RESOLUTION NO. 22-17

HENRY COUNTY, GEORGIA

CAPITAL IMPROVEMENTS ELEMENT ADOPTION

WHEREAS, Henry County previously adopted a Capital Improvements Element as an amendment to the *Henry County Comprehensive Plan*; and,

WHEREAS, Henry County has prepared an amended Capital Improvements Element; and,

WHEREAS, the amended Capital Improvements Element was prepared and submitted to the Atlanta Regional Commission in accordance with the "Development Impact Fee Compliance Requirements" and the "Minimum Standards and Procedures for Local Comprehensive Planning" adopted by the Georgia Board of Community Affairs pursuant to the Georgia Planning Act of 1989; and,

WHEREAS, the Atlanta Regional Commission and the Georgia Department of Community Affairs have reviewed the amended Capital Improvements Element, and have found it to be consistent with all State and Regional requirements;

NOW THEREFORE BE IT RESOLVED, that the Henry County Board of Commissioners does hereby adopt the amended Capital Improvements Element, as per the requirements of the Development Impact Fee Compliance Requirements.

BE IT SO RESOLVED this 5th day of January, 2022.

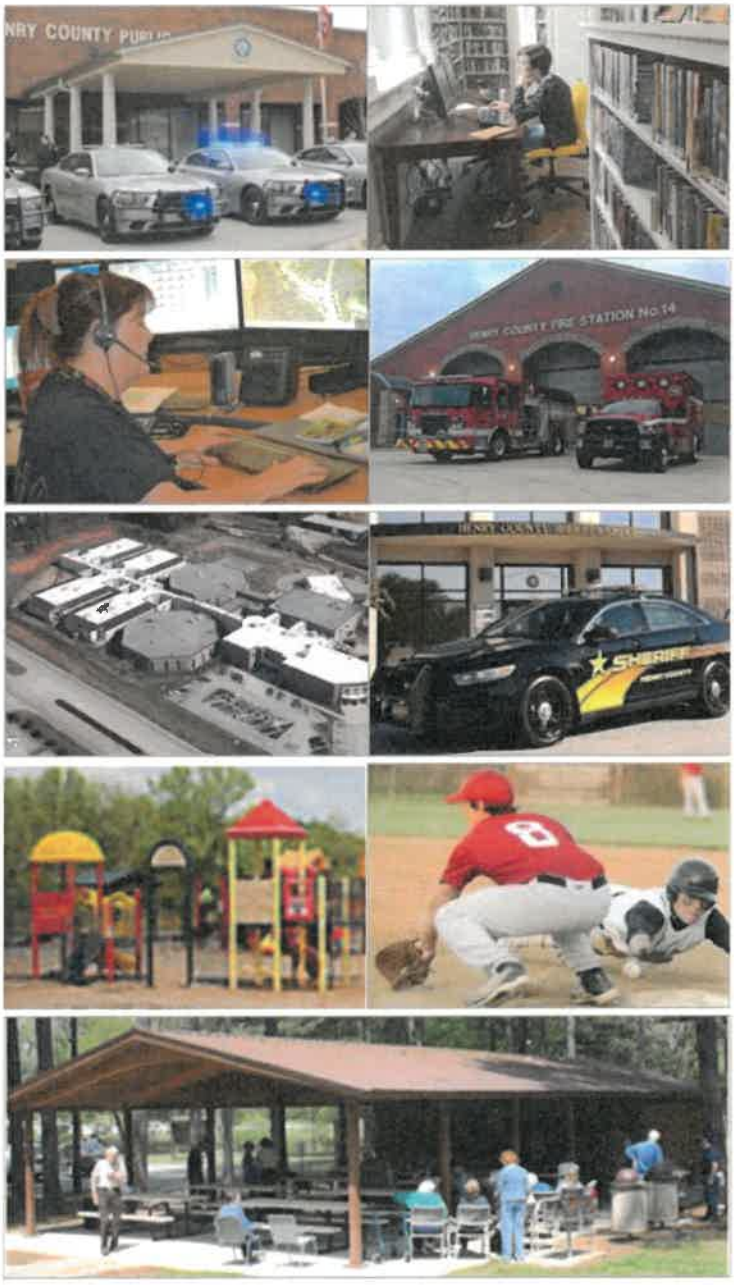
Carlotta Harrell, Chair

ATTEST:

Stephanie Braun, County Clerk

Impact Fee Program

Henry County Georgia



Including the following:

Library Services
Parks, Recreation and Greenspace
Animal Control
Fire Protection & EMS
Sheriff's Office
Police Protection
Emergency E911
Transportation

Capital Improvements Element

Revised November 4, 2021

ROSS+associates

urban planning & plan implementation

in association with

Hatley Plans, LLC

Contents

Introduction

An impact fee is a FEE, not a tax. With taxes—like property taxes and sales taxes—there is no direct relationship between the taxes one pays and the return—the services—that each taxpayer receives. Everyone pays school taxes based on the value of their property, regardless of whether they have one kid in school, six kids in school or no kids at all. A fee, on the other hand, must be related to the service being made available. For instance, only those obtaining a building permit pay the building permit fee (which covers the cost of plan reviews and approvals, and construction inspections). One's water bill is a fee because the amount is based on how much water they used. In the case of impact fees, the amount of each fee is directly related to the County's cost of making particular services available—the cost of fire trucks and fire stations located within reasonable response distances, for instance, or the 911 center's ability to handle emergency calls efficiently, or the ability to quickly respond with law enforcement personnel.

Under the State impact fee law, impact fees can be collected only for specific public facility categories. These include water and sewer facilities, roads, stormwater facilities, parks and recreation, public safety (fire, law enforcement, emergency communications, emergency medical services, animal control), and libraries.

Focus of This Report

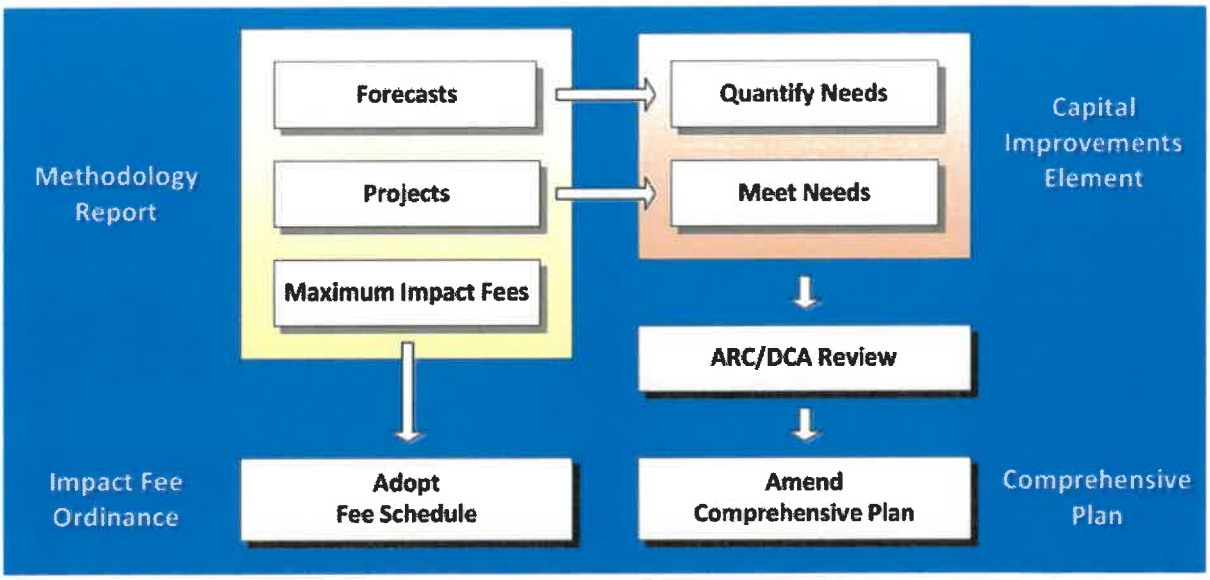
This report focuses on the public facilities that will be needed to meet the demands of future growth and development while maintaining the current level of service enjoyed by residents and businesses in the unincorporated portion of the county today. The key is that the capital improvement, whether it's land, buildings or long-lived vehicles, must create new capacity within the system to keep pace with the number of future residents and businesses as the county grows. Maintenance and personnel are not eligible for impact fee funding, nor would replacement of deteriorated floor space or a run-down vehicle because, although the replacement is maintaining the level of service, no new capacity is created to serve the needs of new growth.

In this report capital costs have been examined for several public facility categories: library services, parks & recreation facilities, greenspace, animal control, fire protection, the Sheriff's Office, police protection, emergency communications, and road projects.

Components of the Impact Fee System

The Henry County Impact Fee System consists of four components:

- A **Methodology Report**, which includes:
  - updated forecasts of population, housing and employment for the county;
  - capital improvement projects to serve new growth, based on Level of Service standards, for each public facility category; and,
  - the impact cost of new growth and development (and thus the maximum impact fees that can be assessed).



- This **Capital Improvements Element** (CIE) to implement the County's proposed improvements, including an updated Five-Year Community Work Program.
- Amendments to the **Impact Fee Ordinance**, including an updated impact fee schedule by land use category.
- The County's **Comprehensive Plan**, which will be amended by the adoption of the CIE.

Impact Fees Authorized

Impact fees are authorized in Georgia pursuant to O.C.G.A. §36-71-1 et seq., the *Georgia Development Impact Fee Act* (DIFA), and are administered by the Georgia Department of Community Affairs under Chapter 110-12-2, *Development Impact Fee Compliance Requirements*, of the Georgia Administrative Code. Under DIFA, the County can collect money from new development based on that development's proportionate share—the 'fair share'—of the cost to provide the facilities needed specifically to serve new development. This includes the categories of:

- Libraries and related facilities;
- parks, open space, and recreation areas and related facilities;

- public safety facilities, including law enforcement (Sheriff and police), fire, emergency medical, emergency communications (such as E911) and animal control facilities; and
- roads, streets, and bridges, including rights of way, traffic signals, landscaping, and any local components of state or federal highways.

Revenue for such facilities can be produced from new development in two ways: through future taxes paid by the homes and businesses that growth creates, and through an impact fee assessed as new development occurs.

Investment Recovery

The Georgia Development Impact Fee Act permits recovery by a local government of the cost of providing an improvement that serves new growth and development, even though that cost may have been incurred prior to the adoption of an impact fee ordinance. As with all impact fees, the cost of the portion of the facility meeting current needs must be borne by the locality (i.e., existing taxpayers), with future development being assessed only for the excess capacity that has been made available to serve that future growth in accordance with level of service standards that apply equally to both existing and future development.

Because the amount of dollars eligible to be recovered through an impact fee is based on the capacity available to support future growth and development within the whole system, a value for the existing system must be determined if excess capacity exists.

Categories for Assessment of Impact Fees

To assist in paying for the high costs of expanding public facilities and services to meet the needs of projected growth and to ensure that new development pays a reasonable share of the costs of public facilities, Henry County is updating its study of the impact of impact fees for fire protection, law enforcement, parks and recreation, and roads. The chapters in this Methodology Report provide population and employment forecasts and detailed information regarding the inventory of current facilities, the level of service, and detailed calculations of the impact cost for the specific public facilities.

The following **Overview Table** shows the facility categories that are eligible for impact fee funding under Georgia law and that are considered in this report. The service area for each public facility category—that is, the geographical area served by the facility category—is also given, along with the basis for the standard adopted as the level of service to be delivered for each facility category.

Terms used in the **Overview Table**:

> **Eligible Facilities** under the State Act are limited to capital items having a life expectancy of at least ten years, such as land, buildings and certain vehicles. Impact fees cannot be used for the maintenance, supplies, personnel salaries, or other operational costs, or for short-term capital items such as computers, furniture or most automobiles. None of these costs are included in the impact fee system.
>
> **Service Areas** are the geographic areas that the facilities serve, and the areas within which the impact fee can be collected. Monies collected in a service area for a particular category may only be spent for that purpose, and only for projects that serve that service area.
>
> **Level of Service Standards** are critical to determining new development's fair share of the costs. The same standards must be applied to existing development as well as new to assure that each is paying only for the facilities that serve it. New development cannot be required to pay for facilities at a higher standard than that available to existing residents and businesses, nor to subsidize existing facility deficiencies.

Table 1: Overview of Impact Fee Program Facilities

	Eligible Facilities*	Service Area**	Level of Service Standard Based on ...
Library Services	Library facilities including collection materials	Countywide	Square footage and number of collection materials per dwelling unit
Parks and Recreation	Park acres and recreation components	Unincorporated County plus McDonough	Number of acres and recreation components per dwelling unit
Greenspace	Provision of Greenway Trails	Countywide	Construction cost per dwelling unit
Animal Control	Animal Control Facilities and vehicles	Countywide	Square footage of facilities and number of vehicles per dwelling unit
Fire Protection	Fire stations, fire trucks & support vehicles	Countwide except McDonough	Square footage of facilities and number of vehicles per day-night population
Sheriff's Office	Sheriff's administration space, precinct stations and inmate detention	Countywide	Square footage of facilities per day-night population
Police Protection	Administrative office space and supporting facilities	Unincorporated County plus Stockbridge	Square footage of facilities per day-night population
E-911 Communications	Facility space, communications equipment and sirens	Countywide	Square footage of facilities and number of sirens per day-night population
Transportation	New road and bridge construction and widenings, traffic control	Countywide	Current and future traffic generation

* NOTE: All facilities, including library collection materials, all vehicles, facilities and equipment, must have a useful life of 10 years or more.

** Although many of the facility categories provide services countywide, the effective service areas for impact fees are the areas in which the County is authorized to collect the fees, which includes the unincorporated area and through specific agreements with particular cities.

Editorial Conventions

This report observes the following conventions:

The capitalized word 'County' applies to the government of Henry County, the County Council or any of its departments or officials, as appropriate to the context. An example is "the County has adopted an impact fee ordinance".

The lower-case word 'county' refers to the geographical area of Henry County, as in "the population of the county has grown".

Single quote marks (' and ') are used to highlight a word or phrase that has a particular meaning or refers to a heading in a table.

Double quote marks (" and ") are used to set off a word or phrase that is a direct quote taken from another source, such as a passage or requirement copied directly from a law or report.

Numbers shown on tables are often rounded from the actual calculation of the figures for clarity, but the actual calculated number of decimal points is retained within the table for accuracy and further calculations.

Looking Ahead

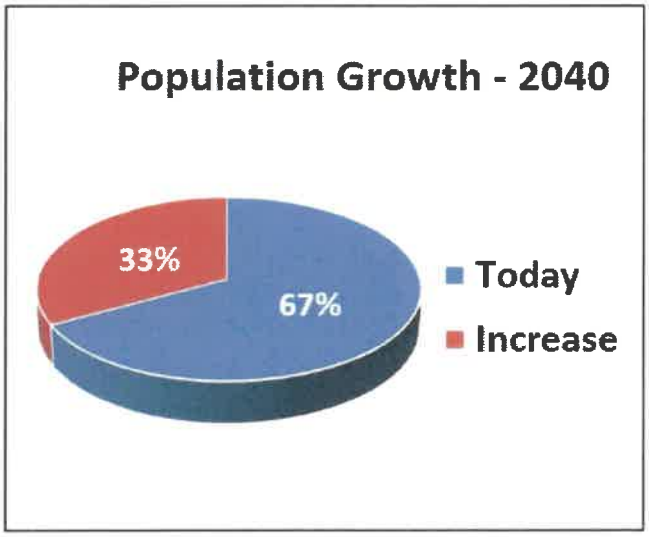
Forecasts

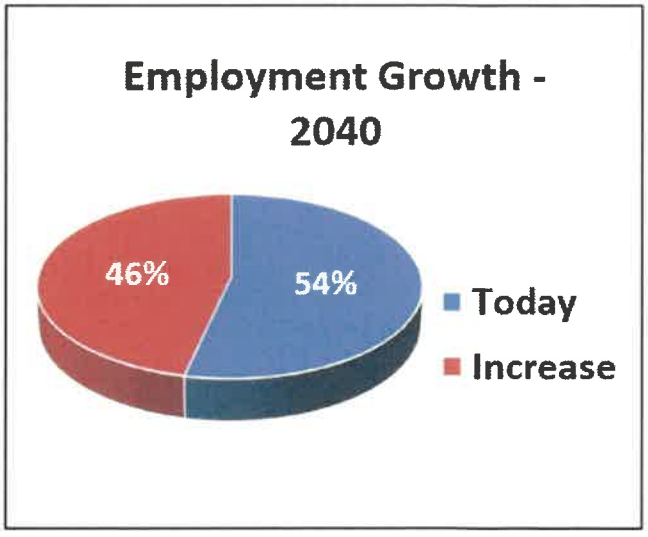
Over the coming 20 years, Henry County is projected to continue its previous rate of population growth, fully recovering from the lingering effects of the Great Recession. Over all, the county is expected to add 113,078 people to its 2021 population of 246,464 people, a 45.9% increase.

The unincorporated area will keep pace with the county overall. While the county's four cities will also continue to grow, the unincorporated area is projected to increase its population from 170,146 in 2021 to 246,867 by 2040, a 52.3% increase of 76,721 people.

Employment in the county is also projected to continue at a steady pace. Of those employees working for businesses and institutions that would be subject to impact fees (so called 'value added' jobs[1]), an additional 79,827 are expected by 2040 countywide. While the cities are major locations of commerce and jobs, half (50.58%) of those future jobs will be located within the unincorporated area.

Over the next 20 years to 2040, it is expected that almost a third of the population that will be living in the county then are not here today. This 33% of the 2040 total population equates to an almost 46% increase over the population living in the county now, accompanied by a similar increase in housing units. Employment will also increase, though at a greater extent than population growth. By 2040, the total number of 'value added' jobs in the county will be home to 46% new businesses, which reflects an 81% increase over the number today.





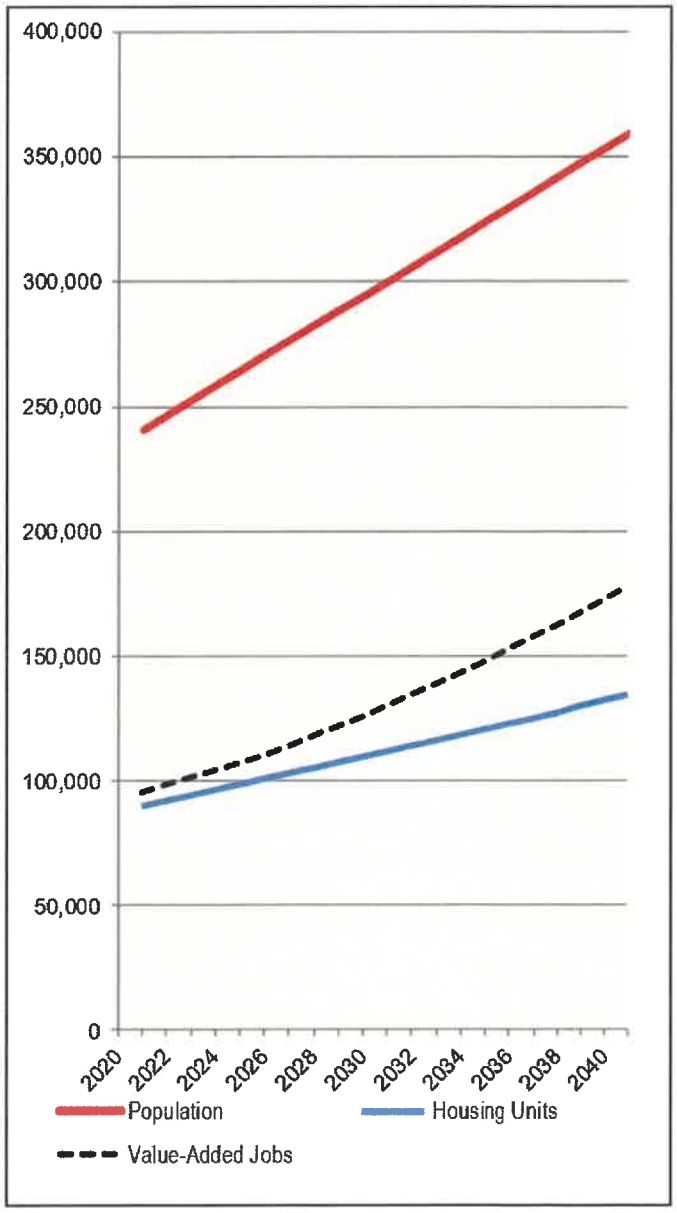
[1] Impact fees look specifically at what are called 'value-added' jobs. These are jobs in employment categories that create new or expanded places of business (other than governmental jobs which are otherwise exempt from impact fee assessments).

Population and Housing Outlook

Over the coming 20 years, Henry County is projected to continue its previous rate of population growth. Over all, the county is expected to add over 113,000 people to its current population of 246,464, resulting in a 2040 population accommodating almost 46% more residents than today. (See Appendix A: Future Growth Forecasts for a detailed presentation of the projection methodologies.)

Year	Population	Housing Units	Value-Added Jobs
2020	240,512	89,774	95,301
2021	246,464	91,995	98,272
2022	252,415	94,217	101,242
2023	258,367	96,438	104,212
2024	264,318	98,660	107,183
2025	270,270	100,881	110,153
2026	276,221	103,102	114,128
2027	282,173	105,324	118,102
2028	288,124	107,545	122,077
2029	294,076	109,767	126,051
2030	300,027	111,988	130,026
2031	305,979	114,210	134,530
2032	311,930	116,431	139,033
2033	317,882	118,653	143,537
2034	323,833	120,874	148,040
2035	329,785	123,096	152,544
2036	335,736	125,317	157,655
2037	341,688	127,539	162,766
2038	347,639	129,760	167,877
2039	353,591	131,982	172,988
2040	359,542	134,203	178,099

	Population	Housing Units	Value-Added Jobs
2021	246,464	91,995	98,272
2040	359,542	134,203	178,099
Increase	113,078	42,208	79,827
Percent	45.9%	45.9%	81.2%



These future increases in population and housing are not as unprecedented as it may seem. Looking back over the past 19 years, from 2000 to 2019, the county's population almost doubled from

121,774 to 234,561—an actual overall increase of 112,787 (92.6%). Looking ahead over the coming 20 years, this numerical increase will be duplicated, adding a little over 113,000 new residents.

Future Employment

Employment in the county is also projected to continue at a steady pace. The number of 'value-added' employees are projected to increase by almost 80,000, such that in 2040, 81% of all jobs will be new additions.

Impact fees look specifically at what are called 'value-added' jobs. These are jobs in employment categories that create new or expanded places of business (other than governmental jobs which are otherwise exempt from impact fee assessments). These private-sector jobs will add almost 80,000 to the 'value-added' employment base, which would represent an increase of more than 81% of all such jobs existing today.

Viewed another way, 33% of the county's population in 2040 will be newcomers by that year, while 46% of the city's 'value-added' employees were not working in the county in 2021.

Library Services

Introduction

Library services in Henry County are provided through the Henry County Library System. Henry County's libraries are operated and maintained primarily by financial contributions from Henry County, with the State of Georgia providing limited assistance for operations and new construction.

The library system provides services to all residents of Henry County through a variety of information and materials, facilities, and programs.

Demand for library services is almost exclusively related to the county's resident population. Businesses may use public libraries for research purposes, but the use is incidental compared to that of the families and individuals who live in the county. Thus, a library services system impact fee is limited to future residential growth.

Service Area

Materials, facilities and services of the library system are equally available to the county's population. The entire county is therefore considered a single service district for library services. An improvement in any part of the county increases service to all parts of the county to some extent.

Table 2: Inventory of Library Facilities

Facility	Location	Gross Floor Area in Square Feet	Collection Materials
McDonough Public Library*	1001 Florence McGarity Blvd, McDononugh	18,000	57,476
Cochran Public Library	175 Burke Street, Stockbridge	15,000	56,237
Fortson Public Library	61 McDonough Street, Hampton	15,900	54,436
Locust Grove Public Library	115 Martin Luther King, Jr. Blvd, Locust Grove	15,000	45,607
Fairview Public Library	28 Austin Road, Stockbridge	15,000	47,525
Total System		**78,900**	**261,281**

* Includes administrative offices.

Level of Service

The Level of Service (LOS) is based on the current inventory of library facilities and collection materials. This inventory includes the 78,900 square feet in the system's 5 libraries and the 261,281 in collection materials shown on Table 2.

The Level of Service calculations are presented in Table 3. First, for building square footage, the LOS is based on the total amount of space that currently serves local needs in 2021. Accordingly, the existing square feet in the library system's buildings is divided by the current number of housing units, resulting in .8577 'square feet of floor area per housing unit'.

Table 3: Current Level of Service Calculation – Libraries

Facility	Current Service Population	Current Level of Service
Existing Square Feet	**Number of Housing Units (2021)**	**Square Feet of Floor Area per Housing Unit**
78,900	91,995	0.8577
Existing Collection Materials	**Number of Housing Units (2021)**	**Collection Materials per Housing Unit**
261,281	91,995	2.8402

For the collection materials, like the building area calculation, the Level of Service is based on the number of existing collection materials that serve current residents living in the 91,995 housing units in the county in 2021. This calculation determines that the library system provides just over 2.84 collection materials per housing unit.

Forecasts for the Service Area

Future Demand

In Table 4, the Level of Service figure from Table 3 is used to calculate Future Demand for new or expanded facilities between 2021 and 2040 by multiplying the current Level of Service by the projected increase in housing units. As can be seen, by 2040 a total of 36,200 square feet of new library space would be needed to have been added to the inventory in order to maintain the current LOS for all residents of the county, both for the existing number of people in the county today plus the new residents anticipated to be added to the county as a result of new development.

Table 5 presents the expected demand for new library facilities in a cumulative annual format.

The table also shows three potential future library projects roughly in pace with the anticipated increase in the number of dwelling units. This proposed construction anticipates two new library branches containing 15,000 square feet each, plus an expansion project to an existing library of 6,200 square feet. As future plans mature, the size and timing of future library projects will be more specifically sized and timed to meet the future growing demand.

Table 4: Future Demand Calculation – Libraries

Current Level of Service	Service Area Growth	New Growth Demand

Square Feet of Floor Area per Housing Unit	Number of New Housing Units (2021-40)	Square Feet of New Floor Area Needed
0.8577	42,208	36,200
Collection Materials per Housing Unit	**Number of New Housing Units (2020-40)**	**Collection Materials Needed**
2.8402	42,208	119,878

Table 5: Future Library Facility Projects

Year	New Housing Units	Running Total: SF Demanded	Project	Square Footage
2021	0	0		
2022	2,222	1,906		
2023	2,221	3,811		
2024	2,222	5,716		
2025	2,221	7,621		
2026	2,221	9,526		
2027	2,222	11,432		
2028	2,221	13,337	Future Library	15,000
2029	2,222	15,242		
2030	2,221	17,147		
2031	2,222	19,053		
2032	2,221	20,958		
2033	2,222	22,863		
2034	2,221	24,768		
2035	2,222	26,674	Future Library	15,000
2036	2,221	28,579		
2037	2,222	30,485		
2038	2,221	32,389		
2039	2,222	34,295	Future Expansion	6,200
2040	2,221	36,200		
Total	**42,208**			**36,200**

Table 6 presents the demand figures for collection materials. Materials demanded by new growth are calculated in the first columns by multiplying the Level of Service (from Table 4) times the net new dwelling units each year (from Table 5). Thus the 'New Materials Needed (annual)' column represents

the number of materials that must be purchased in order to meet new growth's demand in each year. The 'Running Total' column shows the accumulated number of new collection materials that will meet the needs of future residential growth in the county.

However, the Library System discards a few of its collection materials each year as they become worn out, disfigured, broken or out of date. To maintain the collection, these materials need to be replaced with new materials. Since these materials replenish the overall collection, the responsibility for these replacements falls to the current residents and not to new growth.

Over the past several years the discard rate has averaged 4.8% of materials in the Library System's collection. As the collection grows in the future, this discard rate will continue relative to the new materials being acquired. By including the discarded materials for replacement each year, the resulting 'Total Materials Needed (annual)' column reflects the total number of volumes required annually to maintain the LOS once these non-impact fee eligible volumes are discarded. Thus, the new materials that will be needed each year will meet both the demand of new growth and the replenishment of the current collection. By 2040, a total of 125,632 collection materials will need to be purchased to maintain the Level of Service for new and existing development and to account for discarded volumes.

Table 6: Future Collection Materials Needed

Year	New Growth Demand			Plus Discarded Materials	Total Materials Needed (annual)
	New Dwelling Units	New Materials Needed (annual)	Running Total		
2021	0	0	0	0	0
2022	2,222	6,311	6,311	303	6,614
2023	2,221	6,308	12,619	303	6,611
2024	2,222	6,311	18,930	303	6,614
2025	2,221	6,308	25,238	303	6,611
2026	2,221	6,308	31,546	303	6,611
2027	2,222	6,311	37,857	303	6,614
2028	2,221	6,308	44,165	303	6,611
2029	2,222	6,311	50,475	303	6,614
2030	2,221	6,308	56,783	303	6,611
2031	2,222	6,311	63,094	303	6,614
2032	2,221	6,308	69,402	303	6,611
2033	2,222	6,311	75,713	303	6,614
2034	2,221	6,308	82,021	303	6,611
2035	2,222	6,311	88,332	303	6,614
2036	2,221	6,308	94,640	303	6,611
2037	2,222	6,311	100,951	303	6,614
2038	2,221	6,308	107,259	303	6,611
2039	2,222	6,311	113,570	303	6,614
2040	2,221	6,308	119,878	303	6,611
Total	**42,208**	**119,878**		**5,754**	**125,632**

Note: Average discard rate (FY17-FY20) = 4.8%

Parks and Recreation

Introduction

Public recreational opportunities are available in Henry County through a number of parks facilities and programs operated by the County. Demand for recreational facilities is almost exclusively related to the county's resident population. Businesses make some incidental use of public parks for office events, company softball leagues, etc., but the use is minimal compared to that of the families and individuals who live in the county. Thus, the parks and recreation impact fee is limited to future residential growth.

Service Area

Parks and recreational facilities are made available to the county's population living in the unincorporated area and the City of McDonough. Several other parks are jointly maintained by the County and individual cities and primarily serve the cities in which they are located. The County's parks are often used on the basis of the programs available, as opposed to proximity of the facility to particular geographic locations. For instance, children active in the little leagues play games at various locations throughout the service area, based on scheduling rather than geography. Other programs are located only at certain centralized facilities, to which any Henry County resident can come. As a general rule, parks facilities are located throughout the service area, and future facilities will continue to be located around the county so that recreational opportunities will continue to be available on an equal basis to all residents of the service area.

Level of Service

The determination of Level of Service (LOS) standards begins with an inventory of existing County facilities. Table 7 focuses on lands operated as parks by the Henry County Parks and Recreation Department, comprising a total of almost 1,222 acres.

Table 7: Current Inventory of Park Lands

Park Facility	Address	Acreage
Alexander Park	Hwy. 42, McDonough	12.5
Avalon Park	1045 Industrial Parkway, McDonough	20.0
Bear Creek Recreation Center	54 McDonough Street, Hampton	5.0
Bud Kelley Park	1605 Kelleytown Road, McDonough	124.0
Cochran Park	305 E. Atlanta Road,Stockbridge	20.0
Franklin Rape Park	20 S. Ola Road, McDonough	4.0
Heritage Park	101 Lake Dow Road,McDonough	129.0
Hidden Valley Park	100 Spraggins Memorial Pkwy., Stockbridge	115.0
J.P. Moseley Park	1041 Millers Mill Road, Stockbridge	179.0
Locust Grove Recreation Center	10 Cleveland Street, Locust Grove	2.5
Locust Grove Softball Complex	2951 Tanger Boulevard , Locust Grove	14.0
Mickie D. Cochran Park	301 Banks Road, Stockbridge	12.4
Mt. Carmel Park	307 N. Mt. Carmel Road, Hampton	129.0
Nash Farm Park	4361 Jonesboro Road, Hampton	204.0
North Ola Park	364 N. Ola Road, McDonough	22.4
Red Hawk Baseball Complex	143 Henry Parkway, McDonough	26.0
Red Hawk Nature Preserve	143 Henry Parkway, McDonough	39.0
Richard Craig Park	125 S. Zack Hinton Boulevard, McDonough	26.0
Sandy Ridge Park	1200 Keys Ferry Road, McDonough	34.0
Village Park at North Henry	750 Fairview Road, Stockbridge	34.0
Warren Holder Park	301 Club Drive, Locust Grove	40.0
Windy Hill Maintenance Facility	100 Ronnie Stewart Drive, McDonough	30.0
	Total Acreage	**1,221.8**

An inventory of all of the County's recreation facilities is shown on the following table, individually and summarized by type. Altogether, the County has almost 117,000 square feet of floor area under roof.

The Parks and Recreation Department provides a wide range of recreational opportunities utilizing the recreation components shown on the following Table 8. The table summarizes the number of recreation facilities and buildings by type as well as where the types of facilities are located.

Table 8: Current Inventory of Recreation Facilities

Park Facility	Baseball/Softball Fields	Basketball Courts (Outside)	Batting Cages	BMX Track	Concession Stands / Restrooms	Community Building	Disc Golf Course	Dog Areas	Football Fields	Gazebo	Gymnasiums	Indoor Walking Track	Outdoor Arena
Alexander Park	4		2		1		1	1					
Avalon Park					1				3				
Bear Creek Recreation Center												1	
Bud Kelley Park													
Cochran Park	8		4		3	1							
Franklin Rape Park	2				1					1			
Heritage Park	4		2		3								1
Hidden Valley Park	9	1	4		2	1				1			
J.P. Moseley Park	4		4		4		1		4		2	1	
Locust Grove Recreation Center											1	1	
Locust Grove Softball Complex	3				1								
Mickie D. Cochran Park		1			2				1				
Mt. Carmel Park					3			1					
Nash Farm Park						2				1			
North Ola Park	7		4		2								
Red Hawk Baseball Complex	4		4		1					1			
Red Hawk Nature Preserve													
Richard Craig Park	8	1	8		4								
Sandy Ridge Park	4		2	1	2					1			
Village Park at North Henry					1	1			2				
Warren Holder Park	9		6		4				4				
Windy Hill Maintenance Facility													
Total	66	3	40	1	35	5	2	2	14	5	3	3	1

Current Inventory of Recreation Facilities, continued

Park Facility	Outdoor Classroom	Pavilion / Picnic Area	Playground Area	Putting Green	Recreation Center	Roller Hockey Rink	Soccer Fields	Special Needs Complex	Splash Pad	Tennis Courts	Walking / Jogging Track (miles)	Work-out Area	Number of Parking Spaces
Alexander Park			1								0.3		130
Avalon Park	1		2			1							344
Bear Creek Recreation Center					1								
Bud Kelley Park		3									2.0	1	
Cochran Park		3	1								0.4		300
Cotton Fields Golf Course			1										
Fairview Recreation Center					1							1	
Franklin Rape Park			1								0.3		50
Heritage Park		3			1						0.9		250
Hidden Valley Park		2	2							4	0.3		425
J.P. Moseley Park		5	2		1						1.4	1	270
Locust Grove Event Center			2										
Locust Grove Recreation Center					1							1	
Locust Grove Softball Complex													
Mickie D. Cochran Park		2	2							2	0.3		150
Mt. Carmel Park		2	1				14				0.3		110
Nash Farm Park		1	1								1.1		
North Ola Park		1	1								0.3		150
Pates Creek Nature Preserve	2		1								0.7		25
Red Hawk Baseball Complex		1	1								0.2		230
Red Hawk Nature Preserve													
Richard Craig Park		3	2					1		16	0.4		500
Sandy Ridge Park		2	2							2	0.8		75
Village Park at North Henry		3	1	1					1		1.1		264
Warren Holder Park		1	2							2			300
Windy Hill Maintenance Facility											0.5		325
Total	3	32	26	1	5	1	14	1	1	26	11	4	3,898

Current Level of Service

The Level of Service (LOS) calculations in Table 9 are based on the total number of recreation components that serve the current (2021) population on a 'per housing unit' basis (73,796 HUs in the service area). Each current LOS is adopted as the LOS standard for the county, and then applied to the number of housing units created by new growth and development through 2040 (35,717) to establish 'Future Demand'.

A final calculation is to round the 'Future Demand' figures for recreation buildings and components up to the nearest whole number, since a portion of a facility cannot be built (such as 0.55 of a basketball court). As a result, technically, since slightly more of each facility is being built or provided for new growth than required, the total cost of each facility will be slightly less than 100% impact fee eligible (as shown in the '% Impact Fee Eligible' column). For instance, of the 2 new basketball courts to be added, only 1.45 are impact fee eligible. Thus, the cost of creating the two courts is only 72.5% eligible for impact fee funding.

Table 9: Future Demand for Park Land and Recreation Facilities

Component Type	Current Inventory	Current LOS per HU	Future Demand	Rounded	% Impact Fee Eligible
Park Lands (acres)	1,221.8	0.016556453	591.35	591.35	100.00%
Baseball/Softball Fields	74	0.001002764	35.82	36	99.50%
Basketball Courts (Outside)	3	0.000040653	1.45	2	72.50%
Batting Cages	44	0.000596238	21.30	22	96.82%
BMX Track	1	0.000013551	0.48	1	48.00%
Disc Golf Course	2	0.000027102	0.97	1	97.00%
Dog Areas	2	0.000027102	0.97	1	97.00%
Football Fields	14	0.000189712	6.78	7	96.86%
Gazebo	6	0.000081305	2.90	3	96.67%
Outdoor Arena	1	0.000013551	0.48	1	48.00%
Pavilion / Picnic Area	34	0.000460730	16.46	17	96.82%
Playground Area	28	0.000379424	13.55	14	96.79%
Roller Hockey Rink	1	0.000013551	0.48	1	48.00%
Soccer Fields	14	0.000189712	6.78	7	96.86%
Splash Pad	1	0.000013551	0.48	1	48.00%
Tennis Courts	26	0.000352323	12.58	13	96.77%
Concession Stands / Restrooms	37	0.000501382	17.91	18	99.50%
Community Building	7	0.000094856	3.39	4	84.75%
Gymnasiums	5	0.000067754	2.42	3	80.67%
Recreation Center	5	0.000067754	2.42	3	80.67%
Walking / Jogging Track (miles)	11.3	0.000153125	5.47	6	91.17%
Work-out Area	4	0.000054203	1.94	2	97.00%
Number of Parking Spaces	4,043	0.054786167	1,956.80	1,957	99.99%

2021 Housing Units	73,796
2040 Housing Units	109,513
Increase	35,717

Future Costs

Table 10 is a listing of the future capital project costs to provide the additional recreation components needed to attain the applicable Level of Service standards.

Facility construction costs are based on costs drawn from a variety of sources, including the County's Capital Assets Listing, similar facilities being built on other counties, and specific projects included in various BNi Building News publications. Each of these 2021 estimated cost figures are then increased to the gross cost by 25% to account for mobilization, design or engineering fees and contingencies.

These 'Total Gross Cost' figures on the Table are converted to 'New Growth Share (2021)' dollars based on the percentage that each improvement is impact fee eligible (from Table 9).

Table 10: Cost to Meet Future Demand for Parks & Recreation Facilities

Component Type	Total Needed	Total Gross Cost	New Growth Share (2021)	Net Present Value (2030)*
Park Lands (acres)	591.35	$ 34,393,145.15	$ 34,393,145.15	$ 40,080,304.79
Baseball Fields	36	$ 7,089,840.00	$ 7,054,390.80	$ 8,220,886.23
Basketball Courts	2	$ 27,352.50	$ 19,830.56	$ 23,109.69
Batting Cages	22	$ 289,575.00	$ 280,361.25	$ 326,721.05
BMX Track	1	$ 343,750.00	$ 165,000.00	$ 192,283.96
Disc Golf Course	1	$ 18,750.00	$ 18,187.50	$ 21,194.94
Dog Areas	1	$ 37,500.00	$ 36,375.00	$ 42,389.87
Football Fields	7	$ 4,831,155.00	$ 4,679,318.70	$ 5,453,078.48
Gazebo	3	$ 37,500.00	$ 36,250.00	$ 42,244.20
Outdoor Arena	1	$ 1,250,000.00	$ 600,000.00	$ 699,214.42
Pavilion / Picnic Area	17	$ 671,633.66	$ 650,299.42	$ 757,831.21
Playground Area	14	$ 678,864.73	$ 657,044.07	$ 765,691.15
Roller Hockey Rink	1	$ 63,438.75	$ 30,450.60	$ 35,485.83
Soccer Fields	7	$ 1,490,689.38	$ 1,443,839.14	$ 1,682,588.56
Splash Pad	1	$ 650,000.00	$ 312,000.00	$ 363,591.50
Tennis Courts	13	$ 609,867.86	$ 590,164.44	$ 687,752.47
Concession Stands / Restrooms	18	$ 3,012,118.20	$ 2,997,057.61	$ 3,612,341.21
Community Building	4	$ 665,225.00	$ 563,778.19	$ 679,519.53
Gymnasiums	3	$ 13,837,343.22	$ 11,162,123.53	$ 13,453,661.58
Recreation Centers	3	$ 41,607,907.50	$ 33,563,712.05	$ 40,454,204.09
Walking / Jogging Track (miles)	6	$ 363,198.23	$ 331,115.72	$ 373,831.77
Work-out Area	2	$ 375,000.00	$ 363,750.00	$ 410,676.09
Hard surface Parking Spaces	1,957	$ 4,892,500.00	$ 4,892,000.00	$ 5,523,099.43
		$ 117,236,354.17	**$ 104,840,193.72**	**$ 123,901,702.05**

* Actual implementation dates will be determined through the annual Budget adoption process. NPV based on CPI for land, BCI for buildings and CCI for walking tracks and parking, in an average construction year of 2030.

The Net Present Value of new growth's share of the cost for each component is calculated as follows:

Since the actual pace and timing of construction for the improvements proposed to meet future demand have not been programmed, an 'average' year of 2030 is used for Net Present Value calculations—some improvements will occur earlier for less money, and some later at greater cost. All will average out.

To calculate the Net Present Value (NPV) of the impact fee eligible cost estimate for the construction of the recreation components, the NPVs are calculated by increasing the current (2021) estimated costs using Engineering News Record's (ENR) 10-year average CPI rate for all recreation facilities and equipment, the 10-year average building cost inflation (BCI) rate for buildings (such as gymnasiums), and the 10-year average construction cost inflation (CCI) for such projects as walking trails and parking spaces. All project costs are then reduced to current NPV dollars using the Net Discount Rate.

Scheduling Individual Projects and Improvements

Improvements listed on Table 10 cannot be scheduled on an annual basis over the coming 20 years with any certainty. Over the coming 5 years, however, specific projects drawn from Table 10 by the County Commission are scheduled as part of the annual budget adoption process. These projects are then shown on the Community Work Program, included in this report, and subsequently updated each year as part of the County's Annual CIE Update report reflecting decisions by the County Commission regarding capital project funding decisions made during consideration and adoption of that year's annual budget.

Greenspace

Introduction

The greenspace public facility category comprises an extensive network of greenway trails. Demand for such facilities is almost exclusively related to the county's resident population. Businesses make some incidental use of greenway trails to the extent that such trails may pass by areas of employment development, but the use is minimal compared to that of the families and individuals who live in the county. Thus, greenspace impact fee is limited to future residential growth.

Service Area

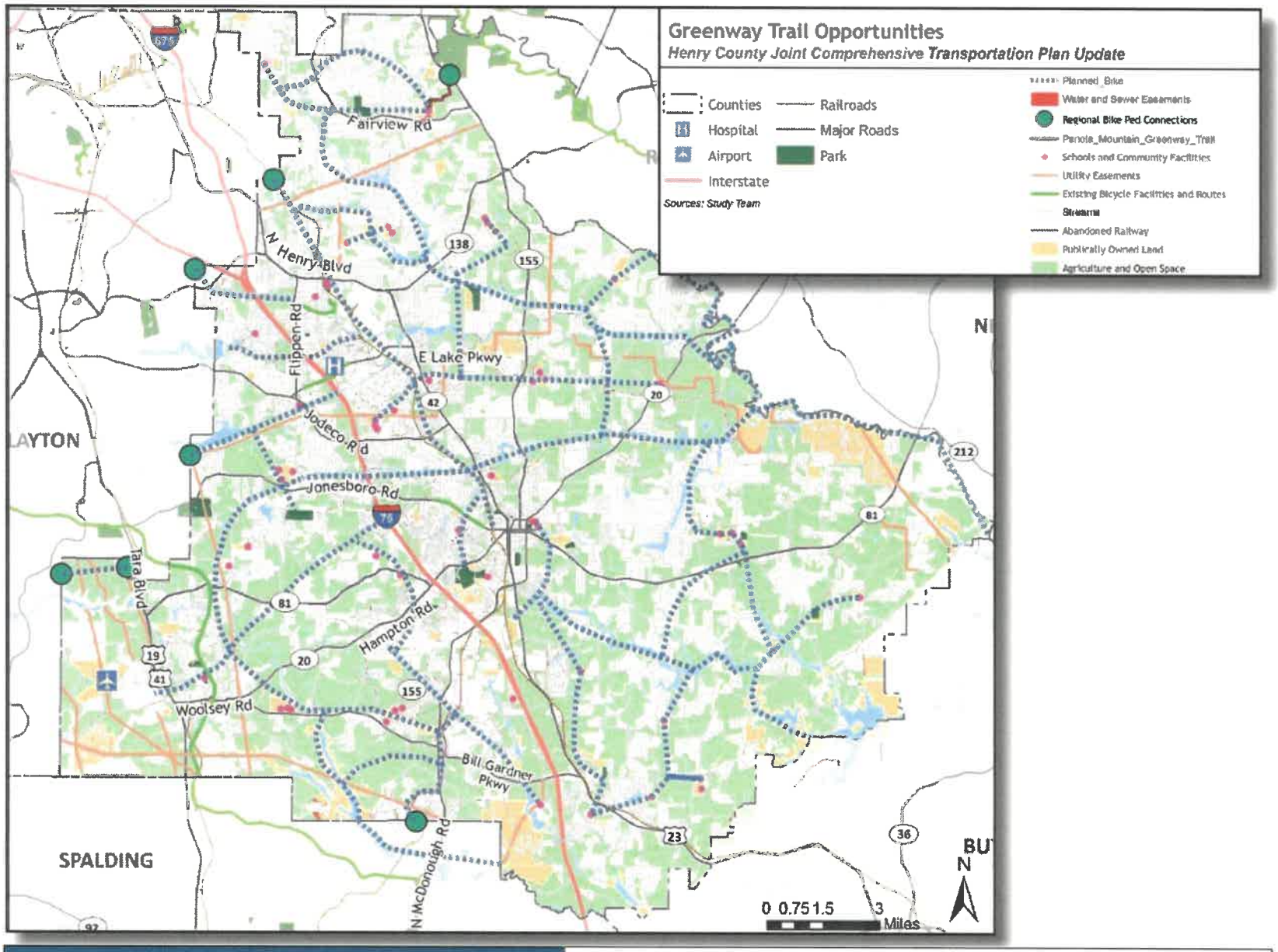
The greenway trails were proposed in the *Joint County/Cities Transportation Plan* adopted in May, 2016, throughout the county. (See map on the next page.) The service area for the entire trails system is therefore the entire county, including the cities.

However, the service area for the County's portion of the proposed greenway trail system is the same as for the Parks and Recreation facilities – the entire unincorporated area of the county and the city of McDonough, within which the County is actually authorized to collect impact fees.

Level of Service

The only existing trail in the county is the Panola Mountain Greenway Trail, which is shown on the Greenway Trails Opportunities map on the next page. The trail runs from Panola Mountain State Park for a short distance into Stockbridge. Even if the trail was actually a Henry County trail, its length would bear no relationship to a level of service calculation that would relate to the provision of future trails in the county.

The County is currently in the process of developing and adopting a new trails plan, which is scheduled for adoption in the latter part of 2023. Until the new plan is adopted, the tables in this chapter are considered tentative and based on the projects in the 2016 *Joint County/Cities Transportation Plan.*


Greenway Trail Opportunities
Henry County Joint Comprehensive Transportation Plan Update
Counties
Hospital
Airport
Interstate
Railroads
Major Roads
Park
Sources: Study Team
Planned_Bike
Water and Sewer Easements
Regional Bike Ped Connections
Panola_Mountain_Greenway_Trail
Schools and Community Facilities
Utility Easements
Existing Bicycle Facilities and Routes
Abandoned Railway
Publically Owned Land
Agriculture and Open Space
Fairview Rd
N Henry Blvd
Flippen Rd
E Lake Pkwy
Jodeco Rd
Jonesboro Rd
Tara Blvd
Hampton Rd
Woolsey Rd
Bill Gardner Pkwy
N McDonough Rd
LAYTON
SPALDING
0 0.75 1.5 3 Miles
N

Greenway Trails

The original cost of each planned greenway trail project, taken from the *Joint County/Cities Transportation Plan,* is shown in the 'Total Cost' column of Table 11.

Table 11: Greenway Trail Projects

Project	Name	Total Cost*	County Funding*	2021 NPV	2030 NPV
MU-67	Greenway Trail PE Phase	$ 11,980,207	$ 200,000	$ 213,946.79	$ 241,547.30
S-2	Greenway Trail Master Plan	$ 125,000	$ 125,000	$ 133,716.75	$ 150,967.07
MU-67	Greenway Trail	$ 11,980,207	$ 11,980,207	$ 12,815,634.34	$ 14,468,933.52
MU-70	Greenway Trail	$ 10,580,189	$ 10,580,189	$ 11,317,987.53	$ 12,778,080.65
MU-72	Greenway Trail	$ 2,246,442	$ 2,246,442	$ 2,403,095.31	$ 2,713,110.05
MU-82	Greenway Trail	$ 4,009,134	$ 4,009,134	$ 4,288,706.81	$ 4,841,977.55
MU-83	Greenway Trail	$ 5,014,016	$ 5,014,016	$ 5,363,663.22	$ 6,055,610.24
MU-84	Greenway Trail	$ 2,917,230	$ 2,917,230	$ 3,120,660.02	$ 3,523,245.21
MU-88	Greenway Trail	$ 7,662,212	$ 7,662,212	$ 8,196,528.43	$ 9,253,933.27
MU-96	Greenway Trail	$ 3,655,148	$ 3,655,148	$ 3,910,035.96	$ 4,414,455.72
MU-99	Greenway Trail	$ 1,097,000	$ 1,097,000	$ 1,173,498.16	$ 1,324,886.96
MU-100	Greenway Trail	$ 12,591,884	$ 12,591,884	$ 13,469,966.00	$ 15,207,678.17
MU-102	Greenway Trail	$ 4,814,606	$ 4,814,606	$ 5,150,347.57	$ 5,814,775.50
MU-74	Greenway Trail	$ 4,021,038	$ 4,021,038	$ 4,301,440.92	$ 4,856,354.44
MU-80	Greenway Trail	$ 2,386,278	$ 2,386,278	$ 2,552,682.63	$ 2,881,995.09
MU-92	Greenway Trail	$ 2,645,041	$ 2,645,041	$ 2,829,490.20	$ 3,194,512.62
MU-93	Greenway Trail	$ 4,101,227	$ 4,101,227	$ 4,387,221.82	$ 4,953,201.63
MU-103	Greenway Trail	$ 3,160,661	$ 3,160,661	$ 3,381,066.42	$ 3,817,245.71
MU-101	Greenway Trail	$ 16,870,898	$ 16,870,898	$ 18,047,372.62	$ 20,375,599.65
MU-66	Greenway Trail	$ 2,989,434	$ 2,998,434	$ 3,207,526.69	$ 3,621,318.24
MU-69	Greenway Trail	$ 4,685,028	$ 4,685,028	$ 5,011,733.58	$ 5,658,279.42
	Total Costs	$ 119,532,880	$ 107,761,673	$ 115,276,322	$ 130,147,708

2040 Total Housing Units in Total County	134,203
2040 Total Housing Units in Service Area	109,513
% of Total County Households located in Service Area	81.6025%
Total Greenways Service Area Cost	$ 106,203,783

* Cost figures as of May 4, 2016.

Source: *Henry Joint County/Cities Transportation Plan*, Jacobs Engineering, May 2016.

Those original costs have been converted to current 2021 costs using the ENR's 10-year average Construction Cost Index. Because specific dates for construction of each trail are tentative, these 2021 current costs are converted to the estimated future NPV cost in the 'average' construction year of 2030. Of course, some greenway construction projects will occur earlier for less money, and some later at greater cost, with the expectation that actual costs experienced before and after 2030 will average out.

As noted above, the 'effective' service area for impact fee funding is the area in which the County is authorized to collect the fees. As shown on Table 11, that area will comprise 109,513 total housing units in 2040, which is 81.6% of all housing units in the county that year. As a result, a little over $106.2 million would provide greenway services within that 'effective' service area. Impact fees could be collected from the portion of the 2040 total housing units that are constructed in the future, while the portion that accrues to the existing housing units today would require funding from other sources, such as General Fund taxes or SPLOST funding.

Bearing in mind that the County's new trails plan is in the planning stages and expected to be adopted later next year, the following table provides a schedule of future trail projects taken from the *Joint County/Cities Transportation Plan*.

Table 12: Greenway Trail Projects – Timing

Project	Name	Estimated Year	Total Cost*
MU-67	Greenway Trail PE Phase	2022	$ 200,000.00
S-2	Greenway Trail Master Plan	2022	$ 125,000.00
MU-67	Greenway Trail	2022	$ 11,980,207.00
MU-70	Greenway Trail	2027	$ 10,580,189.00
MU-72	Greenway Trail	2029	$ 2,246,442.00
MU-82	Greenway Trail	2030	$ 4,009,134.00
MU-83	Greenway Trail	3032	$ 5,014,016.00
MU-84	Greenway Trail	2034	$ 2,917,230.00
MU-88	Greenway Trail	2035	$ 7,662,212.00
MU-96	Greenway Trail	2035	$ 3,655,148.00
MU-99	Greenway Trail	2035	$ 1,097,000.00
MU-100	Greenway Trail	2036	$ 12,591,884.00
MU-102	Greenway Trail	2036	$ 4,814,606.00
MU-74	Greenway Trail	2036	$ 4,021,038.00
MU-80	Greenway Trail	2037	$ 2,386,278.00
MU-92	Greenway Trail	2037	$ 2,645,041.00
MU-93	Greenway Trail	2037	$ 4,101,227.00
MU-103	Greenway Trail	2037	$ 3,160,661.00
MU-101	Greenway Trail	2038	$ 16,870,898.00
MU-66	Greenway Trail	2040	$ 2,998,434.00
MU-69	Greenway Trail	2040	$ 4,685,028.00

* Average Net Present Value of future cost.

Animal Control

The Henry County Animal Care and Control Department provides animal control services throughout the county. Demand for animal control services is almost exclusively related to the county's resident population. Thus, an impact fee related to the animal shelter, support buildings and vehicles is based on future residential growth.

Service Area

The entire county is considered a single service area for the provision of animal control services because all residents in the county have equal access to the benefits that the program provides.

Existing Facilities and Vehicles

The Animal Control Shelter includes the central operations building and several support buildings. In addition, services are delivered throughout the county utilizing both animal control vehicles and specialized transport boxes mounted on several of the vehicles to transport captured animals to the shelter.

Table 13: Animal Control Facilities

Facility	Floor Area (sq. ft.)
Animal Shelter Building	9,144
Storage Building	160
Storage Building	140
Covered Barn	320
TOTAL - ALL FACILITIES	9,764

Current facility data are shown on Table 13. The current level of service is related to the square footage in the Animal Shelter building for the department's offices and animal housing, treatment and adoption as well as the support buildings noted.

In addition, the service maintains a number of vehicles and specialized transport boxes that have useful lives of 10 years or more. Vehicles currently in service range in age from 1 to 20 years.

Table 14 contains the full inventory of vehicles currently in service. The table includes the year each vehicle was acquired and the original purchase price. All original vehicle costs are brought to current equivalent costs in 2021 dollars using the CPI inflation factors (discussed in the Credits and Adjustments chapter of this report).

Table 14: Animal Control Vehicles

Vehicle	Year Purchased	Purchase Price	CPI Multiplier	2021 NPV
FORD F250	2001	$ 18,530	1.443571899	$ 26,749
CROWN VICTORIA	2003	$ 20,619	1.389437953	$ 28,649
FORD F150	2005	$ 12,811	1.309045486	$ 16,770
FORD F150	2005	$ 12,811	1.309045486	$ 16,770
FORD F150	2005	$ 12,811	1.309045486	$ 16,770
CHEVY IMPALA	2005	$ 16,251	1.309045486	$ 21,273
EXPLORER	2006	$ 20,506	1.268137814	$ 26,004
CROWN VICTORIA	2007	$ 22,334	1.233018797	$ 27,538
DELTA HORSE TRAILER	2015	$ 49,800	1.07864239	$ 53,716
FORD F150	2015	$ 20,695	1.07864239	$ 22,323
FORD F150	2015	$ 20,695	1.07864239	$ 22,323
FORD F150	2015	$ 20,695	1.07864239	$ 22,323
FORD F150	2015	$ 20,695	1.07864239	$ 22,323
FORD F150	2015	$ 20,695	1.07864239	$ 22,323
FORD F150	2015	$ 20,695	1.07864239	$ 22,323
FORD 250*	2020	$ 20,886	1.00000000	$ 20,886
FORD 250*	2020	$ 47,337	1.00000000	$ 47,337
FORD 250*	2020	$ 47,337	1.00000000	$ 47,337
FORD 250*	2020	$ 47,337	1.00000000	$ 47,337
FORD 250*	2020	$ 47,337	1.00000000	$ 47,337
FORD 250*	2020	$ 47,337	1.00000000	$ 47,337
FORD 250*	2020	$ 47,337	1.00000000	$ 47,337

* With SWAB ARF-95 animal transport body.

Animal Control Activities

The number of dogs, cats and 'other' animals that were accommodated in 2020, based on quarterly activity reports, are shown on Table 15. It was a busy year of activity, but not the busiest due to the Covid pandemic. Overall, the department dealt with 2,222 animals, 57% of which were dogs. About a third of all animals (703) had to be euthanized—most due to disease or feral behavior.

Table 15: 2020 Activity Statistics

DOGS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	2020 Total
Intake	371	259	329	302	1,261
Adopted	52	29	44	47	172
Transferred Out	127	102	77	89	395
Owner Reclaimed	100	71	100	83	354
Put to Sleep	84	63	92	77	316
Died in Pen	1	1	2	4	8

CATS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	2020 Total
Intake	99	242	294	228	863
Adopted	24	35	60	55	174
Transferred Out	45	86	76	125	332
Owner Reclaimed	4	2	1	2	9
Put to Sleep	33	94	146	76	349
Died in Pen	0	1	0	1	2

OTHER*	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	2020 Total
Intake	38	18	17	25	98
Adopted	3	21	6	9	39
Transferred Out	1	2	0	6	9
Owner Reclaimed	3	4	2	0	9
Put to Sleep	10	12	10	6	38
Died in Pen	10	0	0	0	10

* Includes livestock and exotic animals as well as wildlife.

Statistics published by the Humane Society regarding pet ownership are national in nature but useful. Their 'pet population' statistics were used to estimate the future growth in the number of animals the county's residents would own on the theory that the percentage increase in total pets in the county would be reflected in the number of animals the Animal Control Department would expect to be called upon to deal with.

Table 16 shows the estimates of the total number of dogs and cats that county residents own now as pets and the increase expected by 2040 as the number of households increases from almost 82,600 today to virtually 123,200 by 2040. The percentages shown for those households owning one or more dogs and/or cats, and the average number of dogs and/or cats in each such household are taken from the national statistics provided by the Humane Society.

The numerical and percentage increases in the total number of dogs and cats owned by county households are then calculated from the 2021 and 2040 ownership data.

Table 16: Future Growth in Demand

Pets in County: 2021	Dogs	Cats	Total
Total Households - 2021	82,572		
× Percent Owning a Pet	39%	34%	
× Number of Animals per HH*	1.7	2.3	
= Total Number of Animals	54,745	64,571	119,316

Pets in County: 2040	Dogs	Cats	Total
Total Households - 2040	123,194		
× Percent Owning a Pet	39%	34%	
× Number of Animals per HH	1.7	2.3	
= Total Number of Animals	81,678	96,338	178,016

Projected Increase in Pets	Dogs	Cats	Total
2021-2040 Increase	26,933	31,767	58,700
Percentage Increase	49.20%	49.20%	49.20%

Projected Shelter Caseload	Dogs	Cats	Total
2020 Monthly Average	105	72	177
2040 Projected Monthly Average	181	122	303

*Source: *Shelter Design*, The Humane Society of the United States, n.d.

The monthly averages shown on Table 16 for the number of dogs and cats taken in by the Animal Shelter in 2020 are derived from the activity statistics shown on Table 15.

As noted above, however, 2020 was not a normal year of activity. While 2,222 animals were taken into the shelter in 2020, total intakes in 2019 were notably higher—3,155—by 42%. Accommodating a return to 'normalcy' resulted to an adjustment in calculating the projected monthly averages in 2040. Utilizing the projected increase of just under 50% in pet ownership in the county by 2040 multiplied by the monthly averages experienced in 2019 indicated an increase by 2040 of 126 dogs and cats, for a total 2040 average monthly intake of 303. While total ownership is expected to increase by almost 50% by 2040, actual intakes are expected to be about 71% higher than 2020.

Level of Service

In Table 17, the Current Level of Service figures are determined by dividing the 'existing' figures from Table 13 and Table 14 by the number of housing units in the county in 2021. These figures establish the Level of Service Standards that will be used to calculate the additional facilities that will need to be added to provide the same level of service to future residents of the county as the current residents currently enjoy.

Table 17: Current Level of Service Calculations

Facility	Current Service Population	Current Level of Service
Existing Square Feet	**Number of Housing Units (2021)**	**Square Feet of Floor Area per Housing Unit**
9,764	91,995	0.106136
Existing Vehicles	**Number of Housing Units (2021)**	**Vehicles per Housing Unit**
22	91,995	0.000239

Note that the current Level of Service calculations are based on the facilities and vehicles in current operation, not on the caseload projections, above.

Future Demand for Facilities

As noted above, the Current Level of Service figures from Table 17 set the standards for calculating Future Demand for facilities and vehicles between 2021 and 2040 by multiplying the Current Level of Service figures times the projected increase in housing units.

Table 18: Future Demand for Animal Control Facilities and Vehicles

Current Level of Service	Service Area Growth	New Growth Demand
Square Feet of Floor Area per Housing Unit	**Increase in Housing Units (2021-40)**	**Square Feet of New Floor Area Needed**
0.106136	42,208	4,479.7969

Vehicles per Housing Unit	Increase in Housing Units (2021-40)	Net New Vehicles Demanded
0.000239	42,208	10.0938

The Level of Service standards yield calculated 'needs' for new floor area and vehicles that are not whole numbers. In order to meet the future calculated need for new vehicles (10.0938), ten can be acquired at 100% impact fee eligible; an additional eleventh vehicle would require about 90% of its cost to be funded from non-impact fee sources.

Costs to Serve Future Development

Since the actual pace and timing of construction for the improvements and purchase of vehicles proposed to meet future demand have not been programmed, an 'average' year of 2030 is used for Net Present Value calculations—some improvements and vehicle purchases may occur earlier for less money, and some later at greater cost. All will average out. The results are shown on Table 19.

To calculate the Net Present Value (NPV) of the impact fee eligible cost estimate for the construction of the new floor area, the NPV is calculated by increasing the current (2021) estimated costs using Engineering News Record's 10-year average building cost inflation (BCI) rate for buildings, and the 10-year average CPI rate for the vehicles. All projected costs are then reduced to current NPV dollars using the Net Discount Rate.

For facility cost estimates, documented construction cost info on hand is used, which is for a 41,000 sf Animal Care & Protective Services facility on 4.5 acres in Jacksonville. That facility would have run $287.22 per square foot today (including cages and facilities). Projected forward to 2030 using the BCI Building Construction Index inflation percentage (from the Adjustments and Credits chapter) plus 25% for design and contingencies results in a per square foot cost of $451.07 per square foot in that year.

For the new vehicles, the recent purchase of Ford 250s fitted out with animal transport bodies in 2020 sets the standard moving forward. That cost ($47,337 each) inflated to 2030 using the 10-year Consumer Price Index average and the current discount rate results in a 2030 estimated equivalent cost of $56,110.51.

Table 19: Impact Fee Eligible Costs

	Number Needed	Cost (NPV)		Impact Fee Eligible	
		Each*	Total	Percent	Cost
New Floor Area	4,480	$ 451.07	$ 2,020,701.97	100.00%	$ 2,020,701.97
New Vehicles	10	$ 56,110.51	$ 561,105.08	100%	$ 561,105.08
		Total Costs	**$ 2,581,807.05**		**$ 2,581,807.05**

* NPV for new floor area based on a similar project reported by BNI Engineering News Record for a fully equiled facility. NPV based on 10-year average annual BCI projected to 2030 plus 25% for design services and contingencies.

NPV for vehicles based on the purchase in 2020 of a Ford 250 with a SWAB ARF-95 animal transport body. NPV based on 10-year average annual CPI projected to 2030.

Note that, for simplicity, the floor area shown on Table 19 is rounded to 4,480. The figure from Table 18 (4,479.7969) is actually used in the calculations.

Schedule of Animal Control Projects

Projects are scheduled based on population forecasts over the planning horizon. The projected 10 vehicles, for instance, are scheduled based on the cumulative increase in population each year. By dividing the total cost by the 10 vehicles to be acquired, the resulting cost is assigned to each relevant year in pace with the population growth, thus addressing the growth in demand over the planning period. For the facility addition, which ultimately meets the population demand in 2040 at 100% utilization, its addition is planned for mid-way in the planning period.

Table 20: Schedule of Animal Control Projects

	County Population		Facility Addition (sf)	Additional Vehicles	Cost*		Total Cost
	Total	Cumulative Additions			Facility	Vehicles	
2021	246,464						
2022	252,415	5,951		1		$ 56,110.51	$ 56,110.51
2023	258,367	11,903					$ -
2024	264,318	17,854		1		$ 56,110.51	$ 56,110.51
2025	270,270	23,806					$ -
2026	276,221	29,757		1		$ 56,110.51	$ 56,110.51
2027	282,173	35,709					$ -
2028	288,124	41,660		1		$ 56,110.51	$ 56,110.51
2029	294,076	47,612					$ -
2030	300,027	53,563		1		$ 56,110.51	$ 56,110.51
2031	305,979	59,515	4,480		$ 2,020,701.97		$ 2,020,701.97
2032	311,930	65,466		1		$ 56,110.51	$ 56,110.51
2033	317,882	71,418					$ -
2034	323,833	77,369		1		$ 56,110.51	$ 56,110.51
2035	329,785	83,321					$ -
2036	335,736	89,272		1		$ 56,110.51	$ 56,110.51
2037	341,688	95,224					$ -
2038	347,639	101,175		1		$ 56,110.51	$ 56,110.51
2039	353,591	107,127					$ -
2040	359,542	113,078		1		$ 56,110.51	$ 56,110.51
		Totals	4,480	10	$ 2,020,701.97	$ 561,105.08	$ 2,581,809.05

* Actual implementation dates will be determined through the annual Budget adoption process. NPV based on BCI for buildings and CPI for vehicles in an average year of 2030.

Fire Protection and EMS

Fire protection and emergency medical services are provided by the County through its Fire Department. The capital value of fire protection is based upon fire stations and vehicles. Fire protection in the county is provided through sixteen fire stations and a fleet of fire apparatus and vehicles having a life of at least 10 years.

The department operates throughout most the County. Fire protection services are provided to all of the unincorporated area and all of the cities in the county except McDonough. Emergency medical services, on the other hand, cover the unincorporated area and all of the cities, including McDonough.

Service Area

The Fire Rescue Department operates as a coordinated system, with each station backing up the other stations in the system. The backing up of another station is not a rare event; it is the essence of good fire protection planning. All stations do not serve the same types of land uses, nor do they all have the same apparatus. It is the strategic placement of personnel and equipment that is the backbone of good fire protection. Any new station would relieve some of the demand on the other stations. Since the stations would continue to operate as 'backups' to the other stations, everyone in the County Fire District would benefit by the construction of a new station anywhere since it would reduce the 'backup' times the station nearest to them would be less available. For these reasons the entire County Fire District is considered a single service area for the provision of fire protection because all residents and employees within this area have equal access to the benefits of the program.

Current Inventory

As shown in Table 21 and Table 22, the Fire Department currently provides its services through 16 fire stations and a headquarters and support facilities, having a combined building square footage of 143,172. In addition, the department operates a total fleet of 33 fire-fighting apparatus, 45 support vehicles and 26 EMS vehicles.

Table 21: Existing Henry County Fire Facilities

Existing System Facilities			
Name	Location	Floor Area (square feet)	Number of Bays
Fire Station 1	664 Industrial Blvd	11,189	4
Fire Station 2	35 Frances Ward Dr	9,430	3
Fire Station 3	3030 Hwy 42	4,275	3
Fire Station 4	1092 Keys Ferry Rd	6,870	3
Fire Station 5	10 Elm St	6,090	3
Fire Station 6	680 Fairview Rd	6,600	3
Fire Station 7	1800 Hwy 155 North	6,500	3
Fire Station 8	975 Jodeco Rd	8,596	3
Fire Station 9	122 Rock Quarry Rd	10,524	3
Fire Station 10	1059 Upchurch Rd	5,984	3
Fire Station 11	792 Flatrock Rd	6,027	3
Fire Station 12	1123 Old Jackson Rd	6,740	3
Fire Station 13	2815 Hwy 20 East	6,568	3
Fire Station 14	1875 Hampton Locust Grove Rd	10,085	3
Fire Station 15	325 N. Mt Carmel Rd	10,248	3
Fire Station 16	1575 Kellytown Rd	10,046	3
	Subtotal - Fire Stations	125,772	49
Headquarters	110 South Zack Hinton Pkwy	9,900	
Training Division	100 Ronnie Stewart Dr	6,000	5 acre site
Logistics Warehouse	664 Industrial Blvd	1,500	
	Subtotal - Other Facilities	17,400	
	TOTAL - ALL FACILITIES	143,172	

Table 22: Existing Henry County Fire & EMS Vehicles

Type Vehicle	Front Line	Reserve	Total
Pumper/Engine	16	6	22
Tanker	1	0	1
Aerial	3	1	4
Brush Truck	3	0	3
Trench Truck	1	0	1
Haz-Mat Truck	1	0	1
UTV	1	0	1
Total Fire Apparatus			33
Battalion Chief	4	1	5
Admin Support	22	7	29
Training Bus	2	0	2
Support Vehicles	8	0	8
Rehab Unit	1	0	1
Total Support Vehicles			45
Ambulance	14	6	20
Rescue/Squad	3	1	4
Dive Truck	1	1	2
Total Emergency Medical Services Vehicles			26

Level of Service and Forecasts for Service Area

The Level of Service (LOS) for fire protection and EMS services in Henry County is measured in terms of the number of square feet of facility space and the number of fire apparatus, supporting vehicles and emergency medical vehicles, per day-night population in the service area. Day-night population is used as a measure in that fire protection and EMS are 24-hour services provided continuously to both residences and businesses in the service area.

Table 23 presents the calculation of LOS for the current inventory of Fire facilities and vehicles, which will be used to calculate the demand for future facilities and vehicles to serve new growth and development to 2040.

Table 23: Current Level of Service Calculations

Facility	Service Population	Level of Service
Existing Square Feet	**2021 Day-Night Population**	**Square Feet per 2021 Day/Night Population**
143,172	293,868	0.487198
Existing Fire Apparatus	**2021 Day-Night Population**	**Fire Apparatus per 2021 Day/Night Population**
33	293,868	0.000112
Existing Support Vehicles	**2021 Day-Night Population**	**Support Vehicles per 2021 Day/Night Population**
45	293,868	0.000153
Existing EMS Vehicles	**2021 Day-Night Population***	**EMS Vehicles per 2021 Day/Night Population**
26	344,736	0.000075

* Service area for EMS is countywide.

Table 24 shows the demand for future fire protection facilities and vehicles to serve new growth based on the current Level of Service standards from Table 23 applied to future growth.

Table 24: Future Demand for Facilities and Vehicles

Level of Service	Future Population	New Growth Demand
Square Feet per 2021 Day/Night Population	Day-Night Population Increase (2019-40)	Net New Square Feet Demanded
0.4872	155,409	75,715
Fire Apparatus per 2021 Day/Night Population	Day-Night Population Increase (2019-40)	Net New Apparatus Demanded
0.000112	155,409	17.4517
Support Vehicles per 2021 Day/Night Population	Day-Night Population Increase (2019-40)	Net New Support Vehicles Demanded
0.000153	155,409	23.7978
EMS Vehicles per 2021 Day/Night Population	Day-Night Population Increase (2019-40)	Net New Support Vehicles Demanded
0.000075	192,905	14.5489

Table 25 shows the breakdown for future vehicles by type.

Table 25: Vehicles Needed by Type

	Existing Vehicles	% of Existing Fleet	# of Needed Vehicles*	Rounded**
Fire Apparatus				
Pumper/Engine	22	66.6667%	11.6345	12
Tanker	1	3.0303%	0.5288	1
Aerial	4	12.1212%	2.1154	2
Brush Truck	3	9.0909%	1.5865	1
Trench Truck	1	3.0303%	0.5288	0
Haz-Mat Truck	1	3.0303%	0.5288	1
UTV	1	3.0303%	0.5288	0
Total Apparatus	**33**		**17.4517**	**17**
Support Vehicles				
Battalion Chief	5	11.1111%	2.6442	3
Admin Support	29	64.4444%	15.3364	15
Training Bus	2	4.4444%	1.0577	0
Support Vehicles	8	17.7778%	4.2307	4
Rehab Unit	1	2.2222%	0.5288	1
Total Support	**45**		**23.7978**	**23**
EMS				
Ambulance	20	76.9200%	11.1910	11
Rescue/Squad	4	15.3846%	2.2383	2
Dive Truck	2	7.6923%	1.1191	1
Total EMS	**26**		**14.5489**	**14**

* Rounded to 4 decimal places.

** Number of vehicles rounded down to nearest whole number.

Future Costs

This Section examines both the total cost of the increased facility floor area and the number of vehicles needed to provide the proposed fire protection and EMS system of the future, the extent to which these costs are impact fee-eligible, and an anticipated schedule for implementation.

Table 26: Facility Costs to Meet Future Demand

	Number	2021 Cost Each	Total 2021 Cost	Estimated 2030 (NPV)*	% Impact Fee Eligible	Total Impact Eligible Cost
New Fire Station	75,715	$ 244.90	$ 18,542,857.18	$ 22,349,629.49	100%	$ 22,349,629.49
HQ & Training Space	15,900	$ 432.35	$ 6,874,365.00	$ 8,285,643.86	100%	$ 8,285,643.86
Storage	1,500	$ 90.71	$ 136,068.75	$ 164,003.10	100%	$ 164,003.10
Total Buildings**	**93,115**		**$ 25,553,290.93**	**$ 30,799,276.45**		**$ 30,799,276.45**
Pumper/Engine	12	$ 536,912.14	$ 6,442,945.70	$ 7,508,334.18	100%	$ 7,508,334.18
Tanker	1	$ 311,373.17	$ 311,373.17	$ 362,861.02	100%	$ 362,861.02
Aerial	2	$ 1,347,867.75	$ 2,695,735.49	$ 3,141,495.19	100%	$ 3,141,495.19
Brush Truck	1	$ 44,584.40	$ 44,584.40	$ 51,956.76	100%	$ 51,956.76
Trench Truck	0					
Haz-Mat Truck	1	$ 374,455.36	$ 374,455.36	$ 436,374.31	100%	$ 436,374.31
UTV	0					
Total Apparatus	**17**		**$ 9,869,094.12**	**$ 11,895,178.55**		**$ 11,501,021.46**
Battalion Chief	3	$ 352,072.23	$ 1,056,216.69	$ 1,230,869.89	100%	$ 1,230,869.89
Admin Support	15	$ 46,233.59	$ 693,503.88	$ 808,179.85	100%	$ 808,179.85
Training Bus	0					
Support Vehicles	4	$ 46,233.59	$ 184,934.37	$ 215,514.63	100%	$ 215,514.63
Rehab Unit	1	$ 697,263.62	$ 697,263.62	$ 812,561.29	100%	$ 812,561.29
Total Support	**23**		**$ 2,631,918.56**	**$ 3,067,125.66**		**$ 3,067,125.66**
Ambulance	11	$ 225,453.99	$ 2,479,993.88	$ 2,890,079.12	100%	$ 2,890,079.12
Rescue/Squad	2	$ 697,263.62	$ 1,394,527.24	$ 1,625,122.58	100%	$ 1,625,122.58
Dive Truck	1	$ 165,551.11	$ 165,551.11	$ 192,926.20	100%	$ 192,926.20
Total EMS	**14**		**$ 4,040,072.23**	**$ 4,708,127.90**		**$ 4,708,127.90**

* 2030 Net Present Value for buildings based on Engineering News Record's 10-year average Building Cost Index, and for rolling stock the 10-year average Consumer Price Index.
** All new building costs based on Henry County average per square foot costs for existing buildings raised to 2021 NPV, plus 25% design fees and contingencies.

The system improvements on Table 26 are based on the County's desire to increase services throughout its service areas in a balanced way to serve all residents and businesses with fire

protection and EMS services in 2040 at the same levels of service enjoyed by all residents and businesses today.

To calculate the Net Present Values (NPV) of the impact fee eligible cost estimates for the construction of new building floor area, the total current (2021) cost estimates are increased to 2030 using Engineering News Record's (ENR) 10-year average building cost inflation (BCI) rate for buildings (such as fire stations) and the 10-year average CPI rate for all rolling stock. All project costs are then reduced to current NPV dollars using the Net Discount Rate.

While the actual pace and timing of construction for the improvements proposed to meet future demand have been tentatively programmed, an 'average' year of 2030 is used for Net Present Value calculations to anticipate the evolution of the schedule which will be determined and potentially revised with the adoption of each annual budget by the County Commission. Using 2030 costs anticipates that some improvements will occur earlier for less money, and some later at greater cost. All will average out.

Table 27 on the next page shows the current schedule of capital improvements, drawn from Table 26, scheduled in pace with annual demands generated by population and business growth.

Table 27: Schedule of Fire Department Capital Improvements

	Service Area D/N Population		Facility Addition (sf)	Additional Vehicles			Cost*		Total Cost
	Total	Cumulative Additions		Fire Trucks	Support	EMS	Facility	Vehicles	
2021	293,868								
2022	300,992	7,124		1				$ 356,968.06	$ 356,968.06
2023	308,116	14,248			1	1		$ 713,936.11	$ 713,936.11
2024	315,241	21,373	11,639	1	1		$ 3,849,909.56	$ 713,936.11	$ 4,563,845.67
2025	322,366	28,498		1	1	1		$ 1,070,904.17	$ 1,070,904.17
2026	330,400	36,532		1	1			$ 713,936.11	$ 713,936.11
2027	338,433	44,565	11,639	1	1	1	$ 3,849,909.56	$ 1,070,904.17	$ 4,920,813.72
2028	346,467	52,599		1	1			$ 713,936.11	$ 713,936.11
2029	354,501	60,633	11,639	1	1	1	$ 3,849,909.56	$ 1,070,904.17	$ 4,920,813.72
2030	362,535	68,667		1	1			$ 713,936.11	$ 713,936.11
2031	370,977	77,109	11,639	1	2	1	$ 3,849,909.56	$ 1,427,872.22	$ 5,277,781.78
2032	379,416	85,548		1	1	1		$ 1,070,904.17	$ 1,070,904.17
2033	387,858	93,990	11,639	1	2	1	$ 3,849,909.56	$ 1,427,872.22	$ 5,277,781.78
2034	396,298	102,430		1	1	1		$ 1,070,904.17	$ 1,070,904.17
2035	404,738	110,870	11,639		1	1	$ 3,849,909.56	$ 713,936.11	$ 4,563,845.67
2036	413,646	119,778		1	2	1		$ 1,427,872.22	$ 1,427,872.22
2037	422,554	128,686	11,639	1	1	1	$ 3,849,909.56	$ 1,070,904.17	$ 4,920,813.72
2038	431,461	137,593		1	2	1		$ 1,427,872.22	$ 1,427,872.22
2039	440,370	146,502	11,639	1	1	1	$ 3,849,909.56	$ 1,070,904.17	$ 4,920,813.72
2040	449,277	155,409		1	2	1		$ 1,427,872.22	$ 1,427,872.22
		Totals	93,115	17	23	14	$30,799,276.45	$19,276,275.02	$50,075,553.47

* Actual implementation dates will be determined through the annual Budget adoption process. NPV based on BCI for buildings and CPI for vehicles in an average year of 2030.

Sheriff's Office

Introduction

The Henry County Sheriff's Office provides the full range of detention facility services, inmate transports, court security, warrant management, and law enforcement throughout the county. Its field operations include: criminal apprehension, crime suppression, extraditions, and is supported by its K-9 and SWAT teams. In addition, the sex offender registry is maintained and enforced by the Sheriff's Office.

Service Area

The entire county is considered a single service area for the provision of Sheriff's Office services because the detention facility and services, the courts, and field operations serve all residents and employees in the county with equal access to the benefits of the protection and law enforcement activities.

Level of Service

The current level of service is determined by an inventory of the square footage used by the Sheriff's Office. This is focused on the County Jail complex, which includes the full range of inmate housing and support. Inmate support includes court hearings, meals, medical services, bonding, visitation, and inmate worker programs, among others. Statistics are shown in Table 28.

In addition, the Sheriff's administrative offices are located in conjunction with the jail complex, which house the Sheriff and staff managing the daily operations of the Office, the Training Section, Internal Affairs, open records, legal affairs, the Reserve Duties Program, and the Community Relations Unit.

Table 28: Facilities

Sheriff's Office Facility	Location	Floor Area (sq. feet)
Henry County Jail	120 Henry Parkway	79,758
Institutional Addition	120 Henry Parkway	81,294
Administrative Offices and Support	120 Henry Parkway	34,230
	Total - All Facilities	**195,282**

Day-night population is used in calculating demand for future facilities in that the Sheriff's Office provides inmate housing and law enforcement services to both residences and businesses throughout the county on a 24-hour basis.

Table 29: Level of Service and New Growth Demand

Existing Facilities	2021 Service Population	Current Level of Service	New Service Population	New Growth Demand

Existing Square Feet	Day-Night Population (2021)	Square Feet of Floor Area per Person	Day-Night Pop Increase to 2040	Square Feet of New Floor Area Needed
195,282	344,736	0.5665	192,905	109,275

The level of service for Law Enforcement services in Henry County, measured in terms of square footage per day-night population in 2021, equates to 0.5665 square feet for each county resident and employee. That level of service multiplied times the increase in residents and employees to 2040 results in the future need to add 109,275 square of building area to maintain the current level of service.

Note that rolling stock such as patrol cars are not generally eligible for cost recovery because they do not last at least 10 years.

Forecasts for Service Area

Future Costs

The estimated improvement cost for Law Enforcement buildings (in 2021 dollars) is based on the costs experienced by the County for the last expansion of the jail complex in 2009, brought up to 2021 equivalent costs, plus 25% to cover architectural and engineering design fees and unexpected expenses (contingencies).

Table 30: Facility Costs to Meet Future Demand

Year	Facilities	Square Feet	2021 Cost*	Impact Fee Eligible	Estimated 2030 NPV**
2030	Facility expansion	109,275	$ 42,988,785.00	100%	$ 51,814,205.75

* Based on 2009 cost of last expansion brought up to 2021 equivalent cost plus 25% for design fees and contingencies.

** 2030 Net Present Value based on Engineering News Record's 10-year average Building Cost Index.

The actual timing of construction for the improvements proposed to meet future demand is estimated to occur in 2030. Although the construction has not yet been programmed, this 'average' year of 2030 is used for Net Present Value calculations.

The Net Present Value of new growth's share of the cost for the new building construction is calculated as follows:

To calculate the Net Present Value (NPV) of the impact fee eligible cost estimate for the construction of the new floor area, the NPV is calculated by increasing the current (2021) estimated cost using Engineering News Record's 10-year average building cost inflation (BCI) rate. The projected costs are then reduced to current NPV dollars using the Net Discount Rate.

Police Protection

Introduction

The Henry County Police Department provides primary law enforcement throughout the unincorporated area and, through a Special Services District, the City of Stockbridge. Employing a variety of active law enforcement, community outreach and educational programs, the Police Department serves the entire population and all businesses within this service area because all residents and employees in the service area have equal access to the benefits of its programs and protection.

Level of Service

Table 31: Police Department Facilities

Facility	Floor Area
Police Headquarters	33,000
Crime Scene Office/Lab	1,500
Special Services Building	10,000
Stockbridge Precinct Building	17,890
Fairview Watch Office	1,400
Code Enforcement Office	1,440
Training Building and Range*	1,600
Total Police Department Facilities	**66,830**

* Training and range facilities are also used by the Sheriff's Office deputies.

The level of service for Police Department services is measured in terms of the number of square feet of occupied facility space per day-night population[2] in the service area. Table 31 presents a current inventory of facility space in each building.

[2] Day-night population is used as a measure in that the Police Department provides its law enforcement services to both residences and businesses in the service area on a 24-hour basis.

Table 32: Current Level of Service Calculation

Facilities	Service Population	Level of Service

Existing Square Feet	2021 Day-Night Population*	Square Feet per 2021 Day-Night Population
66,830	268,890	0.248540

*Unincorporated County plus Stockbridge.

Table 32 presents the calculation of the current Level of Service (LOS) standard for police service system improvements in its service area. The inventory is divided by the current day-night population in the service area to obtain the LOS per person.

Forecasts for Service Area

For the purposes of impact fee calculations, the County has determined that a level of service, based on the current LOS, would be appropriate to serve the future service area population.

Table 33: Future Demand Calculation

Level of Service	Future Population	New Growth Demand

Square Feet per 2021 Day-Night Population	Day-Night Population Increase (2021-40)	Total Square Feet for New Growth
0.248540	148,766	36,974

Table 33 shows the level of service brought forward from Table 32, which is multiplied times the future increase in day-night population in the service area, to produce the new building floor area that would be needed to be added to the current inventory to equally serve the service demands of future growth and development.

Future Costs

The cost of new facility floor area needed to serve future growth and development in 2040 is shown on Table 34. The current impact fee eligible cost, which is shown in current (2021) dollars, is based on the cost of a similar police facility currently under construction in a nearby jurisdiction. That cost of actual construction per square foot is $313.53. For Henry County, an additional 25% is added to the physical construction cost to cover pre-construction costs for architectural and engineering design and unanticipated contingencies (such as land acquisition and site preparation).

This total 2021 cost is then projected to a future Net Present Value in the 'average' implementation year of 2030. This is done applying the Engineering News Record's 10-year average Building Cost Inflation (BCI) rate, and then discounting this future amount by using the Net Discount Rate. (The

procedures for calculating NPV are explained in detail in the Cost Adjustments and Credits Chapter of this report.)

Table 34: Future System Improvement Costs

Year	Facilities	Square Feet	2021 Cost*	Impact Fee Eligible	Estimated 2030 NPV**
2030	Facility expansion	36,974	$ 15,420,931.05	100%	$ 18,586,784.77

* 2021 construction includes $313.53 per square foot direct cost plus 25% design and engineering services plus contingencies, which total $417.08.
** 2030 Net Present Value based on Engineering News Record's 10-year average Building Cost Index.

Emergency Management and Communications

Introduction

The County 911 Communications Center provides emergency communications service to the entire county through a computer aided dispatch system. While serving all of the cities in the county as well as the unincorporated area, the facility is owned and operated by the County.

Service Area

The entire county is considered a single service area for the provision of the emergency management and communication services because all residents and employees have equal access to the benefits of the services.

Level of Service

The level of service for emergency communications is based on a current inventory of the square footage of the Henry County 911 Communications center, the basic communications equipment that supports the individual consoles and peripherals, the extensive distribution of weather warning sirens throughout the county, and its mobile command vehicle that can provide on-the-spot direction for emergency operations. Table 35 presents the capital that the County has invested in its E911 system and facilities.

Table 35: Capital Investment - Emergency Communications

Facilities	Cost	Year Purchased	Number	Inflation Multiplier	Net Present Value 2021
E911 Communications Equipment					
E911 Dispatch Consoles	$ 112,384.05	2011	1	1.13656	$ 127,731.17
AT&T Phone System	$ 777,874.88	2012	1	1.11352	$ 866,176.09
Digital Voice Recording System	$ 101,284.00	2012	1	1.11352	$ 112,781.35
Emergency Public Radio System	$ 1,623,966.00	2013	1	1.09744	$ 1,782,207.01
Emergency Notification System	$ 19,995.00	2013	1	1.09744	$ 21,943.33
Total Communications Equipment	$ 2,635,503.93				$ 2,910,838.95
E911 Weather Sirens System	$ 346,036.00	2014	19	1.07992	$ 373,692.00
E911 Mobile Command Vehicle	$ 311,524.00	2005	1	1.30905	$ 407,799.09
Total - E911 Equipment	**$ 2,981,539.93**				**$ 3,284,530.95**

Table 36 shows the floor area of the Emergency Communications Center and presents the calculation of current levels of service for its existing facilities, equipment and command vehicle. These figures are divided by the current countywide day-night population to produce the level of service standards. Day-night population is used in that the emergency management and communications activities provide protection to both residents and businesses throughout the county on a continuous, 24-hour basis.

Table 36: Current Level of Service Calculations

Facility	Service Population	Level of Service
Existing 911 Center (sf)	**2021 Day-Night Population**	**Floor Area per 2021 Day-Night Population**
6,901	344,736	0.020018
Communications Equipment	**2021 Day-Night Population**	**Equipment per 2021 Day/Night Population**
1	344,736	0.000003
Existing Storm Sirens	**2021 Day-Night Population**	**Storm Sirens per 2021 Day-Night Population**
19	344,736	0.000055
Mobile Command Vehicle	**2021 Day-Night Population**	**Vehicles per 2021 Day-Night Population**
1	344,736	0.000003

Forecasts for Service Area

Future Demand

Table 37 calculates the future demand for E911 Center space, equipment and vehicles, based on the current level of service standards (transferred from Table 36), applied to the projected day-night population growth between 2021 and 2040.

Table 37: Future Demand for EMS System Improvements

Level of Service	Future Population	New Growth Demand
Floor Area per 2021 Day-Night Population	**Day-Night Population Increase (2021-40)**	**New Floor Area per 2040 Day-Night Population**
0.020018	192,905	3,861.61
Equipment per 2021 Day/Night Population	**Day-Night Population Increase (2021-40)**	**New Equipment per 2040 Day/Night Population**
0.000003	192,905	0.5596
Storm Sirens per 2021 Day-Night Population	**Day-Night Population Increase (2021-40)**	**New Sirens per 2040 Day/Night Population**
0.000055	192,905	10.6319
Vehicles per 2021 Day-Night Population	**Day-Night Population Increase (2021-40)**	**New Vehicles per 2021 Day-Night Population**
0.000003	192,905	0.5596

Future Costs

In the absence of specific E911 facility expansion projects, and since the actual pace and timing of construction for the improvements to meet future demand have not been programmed, an 'average' year of 2030 is used for Net Present Value calculations—some improvements will occur earlier for less money, and some later at greater cost. All will average out.

The project costs are shown on Table 38.

To calculate the Net Present Value (NPV) of the impact fee eligible cost estimate for the construction of the new building floor area in 2030, the NPV is calculated by increasing the current (2021) estimated cost using Engineering News Record's 10-year average building cost inflation (BCI) rate for the building.

A current per-square foot construction cost of $322.87 has been used to estimate the cost of the construction project, based on an average cost of similar projects included in the latest editions of a nationally recognized source (BNi Publications annual building cost books). This is increased by 25% to cover architectural and engineering design costs and contingencies, to $403.59.

For the expanded system equipment and additional vehicle, the 2021 NPV total is brought forward from Table 35. For the new storm sirens, the total NPV cost shown on Table 35 is divided by the existing number of sirens (19) to produce a 'per siren' figure on Table 38.

All eligible project costs are projected forward to 2030 are then reduced to current NPV dollars using the Net Discount Rate.

Table 38: Costs to Meet Future Demand

	Number	2021 NPV Total Cost Each	Eligible NPV 2021 Cost	Estimated 2030 Cost	% Impact Fee Eligible	Total Impact Eligible Cost
New Floor Area (sq. ft.)*	3,861.61	$ 403.59	$1,558,507.18	$1,816,217.81	100%	$1,816,217.81
New System Equipment	0.5596	$ 2,910,838.95	$1,628,905.48	$1,898,256.98	100%	$1,898,256.98
New Storm Sirens	10	$ 19,668.00	$ 196,680.00	$ 229,202.49	100%	$ 229,202.49
New Vehicle	0.5596	$ 407,799.09	$ 228,204.37	$ 265,939.64	100%	$ 265,939.64

*2021 construction includes $322.87 per square foot direct cost plus 25% design services and contingencies.

Since the square footage of the construction project is exactly that required to serve new growth, the project is 100% impact fee eligible. If the future Communications Center expansion is greater than the 3,861.61 square feet that is impact fee eligible, the impact fee funding would be limited to $1,816,217.81 with any additional cost funded from other (non-impact fee) sources.

Similarly, a little more than half of a second command vehicle (about 56%) is fully impact fee eligible. The remainder of the total cost of the vehicle exceeding $265,939.64 would need to be funded from non-impact fee sources.

Future Improvements

The entire emergency communications system is planned for expansion in 2030, in order to carry service through to 2040. Those projects, taken from Table 38, are shown on Table 39 along with the expected cost in that year.

Table 39: Projects to Meet Future Demand

	Number	2021 NPV Total Cost Each	Eligible NPV 2021 Cost	Estimated 2030 Cost
New Floor Area (sq. ft.)	3,861.61	$ 403.59	$1,558,507.18	$1,816,217.81
New System Equipment	0.5596	$ 2,910,838.95	$1,628,905.48	$1,898,256.98
New Storm Sirens	10	$ 19,668.00	$ 196,680.00	$ 229,202.49
New Vehicle	0.5596	$ 407,799.09	$ 228,204.37	$ 265,939.64

Transportation

This impact fee category focuses on road improvement projects that are planned throughout the County for the coming 20 years.

Service Area

The service area for road projects is defined as the entire county, in that these road projects are recognized as providing primary access to all properties within the county as part of the countywide network of principal streets and thoroughfares. All new development within the county will be served by this network, such that improvements to any part of this network to relieve congestion or to otherwise improve capacity will positively affect capacity and reduce congestion throughout the county.

Level of Service Standards

Two types of Level of Service standards are used for road improvements: one for the design of roadways at a designated operational level, and one for the actual accommodation of traffic to be generated by new growth and development. The latter standard allows the cost of improvements to the road system to be equitably allocated between improvements that accrue to existing traffic today and improvements that will accommodate traffic generated by future growth and development.

Operational Design Standards

Level of Service (LOS) for roadways and intersections is measured on a 'letter grade' system that rates a road within a range of service from A to F. Level of Service A is the best rating, representing roads operating with unencumbered travel; Level of Service F is the worst rating, representing operational conditions of heavy congestion and long delays. This system is a means of relating the connection between speed and travel time, freedom to maneuver, traffic interruption, comfort, convenience and safety to the capacity that exists in a roadway. This refers to both a quantitative measure expressed as a service flow rate and an assigned qualitative measure describing parameters. *The Highway Capacity Manual, Special Report 209*, Transportation Research Board (1985), defines operational design Level of Service A through F as having the following characteristics:

1. LOS A: free flow, excellent level of freedom and comfort;
2. LOS B: stable flow, decline in freedom to maneuver, desired speed is relatively unaffected;
3. LOS C: stable flow, but marks the beginning of users becoming affected by others, selection of speed and maneuvering becomes difficult, comfort declines at this level;
4. LOS D: high density, but stable flow, speed and freedom to maneuver are severely restricted, poor level of comfort, small increases in traffic flow will cause operational problems;
5. LOS E: at or near capacity level, speeds reduced to low but uniform level, maneuvering is extremely difficult, comfort level poor, frustration high, level unstable; and
6. LOS F: forced/breakdown of flow. The amount of traffic approaching a point exceeds the amount that can transverse the point. Queues form, stop & go conditions. Arrival flow exceeds discharge flow.

The traffic volume that produces different Level of Service grades differs according to road type, size, signalization, topography, condition and access. The County has set its Level of Service for road improvements at LOS 'D', a level to which it will strive ultimately. However, interim road improvement projects that do not result in a LOS of 'D' will still provide traffic relief to current and future traffic alike and are thus eligible for impact fee funding.

Accommodating Future Traffic

Regardless of the design of roads in the system, the system must address the future traffic demands that will be created by new growth and development.

All road improvement projects benefit existing and future traffic proportionally to the extent that relief from over-capacity conditions eases traffic problems for everyone. For example, since new growth by 2040 will represent a certain portion of all 2040 traffic, new growth would be responsible for that portions' cost of all road improvements in the system that create new capacity. This approach recognizes that some improvements to the road system do not create new capacity—such as resurfacing, road maintenance, bridge replacements with the same number of lanes, etc.

It is noted that the cost-impact of non-Henry County generated traffic on the roads traversing the county (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Henry County reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Henry County residents and businesses.

The basis for the road impact fee would therefore be Henry County's cost for the improvements that create new capacity divided by all traffic in 2040 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, the cost per trip (above) would be applied to the number of trips that will be generated by the new development, when a building permit is issued, assuring that new growth would only pay its 'fair share' of the road improvements that serve it. All other (non-capacity) improvements would be the cost responsibility of the current base of residents and businesses, including the creation of new capacity that exceeds the needs of future 2040 traffic.

Forecasts for Service Area

The County has identified road projects that provide an increase in road capacity that will serve new growth; these are shown on Table 40: Road Projects in the Transportation Plan. These projects were derived from the 2016 *Henry Joint City/County Transportation Plan* for inclusion in the County's impact fee program because the specific improvements proposed will increase traffic capacity and reduce congestion to some extent, whether through road widening, improved intersection operations or upgraded signalization.

The cost figures shown in the 'County Funding' column of Table 40 are the project cost figures taken directly from the 2016 Joint Transportation Plan, which are 'as of' May 2016.

These figures are then calculated in Net Present Value and shown in the last column, based on the year of project expenditure stated in the 2016 Joint Transportation Plan.

The 'County Funding' figures from Table 40 are converted to Net Present Value on Table 41 based on 'average' years of planned construction. These figures are then multiplied by the percent of future traffic in the county that will be generated by future growth (taken from Appendix D) to determine what new growth's fair share of the costs will be. Because start dates are difficult to determine since they are subject to design and land acquisition activities, that are fraught with delays, only 'average' years for implementation are shown on Table 41. Actual projects will be scheduled in 5-year increments based on the County's annual budget adoption.

Table 40: Road Projects in the Transportation Plan

Project	Name	Total Cost	County Funding
2016-2021 Short Term			
R-5	SR 20/81 Segment 1	$ 15,572,828	$ 1,590,000
R-52	SR 155 Widening	$ 38,165,000	$ 7,633,160
R-7	US 23 Widening	$ 90,304,371	$ 12,466,039
R-34 (A)	SR 81 Widening	$ 23,020,000	$ 4,304,000
R-9	Rock Quarry Road Widening	$ 32,981,200	$ 31,781,200
R-49 (A)	Chambers Road	$ 6,106,332	$ 6,106,332
I-81	SR 81 @ Old Hwy 3	$ 514,250	$ 514,250
I-84	SR 20 @ SR 81	$ 660,000	$ 660,000
2022-2030 Mid-Range			
R-56 (B)	Jodeco Rd/Hudson Bridge	$ 28,715,062	$ 5,743,012
R-54	W Panola Rd Widening	$ 9,875,067	$ 9,875,067
R-41 (A)	King Mill Rd Widening	$ 19,892,000	$ 3,978,600
R-24	Rock Quarry Rd Extension	$ 5,120,000	$ 5,120,000
R-72 (A)	New I-75 Freight Interchange	$ 47,037,229	$ 23,518,615
R-65 (B)	Bridges Rd Extension - I-75	$ 32,223,136	$ 32,223,136
R-45 (C)	Airline Rd Extension	$ 43,573,884	$ 43,573,884
R-64	Flat Rock Rd-Old Conyers Rd	$ 184,011	$ 184,011
R-28	Flakes Mill Rd	$ 31,971	$ 31,971
R-48	Mills Rd	$ 49,538	$ 49,538
R-46	East Lake Rd	$ 114,020	$ 114,020
R-72 (B)	Westridge Parkway	$ 85,461	$ 85,461
R-71	SR 138 median	$ 37,036,862	$ 37,036,862
R-37	Bill Gardner Parkway	$ 21,400,038	$ 21,400,038
I-51	Jodeco Rd @ Oak Grove Rd	$ 220,000	$ 220,000
I-52	Jodeco Rd @ Dailey Mill Rd	$ 220,000	$ 220,000
I-80	SR 81 @ Old Hwy 3	$ 500,000	$ 50,000
I-91	SR 20 @ Westridge Ind Blvd	$ 1,888,500	$ 1,888,500
I-111	Bill Gardner Pkwy @ SR 42	$ 500,000	$ 500,000
I-122	Grove Rd @ SR 42	$ 1,344,250	$ 1,344,250
I-113	Peeksville Rd @ Jackson St	$ 220,000	$ 220,000
I-128	Bill Gardner Pkwy @ Tanger Blvd	$ 1,903,000	$ 1,903,000
I-137	SR 138 @ Walter Way	$ 600,000	$ 600,000
2031-2040 Long Range			
R-36	SR 20/SR 81 Widening	$ 38,075,871	$ 7,615,174
R-39	SR 155 Widening	$ 26,254,999	$ 13,127,500
R-50	Walt Stephens Rd	$ 54,745,008	$ 54,745,008
R-51 (A)	Flippen Rd	$ 25,436,135	$ 25,436,135
R-13	Patrick Henry Pky Segment 2	$ 12,700,000	$ 12,700,000
R-34 (B)	SR 81 Widening	$ 84,318,291	$ 42,159,146
R-20	Eagles Landing Pkwy Widening	$ 19,000,000	$ 19,000,000
R-35	Jonesboro Rd Widening	$ 67,658,436	$ 13,531,687
R-74	SR 42 Widening	$ 23,293,930	$ 4,658,786
R-62 (B)	Campground Rd Extension	$ 20,487,990	$ 20,487,990
R-26	McDonough Pwy Extension	$ 25,000,000	$ 25,000,000
R-51 (C)	Flippen Rd Extension	$ 28,425,425	$ 28,425,425
R-71	I-75 Collector Distributor Lanes	$ 5,000,000	$ 5,000,000
R-29	Fairview Rd Operational Imps	$ 8,000,000	$ 8,000,000
R-65 (A)	Bridges Rd Upgrade	$ 105,172	$ 105,172
R-42	Harris Dr Upgrade	$ 75,629	$ 75,629
R-70	Mill Rd Upgrade	$ 63,074	$ 63,074
R-60	Old Jackson Rd Upgrade	$ 297,971	$ 297,971
R-40 (C)	Honey Creek-Snapping Shoals	$ 214,589	$ 214,589
R-40 (B)	Turner Church Rd Upgrade	$ 201,823	$ 201,823
R-62 (A)	Campground Rd Upgrade	$ 141,906	$ 141,906
R-69 (B)	N-S Conn Jodeco Rd @ SR 81	$ 100,111	$ 100,111
R-69 (C)	N-S Conn Jodeco Rd @ SR 82	$ 68,402	$ 68,402
R-40 (A)	Turner Church Rd Upgrade	$ 65,905	$ 65,905
R-63	Selfridge Rd Upgrade	$ 145,373	$ 145,373
R-59	Stroud Rd-Peeksville Rd Upgrade	$ 683,776	$ 683,776
I-4	Rex Rd @ E Atlanta Rd	$ 220,000	$ 220,000
I-57	Jonesboro Rd @ Chambers Rd	$ 1,234,200	$ 1,234,200
I-58	Jonesboro Rd @ Mt Olive Rd	$ 1,365,600	$ 1,365,600
I-95	Woolsey Rd @ Old Griffin Rd	$ 2,434,900	$ 2,434,900
I-100	Hampton Locust Rd @ Walker Dr	$ 1,013,100	$ 1,013,100
I-101	Hampton Locust Rd @ Strickland	$ 396,000	$ 396,000
I-109	Trestle Rd @ SR 155	$ 500,000	$ 500,000
I-119	Peeksville Rd @ Old Jackson Rd	$ 500,000	$ 500,000
I-129	Jodeco Rd @ Oak Leaf Dr	$ 1,499,349	$ 1,499,349
I-135	Jodeco Rd @ Hudson Bridge Rd	$ 464,500	$ 464,500
I-136	Elm St @ Bridgeville Drive	$ 10,000	$ 10,000
I-142	SR 138 @ Holiday Inn Drive	$ 50,000	$ 50,000
I-152	Panola Rd @ SR 155	$ 200,000	$ 200,000
I-155	Colvin Road @ SR 42	$ 330,000	$ 330,000
I-160	Rrice Drive @ SR 42	$ 200,000	$ 200,000
	Total Costs	**$ 911,035,475**	**$ 547,403,177**

Note: All cost figures are as of May 4, 2016.

Source: *Henry Joint County/Cities Transportation Plan*, Jacobs Engineering, May 2016.

Table 41: Eligible Cost Calculations of County Funding Share

Project	Average Year	Net Present Value	New Growth Cost (NPV)*
SR 20/81 Segment 1	2021	$ 1,763,799	$ 748,704
SR 155 Widening	2021	$ 8,467,523	$ 3,594,324
US 23 Widening	2021	$ 13,828,673	$ 5,870,044
SR 81 Widening	2021	$ 4,774,460	$ 2,026,680
Rock Quarry Road Widening	2021	$ 35,255,131	$ 14,965,222
Chambers Road	2021	$ 6,773,801	$ 2,875,367
SR 81 @ Old Hwy 3	2021	$ 570,462	$ 242,152
SR 20 @ SR 81	2021	$ 732,143	$ 310,783
Jodeco Rd/Hudson Bridge	2026	$ 7,067,142	$ 2,999,885
W Panola Rd Widening	2026	$ 12,151,899	$ 5,158,281
King Mill Rd Widening	2026	$ 4,895,921	$ 2,078,238
Rock Quarry Rd Extension	2026	$ 6,300,486	$ 2,674,452
New I-75 Freight Interchange	2026	$ 28,941,153	$ 12,285,043
Bridges Rd Extension - I-75	2026	$ 39,652,620	$ 16,831,884
Airline Rd Extension	2026	$ 53,620,438	$ 22,760,993
Flat Rock Rd-Old Conyers Rd	2026	$ 226,437	$ 96,119
Flakes Mill Rd	2026	$ 39,342	$ 16,700
Mills Rd	2026	$ 60,960	$ 25,876
East Lake Rd	2026	$ 140,309	$ 59,559
Westridge Parkway	2026	$ 105,165	$ 44,641
SR 138 median	2026	$ 45,576,216	$ 19,346,353
Bill Gardner Parkway	2026	$ 26,334,109	$ 11,178,395
Jodeco Rd @ Oak Grove Rd	2026	$ 270,724	$ 114,918
Jodeco Rd @ Dailey Mill Rd	2026	$ 270,724	$ 114,918
SR 81 @ Old Hwy 3	2026	$ 61,528	$ 26,118
SR 20 @ Westridge Ind Blvd	2026	$ 2,323,919	$ 986,466
Bill Gardner Pkwy @ SR 42	2026	$ 615,282	$ 261,177
Grove Rd @ SR 42	2026	$ 1,654,185	$ 702,174
Peeksville Rd @ Jackson St	2026	$ 270,724	$ 114,918
Bill Gardner Pkwy @ Tanger Blvd	2026	$ 2,341,763	$ 994,040
SR 138 @ Walter Way	2026	$ 738,338	$ 313,412

Project	Average Year	Net Present Value	New Growth Cost (NPV)*
SR 20/SR 81 Widening	2036	$ 11,531,558	$ 4,894,957
SR 155 Widening	2036	$ 19,878,801	$ 8,438,224
Walt Stephens Rd	2036	$ 82,899,649	$ 35,189,535
Flippen Rd	2036	$ 38,517,606	$ 16,350,089
Patrick Henry Pky Segment 2	2036	$ 19,231,444	$ 8,163,431
SR 81 Widening	2036	$ 63,841,043	$ 27,099,471
Eagles Landing Pkwy Widening	2036	$ 28,771,451	$ 12,213,007
Jonesboro Rd Widening	2036	$ 20,490,856	$ 8,698,031
SR 42 Widening	2036	$ 7,054,739	$ 2,994,620
Campground Rd Extension	2036	$ 31,024,695	$ 13,169,472
McDonough Pwy Extension	2036	$ 37,857,173	$ 16,069,746
Flippen Rd Extension	2036	$ 43,044,249	$ 18,271,574
I-75 Collector Distributor Lanes	2036	$ 7,571,435	$ 3,213,949
Fairview Rd Operational Imps	2036	$ 12,114,295	$ 5,142,319
Bridges Rd Upgrade	2036	$ 159,261	$ 67,603
Harris Dr Upgrade	2036	$ 114,524	$ 48,614
Mill Rd Upgrade	2036	$ 95,512	$ 40,543
Old Jackson Rd Upgrade	2036	$ 451,214	$ 191,533
Honey Creek-Snapping Shoals	2036	$ 324,949	$ 137,936
Turner Church Rd Upgrade	2036	$ 305,618	$ 129,730
Campground Rd Upgrade	2036	$ 214,886	$ 91,216
N-S Conn Jodeco Rd @ SR 81	2036	$ 151,597	$ 64,350
N-S Conn Jodeco Rd @ SR 82	2036	$ 103,580	$ 43,968
Turner Church Rd Upgrade	2036	$ 99,799	$ 42,363
Selfridge Rd Upgrade	2036	$ 220,136	$ 93,444
Stroud Rd-Peeksville Rd Upgrade	2036	$ 1,035,433	$ 439,524
Rex Rd @ E Atlanta Rd	2036	$ 333,143	$ 141,414
Jonesboro Rd @ Chambers Rd	2036	$ 1,868,933	$ 793,331
Jonesboro Rd @ Mt Olive Rd	2036	$ 2,067,910	$ 877,794
Woolsey Rd @ Old Griffin Rd	2036	$ 3,687,137	$ 1,565,129
Hampton Locust Rd @ Walker Dr	2036	$ 1,534,124	$ 651,210
Hampton Locust Rd @ Strickland	2036	$ 599,658	$ 254,545
Trestle Rd @ SR 155	2036	$ 757,143	$ 321,395
Peeksville Rd @ Old Jackson Rd	2036	$ 757,143	$ 321,395
Jedeco Rd @ Oak Leaf Dr	2036	$ 2,270,445	$ 963,766
Jedeco Rd @ Hudson Bridge Rd	2036	$ 703,386	$ 298,576
Elm St @ Bridgeville Drive	2036	$ 15,143	$ 6,428
SR 138 @ Holiday Inn Drive	2036	$ 75,714	$ 32,139
Panola Rd @ SR 155	2036	$ 302,857	$ 128,558
Colvin Road @ SR 42	2036	$ 499,715	$ 212,121
Rrice Drive @ SR 42	2036	$ 302,857	$ 128,558
Total Costs		**$ 748,706,188**	**$ 317,813,444**

* Total Net Present Value of County share times percent impact fee eligible:

Percent new primary trip ends generated by new growth = 42.4483526%
(See Appendix D: Trip Generation)

Community Work Program

IMPACT FEE PROGRAM Project	5-Year Work Program 2022	2023	2024	2025	2026	Responsibility	Cost Estimate	Funding Source
LIBRARY SERVICES								
Acquire collection materials	*	*	*	*	*	Library System	$ 1,069,356	95.41% impact fees, 4.59% General Fund
PARKS, RECREATION & GREENSPACE								
Greenway Trail MU-67		*	*	*	*	Parks & Recretaion	$ 12,815,634	100% Impact Fees
Park and Tennis Court Projects	*					Parks & Recretaion	$ 681,228	96.77% Impact Fees, 3.23 % SPLOST
Nash Farm Park playground equipment	*					Parks & Recretaion	$ 236,199	96.79% Impact Fees, 3.21 % SPLOST
Sandy Ridge Park playground equipment	*					Parks & Recretaion	$ 101,974	96.79% Impact Fees, 3.21 % SPLOST
Heritage Senion Recreation Center	*					Parks & Recretaion	$ 798,247	80.67% Impact Fees, 19.33% SPLOST
ANIMAL CONTROL								
New Vehicles (2)	*					Animal Care and Control	$ 110,500	100% Impact Fees
FIRE PROTECTION & EMS								
District 2 Fire Station	*					Fire Rescue Department	$ 3,000,000	100% Impact Fees
District 3 Fire Station			*			Fire Rescue Department	$ 3,000,000	100% Impact Fees
District 4 Fire Station					*	Fire Rescue Department	$ 3,000,000	100% Impact Fees

SHERIFF'S OFFICE								
Debt payments for Henry County Jail Additions (2006 bond)	*	*	*	*	*	Sheriff Department	$ 3,000,000	100% Impact Fees
Jail Pod Addition	*	*				Sheriff Department	$ 2,000,000	100% Impact Fees
POLICE PROTECTION								
Police Precinct District 2	*					Police Department	$ 1,500,000	100% Impact Fees
Police Precinct District 3			*			Police Department	$ 1,500,000	100% Impact Fees
Police Precinct District 4					*	Police Department	$ 1,500,000	100% Impact Fees
Forensic Garage	*					Police Department	$ 25,000	100% Impact Fees
Property and Evidence space expansion	*					Police Department	$ 50,000	100% Impact Fees
EVOC Course trailing addition			*			Police Department	$ 50,000	100% Impact Fees
Use of force tactics lab	*					Police Department	$ 5,000	100% Impact Fees
Training buildout range - addition		*				Police Department	$ 700,000	100% Impact Fees

ROAD PROJECTS								
SR 81 Widening	*	*	*	*	*	Transportation Planning	$ 8,426,554	42.48% Impact Fees, 57.55% SPLOST
McDonough Parkway	*	*	*	*	*	Transportation Planning	$ 4,408,969	42.48% Impact Fees, 57.55% SPLOST
Flippen Rd. Extension	*	*	*	*	*	Transportation Planning	$ 3,391,556	42.48% Impact Fees, 57.55% SPLOST
East Lake Road Widening	*	*	*	*	*	Transportation Planning	$ 286,500	42.48% Impact Fees, 57.55% SPLOST
Airline Road Extension	*	*	*	*	*	Transportation Planning	$ 51,660	42.48% Impact Fees, 57.55% SPLOST
Rock Quarry Road Widening	*	*	*	*	*	Transportation Planning	$ 8,712,911	42.48% Impact Fees, 57.55% SPLOST
Fairview Road Widening	*	*	*	*	*	Transportation Planning	$ 10,725,500	42.48% Impact Fees, 57.55% SPLOST
West Village Parkway (aka West Panola Road)	*	*	*	*	*	Transportation Planning	$ 854,477	42.48% Impact Fees, 57.55% SPLOST

Glossary

The following terms are used in this Report. All of the definitions are taken directly from the Georgia Development Impact Fee Act.

Capital improvement: An improvement with a useful life of 10 years or more, by new construction or other action, which increases the service capacity of a public facility.

Capital Improvements Element: A component of a comprehensive plan adopted pursuant to Chapter 70 of the Development Impact Fee Act which sets out projected needs for system improvements during a planning horizon established in the comprehensive plan, a schedule of capital improvements that will meet the anticipated need for system improvements, and a description of anticipated funding sources for each required improvement.

Development: Any construction or expansion of a building, structure, or use, any change in use of a building or structure, or any change in the use of land, any of which creates additional demand and need for public facilities.

Development impact fee: A payment of money imposed upon development as a condition of development approval to pay for a proportionate share of the cost of system improvements needed to serve new growth and development.

Eligible facilities: Capital improvements in one of the following categories:

(A) Water supply production, treatment, and distribution facilities;

(B) Waste-water collection, treatment, and disposal facilities;

(C) Roads, streets, and bridges, including rights of way, traffic signals, landscaping, and any local components of state or federal highways;

(D) Storm-water collection, retention, detention, treatment, and disposal facilities, flood control facilities, and bank and shore protection and enhancement improvements;

(E) Parks, open space, and recreation areas and related facilities;

(F) Public safety facilities, including police, fire, emergency medical, and rescue facilities; and

(G) Libraries and related facilities.

Impact cost: The proportionate share of capital improvements costs to provide service to new growth, less any applicable credits.

Impact fee: The impact cost plus surcharges for program administration and recoupment of the cost to prepare the Capital Improvements Element.

Level of service: A measure of the relationship between service capacity and service demand for public facilities in terms of demand to capacity ratios or the comfort and convenience of use or service of public facilities or both.

Project improvements: Site improvements and facilities that are planned and designed to provide service for a particular development project and that are necessary for the use and convenience of the occupants or users of the project and are not system improvements. The character of the improvement shall control a determination of whether an improvement is a project improvement or system improvement and the physical location of the improvement on site or off site shall not be considered determinative of whether an improvement is a project improvement or a system improvement. If an improvement or facility provides or will provide more than incidental service or facilities capacity to persons other than users or occupants of a particular project, the improvement or facility is a system improvement and shall not be considered a project improvement. No improvement or facility included in a plan for public facilities approved by the governing body of the municipality or county shall be considered a project improvement.

Proportionate share: That portion of the cost of system improvements which is reasonably related to the service demands and needs of the project.

Rational nexus: The clear and fair relationship between fees charged and services provided.

Service area: A geographic area defined by a municipality, county, or intergovernmental agreement in which a defined set of public facilities provide service to development within the area. Service areas in Henry may be designated on the basis of sound planning or engineering principles or both.

System improvement costs: Costs incurred to provide additional public facilities capacity needed to serve new growth and development for ...

1. Planning, design and engineering related thereto, including the cost of constructing or reconstructing system improvements or facility expansions, including but not limited to the construction contract price, surveying and engineering fees, related land acquisition costs (including land purchases, court awards and costs, attorneys' fees, and expert witness fees); and,
2. Expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the capital improvement element; and,
3. Administrative costs, provided that such administrative costs shall not exceed 3 percent of the total amount of the costs; and,
4. Projected interest charges and other finance costs may be included if the impact fees are to be used for the payment of principal and interest on bonds, notes, or other financial obligations issued by or on behalf of the municipality or county to finance the capital improvements element.

System improvement costs do not include routine and periodic maintenance expenditures, personnel training, and other operating costs.

System improvements: Capital improvements that are public facilities and are designed to provide service to the community at large, in contrast to "project improvements."

Appendix A: Future Growth

In order to accurately calculate the demand for future services for Henry County, new growth and development must be quantified in future projections. These projections include forecasts for population, households, housing units, and employment to the year 2040. These projections provide the base-line conditions from which the current (2020) or future (2040) Level of Service calculations are produced.

Types of Projections

Accurate projections of population, households, housing units, and employment are important in that:

- Population data and forecasts are used to establish current and future demand for services where the Level of Service (LOS) standards are per capita based.
- Household data and forecasts are used to forecast future growth in the number of housing units.
- Housing unit data and forecasts relate to certain service demands that are household based, such as parks, and are used to calculate impact costs when the cost is assessed when a building permit is issued. The number of households—defined as *occupied* housing units—is always smaller than the total supply of available housing units, which include vacant units. Over time, however, each housing unit is expected to become occupied by a household, even though the unit may become vacant during future re-sales or turnovers.
- Employment forecasts are refined to reflect 'value added' employment figures. This reflects an exclusion of jobs considered to be transitory or non-site specific in nature, and thus not requiring building permits to operate (i.e., are not assessed impact fees), as well as governmental uses that are not subject to impact fees.

'Value added' employment data is combined with population data to produce what is known as the 'day-night population.' These figures represent the total number of persons receiving services, both in their homes and in their businesses, to produce an accurate picture of the total number of persons that rely on certain 24-hour services, such as fire protection.

The projections used for some public facility categories are the countywide forecasts to address those the public facility categories that are delivered by the County throughout the county. Projections are also prepared for the cities in the county because the cities do not participate in the County's impact fee program, potentially creating a credit situation for new growth outside of the cities that will have to make up the shortfall in impact fee revenue through other taxes.

Population Forecasts

Population forecasts reflect the growth that is expected over the next 20 years. Based on the county's rebound from the Great Recession and anticipated continuing growth in the housing market, the future is brightening for Henry County.

The county encompasses a little over 322 square miles, and includes four cities. The County collects impact fees only in the unincorporated area outside of each city's limits, although countywide services are generally provided within each of the cities also.

Historic Population Growth

Every year, the US Census Bureau estimates the population in each county and city between decennial censuses (e.g., 2000 and 2010). After a decennial census, the Bureau revises the annual estimates based on the actual Census count. Unlike the decennial censuses, which are 'as of' April 1, the annual estimates are 'as of' July 1 of each year.

Table A-1 shows the Census Bureau's population estimates for the county as a whole and for each of its cities. The 'balance of county' figures, of course, are for the unincorporated area of the county.

Table A-1: Annual Census Population Estimates

	Population Estimate (as of July 1)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Henry County Total	121,774	131,000	140,747	150,928	159,971	169,607	180,304	188,736	194,658	199,622
Hampton	3,970	4,306	4,656	5,028	5,357	5,710	6,095	6,407	6,632	6,824
Locust Grove	2,596	2,903	3,218	3,552	3,855	4,177	4,519	4,813	5,036	5,237
McDonough	8,710	10,117	11,682	13,136	14,638	16,072	17,841	19,154	20,371	21,348
Stockbridge	11,839	13,329	14,907	16,507	18,012	19,574	21,272	22,706	23,823	24,817
Balance of County	94,659	100,345	106,284	112,705	118,109	124,074	130,577	135,656	138,796	141,396

	Population Estimate (as of July 1)									
	2010*	2011	2012	2013	2014	2015	2016	2017	2018	2019
Henry County Total	205,039	206,911	208,005	210,012	212,957	216,414	220,896	225,182	229,728	234,561
Hampton	7,011	7,075	7,112	7,161	7,356	7,426	7,590	7,704	7,895	8,073
Locust Grove	5,821	5,864	6,053	6,095	6,142	6,222	6,399	6,672	7,178	8,243
McDonough	22,166	22,423	22,436	22,683	22,893	23,276	23,843	24,704	25,748	26,768
Stockbridge	26,597	26,838	26,975	27,236	27,632	28,092	28,662	29,140	29,585	29,904
Balance of County	143,444	144,711	145,429	146,837	148,934	151,398	154,402	156,962	159,322	161,573

* 2010 estimate revised by Census Bureau in 2019.

Note: All data as of July 1 of each year. 2000 and 2010 differ from Decennial Census counts, which were as of April 1.

Sources: For 2000 to 2009: *Intercensal Estimates 2000-2010*, US Bureau of the Census. For 2010 to 2019: *Census Annual Estimates Program*, US Bureau of the Census.

By 2019, while the county as a whole had increased by 112,787 people over the 2000 population, the unincorporated area accounted for more than 59% of that growth, while a total of slightly more than 40% of countywide growth was distributed among all of the cities collectively.

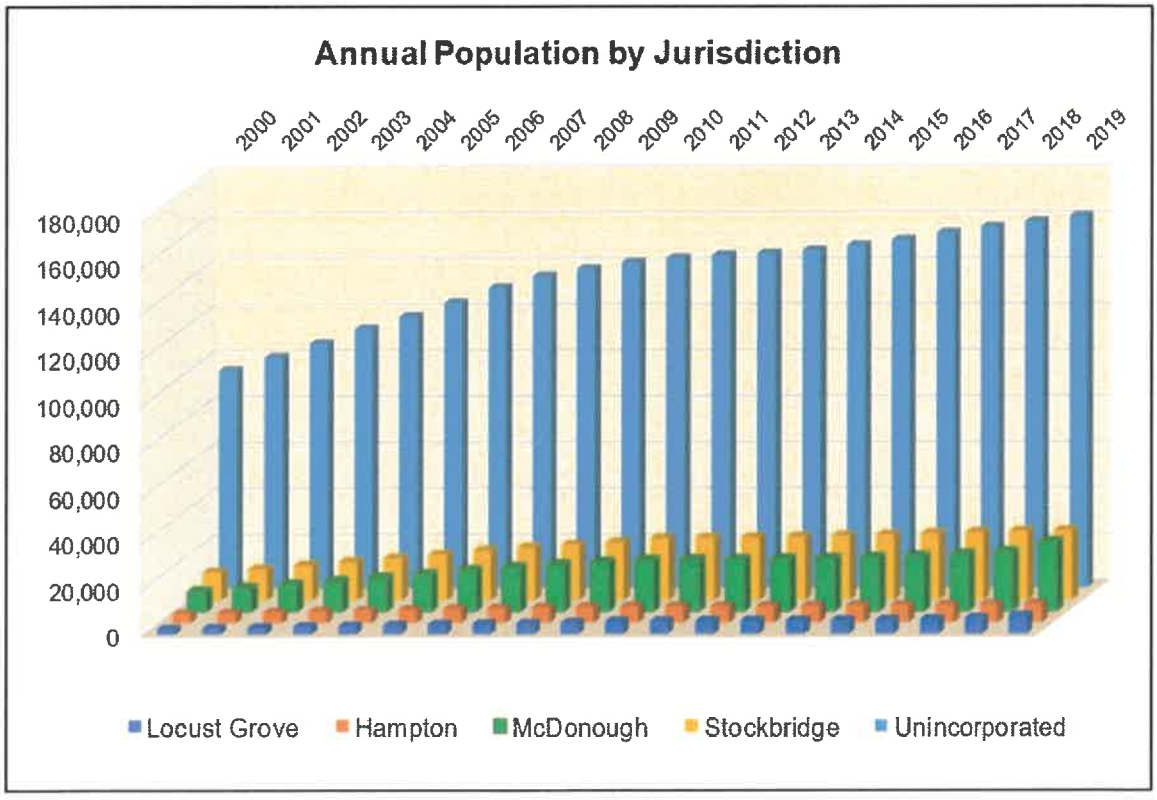
Of the county's major cities, McDonough added 18,058 people to its 2000 population of 8,710—a 207% increase—while Stockbridge added 18,065 to its 2000 population of 11,839—a 153% increase. Still, the unincorporated area comprised just under 70% of the county's population in 2019.

Table A-2 summarizes the population growth figures from Table A-1 by decade, and graphically by year for the cities and the unincorporated area.

Of note, population growth during the halcyon decade of 2000-2010 saw a population increase in the county of more than 68%, compared to only a 14%+ increase between 2010 and 2019, reflecting the devastating effect of the Great Recession on the county's housing market. A close examination of the chart on Table A-2, however, shows an uptick in annual population growth starting in 2017.

Table A-2: Population Growth by Jurisdiction

	2000-2010		2010-2019		Total 2000-2019	
	Number Increase	Percent Increase	Number Increase	Percent Increase	Number Increase	Percent Increase
Henry County Total	83,265	68.38%	29,522	14.40%	112,787	92.62%
Hampton	3,041	76.60%	1,062	15.15%	4,103	103.35%
Locust Grove	3,225	124.23%	2,422	41.61%	5,647	217.53%
McDonough	13,456	154.49%	4,602	20.76%	18,058	207.32%
Stockbridge	14,758	124.66%	3,307	12.43%	18,065	152.59%
Balance of County	48,785	51.54%	18,129	12.64%	66,914	70.69%



Future Population

Three data sources (Census population estimates, Woods & Poole Economics and the Atlanta Regional Commission) were used to examine population forecasts for the county as a whole to 2040.

The first two forecasts involved a projection of the annual Census estimates using a 'linear trend' and a 'growth trend' forecast algorithm. For both projections, base years of 2000-2019 and 2010-2019 were used to compare the effect of the different growth rates discussed above related to Table A-2. The results of the two 'trend' projection methods are shown in the first four columns on Table A-3. (2019 is highlighted on the table as the last year Census estimates were available.)

Table A-3: Future Population Trend Comparisons

	Linear Trend		Growth Trend		Woods & Poole	Atlanta Regional*
	2000 to 2040	2010 to 2040	2000 to 2040	2010 to 2040		
2000	137,817		139,509		121,774	
2001	143,347		143,892		131,000	
2002	148,877		148,413		140,747	
2003	154,407		153,076		150,928	
2004	159,937		157,885		159,971	
2005	165,467		162,845		169,607	
2006	170,998		167,961		180,304	
2007	176,528		173,238		188,736	
2008	182,058		178,680		194,658	
2009	187,588		184,294		199,622	
2010	193,118	202,041	190,084	202,429	205,091	
2011	198,648	205,359	196,056	205,529	206,950	
2012	204,178	208,676	202,215	208,676	208,061	
2013	209,708	211,994	208,568	211,871	210,086	
2014	215,238	215,312	215,121	215,115	213,047	
2015	220,768	218,629	221,879	218,409	216,571	217,738
2016	226,298	221,947	228,850	221,753	221,188	223,454
2017	231,828	225,265	236,039	225,149	225,508	229,170
2018	237,358	228,582	243,455	228,596	230,220	234,885
2019	**242,888**	**231,900**	**251,104**	**232,096**	**235,277**	**240,601**
2020	248,418	235,218	258,992	235,650	240,435	246,317
2021	253,948	238,535	267,129	239,258	245,741	251,254
2022	259,478	241,853	275,521	242,922	251,045	256,191
2023	265,008	245,170	284,177	246,641	256,443	261,128
2024	270,538	248,488	293,105	250,418	261,934	266,065
2025	276,068	251,806	302,314	254,252	267,510	271,003
2026	281,598	255,123	311,812	258,145	273,164	275,940
2027	287,128	258,441	321,608	262,098	278,897	280,877
2028	292,658	261,759	331,711	266,111	284,703	285,814
2029	298,188	265,076	342,133	270,186	290,581	290,751
2030	303,718	268,394	352,881	274,323	296,533	295,688
2031	309,248	271,712	363,968	278,523	302,554	299,999
2032	314,778	275,029	375,403	282,788	308,644	304,310
2033	320,308	278,347	387,196	287,118	314,800	308,621
2034	325,838	281,665	399,361	291,514	321,016	312,932
2035	331,368	284,982	411,908	295,978	327,289	317,244
2036	336,898	288,300	424,848	300,510	333,617	321,555
2037	342,428	291,617	438,196	305,111	340,002	325,866
2038	347,958	294,935	451,962	309,783	346,446	330,177
2039	353,488	298,253	466,161	314,527	352,957	334,488
2040	359,018	301,570	480,807	319,343	359,542	338,799

* ARC figures interpolated between 2015 and 2020, 2020 and 2030, and 2030 and 2040.

The next column on the table shows the countywide population forecast prepared by Woods & Poole, Economics, in their latest (2020) Georgia Data Book publication.

In the last column, the latest forecasts prepared by ARC are shown. ARC reports relevant figures only for the years 2015, 2020, 2030 and 2040. All intervening years are interpolated on the table as linear progressions between the given years.

Comparing the various forecasts, the linear trend projection based on the full 2000-2019 Census data most closely compared to the Woods & Poole 2040 population, a difference of only 525 people (a difference of less than 0.15%). Given the extensive, much more detailed methodology used by W&P, their 2040 population is used for the countywide forecast.

As explained by Woods & Poole in the following Appendix B, its database contains more than 900 economic and demographic variables for every county in

the United States for every year from 1970 to 2040. This comprehensive database includes detailed population data by age, sex, and race; employment and earnings by major industry; personal income by source of income; retail sales by kind of business; and data on the number of households, their size, and their income. All of these variables are projected for each year through 2040. In total, there are over 180 million statistics in the regional database. The fact that the proprietary Woods & Poole economic and demographic projections rely on a very detailed database, makes them one of the most comprehensive county-level projections available.

Table A-4: Linear Trend Forecasts Rectified to Woods & Poole

	County Total	Hampton	Locust Grove	McDonough	Stockbridge	Unincorporated
2000	137,817	4,555	2,853	11,236	14,455	101,996
2001	143,347	4,756	3,103	12,106	15,394	105,605
2002	148,877	4,958	3,353	12,976	16,332	109,213
2003	154,407	5,159	3,603	13,846	17,271	112,822
2004	159,937	5,361	3,853	14,716	18,210	116,431
2005	165,467	5,562	4,104	15,586	19,148	120,039
2006	170,998	5,764	4,354	16,456	20,087	123,648
2007	176,528	5,966	4,604	17,326	21,026	127,257
2008	182,058	6,167	4,854	18,196	21,964	130,865
2009	187,588	6,369	5,105	19,065	22,903	134,474
2010	193,118	6,570	5,355	19,935	23,842	138,083
2011	198,648	6,772	5,605	20,805	24,780	141,691
2012	204,178	6,973	5,855	21,675	25,719	145,300
2013	209,708	7,175	6,106	22,545	26,658	148,909
2014	215,238	7,376	6,356	23,415	27,596	152,517
2015	220,768	7,578	6,606	24,285	28,535	156,126
2016	226,298	7,780	6,856	25,155	29,474	159,735
2017	231,828	7,981	7,107	26,025	30,412	163,343
2018	237,358	8,183	7,357	26,895	31,351	166,952
2019	**242,888**	**8,384**	**7,607**	**27,765**	**32,290**	**170,561**
2020	248,418	8,586	7,857	28,635	33,228	174,169
2021	253,948	8,787	8,107	29,505	34,167	177,778
2022	259,478	8,989	8,358	30,375	35,106	181,387
2023	265,008	9,190	8,608	31,245	36,044	184,995
2024	270,538	9,392	8,858	32,115	36,983	188,604
2025	276,068	9,594	9,108	32,985	37,922	192,213
2026	281,598	9,795	9,359	33,855	38,860	195,821
2027	287,128	9,997	9,609	34,725	39,799	199,430
2028	292,658	10,198	9,859	35,595	40,738	203,039
2029	298,188	10,400	10,109	36,464	41,676	206,648
2030	303,718	10,601	10,360	37,334	42,615	210,256
2031	309,248	10,803	10,610	38,204	43,554	213,865
2032	314,778	11,004	10,860	39,074	44,492	217,474
2033	320,308	11,206	11,110	39,944	45,431	221,082
2034	325,838	11,408	11,360	40,814	46,370	224,691
2035	331,368	11,609	11,611	41,684	47,308	228,300
2036	336,898	11,811	11,861	42,554	48,247	231,908
2037	342,428	12,012	12,111	43,424	49,185	235,517
2038	347,958	12,214	12,361	44,294	50,124	239,126
2039	353,488	12,415	12,612	45,164	51,063	242,734
2040	359,018	12,617	12,862	46,034	52,001	246,343

	City % of all cities	10.215%	10.413%	37.270%	42.102%	
W&P	359,542	11,510	11,733	41,994	47,438	246,867
Difference	524			All Cities =	112,675	

Since Woods & Poole does not provide forecasts at the city level, the population for each year from 2000 to 2040 for each city utilized the 'linear trend' described above applied against the Census data for the years 2000 to 2019. Table A-4 shows the 'raw' results of the linear trend projections for the cities as well as the unincorporated area.

As noted above, the countywide forecast is taken from Woods & Poole, which differs slightly from the 'raw' linear projection. At the bottom of Table A-4, the W&P forecast is rectified against the projections for the county, its cities and the

unincorporated area. Countywide, the W&P forecast is higher than the linear trend projection by 524 people in 2040. This amount is added on Table A-4 to the projected population for the unincorporated area, resulting in a 2040 population of 246,867. This yields a total of 112,675 people expected to reside in the cities collectively in 2040. For the cities, the percent of the 2040 projected population for each county is taken for all of the cities combined. For instance, the percent for Hampton's 2040 projected population (12,617) is 10.215% of the total projected population of all cities in 2040 (123,514). The percentage for each city is then multiplied times the total allocated for all cities to determine the 2040 population for each city in 2040 rectified against the Woods & Poole forecast.

Table A-5 brings all these calculations together showing the population projected to 2040 for the county as a whole, each of the cities and the unincorporated area. Because the forecast methodology described above is based on linear projections, annual population estimates for each jurisdiction are calculated on a straight-line progression from the 2019 figure to the figure for 2040.

Table A-5: Population Forecasts 2020-2040

	County Total	Hampton	Locust Grove	McDonough	Stockbridge	Unincor-porated
2019	234,561	8,073	8,243	26,768	29,904	161,573
2020	240,512	8,237	8,409	27,493	30,739	165,634
2021	246,464	8,400	8,575	28,218	31,574	169,697
2022	252,415	8,564	8,742	28,943	32,409	173,757
2023	258,367	8,728	8,908	29,668	33,244	177,819
2024	264,318	8,891	9,074	30,393	34,079	181,881
2025	270,270	9,055	9,240	31,118	34,914	185,943
2026	276,221	9,219	9,406	31,843	35,749	190,004
2027	282,173	9,382	9,573	32,568	36,584	194,066
2028	288,124	9,546	9,739	33,293	37,419	198,127
2029	294,076	9,710	9,905	34,018	38,254	202,189
2030	300,027	9,873	10,071	34,744	39,088	206,251
2031	305,979	10,037	10,237	35,469	39,923	210,313
2032	311,930	10,201	10,403	36,194	40,758	214,374
2033	317,882	10,364	10,570	36,919	41,593	218,436
2034	323,833	10,528	10,736	37,644	42,428	222,497
2035	329,785	10,692	10,902	38,369	43,263	226,559
2036	335,736	10,855	11,068	39,094	44,098	230,621
2037	341,688	11,019	11,234	39,819	44,933	234,683
2038	347,639	11,183	11,401	40,544	45,768	238,743
2039	353,591	11,346	11,567	41,269	46,603	242,806
2040	359,542	11,510	11,733	41,994	47,438	246,867
Increase	119,030	3,273	3,324	14,501	16,699	81,233
Percent	53.28%	42.57%	42.34%	56.88%	58.63%	52.79%

Compared to the population growth experienced in the 2000-2019 years, the unincorporated area is projected to capture almost 53% of the countywide growth (versus a little over 59%), while a bit more than 47% of the countywide growth (versus almost 41%) will occur in the cities collectively (the incorporated area).

Housing Unit Forecasts

Projecting new growth and development in terms of housing units is important because residential impact fees are assessed when building permits are issued for new units. Thus, the housing unit is used as the basis for assessing impact fees rather than the number of residents that may occupy the housing unit. Since the number of people residing in a particular housing unit will most likely vary in the years ahead as lifestyles change, families grow, children grow up, occupants age, or the unit becomes occupied by a different household as the previous occupants move out, using population as the basis will vary widely as the years go by. This would result in a constant reassessment of the impact fees due because the demand for services would vary as the number of residents in the unit varies. Instead, using an average fee per housing unit based on average household sizes results in 'averaging' the demand for services which would otherwise vary as the population in the unit changes over time.

The future increase in the number of housing units in the county is based on the population forecasts presented in the previous section.

Household Projections

First, future population numbers from Table A-5 are converted into the number of households expected in future years (for each jurisdiction).

This conversion is based on the average household size data taken from the 2010 Census for the county as a whole and for each city (the most recent reliable data available[3]). These figures differ for each jurisdiction, and it is assumed that these ratios will persist into the future. The number of households in the unincorporated area of the county is determined by subtracting all of the city household numbers from the countywide total.

The results are shown on Table A-6A on the following page.

New Housing Units

A 'household' represents an occupied housing unit. Additional 'vacant' housing units therefore need to be added to the number of households in order to estimate the total number of housing units in each jurisdiction.

This is accomplished by increasing the number of households in the county and each city with the vacancy rate reported in the 2010 Census for each jurisdiction. Again, these ratios differ from jurisdiction to jurisdiction, and are assumed will continue at the same ratio each year into the future.

Table A-6B, on the page following Table 6-A, shows the results of these calculations for the county as a whole and for each city, with the remainder allocated to the unincorporated area.

[3] Although the Census Bureau's annual American Community Survey reports provide household 'counts' from time to time, the margins of error are so wide as to make the data highly unreliable and inappropriate for statistical use.

Table A-6A: Henry County Households 2020-2040

	County Total	Hampton	Locust Grove	McDonough	Stockbridge	Unincor-porated
2019	80,370	2,639	2,511	9,725	10,680	54,816
2020	82,410	2,693	2,561	9,988	10,978	56,189
2021	84,449	2,746	2,612	10,252	11,277	57,563
2022	86,488	2,800	2,663	10,515	11,575	58,936
2023	88,527	2,853	2,713	10,779	11,873	60,309
2024	90,566	2,907	2,764	11,042	12,171	61,683
2025	92,606	2,960	2,814	11,305	12,469	63,057
2026	94,645	3,014	2,865	11,569	12,768	64,430
2027	96,684	3,067	2,916	11,832	13,066	65,804
2028	98,723	3,121	2,966	12,095	13,364	67,177
2029	100,763	3,174	3,017	12,359	13,662	68,550
2030	102,802	3,228	3,067	12,623	13,960	69,924
2031	104,841	3,281	3,118	12,886	14,258	71,298
2032	106,880	3,335	3,169	13,149	14,557	72,671
2033	108,920	3,388	3,219	13,413	14,855	74,045
2034	110,959	3,442	3,270	13,676	15,153	75,418
2035	112,998	3,495	3,321	13,940	15,451	76,791
2036	115,037	3,549	3,371	14,203	15,749	78,165
2037	117,077	3,602	3,422	14,466	16,048	79,539
2038	119,116	3,656	3,473	14,730	16,346	80,912
2039	121,155	3,709	3,523	14,993	16,644	82,286
2040	123,194	3,763	3,574	15,257	16,942	83,659

Average HH Size	2.918496904	3.058900524	3.283135928	2.752514591	2.799978945	2.949216662

Note: Average household sizes are computed for each jurisdiction individually from 2010 Census data.

Table A-6B: Henry County Housing Units 2020-2040

	County Total	Hampton	Locust Grove	McDonough	Stockbridge	Unincor-porated
2019	87,552	3,070	2,852	10,945	11,594	59,091
2020	89,774	3,132	2,909	11,241	11,918	60,574
2021	91,995	3,194	2,967	11,537	12,242	62,055
2022	94,217	3,257	3,025	11,834	12,565	63,536
2023	96,438	3,319	3,082	12,130	12,889	65,018
2024	98,660	3,381	3,140	12,427	13,213	66,499
2025	100,881	3,443	3,197	12,723	13,537	67,981
2026	103,102	3,506	3,254	13,020	13,860	69,462
2027	105,324	3,568	3,312	13,316	14,184	70,944
2028	107,545	3,630	3,370	13,612	14,508	72,425
2029	109,767	3,692	3,427	13,909	14,832	73,907
2030	111,988	3,754	3,484	14,206	15,155	75,389
2031	114,210	3,817	3,542	14,502	15,479	76,870
2032	116,431	3,879	3,599	14,799	15,802	78,352
2033	118,653	3,941	3,657	15,095	16,126	79,834
2034	120,874	4,003	3,715	15,391	16,450	81,315
2035	123,096	4,066	3,772	15,688	16,774	82,796
2036	125,317	4,128	3,829	15,984	17,097	84,279
2037	127,539	4,190	3,887	16,281	17,421	85,760
2038	129,760	4,252	3,945	16,577	17,745	87,241
2039	131,982	4,314	4,002	16,874	18,069	88,723
2040	134,203	4,377	4,059	17,170	18,392	90,205
Occupancy Rate	91.7970%	85.9715%	88.0338%	88.8558%	92.1160%	91.7970%

Note: Occupancy rates for the County and its cities are computed individually from 2010 Census data.

Employment Forecasts

The following Table A-7 shows the forecasts for employment growth countywide in Henry County, from 2010 to 2040. The employment figures for Henry County are based on forecasts published by Woods & Poole Economics in their latest (2020) *Georgia State Profile*, which includes a data book for every county in the state.

Table A-7: County-wide Employment Forecast (Jobs)

	2010	2020	2025	2030	2035	2040	2020-2040 Change	
							Number	Percent
Total Employment	78,494	108,123	126,540	147,016	170,142	196,310	**88,187**	**44.9%**
Farm Employment	279	266	257	249	241	233	(33)	-14.2%
Forestry, Fishing	77	89	95	101	108	115	26	22.6%
Mining	125	180	167	159	151	143	(37)	-25.9%
Construction	4,233	4,696	4,663	4,616	4,558	4,490	(206)	-4.6%
Total Non-Building	**4,714**	**5,231**	**5,182**	**5,125**	**5,058**	**4,981**	**(250)**	**-5.0%**
Federal Civilian	1,161	1,003	1,005	1,009	1,014	1,021	18	1.8%
Federal Military	664	617	618	619	620	621	4	0.6%
State & Local Government	8,447	8,941	9,582	10,237	10,906	11,588	2,647	22.8%
Total Government	**10,272**	**10,561**	**11,205**	**11,865**	**12,540**	**13,230**	**2,669**	**20.2%**
Utilities	710	534	536	535	529	520	-14	-2.7%
Manufacturing	2,924	3,530	3,539	3,544	3,548	3,549	19	0.5%
Wholesale Trade	2,688	2,983	3,304	3,569	3,832	4,094	1,111	27.1%
Retail Trade	10,349	13,995	15,890	17,519	19,093	20,641	6,646	32.2%
Transportation & Warehousing	3,569	10,223	12,445	14,966	17,806	20,985	10,762	51.3%
Information	732	934	938	944	951	958	24	2.5%
Finance & Insurance	3,378	3,357	3,880	4,287	4,589	4,798	1,441	30.0%
Real Estate	4,245	5,074	5,889	6,725	7,598	8,512	3,438	40.4%
Professional & Technical Services	3,346	4,837	5,785	6,819	7,957	9,216	4,379	47.5%
Management of Companies	494	567	664	779	915	1,074	507	47.2%
Administrative & Waste Services	8,600	12,495	15,696	19,536	24,121	29,574	17,079	57.8%
Educational Services	1,438	2,042	2,576	3,193	3,909	4,745	2,703	57.0%
Health Care & Social Assistance	6,853	10,568	13,218	16,469	20,351	24,901	14,333	57.6%
Arts, Entertainment & Recreation	1,797	2,427	2,855	3,331	3,858	4,441	2,014	45.4%
Accommodation & Food Services	6,448	10,627	13,408	16,739	20,718	25,458	14,831	58.3%
Other Private Services	5,937	8,138	9,530	11,071	12,769	14,633	6,495	44.4%
Total Value-Added	**63,508**	**92,331**	**110,153**	**130,026**	**152,544**	**178,099**	**85,768**	**48.2%**

Source: Woods & Poole Economics, Inc., 2020 Georgia Data Book, Henry County.

Woods & Poole (W&P) counts jobs, not just employed people, which captures people holding two or more jobs, self-employed sole proprietors, part-time workers, and vacant but available positions.

This gives a more complete picture than other forecasts based on the Census data, which counts only the number of **people** that are employed, not the total number of **jobs** available.

On Table A-7, above, the W&P forecasts for the 'types of employment' are shown in three groups. The 'non-building' types of jobs are those that primarily occur out-of-doors. Such jobs include any

employment that is considered to be transitory in location, such as those working on construction sites, or are strictly land-based such as farming and other agricultural workers. Since impact fees are based on building permits, these types of employment generally do not involve construction of primary buildings for the use itself and thus place little more than minor demands for public services.

The second category—government'—sets those county, city, state, and federal jobs apart since impact fees are not charged for such buildings that are actually owned by those governments, which are otherwise exempt from local taxation. This category includes public (but not private) schools.

The last category—'value-added' employment—is comprised of those types of jobs that represent growth in businesses and other nonresidential uses (such as nonprofits and institutions) that would increase demand for County services and would therefore be subject to impact fees. Even though some of the types of uses may occupy buildings that are exempt from property taxes (such as churches and other places of religious worship), they are not exempt from governmental fees (such as water and sewer service and/or building permit fees).

Table A-8: Summary - Countywide Jobs

	Total Jobs	Non-Building Related	Government	Value-Added Jobs
2010	78,494	4,714	10,272	63,508
2020	108,123	5,231	10,561	92,331
2025	126,540	5,182	11,205	110,153
2030	147,016	5,125	11,865	130,026
2035	170,142	5,058	12,540	152,544
2040	196,310	4,981	13,230	178,099
Increase 2020-40	**88,187**	**-250**	**2,669**	**85,768**

Source: Woods & Poole Economics, Inc., 2020 Georgia Data Book, Henry County.

Table A-8 summarizes the detailed forecasts from Table A-7 by each of the three 'types of employment' for several of the forecast years to 2040. As indicated above, only the 'value-added jobs' would be located in buildings that would be subject to impact fee assessments.

Table A-9: 2010 Commuting

	Population	Percent of County	Total Workers	Percent of County
Henry County	203,922	100.00%	55,492	100.00%
Hampton	6,987	3.43%	1,898	3.42%
Locust Grove	5,402	2.65%	2,339	4.22%
McDonough	22,084	10.83%	12,817	23.10%
Stockbridge	25,636	12.57%	10,365	18.68%

Source: 2010 Census, US Bureau of the Census.

Table A-9 shows the employment figures for the county as a whole and the total number of employed persons working in each of the cities as reported in the 2010 Census commuting data. Even though the figures show 'employed persons' and not total jobs, and presumably include people working in some buildings that are not subject to impact fees, they are used in forecasting employment in each of the cities for lack of better information.

The commuting data from Table A-9 is transferred to Table A-10 in the upper portion of the table. City employment for the years 2019 to 2040 is therefore derived by multiplying the 2010 city percentages times the number of countywide jobs. Employment in the unincorporated area is, of course, the remainder once all of the city numbers are subtracted from the countywide totals.

Table A-10: Value Added Jobs by City and Unincorporated Area - 2020-2040

	County Total	Hampton	Locust Grove	McDonough	Stockbridge	Unincor-porated
Employment - 2010*	55,492	1,898	2,339	12,817	10,365	28,073
% of Countywide Total	100.00%	3.42%	4.22%	23.10%	18.68%	50.58%
Value-Added Jobs:						
2019	92,331	3,158	3,896	21,328	17,247	46,701
2025	110,153	3,767	4,648	25,445	20,577	55,715
2030	130,026	4,447	5,487	30,036	24,289	65,767
2035	152,544	5,217	6,437	35,238	28,495	77,157
2040	178,099	6,091	7,516	41,141	33,269	90,082
Increase 2020-40	**85,768**	**2,933**	**3,619**	**19,812**	**16,021**	**43,381**
% of County Total - 2040	1.00%	3.42%	4.22%	23.10%	18.68%	50.58%

* The 2010 Census reported employed persons, not jobs, based on commuting patterns. Future growth in the cities is assumed to maintain the same ratios, and are applied to the countywide value-added forecasts.

Service Area Forecasts

Various County services are each provided in one of four service areas. Housing unit, population, and employment forecasts are presented on the following tables.

Many services are delivered countywide. These include the County Library system, the Sheriff's Office, Emergency Medical Services, Animal Control, E911 emergency communications, Greenspace and Road improvements.

Table A-11: Future Growth Forecasts - Henry County Total

	Residential Uses	Nonresidential Uses		
	Housing Units	Population	Value-Added Employment	Day-Night Population
2020	**89,774**	240,512	95,301	**335,813**
2021	**91,995**	246,464	98,272	**344,736**
2022	**94,217**	252,415	101,242	**353,657**
2023	**96,438**	258,367	104,212	**362,579**
2024	**98,660**	264,318	107,183	**371,501**
2025	**100,881**	270,270	110,153	**380,423**
2026	**103,102**	276,221	114,128	**390,349**
2027	**105,324**	282,173	118,102	**400,275**
2028	**107,545**	288,124	122,077	**410,201**
2029	**109,767**	294,076	126,051	**420,127**
2030	**111,988**	300,027	130,026	**430,053**
2031	**114,210**	305,979	134,530	**440,509**
2032	**116,431**	311,930	139,033	**450,963**
2033	**118,653**	317,882	143,537	**461,419**
2034	**120,874**	323,833	148,040	**471,873**
2035	**123,096**	329,785	152,544	**482,329**
2036	**125,317**	335,736	157,655	**493,391**
2037	**127,539**	341,688	162,766	**504,454**
2038	**129,760**	347,639	167,877	**515,516**
2039	**131,982**	353,591	172,988	**526,579**
2040	**134,203**	359,542	178,099	**537,641**
Increase 2020-40	44,429	119,030	82,798	**201,828**

For library system, animal control services, parks & recreation and greenspace, new residential growth and development are assessed impact fees exclusively on the basis of housing units.

For the Fire Department, Sheriff's Office, Police Department, EMS, and E911, fees for residential uses are assessed on the basis of housing unit growth, while nonresidential uses are assessed using future growth in the day-night population.

Road improvement impact fees are based on trip generation rates, as calculated in Appendix D.

The County Police Department operates throughout the unincorporated area and the City of Stockbridge (established as a Special Service District).

Table A-12: Future Growth Forecasts - Unincorporated Area plus Stockbridge

	Residential Uses	Nonresidential Uses		
	Housing Units	Population	Value-Added Employment	Day-Night Population
2020	**72,492**	196,373	65,450	**261,823**
2021	**74,297**	201,271	67,619	**268,890**
2022	**76,101**	206,166	69,787	**275,953**
2023	**77,907**	211,063	71,956	**283,019**
2024	**79,712**	215,960	74,124	**290,084**
2025	**81,518**	220,857	76,292	**297,149**
2026	**83,322**	225,753	79,045	**304,798**
2027	**85,128**	230,650	81,797	**312,447**
2028	**86,933**	235,546	84,550	**320,096**
2029	**88,739**	240,443	87,303	**327,746**
2030	**90,544**	245,339	90,056	**335,395**
2031	**92,349**	250,236	93,175	**343,411**
2032	**94,154**	255,132	96,294	**351,426**
2033	**95,960**	260,029	99,414	**359,443**
2034	**97,765**	264,925	102,533	**367,458**
2035	**99,570**	269,822	105,652	**375,474**
2036	**101,376**	274,719	109,192	**383,911**
2037	**103,181**	279,616	112,732	**392,348**
2038	**104,986**	284,511	116,271	**400,782**
2039	**106,792**	289,409	119,811	**409,220**
2040	**108,597**	294,305	123,351	**417,656**
Increase 2020-40	**36,105**	**97,932**	**57,901**	**155,833**

Police Department impact fees for residential uses are assessed on the basis of housing unit growth, while nonresidential uses are assessed using future growth in the day-night population.

On the other hand, the County Fire Department provides firefighting and other fire safety services throughout the county, including all of the cities except McDonough.

Table A-13: Future Growth Forecasts - Countywide except McDonough

	Residential Uses	Nonresidential Uses		
	Housing Units	Population	Value-Added Employment	Day-Night Population
2020	**78,431**	212,770	73,973	**286,743**
2021	**80,254**	217,748	76,120	**293,868**
2022	**82,078**	222,725	78,267	**300,992**
2023	**83,900**	227,703	80,413	**308,116**
2024	**85,724**	232,680	82,561	**315,241**
2025	**87,547**	237,658	84,708	**322,366**
2026	**89,370**	242,635	87,765	**330,400**
2027	**91,193**	247,613	90,820	**338,433**
2028	**93,016**	252,590	93,877	**346,467**
2029	**94,840**	257,568	96,933	**354,501**
2030	**96,663**	262,545	99,990	**362,535**
2031	**98,487**	267,523	103,454	**370,977**
2032	**100,309**	272,500	106,916	**379,416**
2033	**102,133**	277,478	110,380	**387,858**
2034	**103,956**	282,455	113,843	**396,298**
2035	**105,779**	287,432	117,306	**404,738**
2036	**107,602**	292,409	121,237	**413,646**
2037	**109,426**	297,387	125,167	**422,554**
2038	**111,248**	302,364	129,097	**431,461**
2039	**113,072**	307,342	133,028	**440,370**
2040	**114,895**	312,319	136,958	**449,277**
Increase 2020-40	**36,464**	**99,549**	**62,986**	**162,535**

Like the Police Department services, Fire Department impact fees for residential uses are assessed on the basis of housing unit growth, while nonresidential uses are assessed using future growth the day-night population.

Lastly, the County's Parks & Recreation facilities and services are provided directly throughout the unincorporated area and by agreement within the City of McDonough. Some facilities are available within specific cities based on cooperation agreements, in which each city covers its fair share of the agreed to cost of maintenance and services.

Table A-14: Future Growth Forecasts - Unincorporated Area plus McDonough

	Residential Uses	Nonresidential Uses		
	Housing Units	Population	Value-Added Employment	Day-Night Population
2020	71,917	193,376	69,531	262,907
2021	73,796	198,413	71,858	270,271
2022	75,675	203,447	74,183	277,630
2023	77,556	208,483	76,510	284,993
2024	79,435	213,519	78,835	292,354
2025	81,315	218,555	81,161	299,716
2026	83,194	223,590	84,089	307,679
2027	85,075	228,626	87,018	315,644
2028	86,954	233,661	89,946	323,607
2029	88,834	238,697	92,875	331,572
2030	90,714	243,733	95,803	339,536
2031	92,593	248,769	99,121	347,890
2032	94,474	253,804	102,440	356,244
2033	96,354	258,840	105,758	364,598
2034	98,233	263,875	109,076	372,951
2035	100,113	268,912	112,394	381,306
2036	101,994	273,948	116,160	390,108
2037	103,873	278,984	119,926	398,910
2038	105,753	284,018	123,692	407,710
2039	107,633	289,055	127,457	416,512
2040	109,513	294,090	131,223	425,313
Increase 2020-40	**37,596**	**100,714**	**61,692**	162,406

Although the table shows the calculations for nonresidential uses, parks & recreation fees are assessed exclusively for new residential growth and development.

Appendix B: Woods & Poole Methodology

Selected data from Woods & Poole for the years 2010 to 2050 have been used as critical factors in the creation of population, household and employment estimates for Glynn County. The following has been excerpted from the 2019 State Profile for Georgia, prepared by Woods & Poole Economics, Inc., Washington, D.C., in explanation of the methodology W&P uses in creating their estimates and projections, definitions of employment categories, and the interconnected nature of their econometric model approach.

Introduction

The Woods & Poole Economics, Inc. database contains more than 900 economic and demographic variables for every county in the United States for every year from 1970 to 2050. This comprehensive database includes detailed population data by age, sex, and race; employment and earnings by major industry; personal income by source of income; retail sales by kin of business; and data on the number of households, their size, and their income. All of these variables are projected for each year through 2050. In total, there are over 200 million statistics in the regional database. The regional model that produces the projection component of this database was developed by Woods & Poole. The regional projection methods are revised somewhat year to year to reflect new computational techniques and new sources of regional economic and demographic information. Each year, a new projection is produced based on an updated historical database and revised assumptions.

The fact that the proprietary Woods & Poole economic and demographic projections rely on a very detailed database, makes them one of the most comprehensive county-level projections available. A description of some characteristics of the database and projection methods is contained [below].

Overview of the Projection Methods

The strength of Woods & Poole's economic and demographic projections stems from the comprehensive historical county database and the integrated nature of the projection model. The projection for each county in the United States is done simultaneously so that changes in one county will affect growth or decline in other counties. For example, growth in employment and population in Houston will affect growth in other metropolitan areas, such as Cleveland. This reflects the flow of economic activity around the country as new industries emerge or relocate in growing areas and as people migrate, in part because of job opportunities. The county projections are developed within the framework of the United States projection made by Woods & Poole. The U.S. projection is the control total for the 2019 regional projections and is described in the 'Overview of the 2019 Projections' chapter included in Woods & Poole publications.

The regional projection technique used by Woods & Poole—linking the counties together to capture regional flows and constraining the results to a previously determined United States total—avoids a common pitfall in regional projections. Regional projections are sometimes made for a county or county without regard for potential growth in surrounding areas or other areas in the country. Such projections may be simple extrapolations of recent historical trends and, as a result, may be too optimistic or pessimistic. If these county projections were added together, the total might differ considerably from any conceivable national forecast scenario; this is the result of each regional projection being generated independently without interactive procedures and without being integrated into a consistent national projection.

The methods used by Woods & Poole to generate the county projections proceed in four stages. First, forecasts to 2050 of total United States personal income, earnings by industry, employment by

industry, population, inflation, and other variables are made. Second, the country is divided into 179 Economic Areas (EAs) as defined by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA). The EAs are aggregates of contiguous counties that attempt to measure cohesive economic regions in the United States...; in the 2019 Woods & Poole model, EA definitions released by the BEA in May 2007 are used. For each EA, a projection is made for employment, using an 'export-base' approach; in some cases, the employment projections are adjusted to reflect the results of individual EA models or exogenous information about the EA economy. The employment projection for each EA is then used to estimate earnings in each EA. The employment and earnings projections then become the principal explanatory variables used to estimate population and number of households in each EA.

The third stage is to project population by age, sex, and race for each EA on the basis of net migration rates projected from employment opportunities. For stages two and three, the U.S. projection is the control total for the EA projections. The fourth stage replicates stages two and three except that it is performed at the county level, using the EAs as the control total for the county projections.

The 'Export-Base' Approach

The specific economic projection technique used by Woods & Poole to generate the employment, earnings, and income estimates for each county in the United States generally follow a standard economic 'export-base' approach. This relatively simple approach to regional employment projections is one that has been used by a number of researchers.

Certain industrial sectors at the regional level are considered 'basic.' This means that these sectors pro-duce output that is not consumed locally but is 'exported' out of the region for national or international consumption. This assumption allows these sectors to be linked closely to the national economy, and hence follow national trends in productivity and output growth. Normally, the 'basic' sectors are mining, agriculture, manufacturing, and the Federal government. In contrast, 'non-basic' sectors are those such as retail trade, transportation, communication, and construction, the output of which is usually consumed locally. The growth of the 'non-basic' sectors depends largely on the growth of the 'basic' sectors that form the basis of the region's economy.

Intuitively, this approach has great appeal and there are numerous examples that seem to support the 'export-base' theory. Automobile production in Detroit, for instance, is obviously much more sensitive to national and international price and demand for transportation equipment than to local demand. In Texas, oil and natural gas exploration and production are tied closely to the worldwide demand and supply of petroleum resources and not tied primarily to energy consumption in Texas.

Although the theory is appealing, some shortcomings do exist in the 'export-base' approach. For example, some 'basic' commodities produced locally are consumed locally. Producers of durable equipment used in other manufacturing processes are often affected not by the national demand for their product but by the regional demand. Machine tool makers that supply the local automobile industry in Detroit will prosper to the extent Detroit's automobile producers prosper. In Houston, the strength of the local oil industry will affect the demand and production of equipment for oil and natural gas production and exploration. In both of these instances, some durable manufacturing industries exist to serve local, not national, markets.

However, despite the shortcomings, the availability of relatively clean data for sub-national geographic areas makes the 'export-base' approach very useful. The analytical framework for projections using the 'export-base' approach entails estimating either demand equations or calculating historical growth rate differentials for output by sector. The principal explanatory variable, or the comparative data series for growth rate differentials, is the national demand for the output of that sector. Employment-by-sector data are often used as a surrogate variable since county output-by-sector data are not available; employment-by-sector data is used by Woods & Poole. Earnings projections are then obtained by using earnings-per-employee data either estimated as part of the

model or imposed exogenously on the system. The complementary relationship could also be estimated, i.e., using earnings forecast to derive employment based on earnings-per-employee data; this procedure has been used previously in some Woods & Poole regional models.

A modification of the 'export-base' approach is used by Woods & Poole to account for regional variants to normal 'basic'/'non-basic' industry definitions. Some 'non-basic' sectors can be more appropriately modeled as 'basic' sectors in certain regional economies. The finance and insurance sector or wholesale trade sector in New York County, for example, and the accommodation and food services sector in Las Vegas, are cases in which traditionally 'non-basic' sectors are really 'basic.' New York is a worldwide financial and trade center and thus 'exports' these services outside of the region; Las Vegas, as a vacation and entertainment center, similarly 'exports' the output of its accommodation and food services sector to other parts of the country. Activity in these sectors, in these specific geographic areas, is therefore linked more closely to the performance of these same sectors in the surrounding regions and the nation as a whole than to the other 'basic' industries in the region.

The Demographic Model

The demographic portion of the regional model follows a traditional cohort-component analysis based on calculated fertility and mortality in each county or EA. The 'demand' for total population is estimated from the economic model: if the demand for labor is forecast to rise for a particular county or EA, then either the labor force participation rate will rise or population in-migration will be positive. The inverse is true for counties and EAs with projected declines in employment. Therefore, future EA and county migration patterns for population by age, sex, and race are based on employment opportunities. Individuals and families are assumed to migrate, at least in part, in response o employment opportunities with two exceptions: for population aged 65 and over and for college or military-aged population, migration patterns over the forecast period are based on historical net migration and not economic conditions. The integration of economic and demographic regional analysis is a significant strength of the Woods & Poole approach.

The age, sex, and race distribution of the population is projected by aging the population by single year of age by sex and by race for each year through 2060 based on county or EA specific mortality, fertility, and migration rates estimated from historical data. In the Woods & Poole model, projected net mortality and migration are estimated based on the historical net change in population by age, race, and sex for a particular county or EA. Similarly, projected net births and migration of age zero population by race are estimated based on the historical change in age zero population by race per female population age 15 to 44 by race for a particular county or EA.

The United States population by age, sex, and race projections, 2018-2050, are based on Bureau of the Census population estimates for 1990 through 2017. Woods & Poole forecasts these U.S. estimates with a cohort-component model based on the year to year change in U.S. population by single year of age, race, and sex. Forecast fertility, mortality, and international migration are estimated from the Census population estimates and are applied exogenously to the Woods & Poole U.S. projections. Woods & Poole produces only a 'middle' U.S. population forecast - this forecast is similar to the Census 'middle' forecast scenario for the U.S. population. The U.S. population by age, sex, and race forecast is the control total for the EA projections. Each EA projection serves as the control totals for the county projections.

The 2019 Woods & Poole U.S. population projections, 2018 to 2050, are lower than the 2018 Woods & Poole population projections because historical fertility and net migration 2010 through 2017, based on U.S. Census post-censal estimates, are lower than previously projected resulting in lower fertility and migration assumptions over the forecast period.

Population

Population is defined as July 1 residential population and includes: civilian population; military population except personnel stationed overseas; college residents; institutional populations, such as prison inmates and residents of mental institutions, nursing homes, and hospitals; and estimates of undocumented aliens. Excluded are persons residing in Puerto Rico, U.S. territories and possessions, and U.S. citizens living abroad.

For the years 1990 to 2040 the population data are broken down by five race/ethnic groups: White not including Hispanic or Latino (i.e. Non-Hispanic), Black Non-Hispanic, Native American or American Indian Non-Hispanic, Asian American and Pacific Islanders Non-Hispanic, and Hispanic or Latino. Population by race as defined by the Census Bureau reflects self-identification by respondents and does not denote any clear-cut scientific definition of biological stock. ***White population*** includes people who identify themselves as White and people who do not identify themselves by any race but identify themselves by nationality, such as Canadian, German, Italian, Arab, Lebanese, Near Eastern, or Polish. ***Black population*** includes people who identify themselves as Black and people who do not identify themselves by any race but identify themselves by nationality, such as African American, Afro-American, Black Puerto Rican, Jamaican, Nigerian, West Indian, or Haitian. ***Native American population*** includes people who identify themselves as Alaska Native or American Indian by Indian tribe or classify themselves as Canadian Indian, French American Indian, Spanish-American Indian, Eskimos, Aleuts, and Alaska Indians. ***Asian American and Pacific Islander*** population are people who identify themselves as having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, Vietnam, Hawaii, Guam, Samoa, or other Pacific Islands.

Hispanic or Latino population are people whose origins are from Spain, the Spanish-speaking countries of Central or South America, the Dominican Republic, and who identify themselves generally as Spanish, Spanish-American, Hispanic, Hispano, Latino, and so on. Hispanic population is not a race group but rather a description of ethnic origin. Although Hispanics are part of the other four race groups, they split out separately in the Woods & Poole database so that the four race groups plus Hispanic equals total population.

Households

Households are defined as occupied housing units. A housing unit is a house, an apartment, a group of rooms, or a single room occupied as separate living quarters. The occupants of a housing unit may be a single family, one person living alone, two or more families living together, or any group of related or unrelated persons who share living quarters. All people are part of a household except those who reside in group quarters. Group quarters include living arrangements such as prisons, homes for the aged, rooming houses, college dormitories, and military barracks. The average size of households is defined as total population less group quarters population divided by the number of households. Mean household income is defined as total personal income less estimated income of group quarters population divided by the number of households.

Employment

The employment data in the Woods & Poole database are a complete measure of the number of full- and part-time jobs by place of work. Historical data, 1969-2017, are from the U.S. Department of Commerce, Bureau of Economic Analysis. Because part-time workers are included, a person holding two part-time jobs would be counted twice.

Data on proprietors include farm and non-farm proprietors by sector. Proprietors include not only those people who devote the majority of their time to their proprietorship, but people who devote

any time at all to a proprietorship. Thus, a person who has a full-time wage and salary job and on nights and weekends runs a small business legally defined as a proprietorship would be counted twice. The employment data therefore include full- and part-time proprietors.

Private household employment data include persons employed by a household on the premises, such as full-time baby-sitters, housekeepers, gardeners, and butlers. Miscellaneous employment data include judges and all elected officials, persons working only on commission in sectors such as real estate and insurance, students employed by the colleges or universities in which they are enrolled, and unincorporated subcontractors in sectors such as construction.

The employment data used by Woods & Poole comprise the most complete definition of the number of jobs by county. Woods & Poole data may be higher than that from other sources because they measure more kinds of employment.

Employment by Sector

The employment data is by two-digit North American Industry Classification System (NAICS) industry. The two-digit industries are defined in the 2002 North American Industry Classification System Manual. The employment data in the Woods & Poole 2019 database are no longer based on the Standard Industrial Classification (SIC) system definitions. For the years 1969-2000 BEA provided employment industry data by SIC rather than by NAICS; Woods & Poole has estimated the NAICS industry data for 1969-2000 from the BEA SIC 1969-2000 employment industry data and the NAICS employment industry data for the years 2001-2017.

As a rule, employment is classified in a given industry depending on the primary activity of the establishment. For example, employees of a large oil company are classified in many different sectors depending on the specific establishment in which they worked, even though the company as a whole would be considered a mining company: employees at a refinery are in manufacturing; employees at the company headquarters are in services; pipeline operators are in transportation; and oil field workers are in mining. If a given establishment is engaged in activities in different sectors, all employees are classified according to the primary activity of the establishment regardless of their actual occupations; thus, a secretary for a trucking company is a transportation worker and an accountant at a small plumbing company is a construction worker. The main exception to this rule is the classification of government workers in the Woods & Poole database: all government employees are classified in Federal civilian, Federal military, or state and local government employment, regardless of the usual classification of the establishment in which they work. Definitions for each sector, based on NAICS industries, in the Woods & Poole database are as follows:

Farming includes establishments such as farms, orchards, greenhouses, and nurseries primarily engaged in the production of crops, plants, vines, trees (excluding forestry operations), and specialties such as Christmas trees, sod, bulbs, and flower seed. It also includes establishments such as ranches, dairies, feedlots, egg production facilities, and poultry hatcheries primarily engaged in the keeping, grazing, or feeding of cattle, hogs, sheep, goats, poultry of all kinds, and special animals such as horses, bees, pets, fish farming, and animals raised for fur.

Forestry, fishing, related activities, and other includes establishments primarily engaged in harvesting timber, and harvesting fish and other animals from their natural habitats. The sector also includes agricultural support establishments that perform one or more activities associated with farm operation, such as soil preparation, planting, harvesting, and management, on a contract or fee basis. Excluded are establishments primarily engaged in agricultural research and establishments primarily engaged in administering programs for regulating and conserving land, mineral, wildlife, and forest use. Other consists of jobs held by U.S. residents who are employed by international organizations and by foreign embassies and consulates in the United States.

Mining includes establishments that extract naturally occurring mineral solids (e.g. coal and ores), liquid minerals (e.g. crude petroleum), and gases (e.g. natural gas.) Mining includes quarrying, well

operations, beneficiating (e.g., crushing, screening, washing, and flotation), and other preparation customarily per-formed at the mine site, or as a part of mining activity.

Utilities includes establishments engaged in the provision of electric power, natural gas, steam supply, water supply, and sewage removal. Utilities include electric power generation, electric power transmission, electric power distribution, natural gas distribution, steam supply provision, steam supply distribution, water treatment, water distribution, sewage collection, sewage treatment, and disposal of waste through sewer systems and sewage treatment facilities. Excluded from this sector are establishments primarily engaged in waste management services that collect, treat, and dispose of waste materials but do not use sewer systems or sewage treatment facilities. Also excluded from this sector are federal or state or local government operated establishments.

Construction includes establishments primarily engaged in building new structures and roads, alterations, additions, reconstruction, installations, and repairs. It includes general contractors engaged in building residential and nonresidential structures; contractors engaged in heavy construction, such as abridges, roads, tunnels, and pipelines; and special trade contracting, such as plumbing, electrical work, masonry, and carpentry. Construction includes establishments primarily engaged in the preparation of sites for new construction, including demolition, and establishments primarily engaged in subdividing land for sale as building sites. Construction work done may include new work, additions, alterations, or maintenance and repairs.

Manufacturing includes establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the component parts are associated with structures. Manufacturing establishments can be plants, factories, or mills as well as bakeries, candy stores, and custom tailors. Manufacturing establishments may either process materials or may contract with other establishments to process their materials for them. Broadly defined, manufacturing industries include the following: food processing, such as canning, baking, meat processing, and beverages; tobacco products; textile mill products, such as fabric, carpets and rugs; apparel; wood products, including logging, sawmills, prefabricated homes, and mobile homes; furniture; paper; printing; chemicals, such as plastics, paints, and drugs; petroleum refining; rubber and plastics; leather products; stone, clay, and glass; primary metals, such as steel, copper, aluminum, and including finished products such as wire, beams, and pipe; fabricated metals, such as cans, sheet metal, cutlery, and ordnance; industrial machinery, including computers, office equipment, and engines; electronics and electrical equipment; transportation equipment, such as cars, trucks, ships, and airplanes; instruments; and miscellaneous industries, such as jewelry, musical instruments, and toys. Excluded from manufacturing is publishing of printed materials.

Wholesale trade includes establishments engaged in wholesaling merchandise, generally without trans-formation, and rendering services incidental to the sale of merchandise. The merchandise described in this sector includes the outputs of agriculture, mining, manufacturing, and certain information industries, such as publishing. Wholesale establishments are primarily engaged in selling merchandise to retailers; or to industrial, commercial, institutional, farm, construction contractors; or to professional business users; or to other wholesalers or brokers. The merchandise sold by wholesalers includes all goods used by institutions, such as schools and hospitals, as well as virtually all goods sold at the retail level. Wholesalers can be merchant wholesalers who purchase goods from manufacturers or other wholesalers and sell them; sales branches of manufacturing, mining, or farm companies engaged in marketing the products of the company to retail establishments; or agents, merchandise or commodity brokers, and commission merchants.

Retail trade includes establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. Retail trade includes store retailers such as motor vehicle and parts dealers including automobile, motorcycle and boat dealers as well as tire and automobile parts stores; furniture and home furnishing stores; electronics

and appliance stores; food and beverage stores, including supermarkets, convenience stores, butchers, and bakeries; health and personal care stores such as pharmacies and optical goods stores; gasoline stations; clothing and clothing accessory stores; sporting goods, hobby, book and music stores; department stores; and miscellaneous establishments, including office supply stores, mobile home dealers, thrift shops, florists, tobacco stores, and pet shops. Retail trade also includes non-store retailers such as internet and catalog sellers, as well as home delivery establishments such as heating oil dealers. Retail trade excludes eating and drinking places, including restaurants, bars, and take-out stands.

Transportation and warehousing includes industries providing transportation of passengers and cargo and warehousing and storage for goods. Establishments in these industries use transportation equipment or transportation related facilities as a productive asset. Transportation includes railroads, highway passenger transportation, trucking, shipping, air transportation, pipelines, and transportation services. Transportation also includes private postal services, and courier services but excludes the U.S. Postal Service. Warehousing includes refrigerated storage and grain elevators.

Information includes establishments engaged in producing and distributing information and cultural products; providing the means to transmit or distribute these products as well as data or communications; and processing data. The main components of this sector are the publishing industries, including software publishing, and both traditional publishing and publishing exclusively on the Internet; the motion picture and sound recording industries; movie theaters; the broadcasting industries, including traditional broadcasting and those broadcasting exclusively over the Internet; the telecommunications industries; the industries known as internet service providers and web search portals; data processing industries; and the information services industries.

Finance and insurance includes establishments primarily either engaged in or facilitating financial transactions (e.g. transactions involving the creation, liquidation, or change in ownership of financial assets.) Establishments include depository institutions, such as commercial banks, credit unions savings and loans, and foreign banks; credit institutions; credit card processing; investment companies; brokers and dealers in securities and commodity contracts; security and commodity exchanges; carriers of all types of insurance; insurance agents and insurance brokers. Also included are central banks and monetary authorities charged with monetary control.

Real estate and rental and leasing includes establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services. Real estate includes real estate leasing establishments, real estate agencies and brokerages, property management establishments, appraisals establishments, and escrow agencies. Rental and leasing includes car and truck rental, consumer goods rentals such as video stores and formal wear rental stores, and commercial equipment renting and leasing construction, transportation, office and farm equipment. Also included are establishments that lease nonfinancial and noncopyrighted intangible assets such are patents and trademarks.

Professional and technical services includes establishments that specialize in performing professional, scientific, and technical activities for others. These activities include legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services. Excluded are establishments primarily engaged in providing office administrative services, such as financial planning, billing and recordkeeping, personnel, and physical distribution and logistics.

Management of companies and enterprises includes bank holding establishments, other holding establishments, corporate management establishments as well as regional and subsidiary management establishments. Company or enterprise headquarters are included.

Administrative and waste management includes establishments engaged in office administration, hiring and placing of personnel, document preparation and similar clerical services, solicitation, collection, security and surveillance services, cleaning, and waste disposal services. Among many other establishments administrative includes call centers, tele-marketers, janitorial services, armored cars, temporary employment agencies, locksmiths, landscaping, and travel agencies. Waste management includes, among other establishments, solid waste collections and disposal, landfill operations and septic tank maintenance. Excluded from administrative and waste management are establishments involved in administering, overseeing, and managing other establishments of the company or enterprise. Also excluded are government establishments engaged in administering, overseeing, and managing governmental programs.

Educational services include private elementary schools, junior colleges, colleges, universities, and professional schools. Also included are trade and vocational schools, business and secretarial schools, computer training services, language schools, fine arts training, sports training establishments, driving schools, flight schools and establishments that provide test preparation and tutoring. Educational services may be provided in part in educational institutions, the workplace, or the home through correspondence, television, or other means. Public schools, including colleges and universities, are excluded from educational services.

Health care and social assistance includes establishments providing health care and social assistance for individuals. Health care establishments include ambulatory care services (e.g. physician offices, dentists, specialists, HMOs, dialysis centers, blood banks, ambulance services), hospitals, and nursing and residential care facilities. Social assistance establishments include individual and family services (e.g. adoption agencies and youth centers) and community services such as food banks and homeless shelters. Excluded from this sector are aerobic classes and nonmedical diet and weight reducing centers. Also excluded are public hospitals and clinics.

Arts, entertainment, and recreation includes establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing; establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure time interests. The sector includes establishments engaged in the performing arts, sporting events, museums, zoos, amusement and theme parks, golf courses, marinas, casinos, and gambling establishments. Excluded are movie theaters.

Accommodation and food services includes hotels, motels, casino hotels, bed and breakfasts, campgrounds and recreational vehicle parks and other lodging places as well as eating and drinking places, including restaurants, bars, and take-out stands. Also included are caterers and food service contractors.

Other services, except public administration includes churches and establishments engaged in equipment and machinery repairing, promoting or administering religious activities, grantmaking, advocacy, and establishments providing dry-cleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services. Private households that engage in employing workers on or about the premises in activities primarily concerned with the operation of the household are included in this sector.

Federal civilian includes all Federal government workers regardless of their establishment classification. Federal civilian employment includes executive offices and legislative bodies; courts; public order and safety; correctional institutions; taxation; administration and delivery of human resource programs, such as health, education, and public assistance services; housing and urban development programs; environmental programs; regulators, including air traffic controllers and public service commissions; the U.S. Postal Service; and other Federal government agencies.

Federal military includes Air Force, Army, Coast Guard, Marine Corps, Merchant Marine, National Guard, and Navy. Personnel deployed abroad are counted in their home base or port. Reserves who receive regular training are included. Civilians working on a military base are classified in the sector appropriate to their occupation.

State and local government is defined the same as Federal civilian except that the activities are run by state and local governments. At the local level, this includes all public schools as well as police and fire departments; at the state level, it includes all public junior colleges, colleges, and universities.

The Accuracy of the Projections

Unlike other sciences, economics and demographics cannot rely on experimentation to test theories and verify hypotheses. Rather, historical data are analyzed and theories are developed that explain the historical data. The resulting models are then used to make a projection. Woods & Poole projections, like all economic and demographic projections, utilize this approach: analyzing historical data to make estimates of future data. There are, of course, inherent limitations to projections, and the Woods & Poole projections should never be interpreted as an infallible prediction of the future; future data may differ significantly from Woods & Poole projections and Woods & Poole does not guarantee the accuracy of the projections. In all Woods & Poole publications, the word 'forecast' is used as a synonym for 'projection' and refers to Woods & Poole estimated data for any [future] year [up] to 2050; in Woods & Poole publications 'projections,' or 'forecasts,' both mean estimates of future data to 2050.

One key limitation to all projections, and Woods & Poole projections in particular, is that the future is never known with any certainty. The model on which the projections are based may not accurately reflect future events. In addition, there is always the possibility of an unanticipated shock to the economy, or of some other event that was not foreseen based on an analysis of historical data. For instance, a local government may enact a new industrial policy that has an unexpected, beneficial effect on employment growth. Or an abrupt economic change, although anticipated, may occur with much greater intensity or in a shorter time period than expected. For example, the projection may assume an increase in the price of a commodity, such as oil, over a five-year period, but an embargo may raise the price to that level in only one year. In addition, the projections may not be accurate because historical data is revised; or because the projection model does not accurately reflect demographic or economic phenomena; or because the projections contain errors; or because the smooth growth path of the long-term projections inaccurately reflects important variance in economic or demographic growth for particular regions; or because assumptions about national or regional growth, upon which the projections are based, turn out to be incorrect. There are many other types of economic and demographic events that could create outcomes far different from Woods & Poole's projections.

Another limitation results from doing forecasts for small geographic areas for small data series. Statistically, models are more reliable the larger the area and/or the series being studied. Small area forecasts, such as county population for White men age 84, are subject to more error because of the small sample size. This error can be reduced, although never eliminated, by constraining the small area forecasts to the forecast totals for a larger area or series; this is the method used by Woods & Poole.

Appendix C: Property Tax Base and SPLOST Forecasts

The Georgia Development Impact Fee Act is very clear that new growth and development cannot be charged more in impact fees than their 'fair share' of the cost of providing public faculties needed to serve that new growth. The calculation of that 'fair share' is intrinsic to the impact fee calculations carried out in the chapters addressing each public facility category. While new growth and development will be paying their 'fair share' of the cost of public facilities specifically needed to pay for new facilities that serve it, new development will also be generating tax revenue. To the extent that new growth will be contributing taxes for non-eligible portions of impact fee projects (for which they are not financially responsible), a credit must be applied reflecting the allocation of those tax collections in order to avoid new growth paying more than their 'fair share' of total costs.

There are two types of taxes that new development will generate as new homes become occupied and new businesses hire employees and get their operations underway. One type, of course, is the property tax revenue that is levied on all taxable property by the County. Another important source of revenue are SPLOST program sales taxes. To the extent that these property or SPLOST taxes will be used by the County to cover a portion of the cost of those impact fee projects that are not impact fee eligible, and new development will begin paying them as growth occurs, a credit must be granted against impact fees to recognize the taxes generated for those ineligible costs.

In this way, new growth and development will pay its 'fair share' of project costs through the combination of the impact fee itself and the taxes paid by new growth that are allocated to fund the ineligible portions.

Property Tax Bases

Table C-1 shows the latest reported tax base figures for the County as a whole, each of its cities, and the unincorporated area. The amounts shown are the 'assessed' values, which are 40% of the 'actual' values for properties in each tax category.

As can be seen, the vast majority of all development in the county is located in the unincorporated area, outside of any county. Altogether, the unincorporated area contains over 70% of all taxable property in the county.

While the table shows a gross total assessed value for residential property of over $4.3 billion in the unincorporated area, there are various exemptions that apply to certain residential properties (such as a 'homestead' exemption) which are referred to collectively as the M&O (maintenance and operations) exemptions. These exemptions reduce the tax burdens on such properties. At the bottom of the table the M&O exemptions are subtracted from the gross residential assessed value, resulting in a net taxable value of almost $2.57 billion. Overall, the M&O exemptions reduce the total property tax valuation in the unincorporated area for all uses from almost $7 billion to about $5.26 billion.

As new growth and development comes on line, however, it will also be generating tax revenue. To the extent that new growth will be contributing taxes for non-eligible portions of impact fee projects (for which they are not financially responsible), a credit must be applied reflecting the allocation of those tax collections in order to avoid new growth paying more than their 'fair share' of total costs.

Table C-1: Property Tax Bases

	County Total	Hampton	Locust Grove	McDonough	Stockbridge	Unincorporated
Residential	$ 5,691,126,449	$ 155,222,252	$ 171,349,450	$ 522,346,212	$ 540,474,521	$ 4,301,734,014
Historical	$ 96,000	$ -	$ -	$ 96,000	$ -	$ -
Agricultural	$ 19,938,878	$ 174,280	$ 379,639	$ 299,160	$ 152,520	$ 18,933,279
Conservation Use	$ 62,240	$ -	$ -	$ -	$ -	$ 62,240
Forest Conservation	$ 98,330,755	$ 287,000	$ 3,922,440	$ 1,141,000	$ 509,320	$ 92,470,995
Environmentally Sensitive	$ 1,103,240	$ -	$ -	$ -	$ -	$ 1,103,240
Commercial	$ 1,650,339,662	$ 17,157,748	$ 103,919,430	$ 405,386,892	$ 378,986,891	$ 744,888,701
Industrial	$ 1,849,635,835	$ 15,954,392	$ 37,365,228	$ 146,189,591	$ 30,057,872	$ 1,620,068,752
Utility	$ 154,122,273	$ 4,974,302	$ 5,251,195	$ 10,812,484	$ 12,459,899	$ 120,624,393
Motor Vehicle	$ 104,696,750	$ 2,438,140	$ 1,861,590	$ 7,466,040	$ 4,770,560	$ 88,160,420
Mobile Home	$ 7,013,887	$ 920,466	$ 68,693	$ 2,948	$ 1,755,941	$ 4,265,839
Timber 100%	$ 675,962	$ 13,715	$ -	$ -	$ -	$ 662,247
Heavy Equipment	$ 182,522	$ -	$ -	$ 23,548	$ 112,255	$ 46,719
Gross Tax Base	$ 9,577,324,453	$ 197,142,295	$ 324,117,665	$ 1,093,763,875	$ 969,279,779	$ 6,993,020,839
Exempt M&O	$ 2,086,430,196	$ 43,588,704	$ 33,384,854	$ 162,930,584	$ 110,346,735	$ 1,736,179,319
Net Residential	$ 3,604,696,253	$ 111,633,548	$ 137,964,596	$ 359,415,628	$ 430,127,786	$ 2,565,554,695
Total Tax Base--M&O	$ 7,490,894,257	$ 153,553,591	$ 290,732,811	$ 930,833,291	$ 858,933,044	$ 5,256,841,520

Source: Ga Dept. of Revenue, Consolidated Henry County Tax Digest, 2019.

Henry County Tax Base Projections

Unincorporated Area

In the following table, the total value added to the tax base by new growth and development throughout the unincorporated area of the county is calculated. New residences recently for sale in the county are being offered at an overall average sales price of $326,152, which would be a gross tax assessment value of $130,461 at 40% of the actual sales price. Applying the same proportion of M&O exemptions experienced by existing residences overall (which is an average 36.66% reduction), the average value added to the tax base is $82,633.

Nonresidential value added is calculated as the assessed value of all commercial, industrial, and utility property divided by the current number of 'value-added' jobs in the county, resulting in a figure of $53,223 in assessed value per employee.

Table C-2: Tax Base Increases from New Growth - Unincorporated Area

Year	Residential			Non-Residential			Total Annual Added Assessed Value
	Total Housing Units	New Housing Units	Added Assessed Value*	Value-Added Employees	New Employees	Added Assessed Value**	
2019	59,091	0	$ -	46,701	0	$ -	$ -
2020	60,574	1,483	$ 122,544,068	48,203	1,502	$ 79,940,946	$ 202,485,014
2021	62,055	1,481	$ 122,378,803	49,706	1,503	$ 79,994,169	$ 202,372,972
2022	63,536	1,481	$ 122,378,803	51,208	1,502	$ 79,940,946	$ 202,319,749
2023	65,018	1,482	$ 122,461,436	52,711	1,503	$ 79,994,169	$ 202,455,605
2024	66,499	1,481	$ 122,378,803	54,213	1,502	$ 79,940,946	$ 202,319,749
2025	67,981	1,482	$ 122,461,436	55,715	1,502	$ 79,940,946	$ 202,402,382
2026	69,462	1,481	$ 122,378,803	57,726	2,011	$ 107,031,453	$ 229,410,256
2027	70,944	1,482	$ 122,461,436	59,736	2,010	$ 106,978,230	$ 229,439,666
2028	72,425	1,481	$ 122,378,803	61,746	2,010	$ 106,978,230	$ 229,357,033
2029	73,907	1,482	$ 122,461,436	63,757	2,011	$ 107,031,453	$ 229,492,889
2030	75,389	1,482	$ 122,461,436	65,767	2,010	$ 106,978,230	$ 229,439,666
2031	76,870	1,481	$ 122,378,803	68,045	2,278	$ 121,241,994	$ 243,620,797
2032	78,352	1,482	$ 122,461,436	70,323	2,278	$ 121,241,994	$ 243,703,430
2033	79,834	1,482	$ 122,461,436	72,601	2,278	$ 121,241,994	$ 243,703,430
2034	81,315	1,481	$ 122,378,803	74,879	2,278	$ 121,241,994	$ 243,620,797
2035	82,796	1,481	$ 122,378,803	77,157	2,278	$ 121,241,994	$ 243,620,797
2036	84,279	1,483	$ 122,544,068	79,742	2,585	$ 137,581,455	$ 260,125,523
2037	85,760	1,481	$ 122,378,803	82,327	2,585	$ 137,581,455	$ 259,960,258
2038	87,241	1,481	$ 122,378,803	84,912	2,585	$ 137,581,455	$ 259,960,258
2039	88,723	1,482	$ 122,461,436	87,497	2,585	$ 137,581,455	$ 260,042,891
2040	90,205	1,482	$ 122,461,436	90,082	2,585	$ 137,581,455	$ 260,042,891

*New housing unit value is estimated at an average assessed value per housing unit of: $82,633
**Nonresidential value is estimated at an assessed value per employee of: $53,223

These assessed values are applied to new growth (new housing units and new 'value-added' employment) to calculate the total increases each year in taxable value generated by new growth. (Note that Homestead and other exemptions for homeowners have been subtracted from the total residential figures—thus, the net taxable value is shown on table C-2.)

In Table C-3, the property tax base of the unincorporated area of the county is forecast to the year 2040. This is a combination of the tax digest base year from Table C-1 and the annual increase in assessed property value generated by new growth and development from Table C-2. Importantly, the figures shown on Table C-3 are 'current value' figures and do not account for future reassessments or the effects of inflation.

Table C-3: Unincorporated Area Total Tax Base Increases

Year	All Development		Residential Only	
	Added Assessed Value	Total Net M&O Tax Base*	Added Assessed Value	Net M&O Residential Tax Base*
2019	$ -	$ 5,256,841,520	$ -	$ 2,565,554,695
2020	$ 202,485,014	$ 5,459,326,534	$ 122,544,068	$ 2,688,098,763
2021	$ 202,372,972	$ 5,661,699,506	$ 122,378,803	$ 2,810,477,566
2022	$ 202,319,749	$ 5,864,019,256	$ 122,378,803	$ 2,932,856,370
2023	$ 202,455,605	$ 6,066,474,860	$ 122,461,436	$ 3,055,317,805
2024	$ 202,319,749	$ 6,268,794,609	$ 122,378,803	$ 3,177,696,608
2025	$ 202,402,382	$ 6,471,196,991	$ 122,461,436	$ 3,300,158,044
2026	$ 229,410,256	$ 6,700,607,247	$ 122,378,803	$ 3,422,536,847
2027	$ 229,439,666	$ 6,930,046,913	$ 122,461,436	$ 3,544,998,283
2028	$ 229,357,033	$ 7,159,403,946	$ 122,378,803	$ 3,667,377,086
2029	$ 229,492,889	$ 7,388,896,835	$ 122,461,436	$ 3,789,838,522
2030	$ 229,439,666	$ 7,618,336,501	$ 122,461,436	$ 3,912,299,958
2031	$ 243,620,797	$ 7,861,957,298	$ 122,378,803	$ 4,034,678,761
2032	$ 243,703,430	$ 8,105,660,728	$ 122,461,436	$ 4,157,140,197
2033	$ 243,703,430	$ 8,349,364,157	$ 122,461,436	$ 4,279,601,632
2034	$ 243,620,797	$ 8,592,984,954	$ 122,378,803	$ 4,401,980,435
2035	$ 243,620,797	$ 8,836,605,752	$ 122,378,803	$ 4,524,359,239
2036	$ 260,125,523	$ 9,096,731,275	$ 122,544,068	$ 4,646,903,307
2037	$ 259,960,258	$ 9,356,691,533	$ 122,378,803	$ 4,769,282,110
2038	$ 259,960,258	$ 9,616,651,791	$ 122,378,803	$ 4,891,660,913
2039	$ 260,042,891	$ 9,876,694,682	$ 122,461,436	$ 5,014,122,349
2040	$ 260,042,891	$ 10,136,737,573	$ 122,461,436	$ 5,136,583,785

* Total tax base and Residential tax base including all M&O exemptions.

The figures on Table C-3 are used for impact fee calculations for County services that are provided only within the unincorporated area of the county.

Henry County as a Whole

Tax base projections were also prepared for the entire county, including the unincorporated area and all of its cities.

These forecasts followed the same process as followed for the tax base in the unincorporated area in the preceding section above, and are shown on the two following tables.

Table C-4: Tax Base Increases from New Growth - Countywide

Year	Residential			Non-Residential			Total Annual Added Assessed Value
	Total Housing Units	New Housing Units	Added Assessed Value*	Value-Added Employees	New Employees	Added Assessed Value**	
2019	87,552	0	$ -	92,331	0	$ -	$ -
2020	89,774	2,222	$ 183,609,521	95,301	2,970	$ 117,540,720	$ 301,150,241
2021	91,995	2,221	$ 183,526,888	98,272	2,971	$ 117,580,296	$ 301,107,184
2022	94,217	2,222	$ 183,609,521	101,242	2,970	$ 117,540,720	$ 301,150,241
2023	96,438	2,221	$ 183,526,888	104,212	2,970	$ 117,540,720	$ 301,067,608
2024	98,660	2,222	$ 183,609,521	107,183	2,971	$ 117,580,296	$ 301,189,817
2025	100,881	2,221	$ 183,526,888	110,153	2,970	$ 117,540,720	$ 301,067,608
2026	103,102	2,221	$ 183,526,888	114,128	3,975	$ 157,314,600	$ 340,841,488
2027	105,324	2,222	$ 183,609,521	118,102	3,974	$ 157,275,024	$ 340,884,545
2028	107,545	2,221	$ 183,526,888	122,077	3,975	$ 157,314,600	$ 340,841,488
2029	109,767	2,222	$ 183,609,521	126,051	3,974	$ 157,275,024	$ 340,884,545
2030	111,988	2,221	$ 183,526,888	130,026	3,975	$ 157,314,600	$ 340,841,488
2031	114,210	2,222	$ 183,609,521	134,530	4,504	$ 178,250,304	$ 361,859,825
2032	116,431	2,221	$ 183,526,888	139,033	4,503	$ 178,210,728	$ 361,737,616
2033	118,653	2,222	$ 183,609,521	143,537	4,504	$ 178,250,304	$ 361,859,825
2034	120,874	2,221	$ 183,526,888	148,040	4,503	$ 178,210,728	$ 361,737,616
2035	123,096	2,222	$ 183,609,521	152,544	4,504	$ 178,250,304	$ 361,859,825
2036	125,317	2,221	$ 183,526,888	157,655	5,111	$ 202,272,936	$ 385,799,824
2037	127,539	2,222	$ 183,609,521	162,766	5,111	$ 202,272,936	$ 385,882,457
2038	129,760	2,221	$ 183,526,888	167,877	5,111	$ 202,272,936	$ 385,799,824
2039	131,982	2,222	$ 183,609,521	172,988	5,111	$ 202,272,936	$ 385,882,457
2040	134,203	2,221	$ 183,526,888	178,099	5,111	$ 202,272,936	$ 385,799,824

*New housing unit value is estimated at an average assessed value per housing unit of: $82,633
**Nonresidential value is estimated at an assessed value per employee of: $39,576

Residential and nonresidential average values used in Table C-4 are calculated in the same way as described for the unincorporated area, above.

The total property tax base of the county is forecast to the year 2040, and shown on Table C-5. This is a combination of the tax digest base year from Table C-1 and the annual increase in assessed property value generated by new growth and development from Table C-4. Again, the figures shown on Table C-5 are 'current value' figures and do not account for future reassessments or the effects of inflation.

Table C-5: Countywide Total Tax Base Increases

Year	All Development		Residential Only	
	Added Assessed Value	Total Net M&O Tax Base*	Added Assessed Value	Net M&O Residential Tax Base*
2019	$ -	$ 7,490,894,257	$ -	$ 3,604,696,253
2020	$ 301,150,241	$ 7,792,044,498	$ 183,609,521	$ 3,788,305,774
2021	$ 301,107,184	$ 8,093,151,683	$ 183,526,888	$ 3,971,832,663
2022	$ 301,150,241	$ 8,394,301,924	$ 183,609,521	$ 4,155,442,184
2023	$ 301,067,608	$ 8,695,369,532	$ 183,526,888	$ 4,338,969,072
2024	$ 301,189,817	$ 8,996,559,349	$ 183,609,521	$ 4,522,578,593
2025	$ 301,067,608	$ 9,297,626,958	$ 183,526,888	$ 4,706,105,482
2026	$ 340,841,488	$ 9,638,468,446	$ 183,526,888	$ 4,889,632,370
2027	$ 340,884,545	$ 9,979,352,991	$ 183,609,521	$ 5,073,241,891
2028	$ 340,841,488	$ 10,320,194,480	$ 183,526,888	$ 5,256,768,780
2029	$ 340,884,545	$ 10,661,079,025	$ 183,609,521	$ 5,440,378,301
2030	$ 340,841,488	$ 11,001,920,513	$ 183,526,888	$ 5,623,905,189
2031	$ 361,859,825	$ 11,363,780,338	$ 183,609,521	$ 5,807,514,710
2032	$ 361,737,616	$ 11,725,517,955	$ 183,526,888	$ 5,991,041,599
2033	$ 361,859,825	$ 12,087,377,780	$ 183,609,521	$ 6,174,651,120
2034	$ 361,737,616	$ 12,449,115,396	$ 183,526,888	$ 6,358,178,008
2035	$ 361,859,825	$ 12,810,975,221	$ 183,609,521	$ 6,541,787,529
2036	$ 385,799,824	$ 13,196,775,046	$ 183,526,888	$ 6,725,314,418
2037	$ 385,882,457	$ 13,582,657,503	$ 183,609,521	$ 6,908,923,939
2038	$ 385,799,824	$ 13,968,457,327	$ 183,526,888	$ 7,092,450,827
2039	$ 385,882,457	$ 14,354,339,784	$ 183,609,521	$ 7,276,060,348
2040	$ 385,799,824	$ 14,740,139,609	$ 183,526,888	$ 7,459,587,237

* Total tax base and Residential tax base including all M&O exemptions.

These tax base projections are used where needed for all public facility categories that deliver services throughout the county.

The County Police Service Area

Uniquely, the County Police Department provides full law enforcement services throughout the unincorporated area and the City of Stockbridge.

The following tables show the property tax projections unique to this Special Service District, and were prepared in the same manner as described for the previous two 'service' areas.

Table C-6: Tax Base Increases from New Growth - Police District

Year	Residential			Non-Residential			Total Annual Added Assessed Value
	Total Housing Units	New Housing Units	Added Assessed Value*	Value-Added Employees	New Employees	Added Assessed Value**	
2019	70,685	0	$ -	63,948	0	$ -	$ -
2020	72,492	1,807	$ 149,317,014	66,006	2,058	$ 93,556,680	$ 242,873,694
2021	74,297	1,805	$ 149,151,749	68,063	2,057	$ 93,511,220	$ 242,662,969
2022	76,101	1,804	$ 149,069,116	70,120	2,057	$ 93,511,220	$ 242,580,336
2023	77,907	1,806	$ 149,234,381	72,177	2,057	$ 93,511,220	$ 242,745,601
2024	79,712	1,805	$ 149,151,749	74,235	2,058	$ 93,556,680	$ 242,708,429
2025	81,518	1,806	$ 149,234,381	76,292	2,057	$ 93,511,220	$ 242,745,601
2026	83,322	1,804	$ 149,069,116	79,045	2,753	$ 125,151,380	$ 274,220,496
2027	85,128	1,806	$ 149,234,381	81,798	2,753	$ 125,151,380	$ 274,385,761
2028	86,933	1,805	$ 149,151,749	84,550	2,752	$ 125,105,920	$ 274,257,669
2029	88,739	1,806	$ 149,234,381	87,303	2,753	$ 125,151,380	$ 274,385,761
2030	90,544	1,805	$ 149,151,749	90,056	2,753	$ 125,151,380	$ 274,303,129
2031	92,349	1,805	$ 149,151,749	93,175	3,119	$ 141,789,740	$ 290,941,489
2032	94,154	1,805	$ 149,151,749	96,294	3,119	$ 141,789,740	$ 290,941,489
2033	95,960	1,806	$ 149,234,381	99,414	3,120	$ 141,835,200	$ 291,069,581
2034	97,765	1,805	$ 149,151,749	102,533	3,119	$ 141,789,740	$ 290,941,489
2035	99,570	1,805	$ 149,151,749	105,652	3,119	$ 141,789,740	$ 290,941,489
2036	101,376	1,806	$ 149,234,381	109,192	3,540	$ 160,928,400	$ 310,162,781
2037	103,181	1,805	$ 149,151,749	112,732	3,540	$ 160,928,400	$ 310,080,149
2038	104,986	1,805	$ 149,151,749	116,272	3,540	$ 160,928,400	$ 310,080,149
2039	106,792	1,806	$ 149,234,381	119,811	3,539	$ 160,882,940	$ 310,117,321
2040	108,597	1,805	$ 149,151,749	123,351	3,540	$ 160,928,400	$ 310,080,149

*New housing unit value is estimated at an average assessed value per housing unit of: $82,633
**Nonresidential value is estimated at an assessed value per employee of: $45,460

As noted previously, the figures shown on Table C-7 are 'current value' figures and do not account for future reassessments or the effects of inflation.

Table C-7: Police District Total Tax Base Increases

Year	All Development		Residential Only	
	Added Assessed Value	Total Net M&O Tax Base*	Added Assessed Value	Net M&O Residential Tax Base*
2019	$ -	$ 6,115,774,564	$ -	$ 2,995,682,481
2020	$ 242,873,694	$ 6,358,648,258	$ 149,317,014	$ 3,144,999,495
2021	$ 242,662,969	$ 6,601,311,226	$ 149,151,749	$ 3,294,151,243
2022	$ 242,580,336	$ 6,843,891,562	$ 149,069,116	$ 3,443,220,359
2023	$ 242,745,601	$ 7,086,637,164	$ 149,234,381	$ 3,592,454,741
2024	$ 242,708,429	$ 7,329,345,592	$ 149,151,749	$ 3,741,606,489
2025	$ 242,745,601	$ 7,572,091,193	$ 149,234,381	$ 3,890,840,870
2026	$ 274,220,496	$ 7,846,311,690	$ 149,069,116	$ 4,039,909,987
2027	$ 274,385,761	$ 8,120,697,451	$ 149,234,381	$ 4,189,144,368
2028	$ 274,257,669	$ 8,394,955,119	$ 149,151,749	$ 4,338,296,116
2029	$ 274,385,761	$ 8,669,340,880	$ 149,234,381	$ 4,487,530,497
2030	$ 274,303,129	$ 8,943,644,009	$ 149,151,749	$ 4,636,682,246
2031	$ 290,941,489	$ 9,234,585,498	$ 149,151,749	$ 4,785,833,995
2032	$ 290,941,489	$ 9,525,526,986	$ 149,151,749	$ 4,934,985,743
2033	$ 291,069,581	$ 9,816,596,568	$ 149,234,381	$ 5,084,220,125
2034	$ 290,941,489	$ 10,107,538,056	$ 149,151,749	$ 5,233,371,873
2035	$ 290,941,489	$ 10,398,479,545	$ 149,151,749	$ 5,382,523,622
2036	$ 310,162,781	$ 10,708,642,326	$ 149,234,381	$ 5,531,758,003
2037	$ 310,080,149	$ 11,018,722,475	$ 149,151,749	$ 5,680,909,752
2038	$ 310,080,149	$ 11,328,802,623	$ 149,151,749	$ 5,830,061,500
2039	$ 310,117,321	$ 11,638,919,944	$ 149,234,381	$ 5,979,295,881
2040	$ 310,080,149	$ 11,949,000,093	$ 149,151,749	$ 6,128,447,630

* Total tax base and Residential tax base including all M&O exemptions.

Parks & Recreation Service Area

The County provides parks and recreation facilities primarily to the unincorporated area of the county and in the City of McDonough. In addition, impact fees for parks & recreation facilities are paid only by new residential development. While businesses use the parks and some of its recreation facilities to some extent (such as company league softball or picnics), the use is considered 'incidental' and not subject to impact fee participation. It is expected that 'user fees' will be charged to offset those costs.

The following two tables present the annual property tax contributions projected to be generated by new residential development each year to 2040 (Table C-8) and the total residential tax base each year created by the annual new residential growth (Table C-9).

Table C-8: Tax Base Increases from New Growth - Parks & Recreation

Year	Residential		
	Total Housing Units	New Housing Units	Added Assessed Value*
2019	64,541	0	$ -
2020	66,177	1,637	$ 135,242,323
2021	67,815	1,637	$ 135,297,650
2022	69,451	1,636	$ 135,217,154
2023	71,088	1,637	$ 135,270,636
2024	72,725	1,637	$ 135,269,337
2025	74,362	1,637	$ 135,270,636
2026	75,999	1,637	$ 135,242,323
2027	77,636	1,637	$ 135,272,481
2028	79,272	1,637	$ 135,242,323
2029	80,909	1,637	$ 135,270,636
2030	82,547	1,637	$ 135,298,849
2031	84,184	1,637	$ 135,270,636
2032	85,820	1,637	$ 135,242,323
2033	87,457	1,637	$ 135,272,481
2034	89,094	1,637	$ 135,242,323
2035	90,731	1,637	$ 135,270,636
2036	92,368	1,637	$ 135,269,337
2037	94,005	1,637	$ 135,270,636
2038	95,641	1,636	$ 135,217,154
2039	97,279	1,637	$ 135,297,650
2040	98,915	1,637	$ 135,242,323

*New housing unit value at an average assessed value per housing unit of: $82,633

Table C-9: Total Tax Base Increases - Parks & Recreation

Year	All Development	
	Added Assessed Value	Total Net M&O Tax Base*
2019		$ 6,187,674,811
2020	$ 135,242,323	$ 6,322,917,134
2021	$ 135,297,650	$ 6,458,214,784
2022	$ 135,217,154	$ 6,593,431,939
2023	$ 135,270,636	$ 6,728,702,575
2024	$ 135,269,337	$ 6,863,971,912
2025	$ 135,270,636	$ 6,999,242,548
2026	$ 135,242,323	$ 7,134,484,872
2027	$ 135,272,481	$ 7,269,757,353
2028	$ 135,242,323	$ 7,404,999,676
2029	$ 135,270,636	$ 7,540,270,313
2030	$ 135,298,849	$ 7,675,569,161
2031	$ 135,270,636	$ 7,810,839,798
2032	$ 135,242,323	$ 7,946,082,121
2033	$ 135,272,481	$ 8,081,354,602
2034	$ 135,242,323	$ 8,216,596,925
2035	$ 135,270,636	$ 8,351,867,562
2036	$ 135,269,337	$ 8,487,136,899
2037	$ 135,270,636	$ 8,622,407,535
2038	$ 135,217,154	$ 8,757,624,689
2039	$ 135,297,650	$ 8,892,922,340
2040	$ 135,242,323	$ 9,028,164,663

* Total Residential tax base including all M&O exemptions.

Property Tax Credits Against Impact Fees

Per-Project Funding Shortfall Credit

Some capital projects in the impact fee program have portions that are not impact fee eligible. These are situations in which a project serves both a future (impact fee eligible) need and a need to provide service to the current residents and businesses at the same Level of Service as new growth. Funding for these non-eligible portions are the responsibility of the current residents and businesses, not new growth.

To the extent that new growth will be generating taxes that will be spent on non-eligible portions of impact fee projects (for which they are not financially responsible), a credit must be applied reflecting these tax collections in order to avoid new growth paying more than their 'fair share' of total costs.

For individual projects that are only partially eligible for impact fee funding, it is assumed for calculation purposes that the non-eligible portions will be covered by General Fund revenue or SPLOST sales taxes (depending on the normal form of funding projects applicable to each public facility category).

Since both existing and future residents and businesses will be paying the taxes, the situation that new growth would be paying both impact fees to cover its fair share of the costs and generating taxes that can be used to cover the (ineligible) portion of the cost for which it is not responsible results in a form of 'double taxation'. Thus, a credit must be calculated that reduces the impact fee portion to account for the tax contribution.

To the extent that credits are due, they are subtracted from the impact fee project costs as part of the calculation of maximum impact fees allowed within each of the public facility chapters to which they apply.

General Fund Credits

Unincorporated Area Credits

As the county grows, new growth will be generating a larger proportion of total property taxes each year. Table C-10 shows the percentage of the total property tax revenue that will be generated by new growth in the unincorporated area for two scenarios.

Scenario 1: The left-hand portion of Table C-10 shows the tax base generated only by residential growth in the unincorporated area. These figures would apply to projects for which only residential land uses would be assessed impact fees; e.g., Parks & Recreation.

Scenario 2: On the right-hand portion of the table, the growth in the unincorporated area tax base generated by growth in the day-night population (i.e., population and businesses combined) is shown for each year, along with the tax base added by new growth alone. Dividing one by the other, the proportion of the total tax base that will be generated by new growth is shown as a percentage.

In any given year, the percentage from the applicable '% New Growth' column for that year would be applied as a credit against any portion of a project that is intended to be expended that year which is not impact fee eligible.

Table C-10: Future Property Tax Generation - Unincorporated Area Growth

Year	Fees based on Housing Units			Fees based on Day-Night Populaton		
	Net M&O Residential Tax Base*	Tax Base from New Residential Growth	% New Growth	Total Net M&O Tax Base*	Total Tax Base from All New Growth	% New Growth
2019						
2020						
2021	$ 2,810,477,566	$ 122,378,803	4.35%	$ 5,661,699,506	$ 202,372,972	3.57%
2022	$ 2,932,856,370	$ 244,757,606	8.35%	$ 5,864,019,256	$ 404,692,721	6.90%
2023	$ 3,055,317,805	$ 367,136,410	12.02%	$ 6,066,474,860	$ 607,148,326	10.01%
2024	$ 3,177,696,608	$ 489,597,845	15.41%	$ 6,268,794,609	$ 809,468,075	12.91%
2025	$ 3,300,158,044	$ 611,976,648	18.54%	$ 6,471,196,991	$ 1,011,870,457	15.64%
2026	$ 3,422,536,847	$ 734,438,084	21.46%	$ 6,700,607,247	$ 1,241,280,713	18.52%
2027	$ 3,544,998,283	$ 856,816,887	24.17%	$ 6,930,046,913	$ 1,470,720,379	21.22%
2028	$ 3,667,377,086	$ 979,278,323	26.70%	$ 7,159,403,946	$ 1,700,077,412	23.75%
2029	$ 3,789,838,522	$ 1,101,657,126	29.07%	$ 7,388,896,835	$ 1,929,570,301	26.11%
2030	$ 3,912,299,958	$ 1,224,118,562	31.29%	$ 7,618,336,501	$ 2,159,009,966	28.34%
2031	$ 4,034,678,761	$ 1,346,579,998	33.38%	$ 7,861,957,298	$ 2,402,630,764	30.56%
2032	$ 4,157,140,197	$ 1,468,958,801	35.34%	$ 8,105,660,728	$ 2,646,334,193	32.65%
2033	$ 4,279,601,632	$ 1,591,420,236	37.19%	$ 8,349,364,157	$ 2,890,037,623	34.61%
2034	$ 4,401,980,435	$ 1,713,881,672	38.93%	$ 8,592,984,954	$ 3,133,658,420	36.47%
2035	$ 4,524,359,239	$ 1,836,260,475	40.59%	$ 8,836,605,752	$ 3,377,279,217	38.22%
2036	$ 4,646,903,307	$ 1,958,639,279	42.15%	$ 9,096,731,275	$ 3,637,404,741	39.99%
2037	$ 4,769,282,110	$ 2,081,183,347	43.64%	$ 9,356,691,533	$ 3,897,364,999	41.65%
2038	$ 4,891,660,913	$ 2,203,562,150	45.05%	$ 9,616,651,791	$ 4,157,325,257	43.23%
2039	$ 5,014,122,349	$ 2,325,940,953	46.39%	$ 9,876,694,682	$ 4,417,368,148	44.73%
2040	$ 5,136,583,785	$ 2,448,402,389	47.67%	$ 10,136,737,573	$ 4,677,411,038	46.14%

* Total tax base and Residential tax base including all M&O exemptions.

Applying the Tax Credit

By way of example, if a particular project were only 80% impact fee eligible, then the other 20% would be expected to be generated from non-new growth sources since the 'ineligible' portion would be the responsibility of the current residents and businesses in the unincorporated area of the county. Assuming property taxes are the funding source for the non-eligible portion, it must be recognized that some of that 20% would, in fact, be generated by new residential growth. The solution is to find the percentage of new growth participation in property taxes for the particular year of expenditure (a project in 2030, for instance, would garner 31.29% in property tax revenue from new residential growth) and reduce the impact fee share of the project by that percentage (20% of the total cost times 30.19%). The object, in the long run, is to assure that new growth pays no more than its 'fair share' of the cost of facilities that are needed to specifically serve it through this combination of impact fees paid and property tax generated, while the existing residents and businesses pay their fair share of the cost that specifically serves only them.

Property Tax Credits that Apply in Other Service Areas

There are three others defined as 'service areas' in the county: the entire county for services that are provided throughout the unincorporated area as well as in all of the cities (such as the Henry County Library system and Emergency Medical Services), the County Police Special Services District that is comprised of the unincorporated area along with the City of Stockbridge, and the Parks & Recreation service area (the unincorporated area plus McDonough).

These are detailed on the following three tables, which have been prepared in the same manner as Table C-10 for the unincorporated area.

Table C-11: Countywide Property Tax Generation - New Growth

Year	Fees based on Housing Units			Fees based on Day-Night Populaton		
	Net M&O Residential Tax Base*	Tax Base from New Residential Growth	% New Growth	Total Net M&O Tax Base*	Total Tax Base from All New Growth	% New Growth
2019						
2020						
2021	$ 3,971,832,663	$ 183,526,888	4.62%	$ 8,093,151,683	$ 301,107,184	3.72%
2022	$ 4,155,442,184	$ 367,053,777	8.83%	$ 8,394,301,924	$ 602,257,426	7.17%
2023	$ 4,338,969,072	$ 550,663,298	12.69%	$ 8,695,369,532	$ 903,325,034	10.39%
2024	$ 4,522,578,593	$ 734,190,186	16.23%	$ 8,996,559,349	$ 1,204,514,851	13.39%
2025	$ 4,706,105,482	$ 917,799,707	19.50%	$ 9,297,626,958	$ 1,505,582,459	16.19%
2026	$ 4,889,632,370	$ 1,101,326,596	22.52%	$ 9,638,468,446	$ 1,846,423,948	19.16%
2027	$ 5,073,241,891	$ 1,284,853,484	25.33%	$ 9,979,352,991	$ 2,187,308,493	21.92%
2028	$ 5,256,768,780	$ 1,468,463,005	27.93%	$ 10,320,194,480	$ 2,528,149,981	24.50%
2029	$ 5,440,378,301	$ 1,651,989,894	30.37%	$ 10,661,079,025	$ 2,869,034,527	26.91%
2030	$ 5,623,905,189	$ 1,835,599,415	32.64%	$ 11,001,920,513	$ 3,209,876,015	29.18%
2031	$ 5,807,514,710	$ 2,019,126,303	34.77%	$ 11,363,780,338	$ 3,571,735,840	31.43%
2032	$ 5,991,041,599	$ 2,202,735,825	36.77%	$ 11,725,517,955	$ 3,933,473,457	33.55%
2033	$ 6,174,651,120	$ 2,386,262,713	38.65%	$ 12,087,377,780	$ 4,295,333,282	35.54%
2034	$ 6,358,178,008	$ 2,569,872,234	40.42%	$ 12,449,115,396	$ 4,657,070,898	37.41%
2035	$ 6,541,787,529	$ 2,753,399,122	42.09%	$ 12,810,975,221	$ 5,018,930,723	39.18%
2036	$ 6,725,314,418	$ 2,937,008,644	43.67%	$ 13,196,775,046	$ 5,404,730,548	40.95%
2037	$ 6,908,923,939	$ 3,120,535,532	45.17%	$ 13,582,657,503	$ 5,790,613,005	42.63%
2038	$ 7,092,450,827	$ 3,304,145,053	46.59%	$ 13,968,457,327	$ 6,176,412,829	44.22%
2039	$ 7,276,060,348	$ 3,487,671,942	47.93%	$ 14,354,339,784	$ 6,562,295,286	45.72%
2040	$ 7,459,587,237	$ 3,671,281,463	49.22%	$ 14,740,139,609	$ 6,948,095,111	47.14%

* Total tax base and Residential tax base including all M&O exemptions.

Table C-12: Police District Property Tax Generation - New Growth

Year	Fees based on Housing Units			Fees based on Day-Night Populaton		
	Net M&O Residential Tax Base*	Tax Base from New Residential Growth	% New Growth	Total Net M&O Tax Base*	Total Tax Base from All New Growth	% New Growth
2019						
2020						
2021	$ 3,294,151,243	$ 149,151,749	4.53%	$ 6,601,311,226	$ 242,662,969	3.68%
2022	$ 3,443,220,359	$ 298,303,497	8.66%	$ 6,843,891,562	$ 485,243,305	7.09%
2023	$ 3,592,454,741	$ 447,372,613	12.45%	$ 7,086,637,164	$ 727,988,906	10.27%
2024	$ 3,741,606,489	$ 596,606,995	15.95%	$ 7,329,345,592	$ 970,697,335	13.24%
2025	$ 3,890,840,870	$ 745,758,743	19.17%	$ 7,572,091,193	$ 1,213,442,936	16.03%
2026	$ 4,039,909,987	$ 894,993,124	22.15%	$ 7,846,311,690	$ 1,487,663,432	18.96%
2027	$ 4,189,144,368	$ 1,044,062,240	24.92%	$ 8,120,697,451	$ 1,762,049,193	21.70%
2028	$ 4,338,296,116	$ 1,193,296,622	27.51%	$ 8,394,955,119	$ 2,036,306,862	24.26%
2029	$ 4,487,530,497	$ 1,342,448,370	29.92%	$ 8,669,340,880	$ 2,310,692,623	26.65%
2030	$ 4,636,682,246	$ 1,491,682,751	32.17%	$ 8,943,644,009	$ 2,584,995,751	28.90%
2031	$ 4,785,833,995	$ 1,640,834,500	34.29%	$ 9,234,585,498	$ 2,875,937,240	31.14%
2032	$ 4,934,985,743	$ 1,789,986,249	36.27%	$ 9,525,526,986	$ 3,166,878,729	33.25%
2033	$ 5,084,220,125	$ 1,939,137,997	38.14%	$ 9,816,596,568	$ 3,457,948,310	35.23%
2034	$ 5,233,371,873	$ 2,088,372,378	39.90%	$ 10,107,538,056	$ 3,748,889,798	37.09%
2035	$ 5,382,523,622	$ 2,237,524,127	41.57%	$ 10,398,479,545	$ 4,039,831,287	38.85%
2036	$ 5,531,758,003	$ 2,386,675,876	43.14%	$ 10,708,642,326	$ 4,349,994,068	40.62%
2037	$ 5,680,909,752	$ 2,535,910,257	44.64%	$ 11,018,722,475	$ 4,660,074,217	42.29%
2038	$ 5,830,061,500	$ 2,685,062,006	46.06%	$ 11,328,802,623	$ 4,970,154,366	43.87%
2039	$ 5,979,295,881	$ 2,834,213,754	47.40%	$ 11,638,919,944	$ 5,280,271,687	45.37%
2040	$ 6,128,447,630	$ 2,983,448,135	48.68%	$ 11,949,000,093	$ 5,590,351,835	46.79%

* Total tax base and Residential tax base including all M&O exemptions.

impact fees are paid only by residential uses for several public facility categories: the County Library system, animal control, and parks & recreation for instance. While the first two are countywide in their service areas, the service area for parks & recreation facilities is comprised by only the unincorporated area and the City of McDonough. The following table is therefore truncated to show only residential tax generation in the parks & recreation service area.

Table C-13: Parks & Recreation Property Tax Generation - New Growth

Year	Fees based on Housing Units		
	Net M&O Residential Tax Base*	Tax Base from New Residential Growth	% New Growth
2019			
2020			
2021	$ 6,458,214,784	$ 135,297,650	2.09%
2022	$ 6,593,431,939	$ 270,514,805	4.10%
2023	$ 6,728,702,575	$ 405,785,441	6.03%
2024	$ 6,863,971,912	$ 541,054,778	7.88%
2025	$ 6,999,242,548	$ 676,325,414	9.66%
2026	$ 7,134,484,872	$ 811,567,737	11.38%
2027	$ 7,269,757,353	$ 946,840,219	13.02%
2028	$ 7,404,999,676	$ 1,082,082,542	14.61%
2029	$ 7,540,270,313	$ 1,217,353,178	16.14%
2030	$ 7,675,569,161	$ 1,352,652,027	17.62%
2031	$ 7,810,839,798	$ 1,487,922,664	19.05%
2032	$ 7,946,082,121	$ 1,623,164,987	20.43%
2033	$ 8,081,354,602	$ 1,758,437,468	21.76%
2034	$ 8,216,596,925	$ 1,893,679,791	23.05%
2035	$ 8,351,867,562	$ 2,028,950,428	24.29%
2036	$ 8,487,136,899	$ 2,164,219,765	25.50%
2037	$ 8,622,407,535	$ 2,299,490,401	26.67%
2038	$ 8,757,624,689	$ 2,434,707,555	27.80%
2039	$ 8,892,922,340	$ 2,570,005,206	28.90%
2040	$ 9,028,164,663	$ 2,705,247,529	29.96%

* Total Residential tax base including all M&O exemptions.

SPLOST Tax Credits Against Impact Fees

Application of the SPLOST Credit

For those public facility categories that are normally funded through SPLOST programs, the SPLOST credit will be applied to each project's non-eligible cost in the year that the project is scheduled to be undertaken. The amount of the credit will be based on the percentage of SPLOST revenue generated by the accumulation of new growth in that year from residential uses. The table containing these percentages and an explanation of their application is contained in the Cost Adjustments and Credits chapter of this report.

Table C-14: Previous SPLOST Collections

Year	Month	Sales Tax Collections	Population	
			Number	Tax per Person
2019	June		234,561	
	July		235,057	
	August		235,553	
	September		236,049	
	October		236,545	
	November		237,041	
	December		237,537	
2020	January		238,032	
	February		238,528	
	March		239,024	
	April	$ 3,122,741.30	239,520	$ 13.0375
	May	$ 3,628,127.15	240,016	$ 15.1162
	June	$ 3,761,659.90	240,512	$ 15.6402
	July	$ 3,838,939.23	241,008	$ 15.9287
	August	$ 3,854,336.85	241,504	$ 15.9597
	September	$ 3,817,142.63	242,000	$ 15.7733
	October	$ 4,010,795.98	242,496	$ 16.5396
	November	$ 3,876,714.93	242,992	$ 15.9541
	December	$ 4,618,764.95	243,488	$ 18.9692
2021	January	$ 3,720,416.20	243,984	$ 15.2486
	February	$ 3,573,315.41	244,480	$ 14.6160
	March		244,976	
	April		245,472	
	May		245,968	
	June		246,464	
Total Collected		$ 41,822,954.53		

Average per person per month (April-February) = $ 15.71

Table C-14 shows monthly collections received by the County for its current SPLOST V program.

The 'Sales Tax Collections' figure for each month (on the left side of the table) is then divided by the countywide resident population that month to determine the average taxes generated per person. (The monthly resident population figures are extrapolated from the annual data in the preceding Future Growth Appendix.)

[Note: the population figures are used in calculating SPLOST credits because residents generate virtually all SPLOST revenue. Businesses collect the sales taxes from customers and pass on the sales taxes they pay themselves for goods and wares in the prices they charge. Some SPLOST taxes are generated by people that do not live in the county—people that come in to the county to work or shop and travelers passing through, for instance. By basing the total tax generation on the number of Henry County residents alone, taxes paid by these others are recognized and included in the projections.]

Table C-15: Projected SPLOST V Collections

Month	Year	Popu-lation	Taxes Generated
January	2021		
February			
March		244,976	$ 3,847,985.02
April		245,472	$ 3,855,775.99
May		245,968	$ 3,863,566.96
June		246,464	$ 3,871,357.93
July		246,960	$ 3,879,148.90
August		247,456	$ 3,886,939.87
September		247,952	$ 3,894,730.84
October		248,448	$ 3,902,521.80
November		248,944	$ 3,910,312.77
December		249,440	$ 3,918,103.74
January	2022	249,935	$ 3,925,879.01
February		250,431	$ 3,933,669.98
March		250,927	$ 3,941,460.95
April		251,423	$ 3,949,251.91
May		251,919	$ 3,957,042.88
June		252,415	$ 3,964,833.85
July		252,911	$ 3,972,624.82
August		253,407	$ 3,980,415.79
September		253,903	$ 3,988,206.76
October		254,399	$ 3,995,997.73
November		254,895	$ 4,003,788.70
December		255,391	$ 4,011,579.67
January	2023	255,887	$ 4,019,370.64
February		256,383	$ 4,027,161.61
March		256,879	$ 4,034,952.58
April		257,375	$ 4,042,743.55
May		257,871	$ 4,050,534.52
June		258,367	$ 4,058,325.49
Subtotal 2021-2123		**$**	**110,688,284.26**

Month	Year	Popu-lation	Taxes Generated
June	2023	258,367	
July		258,863	$ 4,066,116.46
August		259,359	$ 4,073,907.43
September		259,855	$ 4,081,698.40
October		260,351	$ 4,089,489.37
November		260,847	$ 4,097,280.34
December		261,343	$ 4,105,071.31
January	2024	261,838	$ 4,112,846.57
February		262,334	$ 4,120,637.54
March		262,830	$ 4,128,428.51
April		263,326	$ 4,136,219.48
May		263,822	$ 4,144,010.45
June		264,318	$ 4,151,801.42
July		264,814	$ 4,159,592.39
August		265,310	$ 4,167,383.36
September		265,806	$ 4,175,174.33
October		266,302	$ 4,182,965.30
November		266,798	$ 4,190,756.26
December		267,294	$ 4,198,547.23
January	2025	267,790	$ 4,206,338.20
February		268,286	$ 4,214,129.17
March		268,782	$ 4,221,920.14
April		269,278	$ 4,229,711.11
May		269,774	$ 4,237,502.08
June		270,270	$ 4,245,293.05
Subtotal 2023-2125		**$**	**99,736,819.88**

Month	Year	Popu-lation	Taxes Generated
June	2025	270,270	
July		270,766	$ 4,253,084.02
August		271,262	$ 4,260,874.99
September		271,758	$ 4,268,665.96
October		272,254	$ 4,276,456.93
November		272,750	$ 4,284,247.90
December		273,246	$ 4,292,038.87
January	2026	273,741	$ 4,299,814.13
February		274,237	$ 4,307,605.10
March		274,733	$ 4,315,396.07
April		275,229	
May		275,725	
June		276,221	
Subtotal 2025-2126		**$**	**38,556,183.98**
Total Future Collections		**$**	**248,983,288.12**
Past Collections 2020 - 2021		**$**	**41,822,954.53**
TOTAL SPLOST V 2020-2026		**$**	**290,806,242.65**

Countywide SPLOST Projections

SPLOST collection projections are made on a 'census year' basis because Census estimates of annual population are as-of July 1. Thus, a 'census year' runs from July 1 through the following June.

The first step is to estimate how much SPLOST V income will be generated for the remainder of the SPLOST V authorization. This is shown on Table C-15 on the preceding page. Since the 5-year program began generating income to the County in March 2021, it is assumed that the last taxes generated will be received in March of 2026.

Altogether, The SPLOST V income received in past months plus projected collections into 2026 are expected to yield a total of almost $291 million.

Looking all the way to 2040 (including SPLOST V), and still using the 'census years' and assuming that subsequent SPLOST programs will be approved, future sales tax revenue is estimated using the same per-person average experienced in the beginning years of SPLOST V (shown on Table C-14).

Because the annual collection figures are based on annual averages, the population figures have been modified from those shown on Table A-13 in the preceding Future Growth Appendix to show the mid-year (July 1) forecast for each year. This produces a more reliable estimate of the future collections, while the approach itself is relatively conservative.

Table C-16: Projected SPLOST Collections to 2040

Year	Total Population*	Taxes Generated	New Growth Population	Taxes Generated	Percent New Growth
2021	244,976				
2022	249,688	$ 47,063,897	4,712	888,076	1.8870%
2023	255,639	$ 49,307,507	10,663	2,009,882	4.0762%
2024	261,591	$ 49,307,507	16,615	3,131,687	6.3513%
2025	267,542	$ 50,429,313	22,566	4,253,492	8.4346%
2026	273,494	$ 51,551,118	28,518	5,375,298	10.4271%
2027	282,173	$ 53,187,127	37,197	7,011,307	13.1823%
2028	288,124	$ 54,308,839	43,148	8,133,018	14.9755%
2029	294,076	$ 55,430,738	49,100	9,254,918	16.6964%
2030	300,027	$ 56,552,449	55,051	10,376,629	18.3487%
2031	305,979	$ 57,674,349	61,003	11,498,529	19.9370%
2032	311,930	$ 58,796,060	66,954	12,620,240	21.4644%
2033	317,882	$ 59,917,960	72,906	13,742,139	22.9349%
2034	323,833	$ 61,039,671	78,857	14,863,851	24.3511%
2035	329,785	$ 62,161,570	84,809	15,985,750	25.7165%
2036	335,736	$ 63,283,282	90,760	17,107,461	27.0331%
2037	341,688	$ 64,405,181	96,712	18,229,361	28.3042%
2038	347,639	$ 65,526,892	102,663	19,351,072	29.5315%
2039	353,591	$ 66,648,792	108,615	20,472,972	30.7177%
2040	359,542	$ 67,770,503	114,566	21,594,683	31.8644%
Totals - 2022-2040		**$ 1,094,362,755**		**$ 215,900,365**	

* Average.for Census year (July - June). Collections in 2026 assumes the initiation of a new SPLOST program, creating 12 months of collections.

In total, starting in 'census year' 2022 and using 'current' dollars, it is expected that SPLOST V and subsequent SPLOST authorizations would generate almost $1.1 billion. Of this, as new growth and development produces an ever-increasing number of new residents, that new growth is projected to generate almost $215 million of the total $1.1 billion.

The most important part of Table C-16 is the percent each year that new residents will represent of the total population. These percentages are applied to the ineligible cost of impact fee eligible projects to determine what portion of those ineligible amounts will be covered by SPLOST income from new growth. For instance, the ineligible amount of an impact fee project in which the impact fee portion is expended in a particular year (2030, for instance), the ineligible portion of the total improvement cost would be 'covered' in part by the proportion of total SPLOST revenue generated by new growth in that year (in our example, 18.3487% of total SPLOST revenue in 2030).

Appendix D: Trip Generation

In order to calculate new growth and development's fair share of the cost of road improvements, it is necessary to establish how much of the future traffic on Henry County's roads will be generated by new growth, over and above the traffic generated by the county's residents and businesses today. This Appendix Section describes the process through which this determination is made.

Summary

A Level of Service must be established for road improvements in order to assure that, ultimately, existing development and new growth are served equally. This Section also presents the process through which new growth and development's 'fair share' of road improvement costs is calculated, and tables summarizing the technical portions of this methodology are included.

Level of Service

The County has set its Level of Service for road improvements at LOS "D", a level below which a number of roads in the county operate. Using this LOS maximizes roadway capacity before traffic conditions actually break down (LOS "F").

All road improvement projects benefit existing and future traffic proportionally to the extent that relief from over-capacity conditions eases traffic problems for everyone. For example, since new growth by 2040 will represent a certain portion of all 2040 traffic, new growth would be responsible for that portions' cost of the road improvements.

It is noted that the cost-impact of non-Henry County generated traffic on the roads traversing the county (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Henry County reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Henry County residents driving to and from their homes, and commuters that come in to the county to work in.

The basis for the road impact fee would therefore be Henry County's cost for the improvements divided by all traffic generated within the county in 2040 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, when a building permit is issued, the cost per trip would be applied to the number of trips that will be generated by the new development, assuring that new growth would only pay its 'fair share' of the road improvements that serve it.

Approach

This methodology proceeds along the following lines:

- Total traffic currently generated by Henry County residents and businesses in 2020 on the road system within the county is calculated from trip generation and commuting data. Various data sources are relied upon to determine current conditions, as explained in each appropriate section, below.
- Future Henry County-generated traffic from new growth in the county is calculated from housing unit and employment forecasts to 2040.
- The portion of total 2040 traffic that is generated by new housing units and employment in the county establishes the percentage of Henry County's cost of the future road improvements that can be included in an impact fee.

Summary Table

The table below shows how the portion of 2040 traffic generated by new growth is calculated. The figures represent all trips generated by general land use, including pass-by and diverted trips.

Table D-1: Average Daily Trip Ends Generated by New Growth

	2020	2040	Increase	Percent New Growth Trip Ends
Residential Trips	823,337	1,230,806	407,469	
Nonresidential Trips	2,076,078	4,067,480	1,991,402	
Less: Internal Commutes*	(138,631)	(271,608)	(132,977)	
Net Trip Ends	**2,760,784**	**5,026,678**	**2,265,894**	**45.1%**

* Residents who work in Henry County. These trips to and from work are included in the residential trips.

The next table, below, calculates the Primary Trip Ends generated by existing and future traffic by deleting pass-by and diverted trips, as discussed below.

Table D-2: Primary Daily Trip Ends Generated by New Growth

	Percent Primary Trip Ends*	Primary Trip Ends			Percent New Growth Primary Trip Ends
		2020	2040	Increase	
Residential Trips	100%	823,337	1,230,806	407,469	
Commercial	51%	966,661	1,918,241	951,580	
Industrial+Utility	92%	162,179	273,724	111,544	
Less: Internal Commutes	100%	(138,631)	(271,608)	(132,977)	
Net New Primary Trip Ends		**1,813,546**	**3,151,163**	**1,337,617**	**42.4%**

* Derived from 'Trip Generation Handbook' chapter, *Trip Generation*, 9th Edition, Institute of Transportation Engineers.

Overall, new residents and businesses located within Henry County will generate 42.4% (more accurately, 42.4483526%) of all Henry County vehicles on its roads. Thus, new growth's 'fair share'

of the cost to the County to provide road improvements to serve current and future traffic cannot exceed this figure.

Pass-by and Diverted Trips

The impact of new growth and development on Henry County's road network is the increased traffic added to the system, expressed by transportation engineers as 'trips'. Every 'trip' has two ends—a beginning at its origin and an end at its destination (known as 'trip ends'). There are three types of trips, defined as:

> A **Primary Trip** (and its trip ends)—a vehicle travelling from its original beginning to its intended final destination. Driving from one's home to ones place of work is an example of a primary trip.
>
> A **Pass-by Trip**—a vehicle travelling along its usual route from its origin to its final destination that stops off at an intermediate location for any reason. A trip from home to work that stops along the way for gas, dropping off a child at daycare, picking up coffee or dinner, or for any other reason, represents a 'pass-by' trip at the intermediate location.
>
> A **Diverted Trip** (previously called a diverted 'link' trip)—a vehicle that diverts from its normal primary route between its origin to its final destination, and takes a different route to stop off at an intermediate location for any reason. While a pass-by trip remains on its normal route, a diverted trip changes its route to other roads to arrive at the intermediate stop.

New primary trips add vehicles to the road network. Pass-by and diverted trips involve the same vehicles stopping off between their original beginnings and their final destinations, and therefore do not add new vehicles to the road network—the vehicles were already there on their way to their final destinations.

These different types of trips result in different types of 'trip ends'. On a home-to-daycare-to-work trip, for instance, there are two primary trip ends (home and work) and two pass-by or diverted trip ends: arriving at the daycare center and leaving from there to drive to work, for instance. The net impact on the road network, however, is created by the one vehicle and its two primary trip ends.

Impact fee calculations take note of these pass-by and diverted trip ends as not adding to the overall traffic on the road network, and deletes them from the total trip ends reported in ITE's *Trip Generation* manual. While the table above uses overall average percentages of primary trip ends derived from ITE for broad land use categories, the actual percentage for each land use listed on the impact fee schedule for roads is applied to the total trip ends to determine the primary trip ends attributed to that land use.

Although both summary tables above reflect about the same percentage of 2040 traffic that will be generated by new growth, the increase in primary trip ends from the second table will play an important role in calculating the per-trip road impact fee.

Residential Trip Generation

Average trip generation rates published by the Institute of Transportation Engineers (ITE) differentiate between 'single-family detached housing' and 'apartments'. The closest correlations with the US Census definitions are 'single-family units' and 'multi-family units', which are shown on the following table.

Table D-3: Residential Units by Type: 2020 and 2040

	2018*	Percent**	Total in 2020***	Increase 2020-2040	Total in 2040
Single-Family Units	70,387	87.85%	78,864	39,030	117,894
Multi-Family Units	9,737	12.15%	10,910	5,399	16,309
Total	**80,124**	**100.0%**	**89,774**	**44,429**	**134,203**

* Based on most recent 5-Year American Community Survey data report (Census Bureau).
** Percent of 2018 total housing units.
*** See Appendix A: Future Growth for housing unit projections.

The 2018 breakdown of housing units by type on the table above are taken from the most recent American Community Survey for Henry County (published by the Census Bureau). The 2018 percentage by housing type (single-family and multi-family) is calculated, and applied to the total number of housing units projected in 2020 (taken from the Future Growth Appendix of this report). It is assumed that these percentages will persist into the future, producing a breakdown of the projected 44,429 new housing units forecast for the 2020-2040 period.

The next table, below, calculates the amount of traffic that is generated by the county's housing stock today, and the amount that will be generated in 2040.

Table D-4: Residential Trip Generation - 2020-2040 New Growth Increase

	ADT* Trip Ends	2020 Units	2020 ADT Trip Ends	2040 Units	2040 ADT Trip Ends	Increase 2020-2040	Percent New Growth Trip Ends
Single-Family Units	9.52	78,864	750,785	117,894	1,122,351	371,566	⇩
Multi-Family Units	6.65	10,910	72,552	16,309	108,455	35,903	
Total		**89,774**	**823,337**	**134,203**	**1,230,806**	**407,469**	**33.1%**

* Average Daily Traffic (trip ends) on a weekday; Institute of Transportation Engineers *Trip Generation*, 9th Edition. Total includes trips to/from work.

The calculations are made on the basis of 'average daily traffic' on a normal weekday, using average trip generation rates derived through multiple traffic studies (350 for single-family and 86 for apartments) and published by ITE. The rates are expressed for 'trip ends'—that is, traffic both leaving and coming to a housing unit.

Comparing traffic in 2020 to 2040, the future increase in trip ends can be calculated, which will represent 33.1% of all residential trip ends generated in the county.

It should be noted that the traffic generated includes trips to and from work and, more particularly, residents who work at a business within the county.

Nonresidential Trip Generation

Calculating traffic generated by businesses located in Henry County is more problematical than residential trips because there is no breakdown of types of businesses in the county that is readily available. In addition, while employment forecasts have been made in terms of the number of jobs, there is no data available for floor areas, much less by detailed type of use.

The alternate is to view nonresidential traffic generation on a broad 'average' basis. For this, there is data available from ITE for a number of individual uses relating to the total number of trips generated per employee. These trips, of course, include not only trips taken by the employees (to/from work, lunch, etc.) but also customers and others that are attracted to the use, serve it or are served by it in some way.

The Average Daily Traffic (ADT) numbers on the following table, therefore, are calculated by dividing all trips to a use—employees, customers, deliveries to or from, etc.—by the number of employees alone. Since there is more data available for the average number of employees per 1,000 square feet of floor area, it enables a determination of the average total trips generated by the land use by the same floor area (and thus the number per '1' square foot of floor area for impact fee calculations).

The table on the following page shows the 'trips per employee' per 1,000 square feet of floor area for those uses for which impact fees are commonly collected and for which the data is available.

Overall, the average trip generation rate of all uses shown on the following table is 10.21 trips per employee for 'industrial' uses and 25.31 for all 'commercial' uses. The 'industrial' category includes such uses as manufacturing and assembly, storage and transportation of goods; the 'commercial' category includes all sales and service uses such as stores, offices, motels, banks, amusements and private institutions). The last column shows the average rate for all 'commercial' uses listed, as opposed to the 'industrial' uses shown in the column on its left.

Although the 'overall' averages are useful for projecting total traffic generation, impact fees for particular uses will reflect the actual average trip generation rate for the specific use.

Table D-5: ITE Trips-per-Employee Data

	ITE CODE	LAND USE	ADT Trip Ends per Employee	Average by Category	Average All Commercial
Port and Terminal (000-099)	30	Intermodal Truck Terminal	6.99	10.21	25.31
Industrial (100-199)	110	General Light Industrial	3.02		
	120	General Heavy Industrial	0.82		
	140	Manufacturing	2.13		
	150	Warehousing	3.89		
	151	Mini-Warehouse	32.47		
	152	High-Cube Warehouse	22.13		
Lodging (300-399)	310	Hotel or Conference Motel	14.34	13.58	
	320	Motel	12.81		
Recreational (400-499)	430	Golf Course	20.52	34.79	
	443	Movie Theater	53.12		
	460	Arena	10.00		
	480	Amusement Park	8.33		
	490	Tennis Courts	66.67		
	491	Racquet/Tennis Club	45.71		
	492	Health/Fitness Center	46.71		
	495	Recreational Community Center	27.25		
Institutional (500-599)	520	Private Elementary School	15.71	29.58	
	530	Private High School	19.74		
	560	Church/Place of Worship	26.24		
	565	Day Care Center	28.13		
	566	Cemetery	58.09		
Medical (600-699)	610	Hospital	4.50	5.26	
	620	Nursing Home	3.26		
	630	Clinic	8.01		
Office (700-799)	710	General Office Building	3.32	4.18	
	714	Corporate Headquarters Building	2.33		
	715	Single-Tenant Office Building	3.70		
	720	Medical-Dental Office Building	8.91		
	760	Research and Development Center	2.77		
	770	Business Park	4.04		
Retail (800-899)	812	Building Materials and Lumber Store	32.12	32.86	
	814	Variety Store	66.70		
	815	Free-Standing Discount Store	28.84		
	816	Hardware/Paint Store	53.21		
	817	Nursery (Garden Center)	21.83		
	818	Nursery (Wholesale)	23.40		
	826	Specialty Retail Center	22.36		
	841	Automobile Sales	21.14		
	850	Supermarket	87.82		
	854	Discount Supermarket	40.36		
	860	Wholesale Market	8.21		
	861	Discount Club	32.21		
	875	Department Store	11.56		
	890	Furniture Store	12.19		
Services (900-999)	912	Drive-in Bank	30.94		

Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers, where survey results given for key land uses.

We know from the 2010 Census how many people worked in Henry County based on commuting patterns. The next table provides a breakdown between commercial and industrial employment in the county and calculates trip ends generated by each.

Tax base valuations give us some clue as to the breakdown. When the County's 'industrial' and 'utility' tax valuations are combined, the figures suggest that 54% of all uses are 'commercial' in nature, while 46% are industrial. These percentages, applied to total employment in the county, give us the estimated number of employees in 2010 in each category.

Table D-6: Nonresidential Trip Generation: 2010 Census

	2010 Tax Base		Percent of Total	2010 Employees	Avgerage ADT	Total Nonres Trip Ends
Commercial	$ 1,307,958,800	$ 1,307,958,800	54.0%	29,954	**25.31**	758,143
Industrial	$ 987,776,315	$ 1,115,110,461	46.0%	25,538	**10.21**	260,674
Utility	$ 127,334,146					
Total Nonresidential	$ 2,423,069,261	$ 2,423,069,261		55,492		1,018,817
		Internal Commutes*		34,016	times 2 =	(68,032)
				Net Nonres Trips		**950,785**

* Residents who work in Henry County. These trips are included in residential trip generation rate.

The table calculates the total number of trips using the average rates for commercial and industrial from the ITE Trips-per-Employee Data table on the previous page. From the total of all nonresidential trips is deducted the number of trips to/from work generated by county residents, since these trips have already been calculated as part of the residential trip generation rates (i.e., county residents driving to/from work at county establishments).

Lastly, the following table calculates the total number of trip ends that will be generated by new nonresidential growth in future traffic on Henry County's roads.

Table D-7: Nonresidential Trip Generation - 2020-2040 New Growth Increase

	2020 Employees	2020 Trip Ends	2040 Employees	2040 Trip Ends	2020-2040 Increase	Percent New Growth Trip Ends
Commercial	75,061	1,899,796	148,951	3,769,954	1,870,158	
Industrial+Utility	17,270	176,282	29,148	297,526	121,244	
Total	92,331	2,076,078	178,099	4,067,480	1,991,402	
Less: Internal Commutes at	6.68%	(138,631)		(271,608)	(132,977)	
Net Nonres Trip Ends		**1,937,447**		**3,795,872**	**1,858,425**	**49.0%**

The table above shows the number of trip ends currently generated by Henry County businesses based on 2020 employment. The trip ends by use are distributed using the same percentages calculated on the previous table for 2010. The same calculations are made for the year 2040 based on projected employment in the county, and the difference between 2020 and 2040 represents trip ends generated by future growth and development. This totals 49% of all nonresidential 2040 trip ends.

The results of the residential and nonresidential trip generation analyses are combined on the Summary table at the beginning of this Appendix Section for an overall calculation of new growth's share of future traffic generated by Henry County residents and businesses. From these figures, pass-by and diverted trip ends are then deleted to determine primary trip ends, which more closely relates to vehicles on the road and thus contribute to traffic congestion.

Terminology

This Methodology uses the term 'average daily traffic' (ADT) for a weekday, which is defined by ITE as the 'average weekday vehicle trip ends', which are "the average 24-hour total of all vehicle trips counted from a study site from Monday through Friday."

Additionally, ITE defines a 'trip or trip end' as "a single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site. For trip generation purposes, the total trip ends for a land use over a given period of time are the total of all trips entering plus all trips exiting a site during a designated time period".

Lastly, ITE defines 'average trip rate' as "the weighted average of the number of vehicle trips or trip ends per unit of independent variable (for example, trip ends per occupied dwelling unit or employee) using a site's driveway(s). The weighted average rate is calculated by dividing the sum of all independent variable units where paired data is available. The weighted average rate is used rather than the average of the individual rates because of the variance within each data set or generating unit. Data sets with a large variance will over-influence the average rate if they are not weighted.

Henry County

EXECUTIVE SUMMARY

BOARD OF COMMISSIONERS MEETING

Meeting Date:

January 5, 2022

Department Requesting Agenda Item:

Planning

Action Type:

Action Requested by BOC

Attachments/Exhibits for Agenda Item:

1. Henry 2021 CIE adoption resolution
2. Henry CIE REVISED 11-4-21

Presenter:
Stacey Jordan-Rudeseal

Agenda Item:

Resolution adopting an update of the Capital Improvement Element and Community Work Program which has been approved for adoption by the Georgia Department of Community Affairs. All local governments that utilize an impact fee system are required by the Department of Community Affairs (DCA) to include a Capital Improvements Element (CIE) report and community work program in their comprehensive plans and keep it updated. DCA has approved the update to be adopted. *(Presenter: Stacey Jordan-Rudeseal, Assistant Planning Director) (Exhibit 17)*

Background/Summary:

All local governments that utilize an impact fee system are required by the Department of Community Affairs (DCA) to include a Capital Improvements Element (CIE) report and community work program in their comprehensive plans and keep it updated. The CIE updated report focuses on the public facilities that will be needed to meet the demands of future growth and development while maintaining the current level of service. The updated community work program identifies all projects to be financed in whole or in part by impact fees during the upcoming five years, beginning with the current year. The DCA has approved the update to be adopted.

Financial Implications/Considerations:

N/A

Additional Comments/Recommendation:

Planning Staff recommends adoption.