

# Capital Improvements Element

Harris County, Georgia



For Adoption

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## Introduction

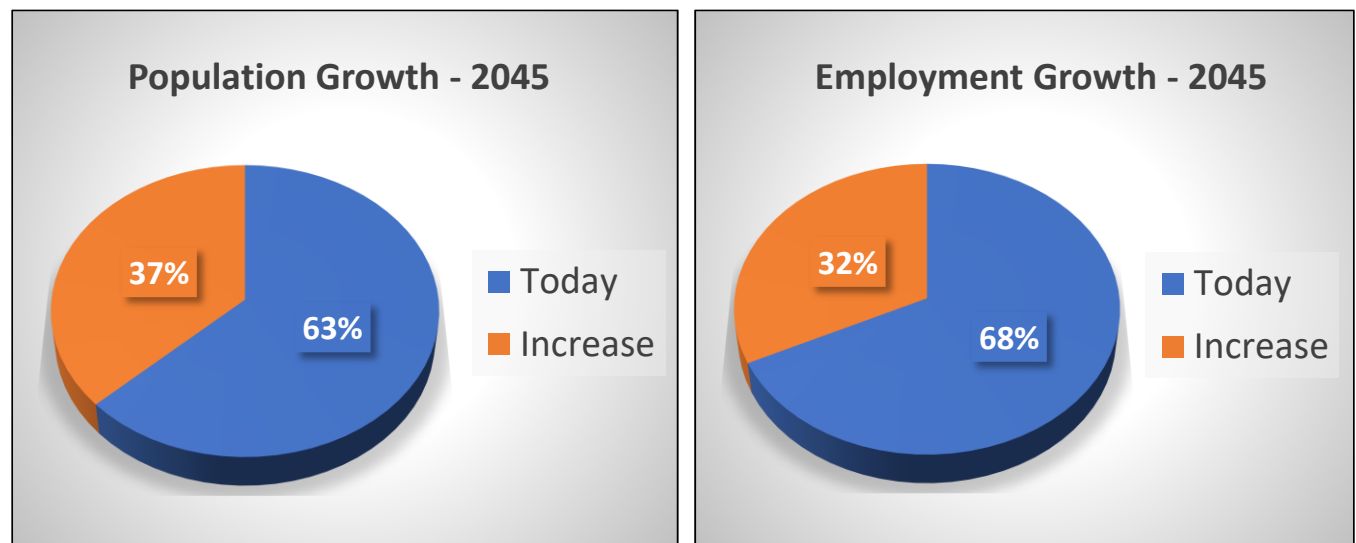
The purpose of a Capital Improvements Element (CIE) is to establish where and when certain new capital facilities are planned to be provided within a jurisdiction and the extent to which they may be financed through an impact fee program. A Capital Improvements Element is adopted as a chapter, or 'element', in a local government's Comprehensive Plan. This Capital Improvements Element addresses Harris County Parks & Recreation, Fire Protection, Emergency Medical Services, Emergency 911 (E-911), and the Sheriff's Office & Jail.

As required by the Georgia Development Impact Fee Act ("State Act" of "DIFA"), and defined by the Department of Community Affairs in its Development Impact Fee Compliance Requirements, the CIE must include the following for each capital facility category for which an impact fee will be charged:

- a projection of needs for the planning period, which for Harris County is from 2021 to 2045;
- the designation of service areas, which are the geographic areas in which a defined set of public facilities provide service to development within the area;
- the designation of levels of service (LOS), the service level that is provided and will be provided;
- a schedule of improvements listing impact fee related projects and costs for the planning period; and
- a description of funding sources for the planning period.

### ■ Looking Ahead

Forecasts indicate major growth ahead for Harris County as people continue to move into the county and attract increases in jobs and services. Over the coming 24 years, Harris County is projected to continue its previous rate of population growth, fully recovering from the lingering effects of the Great Recession and the COVID-19 global pandemic. Over the next 24 years, extending to 2045, it is expected that 37% of the people that will be living in Harris County in the future are not here today. Employment will also increase, though not to the extent of population growth. By 2045, the total number of 'value added' jobs in the county will increase as Harris County is projected to see a 32% increase in employment. Population, housing, and employment forecasts are presented in greater detail in Appendix B: Future Growth.



## Population and Housing Outlook

These future increases in population and housing are not as unprecedented as it may seem. Looking back over the past 19 years, since 2000 the county's population grew from about 23,900 to 35,240, an overall increase of more than 47%. During the decade of 2000-2010, the county's population increased by 7,582 and grew by an additional 3,087 new residents during the nine years since 2010. Slower growth between 2010 and 2019 is attributed to the impacts of the Great Recession. Full recovery from the Great Recession is anticipated, however, with a return to the county's historic population growth rate over the coming 24 years.

## Increased Job Opportunities

Though not as robust as population growth, the nonresidential growth forecast indicates an increase in the number of private-sector jobs such that by 2045, about 1 in 3 Harris County jobs (32%) will be new to the county. New jobs will increase by 5,264 compared to today's 'value-added' employment of 11,110—an increase equal to 47% of the number of today's workers.

Numerically, the county is projected to add the largest number of new jobs in real estate (1,205) followed by administrative positions (393), transportation and warehousing (294), finance & insurance (285), and manufacturing (247). Together, these five categories will account for over 2,400 new jobs, a little less than two-thirds (61%) of all new jobs to be added over the coming 24 years.

Proportionally, the greatest increases are expected in the real estate category (64% of real estate jobs in 2045) followed by administrative positions (40%), transportation and warehousing (38%), educational services (36%), and finance & insurance (35%).

What these residential and business growth projections mean is that Harris County will be called upon to expand its services and infrastructure if it is to maintain the quality of life and business environment enjoyed by its residents and workers. Failing to keep up will bring an erosion of the lifestyles and employment opportunities that attract new growth and investment tomorrow, and that are enjoyed by the population today.

## ■ Impact Fees

Impact fees present one potential revenue source for funding public facilities that will be needed to serve both existing *and* future residents and workers. The key is that the capital improvement, whether it is 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 costs are not eligible for impact fee funding, nor are 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 addition, school facilities are not eligible for impact fee funding based on the provisions of the Georgia Development Impact Fee Act. For each public facility category, this report identifies the current level of service provided throughout the county in order to quantify the capital facilities needed to meet future needs. Based on that analysis, calculations identify what portion of future capital facilities could be funded through impact fee collections.

## 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. In Georgia, impact fees can be collected for the following:

- Parks, open space, and recreation areas and related facilities;
- Public safety facilities, including law enforcement, fire, emergency medical services, and E-911 emergency communications;
- Animal control;
- Libraries;
- Roads, streets, and bridges;
- Stormwater and flood control facilities;
- Water supply, treatment, and distribution; and,
- Wastewater collection, treatment, and disposal.

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.

The table below shows the facility categories that are eligible for impact fee funding under Georgia law and that were selected by the Board of Commissioners to be included in the County's impact fee program. These categories include Parks & Recreation and Public Safety Facilities, specifically Fire Protection, Emergency Medical Services, Emergency 911 (E-911), and the Sheriff's Office & Jail.

Indicated for each facility category are the types of public facilities that could be eligible for impact fee funding (in whole or in part), the service area for each public facility category as well as the basis for the standard adopted as the Level of Service to be delivered for each facility category.

**Table 1: Overview of Impact Fee Program – Facilities**

	Eligible Facilities	Service Area	Level of Service Standard Based On...
<b>Parks and Recreation</b>	Park acres and recreation components	Countywide	Number of acres and recreation components per dwelling unit
<b>Sheriff's Office and Jail</b>	Buildings housing Sheriff functions and Jail, heavy vehicles	Countywide	Square footage and number of vehicles per day-night population
<b>Fire Protection</b>	Fire stations, training facilities, and fire apparatus	Countywide (excluding West Point)	Square footage and number of fire apparatus per day-night population
<b>EMS</b>	EMS stations, ambulances, and other heavy vehicles and equipment	Countywide (excluding West Point)	Square footage and number of vehicles and equipment per day-night population

<b>E-911</b>	E-911 facility space, communication towers, heavy vehicles and equipment, and emergency power systems	Countywide (excluding West Point)	Square footage of facilities and number of towers, vehicles and equipment per day-night population
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NOTE: All facilities, including vehicles and equipment, must have a useful life of 10 years or more.

The following terms are used in Table 1:

**Eligible Facilities** under the State Act are limited to capital items having a life expectancy of at least 10 years, such as land, buildings and other facilities, and major rolling stock (such as fire trucks). 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 passenger automobiles. None of these costs are included in the impact fee program.

**Service Areas** are the geographic areas that the facilities serve, and the areas within which the impact fee would apply. Monies collected in a service area for a particular type of facility 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 development 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 can it be required to subsidize existing facility deficiencies.

## ■ Editorial Conventions

This report observes the following conventions:

The capitalized word 'County' applies to the government of Harris County, the Board of County Commissioners 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 Harris 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.

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## Forecasts

In order to accurately calculate the demand for future services for Harris 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 2045. These projections provide the base-line conditions from which the current (2021) or future (2045) Level of Service calculations are produced.

### ■ County Forecasts

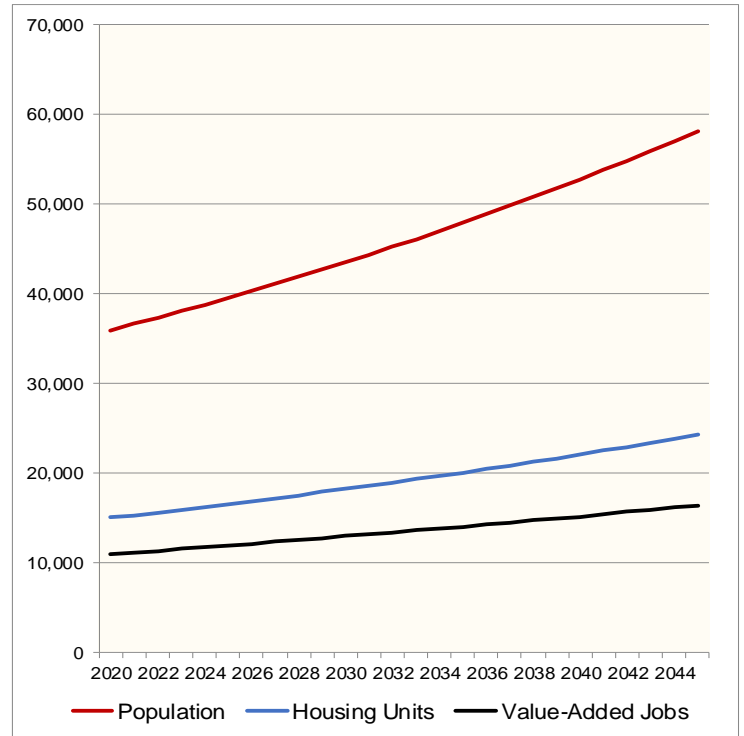
Population projections reflect the extensive growth that is expected by 2045 in the county, interrelated with both housing and business growth. The ultimate population forecast for 2045 is more than 58,000 people—an additional 58.7% over the number of people in the county today. Housing for this future population growth will increase accordingly, yielding a 2045 housing stock of over 24,300 units of all types of housing, adding about 9,000 units to the existing housing supply.

Employment in the county will also increase, adding over 5,200 (47.4%) to the number of value-added jobs here today. The numbers shown in the 'value-added jobs' column are private sector, building-occupying employment figures and exclude those that are referred to as 'non-building related' jobs. 'Non-building related' jobs are those that do not normally require issuance of a building permit, and thus would not be assessed an impact fee, including employment that is considered to be transitory in nature (such as those working on construction sites) and strictly land-based such as farm workers. In addition, the workers employed by governmental entities are excluded because governments are exempt from paying impact fees.

Table 2: Forecasts of Future Growth

	Population	Housing Units	Value-Added Jobs
2020	35,921	15,027	10,901
2021	36,619	15,319	11,110
2022	37,330	15,617	11,312
2023	38,055	15,920	11,514
2024	38,795	16,230	11,716
2025	39,549	16,545	11,918
2026	40,317	16,866	12,124
2027	41,101	17,194	12,330
2028	41,899	17,528	12,535
2029	42,713	17,869	12,741
2030	43,543	18,216	12,947
2031	44,389	18,570	13,162
2032	45,252	18,931	13,377
2033	46,131	19,299	13,592
2034	47,027	19,673	13,807
2035	47,941	20,056	14,022
2036	48,873	20,446	14,250
2037	49,822	20,843	14,477
2038	50,790	21,248	14,705
2039	51,777	21,661	14,932
2040	52,783	22,081	15,160
2041	53,809	22,511	15,403
2042	54,854	22,948	15,646
2043	55,920	23,394	15,888
2044	57,007	23,848	16,131
2045	58,114	24,312	16,374

Note: Value-Added Jobs exclude outdoor (non-building based) farm, forestry, mining and construction workers, and government employees.



	Population	Housing Units	Value-Added Jobs
2021	36,619	15,319	11,110
2045	58,114	24,312	16,374
Increase	21,495	8,993	5,264
Growth	58.7%	58.7%	47.4%

Source: Based on U.S. Census Data.

## ■ Service Area Forecasts

Various county services are provided in one of two geographic service areas. Housing unit, population, and employment forecasts are presented on the following tables for each service area.

The service area is *countywide* for the Sheriff's Office & Jail and the Parks & Recreation public facility categories. These services are delivered by Harris County throughout the county and are available to all residents regardless of whether a municipal police department or recreation department provides similar services within the incorporated areas. Countywide growth forecasts are shown on Table 3 applicable to these services.

For Parks & Recreation services, only new residential development is assessed impact fees. Accordingly, impact fees are assessed exclusively on the basis of housing units. For the Sheriff and Jail, fees are based on the day-night population (i.e., residents and employee) because both residential and nonresidential development is assessed impact fees.

The service area is *countywide outside of West Point* for Fire Protection, EMS, and E-911 services. These services are provided throughout the county with the exception of West Point. The City of West Point has established Fire, EMS and E-911 departments of its own.

For Fire Protection, EMS, and E-911, impact fees are based on future growth throughout the county but excluding the portion of West Point that is inside the county. For each of these public facility categories, 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 (see Table 4).

Table 3: Future Growth Forecasts - Countywide

	Residential Uses	Nonresidential Uses		
	Housing Units	Population	Value-Added Jobs	Day-Night Population
2020	15,027	35,921	8,073	43,994
2021	<b>15,319</b>	36,619	8,238	<b>44,857</b>
2022	<b>15,617</b>	37,330	8,393	<b>45,723</b>
2023	<b>15,920</b>	38,055	8,548	<b>46,603</b>
2024	<b>16,230</b>	38,795	8,702	<b>47,497</b>
2025	<b>16,545</b>	39,549	8,857	<b>48,406</b>
2026	<b>16,866</b>	40,317	9,013	<b>49,330</b>
2027	<b>17,194</b>	41,101	9,169	<b>50,270</b>
2028	<b>17,528</b>	41,899	9,325	<b>51,224</b>
2029	<b>17,869</b>	42,713	9,481	<b>52,194</b>
2030	<b>18,216</b>	43,543	9,637	<b>53,180</b>
2031	<b>18,570</b>	44,389	9,798	<b>54,187</b>
2032	<b>18,931</b>	45,252	9,959	<b>55,211</b>
2033	<b>19,299</b>	46,131	10,120	<b>56,251</b>
2034	<b>19,673</b>	47,027	10,281	<b>57,308</b>
2035	<b>20,056</b>	47,941	10,442	<b>58,383</b>
2036	<b>20,446</b>	48,873	10,611	<b>59,484</b>
2037	<b>20,843</b>	49,822	10,780	<b>60,602</b>
2038	<b>21,248</b>	50,790	10,950	<b>61,740</b>
2039	<b>21,661</b>	51,777	11,119	<b>62,896</b>
2040	<b>22,081</b>	52,783	11,288	<b>64,071</b>
2041	<b>22,511</b>	53,809	11,469	<b>65,278</b>
2042	<b>22,948</b>	54,854	11,649	<b>66,503</b>
2043	<b>23,394</b>	55,920	11,830	<b>67,750</b>
2044	<b>23,848</b>	57,007	12,010	<b>69,017</b>
2045	<b>24,312</b>	58,114	12,191	<b>70,305</b>
<b>Increase 2021-45</b>	<b>8,993</b>	<b>21,495</b>	<b>3,953</b>	<b>25,448</b>

Source: Based on U.S. Census Data.

Table 4: Future Growth Forecasts - Countywide Excluding West Point

	Residential Uses	Nonresidential Uses		
	Housing Units	Population	Value-Added Jobs	Day-Night Population
2020	14,599	34,954	7,856	42,810
2021	<b>14,883</b>	35,633	8,016	<b>43,649</b>
2022	<b>15,172</b>	36,325	8,167	<b>44,492</b>
2023	<b>15,467</b>	37,030	8,317	<b>45,347</b>
2024	<b>15,768</b>	37,750	8,468	<b>46,218</b>
2025	<b>16,074</b>	38,484	8,618	<b>47,102</b>
2026	<b>16,386</b>	39,231	8,770	<b>48,001</b>
2027	<b>16,704</b>	39,994	8,922	<b>48,916</b>
2028	<b>17,029</b>	40,771	9,074	<b>49,845</b>
2029	<b>17,360</b>	41,563	9,226	<b>50,789</b>
2030	<b>17,697</b>	42,370	9,377	<b>51,747</b>
2031	<b>18,041</b>	43,193	9,534	<b>52,727</b>
2032	<b>18,392</b>	44,033	9,691	<b>53,724</b>
2033	<b>18,749</b>	44,889	9,847	<b>54,736</b>
2034	<b>19,113</b>	45,760	10,004	<b>55,764</b>
2035	<b>19,485</b>	46,650	10,161	<b>56,811</b>
2036	<b>19,864</b>	47,557	10,325	<b>57,882</b>
2037	<b>20,249</b>	48,480	10,490	<b>58,970</b>
2038	<b>20,643</b>	49,422	10,655	<b>60,077</b>
2039	<b>21,044</b>	50,383	10,819	<b>61,202</b>
2040	<b>21,452</b>	51,361	10,984	<b>62,345</b>
2041	<b>21,870</b>	52,360	11,160	<b>63,520</b>
2042	<b>22,294</b>	53,377	11,335	<b>64,712</b>
2043	<b>22,728</b>	54,414	11,511	<b>65,925</b>
2044	<b>23,169</b>	55,472	11,687	<b>67,159</b>
2045	<b>23,620</b>	56,549	11,863	<b>68,412</b>
<b>Increase 2021-45</b>	<b>8,737</b>	<b>20,916</b>	<b>3,847</b>	<b>24,763</b>

Source: Based on U.S. Census Data.

## Parks & Recreation

### ■ Introduction

Public recreational opportunities are available in Harris County through a number of parks facilities operated by the Harris County Parks and Recreation Department. 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 without regard to the political jurisdiction within which the resident lives. In addition, the facilities are provided equally to all residents, and are often used on the basis of the programs available as opposed to proximity of the facility. For instance, children active in the little leagues may play games at various locations throughout the county based on scheduling rather than geography. Other programs are located only at certain centralized facilities available to any Harris County resident. As a general rule, parks facilities are located throughout the county and in the future facilities will continue to be located around the county so that all residents will have recreational opportunities available on an equal basis. Thus, the entire county is considered a single service area for parks and recreation.

### ■ Level of Service

The determination of Level of Service (LOS) standards begins with an inventory of existing County facilities. Table 5 focuses on lands operated as parks by the Parks and Recreation Department. This land encompasses 295 acres that is used for five parks. A variety of recreation components are located in the County's parks and are inventoried in Table 6: Level of Service Calculations.

**Table 5: Current Inventory of Park Lands**

Park	Acreage
Charles Moultrie Park	29.00
E.C. Pate Park	100.00
Ellerslie Park	120.00
Soccer Complex	34.00
Pine Mountain Valley Park	12.00
<b>Total Park Acres</b>	<b>295.00</b>



Table 6 shows the current inventory of recreation components provided by the County, as well as components the County does not currently have in its recreation system but plans to add over the next two decades. These currently show as '0' in the 'current inventory' column.

Table 6 also presents the Level of Service (LOS) in recreation land and facilities per population, converts this to the Level of Service per the number of housing units occupied by that population, and then expresses the Level of Service per housing unit (since impact fees are assessed per housing unit when building permits are issued, not population).

**Table 6: Level of Service Calculations**

Component Type	Current Inventory	Level of Service per "X" Population**	Level of Service per "X" Housing Units**	Level of Service per Housing Unit***
<b>Park Acres</b>	<b>295.00</b>	1 per 124 Population =	1 per 52 Housing Units =	0.019231 for each Housing Unit
<b>Recreation Buildings &amp; Supporting Facilities *</b>				
<i>Community Center</i>	<i>1</i>	<i>1 per 36,619 Population =</i>	<i>1 per 15,319 Housing Units =</i>	<i>0.000065 for each Housing Unit</i>
<i>Concessions/Restroom Building</i>	<i>5</i>	<i>1 per 6,457 Population =</i>	<i>1 per 2,701 Housing Units =</i>	<i>0.000370 for each Housing Unit</i>
<i>Restroom Building</i>	<i>2</i>	<i>1 per 18,310 Population =</i>	<i>1 per 7,660 Housing Units =</i>	<i>0.000131 for each Housing Unit</i>
<i>Maintenance Building</i>	<i>3</i>	<i>1 per 12,206 Population =</i>	<i>1 per 5,106 Housing Units =</i>	<i>0.000196 for each Housing Unit</i>
<i>Parking Spaces</i>	<i>1,205</i>	<i>1 per 30 Population =</i>	<i>1 per 13 Housing Units =</i>	<i>0.076923 for each Housing Unit</i>
<b>Park and Recreation Components *</b>				
<i>Baseball/Softball Field</i>	<i>13</i>	<i>1 per 2,817 Population =</i>	<i>1 per 1,178 Housing Units =</i>	<i>0.000849 for each Housing Unit</i>
<i>Basketball Court, Outdoor</i>	<i>3</i>	<i>1 per 12,206 Population =</i>	<i>1 per 5,106 Housing Units =</i>	<i>0.000196 for each Housing Unit</i>
<i>Batting Cage</i>	<i>11</i>	<i>1 per 3,329 Population =</i>	<i>1 per 1,393 Housing Units =</i>	<i>0.000718 for each Housing Unit</i>
<i>Boat/Fishing Dock</i>	<i>0</i>	<i>1 per 58,114 Population =</i>	<i>1 per 24,312 Housing Units =</i>	<i>0.000041 for each Housing Unit</i>
<i>Disc Golf Course</i>	<i>0</i>	<i>1 per 58,114 Population =</i>	<i>1 per 24,312 Housing Units =</i>	<i>0.000041 for each Housing Unit</i>
<i>Fitness Stations, Outdoor</i>	<i>0</i>	<i>1 per 7,264 Population =</i>	<i>1 per 3,039 Housing Units =</i>	<i>0.000329 for each Housing Unit</i>
<i>Football Field</i>	<i>1</i>	<i>1 per 36,619 Population =</i>	<i>1 per 15,319 Housing Units =</i>	<i>0.000065 for each Housing Unit</i>
<i>Pavilion, Small</i>	<i>3</i>	<i>1 per 7,264 Population =</i>	<i>1 per 3,039 Housing Units =</i>	<i>0.000329 for each Housing Unit</i>
<i>Pavilion, Large</i>	<i>1</i>	<i>1 per 14,529 Population =</i>	<i>1 per 6,078 Housing Units =</i>	<i>0.000165 for each Housing Unit</i>
<i>Pickleball Court, Outdoor</i>	<i>0</i>	<i>1 per 5,811 Population =</i>	<i>1 per 2,431 Housing Units =</i>	<i>0.000411 for each Housing Unit</i>
<i>Playground</i>	<i>2</i>	<i>1 per 7,264 Population =</i>	<i>1 per 3,039 Housing Units =</i>	<i>0.000329 for each Housing Unit</i>
<i>Agricultural Events Center</i>	<i>0</i>	<i>1 per 58,114 Population =</i>	<i>1 per 24,312 Housing Units =</i>	<i>0.000041 for each Housing Unit</i>
<i>Soccer Field</i>	<i>10</i>	<i>1 per 2,906 Population =</i>	<i>1 per 1,216 Housing Units =</i>	<i>0.000822 for each Housing Unit</i>
<i>Splash Pad</i>	<i>0</i>	<i>1 per 29,057 Population =</i>	<i>1 per 12,156 Housing Units =</i>	<i>0.000082 for each Housing Unit</i>
<i>Tennis Court</i>	<i>3</i>	<i>1 per 3,059 Population =</i>	<i>1 per 1,280 Housing Units =</i>	<i>0.000781 for each Housing Unit</i>
<i>Mountain Bike Trail (miles)</i>	<i>0</i>	<i>0 per 29,057 Population =</i>	<i>0 per 12,156 Housing Units =</i>	<i>0.000082 for each Housing Unit</i>
<i>Park Trail, Paved (miles)</i>	<i>2.4</i>	<i>1 per 13,208 Population =</i>	<i>1 per 5,525 Housing Units =</i>	<i>0.000181 for each Housing Unit</i>
<i>Park Trail, Soft Surface (miles)</i>	<i>4</i>	<i>1 per 5,811 Population =</i>	<i>1 per 2,431 Housing Units =</i>	<i>0.000411 for each Housing Unit</i>
<i>Rails to Trails Multi-Use Path</i>	<i>10</i>	<i>1 per 2,767 Population =</i>	<i>1 per 1,158 Housing Units =</i>	<i>0.000864 for each Housing Unit</i>

\* *Italics*: LOS is based on the current inventory divided by the current population. Non-italics: LOS is based on the number of each component that is anticipated to serve local needs through 2045.

\*\* *Italics*: Converted using average population per housing unit in 2021. Non-italics: Converted using the average population per housing unit in 2045.

\*\*\* "1" divided by the number of housing units for each component under 'Level of Service per "X" Housing Units' column.

Table 6 incorporates a combination of LOS standards reflecting current conditions as well as future plans, where applicable, that are relevant and useful to the impact fee calculations. The LOS for current facilities is expressed in terms of the number of people each recreation component currently serves (shown in italicized text in the table above and calculated by using the current inventory for the component divided into the current population), with the following exceptions: components that are not currently in the system but are intended to be added over time (shown as "0"), and component types that exist but for which the County has identified the need to expand in order to serve future growth over the next 20 years (shown on Table 6 as non-italicized text). In these instances, the LOS is based on the total number of recreation components anticipated to serve local needs through 2045.



These LOS 'per population' standards are then re-calculated as the number of housing units served by each component based on the number of people living in an average household (the average household size in the county). Since impact fees are assessed at the time a building permit is issued (and the parks and recreation impact fee will be applied only to residential uses), the LOS then must be converted to a 'per housing unit' basis.

## ■ Forecasts for Service Area

### Future Demand

Table 7 applies the LOS calculations from Table 6 to determine the facilities needed to meet the demand created by the existing residents of the county as well as the future demand for recreation components that will be generated by new growth and development.

The current number of housing units (15,319) is multiplied by the LOS standard ('LOS per Housing Unit') to determine the existing demand of today's population. The increase in housing units between 2021 and 2045 (8,993 - see Table 8) is multiplied by the same LOS to produce the future demand created by future growth.

**Table 7: Existing and Future Demand**

Component Type	LOS Per Housing Unit	Existing Demand (2021)*	New Growth Demand (2021-2045)**
<b>Park Acres</b>	0.019231	294.60	172.94
<b>Recreation Buildings &amp; Supporting Facilities</b>			
Community Center	0.000065	1.00	0.59
Concessions/Restroom Building	0.000370	5.67	3.33
Restroom Building	0.000131	2.00	1.17
Maintenance Building	0.000196	3.00	1.76
Parking Spaces	0.076923	1,178.38	691.77
<b>Park and Recreation Components</b>			0.00
Baseball/Softball Field	0.000849	13.00	7.63
Basketball Court, Outdoor	0.000196	3.00	1.76
Batting Cage	0.000718	11.00	6.46
Boat/Fishing Dock	0.000041	0.63	0.37
Disc Golf Course	0.000041	0.63	0.37
Fitness Stations, Outdoor	0.000329	5.04	2.96
Football Field	0.000065	1.00	0.59
Pavilion, Small	0.000329	5.04	2.96
Pavilion, Large	0.000165	2.52	1.48
Pickleball Court, Outdoor	0.000411	6.30	3.70
Playground	0.000329	5.04	2.96
Agricultural Events Center	0.000041	0.63	0.37
Soccer Field	0.000822	12.60	7.40
Splash Pad	0.000082	1.26	0.74
Tennis Court	0.000781	11.97	7.03
Mountain Bike Trail (miles)	0.000082	1.26	0.74
Park Trail, Paved (miles)	0.000181	2.77	1.63
Park Trail, Soft Surface (miles)	0.000411	6.30	3.70
Rails to Trails Multi-Use Path	0.000864	13.23	7.77

\* 2021 Housing Units = 15,319

\*\* New Units (2021-2045) = 8,993



## Impact Fee Eligibility

New recreation components are eligible for impact fee funding only to the extent that the improvements are needed to specifically serve new growth and development, and only at the Level of Service applicable countywide. Table 8 shows the number of new recreation components that are needed to satisfy needs of the county's future residents, and the extent to which fulfillment of those needs will serve future growth demand.

**Table 8: Future Park Facility Impact Fee Eligibility**

Component Type	Current Inventory	Existing Demand	Excess or (Shortfall)	New Growth Demand	Net Total Needed*	Total Needed**	% Impact Fee Eligible
<b>Park Acres</b>	295.00	294.60	0.40	172.94	172.54	172.54	100.00%
<b>Recreation Buildings &amp; Supporting Facilities</b>							
Community Center	1	1.00	0.00	0.59	0.59	1.00	58.70%
Concessions/Restroom Building	5	5.67	(0.67)	3.33	4.00	4.00	83.24%
Restroom Building	2	2.00	0.00	1.17	1.17	1.00	100.00%
Maintenance Building	3	3.00	0.00	1.76	1.76	2.00	88.06%
Parking Spaces	1,205	1,178.38	26.62	691.77	665.15	665.00	100.00%
<b>Park and Recreation Components</b>							
Baseball/Softball Field	13	13.00	0.00	7.63	7.63	8.00	95.43%
Basketball Court, Outdoor	3	3.00	0.00	1.76	1.76	2.00	88.06%
Batting Cage	11	11.00	0.00	6.46	6.45	6.00	100.00%
Boat/Fishing Dock	0	0.63	(0.63)	0.37	1.00	1.00	36.99%
Disc Golf Course	0	0.63	(0.63)	0.37	1.00	1.00	36.99%
Fitness Stations, Outdoor	0	5.04	(5.04)	2.96	8.00	8.00	36.99%
Football Field	1	1.00	0.00	0.59	0.59	1.00	58.70%
Pavilion, Small	3	5.04	(2.04)	2.96	5.00	5.00	59.18%
Pavilion, Large	1	2.52	(1.52)	1.48	3.00	3.00	49.32%
Pickleball Court, Outdoor	0	6.30	(6.30)	3.70	10.00	10.00	36.99%
Playground	2	5.04	(3.04)	2.96	6.00	6.00	49.32%
Agricultural Events Center	0	0.63	(0.63)	0.37	1.00	1.00	36.99%
Soccer Field	10	12.60	(2.60)	7.40	9.99	10.00	73.96%
Splash Pad	0	1.26	(1.26)	0.74	2.00	2.00	36.99%
Tennis Court	3	11.97	(8.97)	7.03	15.99	16.00	43.91%
Mountain Bike Trail (miles)	0	1.26	(1.26)	0.74	2.00	2.00	36.99%
Park Trail, Paved (miles)	2	2.77	(0.37)	1.63	2.00	2.00	81.37%
Park Trail, Soft Surface (miles)	4	6.30	(2.30)	3.70	6.00	6.00	61.65%
Rails to Trails Multi-Use Path	10	13.23	(3.23)	7.77	11.00	11.00	70.60%

\* Additional components needed to meet future growth needs.

\*\* For recreation components that can only be built in whole numbers: 'Total Needed' rounded to nearest whole number. For park acres and walking trails, actual number shown.

Table 8 begins with the current inventory of recreation components and the 'existing demand' for those components to meet the needs of the current (2021) population based on the applicable Level of Service standards (shown on Table 6).

The 'Excess or (Shortfall)' column compares the existing demand to the current inventory for each recreation component. If an 'excess' were to exist, that would mean that more components (or portions of components) exist than are needed to meet the demands of the current population, and those 'excesses' would create capacity to meet the recreational needs of future growth. This is the case for two components in Harris County: park acres and parking spaces.

Conversely, a 'shortfall' indicates that there are not enough components (or portions of components) to meet the recreational needs of the current population based on the LOS standard (e.g., concessions/restroom buildings, pavilions, playgrounds, etc.).

In all other instances, 'existing demand' is the same as the 'current inventory' and there is no excess or shortfall (e.g., community centers, restroom buildings, baseball/softball fields, etc.). This occurs where 'existing demand' is used in the calculation of LOS standards in Table 6.

The column on Table 8 labeled 'New Growth Demand' shows the total demand for recreation components specifically needed to meet future growth demands (from Table 7). The 'Net Total Needed' column shows all existing and future needs combined, which equates to the number of new components that need to be added to the recreation system. The current 'shortfall' that exists for recreation components is added to facility needs tied to new growth to bring the current population up to the current Level of Service required to be available to all—both current and future residents.

For all components except park acres and trail miles, the 'Total Needed' column is rounded to the nearest whole numbers. This is simply due to the fact that the County cannot build a portion of a facility, it must build complete, entire facilities. As a result, the '% Impact Fee Eligible' column may reflect a percentage less than 100%.

For example, new growth mathematically demands only 1.76 basketball courts, not two full courts. The County cannot build a portion of a basketball court for it to serve its intended purpose, it must build an entire court for it to be usable. Thus, two basketball courts need to be added, which is technically slightly more than what new growth requires. This results in the total cost of the courts being less than 100% impact fee eligible; the portion that is impact fee eligible (1.76) results in the percentage that is impact fee eligible (88.06%).

Conversely, in some cases the 'net total needed' figure is rounded down to the nearest whole number in the 'Total Needed' column. For example, new growth demand for restroom buildings is only 1.17. To round that number up to '2' would result in one facility being 100% impact fee eligible and the other only 17% eligible. In these cases, it makes more sense from a public expenditures standpoint to fund only 1 building with impact fees (at 100% eligible) now and to delay the construction of a second until a future date when new impact fee calculations (a revised CIE with a horizon extended beyond 2045) would more fully justify the second restroom facility.

The '% Impact Fee Eligible' column shows the percentage of each new facility that is eligible for impact fee funding. A majority of recreation facilities are only partially eligible for impact fee funding. Soccer fields, for example, are 73.96% impact fee eligible. This percentage equates to the portion of needed fields (10) that are demanded by new growth alone (73.96%), calculated by dividing '7.40' by '10'. The remaining 26.04% is needed to satisfy existing demand due to the 'shortfall' in the County's inventory of soccer fields based on the LOS standard.

## ■ Future Costs

Table 9 is a listing of the future capital project costs to provide the additional recreation components needed to attain the applicable Level of Service standards.

**Table 9: Costs to Meet Future Demand for Parks and Recreation**

Component Type	Total Proposed	Net Cost Per Unit*	Gross Cost Per Unit**	Total Cost (2021)	% Impact Fee Eligible	New Growth Share (2021)	Net Present Value***
<b>Park Acres</b>	172.54	\$ 5,000	\$ 6,100	\$ 1,052,485	100.00%	\$ 1,052,485	\$ 1,291,475
<b>Recreation Buildings &amp; Supporting Facilities</b>							
Community Center	1	\$ 750,000	\$ 915,000	\$ 915,000	58.70%	\$ 537,150	\$ 689,411
Concessions/Restroom Building	4	\$ 100,000	\$ 122,000	\$ 488,000	83.24%	\$ 406,200	\$ 521,342
Restroom Building	1	\$ 80,000	\$ 97,600	\$ 97,600	100.00%	\$ 97,600	\$ 125,266
Maintenance Building	2	\$ 80,000	\$ 97,600	\$ 195,200	88.06%	\$ 171,899	\$ 220,626
Parking Spaces	665	\$ 500	\$ 610	\$ 405,650	100.00%	\$ 405,650	\$ 492,458
<b>Park and Recreation Components</b>							
Baseball/Softball Field	8	\$ 100,000	\$ 122,000	\$ 976,000	95.43%	\$ 931,363	\$ 1,130,673
Basketball Court, Outdoor	2	\$ 75,000	\$ 91,500	\$ 183,000	88.06%	\$ 161,155	\$ 195,642
Batting Cage	6	\$ 20,000	\$ 24,400	\$ 146,400	100.00%	\$ 146,400	\$ 177,729
Boat/Fishing Dock	1	\$ 35,000	\$ 42,700	\$ 42,700	36.99%	\$ 15,795	\$ 19,175
Disc Golf Course	1	\$ 20,000	\$ 24,400	\$ 24,400	36.99%	\$ 9,026	\$ 10,957
Fitness Stations, Outdoor	8	\$ 35,000	\$ 42,700	\$ 341,600	36.99%	\$ 126,358	\$ 153,398
Football Field	1	\$ 400,000	\$ 488,000	\$ 488,000	58.70%	\$ 286,480	\$ 347,786
Pavilion, Small	5	\$ 40,000	\$ 48,800	\$ 244,000	59.18%	\$ 144,409	\$ 175,312
Pavilion, Large	3	\$ 80,000	\$ 97,600	\$ 292,800	49.32%	\$ 144,409	\$ 175,312
Pickleball Court, Outdoor	10	\$ 35,000	\$ 42,700	\$ 427,000	36.99%	\$ 157,960	\$ 191,763
Playground	6	\$ 100,000	\$ 122,000	\$ 732,000	49.32%	\$ 361,022	\$ 438,280
Agricultural Events Center	1	\$ 500,000	\$ 610,000	\$ 610,000	36.99%	\$ 225,639	\$ 273,925
Soccer Field	10	\$ 50,000	\$ 61,000	\$ 610,000	73.96%	\$ 451,129	\$ 547,670
Splash Pad	2	\$ 150,000	\$ 183,000	\$ 366,000	36.99%	\$ 135,383	\$ 164,355
Tennis Court	16	\$ 50,000	\$ 61,000	\$ 976,000	43.91%	\$ 428,573	\$ 520,286
Mountain Bike Trail (miles)	2	\$ 25,000	\$ 30,500	\$ 61,000	36.99%	\$ 22,564	\$ 27,392
Park Trail, Paved (miles)	2	\$ 50,000	\$ 61,000	\$ 122,022	81.37%	\$ 99,289	\$ 120,537
Park Trail, Soft Surface (miles)	6	\$ 60,000	\$ 73,200	\$ 439,260	61.65%	\$ 270,789	\$ 328,737
Rails to Trails Multi-Use Path	11	\$ 750,000	\$ 915,000	\$ 10,065,000	70.60%	\$ 7,105,868	\$ 8,626,506
				<b>Totals \$ 20,301,117</b>		<b>\$ 13,894,593</b>	<b>\$ 16,966,012</b>

\* Cost estimates are based on known or comparable facility costs.

\*\* Includes contingency at 15% and architectural/engineering services at 7%.

\*\*\* Construction dates vary. NPV based on CPI, CCI or BCI as appropriate, in an average construction year of 2033.

Facility construction costs in the 'Net Cost per Unit' column are based on costs drawn from a variety of sources, including facilities that have been previously constructed by the County and similar facilities that have been built in other counties. Each of these 2021 estimated cost figures are then increased to the gross cost by 22% to account for architectural and engineering services as well as contingencies.

These 'Total Cost (2021)' 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 8).

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 2033 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 estimates 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 building cost inflation (BCI) rate for buildings (such as maintenance buildings), the 10-year average CPI rate for acreage, and the 10-year average construction cost inflation (CCI) for all other projects. All project costs are then reduced to current NPV dollars using the Net Discount Rate.

## ■ Scheduling Individual Projects and Improvements

Improvements listed on Table 9 cannot be scheduled on an annual basis over the coming 20 years with any certainty. Accordingly, and as noted in the previous section, an 'average' year of 2033 is assigned to all projects in order to calculate estimated project costs. Over the next 5 years, however, specific projects drawn from the table by the Board of Commissioners 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 may be subsequently updated each year as part of the County's Annual CIE Update report reflecting decisions by the Board regarding capital project funding decisions made during consideration and adoption of that year's annual budget.





# Sheriff's Office & Jail

## ■ Introduction

The Harris County Sheriff's Office & Jail category focuses on the law enforcement activities of the Office and includes the Uniform Patrol Division, Criminal Investigations Division (CID), and the Court Service Department. The Sheriff's Office also provides security for all courts, processes warrants, and operates the county jail in the Law Enforcement Center. The county jail is a holding facility for individuals charged with a criminal offense waiting for a court appearance and for persons already sentenced but waiting for a transfer to a state or federal facility. The jail also holds persons found guilty of certain misdemeanors and sentenced to twelve months or less.



## ■ Service Area

The entire county is considered a single service area for the provision of law enforcement activities and facilities under the Sheriff's Office & Jail category because all residents and employees of the county benefit from them. Although each city maintains its own police department, the Sheriff's Office provides back up within each incorporated area and also provides supplemental services throughout the county, including serving court papers and documents.

## ■ Level of Service

The Level of Service is determined by an inventory of the square footage and specialized heavy vehicles currently used by the Sheriff's Office, and by a future expansion of the county jail planned to meet the needs of the County in 2045.

Table 10 shows the inventory of existing building area occupied by the Sheriff's Office for law enforcement activities, including administrative offices and evidence storage space. One heavy vehicle (defined as a vehicle having a service life of 10 years or more) – a transport van – is included in the inventory. Note that rolling stock such as patrol cars are not generally eligible for cost recovery because they do not last at least 10 years and are therefore not included in the inventory below.

Table 10 also shows the existing and planned number of beds in the county jail, which is located in the Law Enforcement Center. The future expansion project will add 98 beds to the 115 that are in the jail.



**Table 10: Inventory of Sheriff's Office & Jail Facilities**

Description	Location	Quantity
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Existing Facilities		Square Feet
Sheriff's Office	9989 Highway 116	8,000
Evidence Storage Space*	9825 Highway 116	600
Harris County Courthouse**	102 N. College St.	1,900
		<b>10,500</b>
		Beds
Law Enforcement Center (County Jail)	9825 Highway 116	<b>115</b>
		Number
Heavy Vehicle*** - Prisoner Transport Van		<b>1</b>

Planned Facilities	Additional Beds
Jail Expansion	<b>98</b>

\*Located in the Law Enforcement Center.

\*\* Space in the courthouse that is used by the Sheriff's Office.

\*\*\* Vehicles having a service life of 10 years or more.

**Table 11: Level of Service Calculations**

Level of Service			Future Demand	
Facilities	Service Population	Level of Service	Future Population	New Growth Demand*
Existing Square Feet	Day-Night Population (2021)	Square Feet of Floor Area per Person	2021-2045 Day-Night Population	Net New Square Feet Needed
10,500	44,857	0.234077	25,448	5,957
Existing & Planned Jail Beds	Day-Night Population (2045)	Beds per Person	Day-Night Population (2045)	Net New Jail Beds Needed
213	70,305	0.003030	70,305	98
Existing Heavy Vehicles	Day-Night Population (2021)	Vehicles per Person	2021-2045 Day-Night Population	New Heavy Vehicles Needed
1	44,857	0.000022	25,448	0.57

\* System improvements are 100% impact fee eligible to the whole number. One heavy vehicle is 57% impact fee eligible.



Table 11 presents the calculation of Level of Service based on the inventory and planned improvements on Table 31. Day-night population is used in calculating Level of Service and demand for future facilities due to the Sheriff's Office and Jail serving both residences and businesses throughout the county on a 24-hour basis.

The Level of Service is measured in terms of the existing building area in square feet and heavy vehicles used by the Sheriff's Office per 2021 day-night population in the county. For the county jail, the Level of Service is based on the total number of beds that are sufficient to meet the needs of the County through 2045.

## ■ Forecasts for Service Area

### Future Demand

Table 11 also calculates the future demand for facilities that will be required to fully meet the needs of the residents and businesses in the year 2045. For building area (square footage) and heavy vehicles, demand is based on the Level of Service standards shown on the table that are then applied to the expected day-night population growth between 2021 and 2045. As shown on the table, only a portion (.57) of a heavy vehicle is required to serve future growth based on the Level of Service. Only that portion (57%) of the cost of the vehicle is therefore impact fee eligible. However, the 5,957 in square feet of new building area is the number 'demanded' by new growth and is therefore 100% impact fee eligible.

The future demand for jail beds is based on the plans of the Sheriff's Office to serve future growth. This demand calculation is based on the forward-looking LOS calculation in the table, minus the existing jail beds. Thus, the 'Net New Jail Beds Needed' are those needed to serve future growth in the county in the coming 20 years. Since the new building area and the jail expansion are exactly what is required to serve new growth, the projects are 100% impact fee eligible. This is represented in the 'New Growth Demand' column.

### Future Costs

In the absence of specific building projects for the Sheriff's Office (not including the jail), and since the actual pace and timing of construction for the improvements to meet future demand have not been programmed, an 'average' year of 2033 is used for the Net Present Value calculations – some 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 future building area (which may be an expansion of an existing facility or the construction of a new building) and the jail expansion, the NPV is calculated by increasing the current (2021) estimated costs using the Engineering News-Record's (ENR) 10-year average building cost inflation (BCI) rate, and then discounting this future amount back using the Net Discount Rate.

A per-square foot construction cost of \$295 has been used to estimate the cost of future non-jail construction projects, based on an average of similar projects included in recent editions of a nationally recognized source (BNi Publications annual building cost books). The estimated cost of the jail is based on information compiled by the Sheriff's Office.

To calculate the NPV of the impact fee eligible cost estimate of the transport van, the current estimated cost is inflated to the target year (2033) using the 10-year average Consumer Price Index (CPI) and then reduced using the Net Discount Rate to produce the Net Present Value.

The project costs are shown on Table 12: Project Costs to Meet Future Demand.

**Table 12: Project Costs to Meet Future Demand**

Year	Description	Number	2021 Total Cost *	Estimated Cost 2033 (NPV)	% Impact Fee Eligible	Total Impact Fee Eligible Cost
2033	New Building Area (sq.ft.)	5,957	\$1,759,200	\$ 2,257,865.62	100%	\$ 2,257,865.62
	Jail Expansion (beds)	98	\$7,000,000	\$ 8,984,230.88	100%	\$ 8,984,230.88
	Transport Van	1	\$ 110,000.00	\$ 134,977.95	57%	\$ 76,937.43
<b>Totals</b>				<b>\$ 11,377,074.44</b>		<b>\$ 11,319,033.92</b>

\* Building cost estimates (\$295/square foot for new building area and \$7,000,000 for the jail expansion) are based on information provided by Sheriff's Office and on comparable facilities included in the Green Building Square Foot Costbook, 2018, edition, BNi Publications. Transport van cost is based on the existing vehicle in the County fleet.

\*\*2021 cost estimate inflated to target year (2033) using the BCI and CPI, reduced to NPV using the Discount Rate.

## Fire Protection

### ■ Introduction

Fire protection is provided in Harris County through ten volunteer fire departments. Each department has under its command fire stations and fire trucks. The departments currently maintain 17 stations and substations located throughout the county and coordinate their activities and coverage through a Council of Fire Chiefs.

### ■ Service Area

Fire protection is provided countywide outside of the City of West Point, which has its own department and operates independently from the volunteer fire departments. For this reason, the entire county outside of West Point 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 service.

### ■ Level of Service

The current Level of Service is determined by an inventory of the square footage and heavy vehicles used for fire protection services. As shown in Table 13 and Table 14, the volunteer fire departments currently provide service with a combined building square footage of 61,945 in its 17 fire stations and supporting facilities, utilizing a total of 51 fire-fighting apparatus.

**Table 13: Inventory of Fire Apparatus**

#### Type and Number of Existing Vehicles\*

##### *Fire Apparatus*

Pumper	32
Tender	4
Ladder	1
Rescue	6
Brush Truck	8
<b>Total Fire Apparatus</b>	<b>51</b>

\* Vehicles having a service life of 10 years or more.



Note that the term 'fire apparatus' applies to any rolling stock which is used for the primary purpose of fighting, suppressing or controlling fires of any type—buildings, fields, automobile wrecks, wooded areas, etc. The County does not contemplate acquiring any type of fire apparatus other than those listed above.

**Table 14: Inventory of Fire Stations and Facilities**

Existing Fire Stations and Facilities		
Name	Location	Floor Area
<b>Antioch VFD - Station 100</b>		
Station 1	5430 GA Hwy 210, Fortson	4,422
Station 2	5219 Lickskillet Road, Hamilton	448
Station 3	85 Satellite Circle, Fortson	448
Station 4	7840 GA Hwy 219, Hamilton	809
Station 5	3534 Mountain Hill Road, Fortson	468
Station 6	580 Harrisville Road, Fortson	1,280
<b>Cataula VFD - Station 200</b>		
Station 1	107 Raymond Drive, Catuala	2,170
Station 2	7120 GA Hwy 315, Cataula	5,200
<b>Ellerslie VFD - Station 300</b>		
Station 300	13425 Warm Springs Road, Ellerslie	8,400
<b>Hamilton VFD - Station 1100</b>		
Station 1100	10188 GA Hwy 16, Hamilton	7,700
<b>Hopewell VFD - Station 500</b>		
Station 500	6381 Hopewell Church Road, Pine Mountain	2,716
<b>NW Harris VFD - Station 800</b>		
Station 1	4433 Pine Lake Road, West Point	9,100
Station 2	2340 Piedmont Lake Road, Pine Mountain	984
<b>Pine Mountain VFD - Station 1200</b>		
Station 1200	301 East Chipley Street, Pine Mountain	4,160
<b>Pine Mountain Valley VFD - Station 900</b>		
Station 900	95 Park Lane, Pine Mountain Valley	6,100
<b>Shiloh VFD - Station 1300</b>		
Station 1300	1165 Main Street, Shiloh	3,840
<b>Waverly Hall VFD - Station 1400</b>		
Station 1400	547 O'Neal Drive, Waverly Hall	2,500
<b>Fire Training Center</b>		
Burn Building	10188 GA Hwy 116, Hamilton	1,200
<b>Total Existing Square Footage</b>		<b>61,945</b>

**Table 15: Level of Service Calculations**

Level of Service			Future Demand	
Facilities	Current Service Population	Level of Service	Future Service Population	New Growth Demand*
Existing Square Feet	2021 Day-Night Population	Square Feet per Person	Day-Night Population Increase (2021-45)	Net New Square Feet Needed
61,945	43,649	1.419170	24,763	35,143
Existing Fire Apparatus	2021 Day-Night Population	Fire Apparatus per Person	Day-Night Population Increase (2021-45)	Net New Fire Apparatus Needed
51	43,649	0.001168	24,763	28.93

\*Number of fire apparatus will be rounded down to 28 vehicles having 100% impact fee eligibility.

Table 15 presents the calculation of Level of Service based on the inventory in the preceding tables. Day-night population is used in calculating Level of Service and demand for future facilities due to fire protection services being available to both residences and businesses on a 24-hour basis.

The Level of Service is measured in terms of the existing building area in square feet and fire apparatus per 2021 day-night population in the county.

## ■ Forecasts for Service Area

### Future Demand

Table 15 also calculates the future demand for square footage and fire apparatus, based on the Level of Service standards shown on the table that are applied to the expected day-night population growth between 2021 and 2045. Facilities needed to serve new growth in 2045 include 35,143 square feet in space that is 100% impact fee eligible because it is the full amount needed to meet new growth demand. Additional future needs add up to 28.93 fire apparatus. Note that, because only 'whole' vehicles can be purchased (as opposed to the portion of one – .93 of a vehicle – that is technically needed to meet future demand), this figure is rounded down to the nearest whole number, resulting in 28 fire apparatus that are 100% impact fee eligible.

### Future Costs

Since the actual pace and timing of construction for the improvements to meet future demand have not been programmed, an 'average' year of 2033 is used for the Net Present Value calculations – some will occur earlier for less cost, 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 future fire stations or supporting facilities (which may be an expansion of an existing facility or the construction of a new building), the NPV is calculated by increasing the current (2021) estimated costs using the Engineering New Record's (ENR) 10-year average building cost inflation (BCI) rate, and then discounting this future amount back using the Net Discount Rate.

A per-square foot construction cost of \$300 has been used to estimate the cost of future building projects, based on an average of similar projects in Georgia communities.

To calculate the NPV of the impact fee eligible cost estimate of the fire apparatus, the current estimated cost is inflated to the target year (2033) using the 10-year average Consumer Price Index (CPI) and then reduced using the Net Discount Rate to produce the Net Present Value. The estimated unit cost is the average cost of the existing vehicle types operating in the County, based on current prevailing rates.

The project costs are shown on Table 16: Project Costs to Meet Future Demand.

**Table 16: Project Costs to Meet Future Demand**

Description	Number	2021 Cost Each*	Total 2021 Cost	Estimated Cost 2033 (NPV)**	% Impact Fee Eligible	Total Impact Fee Eligible Cost
New Building Area (sq.ft.)	35,143	\$ 300.00	\$ 10,542,907.00	\$ 13,531,415.80	100%	\$ 13,531,415.80
New Fire Apparatus	28	\$ 325,000.00	\$ 9,100,000.00	\$ 11,166,357.31	100%	\$ 11,166,357.31
<b>Totals</b>			<b>\$ 19,642,907.00</b>	<b>\$ 24,697,773.11</b>		<b>\$ 24,697,773.11</b>

\* Building cost estimates based on comparable facilities in other Georgia communities; estimated fire apparatus unit cost represents the average cost of vehicle types in the existing inventory based on current prevailing rates.

\*\*2021 cost estimate inflated to target year (2033) using the BCI and CPI, reduced to NPV using the Discount Rate.

Since the new building area and fire apparatus are exactly what is required to serve new growth, the projects are 100% impact fee eligible. The impact fee eligible square footage may be allocated across various new or expanded fire stations or other supporting facilities and may be implemented in different years. As previously stated, an 'average' year of 2033 is used for the Net Present Value calculations since it is unknown when additional building space will be constructed and when additional fire apparatus will be purchased.

Table 17 on the next page shows future capital improvements, drawn from Table 16, scheduled in pace with annual demands generated by population and business growth. Actual implementation dates will be determined through the annual budget adoption process undertaken by the Board of Commissioners.

**Table 17: Project Costs to Meet Future Demand**

Year*	Service Area Day-Night Population		Facility Addition (sf)	Additional Fire Trucks	Cost**		Total Cost
	Total	Cumulative Additions			Facility	Fire Truck	
2022	44,492						
2023	45,347	855					
2024	46,218	1,727		1		\$398,798.48	\$398,798.48
2025	47,102	2,610	5,020	2	\$ 1,933,059.40	\$797,596.95	\$2,730,656.35
2026	48,001	3,510		1		\$398,798.48	\$398,798.48
2027	48,916	4,424		1		\$398,798.48	\$398,798.48
2028	49,845	5,353	5,020	2	\$ 1,933,059.40	\$797,596.95	\$2,730,656.35
2029	50,789	6,297		1		\$398,798.48	\$398,798.48
2030	51,747	7,256		1		\$398,798.48	\$398,798.48
2031	52,727	8,236	5,020	2	\$ 1,933,059.40	\$797,596.95	\$2,730,656.35
2032	53,724	9,233		1		\$398,798.48	\$398,798.48
2033	54,736	10,244		1		\$398,798.48	\$398,798.48
2034	55,764	11,273		1		\$398,798.48	\$398,798.48
2035	56,811	12,319	5,020	2	\$ 1,933,059.40	\$797,596.95	\$2,730,656.35
2036	57,882	13,390		1		\$398,798.48	\$398,798.48
2037	58,970	14,479		1		\$398,798.48	\$398,798.48
2038	60,077	15,585	5,020	2	\$ 1,933,059.40	\$797,596.95	\$2,730,656.35
2039	61,202	16,710		1		\$398,798.48	\$398,798.48
2040	62,345	17,854		1		\$398,798.48	\$398,798.48
2041	63,520	19,028	5,020	2	\$ 1,933,059.40	\$797,596.95	\$2,730,656.35
2042	64,712	20,220		1		\$398,798.48	\$398,798.48
2043	65,925	21,433		1		\$398,798.48	\$398,798.48
2044	67,159	22,667	5,020	2	\$ 1,933,059.40	\$797,596.95	\$2,730,656.35
2045	68,412	23,920					\$0.00
<b>Totals</b>			<b>35,143</b>	<b>28</b>	<b>\$ 13,531,415.80</b>	<b>\$11,166,357.31</b>	<b>\$24,697,773.11</b>

\*Actual implementation dates will be determined through the annual budget adoption process.

\*\*Costs in Net Present Value (NPV), based on BCI for buildings and CPI for vehicles in an average year of 2033.



## Emergency Medical Services

### ■ Introduction

Emergency medical services are provided by Harris County through its Emergency Medical Services (EMS) Department. The EMS Department provides advanced life support (ALS) ambulance service and maintains four EMS stations located throughout the county operating 24/7 with a fleet of ambulances and supporting equipment.



### ■ Service Area

Emergency medical services are provided countywide outside of the City of West Point, which has its own department and operates independently from the County EMS Department. For this reason, the entire county outside of West Point is considered a single service area for the provision of EMS services because all residents and employees within this area have equal access to the benefits of the service.

### ■ Level of Service

The Level of Service is determined by an inventory of the square footage, vehicles, and equipment currently used by the EMS Department, by the planned addition of building space in the form of expansions to two EMS stations, and by the addition of three new stations, as well as the addition of five ambulances. These planned improvements have been identified to meet the needs of the County in 2045.

As shown in Table 18, the EMS Department currently provides service with a combined building square footage of 19,341 in its 4 stations, utilizing a variety of vehicles (that include seven ambulances) and related equipment.

Table 18 also shows two future building expansion projects and three new stations, which would add 17,800 square feet to the inventory of building area for a total of 37,141 square feet. In addition, five additional ambulances are shown as being added to the fleet in the future, resulting in a total of 12 ambulances.



**Table 18: Inventory of EMS Facilities**

Description	Quantity
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**Existing Building Floor Area (in square feet)**

Station 1 EMS Hamilton	6,750
Station 2 EMS Mountain Hill	7,200
Station 3 EMS Waverly Hall	3,500
Station 4 EMS Pine Mountain	1,891
<i>Total Building Floor Area</i>	<i>19,341</i>

**Existing Vehicles & Equipment\***

Ambulances	7
ATV Side x Sides	2
Emergency Response Boats	1
Trailers**	2
Field/Administrative Vehicles	3

**Planned Building Floor Area (in square feet)**

Station 1 Expansion	1,400
Station 2 Expansion	1,400
Station 5 (New)	5,000
Station 6 (New)	5,000
Station 7 (New)	5,000
<i>Total Planned Building Floor Area</i>	<i>17,800</i>

**Planned Vehicles**

Ambulances	5
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\* Vehicles and equipment having a service life of 10 years or more.

\*\* Includes one utility trailer and one enclosed trailer.

Table 19 on the next page presents the calculation of Level of Service based on the inventory and planned improvements on the table above. Day-night population is used in calculating Level of Service and demand for future facilities due to the EMS Department serving both residences and businesses throughout the county on a 24-hour basis.

The Level of Service is measured in terms of the existing vehicles and equipment used by the EMS Department per 2021 day-night population in the county, with the exception that the Level of Service for ambulances is based on the total number (12) that is necessary to meet the needs of the County through 2045. This same looking-forward approach is used to calculate the Level of Service for building floor area. In this instance, a total of 37,141 square feet in building area is anticipated to serve future growth and development, based on current County EMS plans.

**Table 19: Level of Service Calculations**

Level of Service			Future Demand	
Facilities	Service Population	Level of Service	Future Population	New Growth Demand*
Existing and Planned Square Feet	2045 Day-Night Population	Square Feet of Floor Area per Person	2045 Day-Night Population	Net Square Feet of New Floor Area Needed
37,141	68,412	0.542903	68,412	17,800
Existing and Planned Ambulances	2045 Day-Night Population	Ambulances per Person	2045 Day-Night Population	Net New Ambulances Needed
12	68,412	0.000175	68,412	5.00
Existing ATVs	2021 Day-Night Population	ATVs per Person	2021-2045 Day-Night Population	Net New ATVs Needed
2	43,649	0.000046	24,763	1.13
Existing Boats	2021 Day-Night Population	Boats per Person	2021-2045 Day-Night Population	Net New Boats Needed
1	43,649	0.000023	24,763	0.57
Existing Trailers	2021 Day-Night Population	Trailers per Person	2021-2045 Day-Night Population	Net New Trailers Needed
2	43,649	0.000046	24,763	1.13
Existing Vehicles	2021 Day-Night Population	Ambulance per Person	2021-2045 Day-Night Population	Net New Vehicles Needed
3	43,649	0.000069	24,763	1.70

\* System improvements are 100% impact fee eligible to the whole number. One **ATV** is 100% impact eligible, a second is 13% impact fee eligible. One **boat** is impact fee eligible, at 57%. One **trailer** is 100% impact fee eligible, a second is 13% impact fee eligible. One **administrative vehicle** is 100% impact fee eligible, a second is 70% impact fee eligible.

## ■ Forecasts for Service Area

### Future Demand

Table 19 also calculates the future demand for EMS facilities. For ATVs, boats, trailers, and vehicles (excluding ambulances), future demand is based on the Level of Service standards that are applied to the expected day-night population growth between 2021 and 2045. As shown on the table, 'new growth demand' technically only requires portions of some components. For example, 1.13 ATVs are required to serve future growth based on the Level of Service, resulting in one ATV being 100% impact fee eligible but only a portion (.13) of the second ATV is eligible because it is not fully needed for future growth. Since a whole second ATV is mathematically not required, only 13% of the cost of the second ATV is impact fee eligible.

For building floor area and ambulances, future demand is based on the EMS Department's plans for adding building space and ambulances to the existing system in order to serve future growth. This demand calculation is based on the forward-looking LOS calculation in the table, minus the existing building square footage and ambulances. Thus, the 'net new' square feet in floor area and ambulances in the 'New Growth Demand' column are those needed to fully meet the needs of the residents and businesses in the year 2045. Since this total space (due to expanded and new EMS stations) and fleet of ambulances are what is required to serve new growth, the projects are 100% impact fee eligible.

### Future Costs

Current (2021) estimated costs for system improvements needed to meet future demand are provided in Table 20.

The Net Present Value of impact fee eligible project costs are shown in Table 21.

To calculate the Net Present Value (NPV) of the impact fee eligible cost estimate for the construction of future building floor area, the NPV is calculated by increasing the current (2021) estimated costs to the target implementation years (as shown in the table) using the Engineering News Record's (ENR) 10-year average building cost inflation (BCI) rate, and then discounting this future amount back to 2021 current dollars using the Net Discount Rate.

To calculate the NPV of the impact fee eligible cost estimates for ambulances, ATVs, boats, trailers, and field/administrative vehicles, the current estimated cost is inflated to the target years shown on Table 21 using the 10-year average Consumer Price Index (CPI) and then reduced using the Net Discount Rate to produce the 2021 Net Present Value.

**Table 20: System Improvement Costs to Meet Future Demand**

Year	Buildings			Vehicles & Equipment		
	Project	Square Feet	2021 Total Cost*	Type	Number	2021 Total Cost*
2022	Station 1 Expansion	1,440	\$ 244,800.00	Boat	1	\$ 25,000.00
	Station 2 Expansion	1,440	\$ 244,800.00	Admin. Vehicle	1	\$ 45,000.00
2023						
2024						
2025						
2026	Future Station 5	5,000	\$ 850,000.00	Ambulance	2	\$ 546,000.00
				ATV	1	\$ 15,000.00
				Trailer	1	\$ 5,000.00
				Admin. Vehicle	1	\$ 45,000.00
2027						
2028						
2029						
2030						
2032	Future Station 6	5,000	\$ 850,000.00	Ambulance	2	\$546,000
2033						
2034						
2035				ATV	1	\$ 15,000.00
				Trailer	1	\$ 5,000.00
2036						
2037						
2038	Future Station 7	5,000	\$ 850,000.00	Ambulance	1	\$ 273,000.00
2039						
2040						
2041						
2042						
2043						
2044						
2045						

\*Cost estimates provided by Harris County EMS Department.

Table 21: Impact Fee Cost Calculations

Year	Costs in 2021 Dollars				Net Present Value*
	Project	Total Cost	% Impact Fee Eligible	New Growth Costs	
2022	Station 1 Expansion	\$ 244,800.00	100%	\$ 244,800.00	\$ 249,944.35
	Station 2 Expansion	\$ 244,800.00	100%	\$ 244,800.00	\$ 249,944.35
	Boat (1)	\$ 25,000.00	57%	\$ 14,250.00	\$ 14,495.08
	Admin. Vehicle (1)	\$ 45,000.00	100%	\$ 45,000.00	\$ 45,773.95
2026	Future Station 5	\$ 850,000.00	100%	\$ 850,000.00	\$ 943,144.97
	Ambulance (2)	\$ 546,000.00	100%	\$ 546,000.00	\$ 594,595.84
	ATV (1)	\$ 15,000.00	100%	\$ 15,000.00	\$ 16,335.05
	Trailer (1)	\$ 5,000.00	100%	\$ 5,000.00	\$ 5,445.02
	Admin. Vehicle (1)	\$ 45,000.00	70%	\$ 31,500.00	\$ 34,303.61
2032	Future Station 6	\$ 850,000.00	100%	\$ 850,000.00	\$ 1,068,488.58
	Ambulance (2)	\$ 546,000.00	100%	\$ 546,000.00	\$ 658,653.38
2035	ATV (1)	\$ 15,000.00	13%	\$ 1,950.00	\$ 2,475.80
	Trailer (1)	\$ 5,000.00	13%	\$ 650.00	\$ 825.27
2038	Future Station 7	\$ 850,000.00	100%	\$ 850,000.00	\$ 1,210,490.31
	Ambulance (1)	\$ 273,000.00	100%	\$ 273,000.00	\$ 364,806.02
<b>Totals</b>		<b>\$ 4,559,600.00</b>		<b>\$ 4,517,950.00</b>	<b>\$ 5,459,721.56</b>

\*2021 cost estimate inflated to target year using the BCI and CPI, reduced to NPV using the Discount Rate.

Since the new building area and the number of ambulances are exactly what is required to serve new growth, the projects are 100% impact fee eligible. As stated earlier with the ATV example, the other components are only partially impact fee eligible because only portions of each are technically 'demanded' by future growth.

# Emergency 911

## ■ Introduction

The Harris County E-911 Center provides emergency communications service throughout its service area. The department receives and processes emergency and non-emergency telephone calls and dispatches emergency personnel from the Sheriff's Office; Hamilton, Pine Mountain, Shiloh, and Waverly Hall police departments; county EMS, and ten volunteer fire departments, and assists many other County departments and state agencies with their various communication needs.

## ■ Service Area

E-911 services are provided countywide outside of the City of West Point, which has its own department and operates independently from the County E-911 Department. For this reason, the entire county outside of West Point is considered a single service area for the provision of E-911 services because all residents and employees within this area have equal access to the benefits of the service.

## ■ Level of Service

The Level of Service is determined by an inventory of communication towers, vehicles, and equipment currently used by the E-911 Department and by the total area in building space planned to meet the needs of the County in 2045.

**Table 22: Inventory of E-911 Facilities**

Description	Quantity
<b>Existing Facilities</b>	
<i>Building Floor Area (in square feet)</i>	
E-911 Department*, 9907 Ga. Hwy.	3,300
<i>Communication Towers</i>	10
<i>Heavy Vehicles*</i>	
E-911 Field Truck	1
EMA Field Truck	1
Mass Casualty Bus	1
<i>Total Existing Heavy Vehicles</i>	3
<i>Heavy Equipment</i>	
Emergency Utility Trailer	1
<i>Emergency Power System</i>	1
<b>Planned System</b>	
<i>Building Floor Area (in square feet)</i>	
E-911 Center, location TBD	5,000

\*Located in the Harris County Emergency Services Building.

\*\*Vehicles having a service life of 10 years or more.

This planned improvement has been identified to serve the needs of both existing and future growth to 2045. As shown in Table 22, the E-911 Department currently provides service from a 3,300 square foot space within the County Emergency Services Building and utilizes 10 communication towers and a variety of vehicles and equipment in fulfilling its duties.

Table 23 on the next page presents the calculation of Level of Service based on the inventory and planned improvements in Table 22. Day-night population is used in calculating Level of Service and demand for future facilities due to the E-911 Department serving both residences and businesses throughout the county on a 24-hour basis.

The Level of Service is measured in terms of all facilities (with the exception of building floor area) used by the E-911 Department per 2021 day-night population in the county. The Level of Service for



building floor area, however, is based on the total number (8,300 square feet) needed to fully serve residents and businesses in the year 2045.

**Table 23: Level of Service Calculations**

Level of Service			Future Demand	
Facilities	Service Population	Level of Service	Future Population	New Growth Demand
Existing and Planned Total Square Feet	2045 Day-Night Population	Square Feet of Floor Area per Person	2045 Day-Night Population	Net New Square Feet Needed
8,300	68,412	0.1213	68,412	5,000
Existing Towers	2021 Day-Night Population	Towers per Person	2021-2045 Day-Night Population	Net New Towers Needed
10	43,649	0.000229	24,763	5.67
Existing Heavy Vehicles	2021 Day-Night Population	Vehicles per Person	2021-2045 Day-Night Population	Net New Vehicles Needed
3	43,649	0.000069	24,763	1.70
Existing Utility Trailers	2021 Day-Night Population	Trailers per Person	2021-2045 Day-Night Population	Net New Trailers Needed
1	43,649	0.000023	24,763	0.57
Existing Power Systems	2021 Day-Night Population	Power Systems per Person	2021-2045 Day-Night Population	Net New Power Systems Needed
1	43,649	0.000023	24,763	0.57

\* System improvements are 100% impact fee eligible to the whole number. Five **communication towers** are 100% impact fee eligible, a sixth is 67% impact fee eligible. One **vehicle** is 100% impact fee eligible, a second is 70% impact fee eligible. One **trailer** and one **emergency power system** are partially impact fee eligible, at 57%.

## ■ Forecasts for Service Area

### Future Demand

Table 23 also calculates the future demand for E-911 facilities. For communication towers, vehicles, equipment, and emergency power systems, future demand is based on the Level of Service standards that are applied to the expected day-night population growth between 2021 and 2045. As shown on the table, 'new growth demand' technically only requires portions of some components. For example, 1.70 heavy vehicles are required to serve future growth based on the Level of Service. This means one vehicle is fully impact fee eligible, while the second is only partially eligible because only a portion (.70) of it is needed for future growth. Since a whole second vehicle is mathematically not required, only 70% of the cost of the second vehicle is impact fee eligible.

For building floor area, future demand is based on the E-911 Department's plans to serve future growth. This demand calculation is based on the forward-looking LOS calculation in the table, minus the existing building area. Thus, the 'Net New Square Feet Needed' is the space needed to serve future growth in the county over the next two decades. Since the new building area is what is required to serve new growth, the projects are 100% fee eligible.

### Future Costs

Both the current (2021) estimated costs and the Net Present Value of impact fee eligible project costs are shown in Table 24.

Projects are 100% impact fee eligible if their number is the lowest whole number that is required to serve new growth. As shown on the table, the whole number of communication towers (5) and heavy vehicles (1) are 100% impact fee eligible, while a sixth communication tower and a second vehicle are partially impact fee eligible. Both the trailer and emergency power system are only partially impact fee eligible, because only portions of each are technically 'demanded' by future growth.

To calculate the Net Present Value (NPV) of the impact fee eligible cost estimates for the construction of future building floor area and communication towers, the NPV is calculated by increasing the current (2021) estimated costs to the 'average' implementation year (2033) using the Engineering News Record's (ENR) 10-year average building cost inflation (BCI) rate, and then discounting this future amount back to 2021 using the Net Discount Rate.

To calculate the NPV of the impact fee eligible cost estimates for all other E-911 projects (vehicles, trailer, and emergency power systems), the current estimated cost is inflated to the same average target year shown on Table 23 using the 10-year average Consumer Price Index (CPI) and then reduced using the Net Discount Rate to produce the Net Present Value.

The year 2033 for all projects is used since the actual pace and timing of construction for the improvements to meet future demand has not been programmed – some will occur earlier than 2033 for less money, and some later at greater cost. All will average out.

Table 24: Project Costs to Meet Future Demand

Year	Description	Number	2021 Total Cost*	Estimated Cost 2033 (NPV)**	% Impact Fee Eligible	Total Impact Fee Eligible Cost
2033	E-911 Center (square feet)	5,000	\$ 8,000,000.00	\$ 10,267,692.43	100%	\$ 10,267,692.43
2033	Communication Tower	5	\$ 2,500,000.00	\$ 3,208,653.88	100%	\$ 3,208,653.88
2033	Communication Tower	1	\$ 500,000.00	\$ 641,730.78	57%	\$ 365,786.54
2033	Heavy Vehicle	1	\$ 70,000.00	\$ 85,895.06	100%	\$ 85,895.06
2033	Heavy Vehicle	1	\$ 70,000.00	\$ 85,895.06	70%	\$ 60,126.54
2033	Trailer	1	\$ 15,000.00	\$ 18,406.08	57%	\$ 10,491.47
2033	Emergency Power System	1	\$ 85,000.00	\$ 104,301.14	57%	\$ 59,451.65
			<b>Totals</b>	<b>\$ 14,118,077.09</b>		<b>\$ 13,842,132.86</b>

\* Cost estimates provided by Harris County E-911 Department.

\*\*2021 cost estimate inflated to target year (2033) using the CPI and BCI, reduced to NPV using the Discount Rate.

## COMMUNITY WORK PROGRAM

The following impact fee funded projects are contained in this Capital Improvements Element and amend the Community Work Program contained in the Harris County Comprehensive Plan.

### 5-Year Work Program: Impact Fee Eligible Projects

Category <sup>1</sup>	Action/Item	2022	2023	2024	2025	2026	Responsible Party	Cost Estimate	Funding Source*	Notes
	<b>Trails</b>									
Parks and Recreation	Mountain Bike Trail		✓	✓			Harris County Recreation Dept.	\$61,000	Max. 36.99% Impact Fees; Min 63.01% SPLOST and/or General Fund and/or grants	Cost includes 2 miles of mountain bike trail
Parks and Recreation	Park Trail (soft surface) in multiple parks	✓	✓				Harris County Recreation Dept.	\$439,260	Max. 61.65% Impact Fees; Min. 38.35% SPLOST and/or General Fund and/or grants	Cost includes 6 miles of soft surface park trail in various parks
Parks and Recreation	Rails to Trails Multi-Use Path				✓	✓	Harris County Recreation Dept	\$915,000 (per mile)	Max. 70.60% Impact Fees; Min. 29.4% TSPLOST and/or General Fund	Number of miles TBD (up to 11 are impact fee eligible); cost per mile is shown (up to \$10,065,000)
Parks and Recreation	Fitness Stations, outdoor					✓	Harris County Recreation Dept.	\$42,700 (per unit)	Max. 36.99% Impact Fees; Min. 63.01% SPLOST and/or General Fund	Number TBD (up to 8 are impact fee eligible); unit cost is shown (up to \$341,600)

<sup>1</sup> Fire Protection category not included in CWP as no projects are anticipated for the next 5 years.

Category <sup>1</sup>	Action/Item	2022	2023	2024	2025	2026	Responsible Party	Cost Estimate	Funding Source*	Notes
	<b>Ellerslie Park</b>									
Parks and Recreation	Playground (1)	✓					Harris County Recreation Dept.	\$122,000	Max. 49.32% Impact Fees; Min. 50.68% General Fund and/or grants	
Parks and Recreation	Small Pavilions (2)	✓		✓			Harris County Recreation Dept.	\$48,800	Max. 59.18% Impact Fees; Min. 40.82% General Fund	
Parks and Recreation	Splashpad (1)	✓					Harris County Recreation Dept.	\$183,000	36.99% Impact Fees; Min. 63.01% SPLOST and/or General Fund and/or grants	
Parks and Recreation	Disc-Golf Course	✓					Harris County Recreation Dept.	\$24,400	Max. 36.99% Impact Fees; Min. 63.01% General Fund and/or grants	
Parks and Recreation	Pickleball Courts, outdoor (2)		✓				Harris County Recreation Dept.	\$85,400	Max. 36.99% Impact Fees; Min. 63.01% SPLOST and/or General Fund	
Parks and Recreation	Restroom Building	✓	✓				Harris County Recreation Dept.	\$97,600	100% Impact Fees; General Fund	
	<b>E.C. Pate Park</b>									
Parks and Recreation	1 Large Pavilion (1)			✓			Harris County Recreation Dept.	\$97,600	Max. 49.32% Impact Fees; Min. 50.68% General Fund	
Parks and Recreation	Football Field (1)			✓			Harris County Recreation Dept.	\$488,000	Max. 58.70% Impact Fees; Min. 41.30%	

Category <sup>1</sup>	Action/Item	2022	2023	2024	2025	2026	Responsible Party	Cost Estimate	Funding Source*	Notes
									SPLOST and/or General Fund	
	<b>Charles Moultrie Park</b>									
<b>Parks and Recreation</b>	Playground (1)			✓			Harris County Recreation Dept.	\$122,000	Max. 49.32% Impact Fees; Min. 50.68% General Fund and/or grants	
<b>Parks and Recreation</b>	Large Pavilion (1)			✓			Harris County Recreation Dept.	\$97,600	Max. 49.32% Impact Fees; Min. 50.68% General Fund and/or grants	
	<b>Harris County Soccer/ Rodeo Complex</b>									
<b>Parks and Recreation</b>	Agricultural Events Center					✓	Harris County Recreation Dept.	\$610,000	Max. 36.99% Impact Fees; Min. 63.01% SPLOST and/or General Fund and/or grants	
<b>Parks and Recreation</b>	Expand Parking Area			✓	✓		Harris County Recreation Dept.	\$610 (per parking space)	100% Impact Fees; SPLOST and/or General Fund	Number of parking spaces TBD (up to 665 are impact fee eligible); cost per parking space is shown (up to \$405,650)
	<b>Harris County Community Center</b>									
<b>Parks and Recreation</b>	Playground (1)			✓			Harris County Recreation Dept.	\$122,000	Max. 49.32% Impact Fees; Min. 50.68% General Fund and/or grants	
	<b>New Parks (Southwest Area)</b>									

Category <sup>1</sup>	Action/Item	2022	2023	2024	2025	2026	Responsible Party	Cost Estimate	Funding Source*	Notes
Parks and Recreation	Land Purchase for Parks			✓	✓	✓	Harris County Recreation Dept.	\$6,100 (per acre)	100% Impact Fees; SPLOST and/or General Fund	Total acreage TBD (up to 172.54 are impact fee eligible); cost per acre is shown (up to \$1,052,485)
	<b>Pine Mountain Valley Park</b>									
Parks and Recreation	Playground (1)					✓	Harris County Recreation Dept.	\$122,000	Max. 49.32% Impact Fees; Min. 50.68% SPLOST and/or General Fund	
Parks and Recreation	Basketball Court (1)				✓		Harris County Recreation Dept.	\$91,500	Max. 88.06% Impact Fees; Min. 11.94% SPLOST and/or General Fund	
Parks and Recreation	Tennis Courts (1)				✓		Harris County Recreation Dept.	\$61,000	Max. 43.91% Impact Fees; Min. 56.09% SPLOST and/or General Fund	
Sheriff's Office & Jail	Jail Expansion					✓	Harris County Sheriff's Office; Harris County Jail	\$7,000,000	100% Impact Fees; SPLOST, and/or General Fund	Cost includes 98 new beds; The portion of new building area that exceeds the existing building size is impact fee eligible
Sheriff's Office & Jail	Transport Van (1)		✓				Harris County Sheriff's Office; Harris County Jail	\$110,000	Max 57% Impact Fees; Min 43% SPLOST, and/or General Fund	



Category <sup>1</sup>	Action/Item	2022	2023	2024	2025	2026	Responsible Party	Cost Estimate	Funding Source*	Notes
Emergency Medical Services	Station 1 Expansion (1,440 sq. ft.)	✓					Harris County Emergency Medical Services	\$244,800	100% Impact Fees; SPLOST, and/or General Fund	
Emergency Medical Services	Station 2 Expansion (1,440 sq. ft.)	✓					Harris County Emergency Medical Services	\$244,800	100% Impact Fees; SPLOST, and/or General Fund	
Emergency Medical Services	Future Station 5 (5,000 sq. ft.)					✓	Harris County Emergency Medical Services	\$850,000	100% Impact Fees; SPLOST, and/or General Fund	
Emergency Medical Services	Boat (1)	✓					Harris County Emergency Medical Services	\$25,000	Max. 57% Impact Fees; Min. 43% SPLOST and/or General Fund	
Emergency Medical Services	Admin. Vehicle (1)	✓					Harris County Emergency Medical Services	\$45,000	100% Impact Fees; SPLOST, and/or General Fund	
Emergency Medical Services	Ambulances (2)					✓	Harris County Emergency Medical Services	\$546,000	100% Impact Fees; SPLOST, and/or General Fund	
Emergency Medical Services	ATV (1)					✓	Harris County Emergency Medical Services	\$15,000	100% Impact Fees; SPLOST, and/or General Fund	
Emergency Medical Services	Trailer (1)					✓	Harris County Emergency Medical Services	\$5,000	100% Impact Fees; SPLOST, and/or General Fund	
Emergency Medical Services	Admin Vehicle (1)					✓	Harris County Emergency Medical Services	\$45,000	Max. 70% Impact Fees; Min. 30% SPLOST, and/or General Fund	

Category <sup>1</sup>	Action/Item	2022	2023	2024	2025	2026	Responsible Party	Cost Estimate	Funding Source*	Notes
<b>Emergency 911 (E-911)</b>	Communication Tower (1)		✓				Harris County E-911 Center	\$2,500,000	100% Impact Fees; SPLOST, and/or General Fund	
<b>Emergency 911 (E-911)</b>	Heavy Vehicle (1)			✓			Harris County E-911 Center	\$70,000	100% Impact Fees; General Fund	
<b>Emergency 911 (E-911)</b>	Emergency Power System (1)	✓					Harris County E-911 Center	\$85,000	Max. 57% Impact Fees; Min. 43% SPLOST and/or General Fund	

## APPENDIX A: Glossary

The following terms are used in this report. Generally, the definitions are taken directly from the Georgia Development Impact Fee Act.

**Capital improvement:** an improvement with a useful life of ten 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) Wastewater 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) Stormwater 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 a municipality or county shall be considered a project improvement.

**Proportionate share:** means 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 shall 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 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 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 administrative costs, provided that such administrative costs shall not exceed three percent of the total amount of the costs. 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 but such 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 B: Future Growth

In order to accurately calculate the demand for future services for Harris County, new growth and development must be quantified in future projections. These projections include forecasts for population, households, housing units, employment and traffic demand to the year 2045. These projections provide the base-line conditions from which the current (2021) or future (2045) 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 emergency medical services.

The projections used for the Sheriff’s Office & Jail and the Parks & Recreation public facility categories are countywide forecasts because these services are delivered by Harris County throughout the county and are available to all residents regardless of the whether a municipal police department or recreation department provides similar services within the incorporated areas. However, projections used for Fire Protection, Emergency Medical Services, and E-911 services are countywide *outside* of West Point because these services are provided throughout the county with the exception of that city. West Point has established Fire, EMS and E-911 departments of its own.

### ■ Population Forecasts

Population forecasts reflect the growth that is expected over the next 20 years. The county encompasses some 473 square miles and includes five cities (one of which has portions in both Harris County and neighboring Troup County). The County collects impact fees only in the unincorporated area outside of each city’s limits, although countywide services are provided within each of the cities also.

### Historic Population Growth

Every year, the US Census Bureau estimates the population in Harris County 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. Those annual estimates are shown in Table 25.

**Table 25: Annual Census Estimated Population**

	Population Estimate (as of July 1)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Harris County	23,912	24,547	25,327	26,256	27,180	28,170	29,289	30,276	30,807	31,494
Hamilton	435	488	559	627	670	744	793	866	899	978
Pine Mountain	1,116	1,119	1,129	1,146	1,163	1,183	1,207	1,225	1,225	1,233
Shiloh	430	428	428	432	435	439	446	449	446	445
Waverly Hall	689	686	701	712	706	721	721	735	722	736
West Point (part)	793	793	796	805	815	825	840	849	848	848
Unincorporated	20,449	21,033	21,714	22,534	23,391	24,258	25,282	26,152	26,667	27,254

	Population Estimate (as of July 1)									
	2010*	2011	2012	2013	2014	2015	2016	2017	2018	2019
Harris County	32,149	32,307	32,570	32,532	32,737	33,155	33,633	33,943	34,560	35,236
Hamilton	1,021	1,026	1,028	1,009	1,053	1,057	1,077	1,110	1,132	1,117
Pine Mountain	1,304	1,309	1,319	1,317	1,327	1,340	1,358	1,370	1,394	1,417
Shiloh	442	444	448	447	450	457	464	467	477	486
Waverly Hall	738	735	736	734	736	751	756	755	749	807
West Point (part)	866	870	877	876	881	893	906	914	931	949
Unincorporated	26,597	26,838	26,975	27,236	27,632	28,092	28,662	29,140	29,585	29,904

\* 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.

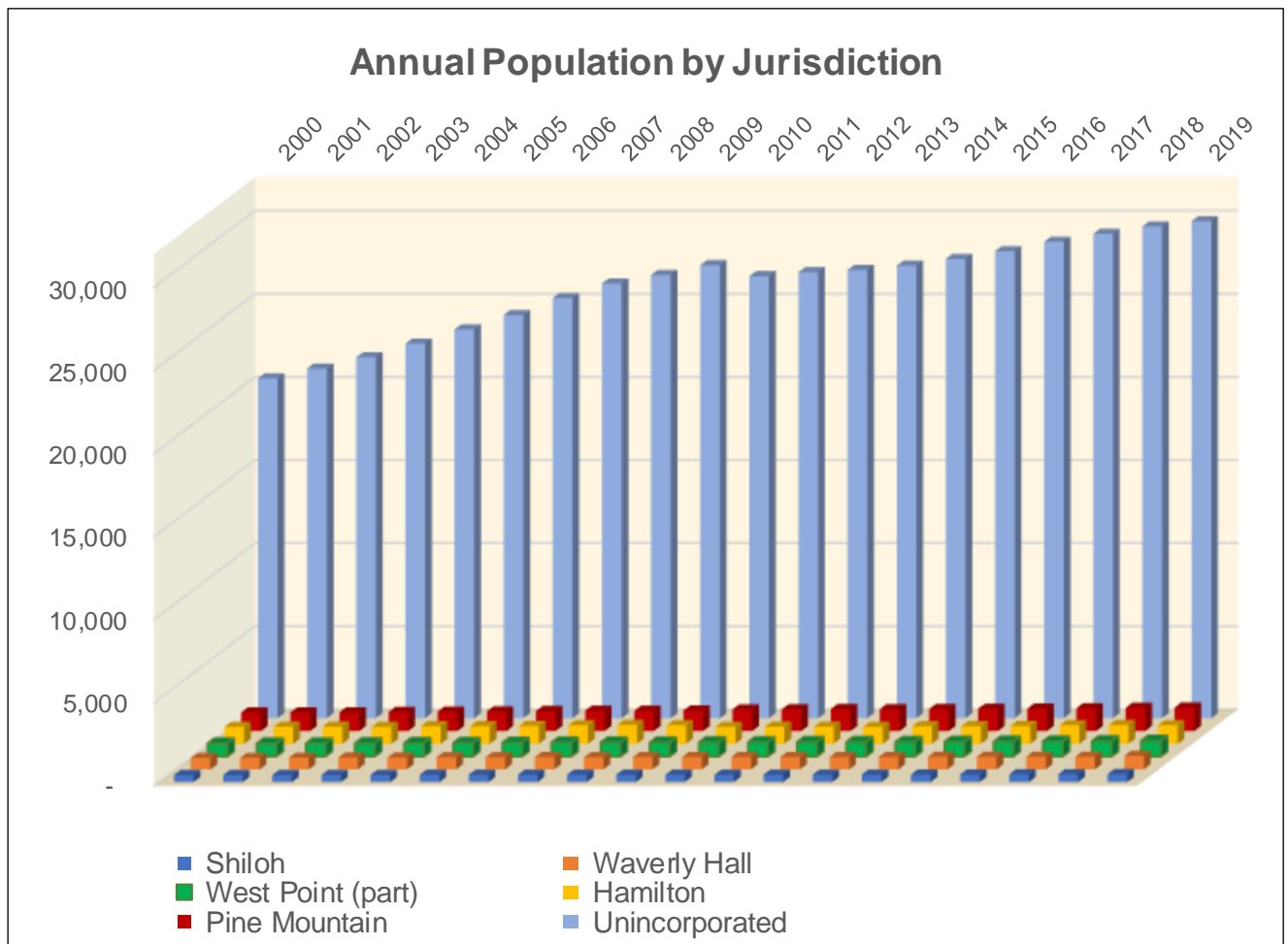
As shown by Table 25, Harris County posted a percentage increase in population between 2000 and 2019 overall of 47.36%; however, growth from 2000 to 2010 registered a higher growth increase for just those 10 years (34.45%) than the more recent 2010-2019 period (9.6%). Comparing the recent 9-year period to the previous 10-year period is not enough to explain the difference. Clearly the Great Recession, which began in mid-2008, had a notable impact on the housing industry and then the economy in general, affecting the county as well.

Reviewing the annual population estimates by the Census Bureau shown on Table 25, the annual percentage increase in population from 2000 through 2007 averaged 3.43% (from a low of 2.66% to a high of 3.97% in 2006). Reflecting the full impact of the recession during 2008 and continuing to 2014, this dropped to an average annual increase of only 1.13%. Since then, population growth has recovered somewhat, experiencing an annual low of 0.92% (in 2017) to a high of 1.96% (in 2019), an overall average of 1.48% during the recovery.

Population growth in Harris County has been dominated by growth in the unincorporated area. This is clearly illustrated in the data and chart on Table 26.

**Table 26: Population Growth by Jurisdiction**

	2000-2010		2010-2019		Total 2000-2019	
	Number Increase	Percent Increase	Number Increase	Percent Increase	Number Increase	Percent Increase
Harris County	8,237	34.45%	3,087	9.60%	11,324	47.36%
Hamilton	586	134.71%	96	9.40%	682	156.78%
Pine Mountain	188	16.85%	113	8.67%	301	26.97%
Shiloh	12	2.79%	44	9.95%	56	13.02%
Waverly Hall	49	7.11%	69	9.35%	118	17.13%
West Point (part)	73	9.21%	83	9.58%	156	19.67%
Unincorporated	6,148	30.07%	3,307	12.43%	9,455	46.24%



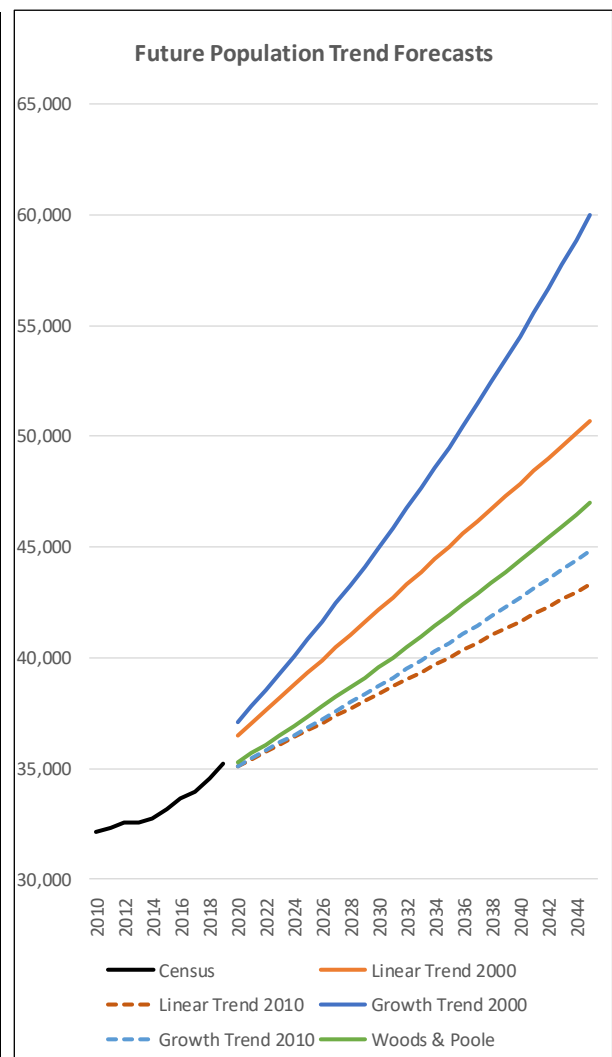


## Future Population

Two forecast methods were used to project the county's past population growth forward to 2045, one using a 'linear trend' (straight line) and the other a 'growth trend' (curved line) forecast algorithm. Table 27 shows the results using both the Census estimates for 2000-2019 and the nearer term estimates for 2010-2019. The raw numbers of each projection method are shown.

**Table 27: Future Population Trend Comparisons**

	Linear Trend		Growth Trend		Woods & Poole
	2000 to 2045	2010 to 2045	2000 to 2045	2010 to 2045	
2000	25,099		25,242		23,912
2001	25,668		25,732		24,547
2002	26,237		26,232		25,327
2003	26,806		26,742		26,256
2004	27,375		27,262		27,180
2005	27,944		27,791		28,170
2006	28,513		28,331		29,289
2007	29,082		28,882		30,276
2008	29,651		29,443		30,807
2009	30,220		30,015		31,494
2010	30,788	31,806	30,598	31,833	32,153
2011	31,357	32,134	31,193	32,147	32,309
2012	31,926	32,462	31,799	32,463	32,575
2013	32,495	32,790	32,417	32,783	32,539
2014	33,064	33,118	33,047	33,105	32,742
2015	33,633	33,446	33,689	33,431	33,159
2016	34,202	33,774	34,343	33,760	33,632
2017	34,771	34,103	35,011	34,093	33,943
2018	35,340	34,431	35,691	34,428	34,475
2019	35,909	34,759	36,385	34,767	34,873
2020	36,478	35,087	37,092	35,109	35,275
2021	37,047	35,415	37,812	35,455	35,682
2022	37,616	35,743	38,547	35,804	36,094
2023	38,185	36,071	39,296	36,156	36,510
2024	38,753	36,399	40,059	36,512	36,931
2025	39,322	36,727	40,838	36,871	37,357
2026	39,891	37,056	41,631	37,234	37,788
2027	40,460	37,384	42,440	37,601	38,224
2028	41,029	37,712	43,265	37,971	38,665
2029	41,598	38,040	44,106	38,345	39,111
2030	42,167	38,368	44,963	38,722	39,563
2031	42,736	38,696	45,836	39,103	40,019
2032	43,305	39,024	46,727	39,488	40,481
2033	43,874	39,352	47,635	39,877	40,948
2034	44,443	39,681	48,560	40,269	41,420
2035	45,012	40,009	49,504	40,665	41,898
2036	45,581	40,337	50,466	41,066	42,381
2037	46,149	40,665	51,446	41,470	42,870
2038	46,718	40,993	52,446	41,878	43,365
2039	47,287	41,321	53,465	42,290	43,865
2040	47,856	41,649	54,504	42,706	44,371
2041	48,425	41,977	55,563	43,127	44,883
2042	48,994	42,306	56,642	43,551	45,401
2043	49,563	42,634	57,743	43,980	45,925
2044	50,132	42,962	58,865	44,413	46,454
2045	50,701	43,290	60,009	44,850	46,990



Given the proposition that recovering from the Great Recession is an indication of future growth in the county, and that in the long run future growth will ultimately reflect growth over the past two decades, the 'growth trend 2000'

projection most clearly reflects the future population growth to 2045. As population growth has steadily recovered since 2010 (as illustrated on the graph on Table 27), the 'growth trend 2000' projection curve most clearly represents the continuation of this recovery.

### Correlating with the Census

The algorithms used to prepare the projections shown on Table 27 present a 'smooth' line from the 'start' date (2000 or 2010 depending on the projection period chosen), which also changes the population figures from the actual census data (shown on Table 25).

Because of this, the projected future population estimate for the county must be rectified so that the 2019 population figure (35,236) is the 'start' population for the forecast.

The actual Census estimate for 2019 (35,236) is about 97% (specifically 96.843295%) of the 2019 projected figure of 36,385. The full percentage is applied to each of the 'growth trend 2000' projected figures from 2019 on in order to create a smooth forecast to 2045.

The result is shown on Table 28 on the next page.

### City Population Forecasts

Also shown on Table 28 are population forecasts for each of the incorporated areas in the county. Subtracting out the cities yields the population located in the unincorporated area.

Future population figures for the cities were calculated as follows:

For each city, the percentage of the county's total population located in the city was determined. For projection purposes, it is assumed that each city will grow in pace with overall growth in the county as a whole. Thus, the 2019 percentage was applied to the county total for each city to produce the stream of increased population figures.

### Service Area Population Forecasts

More elaborate forecast methodologies were not applied to the cities because, with the exception of West Point, several of the public facility categories are countywide in the services they provide. For these countywide service areas, only the total county population applies.

West Point, on the other hand, has its own Fire and EMS Department, as well as its own E-911 Division. The service area for the County's Fire, EMS and E-911 services would therefore be all of the county except the portion of West Point that is located in Harris County.

These population projections for the county as a whole, West Point, and the remainder of the county (the unincorporated area and all of the cities except West Point) are shown on Table 29.

**Table 28: Growth Trend Forecasts Rectified to Census**

	County Total	Hamilton	Pine Mountain	Shiloh	Waverly Hall	West Point (pt)	Unincor- porated
2000	23,912	435	1,116	430	689	793	20,449
2001	24,547	488	1,119	428	686	793	21,033
2002	25,327	559	1,129	428	701	796	21,714
2003	26,256	627	1,146	432	712	805	22,534
2004	27,180	670	1,163	435	706	815	23,391
2005	28,170	744	1,183	439	721	825	24,258
2006	29,289	793	1,207	446	721	840	25,282
2007	30,276	866	1,225	449	735	849	26,152
2008	30,807	899	1,225	446	722	848	26,667
2009	31,494	978	1,233	445	736	848	27,254
2010	32,149	1,021	1,304	442	738	866	26,597
2011	32,307	1,026	1,309	444	735	870	26,838
2012	32,570	1,028	1,319	448	736	877	26,975
2013	32,532	1,009	1,317	447	734	876	27,236
2014	32,737	1,053	1,327	450	736	881	27,632
2015	33,155	1,057	1,340	457	751	893	28,092
2016	33,633	1,077	1,358	464	756	906	28,662
2017	33,943	1,110	1,370	467	755	914	29,140
2018	34,560	1,132	1,394	477	749	931	29,585
2019	35,236	1,117	1,417	486	807	949	29,904
2020	35,921	1,139	1,445	495	823	967	31,052
2021	36,619	1,161	1,473	505	839	986	31,656
2022	37,330	1,183	1,501	515	855	1,005	32,270
2023	38,055	1,206	1,530	525	872	1,025	32,897
2024	38,795	1,230	1,560	535	889	1,045	33,537
2025	39,549	1,254	1,590	545	906	1,065	34,188
2026	40,317	1,278	1,621	556	923	1,086	34,852
2027	41,101	1,303	1,653	567	941	1,107	35,530
2028	41,899	1,328	1,685	578	960	1,128	36,220
2029	42,713	1,354	1,718	589	978	1,150	36,924
2030	43,543	1,380	1,751	601	997	1,173	37,641
2031	44,389	1,407	1,785	612	1,017	1,196	38,372
2032	45,252	1,435	1,820	624	1,036	1,219	39,118
2033	46,131	1,462	1,855	636	1,057	1,242	39,878
2034	47,027	1,491	1,891	649	1,077	1,267	40,653
2035	47,941	1,520	1,928	661	1,098	1,291	41,443
2036	48,873	1,549	1,965	674	1,119	1,316	42,249
2037	49,822	1,579	2,004	687	1,141	1,342	43,069
2038	50,790	1,610	2,042	701	1,163	1,368	43,906
2039	51,777	1,641	2,082	714	1,186	1,394	44,759
2040	52,783	1,673	2,123	728	1,209	1,422	45,629
2041	53,809	1,706	2,164	742	1,232	1,449	46,516
2042	54,854	1,739	2,206	757	1,256	1,477	47,419
2043	55,920	1,773	2,249	771	1,281	1,506	48,340
2044	57,007	1,807	2,293	786	1,306	1,535	49,280
2045	58,114	1,842	2,337	802	1,331	1,565	50,237

**Table 29: Service Area Population Forecasts 2021-2045**

	County Total	West Point	Net County Total*
2020	35,921	967	34,954
2021	36,619	986	35,633
2022	37,330	1,005	36,325
2023	38,055	1,025	37,030
2024	38,795	1,045	37,750
2025	39,549	1,065	38,484
2026	40,317	1,086	39,231
2027	41,101	1,107	39,994
2028	41,899	1,128	40,771
2029	42,713	1,150	41,563
2030	43,543	1,173	42,370
2031	44,389	1,196	43,193
2032	45,252	1,219	44,033
2033	46,131	1,242	44,889
2034	47,027	1,267	45,760
2035	47,941	1,291	46,650
2036	48,873	1,316	47,557
2037	49,822	1,342	48,480
2038	50,790	1,368	49,422
2039	51,777	1,394	50,383
2040	52,783	1,422	51,361
2041	53,809	1,449	52,360
2042	54,854	1,477	53,377
2043	55,920	1,506	54,414
2044	57,007	1,535	55,472
2045	58,114	1,565	56,549
Increase 2021-45	21,495	579	20,916

\* The portion of the county outside of West Point, including the unincorporated area and all of the other cities.

## ■ 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.

Using the housing unit for fee calculations rather than the number of residents that may occupy the housing unit is more equitable because the average number of residents in the unit, based on unit size, is unreliable. 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. Thus, using average family sizes 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 28 are converted into the number of households expected in future years in the county as a whole, for each city, and for the unincorporated area.

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). 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 30 on the following page.

**Table 30: Households 2021-2045**

	County Total	Hamilton	Pine Mountain	Shiloh	Waverly Hall	West Point (pt)	Unincor- porated
2020	13,262	3,747	618	193	269	398	8,037
2021	13,519	3,820	630	196	274	406	8,193
2022	13,782	3,894	643	200	279	414	8,352
2023	14,050	3,969	655	204	285	422	8,514
2024	14,323	4,047	668	208	290	430	8,680
2025	14,601	4,125	681	212	296	439	8,849
2026	14,885	4,205	694	216	302	447	9,020
2027	15,174	4,287	708	220	307	456	9,196
2028	15,469	4,370	721	225	313	465	9,374
2029	15,769	4,455	735	229	319	474	9,557
2030	16,076	4,542	750	233	326	483	9,742
2031	16,388	4,630	764	238	332	492	9,932
2032	16,707	4,720	779	243	338	502	10,125
2033	17,031	4,812	794	247	345	512	10,321
2034	17,362	4,905	810	252	352	522	10,522
2035	17,699	5,001	825	257	359	532	10,726
2036	18,044	5,098	841	262	365	542	10,935
2037	18,394	5,197	858	267	373	553	11,147
2038	18,751	5,298	874	272	380	563	11,364
2039	19,116	5,401	891	278	387	574	11,585
2040	19,487	5,506	909	283	395	585	11,810
2041	19,866	5,613	926	289	402	597	12,039
2042	20,252	5,722	944	294	410	608	12,273
2043	20,645	5,833	963	300	418	620	12,511
2044	21,047	5,946	981	306	426	632	12,755
2045	21,455	6,062	1,001	312	435	644	13,002
Increase 2021-45	7,936	2,242	370	115	161	238	4,809
Average HH Size	2.7086	0.3039	2.3358	2.5723	3.0625	2.4286	3.8597

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

## 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 the county and in each city.

This is accomplished by increasing the number of households in each jurisdiction with the vacancy rate reported in the 2010 Census (the latest and best available data). As above, these ratios are assumed to continue at the same ratio each year into the future on average.

To arrive at the estimated total housing units for each year, including vacant units, the number of households (i.e., occupied housing units) is increased by the applicable vacancy rate. These calculations are shown on Table 31.

**Table 31: Housing Units 2021-2045**

	County Total	Hamilton	Pine Mountain	Shiloh	Waverly Hall	West Point (pt)	Unincor- porated
2020	15,027	4,321	802	225	306	428	8,945
2021	15,319	4,405	817	229	312	436	9,120
2022	15,617	4,490	833	234	318	445	9,297
2023	15,920	4,577	849	238	324	453	9,479
2024	16,230	4,666	866	243	330	462	9,663
2025	16,545	4,757	883	248	336	471	9,850
2026	16,866	4,849	900	252	343	480	10,042
2027	17,194	4,944	917	257	350	490	10,236
2028	17,528	5,040	935	262	356	499	10,436
2029	17,869	5,138	953	267	363	509	10,639
2030	18,216	5,237	972	273	370	519	10,845
2031	18,570	5,339	991	278	378	529	11,055
2032	18,931	5,443	1,010	283	385	539	11,271
2033	19,299	5,549	1,029	289	392	550	11,490
2034	19,673	5,656	1,049	294	400	560	11,714
2035	20,056	5,766	1,070	300	408	571	11,941
2036	20,446	5,878	1,091	306	416	582	12,173
2037	20,843	5,993	1,112	312	424	594	12,408
2038	21,248	6,109	1,133	318	432	605	12,651
2039	21,661	6,228	1,155	324	440	617	12,897
2040	22,081	6,349	1,178	330	449	629	13,146
2041	22,511	6,472	1,201	337	458	641	13,402
2042	22,948	6,598	1,224	343	467	654	13,662
2043	23,394	6,726	1,248	350	476	666	13,928
2044	23,848	6,857	1,272	357	485	679	14,198
2045	24,312	6,990	1,297	364	494	692	14,475
Increase 2021-45	8,993	2,585	480	135	182	256	5,355
Vacancy Rate	13.3130%	15.3156%	29.6226%	16.7630%	13.7500%	7.4286%	11.3677%

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



## ■ Employment Forecasts

For the employment projections, we looked first to the countywide forecasts prepared by Woods & Poole (W&P). W&P counts jobs, not just employed people, which captures people holding two or more jobs, self-employed sole proprietors and part-time workers, as well as vacant positions. This gives a more complete picture than Census figures (which report only the number of people with jobs).

On Table 32 on the following page, the number of jobs shown include the types of jobs that would not be associated with an impact fee (such as farm workers, itinerant construction workers and governmental employees). The remaining employment, called the 'value-added jobs', would be businesses subject to impact fees.

The Woods & Poole job numbers have been adjusted for Harris County because of an apparent undercount by Woods & Poole. The population forecast for Harris County by Woods & Poole to 2045 is only 46,990, compared to the population forecast for this report at 58,114, which is 24% higher. Looking at every year since 2020, the population forecast in this report is 3% higher in 2021 and progressively increases every year to 2045.

The jobs numbers shown on Table 32 for each year have therefore been adjusted across the board by the applicable percentage representing the 'undercount' in the year indicated.

Table 32: County-wide Employment Forecast (Jobs)

	2020	2021	2025	2030	2035	2040	2045	2021-2045 Change	
								Number	Percent
<b>Total Employment</b>	<b>10,901</b>	<b>11,110</b>	<b>11,918</b>	<b>12,947</b>	<b>14,022</b>	<b>15,160</b>	<b>16,374</b>	<b>5,264</b>	<b>32.1%</b>
Farm Employment	261	263	272	284	295	308	321	58	18.1%
Forestry, Fishing	94	95	101	107	113	120	126	31	24.6%
Mining	30	32	35	41	50	59	70	38	54.3%
Construction	917	936	1,017	1,127	1,248	1,379	1,525	589	38.6%
<b>Total Non-Building</b>	<b>1,302</b>	<b>1,326</b>	<b>1,425</b>	<b>1,559</b>	<b>1,706</b>	<b>1,866</b>	<b>2,042</b>	<b>716</b>	<b>35.1%</b>
Federal Civilian	61	61	63	65	67	71	74	13	17.6%
Federal Military	96	96	99	103	108	113	117	21	17.9%
State & Local Government	1,369	1,389	1,474	1,583	1,699	1,822	1,950	561	28.8%
<b>Total Government</b>	<b>1,526</b>	<b>1,546</b>	<b>1,636</b>	<b>1,751</b>	<b>1,874</b>	<b>2,006</b>	<b>2,141</b>	<b>595</b>	<b>27.8%</b>
Utilities	57	56	57	58	59	60	61	5	8.2%
Manufacturing	1,281	1,295	1,331	1,382	1,433	1,488	1,542	247	16.0%
Wholesale Trade	147	150	160	169	177	185	194	44	22.7%
Retail Trade	781	798	846	893	935	974	1,013	215	21.2%
Transportation & Warehousing	534	545	589	647	708	771	839	294	35.0%
Information	54	54	57	60	64	68	72	18	25.0%
Finance & Insurance	552	572	643	717	776	822	857	285	33.3%
Real Estate	627	658	794	991	1,229	1,516	1,863	1,205	64.7%
Professional & Technical Services	375	383	413	448	482	516	549	166	30.2%
Management of Companies	4	4	4	5	5	5	5	1	20.0%
Administrative & Waste Services	679	694	753	831	911	996	1,087	393	36.2%
Educational Services	241	247	269	295	321	348	373	126	33.8%
Health Care & Social Assistance	793	802	838	884	930	969	1,004	202	20.1%
Arts, Entertainment & Recreation	380	384	401	423	443	463	483	99	20.5%
Accommodation & Food Services	560	567	590	616	639	661	681	114	16.7%
Other Private Services	1,008	1,029	1,112	1,218	1,330	1,446	1,568	539	34.4%
<b>Total Value-Added</b>	<b>8,073</b>	<b>8,238</b>	<b>8,857</b>	<b>9,637</b>	<b>10,442</b>	<b>11,288</b>	<b>12,191</b>	<b>3,953</b>	<b>32.4%</b>

Source: Woods &amp; Poole Economics, Inc., 2020 Georgia Data Book, Harris County, as adjusted.

Table 33 provides a summary of future jobs in Harris County taken from Table 32 for the years shown on that table and interpolated for each year in between. As noted above, it is the 'value-added' jobs that impact fees can be applied to.

**Table 33: Summary - Countywide Jobs**

	Total Jobs	Non-Building Related	Government	Value-Added Jobs
2021	11,110	1,326	1,546	8,238
2022	11,312	1,351	1,569	8,393
2023	11,514	1,376	1,591	8,548
2024	11,716	1,400	1,614	8,702
2025	11,918	1,425	1,636	8,857
2026	12,124	1,452	1,659	9,013
2027	12,330	1,479	1,682	9,169
2028	12,535	1,505	1,705	9,325
2029	12,741	1,532	1,728	9,481
2030	12,947	1,559	1,751	9,637
2031	13,162	1,588	1,776	9,798
2032	13,377	1,618	1,800	9,959
2033	13,592	1,647	1,825	10,120
2034	13,807	1,677	1,849	10,281
2035	14,022	1,706	1,874	10,442
2036	14,250	1,738	1,900	10,611
2037	14,477	1,770	1,927	10,780
2038	14,705	1,802	1,953	10,950
2039	14,932	1,834	1,980	11,119
2040	15,160	1,866	2,006	11,288
2041	15,403	1,901	2,033	11,469
2042	15,646	1,936	2,060	11,649
2043	15,888	1,972	2,087	11,830
2044	16,131	2,007	2,114	12,010
2045	16,374	2,042	2,141	12,191
<b>Increase 2021-45</b>	5,264	716	595	3,953

## ■ Service Area Forecasts

Various county services are each provided in one of two service areas. Housing unit, population, and employment forecasts are presented on the following tables for each service area.

The service area is *countywide* for the Sheriff's Office & Jail and the Parks & Recreation public facility categories. These services are delivered by Harris County throughout the county and are available to all residents regardless of whether a municipal police department or recreation department provides similar services within the incorporated areas. Countywide growth forecasts are shown on Table 33 for these services.

For Parks & Recreation services, only new residential development is assessed impact fees. Accordingly, impact fees are assessed exclusively on the basis of housing units. For the Sheriff and Jail, fees are based on the day-night population (i.e., residents and employee) because both residential and nonresidential development is assessed impact fees.

The service area is *countywide outside of West Point* for Fire Protection, EMS, and E-911 services. These services are provided throughout the county with the exception of West Point. That city has established Fire, EMS and E-911 departments of its own.

For Fire Protection, EMS, and E-911, impact fees are based on future growth throughout the county but excluding the portion of West Point that is inside the county. For each of these public facility categories, 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. See Table 34.

**Table 34: Future Growth Forecasts - Countywide**

	Residential Uses	Nonresidential Uses		
	Housing Units	Population	Value-Added Jobs	Day-Night Population
2020	15,027	35,921	8,073	43,994
2021	<b>15,319</b>	36,619	8,238	<b>44,857</b>
2022	<b>15,617</b>	37,330	8,393	<b>45,723</b>
2023	<b>15,920</b>	38,055	8,548	<b>46,603</b>
2024	<b>16,230</b>	38,795	8,702	<b>47,497</b>
2025	<b>16,545</b>	39,549	8,857	<b>48,406</b>
2026	<b>16,866</b>	40,317	9,013	<b>49,330</b>
2027	<b>17,194</b>	41,101	9,169	<b>50,270</b>
2028	<b>17,528</b>	41,899	9,325	<b>51,224</b>
2029	<b>17,869</b>	42,713	9,481	<b>52,194</b>
2030	<b>18,216</b>	43,543	9,637	<b>53,180</b>
2031	<b>18,570</b>	44,389	9,798	<b>54,187</b>
2032	<b>18,931</b>	45,252	9,959	<b>55,211</b>
2033	<b>19,299</b>	46,131	10,120	<b>56,251</b>
2034	<b>19,673</b>	47,027	10,281	<b>57,308</b>
2035	<b>20,056</b>	47,941	10,442	<b>58,383</b>
2036	<b>20,446</b>	48,873	10,611	<b>59,484</b>
2037	<b>20,843</b>	49,822	10,780	<b>60,602</b>
2038	<b>21,248</b>	50,790	10,950	<b>61,740</b>
2039	<b>21,661</b>	51,777	11,119	<b>62,896</b>
2040	<b>22,081</b>	52,783	11,288	<b>64,071</b>
2041	<b>22,511</b>	53,809	11,469	<b>65,278</b>
2042	<b>22,948</b>	54,854	11,649	<b>66,503</b>
2043	<b>23,394</b>	55,920	11,830	<b>67,750</b>
2044	<b>23,848</b>	57,007	12,010	<b>69,017</b>
2045	<b>24,312</b>	58,114	12,191	<b>70,305</b>
<b>Increase 2021-45</b>	<b>8,993</b>	<b>21,495</b>	<b>3,953</b>	<b>25,448</b>

**Table 35: Future Growth Forecasts - Countywide Excluding West Point**

	Residential Uses	Nonresidential Uses		
	Housing Units	Population	Value-Added Jobs	Day-Night Population
2020	14,599	34,954	7,856	42,810
2021	<b>14,883</b>	35,633	8,016	<b>43,649</b>
2022	<b>15,172</b>	36,325	8,167	<b>44,492</b>
2023	<b>15,467</b>	37,030	8,317	<b>45,347</b>
2024	<b>15,768</b>	37,750	8,468	<b>46,218</b>
2025	<b>16,074</b>	38,484	8,618	<b>47,102</b>
2026	<b>16,386</b>	39,231	8,770	<b>48,001</b>
2027	<b>16,704</b>	39,994	8,922	<b>48,916</b>
2028	<b>17,029</b>	40,771	9,074	<b>49,845</b>
2029	<b>17,360</b>	41,563	9,226	<b>50,789</b>
2030	<b>17,697</b>	42,370	9,377	<b>51,747</b>
2031	<b>18,041</b>	43,193	9,534	<b>52,727</b>
2032	<b>18,392</b>	44,033	9,691	<b>53,724</b>
2033	<b>18,749</b>	44,889	9,847	<b>54,736</b>
2034	<b>19,113</b>	45,760	10,004	<b>55,764</b>
2035	<b>19,485</b>	46,650	10,161	<b>56,811</b>
2036	<b>19,864</b>	47,557	10,325	<b>57,882</b>
2037	<b>20,249</b>	48,480	10,490	<b>58,970</b>
2038	<b>20,643</b>	49,422	10,655	<b>60,077</b>
2039	<b>21,044</b>	50,383	10,819	<b>61,202</b>
2040	<b>21,452</b>	51,361	10,984	<b>62,345</b>
2041	<b>21,870</b>	52,360	11,160	<b>63,520</b>
2042	<b>22,294</b>	53,377	11,335	<b>64,712</b>
2043	<b>22,728</b>	54,414	11,511	<b>65,925</b>
2044	<b>23,169</b>	55,472	11,687	<b>67,159</b>
2045	<b>23,620</b>	56,549	11,863	<b>68,412</b>
<b>Increase 2021-45</b>	<b>8,737</b>	<b>20,916</b>	<b>3,847</b>	<b>24,763</b>

## APPENDIX C: Exemption Policy

### ■ Exemptions

- (a) The Board of Commissioners recognizes that certain office, retail trade, hospitality, and other business development projects may provide extraordinary benefit in support of the economic advancement of the county's citizens over and above the access to jobs, goods, and services that such uses offer in general. In addition, the Board of Commissioners recognizes that fees, in some circumstances, can negatively affect the affordability of housing, particularly "workforce" housing.
- (b) To encourage such development projects of public benefit to the county, the Board of Commissioners may at its discretion create a process for granting a reduction in the impact fee for certain business development projects upon the determination and relative to the extent that the project represents extraordinary economic development and employment growth, or that the affordability of a housing project may be increased, in accordance with adopted exemption criteria.
- (c) Such exemption criteria shall be adopted by the Board of Commissioners if, and when, it deems that such exemptions are warranted and would be of benefit to the entire county, its business community, and its residents.
- (d) It is recognized that the cost of system improvements otherwise foregone through exemption of any impact fee must be funded through revenue sources other than impact fees. As part of the annual budgeting process, adequate funds shall be identified and transferred to the impact fee fund accounts equal to the amount of all exemptions granted by the board of commissioners during the preceding year.
- (e) In the absence of adopted applicable exemption criteria for either extraordinary economic development and employment growth or for affordable housing, no applicable exemption shall be approved.