

APPENDIX

- A. Methodology for Calculating Capital Costs**
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A. Methodology for Calculating Capital Costs (by Residential Dwelling Unit Type)

Parks and Recreation

Recommended level of Service for Parks:

12 acres of usable land per 1,000 citizens

Cost per Acre:

\$470,000 to acquire and develop one acre of County Parkland.

Estimated Mountain View Park development cost of \$220,000 (FY2022 Capital Improvements Program) plus Chichester Park land acquisition cost of \$250,000 per acre.

Source: Stafford County Parks and Recreation Department

Cost per Housing Unit Type:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>(AxBxC)=D</u>
Type of Housing Unit	Housing Unit Size	County Parkland per Capita	Cost/Acre to acquire and develop new parkland	Gross Cost per Housing Unit
Single Family	3.13	0.012	\$470,000	\$17,653
Townhouse	2.91	0.012	\$470,000	\$16,412
Multi-Family	2.57	0.012	\$470,000	\$14,495
Mobile Homes	1.89	0.012	\$470,000	\$10,660

Total Monetary Impact per Housing Unit:

Single Family :	\$17,653
Townhouse:	\$16,412
Multi-Family:	\$14,495
Mobile Home:	\$10,660

SchoolsCost per Student

Elementary:	\$39,102,000	/	964	students	=	\$40,562
Middle:	\$58,634,000	/	1,150	students	=	\$50,986
High:	\$124,703,000	/	2,150	students	=	\$58,001

Source: 2022 Capital Improvements Program

Cost per Housing Unit Type:

Facility + Land	Cost Per Student	Single Family Detached Student Generation	Cost for Single Family Detached by Education Level	Townhouse Student Generation	Cost for Townhouse by Education Level	Multi-Family Student Generation	Cost for Multi-Family by Education Level	Mobile Home Student Generation	Cost for Mobile Home by Education Level
Elementary	\$40,562	0.431	\$ 17,482	0.265	\$ 10,749	0.113	\$4,584	0.26	\$ 10,546
Middle	\$50,986	0.235	\$ 11,982	0.126	\$ 6,424	0.04	\$2,039	0.12	\$ 6,118
High	\$58,001	0.281	\$ 16,298	0.153	\$ 16,298	0.074	\$4,292	0.13	\$ 7,540
TOTAL			\$ 45,762		\$ 33,471		\$ 10,915		\$ 24,204

Monetary Impact per Housing Unit:

Single Family :	\$45,762
Townhouse:	\$33,471
Multi Family:	\$10,915
Mobile Home:	\$24,204

Libraries

Recommended Level of Service is defined as land, building square footage and material (books, furnishings, and equipment) needed in order to meet county standards.

Square feet of Library floor area per capita =	1.00
(1) Standard building size (in square feet) =	25,000
(2) Approximate Building Cost of New Library Facility (includes FF&E) =	\$16,276,000
Ideal acreage for one facility =	3.0

Cost Breakdown:

Square feet/capita =	1.00
Building cost/ square foot =	\$651
Building cost/ capita =	<u>\$651</u>

Number of people served by one Library Facility =	30,000
Acres/capita =	0.000100
(3) Cost/acre =	\$210,000
Acre Cost/capita =	<u>\$21</u>

Subtotal to acquire land and construct a new library facility per capita \$672

(4) Approximate Capital Equipment (books, materials, furnishings, technology) Cost =	\$1,500,000
Approximate equipment cost per square foot per capita =	<u>\$49</u>

Gross Cost per Capita \$721

Type of Housing Unit	Housing Unit Size	Cost of Library and Materials per Capita	Cost Per Housing Unit
Single Family	3.13	\$721	\$2,257
Townhouse	2.91	\$721	\$2,098
Multi-Family	2.57	\$721	\$1,853
Mobile Home	1.89	\$721	\$1,363

Monetary Impact per Housing Unit:

Single-Family :	\$2,257
Townhouse:	\$2,098
Multi-Family:	\$1,853
Mobile Home:	\$1,363

- (1) FY2022 Capital Improvements Program
- (2) FY2022 Capital Improvements Program
- (3) Approximate Land Cost for Fire/Rescue Station 14
- (4) Approximate opening day collection cost for Falls Run Library - 75,000 books/materials

Fire and Rescue

Recommended Level of Service is defined as land, building square footage, and equipment needed in service Stafford County.

Total Population of Stafford County as of April 1, 2020	156,927
Total Square Footage for all F&R Facilities =	176,220
Square Feet of Fire and Rescue Building Needed (per capita) =	1.122
(1) Actual building size (in square feet) =	21,000
(2) Approximate Construction Cost (per station) =	\$12,054,000
Building cost/square foot =	\$574
Building Cost/capita =	<u>\$644</u>
Total acres all F&R Facilities are located on =	51.8038
Ideal acreage for one facility =	7.0
Acres/capita =	0.00033
(3) Cost/acre =	\$210,000
Acre Cost/capita =	<u>\$69</u>
(4) Approximate Capital Equipment Cost (per station) =	\$1,750,000
Approximate equipment cost/square foot =	\$83
Total Equipment Cost for all F&R Facilities =	\$21,000,000
Equipment Cost/capita =	<u>\$134</u>
Total Square Footage of the Public Safety Building =	114,960
Square Footage Designated to the F & R Department =	24,176
Utilized Square Footage by the F & R Department =	20,062
Utilized Square Footage by the F&R Department (per capita) =	0.162
Approximate Construction Cost (of utilized square footage) =	\$6,369,720
Building cost/ utilized square foot =	\$318
Building Cost/ capita =	<u>\$51</u>
Gross Cost Per Capita	<u>\$981</u>

Type of Housing Unit	Housing Unit Size	Cost of Fire and Rescue Facility and Equipment per Capita	Gross Cost Per Housing Unit
Single Family	3.13	\$981	\$3,071
Townhouse	2.91	\$981	\$2,855
Multi-Family	2.57	\$981	\$2,521
Mobile Home	1.89	\$981	\$1,854

Monetary Impact per Housing Unit:

Single Family :	\$3,071
Townhouse:	\$2,855
Multi-Family:	\$2,521
Mobile Home:	\$1,854

- (1) Fire/Rescue Station 9 (2) Approximate Construction Cost for Fire/Rescue Station 9
 (3) Approximate Land Cost for Fire/Rescue Station 14
 (4) Approximate Equipment Cost for Fire/Rescue Station 14

TransportationRoad Impact Guideline Formula

Units Proposed X (# Secondary Road Lane Miles) X Average Cost of One Lane Mile = Impact of New Project
 # Housing Units in County

OR

1 New Unit X (1,100-0) X \$5,500,000 = \$114,599
 52,793 Existing Units as of April 1, 2020 – 2020 U.S. Census

Source: Comprehensive Road Study Report (Medium Cost for one Mile on Two-Lane Rural Road: \$11,000,000)

Single Family : 10.0 vehicle trips/ day
 Townhouse : 7.0 vehicle trips/ day
 Multi-Family : 4.0 vehicle trips/ day
 Mobile Home : 4.8 vehicle trips/day

Monetary Impact per Housing Unit

Single Family : \$114,599
 Townhouse : \$80,219
 Multi-Family : \$45,840
 Mobile Home : \$55,008

Law Enforcement

Public Safety Building (final contract cost) = 36,500,000

Total Population of Stafford County as of April 1, 2020 156,927

Total Square Footage of the Public Safety Building = 114,960

Square Footage Designated to the Sheriff's Office = 90,784 79.0%

Utilized Square Footage by the Sheriff's Office = 90,784 100.0%

Utilized Square Footage by the Sheriff's Office (per capita) = 0.579

Approximate Construction Cost (of utilized square footage) = \$28,824,078

Building cost/ utilized square foot = \$318

Building Cost/ capita = \$184

Service Level Provided: Stafford County currently has one deputy for every 738 citizens.

Number of Law Enforcement Officers = 213

Capital Equipment Associated per Officer (police cruiser, laptop, etc.) = \$63,151

Total Equipment Cost for all Officers = \$13,451,163

Equipment Cost per Capita =	<u>\$86</u>	
Total Projected Population of Stafford County on July 1, 2036 = Source: Weldon Cooper Center	198,815	
Gross Total of Future Population Growth from 2016 to 2036 =	56,900	28.6%
911 Communications System (building cost from CIP) = 23,000,000		
Building Cost Attributed to Future Population Growth =	\$6,578,000	
Cost/ new capita =	<u>\$116</u>	
Square Footage of Animal Shelter Building Provided =	15,936	
Square Footage of Animal Shelter Building Provided (per capita) =	0.102	
Estimated Building Cost Per Square Foot for an Animal Shelter Building =Building cost/square foot = (Total Cost = \$3,865,924)	\$243	
Building cost/ capita =	<u>\$25</u>	
Number of Animal Control Officers =	7	
Capital Equipment Associated per Officer (animal control truck, laptop, etc.) =	\$52,093	
Total Equipment Cost for all Officers =	\$364,651	
Equipment Cost per Capita =	<u>\$2</u>	
Gross Cost Per Capita	<u>\$413</u>	

Type of Housing Unit	Housing Unit Size	Gross Cost of Law Enforcement per Capita	Gross Cost Per Housing Unit
Single Family	3.13	\$413	\$1,293
Townhouse	2.91	\$413	\$1,202
Multi-Family	2.57	\$413	\$1,061
Mobile Home	1.89	\$413	\$781

Monetary Impact per Housing Unit:

Single Family :	\$1,293
Townhouse:	\$1,202
Multi-Family:	\$1,061
Mobile Home:	\$781

General Government

Building Cost (projects from the CIP)

New Courthouse & Renovation/Addition of
existing Courthouse = \$40,600,000

Source: FY2022 Capital Improvements Program

156,927 = 2020 population (U.S. Census Bureau)

Cost/ capita = \$259

Gross Cost per Capita **\$259**

Type of Housing Unit	Housing Unit Size	Cost of General Government per Capita	Gross Cost per Housing Unit
Single Family	3.13	\$259	\$811
Townhouse	2.91	\$259	\$754
Multi-Family	2.57	\$259	\$666
Mobile Home	1.89	\$259	\$490

Monetary Impact per Housing Unit:

Single-Family :	\$811
Townhouse:	\$754
Multi-Family:	\$666
Mobile Home:	\$490

B. Public Facilities Plan

Fire and Rescue

Location Criteria:

- Future new and replacement fire and rescue stations should be strategically located within districts to meet the required LOS Standards.
- Fire and rescue stations should be located at points with quick and easy access to a major arterial or at an intersection of two arterials to gain both east-west and north-south access.
- Fire and rescue stations should be located near or part of mixed-use centers like Targeted Growth Areas (TGAs) and redevelopment areas where possible based on key site planning consideration such as access, safety and response time (locations of intense and dense anticipated growth)
- Response areas for each station should be established for areas in the USA and outside the USA

Site Selection/Design Criteria:

- Separate fire and rescue stations that cover the same district should be combined in new shared facilities.
- Consider co-locating with other public facilities like the Sheriff's Office. Coordination with other county agencies is recommended to provide more efficient services.
- Acquire sites between five to seven usable acres to allow for providing co-location with other public facilities and possible future expansion. Slight variation in lot size may be necessary based upon the anticipated needs and building size construction of Fire and Rescue facilities.
- Encourage sites to be large enough to accommodate equipment storage and to allow maneuverability of the equipment to either pull-through or be backed into the garage bays without hindering traffic flows in the public right-of-way.
- Select and design sites to minimize the adverse impact of sirens and other noise on residential areas.
- Buildings should be a minimum of 15,000 square feet in size and accommodate one, two or three-bay designs depending on the needs within the service area.
- The standard capital equipment for each Fire and Rescue facility should be provided as follows: one engine and one ambulance. However, this does not exclude the need for additional equipment which is based on the location and need of each Fire and Rescue facility.

Facility Recommendations/Timing:

1.122 = Square feet provided per capita as of July 1, 2009 21,000 = Standard F&R Station Building Size (in square feet)							
Year	Total Population	Increase in Population Annually	Accumulating Population Increase	Additional F&R Building Square Footage Needed for this Year	Accumulating F&R Building Square Footage Needed	New Facilities Needed	Total # of Facilities
2020	156,927						15
2021	159,550	2,623	2,623	2,943	2,943	0	15
2022	162,174	2,624	5,247	2,944	5,887	0	15
2023	164,797	2,623	7,870	2,943	8,830	0	15
2024	167,421	2,624	10,494	2,944	11,774	0	15
2025	170,044	2,623	13,117	2,943	14,717	0	15
2026	172,668	2,624	15,741	2,944	17,661	0	15
2027	175,291	2,623	18,364	2,943	20,604	0	15
2028	177,915	2,624	20,988	2,944	23,549	1	16
2029	180,538	2,623	23,611	2,943	26,492	0	16
2030	183,161	2,623	26,234	2,943	29,435	0	16
2031	185,770	2,609	28,843	2,927	32,362	0	16
2032	188,379	2,609	31,452	2,927	35,289	0	16
2033	190,988	2,609	34,061	2,927	38,216	0	16
2034	193,597	2,609	36,670	2,927	41,144	0	16
2035	196,206	2,609	39,279	2,927	44,071	1	17
2036	198,815	2,609	41,888	2,927	46,998	0	17
-	-	-	Totals	46,998	-	2	17

Schools

Site Selection/Location Criteria:

- Future school sites will be located within the existing Urban Services Area (USA). Exceptions may be made when the only way to meet LOS Standards is to locate the school outside the USA.
- Provide locations for new schools that minimize travel distances for current as well as future students
- Elementary schools may be located within residential neighborhoods
- Elementary schools should be located with direct access to a collector road
- Middle and High schools site design should minimize impacts of the recreational areas on adjacent residences; sports facilities and their parking areas should be buffered from nearby homes
- Middle and High schools should be located with direct access to at least one major arterial road
- Pursue acquisition of school sites in projected growth areas of the County as identified on the Land Use Map
- Continue to coordinate school site planning and development with the Parks and Recreation Department in order to maximize community recreational facilities

Design Criteria:

Elementary Schools

- Recommended Site Acreage: At least 20 acres;
- Recommended Capacity: Maximum of 950 students;
- Recommended Classroom Size:
 - a. Special Ed - 10
 - Pre-K-18
 - Kindergarten -20
 - Grades 1-2 - 22
 - Grades 3-5 - 23
- Buildings should be a minimum of 88,000 square feet;
- Buildings should be constructed at a maximum height no greater than two stories;
- Other facility elements include a multi-use/gymnasium facility that should be provided at each elementary school sized to accommodate a regulation basketball court, bleachers, restroom facilities and storage rooms; and
- Grading for outdoor facilities to include the following community use facilities:
 - a. One (1) Little League/Softball Field with a 200-foot playing area with fences for a backstop and dugouts;
 - b. One (1) Soccer/Football Field with minimum dimensions of 65 x 120 yards;
 - c. Restroom access;
 - d. Public Access Playground; and
 - e. Parking adjacent to all facilities.

Middle Schools

- Recommended Site Acreage: At least 40 acres;
- Recommended Capacity: Maximum of 1,100 students;
- Recommended Classroom Size: 25 students;
- Buildings should be a minimum of 146,000 square feet;
- Buildings should be constructed at a minimum height no less than two stories;
- Other facility elements include a multi-purpose room/gymnasium facility that should be provided at each middle school sized to accommodate a regulation basketball court, bleachers, restroom facilities, storage room and locker rooms; and
- Grading for outdoor facilities to include the following community use facilities:
 - a. Two (2) Little/Softball Fields with a 200-foot playing area with fences for a backstop and dugouts;
 - b. Two (2) Soccer/Football Fields with minimum dimensions of 70 x 130 yards. One (1) Field with lights;
 - c. Access to restrooms;
 - d. Tennis Courts/Basketball Courts;
 - e. A Public Access Track; and
 - f. Parking adjacent to all facilities.

High Schools

- Recommended Site Acreage: At least 70 acres
- Recommended Capacity: Maximum of 1,800 students
- Recommended Classroom Size: 25 students
- Buildings should be a minimum of 265,000 square feet
- Buildings should be constructed at a minimum height no less than two stories
- Other facility elements include in addition to the main gymnasium, a second gymnasium (auxiliary gymnasium), that should be provided at each high school sized to accommodate a regulation basketball court, bleachers, restroom facilities, storage room and locker rooms.
- Grading for outdoor facilities to include the following community use facilities:
 - a. Two (2) Regulation Baseball Fields with fully enclosed playing area. One (1) Field with lights;
 - b. Two (2) Softball Fields with fully enclosed playing area. One (1) Field with lights;
 - c. One (1) Regulation Football/Soccer Field with stadium;
 - d. Three (3) Multi-Purpose Football/Soccer Fields with minimum dimensions of 70x 130 yards;
 - e. Access to restrooms;
 - f. Tennis Courts/Basketball Courts;
 - g. A Public Access Track; and
 - h. Parking adjacent to all facilities

Facility Recommendations/Timing:Elementary Schools:

The methodology that was applied used a minimum threshold of 90 percent of program capacity usage in order to trigger the need for a new elementary school to be built.

Year	New Dwelling Units	Average Students per Dwelling Type			Total New Elementary Students	Cumulative Elementary Students	Cumulative PROGRAM Capacity	Students Relationship to Capacity	PROGRAM Capacity Usage %	New Elem School Needed	Cumulative Elem Schools Needed
		S.F.	T.H.	M.F.							
2019						12,665	13,966	-1,301	90.68%	1	1
2020	846	195	28	32	256	12,921	14,930	-2,009	86.54%		
2021	846	195	28	32	256	13,177	14,930	-1,753	88.26%		
2022	846	196	28	32	256	13,434	14,930	-1,496	89.98%		
2023	846	195	28	32	256	13,690	14,930	-1,240	91.69%	1	2
2024	846	196	28	32	256	13,946	15,894	-1,948	87.74%		
2025	846	195	28	32	256	14,202	15,894	-1,692	89.36%		
2026	846	196	28	32	256	14,458	15,894	-1,436	90.97%	1	3
2027	846	195	28	32	256	14,715	16,858	-2,143	87.29%		
2028	846	196	28	32	256	14,971	16,858	-1,887	88.81%		
2029	846	195	28	32	256	15,227	16,858	-1,631	90.33%	1	4
2030	846	195	28	32	256	15,483	17,822	-2,339	86.88%		
2031	842	194	28	32	255	15,738	17,822	-2,084	88.31%		
2032	842	194	28	32	255	15,993	17,822	-1,829	89.74%		
2033	842	194	28	32	255	16,248	17,822	-1,574	91.17%	1	5
2034	842	194	28	32	255	16,502	18,786	-2,284	87.84%		
2035	842	194	28	32	255	16,757	18,786	-2,029	89.20%		
2036	842	194	28	32	255	17,012	18,786	-1,774	90.56%	1	6
Totals					4,347					6	

Middle Schools:

The methodology that was applied used a minimum threshold of 90 percent of design capacity usage in order to trigger the need for a new middle school to be built.

		Average Students per Dwelling Type									
		0.235	0.126	0.04							
Year	New Dwelling Units	S.F.	T.H.	M.F.	Total New Middle Sch. Students	Cumulative Middle Sch. Students	Cumulative PROGRAM Capacity	Students Relationship to Capacity	PROGRAM Capacity Usage %	New Middle School Needed	Cumulative Middle Schools Needed
2019						7,186	8,170	-984	87.96%		
2020	846	107	14	11	132	7,318	8,170	-852	89.57%		
2021	846	107	14	11	132	7,449	8,170	-721	91.18%	1	1
2022	846	107	14	11	132	7,581	9,320	-1,739	81.34%		
2023	846	107	14	11	132	7,712	9,320	-1,608	82.75%		
2024	846	107	14	11	132	7,844	9,320	-1,476	84.16%		
2025	846	107	14	11	132	7,975	9,320	-1,345	85.57%		
2026	846	107	14	11	132	8,107	9,320	-1,213	86.98%		
2027	846	107	14	11	132	8,238	9,320	-1,082	88.39%		
2028	846	107	14	11	132	8,370	9,320	-950	89.81%		
2029	846	107	14	11	132	8,501	9,320	-819	91.22%	1	2
2030	846	107	14	11	132	8,633	10,470	-1,837	82.45%		
2031	842	106	13	11	131	8,764	10,470	-1,706	83.70%		
2032	842	106	13	11	131	8,895	10,470	-1,575	84.95%		
2033	842	106	13	11	131	9,025	10,470	-1,445	86.20%		
2034	842	106	13	11	131	9,156	10,470	-1,314	87.45%		
2035	842	106	13	11	131	9,287	10,470	-1,183	88.70%		
2036	842	106	13	11	131	9,418	10,470	-1,052	89.95%		
Totals					2,232						
										2	

High Schools:

The methodology that was applied used a minimum threshold of 90 percent of design capacity usage in order to trigger the need for a new high school to be built.

Year	New Dwelling Units	Average Students per Dwelling Type			Total New High Sch. Students	Cumulative High Sch. Students	Cumulative DESIGN Capacity	Students Relationship to Capacity	DESIGN Capacity Usage %	New High School Needed	Cumulative High Schools Needed
		S.F.	T.H.	M.F.							
2019						9,725	10,650	-925	91.31%	1	1
2020	846	127	16	21	165	9,890	12,800	-2,910	77.27%		
2021	846	127	16	21	165	10,055	12,800	-2,745	78.55%		
2022	846	127	16	21	165	10,220	12,800	-2,580	79.84%		
2023	846	127	16	21	165	10,385	12,800	-2,415	81.13%		
2024	846	127	16	21	165	10,550	12,800	-2,250	82.42%		
2025	846	127	16	21	165	10,715	12,800	-2,085	83.71%		
2026	846	127	16	21	165	10,880	12,800	-1,920	85.00%		
2027	846	127	16	21	165	11,045	12,800	-1,755	86.29%		
2028	846	127	16	21	165	11,210	12,800	-1,590	87.58%		
2029	846	127	16	21	165	11,375	12,800	-1,425	88.87%		
2030	846	127	16	21	165	11,540	12,800	-1,260	90.16%	1	2
2031	842	127	16	21	164	11,704	14,950	-3,246	78.29%		
2032	842	127	16	21	164	11,868	14,950	-3,082	79.39%		
2033	842	127	16	21	164	12,032	14,950	-2,918	80.48%		
2034	842	127	16	21	164	12,196	14,950	-2,754	81.58%		
2035	842	127	16	21	164	12,361	14,950	-2,589	82.68%		
2036	842	127	16	21	164	12,525	14,950	-2,425	83.78%		
Totals					2,800					2	

Stafford County School Board Growth Forecast

The School Board commissioned an assessment of the current schools to determine where and when existing schools will approach and achieve over capacity due to projected growth. A summary table of the findings is provided.

Fall 2020 Ten-Year Membership Forecast – Stafford County Public Schools

Forecast Assumptions:

1. 2019-20 membership report supplied by SCPS, maximum date: 9/30/19, Pre-4 limited at North Star and Rising Star.
2. Active membership development data supplied by Stafford County Priorities, 8/7/20.
3. September 30, 2020 official count is an estimate caused by the COVID-19 pandemic.

2020 Fall 2020 Data

Elementary School	Design Capacity	2019-20 Actuals	2020-21 Actuals	Projected Enrollment by School Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
				2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31*																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Kate Walker Barrett ES	950	858	772	881	881	881	884	878	910	905	946	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948

Middle School	Design Capacity	2019-20 Actuals	2020-21 Actuals	Projected Enrollment by School Year										
				2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31*	
Dixon-Smith MS	1,100	802	783	788	802	802	802	802	802	802	802	802	802	802
Drew MS	650	630	603	632	630	630	630	630	630	630	630	630	630	630
Gayle MS	1,100	802	783	794	802	802	802	802	802	802	802	802	802	802
Heim MS	1,100	995	990	1,004	1,058	1,093	1,136	1,173	1,203	1,231	1,257	1,282	1,307	1,332
Poole MS	1,100	802	783	802	802	1,011	1,049	1,088	1,126	1,164	1,202	1,240	1,278	1,316
Stafford MS	1,100	581	564	1,085	1,101	1,120	1,140	1,160	1,180	1,200	1,220	1,240	1,260	1,280
Thompson MS	1,100	1,032	996	833	843	893	893	943	943	1,046	1,077	1,097	1,118	1,138
Wright MS	820	806	806	831	831	821	821	811	801	801	801	801	801	801
Total Middle (6-8)	8,170	7,184	7,000	7,279	7,346	7,456	7,560	7,702	7,800	8,018	8,197	8,376	8,555	8,734

High School ¹	Design Capacity	2019-20 Actuals	2020-21 Actuals	Projected Enrollment by School Year										
				2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31*	
Brooke Point HS	2,125	1,950	1,982	2,167	2,151	2,137	2,041	1,948	1,832	1,706	1,581	1,456	1,331	
Colonial Forge HS	2,175	2,000	1,960	2,061	2,044	2,038	1,939	1,878	1,778	1,666	1,548	1,430	1,315	
Mountain View HS	2,150	1,980	1,984	2,054	2,028	1,999	1,909	1,855	1,752	1,641	1,524	1,406	1,292	
North Stafford HS	2,050	1,875	1,881	1,941	1,895	1,880	1,782	1,694	1,577	1,459	1,342	1,225	1,108	
Stafford HS	2,150	2,000	1,992	2,151	2,188	2,197	2,092	1,982	1,875	1,762	1,650	1,537	1,425	
Total High (9-12)	10,650	9,725	9,904	10,734	10,579	10,779	10,490	11,054	11,186	11,352	11,327	11,228	11,067	

Total - K-12

33,429	28,134	28,000	30,711	31,236	31,730	32,185	32,608	33,004	33,462	33,995	34,506	35,007	35,489
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1. Affected by legend



* The 2030-31 forecast is based on a 5-year average growth trend extrapolated from the 2020 forecast. The membership forecast for 2030-31 is based on the 2020-21 forecast.

High school is an existing school within the (10) high school district serving the school system of Stafford County Public Schools.

1. Based on the district's previous year.

Revised Oct 11/13/2020

Parks and Recreation**Location/Site Selection Criteria:**

- All parks should be co-located with other public facilities where appropriate.
- Acquisition of parkland adjacent to existing parks, athletic complexes and historic sites should be acquired for creation of buffers and to allow park expansion.
- Consider public/private partnerships or any other joint opportunities in the delivery of park and recreation service delivery.
- Encourage Virginia Department of Transportation (VDOT) to construct bicycle lanes and/or paths in conjunction with road widening projects.
- Locate sites adjacent to existing or planned residential areas to promote non-vehicular access and shorten drive time.
- Sites with athletic components requiring high water and/or sewage disposal must be located within the existing USA.
- Location of historical sites and natural area parks will be determined by the presence of historical and cultural resources, environmental features, the significance of wildlife habitat, the presence of endangered, threatened or state-listed flora and fauna, and the potential for educational, interpretive and low-impact recreational activities.

Facility Recommendations/Timing:

- 1,445 = Existing Acres of County Parkland
 0.0092 = Acres of Existing County Parkland/Capita
 12 = Acres per 1,000 people (County Standard)
 1,883 = Needed Acres of Parkland as of the April 1, 2020 Population
 438 = Deficit of County Parkland that exists as of January 1, 2021
 \$470,000 = Cost to acquire and develop one acre of new County Parkland in 2009
 8.0% = Annual Inflation Rate

Year	Population	Change in Population	Accumulating Population Increase	Acres of Parkland/Capita Per Year	Total Parkland Needed at this Year
2020	156,927				
2021	159,550	2,623	2,623	31.5	469.5
2022	162,174	2,624	5,247	31.5	501.0
2023	164,797	2,623	7,870	31.5	532.5
2024	167,421	2,624	10,494	31.5	564.0
2025	170,044	2,623	13,117	31.5	595.4
2026	172,668	2,624	15,741	31.5	626.9
2027	175,291	2,623	18,364	31.5	658.4
2028	177,915	2,624	20,988	31.5	689.9
2029	180,538	2,623	23,611	31.5	721.4
2030	183,161	2,623	26,234	31.5	752.8
2031	185,770	2,609	28,843	31.3	784.1
2032	188,379	2,609	31,452	31.3	815.4
2033	190,988	2,609	34,061	31.3	846.8
2034	193,597	2,609	36,670	31.3	878.1
2035	196,206	2,609	39,279	31.3	909.4
2036	198,815	2,609	41,888	31.3	940.7
Totals	-	-	-	<u>502.7</u>	-
	Total Needed in addition to deficit				502.7
	Total needed including deficit				940.7

Libraries**Location Criteria:**

- Provide new facilities to adequately and equitably serve all areas of the County. Schedule library acquisition and/or construction to respond to both current unmet demand and new growth when it occurs.
- Future library sites shall be located within the existing Urban Services Area (USA). Exceptions may be made when the only way to meet LOS Standards is to locate the library outside the USA.
- Sites should be located along main travel corridors with consideration of minimizing users' drive time. The site should be chosen to support the mission of providing library material and services to the greatest number of people.
- Generally library sites should be at least six (6) acres in size to allow for a full size branch with adequate parking.
- An alternative to construction of new facilities is to establish new libraries in leased commercial spaces such as shopping centers. In Fredericksburg and other locations, public libraries serve as anchor stores and can draw one to two thousand citizens a day. Branches could be located within the Redevelopment Areas.

Site Selection/Design Criteria:

- Convenience and accessibility to the maximum number of users, direct access to a major arterial road.
- Preferred sites should have both north/south and east/west access.
- High visibility from major vehicular and pedestrian access routes.
- Proximity to compatible traffic-generating land uses, with evaluation similar to the needs for commercial retail business.
- Provide drive times 15 minutes or less to most parts of the service area.
- Accommodate a facility of at least 25,000 square feet.
- Provide parking at the rate of 4 spaces per 1,000 square feet of building space.
- Be incorporated into a variety of settings, including neighborhoods, adjacent to schools, or co-location with other public facilities as feasible, with relief to some criteria for co-location sites as determined by the Central Rappahannock Regional Library (CRRL).

Facility Recommendations/Timing:

- 69,907 = Existing square feet of Library building as of April 1, 2020
 0.45 = Existing Square feet per capita as of April 1, 2020
 156,927 = Needed Square footage of Library building as of the 2020 Census
 1.00 = Recommended Square feet of Library building per capita (County Standard)
 87,020 = Deficit of Square footage of Library building that exists as of April 1, 2020
 25,000 = Square feet for Library building (County Standard, per FY2022 CIP)

Year	Total Population Annually	Change in Population Annually	Accumulating Population Increase	Additional Library Square Footage Needed for this Year	Total Library Square Footage Needed at this Year	New Libraries Needed	Total Number of New Libraries Needed
2020	156,927				87,020	3	3
2021	159,550	2,623	2,623	2,185	89,205	0	3
2022	162,174	2,624	5,247	2,186	91,391	0	3
2023	164,797	2,623	7,870	2,185	93,576	0	3
2024	167,421	2,624	10,494	2,186	95,762	0	3
2025	170,044	2,623	13,117	2,185	97,946	0	3
2026	172,668	2,624	15,741	2,186	100,132	1	4
2027	175,291	2,623	18,364	2,185	102,317	1	4
2028	177,915	2,624	20,988	2,186	104,503	0	4
2029	180,538	2,623	23,611	2,185	106,688	0	4
2030	183,161	2,623	26,234	2,185	108,873	0	4
2031	185,770	2,609	28,843	2,173	111,046	0	4
2032	188,379	2,609	31,452	2,173	113,220	0	4
2033	190,988	2,609	34,061	2,173	115,393	0	4
2034	193,597	2,609	36,670	2,173	117,566	0	4
2035	196,206	2,609	39,279	2,173	119,739	0	4
2036	198,815	2,609	41,888	2,173	121,913	0	4
-	-	-	Totals	34,893	-	-	4

Government and Judicial**Facility Recommendations/Timing:**

- 328,030 = Existing square feet of Government building as of July 1, 2015
 2.34 = Square feet per capita as of July 1, 2015 (County Standard)
 \$259 = Cost of New Government building (per square footage)
 8.00% = Annual Inflation Rate

Year	Population	Change in Population	Accumulating Population Increase	Additional Gov't Building Square Footage Needed for this Year	Total Gov't Square Footage Needed at this Year
2015	140,176	0	0	0	0
2016	141,915	1,739	1,739	4,069	4,069
2017	145,699	3,784	5,523	8,855	12,924
2018	149,110	3,411	8,934	7,982	20,906
2019	151,689	2,579	11,513	6,035	26,940
2020	156,927	5,238	16,751	12,257	39,197
2021	159,550	2,623	19,374	6,138	45,335
2022	162,174	2,624	21,998	6,140	51,475
2023	164,797	2,623	24,621	6,138	57,613
2024	167,421	2,624	27,245	6,140	63,753
2025	170,044	2,623	29,868	6,138	69,891
2026	172,668	2,624	32,492	6,140	76,031
2027	175,291	2,623	35,115	6,138	82,169
2028	177,915	2,624	37,739	6,140	88,309
2029	180,538	2,623	40,362	6,138	94,447
2030	183,161	2,623	42,985	6,138	100,585
2031	185,770	2,609	45,594	6,105	106,690
2032	188,379	2,609	48,203	6,105	112,795
2033	190,988	2,609	50,812	6,105	118,900
2034	193,597	2,609	53,421	6,105	125,005
2035	196,206	2,609	56,030	6,105	131,110
2036	198,815	2,609	58,639	6,105	137,215
Totals	-	-	-	-	137,215

Targeted Growth Area Public Facility Needs

The following section identifies the public facility needs for each individual Targeted Growth Area, as referenced in Chapter 3 of this document. These estimates are considered a portion of the total Countywide facility needs identified in the first part of this Appendix.

Courthouse Planning Area

Assumptions:

Persons per Household (2020 CENSUS)	Courthouse Dwelling Units	Population
3.10	5,440	16,864

1. Parks and Recreation

LOS	Population	Area Demand
12 acres per 1,000 people	16,864	202 acres

2. Fire and Rescue

LOS	Population	Demand	Station	Number of Fire Stations
1.122 sq. ft. per capita	16,864	18,921 sq. ft.	21,000 sq. ft.	0.90

3. Schools

	SF		TH		MF		Total Students	Number of Schools
	Gen. Rate	1,500 Units	Gen. Rate	750 Units	Gen. Rate	3,190 Units		
Elementary	.431	647	.265	199	.113	360	1,206	1.25
Middle	.235	353	.126	95	.06.04	128	576	0.50
High	.281	422	.153	115	.074	236	773	0.40
Total Students		1,422		409		724	2,555	

4. Libraries

LOS	Population	Demand	Library Size	Number of Libraries
1.0 sq. ft. per capita	16,864	16,864 sq. ft.	25,000 sq. ft.	0.67

Central Stafford Business Area

Assumptions:

Persons per Household (2020 CENSUS)	Central Stafford Dwelling Units	Population
3.10	1,750	5,425

1. Parks and Recreation

LOS	Population	Demand
12 acres per 1,000 people	5,425	65.1 acres

2. Fire and Rescue

LOS	Population	Demand	Station	No. of Fire Stations
1.122 sq. ft. per capita	5,425	6,087 sq. ft.	21,000 sq. ft.	0.29

3. Schools

	SF		TH		MF		Total Students	Number of Schools
	Gen. Rate	550 Units	Gen. Rate	200 Units	Gen. Rate	1,000 Units		
Elementary	.431	237	.265	53	.113	113	403	0.42
Middle	.235	129	.126	25	.04	40	194	0.17
High	.281	155	.153	31	.074	74	260	0.12
Total Students		521		109		227	857	

4. Libraries

LOS	Population	Demand	Library Size	No. of Libraries
1.0 sq. ft. per capita	5,425	5,425 sq. ft.	25,000 sq. ft.	0.22

Berea Planning Area

Assumptions:

Persons per Household (2020 CENSUS)	Berea Dwelling Units	Population
3.10	1,650	5,115

1. Parks and Recreation

LOS	Population	Area Demand
12 acres per 1,000 people	5,115	61 acres

2. Fire and Rescue

LOS	Population	Demand	Station	No. of Fire Stations
1.122 sq. ft. per capita	5,115	5,739 sq. ft.	21,000 sq. ft.	0.27

3. Schools

	SF		TH		MF		Total Students	Number of Schools
	Gen. Rate	500 Units	Gen. Rate	400 Units	Gen. Rate	750 Units		
Elementary	.431	216	.265	106	.113	85	407	0.42
Middle	.235	118	.126	50	.04	30	198	0.17
High	.281	141	.153	61	.074	56	258	0.12
Total Students		475		217		171	863	

4. Libraries

LOS	Population	Demand	Library Size	No. of Libraries
1.0 sq. ft. per capita	5,115	5,115 sq. ft.	25,000 sq. ft.	0.20

Falmouth Gateway Planning Area

Assumptions:

Persons per Household (2020 CENSUS)	Falmouth Gateway Dwelling Units	Population
3.10	1,650	5,115

1. Parks and Recreation

LOS	Population	Area Demand
12 acres per 1,000 people	5,115	61 acres

2. Fire and Rescue

LOS	Population	Demand	Station	No. of Fire Stations
1.122 sq. ft. per capita	5,115	5,739 sq. ft.	21,000 sq. ft.	0.27

3. Schools

	SF		TH		MF		Total Students	Number of Schools
	Gen. Rate	500 Units	Gen. Rate	400 Units	Gen. Rate	750 Units		
Elementary	.431	216	.265	106	.113	85	407	0.42
Middle	.235	118	.126	50	.04	30	198	0.17
High	.281	141	.153	61	.074	56	258	0.12
Total Students		475		217		171	863	

4. Libraries

LOS	Population	Demand	Library Size	No. of Libraries
1.0 sq. ft. per capita	5,115	5,115 sq. ft.	25,000 sq. ft.	0.20

Boswell's Corner Planning Area

Assumptions:

Persons per Household (2020 CENSUS)	Boswell's Corner Dwelling Units	Population
3.10	80	248

1. Parks and Recreation

LOS	Population	Area Demand
12 acres per 1,000 people	248	3 acres

2. Fire and Rescue

LOS	Population	Demand	Station	No. of Fire Stations
1.122 sq. ft. per capita	248	278 sq. ft.	21,000 sq. ft.	0.01

3. Schools

	SF		TH		MF		Total Students	Number of Schools
	Gen. Rate	0 Units	Gen. Rate	80 Units	Gen. Rate	0 Units		
Elementary	.431		.265	21	.113		21	0.02
Middle	.235		.126	10	.04		10	0.01
High	.281		.153	12	.074		12	0.006
Total Students				43			43	

4. Libraries

LOS	Population	Demand	Library Size	No. of Libraries
1.0 sq. ft. per capita	248	248 sq. ft.	25,000 sq. ft.	0.01

C. 80-20 Growth Policy Analysis – 5-yr Comp Plan Update

July 7, 2021

Recent Permit Trends

Building Permits per year (over 5-year period)

Inside USA	785	73.7%
Outside USA	280	26.3%
Total	1,065	100%

To be Built

Approved Subdivision Lots - Total

Inside USA	4,576	78.7%
Outside USA	1,234	21.3%
Total	5,810	100%

Buildout Trends

The A-1 zoning district density changes approved in 2021 has the effect of reducing the potential future buildout on A-1 zoned properties by up to half of the original buildout potential.

Countywide Buildout Potential

Under 3-acre lot size (previous ordinance) – 12,260 future units

With 6-acre gross density (current ordinance) – 6,222 future units

Outside of the USA

Under 3-acre lot size (previous ordinance) – 7,484 future units

With 6-acre gross density (current ordinance) – 3,720 future units

Summary

The growth trends should begin to edge closer to the 80-20 ratio based on the To Be Built ratios and reductions to the projected buildout based on the latest A-1 zoning changes.

D. TDA County-wide Acreage Needs

This table represents the minimum acreage that Stafford County would need to designate for Targeted Development Areas (TDA) based on a generalized county-wide evaluation given the alternatives that provide varying degrees of development intensity. This information is based on the methodology presented during a session on Urban Development Areas at the 2010 CPEAV Zoning Law Seminar on July 23, 2010 in Charlottesville, Virginia

	UDA Alternatives		
	Low Density Alternative	Medium/Mixed Densities	High Density
	All Single Family Dwellings (10,570)	1/3 Single Family, 1/3 Townhouse, 1/3 Multi-family (3,523 units each)	All Multi-family Dwellings (10,570)
	Acres	Acres	Acres
Land Use			
Residential	2,642	2,349	881
Commercial/Employment	574	574	574
Total	3,216	2,923	1,455

Note: The ultimate area should be adjusted to account for public land and right of way.

Assumptions

2021 Amended TDA Buildout Projection - 10,570 dwelling units
32,767 new residents

Commercial / Employment based on County estimate of 1 million square feet of floor area per year, or 10 million square feet over 10 years.

Conversion to acreage: $10,000,000 / 0.4 \text{ (FAR)} / 43,560 \text{ (sq ft/ac)} = 573.92 \sim 574 \text{ Acres}$

Densities:

Single Family: 4 du/acre

Townhouse: 6 du/acre

Multi-family: 12 du/ac

E. Affordable Housing

Introduction: Affordable Housing

Affordable Housing (Workforce Housing) is safe, decent housing where costs (mortgage or rent plus utilities) does not exceed 30 % of gross household income. Households that spend more than 30% of their gross income on housing costs are considered to be cost burdened. These households may also be classified as Asset Limited, Income Constrained, Employed (ALICE). They make enough money not to be classified as being in poverty but may have difficulty affording essentials such as childcare, healthcare and housing. Nearly half of all renters in the County (45.2%) are ALICE.

Workforce: 50% to 120% of median family income (\$110,446 in Stafford County) therefore: \$55,223 to \$132,535 (2019)

Homeownership expands individual opportunities to accumulate wealth, enables a family to exert greater control over its living environment, creates incentives for households to better maintain their homes, and may benefit children of homeowners. Homeownership also benefits local neighborhoods because owner-occupiers have a financial stake in the quality of the local community. (HUD 2005)

Communities that have had success producing more Affordable Housing have developed the attitude that Affordable Housing is part of the Economic Development Infrastructure. It is more than just a quality of life issue. Citizens who work in the communities where they live spend more of their incomes in their communities thus dramatically increasing tax revenues for their localities.

In virtually all communities nationwide, the magnitude of the housing need is likely to dwarf available resources. (The Brookings Institution, 2003)

Special Challenges of Low-Income Housing:

In the suburbs, local governments are politically dominated by homeowners, who comprise a majority of residents and are the most vocal. The major asset of most homeowners is their home. They have strong incentives to want the market values of homes to rise. They typically oppose any policies might reduce home values. They think letting more affordable units into their communities would do that and might also lower the quality of local schools and raise property taxes. So very few want to permit new low-cost housing near them, or to accept low-income neighbors. (Brookings Institution, 2003)

Rationale for Creating Affordable Housing:

Families who pay more than 30 percent of their income for housing are considered cost burdened (Alice) and may have difficulty affording necessities such as food, clothing, transportation and medical care. Everyone needs a place to live, regardless of age, job, race, disability, income or station in life. Although housing has often been cast as a "social" issue, it is

in fact a broader concern, cutting across many disciplines, including economics, social work, and public health, in addition to urban planning.

Consequences of Affordable Housing Shortages:

A common measure of community-wide affordability is the number of homes that a household with a certain percentage of median income can afford. For example, a community might track the percentage of its housing that is affordable to households earning 60% of median income. In addition to the distress it causes families who cannot easily find a place to live, lack of affordable housing is considered by many urban planners to have negative effects on a community's overall health. From an economic development perspective, lack of affordable housing may impact the ability to attract some businesses to the locality due to a shortage of workers. Lack of affordable housing can also contribute to traffic congestion on transportation arteries in the County due to workers living out of the County and depending upon those roadways for access to and from work.

Implications for Affordable Housing initiatives:

Affordable housing is the hardest form of real estate to make viable in the long run, because it maintains a dual mission: (1) be financially healthy, and (2) provide affordability to low income residents. These two goals are diametrically opposite — almost every decision involves trading one off against another.

To be viable at both missions, affordable housing requires the injection of government financial resources to fill the gap between what the market requires for quality, and what poor people can afford. It is a mistake to start an affordable housing initiative with too little government resource — all the financial wizardry imaginable may disguise but will not prevent its inevitable, and expensive, failure. (Affordable Housing Institute, 2006)

Federal Programs for Low and Affordable Housing:

- Low Income Housing Tax Credits (LIHTCs) and Historic Tax Credits
- HUD/FHA multifamily loans insured under all applicable sections of the National Housing Act
- HUD's Housing Choice Voucher Program for rental assistance programs
- Public housing, including privatization and revitalization of public housing under HUD's HOPE VI and mixed finance programs
- Tax-exempt bonds for housing and community development
- Representing local, regional and national non-profit developers, lenders and intermediaries in connection with acquisition, development, management and financing of housing projects
- Fannie Mae and Freddie Mac multifamily loan and investment programs

Housing assistance from the federal government for lower income households can be divided into three parts.

- “Tenant based” subsidies given to an individual household, known as the Housing Choice Voucher Program
- “Project based” subsidies given to the owner of housing units that must be rented to lower income households at affordable rates with oncome restrictions, and
- Public Housing, which is usually owned and operated by the government. (Some public housing projects are managed by subcontracted private agencies.)

Stafford County has no Public Housing Authority or public housing projects.

Sample Stafford County Employee Salaries (2020):

Fire & Rescue Technician - Grade B10; min \$50,960 mid \$68,806.40 max \$86,623

Deputy Sheriff I - Field Operations - Grade A09; min \$47,632 mid 64,292.80 max \$80,974.40

Administrative Specialist 1 - Grade A03; min \$31,740.80 mid \$42,848 max \$53,955.20

Human Resources Specialist - Grade A08; min \$44,512 mid \$60,091.20 max \$75,670.40

Parks Maintenance Worker I - Grade A01; min \$27,726.40 mid \$37,419.20 max \$47,123.80

The beginning salary for a teacher with a bachelor’s degree and no years of experience contracted to work 200 days earns \$48,000.

Teacher with a bachelor’s degree and 10-years of experience contracted to work 200 days earns \$52,900

NOTE: All salaries are for full-time employees

Market Trends: Stafford County Home Costs (2020)

Average Sold Price - \$400,106

- 8.29% increase from 2019

Median Sold Price - \$385,000

- 7.54% increase from 2019

Average days on the market – 24

- 40% decrease from 2019

During the Year 2020, the County was impacted by the COVID-19 Virus Pandemic market trends were substantially impacted by that event resulting in a-typical sales prices and time on the market.

What Other Communities Have Done to Address the Problem:

1. Affordable Dwelling Unit Ordinance - requires a percentage of new development to include affordable housing units. This ordinance must include incentives for developers or it actually increases the cost of housing instead of reducing it. This requires establishment of a Housing Authority to administer the program.
2. Forgive cash proffers and development related fees for affordable housing units
3. Density bonus for developments that include a pre-determined number of Affordable Housing Units
4. Dedicating One Cent from Property Taxes to Address Funding of Affordable Housing
5. Participate in Partnerships with Business Community and Other stakeholders to establish a non-profit entity to purchase and manage sale of affordable housing units
6. Use of County-Owned Surplus Land to Contribute to Affordable Housing Units
7. Seek Major Employer Contributions to Affordable Housing Fund
8. Determine the number of Affordable Housing Units currently in the community and take steps to conserve those units.
9. Participate in a Regional Affordable Housing Taskforce with community stakeholders to expand opportunities for affordable housing in the County.

F. Stafford Regional Airport Land Use Compatibility Study

A. Introduction

The Stafford Regional Airport is located in an area of the County that is anticipated to experience growth in the future. The area surrounding the Stafford Regional Airport was primarily agricultural and rural residential with very low density housing when it was initially sited in 1987. The growth pattern in the area has changed since that time with the construction of the Centerport Parkway in 2006 and amendments to the Future Land Use Plan in 2010 which allows for the potential of higher density development. The Airport Master Plan anticipates the extension of the existing runway and an increase in operations.

The Comprehensive Plan recognizes the need to plan for growth that is compatible with the airport in the following ways:

Chapter 2 (page 2-26) includes a recommendation for the development of land use compatibility standards:

Objective 4.9. Minimize the noise impacts and potential safety hazards generated by general aviation at public and private airfields in the County.

Policy 4.9.1. The County should develop land use compatibility standards for new development to conform to within the aircraft approach patterns of airports and landing strips.

Chapter 6 (page 6-10) includes the recognition of the current zoning overlay district:

Overlay Districts

In addition to the base zoning districts, the Stafford County Zoning Ordinance contains eight overlay districts. The purposes of the districts vary from protecting historical and environmental resources, reducing conflicts between established facilities, and mitigating potential hazards.

Overlay districts add a variety of standards to the underlying districts. These standards could include use restrictions, preservation requirements, or stricter density regulations. The following is a list of the overlay districts used in Stafford County:

AD Airport Impact - Provides an overlay zone in areas subject to intense and/or frequent emissions of noise and vibration from airports and prevents obstructions of airport zones which may result in an air navigation hazard.

An Airport Planning Area is established in order to further define and address the specific planning considerations related to land use compatibility including potential impacts related to exposure to aircraft noise, land use safety with respect both to people on the ground and the occupants of aircraft; the protection of airport airspace; and general concerns related to aircraft overflights. The Airport Planning Area consists of Airport Impact Zones that are defined in section C of this chapter.

B. Background of the Stafford Regional Airport

The Stafford Regional Airport is located in the center of Stafford County and is situated approximately 40 miles southwest of Washington D.C., 50 miles north of Richmond, Virginia and approximately 5 miles north of Fredericksburg, Virginia.

The need for a new public general aviation airport in Stafford County was determined in 1972 as part of the National Airport System Plan. In 1977 Stafford County conducted a feasibility study which detailed a need for a transport category airport in the region. A series of environmental studies were conducted between 1977 and 1992 and resulted in the final selection of an airport site in the central Stafford County area, adjacent to Interstate 95. Construction of the Airport began in 1997 and the airport opened in December 2001. The Airport was completed for just over \$41M dollars, \$5M under its allocated budget. This included an investment of \$820k from the Stafford Regional Airport Authority, almost \$39M from the Federal Aviation Administration (FAA) and approximately \$1.25M in Commonwealth of Virginia funding. The Airport Improvement Program Handbook states, with regard to any airport sponsor, "It (the airport sponsor) will take the appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft."

Significant airport development of more than \$14M has occurred since the Airport was originally constructed with the bulk coming from the FAA. This construction includes the addition of T- Hangars, two corporate hangars, apron areas, auto parking, fuel farm, security fencing, an instrument landing system (ILS), an approach lighting system and a new terminal building that opened in January 2014. The FAA and DOAV provide nearly all of the funding for future airport improvements and it is imperative that Stafford County establish and maintain high quality development compatibility standards to insure that future expenditures are used to improve the airport instead of noise abatement measures due to poor development planning.

The Airport is governed by a seven member Airport Authority (Stafford Regional Airport Authority or SRAA). These appointed members serve four year terms and represent Stafford County (four members), Prince William County (two members), and the City of Fredericksburg, Virginia (one member). A fulltime airport manager is located at the Stafford Regional Airport and handles the daily operation of the facility.

The Stafford Regional Airport service area includes Stafford County and portions of eight surrounding counties plus the City of Alexandria and Washington D.C. as determined by the Virginia Department of Aviation (DOAV) 2003 Virginia Air Transportation System Plan (VATSP) and airport records.

The Stafford Regional Airport is served by a single 5,000' x 100' grooved runway (15-33) as shown on the Airport Layout Plan in Exhibit 1. This runway is oriented 150 and 330 degrees and has a full-length parallel taxiway. Runway 15-33 utilizes High Intensity Runway Lights (HIRL) which can be operated by pilots using the Airport's Unicom frequency (122.725). Medium

Intensity Taxiway Lighting (MITL) is also available to pilots to assist in night operations, giving the facility 24-hour operational capability.

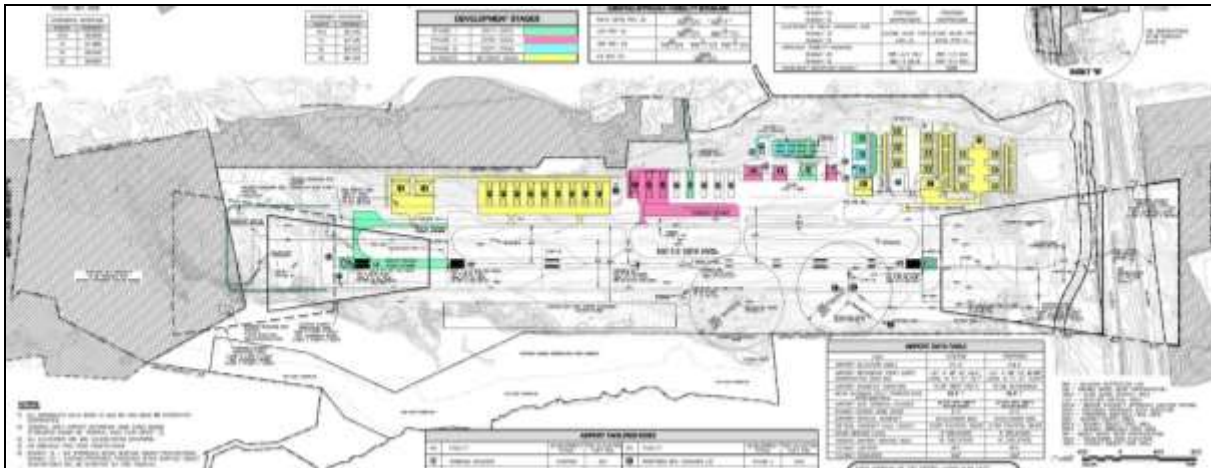


Exhibit 1: Airport Layout Plan

The Stafford Regional Airport currently has three instrument approach procedures consisting of an ILS approach, VOR approach, and a GPS approach. The ILS is an Instrument Landing System which uses radio waves broadcast from the Airport to align aircraft with the approach path to the runway. Runway 33 at the Airport has a Category 1 ILS System which enables aircraft with IFR (Instrument Flight Rules) equipment to land at RMN in inclement weather. Non-Precision instrument approaches (GPS or RNAV) for runway 15 have been developed and reviewed by the FAA but not implemented at this time.

Aircraft operating at the Stafford Regional Airport use existing traffic patterns based on the type and speed of the aircraft. The Airport currently operates with a standard left-hand traffic pattern for runway 33 and a nonstandard right-hand pattern for runway 15 as shown in Exhibit 2. This nonstandard pattern was temporarily implemented due to the proximity of a landfill which can serve as a bird attractant. Airport layout plans call for reinstituting the standard left-hand traffic pattern on Runway 15 once the closest landfill cell to the Airport is closed as shown in Exhibit 3.

An operation is defined as either a takeoff or a landing at the airport. Existing airport activity exceeds 23,000 operations per year and a modest growth rate of approximately 1,000 operations per year for the next several years is projected. This figure is supported by the FAA and DOAV as indicated in the approved Airport Master Plan update that was completed in April 2013.

According to the 2011 Virginia Statewide Economic Impact Study, the Stafford Regional Airport provided 105 direct and indirect jobs and contributed \$18.2M in economic activity to the region in 2010. This impact demonstrates the value that the Stafford Regional Airport adds to the region as an economic engine.

(Source: Stafford Regional Airport Compatible Land Use Study, May 2014, Talbert and Bright, Inc.)

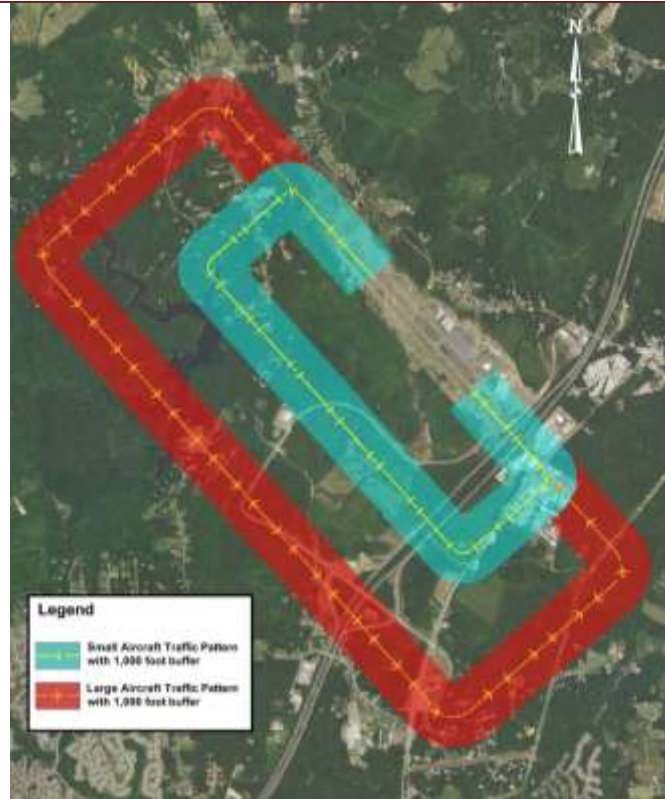


Exhibit 2: Non-standard Traffic Pattern



Exhibit 3: Standard Traffic Pattern

C. Airport Impact Zones

The Airport Impact Zones that make up the Airport Planning Area define and address the specific planning considerations related to land use compatibility in the area identified in the Airport Impact Overlay District and the Stafford Regional Airport Master Plan. The specific planning considerations include potential impacts related to exposure to aircraft noise, land use safety with respect both to people on the ground and the occupants of aircraft; the management of airport airspace; and general concerns related to aircraft overflights. This Plan designates Airport Impact Zones that closely correspond with the existing Airport Impact Zoning Overlay District. The zones are utilized in establishing the corresponding land use compatibility standards.

Approach zones reflect the approach and departure areas for the runway and are divided into several sub areas.

Approach –Final, Runway Protection Zone (AP-1). The closest area at the end of each runway, beginning 200-feet from the end of each runway, extending approximately two thousand five hundred (2,500) feet to the east and one thousand seven hundred (1,700) feet to the west.

Approach – Mid (AP-2). The area that fans out from the Runway Protection Zone, extending fourteen thousand (14,000) feet to the east and ten thousand (10,000) feet to the west.

Approach – Outer (AP-3). The area that fans out to the east of the runway that extends from fourteen thousand (14,000) feet to fifty thousand (50,000) feet from the runway.

Approach – Transitional (AP-T). A 5,000 foot wide area extending along each side of the Outer Approach, beyond the Conical zone.

Transitional (T). The area that fans away perpendicular to any airport runway centerline and approach surfaces

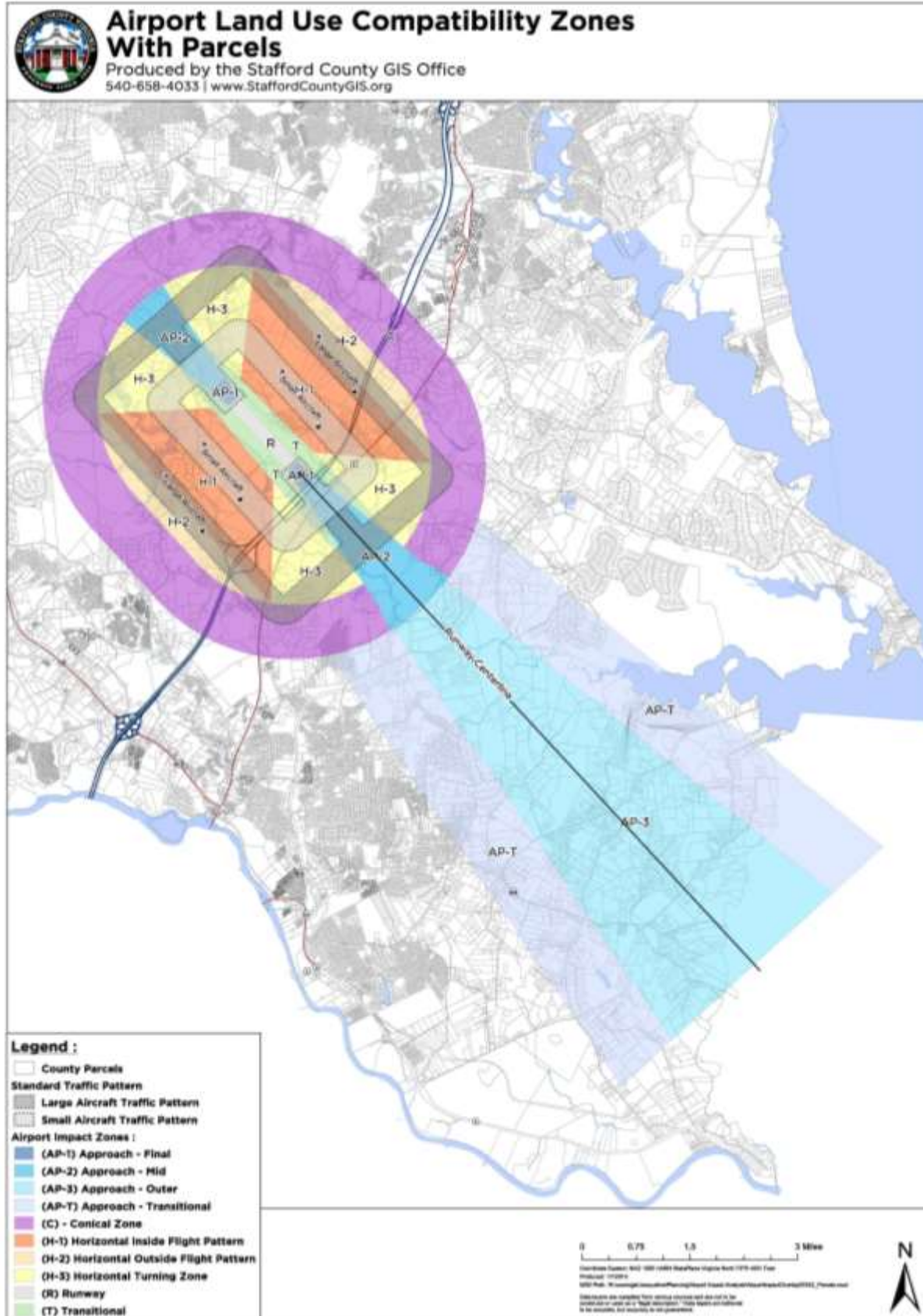
Horizontal zones include the area that is established by swinging arcs of ten thousand (10,000) feet radii from the center of the end of the primary surface of an airport runway and connecting adjacent arcs by drawing lines tangent to those areas. The horizontal zone excludes the approach and transitional zones. The area is divided into two sub-areas for the purpose of land use compatibility.

Horizontal – Inside Flight Pattern (H-1). The inner portion of the Horizontal zone that encompasses the majority of the existing and future aircraft traffic patterns.

Horizontal – Outside Flight Pattern (H-2). The outer portion of the Horizontal Zone that encompasses the outer edge of the Jet/Turboprop (large) aircraft traffic patterns.

Horizontal – Turning Areas (H-3). The area of the Horizontal zone that encompasses the portion of the traffic pattern area where turning movements occur, where aircraft generate louder noise and there is increased accident probability.

Conical (C). The area that surrounds and commences at the periphery of the horizontal zone (10,000 feet from the Runway Clear Zone) and extends outward from there for a distance of four thousand (4,000) feet.



D. Land Use Compatibility Guidelines

The following guidelines are proposed in order to better address the potential for incompatible land uses and development within the Airport Planning Area:

GOAL: Stafford County shall promote the appropriate use of land in the Airport Planning Area to maintain and support the viability of the Stafford Regional Airport and protect and promote the general health, safety, welfare of the citizens, and overall economy in the airport area.

OBJECTIVE 1: Identify the compatibility of various land uses and establish development standards in relation to airport operations to minimize potential impacts related to exposure to aircraft noise, land use, and safety with respect both to people on the ground and the occupants of aircraft and ensure the protection of airport airspace.

Policy 1.1 General concerns related to aircraft overflights shall be identified and mitigated during the development review process for all applications for uses within the Airport Planning Area.

Policy 1.2: All development within the Airport Planning Area shall be consistent with the Land Use Compatibility Matrix (Table 1) that identifies whether uses are Compatible, require Additional Review or are Incompatible within each Airport Impact Zone.

Policy 1.3: The compatibility guidelines shall be applied in conjunction with the requirements of the Future Land Use Plan recommendations.

Policy 1.4: The impacts of the following factors shall be considered for any development application within the Airport Planning Area:

1. Height of all structures and vegetation per the FAR Part 77 requirements;
2. Management of earth disturbances and the creation of open dirt areas during activities such as farming and construction to minimize dust emissions;
3. Reflective surfaces which cause glare, including storm water retention ponds, solar panels and/or light-colored or mirrored building materials;
4. Light emissions shining upward into the flight path, flashing lights or lights arranged in a linear pattern;
5. Uses that generate smoke, steam or fog;
6. Potential to attract wildlife and create habitat, such as open space and agricultural uses;
7. Number of people per unit of area per proposed use;
8. Existence of above ground storage of large quantities of materials that are hazardous, such as flammable, explosive, corrosive, or toxic materials;
9. Location of proposed uses where mobility of users is limited, such as schools, hospitals and nursing homes;
10. Location of critical community infrastructure, such as power plants, electrical substations, and public communications facilities, away from areas where damage or destruction could occur and cause significant adverse effects to public health and welfare beyond the immediate vicinity of the facility;

11. Proposed percentage of open space, including usable open space, in relation to the development area. For the purposes of this document, usable open space should be open areas that are long, level and free of obstacles that could serve as an emergency landing site to promote public safety. The ideal site would be at least 300 feet by 75 feet and be clear of obstacles;
12. Compatibility of all proposed uses with the Compatibility Matrix in Table 1.

Policy 1.5: The following standards shall apply to all development within the Airport Planning Area:

1. Final subdivision plats, site specific development plans, or any other document filed as part of any approval process with Stafford County shall contain the following disclosure statement:
*All or a portion of this property lies within the Airport Overlay District.
Persons on the premises may be exposed to noise and other effects as may be inherent in airport operations;*
2. Avigation easements shall be dedicated to Stafford Regional Airport for all new residential, commercial, industrial, institutional or recreational buildings or structures intended for habitation or occupancy by humans or animals to allow unobstructed passage for aircraft related to the height requirements per FAR Part 77;
3. Applicable use restrictions shall apply only to the area of development within the respective compatibility zone;
4. Height restrictions are effective at all times;
5. Underground utilities are encouraged for all development located within approach zones (AP-1 & AP-2) and traffic pattern areas (H-1, H-2, & H-3);
6. Minimize the occurrence of sunlight glare and wildlife attractants from stormwater management ponds affecting pilots by limiting the size of ponds to under ½ acre in size and encouraging dry ponds;
7. All development within the Airport Planning Area must, at a minimum, be consistent with Federal Aviation Regulation Part 77 and Advisory Circular 150/5300-13A and any subsequent revisions.

Policy 1.6: Uses identified in Table 1 as requiring “Additional Review” shall follow the specific development standards identified in Table 2. The factors to consider during “Additional Review” shall include, but may not be limited to: size, scope and scale of a development, such as the area, building height, and number and square footage of structures; proposed use(s); location of the development in relation to the airport; location of uses on an individual site; proposed mitigation measures; population concentrations; and project externalities, defined as impacts related to the development of the project that may extend beyond the limits of the project both horizontally and vertically.

Policy 1.7: The following additional standards shall apply to Non-Residential Uses that require Additional Review in Table 1:

1. Activities and structures associated with the use shall not exceed the maximum building envelope ratio and/or site population limitation;
2. Incorporate shielding, such as the use of full cut-off lighting, lower intensity or other techniques to avoid the occurrence of light emissions shining upward into the flight path; flashing lights; or lights arranged in a linear pattern;
3. Waste disposal facilities shall not be located within 10,000 feet of the runway protection zone;
4. Provision of new private airfields or runways shall not be permitted within the planning area;
5. Additional open space requirements, height limitations and square footage limitations will apply to uses with concentrations of people.

Policy 1.8: The following additional standards shall apply to Residential Uses that require Additional Review in Table 1:

1. Development proposals shall not exceed the maximum density limitations established and further described in the Table 2 Additional Review Standards;
2. Development within the airport operations area shall be constructed to include sound insulation methods to achieve maximum internal noise levels of 45 dBC Ldn (average daily noise level);
3. Disclosure notification for all future purchasers of the property will be required for all residential development within an airport compatibility zone;
4. Provide contiguous open space in conjunction with clustering of residential development areas.

Policy 1.9: Specific projects which are Not Compatible, as identified in Table 1 may be appropriate if it can be demonstrated that the specific project would not negatively impact airport operations or safety of the general public upon additional review, consistent with the guidelines.

Policy 1.10: If a proposed use is not listed in Table 1, the use determined to be most similar would apply and would be evaluated against the related Additional Review criteria and any other standards deemed appropriate.

Policy 1.11: The County shall support efforts of the Airport Authority or other entity to acquire land and/or purchase development rights by coordinating receiving areas outside of the planning area in order to encourage compatible land uses within the planning area.

IMPLEMENTATION POLICIES

Policy 1.12: For projects in the Airport Planning Area, the County shall coordinate review of all proposed development applications, including, but not limited to, zoning reclassifications, conditional use permits, site plans, and preliminary plans, with the Airport Authority for compatibility with airport operations and plans for the purpose of receiving advisory comments and encouraging participation at County development review meetings.

Policy 1.13: The Zoning Ordinance shall be revised to implement the Compatibility Guidelines recommendations, including use restrictions, and development and building standards, and make commensurate adjustments to the Airport Overlay District.

Policy 1.14: Comprehensive Plan amendments and Ordinance amendments applicable to land within the Airport Planning Area shall be reviewed for compatibility with the Regional Airport Master Plan, Compatibility Matrix (Table 1) and related criteria and standards.

TABLE 1: CONSOLIDATED LAND USE COMPATIBILITY MATRIX

ZONE CODE	AP-1	AP-2	AP-3	AP-T	T	H-1	H-2	H-3	C
ZONE DESCRIPTION	APPROACH - FINAL RUNWAY PROTECTION ZONE	APPROACH - MID -14,000' EAST -10,000' WEST	APPROACH - OUTER (EAST)	APPROACH - TRANSITIONAL	TRANSITIONAL ZONE	HORIZONTAL ZONE - INSIDE FLIGHT PATTERN	HORIZONTAL ZONE - OUTSIDE FLIGHT PATTERN	HORIZONTAL - TURNING ZONE	CONICAL ZONE
USES									
INSTITUTIONAL									
<i>Assembly</i> (schools, place of worship, daycare)	NC	NC	AR	C	NC	AR	AR	NC	C
<i>Hospitals</i>	NC	NC	AR	C	NC	AR	AR	NC	C
<i>Community</i> (Police, fire and rescue, neighborhood centers)	NC	AR	AR	C	AR	AR	C	AR	C
<i>Vertical Infrastructure</i> (Electric Transmission, Water Towers, Telecommunication Towers)	NC	NC	AR	AR	NC	AR	AR	AR	AR
RESIDENTIAL									
<i>Single-Family - Rural</i> (Maintain 3 acre density with min. lot size of 1 acre outside the USA, while inside the USA, lot sizes can be smaller than 1 acre if significant areas are retained for open space and the lowest density recommendations of the land use plan are not exceeded)	NC	AR	AR	C	NC	AR	AR	AR	C
<i>Single-family - Small Lot</i> (<1 acre) & <i>Townhomes</i>	NC	NC	AR	C	NC	AR ¹	AR ¹	NC	C
<i>Multi-Family</i> (Three or more units per building)	NC	NC	AR	C	NC	AR ¹	AR ¹	NC	C
<i>Group Living</i> (Nursing homes, group homes)	NC	NC	AR	C	NC	AR	AR	NC	C
<i>Transient Lodging</i>	NC	AR	C	C	NC	AR	AR	AR	C
COMMERCIAL (RETAIL/OFFICE)									
<i>General Retail & Service</i> (shopping centers & stores, restaurants, convenience, vehicle fueling)	NC	AR	C	C	AR	AR	C	AR	C
<i>Automobile related</i> (sales lot, repair, storage)	NC	C	C	C	AR	C	C	C	C
<i>Low-rise Office</i> (1-3 stories)	NC	AR	C	C	AR	AR	C	AR	C
<i>Mid/High-rise Office</i> (4+ stories)	NC	NC	AR	C	NC	AR	AR	NC	C
INDUSTRIAL									
<i>Light</i> (Light Manufacturing, Storage, Warehouse)	NC	AR	C	C	AR	AR	C	C	C
<i>Heavy</i> (Landfill, Heavy Manufacturing, bulk fuel storage, mining, uses that emit smoke or create sun glare)	NC	NC	NC	AR	NC	AR	AR	AR	AR

¹ Residential uses within zones H-1 and H-2 are discouraged. Individual projects may be considered appropriate if it is determined that it satisfactorily addresses the Additional Review factors highlighted in Table 2.

ZONE CODE	AP-1	AP-2	AP-3	AP-T	T	H-1	H-2	H-3	C
ZONE DESCRIPTION	APPROACH - FINAL RUNWAY PROTECTION ZONE	APPROACH - MID -14,000' EAST -10,000' WEST	APPROACH - OUTER (EAST)	APPROACH - TRANSITIONAL	TRANSITIONAL ZONE	HORIZONTAL ZONE - INSIDE FLIGHT PATTERN	HORIZONTAL ZONE - OUTSIDE FLIGHT PATTERN	HORIZONTAL - TURNING ZONE	CONICAL ZONE
USES									
RECREATION AND OPEN SPACE									
<i>Passive</i> (trails & natural areas)	NC	AR	C	C	NC	AR	C	AR	C
<i>Active</i> (community sports fields, golf, indoor facilities)	NC	AR	AR	C	NC	AR	C	AR	C
<i>Amusement</i> (Stadiums, amusement parks, fairgrounds)	NC	NC	AR	C	NC	AR	AR	NC	C
AGRICULTURAL									
<i>Grazing, Crops</i>	AR	AR	C	C	AR	AR	C	AR	C
<i>Processing</i> (Lumber mill, grain elevators and silos)	NC	NC	C	C	NC	AR	AR	AR	AR
OTHER									
<i>Aboveground storage tanks of fuel and flammable materials (except residential uses)</i>	NC	NC	NC	C	NC	NC	C	NC	C

Key: C = Compatible

AR = Additional Review – uses or activities that may be compatible with airport operations depending on their location and specifics of each project. Refer to design standards.

NC = Not Compatible – uses or activities that should not be permitted

ADDITIONAL REVIEW STANDARDS**Overview**

Uses identified in Table 1 requiring “Additional Review” shall follow the specific development standards identified in Tables 2 and 3. The factors to consider during “Additional Review” shall include, but may not be limited to: size, scope and scale of a development, such as the area, building height, and number and square footage of structures; proposed use(s); location of the development in relation to the airport; location of uses on an individual site; proposed mitigation measures; population concentrations; and project externalities, defined as impacts related to the development of the project that may extend beyond the limits of the project both horizontally and vertically.

Residential proposals (Single-family - small lot & Multi-family) within the H-1 and H-2 zones

In consideration of a new residential rezoning request from the A-1 or A-2 zoning district, where all of the Additional Review criteria is satisfied, projects not exceeding a density increase of 50% over the current density may be considered Compatible. Rezoning from any commercial or other residential zoning district that adds or increases the permitted residential density is considered Not Compatible.

Uses in the AP-3, Approach Outer zone requiring Additional Review

Given the size and extent of the AP-3 zone, which extends east to King George County, uses may be deemed more compatible the farther away they are from the airport. Application of the additional review standards will be based on the location on a case by case basis and dependent on the site conditions and specific development proposal.

TABLE 2: ADDITIONAL REVIEW STANDARDS

<u>USE</u>	<u>ZONE(S) REQUIRING ADDITIONAL REVIEW</u>	<u>STANDARD</u>
INSTITUTIONAL		
<i>Assembly (schools, place of worship, daycare)</i>	H-1; H-2	<ul style="list-style-type: none"> • Limit population concentration thresholds within the low to mid- level range (see Table 3); • Limited to independently mobile populations; • Public and private grade schools and stand-alone daycare are not permitted; • Provide usable open space.
<i>Assembly (schools, place of worship, daycare)</i>	AP-3	<ul style="list-style-type: none"> • Uses considered generally compatible; siting located laterally offset of the extended centerline of the runway is preferred.

<u>USE</u>	<u>ZONE(S) REQUIRING ADDITIONAL REVIEW</u>	<u>STANDARD</u>
<i>Hospitals</i>	AP-3; H-1; H-2	<ul style="list-style-type: none"> • Permitted if deemed a critical service need by the Fire/Safety division; • Limited to independently mobile patients and/or short term care of critical patients or use as a triage center; • Provide usable open space; • Limit building height to 1 story.
<i>Community (Police, fire and rescue, neighborhood centers)</i>	AP-2; AP-3; T; H-1; H-3	<ul style="list-style-type: none"> • Emergency services are permitted if deemed a critical service need by the Fire/Safety division; • Provide usable open space.
<i>Vertical Infrastructure (Electric Transmission, Water Towers, Telecommunication Towers)</i>	AP-T; H-1; H-2; H-3; C	<ul style="list-style-type: none"> • Permitted if it does not interfere with airport communications and does not exceed height limitations, or otherwise causes safety concerns; • Monopole type of structure is preferred over lattice or guy-wire type; • Consider the height of the tower in relation to the site elevation.
RESIDENTIAL		
<i>Single-Family - Rural (Maintain 3 acre density with min. lot size of 1 acre outside the USA, while inside the USA, lot sizes can be smaller than 1 acre if significant areas are retained for open space and the lowest density recommendations of the land use plan are not exceeded)</i>	AP-2; AP-3; H-1; H-2; H-3	<ul style="list-style-type: none"> • Encourage clustering with usable open space requirement; • Encourage TDR program participation as a sending area; • Require real estate disclosure notice on initial deed of transfer within the AP-2, H-1, H-2, and H-3 zones; • Require notification statement on all plans of development and marketing literature; • Encourage noise mitigation measures as part of construction if under the flight pattern to reduce internal noise levels at or below 45dB.
<i>Single-family - Small Lot (less than 1 acre) & Townhomes</i>	AP-3	<ul style="list-style-type: none"> • Encourage clustering with usable open space requirement; • Minimum of 50 percent overall open space, including usable open space; • Require notification statement on all plans of development and marketing literature.

<u>USE</u>	<u>ZONE(S) REQUIRING ADDITIONAL REVIEW</u>	<u>STANDARD</u>
<i>Single-family - Small Lot (less than 1 acre) & Townhomes</i>	H-1, H-2	<ul style="list-style-type: none"> • Use prohibited within 3000 feet of the centerline of the runway; • Areas of a proposal located within routine overflight zone should meet the usable and site open space requirements; • Development should be clustered outside of the overflight zone area; • Require real estate disclosure notice on initial deed of transfer; • Require notification statement on all plans of development and marketing literature; • Encourage noise mitigation measures as part of construction if under the flight pattern.
<i>Multi-Family (Three or more units per building)</i>	AP-3; H-1; H-2	<ul style="list-style-type: none"> • Use prohibited within 3000 feet of the centerline of the runway; • Areas of a proposal located within routine overflight zone traffic pattern should be utilized to meet the usable and site open space requirements within a residential development; Cluster residential density outside of the overflight area if feasible; • Limit number of units per building; • Limit height to three stories; • Require real estate disclosure notice on initial deed of transfer within the H-1 and H-2 zones; • Require notification statement on all plans of development and marketing literature; • Encourage noise mitigation measures as part of construction if under the flight pattern.
<i>Group Living (Nursing homes, group homes)</i>	AP-3; H-1; H-2	<ul style="list-style-type: none"> • Population concentration thresholds within low to mid-level range shall not be exceeded (see Table 3); • Limited to independently mobile patients; • Require notification statement on all plans of development and marketing literature.
<i>Transient Lodging</i>	AP-2; H-3	<ul style="list-style-type: none"> • Use should not exceed a height of 3 stories; • Population concentration thresholds within low to mid-level range shall not be exceeded (see Table 3); • Encourage noise mitigation measures as part of construction if under the flight pattern; • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.

<u>USE</u>	<u>ZONE(S) REQUIRING ADDITIONAL REVIEW</u>	<u>STANDARD</u>
<i>Transient Lodging</i>	H-1; H-2	<ul style="list-style-type: none"> • Use should not exceed a height of 3 stories; • Population concentration limits for site and single-acre shall not be exceeded (see Table 3); • Encourage noise mitigation measures as part of construction if under the flight pattern; • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.
COMMERCIAL (RETAIL/OFFICE)		
<i>General Retail & Service (shopping centers & stores, restaurants, convenience, vehicle fueling)</i>	AP-2; T; H-1; H-3	<ul style="list-style-type: none"> • Population concentration limits for site and single-acre shall not be exceeded (see Table 3); • Larger shopping centers should provide usable open space; • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.
<i>Automobile related (sales lot, repair, storage)</i>	T	<ul style="list-style-type: none"> • Limited to vehicle storage or open space; • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.
<i>Low-rise Office (1-3 stories)</i>	AP-2; AP-3; T; H-1; H-3	<ul style="list-style-type: none"> • Provide usable open space requirements; • Maximum population thresholds shall not be exceeded (see Table 3); • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.
<i>Mid/High-rise Office (4+ stories)</i>	AP-3; H-1; H-2	<ul style="list-style-type: none"> • Population concentration limits for site and single-acre shall not be exceeded (see Table 3); • Consider limitations to building height based on the elevation of the site and proximity to the airport and flight patterns; • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.
INDUSTRIAL		
<i>Light (light manufacturing, storage, warehouse)</i>	AP-2; T; H-1	<ul style="list-style-type: none"> • Low level of population concentration limits shall not be exceeded (see Table 3); • Compatible without externalities; • Provide usable open space; • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.

<u>USE</u>	<u>ZONE(S) REQUIRING ADDITIONAL REVIEW</u>	<u>STANDARD</u>
<i>Heavy (landfill, heavy manufacturing, mining, uses that emit smoke or create sun glare)</i>	AP-T; H-1; H-2; C; H-3	<ul style="list-style-type: none"> • Compatible without externalities; • Provide usable open space; • Utilities that affect public health, safety and welfare not permitted within 4,000 feet of the runway; • Consider limitations to structure height based on the elevation of the site and proximity to the airport and flight patterns; • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.
RECREATION AND OPEN SPACE		
<i>Passive (trails & natural areas)</i>	AP-2; H-3	<ul style="list-style-type: none"> • Avoid the incorporation of elements, vegetation and/or materials that attract birds, • Limit water retention areas to no greater than .5-acres; • Limit height and types of new and existing vegetation in accordance with the FAR Part 77 requirements.
<i>Active (community sports fields, golf, indoor facilities)</i>	AP-2; AP-3; H-1; H-3	<ul style="list-style-type: none"> • Population concentration limits for site and single-acre shall not be exceeded (see Table 3); • Limit water retention areas to no greater than .5-acres; • Avoid new features, vegetation and/or materials that attract birds.
<i>Amusement (Stadiums, amusement parks, fairgrounds)</i>	AP-3; H-1; H-2	<ul style="list-style-type: none"> • Compatible with increased open space; • Within population concentration limits for site and per acre (see Table 3); • High intensity uses, such as stadiums, are not permitted; • Parking lot lighting shall not be linear in design to avoid confusion with runway lighting.

POPULATION CONCENTRATION THRESHOLDSOverview

This table is to be utilized when an Additional Review Standard in Table 2 refers to population concentration. These population concentration thresholds serve as a measurement tool to determine whether the population density for a given use may be too intense for a particular zone. The thresholds are measured across an entire site (site-wide) and within a portion of a site (single-acre).

- Site-wide Average Intensity: calculated by determining the total number of people expected to be on the site at any given time under normal conditions and dividing by the total number of acres of the project site.
- Single-Acre Intensity: calculated by determining the total number of people expected to be within any one-acre portion of the site at one time.

TABLE 3: POPULATION CONCENTRATION THRESHOLDS

ZONE(S)	SITE-WIDE AVERAGE INTENSITY	SINGLE-ACRE INTENSITY
AP-1	Site-wide Intensity: Exceptions can be permitted for agricultural activities, roads, and automobile parking provided that FAA criteria are satisfied	
AP-2	Site-wide Intensity: Low to Mid: 40 - 50 people per acre Mid to High: 51 - 60 people per acre	Single-Acre Intensity: Low to Mid: 80 -100 people per acre Mid to High: 101 -120 people per acre
T	Site-wide Intensity: Low to Mid: 70 - 85 people per acre Mid to High: 86 -100 people per acre	Single-Acre Intensity: Low to Mid: 210 - 255 people per acre Mid to High: 256 - 300 people per acre
H-1; H-2	Site-wide Intensity: Low to Mid: 200 - 250 people per acre Mid to High: 251 - 300 people per acre	Single-Acre Intensity: Low to Mid: 800 - 1000 people per acre Mid to High: 1001 - 1200 people per acre
H-3	Site-wide Intensity: Low to Mid: 70 - 85 people per acre Mid to High: 86 - 100 people per acre	Single-Acre Intensity: Low to Mid: 210 - 255 people per acre Mid to High: 256 - 300 people per acre

Source: California Airport Land Use Planning Handbook (Handbook) released October 2011 by the California Department of Transportation, Division of Aeronautics.

STAFFORD REGIONAL AIRPORT SAMPLE REAL ESTATE DISCLOSURE STATEMENT

The following is a sample disclosure statement that is recommended to be incorporated into the initial sale of new homes located within the Airport Impact Areas:

STAFFORD REGIONAL AIRPORT DISCLOSURE

The purchaser(s) of property at the following address: _____, on Assessor's Parcel _____, located in Stafford County Virginia, hereafter referred to as "property", acknowledges that the property lies in proximity to Stafford Regional Airport, and that the property is subject to aircraft operations and aircraft overflight, with related noise and safety concerns.

While air traffic may be generalized into tracks, it is, by nature, dispersed. Aircraft may approach and depart the airport from any number of directions. Flight paths vary depending on a variety of factors including origin/destination, wind conditions and other aircraft in the traffic pattern. As a result, any property in the vicinity of an airport is likely to be subject to aircraft overflight and its impacts to some degree. Stafford County's Comprehensive Plan has an exhibit that depicts the aircraft traffic patterns associated with the airport.

Flight patterns may shift or change over time. Changes in operations may occur due to weather, changes in users, changes in aircraft type, military missions, weather conditions, etc. The airport is relatively new and still growing. Runway expansion and expansion of ground facilities are planned that will likely increase the number of flights in and out of the airport. The Stafford Regional Airport has a Master Plan that identifies plans for future expansion and development needs.

The undersigned purchaser(s) of said tract of land certify(ies) that he/she (they) has (have) read the above disclosure statement and acknowledge(s) the pre-existence of the Stafford Regional Airport and the noise exposure due to the airport.

Dated this ____ day of _____, 20____.

Purchaser's Signature

Purchaser's Signature

Purchaser's Signature

STAFFORD REGIONAL AIRPORT SAMPLE NOTICE

For full disclosure of the proximity to Stafford Regional Airport to prospective purchasers, the following sample notice should be included on all subdivision and site plans and record plats filed with Stafford County and used in sales contracts, brochures and promotional documents, including any illustrative site plans, and homeowner's association documents:

"STAFFORD REGIONAL AIRPORT: This property is located within the proximity to Stafford Regional Airport, specifically the Airport Impact Areas and Aircraft Traffic Pattern areas around the airport, as identified in the Stafford County Comprehensive Plan and Stafford Regional Airport Master Plan. The property is likely to be subject to aircraft overflight and noise impacts of varying degrees."

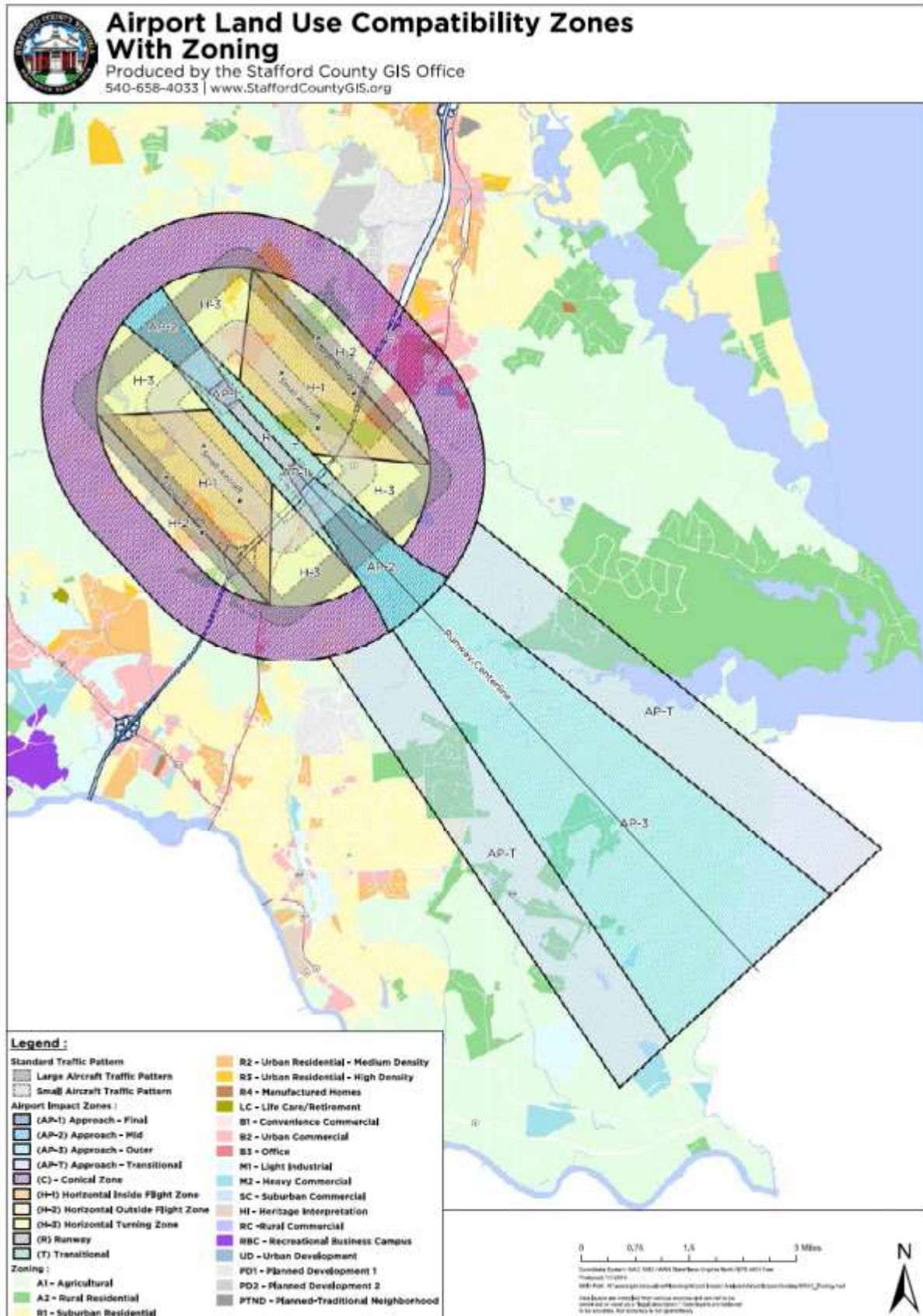
E. Analysis of the Planning Area

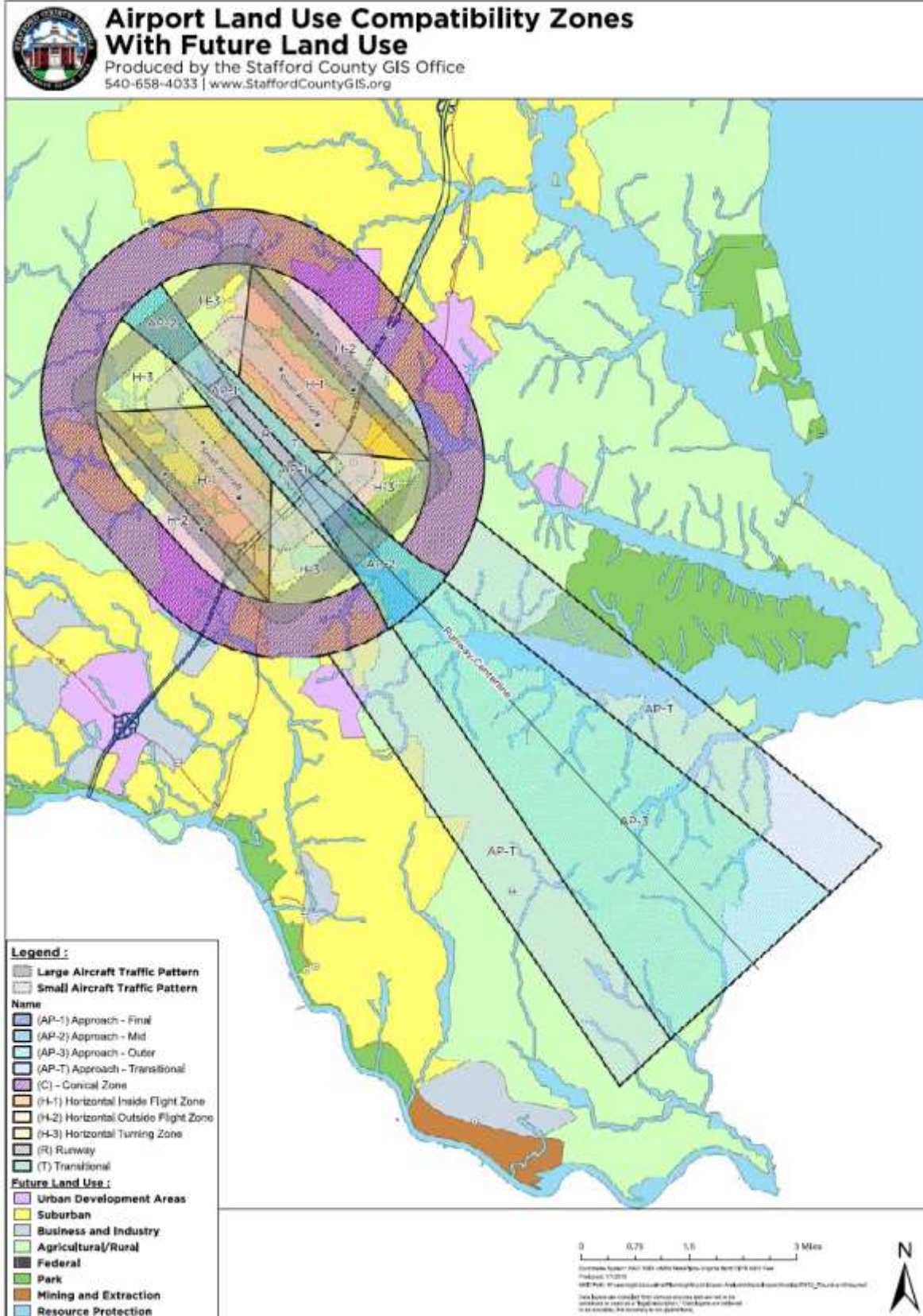
The following analysis shows the area of existing zoning classifications within each zone and the future land use designations, which identify the types of potential development that may occur. When comparing current zoning to future land use, the greatest potential for incompatible development to occur is within the Horizontal Zone. The majority of the area is zoned A-1, Agricultural, with the potential of being rezoned as the land is planned for Business and Industry, Suburban and Urban Development Area (UDA) future land use designations. The land use designations within the Horizontal Zone are described below:

Business and Industry – 1,533 acres - Uses include retail, wholesale, corporate and professional offices, research and development, entertainment, manufacturing, distribution and transportation; possible heavy industrial uses; new and used vehicle sales, including automobiles and boats.

Suburban – 725 acres - Uses include single family detached dwelling units, typically on ¼ to ½ acre lots, maximum density of 3 du/ac; neighborhood and community oriented activity centers, places of worship, parks and play areas, and retail and business activities with a maximum floor area ratio (FAR) of 0.4.; industrial uses include warehousing, wholesaling, manufacturing, processing operations, mixed-use commercial/industrial development, and flex office space.

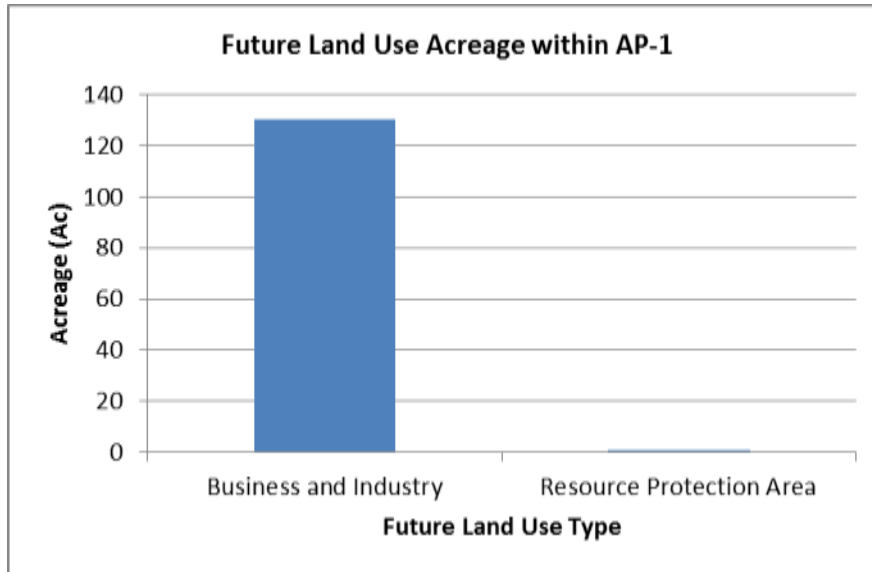
Urban Development Areas – mix of uses including approximately 8,829 dwelling units and 13,900,800 square feet of commercial retail and office space in an area totaling approximately 3,196 acres, 2,300 acres of which are within the Horizontal Zone.



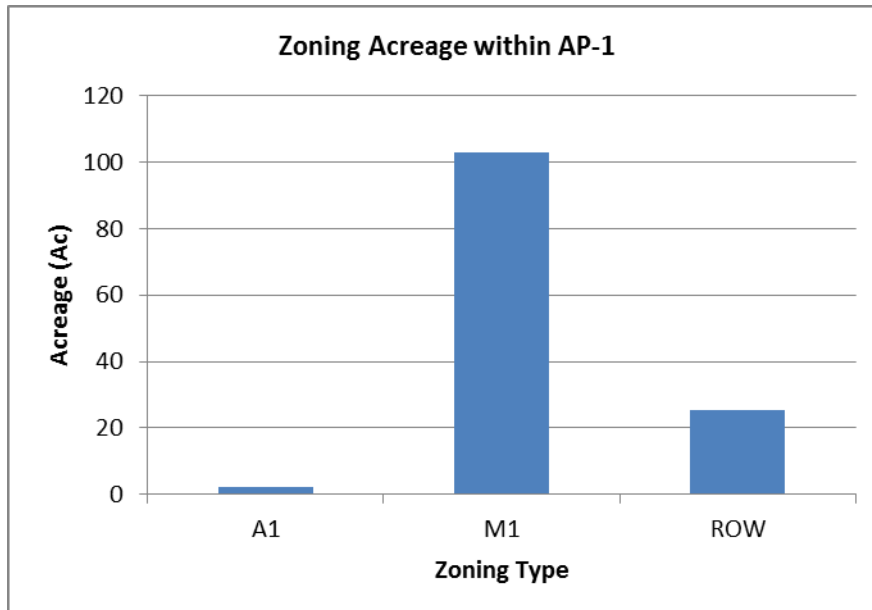


Existing Future Land Uses and Zoning District Classifications by Airport Impact Zone

1. Final Approach Compatibility Zone (AP-1)

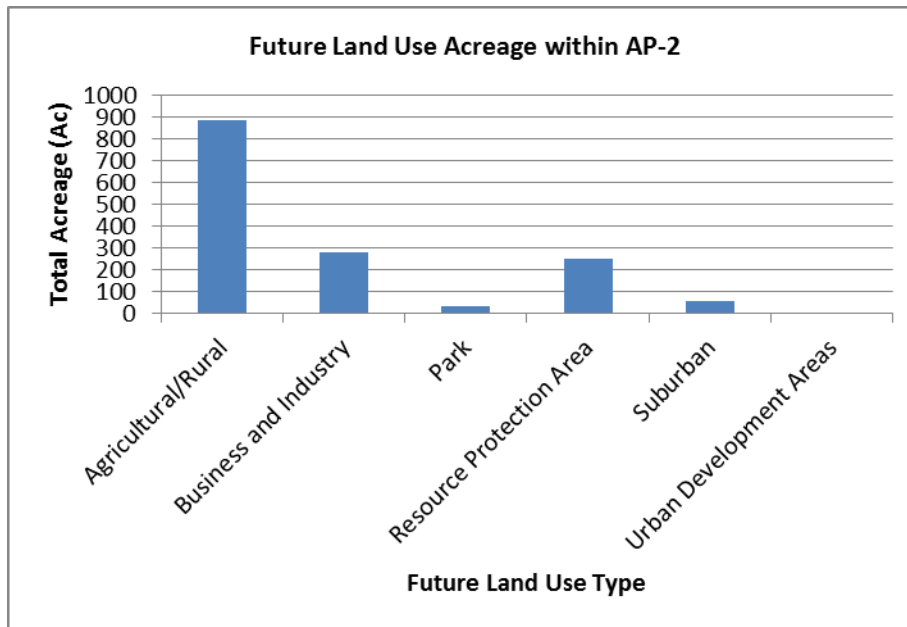


<u>Future Land Use</u>	<u>Acres</u>
Business and Industry	130.42
Resource Protection Area	0.21

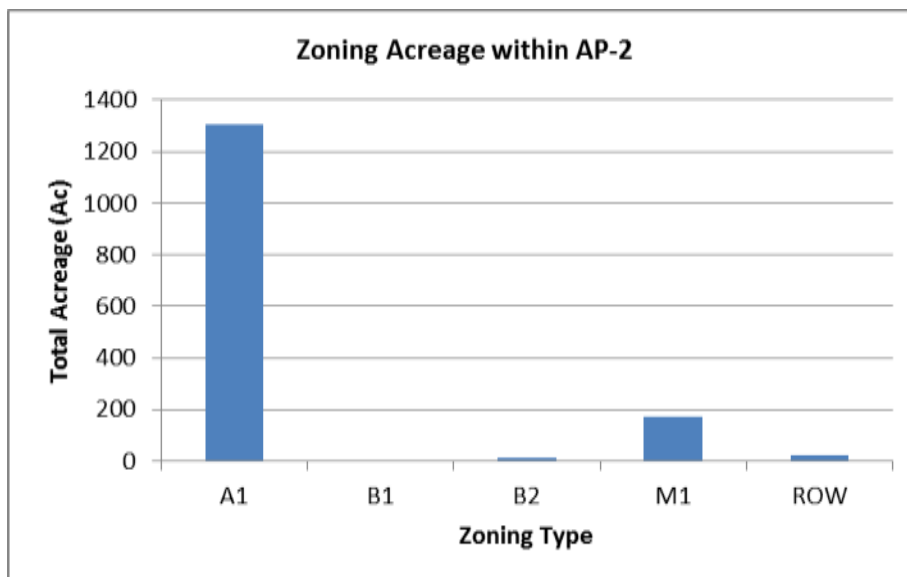


<u>Zoning</u>	<u>Acres</u>
A1	2.12
M1	103.05
ROW	25.46

2. Middle Approach Compatibility Zone (AP-2)

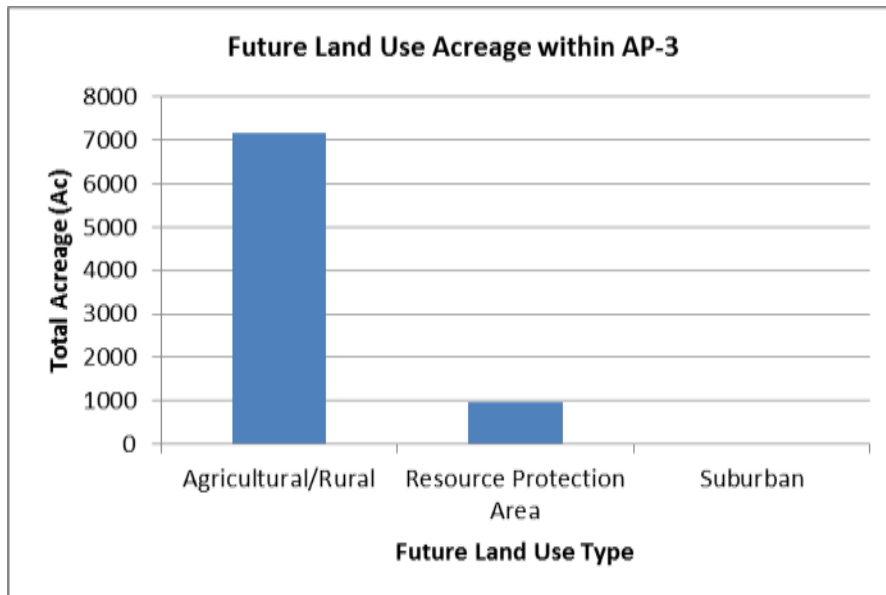


<u>Future Land Use</u>	<u>Acres</u>
Agricultural/Rural	885.18
Business and Industry	278.98
Park	36.74
Resource Protection Area	251.23
Suburban	57.30
Urban Development Areas	0.33

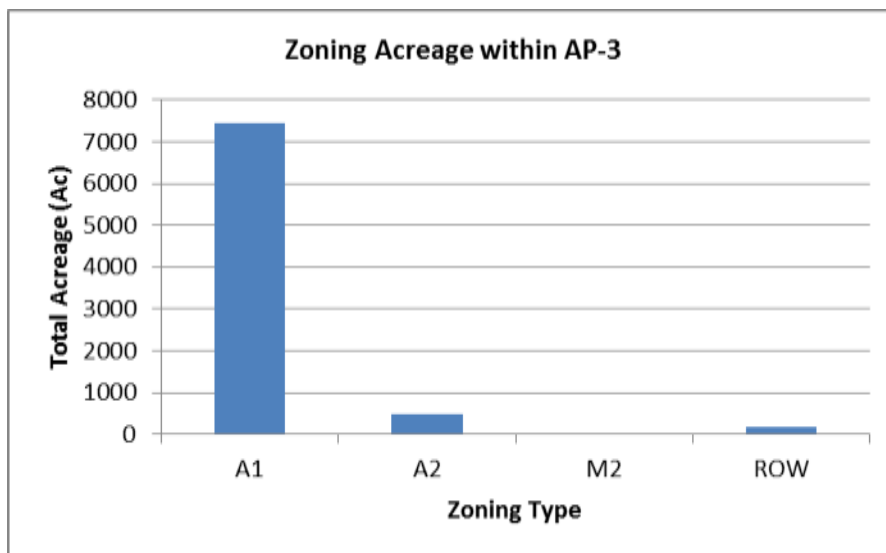


<u>Zoning</u>	<u>Acres</u>
A1	1303.13
B1	1.74
B2	12.48
M1	169.78
ROW	22.62

3. Outer Approach Compatibility Zone (AP-3)

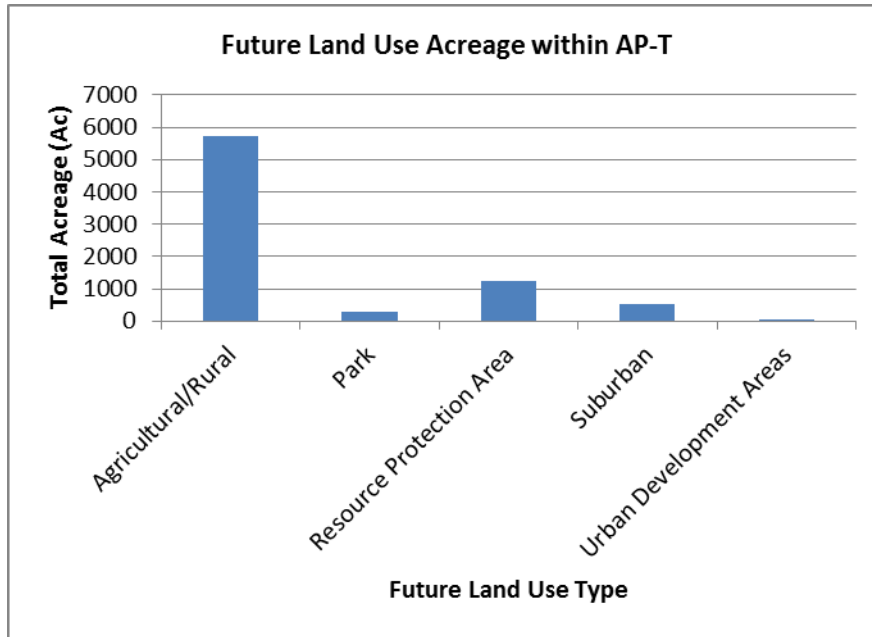


<u>Future Land Use</u>	<u>Acres</u>
Agricultural/Rural	7183.19
Resource Protection Area	962.46
Suburban	0.95

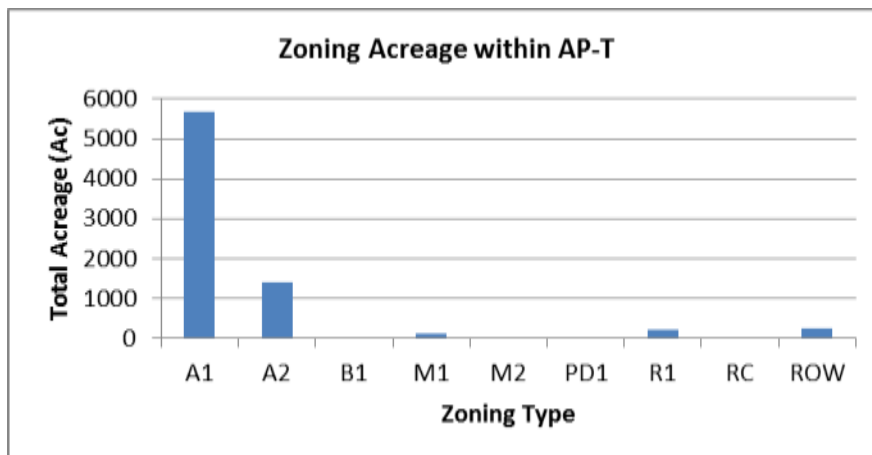


<u>Zoning</u>	<u>Acres</u>
A1	7430.01
A2	490.70
M2	31.96
ROW	184.95

4. Transitional Approach Compatibility Zone (AP-T)

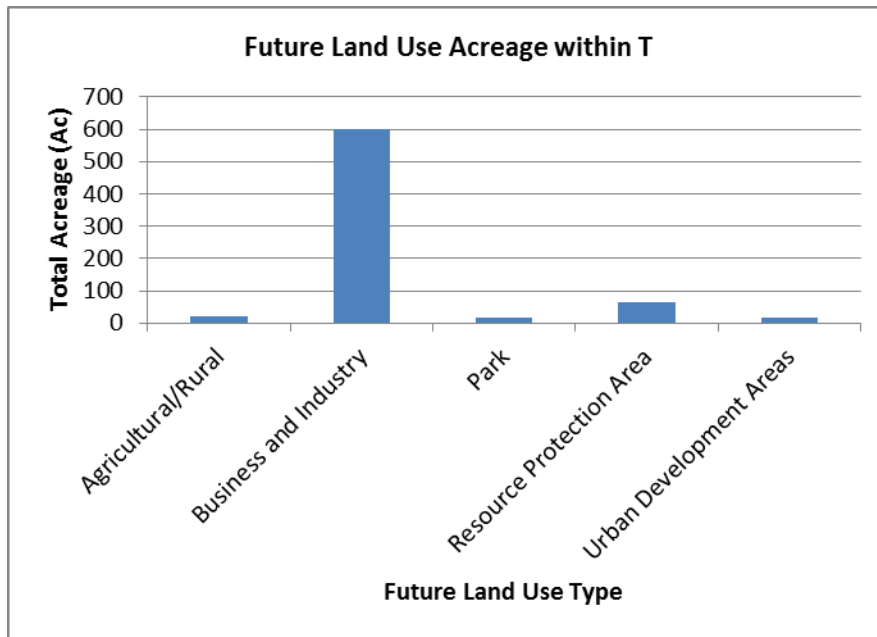


<u>Future Land Use</u>	<u>Acres</u>
Agricultural/Rural	5733.86
Park	273.53
Resource Protection Area	1232.03
Suburban	513.13
Urban Development Areas	63.26

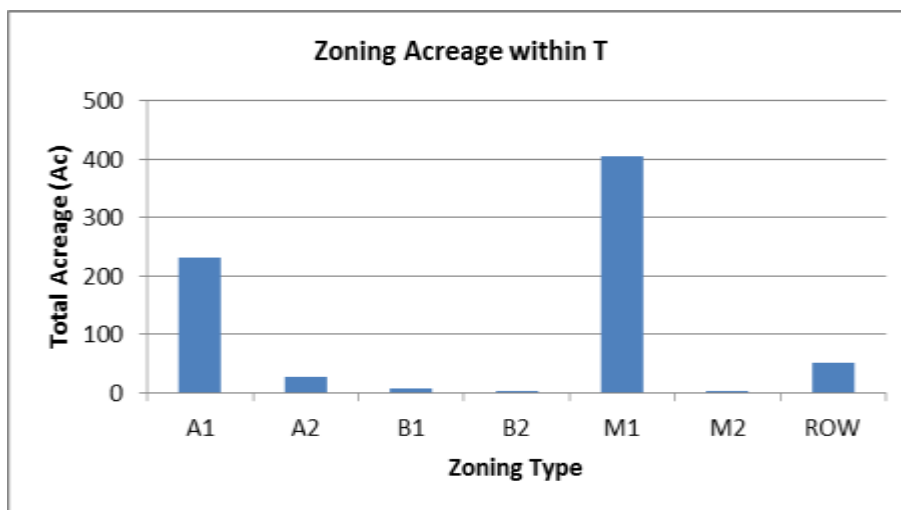


<u>Zoning</u>	<u>Acres</u>
A1	5689.74
A2	1404.22
B1	3.62
M1	109.61
M2	20.69
PD1	24.81
R1	232.76
RC	3.80
ROW	260.43

5. Transitional Compatibility Zone (T)

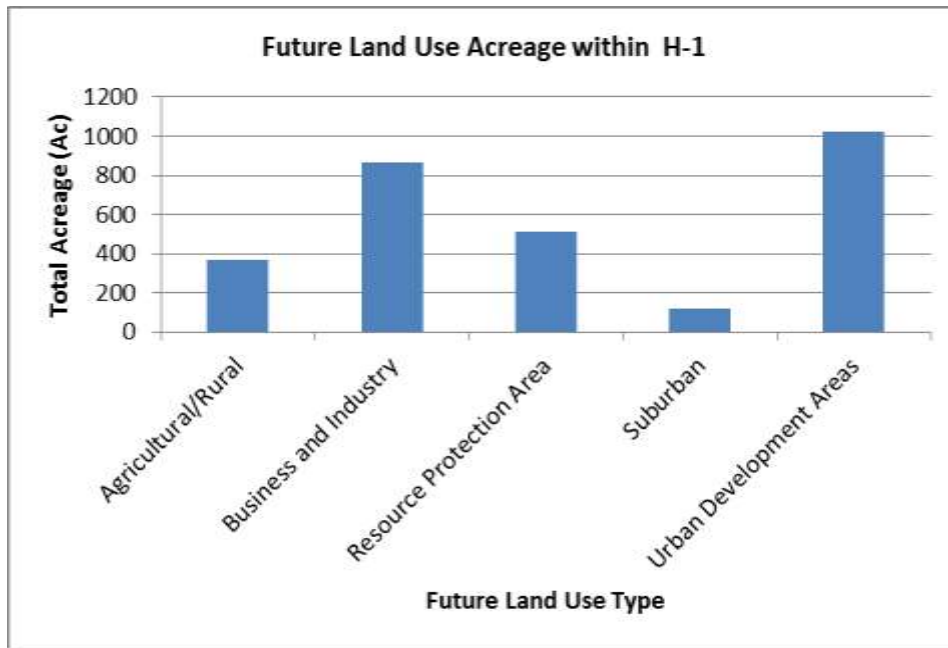


Future Land Use	Acres
Agricultural/Rural	19.69
Business and Industry	601.24
Park	17.16
Resource Protection Area	66.32
Urban Development Areas	16.74

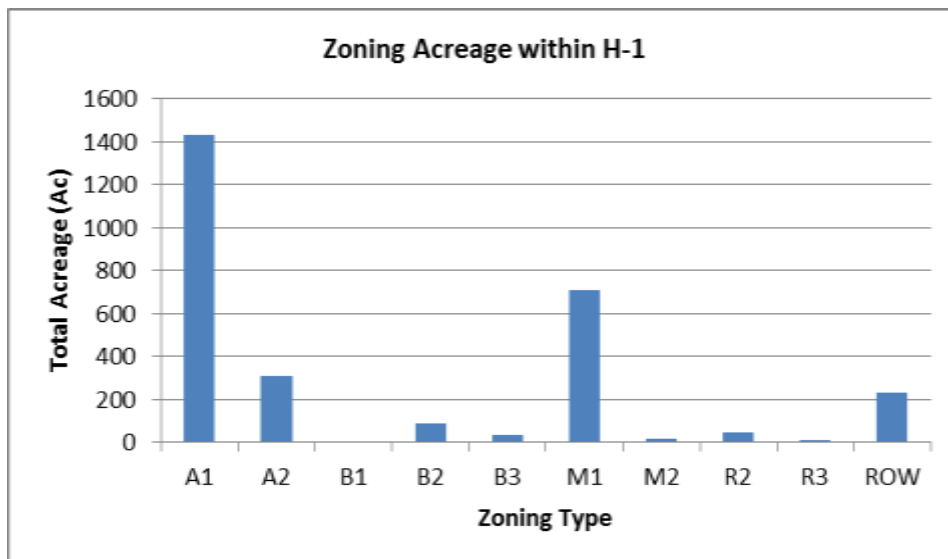


Zoning	Acres
A1	231.17
A2	27.46
B1	7.21
B2	2.11
M1	406.01
M2	1.33
ROW	51.36

6. Inner Horizontal Compatibility Zone (H-1)

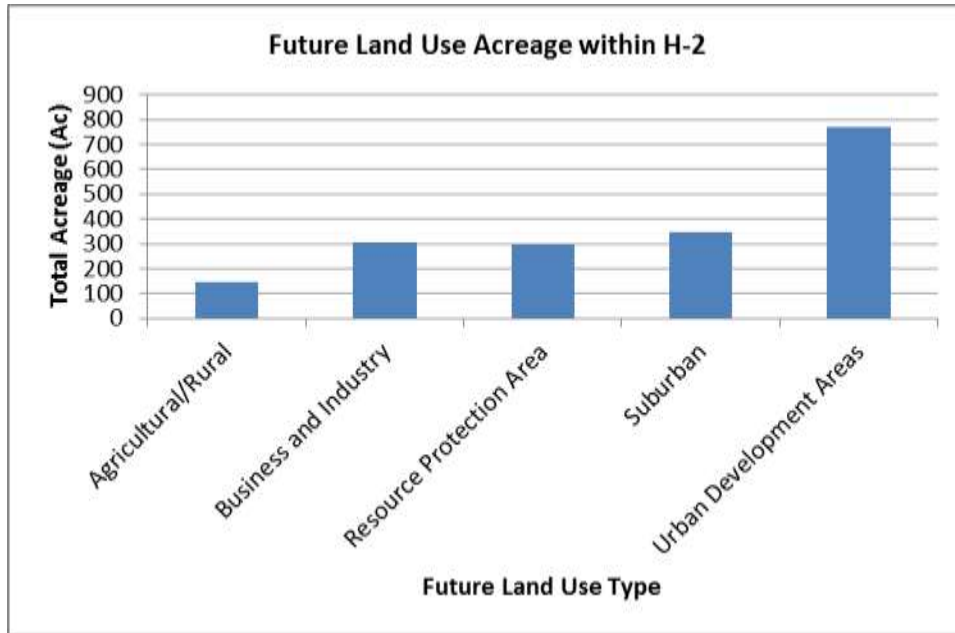


Future Land Use	Acres
Agricultural/Rural	367.09
Business and Industry	862.89
Resource Protection Area	513.69
Suburban	121.38
Urban Development Areas	1024.09

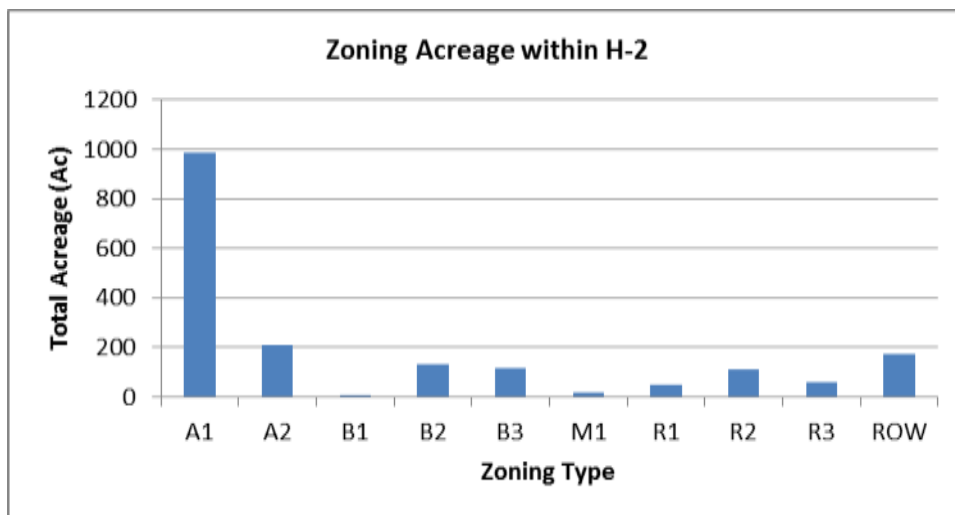


Zoning	Acres
A1	1431.06
A2	311.37
B1	0.40
B2	89.20
B3	36.59
M1	711.89
M2	15.96
R2	46.85
R3	12.34
ROW	233.49

7. Outer Horizontal Compatibility Zone (H-2)

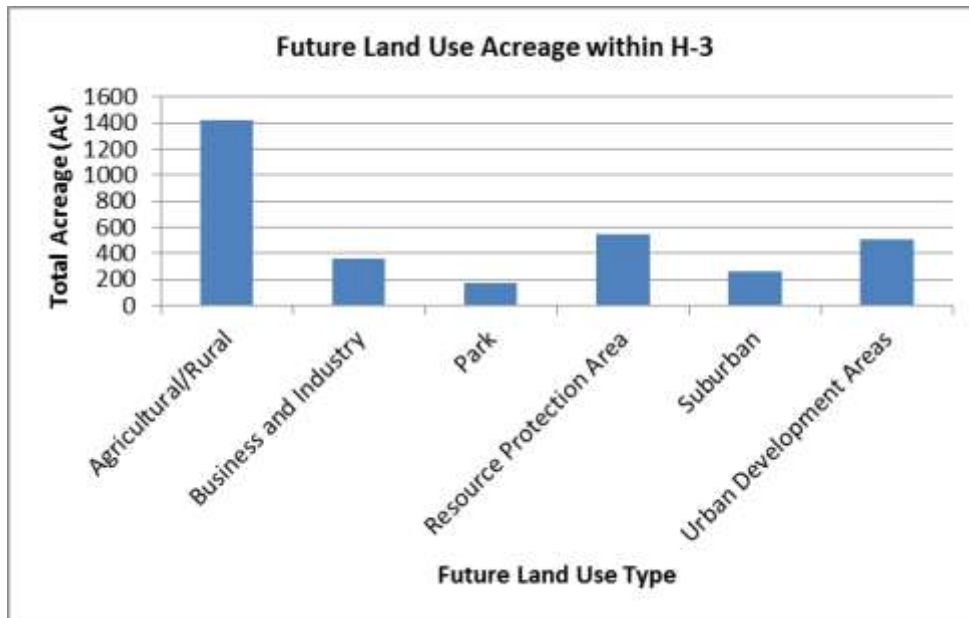


Future Land Use	Acres
Agricultural/Rural	144.72
Business and Industry	307.29
Resource Protection Area	296.36
Suburban	345.19
Urban Development Areas	770.89

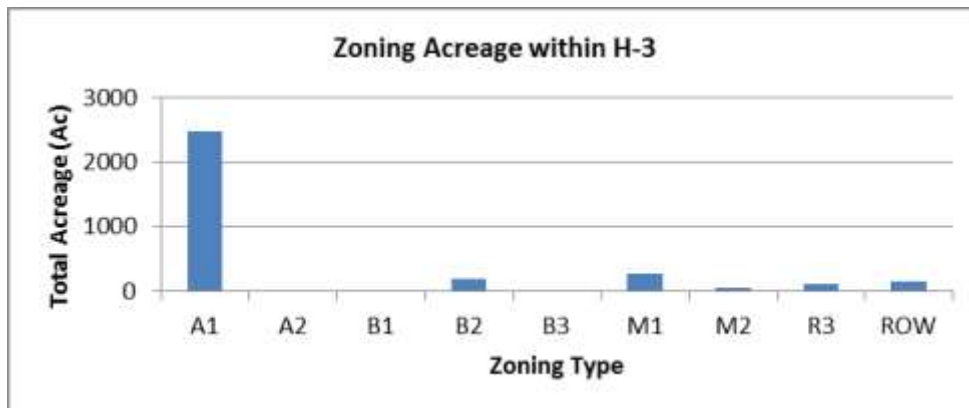


Zoning	Acres
A1	989.03
A2	210.99
B1	7.31
B2	129.36
B3	114.76
M1	16.78
R1	51.32
R2	110.35
R3	58.94
ROW	175.86

8. Horizontal Turning Zone (H-3)

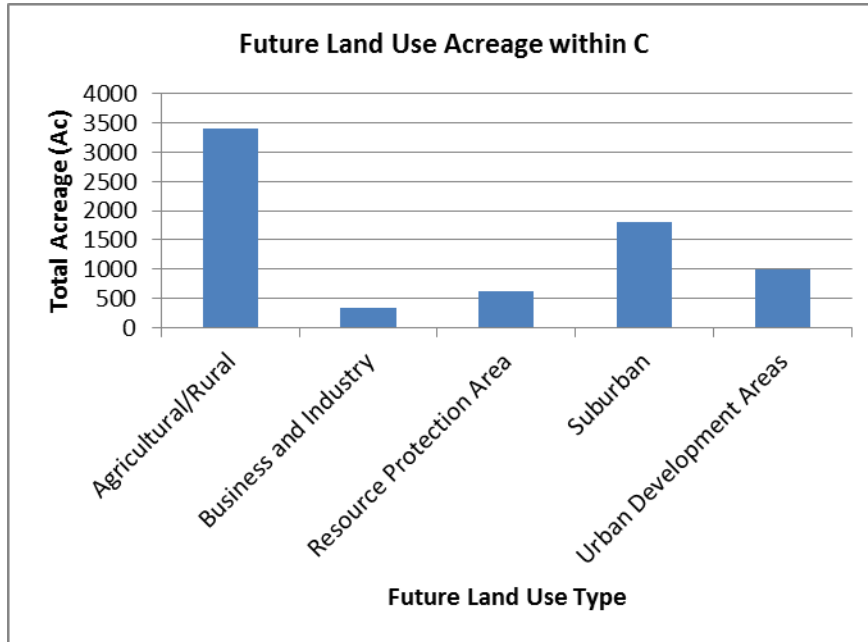


Future Land Use	Acres
Agricultural/Rural	1421.77
Business and Industry	363.01
Park	172.44
Resource Protection Area	546.92
Suburban	258.66
Urban Development Areas	505.66

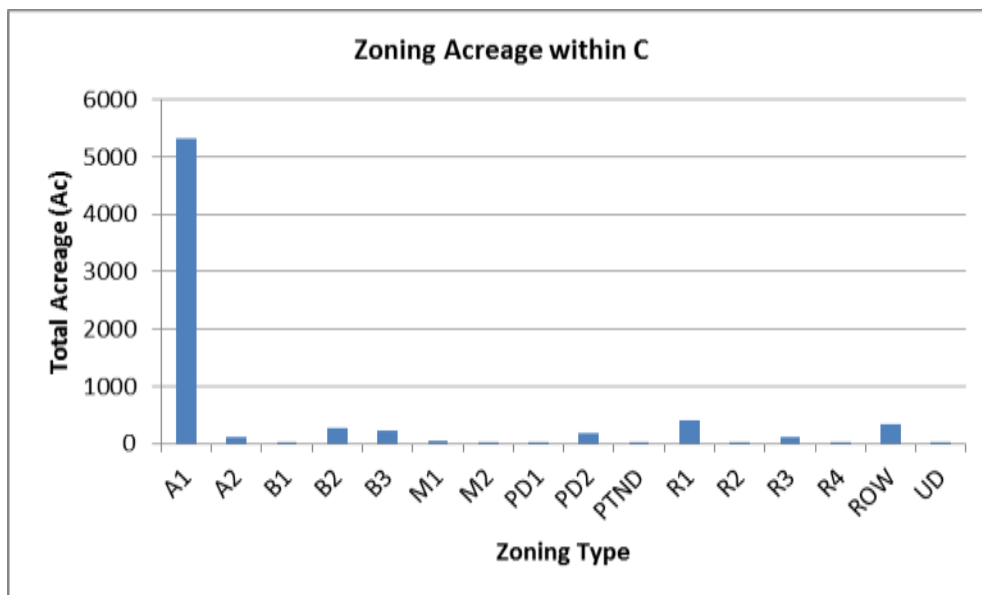


Zoning	Acres
A1	2488.64
A2	1.78
B1	19.31
B2	182.38
B3	5.23
M1	265.50
M2	41.38
R3	111.65
ROW	152.64

9. Conical Compatibility Zone (C)



Future Land Use	Acres
Agricultural/Rural	3413.87
Business and Industry	334.81
Resource Protection Area	617.88
Suburban	1802.59
Urban Development Areas	1000.08



Zoning	Acres
A1	5325.93
A2	125.04
B1	10.37
B2	262.13
B3	232.20
M1	39.43
M2	22.36
PD1	13.65
PD2	185.72
PTND	11.00
R1	412.15
R2	27.65
R3	119.17
R4	30.45
ROW	344.38
UD	11.68