Road Segment	Route Number	Number of Lanes	Facility Type	Roadway Characteristics			Vehicle Use					Safety												Operational Considerations					Implementation							
						Description	Score	Imprvmnt: mplt'd,plnd, undrwy	AADT (Low)	AADT (High)	VPD/Lane	Score	Potential For Growth	3-yr Crash Rate	Score	3-yr Injury Rate	Score	3-yr Fatality Rate	Score	Reported Road Concerns	Special Traffic Conditions	Safety Study	Subtotal Score	Total # of Crashes	Length (Miles)	Initial Review Comments	Crashes per Mile	Score	Cap/hr	veh/hr	vol/cap ratio	Rating	Score	Recommended Improvement	Total Cost	Total Score	Running Total	COMMENTS
1	3a	BUTLER RD Falmouth Int to Castle Rock	218	2	Minor Collector	CL, EL and small shoulders, curb and gutter and sidewalks closer to Falmouth Int.	100	No	24153	24153	12077	500	300	270	300	67	300	18	300				1800	45	0.9	Congested 2-lane rural section sandwiched between improved 4-lane sections. 37 intersection caused crashes and 7 road width; 3 fatalities.	50.0	300	2100	2174	1.04	F	400	2 to 4-lane widening (urban)	\$ 18,900,000	2500	\$ 18,900,000	Eliminates 2-lane "pinch point" between Castle Rock and the Falmouth intersection improvements. Much of the necessary ROW is County owned.
3	11	SHELTON SHOP RD	648	2	Minor collector	CL, EL and small shoulders	100	No	11643	15328	7664	400	300	242	300	116	300	0	0		Yes		1400	83	1.9	This is a heavily traveled, rural style road in a developing area with high schools on either end. 48 of the 80 crashes are intersection related, with most of the rest road width caused.	43.7	300	2100	1380	0.66	E	400	2 to 3 lane widening	\$ 32,300,000	2100	\$ 51,200,000	Widening from a 2 to 3 lane section might alleviate the intersection and road geometry accidents at less cost than a 4-lane section
5	15	MORTON RD	624	2	Minor collector, major local	CL, no EL (except 500' beyond its intersection with Primmer House Road) and no shoulders	200	No	9600	9600	4800	200	300	276	300	251	500	0	0				1500	11	0.38	8 crashes appear intersection related and 3 road width related (run off & head on)	28.9	300	2100	864	0.41	D	200	2 to 3 lane widening	\$ 6,460,000	2000	\$ 57,660,000	Increasingly congested east-west access road to Route 1 & I-95, with high peak traffic periods. Could be combined with Layhill Road & Rt. 1 improvements to improve north-south flow as well
6	1c	GARRISONVILLE RD Eustace Road to Shelton Shop	610	4	Major Collector	CL is a physical median or a continuous left turn lane, EL, wide shoulders	0	No	33000	33000	8250	400	300	167	200	65	100	2.03	300		Yes		1300	82	1.38	Vast majority of crashes were congestion/intersection related.	59.4	300	4800	2970	0.62	E	400	4 to 6-lane widening (urban)	\$ 34,500,000	2000	\$ 92,160,000	Continuation of improvements on Rt. 610, extending 6-lane section to Shelton Shop.
11	14	LAYHILL RD	624	2	Major local	CL, EL and small shoulders	100	No	9700	9700	4850	200	300	324	300	172	300	0	0				1200	17	0.5	9 crashes appear intersection related with 7 width related (run-off and sideswipe)	34.0	300	2100	873	0.42	D	200	2 to 3 lane widening	\$ 8,500,000	1700	\$100,660,000	Increasingly congested east-west access road to Route 1 & I-95, with high peak traffic periods. Could be combined with Rt. 1 improvements to improve north-south flow as well

PROJECT LIST - OPTION 2

	No#	Road Segment	Route Number	Number of Lanes	Facility Type	Roadway Characteristics		Vehicle Use						Safety														Operational Considerations					Implementation					
						Description	Score	Imprvmnt: c mplt'd, plnd, undrwy	AADT (Low)	AADT (High)	VPD/Lane	Score	Potential For Growth	3-yr Crash Rate	Score	3-yr Injury Rate	Score	3-yr Fatality Rate	Score	Reported Road Concerns	Special Traffic Conditions	Safety Study	Subtotal Score	Total # of Crashes	Length (Miles)	Initial Review Comments	Crashes per Mile	Score	Cap/hr	veh/hr	vol/cap ratio	Rating	Score	Recommended Improvement	Total Cost	Total Score	Running Total	COMMENTS
1	3a	BUTLER RD Falmouth Int to Castle Rock	218	2	Minor Collector	CL, EL and small shoulders, curb and gutter and sidewalks closer to Falmouth Int.	100	No	24153	24153	12077	500	300	270	300	67	300	18	300				1800	45	0.9	Congested 2-lane rural section sandwiched between improved 4-lane sections. 37 intersection caused crashes and 7 road width; 3 fatalities.	50.0	300	2100	2174	1.04	F	400	2 to 4-lane widening (urban)	\$18,900,000	2500	\$ 18,900,000	Eliminates 2-lane "pinch point" between Castle Rock and the Falmouth Intersection improvements. Much of the necessary ROW is County owned.
3	11	SHELTON SHOP RD	648	2	Minor collector	CL, EL and small shoulders	100	No	11643	15328	7664	400	300	242	300	116	300	0	0		Yes		1400	83	1.9	This is a heavily traveled, rural style road in a developing area with high schools on either end. 48 of the 80 crashes are intersection related, with most of the rest road width	43.7	300	2100	1380	0.66	E	400	2 to 3 lane widening/2-lane reconstruction	\$22,700,000	2100	\$ 41,600,000	Widening from a 2 to 3 lane section to Winding Creek Road, then a 2-lane reconstruction to Mountain View Road
5	15	MORTON RD	624	2	Minor collector, major local	CL, no EL (except 500' beyond its intersection with Primmer House Road) and no shoulders	200	No	9600	9600	4800	200	300	276	300	251	500	0	0				1500	11	0.38	8 crashes appear intersection related and 3 road width related (run off & head on)	28.9	300	2100	864	0.41	D	200	2 to 3 lane widening	\$ 6,460,000	2000	\$ 48,060,000	Increasingly congested east-west access road to Route 1 & I-95, with high peak traffic periods. Could be combined with Layhill Road & Rt. 1 improvements to improve north-south flow as well
6	1c	GARRISONVILLE RD Eustace Road to Shelton Shop	610	4	Major Collector	CL is a physical median or a continuous left turn lane, EL, wide shoulders	0	No	33000	33000	8250	400	300	167	200	65	100	2.03	300		Yes		1300	82	1.38	Vast majority of crashes were congestion/intersection related.	59.4	300	4800	2970	0.62	E	400	4 to 6-lane widening (urban)	\$34,500,000	2000	\$ 82,560,000	Continuation of improvements on Rt. 610, extending 6-lane section to Shelton Shop.
11	14	LAYHILL RD	624	2	Major local	CL, EL and small shoulders	100	No	9700	9700	4850	200	300	324	300	172	300	0	0				1200	17	0.5	9 crashes appear intersection related with 7 width related (run-off and sideswipe)	34.0	300	2100	873	0.42	D	200	2 to 3 lane widening	\$ 8,500,000	1700	\$ 91,060,000	Increasingly congested east-west access road to Route 1 & I-95, with high peak traffic periods. Could be combined with Rt. 1 improvements to improve north-south flow as well
17	24a	ENON RD Rt.1 to Stafford Indians Ln	753	2	Major Local	CL, EL and small shoulders	100	No	10762	10762	5381	300	300	147	200	62	100	0	0	Yes	Yes		1000	24	0.68	Preponderance of intersection related crashes. Calculation at right adds crashes on Enon to those counted on rt 1 at intersection with Enon	35.3	300	2200	969	0.44	D	200	2 to 3 lane widening	\$ 8,000,000	1500	\$ 99,060,000	The 2018 Smart Scale application was unsuccessful. The safety and congestion problems in this area will continue for another decade at least unless the County prioritizes improvements.
18	13a	LEELAND Jillian Dr to Portland Dr	626		Major Local	CL, no EL (except from Colemans Mill Drive to Deacon Road), small to no shoulders (bike lane 600' long from Deacon Road), sidewalks where Leeland Station subdivision is located	200	Yes	14762	14762	7381	300	200	114	100	68	100	0	0				900	5	0.4	Intersection type crashes. HSIP project funded and under design.	12.5	200	1300	1329	1.02	F	400	2 to 3 lane widening	\$5,270,000	1500	\$104,330,000	VDOT recently raised the estimated cost of this project to \$9 million, requiring \$5.3 million in supplemental County funding.

COMPREHENSIVE ROAD EVALUATION ROADS RECOMMENDED FOR SHOULDER WEDGE TREATMENT																																						
	No#	Road Segment	Route Number	Number of Lanes	Facility Type	Roadway Characteristics		Vehicle Use					Safety												Operations					Implementation								
						Description	Score	Imprvmt: c mplt,d,plnd, undrwy	AADT (Low)	AADT (High)	VPD/Lane	Score	Potential For Growth	3-yr Crash Rate	Score	3-yr Injury Rate	Score	3-yr Fatality Rate	Score	Reported Road Concerns	Special Traffic Conditions	Safety Study	Score	Total # of Crashes	Length (Miles)	Initial review Comments	Crashes per Mile	Score	Cap/hr	veh/hr	vol/cap ratio	Rating	Score	Recommended Improvement	Total Cost	Total Score	Running Total	Comments
1	70	WOODSTOCK LN	639	2	N/A	No CL, No EL and no shoulders	300	Yes*	1800	1800	900	100	200	1116	300	279	500	0	0			Yes	1400	5	0.18	Five crashes and one injury resulted in the scoring. These occurred near the intersection with Route 1, which is being improved.	27.8	300	800	162	0.20	C	200	2' Shoulder Wedge w/ Overlay	\$ 19,569	1900	\$ 19,569	Although the intersection is scheduled for improvement as a Smart Scale project, widening the remaining section would be an improvement. Possibly add this to Smart Scale project currently underway.
7	38	RAMOTH CHURCH RD	628	2	Major local	CL, no EL and no shoulders	200	No	4000	4200	2100	200	300	245	300	154	300	6	300				1600	38	4.45	36 crashes including 17 run off road spread along entire 4.5 mile segment. High number (24) with injuries.	8.5	100	1400	378	0.27	C	200	2' Shoulder Wedge w/ Overlay	\$ 483,795.10	1900	\$ 503,364	Employ shoulder wedge in the interim pending funding for future improvements
14	35	ANDREW CHAPEL RD	629	2	Major local	CL, no EL and no shoulders	200	No	4500	4500	2250	200	200	254	300	115	300	0	0				1200	11	0.9	11 accidents including 5 off road spread along .9 mile section	12.2	200	1400	405	0.29	C	200	2' Shoulder Wedge w/ Overlay	\$ 97,846.20	1600	\$ 601,211	Employ shoulder wedge in the interim pending funding for future improvements
15	31a	POPLAR RD Rt 17 to Stefaniga	616	2	Major local	CL, EL and small shoulders - EL ends @ approximately 100' before intersection w/ Cedar Crest Lane	200	Yes*	5000	5000	2500	200	200	263	300	123	300	0	0	Yes			1200	47	3.6	recently imroved section, there were many more crashes north of the improved area with intersection and	13.1	200	1400	450	0.32	D	200	2' Shoulder Wedge w/ Overlay	\$ 391,385	1600	\$ 992,595	Employ shoulder wedge in the interim pending funding for future improvements
16	39c	WINDING CREEK RD Embrey Mill to Shelton Shop	628	2	Major local	CL, no EL and no shoulders	200	No	4434	4434	2217	200	200	433	300	115	300	0	0		Yes		1200	15	1.3	Mix of intersection crashes and road geometry related	11.5	200	1200	399	0.33	D	200	2' Shoulder Wedge w/ Overlay	\$ 141,333.40	1600	\$ 1,133,929	Although a 3R improvement is needed, a shoulder wedge improvement would make this road safer
2	57	FALLS RUN DR	618	2	Minor collector	CL, no EL and no shoulders	200	No	2400	2400	1200	100	200	884	300	221	500	0	0				1300	8	0.45	Both the description and location of these crashes indicate intersection related accidents.	17.8	200	2000	216	0.11	B	0	2' Shoulder Wedge w/ Overlay	\$ 48,923	1500	\$ 1,182,852	This is a rural road section in an urbanized area of the County and would benefit from a wider pavement section.
20	9b	WHITE OAK RD Ferry Rd to K.G County	218	2	Minor Collector	CL, EL and small shoulders	100	No	5100	10192	5096	300	100	155	300	77	300	0	0				1100	46	4.14	46 crashes, 21 injuries with about half intersection related and the others road width/lack of shoulders	11.1	200	2200	917	0.42	D	200	2' Shoulder Wedge w/ Overlay	\$ 450,093	1500	\$ 1,632,944	Although traffic counts are high for wedge improvements, a 2-lane reconstruction along this road would cost approximately \$46 million
3	47a	BROOKE RD New Hope to Eskimo Hill	608	2	Major local	CL, no EL and no shoulders	200	Yes*	1700	3300	1650	100	200	267	300	123	300	0	0	Yes			1100	37	5.45	Of the 37 crashes, over half were road geometry related	6.8	100	1400	297	0.21	C	200	2' Shoulder Wedge w/ Overlay	\$ 396,821	1400	\$ 2,029,765	Employ shoulder wedge in the interim pending funding for future improvements
23	36	TELEGRAPH RD	637	2	Minor collector, major local	CL, EL and small shoulders	100	No	1300	4400	2200	200	200	424	300	145	300	0	0	Yes	Yes		1100	35	3.55	Mix of intersection and road geometry crashes including 2 involving pedestrians	9.9	100	2100	396	0.19	C	200	2' Shoulder Wedge w/ Overlay	\$ 385,948.90	1400	\$ 2,415,714	Although a 3R improvement is needed, a shoulder wedge improvement would make this road safer
4	45	KELLOGG MILL RD	651	2	Major local	CL, no EL and no shoulders - CL ends @ north of intersection w/ Ramoth Church Road	100	No	3100	3400	1700	100	200	274	300	110	300	0	0	Yes	Yes		1000	40	4.66	Multiple rear end and run off road 4 angle crashes (intersection related),1 sideswipe and 6 run off road on 1.5 mile section.	8.6	100	1400	306	0.22	C	200	2' Shoulder Wedge w/ Overlay	\$ 506,626	1300	\$ 2,922,340	A shoulder wedge would make this rural road safer.
7	85	TACKETTS MILL RD	646	2	Major local	CL, no EL and no shoulders	200	No	1200	1400	700	100	100	691	300	276	500	0	0				1200	14	1.5		9.3	100	1400	126	0.09	B	0	2' Shoulder Wedge w/ Overlay	\$ 163,077	1300	\$ 3,085,417	A shoulder wedge would make this rural road safer.
25	32	JOSHUA RD	643	2	Major local	CL, EL and small shoulders - EL ends @ approximately 300' beyond intersection w/ Cherry Hill Drive	200	No	2800	4900	2450	200	200	227	300	69	100	0	0				1000	23	2.3	23 crashes & 7 injuries; 6 are intersection and 12 road geometry related.	10.0	100	1400	441	0.32	D	200	2' Shoulder Wedge w/ Overlay	\$ 250,051.40	1300	\$ 3,335,468	Although a 3R improvement is needed, a shoulder wedge improvement would make this road safer
26	24b	ENON RD Staff Ind Ln to Truslow Rd	753	2	Major local	CL, EL and small shoulders	100	No	4296	8592	4296	200	300	294	300	62	100	0	0		Yes		1000	11	1.31	Preponderance of crashes near water tank. May be opportunity for localized safety improvement.	8.4	100	2200	773	0.35	D	200	2' Shoulder Wedge w/ Overlay	\$ 142,420.58	1300	\$ 3,477,889	Although a 3R improvement is needed, a shoulder wedge improvement would make this road safer
27	2b	COURTHOUSE RD (West) Winding Cr to Shelton Shop	630	2	Minor Collector	CL, EL and small to no shoulders	100	No	3975	8515	4258	200	300	125	300	28	0	0	0				900	22	1.57	5 injuries in 22 crashes; most are intersection related with a few road geometry related	14.0	200	2100	766	0.36	D	200	2' Shoulder Wedge w/ Overlay	\$ 170,687.26	1300	\$ 3,648,576	This road will require a 4-lane section in the future, but a wedge improvement will make the road safer in the interim.
28	12	FERRY RD	606	2	Minor collector	CL, EL and small shoulders w/ curb and gutter in some areas	100	No	4700	10000	5000	300	100	164	300	96	100	0	0				900	36	2.69	Of the 36 crashes, 16 were at Rt 3 in area of planned improvements. Balance spread out, with more intersection related	13.4	200	2100	900	0.43	D	200	2' Shoulder Wedge w/ Overlay	\$ 292,451.42	1300	\$ 3,941,028	A 2-lane reconstruction or 3-lane widening is indicated, but a wedge improvement will make the road safer.
29	39a	WINDING CREEK RD Courthouse Rd to Embrey Mill	628	2	Major local	CL, no EL and no shoulders	200	No	4434	4434	2217	200	200	281	300	66	100	0	0		Yes		1000	9	1.12	Few crashes between Rt 630 & Embrey Mill. Higher rate after Embrey Mill	8.0	100	1200	399	0.33	D	200	2' Shoulder Wedge w/ Overlay	\$ 121,764.16	1300	\$ 4,062,792	Although a 3R improvement is needed, a shoulder wedge improvement would make this road safer
30	40	BARRETT HEIGHTS RD	642	2	Major local	CL, no EL and no shoulders and curb and gutter in some areas	100	No	3900	3900	1950	100	200	253	300	112	300	0	0	Yes			1000	9	1.1	Primarily intersection related crashes.	8.2	100	1100	351	0.32	D	200	2' Shoulder Wedge w/ Overlay	\$ 119,589.80	1300	\$ 4,182,381	A shoulder wedge would make this road safer until funding is available for more substantial improvements.
31	31b	POPLAR RD Stefaniga to Hartwood Rd	616	2	Major local	CL, no EL and no shoulders	200	No	1700	3500	1750	100	100	215	300	73	300	0	0				1000	41	5.1	41 accidents, with a few intersection, but mostly road geometry related	8.0	100	1400	315	0.23	C	200	2' Shoulder Wedge w/ Overlay	\$ 554,461.80	1300	\$ 4,736,843	Although a 3R improvement is needed, a shoulder wedge improvement would make this road safer
8	60	HEFLIN RD	612	2	Major local	CL, no EL and no shoulders	200	No	600	2200	1100	100	100	260	300	260	500	0	0				1200	2	1.34	2 run off road with 2 injuries	1.5	0	1200	198	0.17	B	0	2' Shoulder Wedge w/ Overlay	\$ 145,682	1200	\$ 4,882,525	A shoulder wedge would make this rural road safer.
9	95b	BRENT POINT RD Arkendale Rd to End	658	2	Minor Local	No CL, no EL, no shoulders	300	No	530	530	265	100	200	326	300	162	300	0	0	Yes			1200	6	3.2	Six crashes; 3 were road geometry, 2 train related.	1.9	0	1400	48	0.03	A	0	2' Shoulder Wedge w/ Overlay	\$ 282,667	1200	\$ 5,165,192	Includes only that portion to the state park
10	59	MCWHIRT LOOP	700	2	Major and minor collector	CL, EL and small shoulders w/ commercial and industrial businesses on both sides	0	No	2300	2300	1150	100	100	639	300	426	500	0	0				1000	9	0.2	All crashes occurred near intersections	45.0	200	2100	207	0.10	B	0	2' Shoulder Wedge w/ Overlay	\$ 21,743.60	1200	\$ 5,186,936	Shoulder wedge improvements between Banks Ford and the entrance to Starbucks.
11	63	STEFANIGA RD	648	2	Major local	CL, no EL and no shoulders	200	No	2100	2100	1050	100	200	224	300	124	300	0	0				1100	18	3.48	Crashes spread out along road	5.2	100	1400	189	0.14	B	0	2' Shoulder Wedge w/ Overlay	\$ 378,339	1200	\$ 5,565,274	Narrow winding road serving an expanding population, serving commuters & school traffic
13	49b	TRUSLOW RD Cambridge to Berea Church	652	2	Minor Collector	CL, EL and small shoulders - EL ends at R 95 bridge crossing - curb and gutter between Enon and Berea Church and along other locations closer to Cambridge	200	Yes*	2100	2100	1050	100	200	224	300	107	300	0	0				1100	25	4.22	Preponderance of road geometry related crashes	5.9	100	2100	189	0.09	B	0	2' Shoulder Wedge w/ Overlay	\$ 546,218	1200	\$ 6,111,492	Minus the portion improved as a 2-lane reconstruction
32	25	EUSTACE RD	751	2	Major local	CL, EL and small shoulders	100	No	5800	5800	2900	200	200	244	300	76	100	0	0				900	16	2.08	All 16 crashes appear intersection related, many clustered near Rt 610.	7.7	100	1200	522	0.44	D	200	2' Shoulder Wedge w/ Overlay	\$ 226,133.44	1200	\$ 6,337,626	Although a 3R improvement is needed, a shoulder wedge improvement would make this road safer
14	66	TACKETTS MILL RD	612	2	Major local	CL, no EL and no shoulders	200	No	1700	2000	1000	100	100	430	300	201	300	0	0				1000	15	1.76	4 angle crashes (intersection related),2 head-on and 7 run off road on 1 3/4 mile section. Clustered near southern end.	8.5	100	1400	180	0.13	B	0	2' Shoulder Wedge w/ Overlay	\$ 191,344	1100	\$ 6,528,969	A shoulder wedge would make this rural road safer.

15	*	HARTWOOD ROAD	612	2	Major Local	CL & EL no shoulders to Curtis Park from Rt 17; CL, no EL or shoulders to Heflin Rd.	200	No	1400	3400	1700	100	100	199	200	108	300	0	0	No			900	35	7.0	5 rear end and 9 angle crashes related to intersections; 1 head-on, 2 sideswipe, and 13 run off road road width related	5.0	0	1400	306	0.22	C	200	2' Shoulder Wedge w/ Overlay	\$ 761,026	1100	\$ 7,289,995	A shoulder wedge would make this rural road safer.
34	20a	MOUNTAIN VIEW RD Centreport to Kellogg Mill	627	2	Major local	CL, no EL (except at major intersections) and no shoulders	200	No	48	3500	1750	200	300	125	200	42	0	0	0	Yes	Yes		900	10	3.26	Lower rate and fewer crashes on this section of road.	3.1	0	1400	315	0.23	C	200	2' Shoulder Wedge w/ Overlay	\$ 354,420.68	1100	\$ 7,644,416	Although a 3R improvement is needed, a shoulder wedge improvement would make this road safer
36	33	HOPE RD	687	2	Minor collector, major local	CL, EL and no shoulders - EL ends @ intersection w/ Stafford Avenue	200	No	970	4900	2450	200	100	171	200	75	100	0	0	Yes	Yes		800	16	3.23	5 intersection, 9 road geometry caused crashes, with only 3 past Walker Way	5.0	0	1200	441	0.37	D	200	2' Shoulder Wedge w/ Overlay	\$ 351,159.14	1000	\$ 7,995,575	A combination of widening and shoulder wedge is indicated, but a shoulder wedge would make this road safer.
16	91	SPOTTED TAVERN RD	614	2	Major local	CL, no EL, no shoulders, CL does not exist around Alcotts Run and road narrows	300	No	1100	1100	550	100	100	144	200	108	300	0	0	Yes			1000	4	2.33	All 4 crashes run off road and spread out	1.7	0	1400	99	0.07	B	0	2' Shoulder Wedge w/ Overlay	\$ 253,313	1000	\$ 8,248,888	A shoulder wedge would make this rural road safer.
38	1f	GARRISONVILLE RD Lk Arrowhead to Fauquier	610	2	Minor Collector	CL, EL and small shoulders	100	No	5900	5900	2950	200	100	55	0	24	0	7.84	300				700	7	1.98	Relatively few crashes past the Lake Arrowhead turn off, but 1 fatality on a low volume road increased overall score.	3.5	0	2200	531	0.24	C	200	2' Shoulder Wedge w/ Overlay	\$ 215,261.64	900	\$ 8,464,150	A shoulder wedge would make this rural road safer.
17	69	DECATUR RD	635	2	Major local	CL, No EL and no shoulders - CL ends @ intersection with Norman Road	300	No	560	1800	900	100	100	251	300	63	100	0	0	Yes	Yes		900	8	3.59	6 of 8 crashes caused by narrow road	2.2	0	1400	162	0.12	B	0	2' Shoulder Wedge w/ Overlay	\$ 390,298	900	\$ 8,854,447	A shoulder wedge would make this rural road safer.
18	64	LITTLE WHIM RD	669	2	Major local	Neighborhood road w/ CL, No EL and no shoulders - CL ends @ '130' beyond intersection with Rogers Street	200	No	2100	2100	1050	100	100	147	200	111	300	0	0				900	4	1.2	Road geometry related	3.3	0	1300	189	0.15	B	0	2' Shoulder Wedge w/ Overlay	\$ 130,462	900	\$ 8,984,909	A shoulder wedge would make this rural road safer.
19	74	HOLLY CORNER RD	655	2	Major local	CL, no EL and no shoulders	200	No	860	1700	850	100	200	233	300	89	100	0	0	Yes			900	13	4.02	Road geometry related	3.2	0	1300	153	0.12	B	0	2' Shoulder Wedge w/ Overlay	\$ 437,046	900	\$ 9,421,955	A shoulder wedge would make this rural road safer.
20	83	POTOMAC RUN RD	626	2	Major local	CL, no EL and no shoulders	200	No	1500	1500	750	100	100	158	200	132	300	0	0				900	6	2.33	Road geometry related	2.6	0	1200	135	0.11	B	0	2' Shoulder Wedge w/ Overlay	\$ 253,313	900	\$ 9,675,268	A shoulder wedge would make this rural road safer.
21	68	ROCK HILL CHURCH RD	644	2	Minor collector	CL, no EL and no shoulders	200	No	1900	1900	950	100	100	286	300	72	100	0	0		Yes	Yes	800	16	2.74	Even split, intersection and road geometry	5.8	100	2200	171	0.08	B	0	2' Shoulder Wedge w/ Overlay	\$ 297,887	900	\$ 9,973,156	A shoulder wedge would make this rural road safer.
22	87	CROPP RD	615	2	Major local	CL, no EL and no shoulders	200	No	710	1200	600	100	100	387	300	97	100	0	0				800	4	2.23	All 4 crashes run off road towards north end	1.8	0	1400	108	0.08	B	0	2' Shoulder Wedge w/ Overlay	\$ 242,441	800	\$ 10,215,597	A shoulder wedge would make this rural road safer.
23	13b	LEELAND RD Morton Rd to End St Maintenance	625		Minor Collector	No CL or EL; no shoulders	300	No	1700	1700	850	100	100	199	200	100	100	0	0				800	3	0.9	Run-off road accidents	3.3	0	1300	153	0.12	B	0	2' Shoulder Wedge w/ Overlay	\$ 97,846	800	\$ 10,313,443	A shoulder wedge would make this rural road safer.
24	47b	BROOKE RD Eskimo Hill to End	608	2	Major local	CL, no EL and no shoulders	200	No	20	2200	1100	100	200	158	200	44	0	0	0	Yes			700	18	5.79	12 of 18 apparently road width related crashes	3.1	0	1400	198	0.14	B	0	2' Shoulder Wedge w/ Overlay	\$ 629,477	700	\$ 10,942,920	A shoulder wedge would make this rural road safer.
25	92	RICHARDS FERRY RD	752	2	Major local	CL, no EL, no shoulders, CL ends near intersection w/ Jack Ellington Road and road narrows	300	No	830	1000	500	100	100	135	200	34	0	0	0	Yes			700	4	2.93	All 4 crashes related to narrow road width	1.4	0	1400	90	0.06	B	0	2' Shoulder Wedge w/ Overlay	\$ 318,544	700	\$ 11,261,464	A shoulder wedge would make this rural road safer.



# OFFICE OF THE COUNTY ATTORNEY

## STAFFORD COUNTY ATTORNEY'S OFFICE

1300 COURTHOUSE ROAD  
P.O. BOX 339  
STAFFORD, VIRGINIA 22555  
Phone: (540) 658-8636  
Fax: (540) 658-4530



**RYSHEDA M. MCCLENDON**  
COUNTY ATTORNEY

DAVID L. HONADLE  
DEPUTY COUNTY ATTORNEY

JEANNISE G. EWING  
ASSISTANT COUNTY ATTORNEY

LAUREN E. LUCIAN  
ASSISTANT COUNTY ATTORNEY

## MEMORANDUM

**TO:** Members of the Board of Supervisors  
**FROM:** Rysheda McClendon, County Attorney  
Jeannise G. Ewing, Assistant County Attorney  
**DATE:** January 30, 2019  
**RE:** Transportation Funding Mechanisms

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The Virginia Code provides several tools for localities to use to manage the funding demands for transportation improvements. The mechanisms the County may use for funding transportation construction and maintenance are detailed below.

### GENERAL FUND

The vast majority of Stafford County revenue is generated by real and personal property tax deposited in the General Fund. As such, the General Fund is thought to be the default local funding source for many local projects, including transportation projects. The general expectation is that funds will be budgeted and appropriated from the general fund to the transportation fund for projects in line with Board approval and guiding documents such as the Capital Improvement Program (CIP).

The General Fund may not be a reliable primary source for transportation improvements specifically since (1) the revenue stream is not designated solely for transportation funding, and (2) funds will fluctuate each fiscal year depending on the demands of other CIP projects and expenditures.

### TRANSPORTATION FUND

The Transportation Fund is used to account for the receipt and disbursement of the motor fuels tax, state recordation tax, and transportation bond proceeds. With one caveat mentioned below, the rate for these taxes are set by the State. The funds received pursuant to these taxes are deposited into the Transportation Fund and are specifically designated for transportation purposes, including construction, administration, operation, improvement, maintenance and financing of transportation facilities. Va. Code §§ 58.1-816 and 58.1-2291 et seq. (Recordation tax revenues may also be used for education.)

In addition to the state recordation tax, the Board may impose a recordation tax equal

to one-third of the amount of the state recordation tax which is collected on taxable documents recorded in the County. Va. Code §§ 58.1-814 and 58.1-3000. As noted above, the revenues received from the additional tax must be used for transportation or education purposes.

## **BONDS**

General obligation and revenue bonds are financing mechanisms for transportation projects that were frequently used by localities until the 2008 recession. The Public Finance Act of 1991, Virginia Code §§ 15.2-2600 to 15.2-2663, authorizes localities to borrow money and issue bonds to pay the costs of a variety of projects for public purposes, which include facilities for public transit or transportation systems. Va. Code § 15.2-2602. The governing body of a locality may elect to issue bonds either under the provisions of the Public Finance Act, by referendum, or in accordance with other special and local acts and charters. Va. Code § 15.2-2601. Localities authorized to accept voluntary cash proffers may also issue bonds to finance certain improvements to the extent that the costs of such improvements have been pledged by landowners as voluntary cash proffers. Va. Code § 15.2-975.

The Virginia Resources Authority (VRA) was created to provide an additional source to finance the needs of Virginia local governments and political subdivisions. VRA has the power to issue revenue bonds and use the proceeds to purchase bonds issued by localities and certain other local governments, including public transportation projects. Va. Code § 62.1-198. VRA is authorized to pledge to the payment of its bonds the local bonds VRA purchases. Va. Code § 62.1-206.

In addition, by the establishment of reserve funds, the credit on VRA's bonds may be enhanced and, thus, the interest cost to local borrowers reduced, by the "moral obligation" of the Commonwealth. It is empowered to use a state aid intercept program when a locality defaults on any local obligations that are held or credit-enhanced by the Authority. Va. Code § 62.1-216.1. The VRA may also enter into several types of agreements with localities that enhance its ability to collect on local obligations. Va. Code § 62.1-216(D).

## **SPECIAL ASSESSMENTS AND FEES**

While recognizing the other general sources of transportation funding, the Virginia Code provides other mechanisms to raise additional funds when the shared needs of a community warrant special transportation improvements or assistance.

### **Special Assessments**

A locality may levy a special assessment tax on those landowners to make improvements and have them funded by the landowners who benefit from them. Authorized pursuant to Virginia Code §§ 15.2-2404 to 15.2-2413 and Article X, Section 3 of the Virginia Constitution, the levy of a special tax or assessment for local public improvements does not involve the creation of a special taxing district. However, the types of facilities that may be financed using this special assessment are limited. Virginia Code § 15.2-2404 specifies that assessments may be levied for certain transportation-related improvements such as the construction, improvement, replacement or enlargement of sidewalks on existing streets; improving and paving existing alleys; construction or use of sanitary or storm water management facilities; and the installation of street lights. The provisions authorize the governing body of a

locality to apportion the cost of certain improvements among “abutting landowners.” Va. Code § 15.2-2405.

The assessment is then levied pursuant to an agreement with the landowners, or in the absence of an agreement, upon petition of the landowners, which must be at least 60 percent in counties, or by a two-thirds vote of the members of the governing body. There are limitations to the assessment which include no authority for some other taxing mechanism, such as an ad valorem tax, and the assessment may not exceed the peculiar benefit to the property owners resulting from the improvements. See *Cygnus Newport v. City of Portsmouth*, 292 Va. 573, 790 S.E.2d 623 (2016).

### **Impact Fees**

Impact fees are designed to offset traffic impacts of development, such as expansion of existing roads or the construction of new roads. Va. Code §§15.2-2317, et seq. The fees are mandatory payments required for both by-right developments and rezonings prior to the issuance of a building permit. The expenditure of the funds collected shall be only for road improvements benefiting the impact fee service area as set out in the road improvement plan for the impact fee service area.

Stafford has taken the steps to assess its transportation improvement needs and adopt an impact fee service area. The County is required to update the needs assessment, the assumptions and projections, and road improvement plan at least once every two years. The impact fee schedule is determined by the County by ordinance, and the fee amounts may be modified to reflect changes in the assumptions and projects in accordance with the requirements of Virginia Code § 15.2-2323.

### **SPECIAL TAXING DISTRICTS**

The Virginia Code provides several different special taxing districts that the County may use to fund transportation improvements. Each varies in its implementation and overall powers; however, they all serve the basic purpose of collecting additional taxes from a specific geographic area in order to finance transportation improvements that benefit that area.

### **Service Districts**

Virginia Code § 15.2-2400 authorizes localities to create service districts as a mechanism to provide more complete, or more timely governmental services than are desired in the locality as a whole. Service districts are generally created by ordinance for purposes specified in Virginia Code § 15.2-2403.

A service district may be used to provide for the maintenance and upkeep of streets and roads, but only upon petition of over 50 percent of the property owners who own not less than 50 percent of the property to be served and transportation and transportation services, including roads to be operated or maintained by the Virginia Department of Transportation (VDOT). In *Nageotte v. Board of Supervisors of Stafford County*, Chancery No. 01-335 (Cir. Ct. Stafford Cnty. Nov. 23, 2001), the circuit court ruled that Virginia Code § 15.2-2403 did not grant the County the express authority to create a service district to pay for roads, which in this case were roads that would be under VDOT control and, therefore, not subject to the provisions for non-VDOT roads, and that the terms “transportation and transportation services” did not encompass such roads. The Virginia Supreme Court declined to hear an appeal of the *Nageotte*

case. Virginia Code § 15.2-2403(1) and (2) was subsequently amended in 2007 to specifically authorize the construction of VDOT-operated roads in a service district.

With regards to creating a county-wide service district, the Attorney General has opined that a service district is not intended to be a separate funding source for governmental services that benefit the entire locality, nor intended to be a replacement funding source for existing general services. A service district is intended to provide area-specific funding to pay for additional services for a discrete area or region of the locality. 2014 Op. Va. Att’y Gen. 123.

### **Sanitary Districts**

Along with the construction, maintenance and operation of water supply, sewerage, garbage removal and disposal, power and gas systems, sanitary districts may be used for transportation-related uses such as sidewalks curbs, gutters, streets and street name signs. Va. Code § 21-118.4. Sanitary districts are managed and operated by the governing body of the locality in which they are located. The governing body is authorized to levy and collect an annual tax on all property in the district subject to local taxation to pay, in whole or in part, the expenses incident to constructing, maintaining and operating the facilities of the district. The power to levy an ad valorem tax is limited to financing the costs of construction, operation and maintenance of the facilities. Va. Code § 21-118(6). However, Virginia Code §§ 21-137.1, 21-137.2, and 21-138 authorize a tax to be levied to pay bonds issued for any of the district’s purposes.

A sanitary district may be created pursuant to the petition of 50 or more qualified voters, or 50 percent of the qualified voters if the proposed district has less than 100 qualified voters. Va. Code § 21-113. Previously, a sanitary district was required to be set up by order of the Circuit Court, however Virginia Code §§ 21-113 and -114 were amended in 2017 to authorize the governing body to create a sanitary district by ordinance.

### **Urban Transportation District**

Stafford County may establish an urban transportation district subject to agreement with the Commonwealth Transportation Board on the district’s boundaries. Once established, the County must maintain the roads within such district. Va. Code § 15.2-2403.1. The County shall receive an amount equal to the per lane mile maintenance payments made to cities and certain towns pursuant to Virginia Code § 33.2-319 for the area within the district for purposes of road maintenance.

### **Community Development Authorities (CDAs)**

Authorized under Virginia Code §§ 15.2-5152 to 15.2-5158, CDAs are special tax districts designed to allow public/private partnerships to be formed to finance and develop infrastructure and other improvements. A CDA is created by a local governing body upon petition by at least 51 percent of the land owners within the proposed CDA boundaries. CDAs may be used to finance, fund, establish, acquire, construct, equip, operate and maintain infrastructure improvements including, roads, bridges, parking facilities, curbs, gutters, sidewalks, traffic signals, storm water management and retention systems, gas and electric lines, street lights, necessary or desirable for the development or to meet the increased demands placed upon the locality as a result of development.

In addition to financing its services and improvements from revenues derived from special taxes and special assessments, a CDA is empowered to issue tax-exempt bonds, fix, charge and collect rates, fees and charges for the use the CDA's services and/or facilities. CDAs are an available funding mechanism when attached to specific and qualifying development plans.

## **OTHER LOCAL FUNDING MECHANISMS**

### **Regional Transportation Improvement District**

The Transportation District Act of 1964, Virginia Code § 33.2-1900 et seq., was enacted to promote regional development of transportation systems. Two or more counties or cities may create a transportation district to acquire, construct, and operate transportation facilities in accordance with a transportation plan. A transportation district, operated through a commission, is authorized to issue revenue bonds to pay the cost of any transportation facility it has the power to undertake. Va. Code § 33.2-1920. A transportation district does not have the power to generate revenue other than fees and fares it may impose in connection with the transit facilities and services. Transportation districts also do not have the power to impose or to request the city or county to impose taxes or assessments.

There are additional sections of the Virginia Code that set out other multi-jurisdictional transportation districts authorized by the General Assembly. These include: the Multicounty Transportation Improvement Districts, Virginia Code §§ 15.2-4600 to 15.2-4618, the Transportation Improvement District in Individual Localities, Virginia Code §§ 15.2-4700 to 15.2-4716, the Virginia Transportation Service District Act, Virginia Code §§ 15.2-4800 to 15.2-4815, and the Northern Virginia Transportation Authority, Virginia Code §§ 33.2-2500 to 33.2-2512.

### **Public- Private Partnerships**

The Public-Private Transportation Act (the "PPTA"), Virginia Code §§ 33.2-1800 to 33.2-1824, may be used as an alternative method to acquire, construct or improve transportation facilities. A qualifying transportation facility is any transportation facility developed and/or operated by a private entity, including any road, bridge, tunnel, or overpass used for the transportation of persons or goods, together with any buildings, structures, parking areas, appurtenances, and other property needed to operate such a facility. Va. Code § 33.2-1800

The PPTA encourages public/private ventures for transportation facilities, which may result in the availability of facilities in a timelier or less costly fashion and may use a variety of financing methods to pay for the costs of transportation projects. While PPTA may allow private entities to start building transportation facilities on a faster schedule than traditional financing and procurement allows, the public entity concedes a significant amount of control over the construction, timing, cost and/or operation of the transportation facilities.



## **STATE FUNDING MECHANISMS**

The following is a brief list of funding avenues that VDOT offer which could be used by localities.

### **VDOT Maintenance Funds**

Roads that meet VDOT's acceptance criteria for either primary or secondary roads are eligible to receive state maintenance funds. Petitions for inclusion of new roads for VDOT maintenance are typically prompted by developers, but existing roads can also be added to the state list through action by the Board of Supervisors.

### **VDOT Rural Additions Funds**

VDOT allows eligible counties to use five percent of allocated Secondary Street Funds to improve rural roads that do not currently meet VDOT's acceptance criteria for state maintenance and that have been in service since before 1992.

### **Rural Rustic Road Program**

Rural roads already accepted into VDOT's Secondary road network are eligible for funds to allow paving or widening. An application must be initiated by the Board of Supervisors. (For example, the road to be completed by the Lynhaven Lane Service District will seek acceptance under this program.)

### **Highway Safety Improvement Program**

The Highway Safety Improvement Program (HSIP) is a federal program established in 2005 to help reduce traffic fatalities and injuries nationwide. HSIP disperses \$220 million a year to improve the safety of railway crossings and another \$90 million for the High Risk Rural Roads program. Bicycle and pedestrian safety grants are also awarded. VDOT administers these funds and accepts applications from localities. Preference is given to projects with low costs that target high crash sites.

### **VDOT Revenue Sharing Program**

VDOT accepts applications from localities for additional state funds to match local funds for specific transportation projects. Construction, reconstruction, or improvement projects can be submitted by the Board of Supervisors for evaluation. Each locality may request up to \$1 million per year. All approved funds for FY 2010 included a match of at least 50 percent by the locality.