

*The Economics of Land Use*



## Draft Report

# Nexus Analysis for Solano County Public Facilities Fee Update

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July 12, 2019

EPS #181056

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# I. INTRODUCTION AND SUMMARY RESULTS

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This Solano County Public Facilities Impact Fee Update Report (Report) is designed to provide Solano County (County) with the necessary technical documentation to support the adoption of an update to its existing Public Facilities Fee (PFF). It has been prepared by Economic & Planning Systems, Inc. (EPS) with input from County staff.

Impact fees are one-time charges on new development collected and used by jurisdictions (e.g., a city or county) to cover the cost of capital facilities and infrastructure that is required to serve new growth. Impact fees are generally collected upon issuance of a building permit or certificate of occupancy. Solano County has an established PFF program, first adopted in 1992 and subsequently updated in 1998, 2002, 2007, and 2013.

The Fee Program described in this Report is consistent with the most recent relevant case law and the principles of AB 1600 or Government Code section 66000 et seq (“Fees for Development Projects”; except where specific citations are provided, this statute will be referred to in this Report as AB 1600). The Report provides the nexus argument and the associated fee calculations for the maximum fees the County could charge. The County may elect to reduce the fees based on economic or policy considerations. For example, the County may choose to delay implementation or reduce the fees (e.g., overall or in specific locations or land use types) to encourage new development or to promote sales-tax or job generating activities (e.g., retail or office development).

## Report Background and Legal Context

This Report is designed to provide the necessary technical analysis supporting a schedule of fees to be established by a resolution. The County currently has a PFF Ordinance that authorizes the collection of fees for capital facilities and has been doing so since 1992. The PFF categories developed in the 2013 Report have been maintained in this update, as summarized in **Table 1**, to fund a portion of capital facility costs associated with countywide Public Protection (which include Courts), Health and Social Services, Library, General Government, and Transportation.

**Table 1 2018 Proposed PFF Categories**

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### 2018 Proposed PFF Categories

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Countywide Public Protection (includes Courts)  
Health and Social Services  
Library  
General Government  
Transportation

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The key requirements of AB 1600 that determine the structure, scope, and amount of the proposed PFF Program are as follows:

- **Collected for Capital Facility and Infrastructure Improvements Only.** Development impact fee revenue can be collected and used to cover the cost of capital facilities and infrastructure that are required to serve new development in the County. Impact fee revenue cannot be used to cover the operation and maintenance costs of these or any other facilities and infrastructure.
- **Used to Fund Facility Needs Created by New Development Rather than Existing Deficiencies.** Impact fee revenues can only be used to pay for new or expanded capital facilities needed to accommodate growth. Impact fee revenue cannot be collected or used to cover the cost of existing deficiencies in the County's capital facilities or infrastructure. In other words, the cost of capital projects or facilities that are designed to meet the needs of the County's existing population must be funded through other sources. The costs associated with improvements that serve the needs of both new development and the existing population and employment are split on a "fair share" basis according to the proportion attributable to each. Thus, the PFF Program funding may need to be augmented by the County and other revenue sources to meet overall funding requirements.
- **Fee Amount Must Be Based on A Rational Nexus.** An impact fee amount must be based on a reasonable nexus, or connection, between new development and the needs and corresponding costs of the capital facilities and improvements need to accommodate it. As such, an impact fee must be supported by specific findings that explain or demonstrate this nexus or relationship. In addition, the impact fee amount must be structured such that the revenue generated does not exceed the cost of providing the facility or improvement for which the fee is imposed.

## Overview of Methodology and Key Assumptions

The results of the analysis contained in this Report are based on a variety of assumptions regarding population and employment growth in the County, service standards and facility demand, and corresponding costs. Key issues that may warrant consideration in conjunction with this Report include:

- **Socioeconomic Data and Projections.** The impact fee calculations are based on projections related to population and employment in the County through 2040. These growth assumptions were developed with input from the County based on a range of available data sources. Sources for baseline population and growth projections are based on average growth rate estimates from the most recent Association of Bay Area Governments (ABAG) projections, Woods & Poole projections, and California Department of Finance (DOF) population projections. If the growth projections do not materialize as expected, the corresponding facilities will not be needed or impact fee revenue will not be sufficient to pay for facilities already built. Consequently, the estimates of development and population should be periodically reviewed and updated.
- **Future Capital Facility Needs.** The main source of information on future capital facilities needs is the 2017 Solano County Master Plan, which documents the conceptual site plans for three County Campuses (the Downtown Fairfield campus, the Solano Business Park, and the

Claybank campus). The plans for all three locations were based on 20-year staffing forecasts for all major County Departments and the corresponding building space required to house future staff. For the purposes of this public facilities fees update, the facilities identified in the 2017 Master Plan report and its respective cost estimates are used to determine the costs of various County departments that can be allocated to the Public Facilities Fees.

In addition, EPS estimated the type and amount of new or expanded capital facilities and infrastructure to be provided by the County over the next 20 years that will be needed either in part or in whole to accommodate new development. This information is based on interviews with County staff as well as analysis of existing levels of service and articulated service standards relative to future growth projections. Service standards relate capital facility or infrastructure requirements to the development categories that represent the primary source of demand for the capital facility or infrastructure improvement in question. For example, the projected need for new library facilities is based on a Service Standard of 0.76 square feet (sq. ft.) per capita, as articulated in the Solano County 2001 Library Facilities Master Plan and 2009 Update. Alterations in these service standard assumptions can affect the fee calculation and the allocation of costs between land use categories.

- **Cost Allocation between New and Existing Development.** This analysis allocates the cost of future capital improvements and facilities between new and existing development, as required by AB 1600, based on a variety of methodologies. In cases where new or expanded facilities or infrastructure improvements are determined to be needed entirely to accommodate new growth (e.g., there are no existing deficiencies), 100 percent of the costs are attributed to future development. In cases where new or expanded facilities are determined to serve or benefit both existing and new residents and/or employees in a relatively proportional manner, the costs are allocated as such. Finally, in cases where County staff and/or approved planning documents (e.g., the Library Master Plan) articulate specific service standards or ratios (e.g., 0.76 sq. ft. of library building space per capita), such standards are used to allocate costs to new development.
- **Cost Allocation to Land Use Categories.** The cost allocations to various land use categories (e.g., residential, commercial, industrial, etc.) are based on the relative demand or “fair-share” contribution of each land use category to the need for the facilities included. For example, in many cases, this report relies on a factor that assumes one employee has an impact on County facilities equal to about 26 percent of one resident.

For a number of fee categories, however, the facility costs are allocated to residential land uses only based on the determination that these facilities are designed primarily to serve county residents (i.e., the usage by employees who work in but do not live in the County is determined to be negligible and/or incidental). The fee categories which are only allocated to County residents include (a) Library, (b) Health and Social Services, (c) two components of the General Government category (Parks and Registrar of Voters), and (d) several components of the Public Protection category (the expansion of the Release Center for Probation, new courtrooms and equipment for Traffic Court and Juvenile Court, District Attorney).

- **Facility Cost Estimates.** The fee calculations embody facility cost assumptions that have been developed based on County staff estimates for the 2017 Solano County Master Plan as well as EPS research. In some cases, the estimates reflect data from other jurisdictions or previous capital projects developed in Solano County.
- **PFF Districts or Zones of Benefit.** As currently structured, the PFF has established two distinct fee districts or “zones of benefit” with different fee levels: (1) Incorporated and unincorporated areas within County library system, and (2) Incorporated areas outside County library system such as the Cities of Benicia and Dixon. In other words, new development pays a different per-unit fee depending on its location within one or more of these areas of the County. The updated fees calculated in the Report maintain these two zones of benefit, with no separate districts or zones of benefit in the unincorporated areas of the County.

## Overview of Fee Program

### Summary of Maximum Allowable Fees and Relationship to Existing Program

A summary of the maximum allowable impact fees calculated in this analysis by land use category is provided in **Table 2**. This table also compares the maximum allowable fee with the existing County fees by land use category. The maximum allowable impact fee represents the highest fee the County may charge based on the requirements of AB 1600 and nexus analysis conducted. Specifically, it is based on an analysis completed by EPS in 2018 of County capital facility needs and costs as well as projected development through 2040. The cost of administering the Fee Program is included in the calculations and assumed to equal 0.75 percent of the total program cost.

**Table 2 Comparison of Updated PFF and Existing Fees**

Fee Benefit Zone/ Land Use	2013	2013	2018
	Estimated	Recommended Fee	Estimated
	Maximum PFF	(Current/Existing PFF)	Maximum PFF
	Cities/ Unincorporated County	Cities/ Unincorporated County	Cities/ Unincorporated County
<b>JURISDICTIONS IN COUNTY LIBRARY SYSTEM<sup>1</sup></b>			
<b>Residential</b>		<i>Fee Amount per Unit</i>	
Single Family	\$15,745	\$8,962	\$18,063
Multifamily	\$10,931	\$6,726	\$11,642
2nd SFR Unit/Accessory Dwelling Unit (ADU)	\$8,216	\$4,575	\$8,764
Age-Restricted/Senior Multifamily	\$6,993	\$4,348	\$6,319
<b>Nonresidential</b>		<i>Fee Amount per 1,000 Building Square Feet</i>	
Retail/Commercial	\$15,841	\$859	\$21,439
Service/Commercial	\$39,048	\$1,927	\$44,723
Office	\$10,664	\$1,430	\$10,578
Institutional/Assembly	\$3,312	\$471	\$3,749
Lodging	\$9,232	\$519	\$4,099
Industrial	\$6,687	\$601	\$6,258
Warehouse/Distribution	\$1,271	\$181	\$1,887
<b>Agricultural</b>			
Nonresidential Agricultural Accessory Structures	\$1,158	\$125	\$1,750
<b>CITY OF BENICIA<sup>2</sup></b>			
<b>Residential</b>		<i>Fee Amount per Unit</i>	
Single Family	\$14,131	\$7,349	\$16,500
Multifamily	\$9,676	\$5,471	\$10,406
2nd SFR Unit/Accessory Dwelling Unit (ADU)	\$7,402	\$3,761	\$7,992
Age-Restricted/Senior Multifamily	\$6,178	\$3,533	\$5,529
<b>CITY OF DIXON<sup>2</sup></b>		<i>Fee Amount per Unit</i>	
<b>Residential</b>		<i>Fee Amount per Unit</i>	
Single Family	\$14,131	\$8,317	\$16,500
Multifamily	\$9,676	\$6,346	\$10,406
2nd SFR Unit/Accessory Dwelling Unit (ADU)	\$7,402	\$4,102	\$7,992
Age-Restricted/Senior Multifamily	\$6,178	\$4,408	\$5,529
<b>Nonresidential</b>		<i>Fee Amount per 1,000 Building Square Feet</i>	
Retail/Commercial	\$15,841	\$926	\$21,599
Service/Commercial	\$39,048	\$2,051	\$45,056
Office	\$10,664	\$1,542	\$10,656
Institutional/Assembly	\$3,312	\$678	\$3,777
Lodging	\$9,232	\$643	\$4,130
Industrial	\$6,687	\$648	\$6,305
Warehouse/Distribution	\$1,271	\$195	\$1,901
<b>Agricultural</b>			
Nonresidential Agricultural Accessory Structures	\$1,158	\$152	\$1,763

[1] Includes the unincorporated county and all cities except Benicia and Dixon.

[2] The cities of Benicia and Dixon are not part of the County's library system; therefore, the residential fees for both cities do not include the Countywide Library fee component. Nonresidential fees for the City of Benicia are not listed separately because they are the same as for the jurisdictions that are inside the County's library system. The nonresidential fees in the City of Dixon include a fee for the Dixon Public Library District.

Sources: Solano County; and Economic & Planning Systems, Inc.

In contrast to the maximum PFF in this Report, the existing PFF is based on a nexus analysis completed in 2013 and covering the period 2013 – 2033. The primary differences between the proposed and existing PFF reflect the following key changes summarized below:

1. Board of Supervisors Three-Campus Master Plan Report: A number of facilities included in the 2007 nexus study are no longer applicable in this study because they have since been constructed. However, other substantial costs, attributed to various County departments, are included in this Report as indicated in the 2017 Solano County Board of Supervisors' Three-Campus Master Plan Report.
2. The service population is projected to grow at a faster pace. Moreover, facility costs included in this nexus study are higher than those in the 2013 nexus study. The combination of both of these trends resulted in some substantial changes to the fee amounts per capita and per unit since 2013.
3. The proposed fee schedule includes fewer land use categories. The nonresidential land use categories were consolidated in this Report to facilitate better matching between fee categories and land uses being developed in the County. This provides for the same number of land uses condensed into fewer categories that are supported by this update than in prior years.

### **Fees by Land Use and Category**

**Table 3** provides further detail on the PFF by facility category. Within residential land uses, the Transportation Fee component of the PFF is the highest fee category followed by Library, Public Protection, General Government, and Health & Social Services.

The Transportation Fee is also the highest component for all nonresidential land uses while General Government is the lowest fee component for these land uses. In keeping with the current fee structure, the Health & Social Services and Library fee components have not been applied to nonresidential land use categories in this update because nonresidential uses are not anticipated to generate significant demand for library facilities and facilities for health care and social services.

### **PFF Facilities and Costs**

**Table 4** provides further detail on the capital facilities proposed to be funded in part or in whole by the PFF. As shown, as proposed, the PFF would fund nearly \$599.5 million in capital facilities through 2040. This represents approximately 52 percent of the total costs of the facilities identified. In other words, the County will need to identify and obtain funding for approximately \$548.5 million from non-PFF sources during the life of the fee program.

**Table 3 Estimated Maximum Fees by Land Use and Public Facility Category**

Land Use	Public Protection <sup>1</sup>	Health & Social Services <sup>2</sup>	Library <sup>2</sup>	General Govt. <sup>3</sup>	Transportation (Parts A&B)	Admin. Fee <sup>4</sup>	Total PFF Fee	
							Cities in Co. Library Sys./Unincorp. Co.	Cities not in Co. Library System
Residential								
Single Family	\$1,659	\$2,302	\$1,672	\$1,269	\$11,027	\$134	\$18,063	\$16,500
Multifamily	\$1,293	\$1,795	\$1,304	\$989	\$6,175	\$87	\$11,642	\$10,406
2nd SFR Unit/Accessory Dwelling Unit (ADU)	\$819	\$1,136	\$825	\$626	\$5,293	\$65	\$8,764	\$7,992
Age-Restricted/Senior Multifamily	\$819	\$1,136	\$825	\$626	\$2,867	\$47	\$6,319	\$5,529
Nonresidential								
				Fee Amount per 1,000 Building Square Feet				
Retail/Commercial	\$196	-	-	\$78	\$21,006	\$160	\$21,439	\$21,599
Service/Commercial	\$376	-	-	\$149	\$43,865	\$333	\$44,723	\$45,056
Office	\$525	-	-	\$209	\$9,765	\$79	\$10,578	\$10,656
Institutional/Assembly	\$188	-	-	\$75	\$3,458	\$28	\$3,749	\$3,777
Lodging	\$120	-	-	\$48	\$3,902	\$31	\$4,099	\$4,130
Industrial	\$219	-	-	\$87	\$5,905	\$47	\$6,258	\$6,305
Warehouse/Distribution	\$66	-	-	\$26	\$1,781	\$14	\$1,887	\$1,901
Agricultural Uses								
Non-residential Agricultural Accessory Structures	\$43	-	-	\$17	\$1,677	\$13	\$1,750	\$1,763

[1] Includes the following sub-components: Adult Detention, Court, Public Protection's share of the Government Center debt service, Animal Care, Probation, and District Attorney.

[2] County healthcare & social services and library services primarily serve residents, any services provided to or enjoyed by nonresident employees (nonresidential land uses) are expected to be incidental. As such, no impact fee is calculated for nonresidential uses.

[3] Includes the following sub-components: General Government's share of the Government Center debt service, General Services, Agricultural Commissioner, County Parks, Registrar of Voters, and Information Technology improvements in proposed facilities.

[4] See Table 40 for calculation of administrative charges. Admin fee amounts shown are for fees inside the County Library System. The admin fee outside the County Library System is lower because it is calculated on a lower fee amount.

Source: Economic & Planning Systems, Inc.

**Table 4 Estimated Capital Costs by Public Facility Category**

Public Facility Category	Total Estimated Cost	Costs Funded by PFF Program	Costs Funded from Non-PFF Sources	
			Amount	% of Total
<b>Public Protection</b>				
Sheriff	\$184,950,949	\$33,476,122	\$151,474,827	82%
Probation	\$13,880,100	\$2,512,298	\$11,367,802	82%
Government Center Debt Service	\$9,822,821	\$9,822,821	\$0	0%
Animal Care	\$3,100,788	\$561,243	\$2,539,545	82%
Courts	\$6,654,174	\$4,868,345	\$1,785,830	27%
District Attorney	\$3,553,138	\$3,553,138	\$0	0%
<b>Subtotal</b>	<b>\$221,961,971</b>	<b>\$54,793,967</b>	<b>\$167,168,004</b>	<b>75%</b>
<b>General Government</b>				
Government Center Debt Service	\$12,501,773	\$12,501,773	\$0	0%
General Services	\$28,310,269	\$7,872,813	\$20,437,456	72%
Information Technology	\$5,737,123	\$1,409,108	\$4,328,015	75%
Agriculture Commissioner	\$525,871	\$525,871	\$0	0%
County Parks	\$15,690,000	\$15,690,000	\$0	0%
Registrar of Voters	<u>\$2,507,547</u>	<u>\$2,507,547</u>	<u>\$0</u>	0%
<b>Subtotal</b>	<b>\$65,272,582</b>	<b>\$40,507,112</b>	<b>\$24,765,470</b>	<b>38%</b>
<b>Library</b>	\$138,531,904	\$48,486,166	\$90,045,737	65%
<b>Health &amp; Social Services</b>	\$173,768,709	\$70,773,459	\$102,995,250	59%
<b>Transportation</b>	\$548,519,398	\$384,952,482	\$163,566,916	30%
<b>Subtotal Costs (excl. Admin Charge)</b>	<b>\$1,148,054,563</b>	<b>\$599,513,185</b>	<b>\$548,541,378</b>	<b>48%</b>
PFF Administrative Charge (0.75%)	n/a	\$4,496,349	n/a	
<b>Total Costs</b>	<b>\$1,148,054,563</b>	<b>\$604,009,534</b>	<b>\$548,541,378</b>	<b>48%</b>

Sources: Solano County; and Economic & Planning Systems, Inc.

## Implementation and Administration Overview

The implementation and administration of the PFF is established in more detail in the PFF Ordinance. A summary of key elements and issues is provided below.

### **Annual Review**

This Report and the technical information it contains should be maintained and reviewed periodically by the County as necessary to ensure Impact Fee accuracy and to enable the adequate programming of funding sources. To the extent that improvement requirements, costs, or development potential changes over time, the Fee Program will need to be updated. Specifically, AB 1600 stipulates that each local agency that requires payment of a fee make specific information available to the public annually within 180 days of the last day of the fiscal year. This information includes the following:

- A description of the type of fee in the account
- The amount of the fee
- The beginning and ending balance of the fund
- The amount of fees collected and interest earned
- Identification of the improvements constructed
- The total cost of the improvements constructed
- The fees expended to construct the improvement
- The percent of total costs funded by the fee

If sufficient fees have been collected to fund the construction of an improvement, the agency must specify the approximate date for construction of that improvement. Because of the dynamic nature of growth and infrastructure requirements, the County should monitor development activity, the need for infrastructure improvements, and the adequacy of the fee revenues and other available funding. Formal annual review of the Fee Program should occur, at which time adjustments should be made. Costs associated with this monitoring and updating effort are included in the Impact Fee as part of the program compliance component.

### **Fee Escalation Factors**

Fee programs levels may be escalated annually based on a construction cost index. This allows the fee level to keep pace with cost inflation without requiring annual approval process by authorizing jurisdictions. The County PFF Ordinance allows for an automatic annual adjustment to the fees based on an appropriate construction cost index.

Engineering News-Record (ENR) publishes some of the most well-known and widely used indices tracking cost inflation in the construction industry. ENR publishes a construction cost index (CCI) and a building cost index (BCI). ENR's CCI is a general-purpose index used to chart the costs of basic construction materials (standard structural steel shapes, Portland cement, and 2 X 4 lumber) and union labor. It is a weighted aggregate cost index where the construction materials and the weights of the materials and labor quantities are held constant over time. Weights are determined based on the relative importance of the cost components to construction as determined by industry experts. The BCI incorporates the same methodology but it substitutes common labor with skilled labor consisting of three trades, bricklaying, carpentry, and ironworkers. The two ENR indices are published for the nation and for 20 major U.S. cities, including San Francisco.

### **Surplus Funds**

AB 1600 also requires that if any portion of a fee remains unexpended or uncommitted in an account for five years or more after deposit of the fee, the County Board of Supervisors shall make findings once each year (1) to identify the purpose to which the fee is to be put, (2) to demonstrate a reasonable relationship between the fee and the purpose for which it was charged, (3) to identify all sources and amounts of funding anticipated to complete financing of incomplete improvements, and (4) to designate the approximate dates on which the funding identified in (3) is expected to be deposited into the appropriate fund (Govt. Code §66001(d)).

If adequate funding has been collected for a certain improvement, an approximate date must be specified as to when construction on the improvement will begin. If the findings show no need for the unspent funds, or if the conditions discussed above are not met, and the administrative costs of the refund do not exceed the refund itself, the local agency that has collected the funds must refund them (Govt. Code §66001(e)(f)). Alternatively, Govt. Code §66001(f) provides that if the administrative costs of refunding unexpended revenues exceed the amount to be refunded, the County may, after a noticed published hearing, determine that the revenues be allocated for some other purpose for which fees may be collected and which serves the project on which the fee was originally imposed.

### **Securing Supplemental Funding**

This maximum PFF Impact Fee Update does not fund the full amount of all capital costs identified in this Report. The County will have to identify funding and pay for improvements related to existing and new developments and improvements not funded by the Fee Program or any other established funding source. Examples of such sources include the following:

- **General Fund Revenues.** In any given year, the County could allocate a portion of its General Fund revenues for discretionary expenditures. Depending on the revenues generated relative to costs and County priorities, the County may allocate General Fund revenues to fund capital facilities costs not covered by the Fee Program or other funding sources.
- **State or Federal Funds.** The County might seek and obtain grant of matching funds from State and Federal sources to help offset the costs of required capital facilities and improvements. As part of its funding effort, the County should research and monitor these outside revenue sources and apply for funds as appropriate.
- **Other Grants and Contributions.** A variety of grants or contributions from private donors could help fund a number of capital facilities. For example, private foundations and/or charity organizations may provide money for certain park and recreation or cultural facilities.

## II. DEMOGRAPHIC AND LAND USE ASSUMPTIONS

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This chapter describes the demographic and land use assumptions utilized in this study for both existing and future conditions (i.e., through 2040). The estimates are based on a variety of sources, as described herein, with input from County staff. The estimates are used for the following primary purposes in the fee calculation:

- Estimates of existing population and employment levels are used to formulate service standards for specific capital improvement categories as well as to ascertain existing needs relative to existing standards.
- Estimates of future population and employment growth in the County are the basis for determining the future need for capital facilities which can be funded by the fee.
- Estimate related to population and employment density (e.g., persons per household or employees per square foot) are used to allocate costs between land use type categories.

### Population and Employment Growth

**Table 5** provides the recommended population and employment forecasts by jurisdiction for use in the PFF update. Based on input from County staff, the Countywide population growth forecasts are based on the average growth rate estimates from the most recent Association of Bay Area Governments (ABAG) projections, Woods & Poole projections, and California Department of Finance (DOF) population projections. The 2018 baseline population is derived by applying the average annual growth rate from 2015 to 2020 to the 2015 benchmark data from ABAG. Employment growth forecasts are based on average growth rate estimates from the most recent ABAG and Woods & Poole projections. Baseline employment estimates are based on benchmark estimates from 2015 ABAG data. To obtain the 2018 baseline employment estimates, EPS applied countywide annual growth rates between 2015 and 2020 to the 2015 benchmark data from ABAG.

**Table 5** also provides growth forecasts for each of the County's seven municipalities and the unincorporated area. The allocation of growth between these areas is based on the existing Solano Transportation Authority (STA) traffic model. Specifically, the STA model jurisdiction level forecasts have been normalized to the County total but maintain their relative growth ratios. For example, if a jurisdiction accounted for 5 percent of the County's growth through 2040 in the STA model it is assumed to account for 5 percent of growth in the PFF projection (albeit the absolute growth is adjusted to conform to the revised county total). Moreover, if the proportion of either employment or population in a jurisdiction as a share of the County declines, as a result of how the STA model allocates growth over time, the model will output a decline in population or employment projections. This is illustrated by the projected decline of jobs in the unincorporated area by 2040.

**Table 5 Recommended PFF Growth Forecasts (2018-2040)**

Jurisdiction	Amount by Year		2018 - 2040 Growth <sup>1</sup>	
	2018	2040	Total	Avg. Annual
<b>Population</b>				
Benicia	27,095	31,028	3,933	0.68%
Dixon	19,091	20,482	1,391	0.35%
Fairfield	118,158	160,979	42,821	1.56%
Rio Vista	7,822	9,840	2,018	1.15%
Suisun City	26,437	30,370	3,933	0.70%
Vacaville	89,840	109,046	19,206	0.97%
Vallejo	122,183	140,891	18,708	0.71%
Unincorporated	<u>12,138</u>	<u>13,586</u>	<u>1,448</u>	<u>0.57%</u>
<b>County Total<sup>2</sup></b>	<b>422,764</b>	<b>516,222</b>	<b>93,458</b>	<b>1.00%</b>
<b>Employment</b>				
Benicia	14,222	16,719	2,497	0.81%
Dixon	4,657	5,063	406	0.42%
Fairfield	42,983	52,241	9,258	0.98%
Rio Vista	2,157	2,467	310	0.67%
Suisun City	2,820	3,530	710	1.13%
Vacaville	28,099	36,718	8,619	1.35%
Vallejo	31,740	39,064	7,324	1.04%
Unincorporated	<u>5,549</u>	<u>5,326</u>	<u>-223</u>	<u>-0.20%</u>
<b>County Total<sup>3</sup></b>	<b>132,227</b>	<b>161,128</b>	<b>28,901</b>	<b>0.99%</b>

[1] Growth allocation among jurisdictions is based on relative growth rates assumed in the STA model.

[2] Countywide population growth based on the average annual projected growth rates from ABAG, DOF, and Woods & Poole between 2018 and 2040. Since ABAG does not publish data for 2018, ABAG's 2018 County population is calculated based on the average annual projected growth rate between 2015 and 2020.

[3] Countywide employment growth based on the average annual projected growth rate per ABAG and Woods & Poole.

Sources: Fehr & Peers; Economic & Planning Systems, Inc.

## Service Population Calculations

The PFF is also based on calculations that translate the population and employment projections into estimates of existing and future "service populations." The "service population," in turn, is derived from assumptions that compare residents and employees based on the relative service demands or typical service profiles of each. Of course, a service population can differ depending on the County department or facility type under consideration. For example, the facility needs of several departments (including Library, Health & Social Services, Animal Care, Parks, and Elections) are linked primarily to population rather than employment growth.

Unless otherwise indicated, the service population calculations associated with County facilities designed to serve both residential and nonresidential uses are based on the relationships summarized in **Table 6**. These calculations compare county residents and employees based on commute patterns and the estimated proportion of “waking” hours spent at work. For example, residents who work outside the County are estimated to spend an average of about 77 percent of their time in the County relative to those who don’t work at all or who both live and work in the County (2,000 hours or 40 hours \* 50 weeks divided by 8,760 hours or 24 hours \* 365 days).<sup>1</sup> After accounting for regional commute patterns, the typical worker is estimated to have a service burden of about 26 percent of the typical resident.

**Table 6 Service Population Factors Based on Resident to Employee Equivalencies**

Service Population Category	Labor Force & Commute Patterns <sup>1</sup>		Resident to Employee Equivalencies		
	Number	Distribution	Weight <sup>2</sup>	Weighted Normalized to	
				Average	100%
		<i>a</i>	<i>b</i>	<i>= a * b</i>	
<b>County Residents</b>					
Employed in County	74,517	17.6%	77%	14%	
Employed outside of County	134,682	31.9%	77%	25%	
All Other Residents	<u>213,565</u>	<u>50.5%</u>	100%	<u>51%</u>	
<b>Total Residents</b>	422,764	100.0%		89%	<b>100%</b>
<b>Employees in Solano County</b>					
Live in County	60,511	45.8%	23%	10%	
Live outside of County	<u>71,716</u>	<u>54.2%</u>	23%	<u>12%</u>	
<b>Total Jobs</b>	132,227	100.0%		23%	<b>26%</b>

[1] Commute patterns data from U.S. Census Bureau, LEHD Origin-Destination Employment Statistics, labor force data from BLS Local Area Unemployment Statistics, and County jobs from ABAG.

[2] Weighting based on percent of annual number of hours [8,760 or 24 hours \* 365 days] relative to time at job [2,000 or 40 hours \* 50 weeks].

Sources: U.S. Census LEHD; Bureau of Labor Statistics; ABAG; California DOF; Economic & Planning Systems, Inc.

**Table 7** calculates the existing and projected (2040) county service population based on the equivalency factors described in **Table 6**. The total county service population is expected to grow from 457,143 to 558,115 persons served, an addition of 100,972 in the County’s service population, representing an 18 percent growth from 2018 to 2040. This new growth that occurs between 2018 and 2040 will also constitute 18 percent of total population in 2040, as shown in **Table 7**.

<sup>1</sup> To avoid double counting, time for residents who both live and work in the County is allocated based on the proportion of hours at work (23 percent) versus elsewhere (77 percent).

**Table 7 Estimated Solano County Service Population Growth (2018 - 2040)**

Service Population Category	Amount by Year		New Growth		
	2018	2040	Amount	Share of Buildout Pop.	Percent of Total
<b>Residents</b>	422,764	516,222	93,458	18.1%	93%
<b>Employees<sup>1</sup></b>	<u>34,379</u>	<u>41,893</u>	<u>7,514</u>	17.9%	<u>7%</u>
<b>Total Service Population</b>	<b>457,143</b>	<b>558,115</b>	<b>100,972</b>	<b>18.0%</b>	<b>100%</b>

[1] Assumes a service population factor of 26% (or 0.26) per job, as calculated in Table 6.

Source: Economic & Planning Systems, Inc.

## Land Use Categories and Density Assumptions

Fees are calculated for a range of land use categories and informed by the type of development expected to occur in the County and in consultation with the County's Resource Management Department. These land use categories are summarized in **Table 8** along with example uses. This table provides illustrative examples only and may not address every circumstance. A designated representative within the Resource Management Department will be responsible for making the final determination of land use category applicability.

**Table 8 Land Use Categories**

Land Use Category	Description and Examples [1]
<b>Residential</b>	
Single Family	Single family detached dwelling units, single family attached dwelling units such as townhome-style units, and single family manufactured homes.
Multifamily	Multifamily attached dwelling units.
2nd SFR Unit/Accessory Dwelling Unit (ADU)	Accessory dwelling units.
Age-Restricted/Senior Multifamily	Age-restricted multifamily attached dwelling units.
<b>Nonresidential</b>	
Retail/Commercial	Uses include regional- and neighborhood-serving retail establishments, including retail as part of mixed-use developments. Specific uses include big-box warehouse stores, department stores, grocery stores, and other establishments whose primary purpose is the sale of retail goods.
Service/Commercial	Uses include businesses that provide services, as opposed to primarily retail goods, such as restaurants, fitness facilities, beauty/barber shops, salons, banks, social services, funeral services, gas stations, and general repair shops, including auto repair.
Office	Category includes general office as well as medical or dental office. Uses include professional services, finance/insurance/real estate uses (not including customer-serving banks), administration-type uses, and offices and clinics of medical, dental, and health practitioners.
Institutional/Assembly	Uses include places of civic and cultural assembly, places of worship, congregate care facilities, private schools and private day care facilities, as well as movie theaters and other visitor-generating facilities or structures on agricultural and non-agricultural land.
Lodging	Uses include resorts, hotels, motels, and bed and breakfast inns.
Industrial	Uses include construction, manufacturing, processing, and transportation uses, as well as dairies and agricultural processing facilities. Ancillary office space included as part of industrial development is included.
Warehouse/Distribution	Uses include warehousing, distribution, and storage uses. Ancillary office space included as part of warehouse/distribution development is included.
Nonresidential Agricultural Accessory Structures	Uses include barns, stables, accessory buildings, or structures that are utilized in conjunction with the agricultural use of the property, including the storage of agricultural products and supplies and equipment used in agricultural operations.

[1] This table provides illustrative examples only and may not address every circumstance. Specific questions may be addressed to the Resource Management Department, which is responsible for making the final determination of land use category applicability.

Sources: Solano County; Economic & Planning Systems, Inc.

In addition to the demographic calculations, the PFF also utilizes assumptions related to population and employment densities by land use type. Specifically, PFF infrastructure cost estimates per capita or per job are converted to fee rates per unit or square foot based on average persons per household and square feet per employee factors. For residential

development, the analysis relies on U.S. Census data on the average number of persons per household for single-family and multifamily units. Factors for accessory units and age-restricted (senior) housing are based on data from research studies focused on these types of residential development. For nonresidential development, the fee levels incorporate data from a variety of sources related to the average employees per 1,000 sq. ft. of building space.

The land use density assumptions utilized in this Report are summarized in **Table 9**, with further documentation of data sources for nonresidential land uses provided in **Appendix A**. As shown, single-family units have a higher average number of persons per unit than multifamily units. This analysis assumes that future dwelling units will also be characterized by similar differences in persons per household and thus will generate relatively different levels of impact on PFF facilities. For example, based on the persons per household data in **Table 9**, a multifamily unit would generate 78 percent of the impact generated by a single-family unit. The impacts of other units relative to a single-family unit differ based on the number of persons in the respective unit type.

**Table 9 PFF Land Use Density Assumptions**

Land Use Fee Categories	Persons per Household <sup>1</sup> <i>a</i>	Sq. ft. per Employee <sup>2</sup> <i>b</i>	Employees per 1,000 Sq. Ft. <sup>2</sup> <i>c = 1,000/ b</i>
See Table A-2			
<b>Residential</b>			
Single Family	3.04	-	-
Multifamily	2.37	-	-
2nd SFR Unit/Accessory Dwelling Unit <sup>3</sup>	1.50	-	-
Age-Restricted/Senior Multifamily <sup>4</sup>	1.50	-	-
<b>Nonresidential</b>			
Retail/ Commercial	-	670	1.49
Service Commercial	-	350	2.86
Institutional/Assembly	-	700	1.43
Office	-	250	4.00
Lodging	-	1,100	0.91
Industrial	-	600	1.67
Warehouse/Distribution	-	2,000	0.50
<b>Agricultural Uses<sup>5</sup></b>			
Non-residential Agricultural	-	3,000	0.33
Accessory Structures	-	-	-

[1] Average household size per occupied housing unit in Solano County based on data from the 2017 American Community Survey (5-year estimates) conducted by the U.S. Census Bureau.

[2] Averages based on a number of data sources reviewed by EPS. See Table A-2 in Appendix A.

[3] Household size estimate from "Yes in My Backyard: Mobilizing the Market for Secondary Units, June 2012" published by Center for Community Innovation (CCI) at the Institute for Urban & Regional Development (IURD) at UC-Berkeley.

[4] Household size estimate from "Housing for the 55+ Market: Trends and Insights on Boomers and Beyond, April 2009" published by MetLife Mature Market Institute and National Association of Home Builders (NAHB).

[5] Density assumptions were based on data for other nonresidential uses and adjusted to reflect less intensive usage associated with agricultural uses.

Source: Economic & Planning Systems, Inc.

**Table 9** also shows assumptions for employee densities per 1,000 sq. ft. of building space for various nonresidential uses. Impact fees for nonresidential uses will vary consistently with these differences in employee generation. Specifically, uses that generate more workers per 1,000 sq. ft. will pay a relatively higher fee.

### *III. IMPACT FEE CALCULATION*

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This chapter is divided into six sections, each presenting the methodology and fee calculation for the capital facilities covered by the fee. Fees are estimated for the following departments:

- 1. Countywide Public Protection (includes Courts and Animal Care Services)**
- 2. Health and Social Services**
- 3. Library**
- 4. General Government**
- 5. Transportation**
- 6. Administration**

Each section explains the purpose of the fee, the methodology for determining existing deficiencies and future needs, the allocation of costs among land uses, and the calculation of the impact fee.

## IV. PUBLIC PROTECTION

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Public Protection includes a variety of departments that are responsible for a range of services and facilities throughout the entire county. Capital facilities associated with the following five (5) key functions are included in the Public Protection component of the PFF:

- Sheriff
- Probation
- Animal Care
- Courts
- District Attorney

The facilities required to provide these functions are combined into a single Public Protection fee because demand for their services and the determinants of facility demand are somewhat interrelated.

### Determination of Facility Needs and Costs

#### Sheriff's Office

The County Sheriff's Office provides a number of countywide functions and services that require public facilities, including adult custody and detention, emergency dispatch, coroner services, and animal care (evaluated separately below). Based on input from department staff, countywide population and employment growth is expected to create the greatest facility needs in the area of adult detention, rehabilitation and crime prevention. However, the amount, type, and cost of future Sheriff's department facilities needed to serve countywide growth will be influenced by a variety of inter-dependent variables, including but not limited to the following:

- **Alternatives to Incarceration:** According to department staff, in order to cope with State re-alignment and the high cost of maximum-security jails, the County is likely to increasingly seek alternatives to long-term incarceration, including rehabilitation, education, and treatment programs that facilitate a gradual transition of convicts into the community. The facility cost necessary to accommodate such programs, although unknown, are likely to be less than maximum security jails.
- **Crime Rates:** The need for new adult detention, rehabilitation and crime prevention facilities will be linked to crime rates (i.e., crimes per capita) as well as absolute county growth. Crime rates, in turn, are influenced by socio-economic variables (e.g., age, income, and education), policing and crime prevention techniques, and other factors.
- **Prosecution and Sentencing Trends:** Prosecution and sentencing activity (e.g., arrests, convictions, and sentences) also play an important role in Sheriff's Office facility needs. This activity, in turn, is affected by evolving state and federal laws and guidelines as well as resources available for law enforcement and criminal justice at the local level.

Due to the complex nature of the above factors, future Sheriff's Office capital needs and facility costs are difficult to predict with certainty, let alone proportionately allocate to new growth.

Given this uncertainty, department staff has advised that existing and planned County facilities represent the best indicator of future facility needs and costs. In reality, costs may be higher if crime, bookings, and/or prosecution rates increase, for example, or lower, if alternatives to incarceration successfully reduce the demand for maximum security jail space.

**Table 10** details the new facilities as listed in the 2017 Solano County Master Plan. Given that all of these facilities are needed to serve both the existing and future populations, roughly 18 percent of the total costs of these facilities are allocated to the fee program. As shown, this methodology results in roughly \$33.5 million allocated to the PFF program for adult detention, rehabilitation and crime prevention facilities through 2040.

**Table 10 Sheriff's Facilities Costs**

Facility <sup>1</sup>	Building Sq. Ft.	Cost Per Sq. Ft. <sup>2</sup>	Estimated Cost	Cost Allocation to PFF <sup>3</sup>	Total PFF Costs
	a	b	c = a * b	d	e = c * d
New Claybank Campus					
OES & Dispatch Building	41,166	\$556.73	\$22,918,347	18.1%	\$4,148,221
Re-Entry and Detention Facility	163,429	\$880.68	\$143,928,652	18.1%	\$26,051,086
Sheriff Warehouse	10,000	\$290.13	\$2,901,300	18.1%	\$525,135
Regional Kitchen	<u>15,000</u>	\$1,013.51	<u>\$15,202,650</u>	18.1%	<u>\$2,751,680</u>
<b>Total</b>	<b>229,595</b>		<b>\$184,950,949</b>		<b>\$33,476,122</b>

[1] Building square footage for all adult detention facilities is detailed in the 2017 Solano County Board of Supervisors Report, Master Plan for Three County Campuses, on page 108. Given that all three facilities are needed to serve both existing and future populations, only the share that can be attributed to future growth is allocated to the fee program.

[2] Costs were prepared for the improvements identified in the 2017 Solano County Master Plan. For this fee update, relevant costs are adjusted to 2018 dollars.

[3] See Service Population calculations in Table 7.

Sources: Solano County; and Economic & Planning Systems, Inc.

## Probation

In addition to the sheriff's facilities, the County's Master Plan also lists Probation facilities for adult rehabilitation and crime prevention. These include two Centers for Positive Change offering probationers/parolees access to resources to assist with successful reintegration in the community. In addition, a new re-entry facility as well as the expansion of an existing release center are slated to be used for training soon-to-be released inmates to learn life and job skills. This re-entry facility is slated to be built at the Fairfield location and primarily intended to serve the needs resulting from new development; as a result, the cost of this facility is fully being allocated towards the PFF program. The total costs for these facilities and the fair share allocation to the PFF program are shown in **Table 11**.

**Table 11 Probation Facilities Costs**

Facility	Building Sq. Ft.	Cost Per Sq. Ft. <sup>1</sup>	Estimated Cost <sup>2</sup>	Cost Allocation to PFF <sup>3</sup>	Total PFF Costs
	a	b	c = a * b	d	e = c * d
New Probation Buildings <sup>4</sup>	26,000	\$533.85	\$13,880,100	18.1%	<b>\$2,512,298</b>

[1] Costs were prepared for the improvements identified in the 2017 Solano County Master Plan. For this fee update, relevant costs are adjusted to 2018 dollars.

[2] Excludes IT improvement costs, as these costs are accounted for separately in Table 28.

[3] See Service Population calculations in Table 7.

[4] The three Probation buildings include two Centers for Positive Change (10,000 square feet each) and a building in Fairfield (6,000 square feet) that is an expansion of Probation facilities to serve new population growth. The Centers for Positive Change offer parolees access to resources to support successful reintegration into the community. One of the Centers is planned to be part of the Solano Business Park (as noted in the Solano County Master Plan) and one is planned to be in Vallejo. The Vallejo facility is not accounted for in the Master Plan. Costs were prepared for the improvements identified in the 2017 Solano County Master Plan. For this fee update, relevant costs are adjusted to 2018 dollars. This square footage does not include the building envelope, circulation, and MEP space. Given that all three buildings are planned to serve both existing and future populations, only the share that can be attributed to future growth is allocated to the fee program.

Sources: Solano County; and Economic & Planning Systems, Inc.

## Animal Care

The County Sheriff's Office also provides animal care services to unincorporated areas of the County. The Sheriff's Office operates the existing Animal Shelter located on 2510 Claybank Road. Pursuant to a memorandum of understanding (MOU) between the County and the seven incorporated cities, the operating costs of the Animal Shelter are allocated amongst the parties based on the origin of the animals under its custody.

Based on the 2017 Solano County Master Plan and the related cost estimates that were prepared for its implementation, **Table 12** calculates the third phase of the expansion of the animal care complex. The total cost estimate of this facility expansion amounts to roughly \$3.1 million. Given that these facilities are needed to serve both existing and future populations, only 18.1 percent, or approximately \$561,000, of this total cost is allocated to the fee program through 2040.

**Table 12 Animal Care Facility Costs**

Category	Formula	Amount
Animal Care Complex Expansion - Phase 3 Costs <sup>1</sup>	a	\$3,100,788
Cost Allocation to PFF <sup>2</sup>	b	18.1%
Phase 3 Costs Allocated to PFF	c = a * b	\$561,243

[1] The cost of Phase 3 includes the renovation of the existing building which is needed to accommodate future growth in the County as well as associated site improvements (County Project #1773, as of 11/2/2018). Given that this facility is needed to serve both existing and future populations, only the share that can be attributed to future growth is allocated to the fee program.

[2] See Service Population calculations in Table 7.

Sources: Solano County; and Economic & Planning Systems, Inc.

## Courts

The Superior Court of California, County of Solano is the unified trial court of both limited and unlimited jurisdiction in the County. The court has jurisdiction over all cases arising within the County, including felony and misdemeanor criminal cases, traffic, civil and small claims, family law, probate, and juvenile cases.

The 2017 Solano County Master Plan identified three future facilities that would serve both new and existing residents and employees, as described below:

- **Traffic Court:** The new traffic court is needed for hearings related to traffic and parking violations.
- **Juvenile Detention Court:** According to County staff, there is an existing need for a new Juvenile Court facility attached to the existing Juvenile Detention facility on Beck Avenue in Fairfield. Currently, juveniles are transported by van to off-site Court facilities in downtown Fairfield or Vallejo for court appearances, creating operational and staffing inefficiencies as well as security issues.
- **Collaborative Courts:** The County currently jointly contribute to these collaborative court services: (a) Dependency Drug Court (legal issues associated with parents with substance abuse issues) and (b) Adult Drug Court. Currently the operations of these court functions occur within the existing Court facilities. However, going forward, both the County and State would like to see a specialized, dedicated facility (potentially co-located in the existing court house) for Collaborative Court functions. In addition, these functions would be expanded to include (c) Veteran Treatment Court, (d) Mental Health Court, and (e) Re-entry Court.

**Table 13** calculates PFF costs for future Court facilities as well as asset protection improvements such as a perimeter flood prevention system for the existing County Campus. It is assumed that new development will generate demand in proportion to service population growth for the asset protection system as well as the Collaborative Courts. These facilities' fees will be proportionally allocated to the fee program. The Traffic and Juvenile Courts will entirely service demand from new growth. Therefore, the Traffic and Juvenile Courts' full costs will be allocated to the fee program. For example, an effective Collaborative Court system could support alternatives to incarceration and reduce the need to expand jails.

**Table 13 Court Facility Costs**

Item	Building Sq. Ft.	Cost Estimate		Cost Allocation to PFF <sup>2</sup>	Total PFF Costs
		Cost per Sq. Ft. <sup>1</sup>	Total Cost		
	a	b	c = a * b	d	e = c * d
New Courtrooms					
Traffic <sup>3</sup>	4,000	\$533.85	\$2,135,400	100%	\$2,135,400
Traffic Court IT Equipment <sup>4</sup>	n/a	n/a	\$14,190	100%	\$14,190
Juvenile Court <sup>5</sup>	4,305	\$533.85	\$2,298,224	100%	\$2,298,224
Juvenile Court IT Equipment <sup>4</sup>	n/a	n/a	\$25,860	100%	\$25,860
Collaborative Courts <sup>6</sup>	4,000	\$533.85	\$2,135,400	18.1%	\$386,507
Collaborative Courts IT Equipment <sup>4</sup>	n/a	n/a	<u>\$45,100</u>	18.1%	<u>\$8,163</u>
<b>Total</b>	<b>12,305</b>		<b>\$6,654,174</b>		<b>\$4,868,345</b>

[1] Costs were prepared for the improvements identified in the 2017 Solano County Master Plan. For this fee update, relevant costs are adjusted to 2018 dollars.

[2] See Service Population calculations in Table 7.

[3] Because the planned traffic court is needed to accommodate new growth, 100% of the costs of this facility are allocated to new growth.

[4] IT Equipment costs include telecommunications and network installation as well as hardware such as staff computers, printers/copiers and courtroom monitors. The total cost estimate is provided by the County Courts Division. The IT equipment cost allocation to new growth is equivalent to the share of each respective court's costs that are allocated to new growth.

[5] The 1998 Juvenile Facilities Master Plan referenced a 4,305 sq. ft. Juvenile Court, however, the Juvenile Detention facility that opened in 2004 did not include a Juvenile Court. Given that the new Juvenile Court is needed to accommodate new population growth, 100% of the costs of this facility are allocated to the fee program.

[6] The Collaborative Courts could potentially include courts for veterans, mental health, re-entry, and family services. The square footage includes 2,500 sq.ft. for a courtroom; 700 sq.ft. for judges chambers; and 800 sq.ft. for support staff. This space does not include additional space that may be needed to accommodate Bail Reform, as pending legislation is uncertain. Given that this facility will serve both the existing as well as new service population, the costs will be allocated to the fee program in proportion to new growth.

Sources: Solano County; and Economic & Planning Systems, Inc.

## District Attorney

The Solano County District Attorney's Office (DA) provides a variety of services to assist law enforcement and other public agencies throughout the County and to investigate and prosecute crimes. Staff is currently primarily housed in the County Administration Center (CAC) building in downtown Fairfield (approximately 44,000 sq. ft. of space). In addition, the DA also operates a 4,739-square-foot forensic laboratory in the County Public Health facility located at 2201 Courage Drive.

As with the 2013 update, the primary capital needs going forward are associated with the forensic laboratory. Although the size of the existing space is adequate to meet foreseeable needs, there is a need for additional build-out improvements as well as lab equipment, as summarized in **Table 14**. While the DA currently uses its forensic laboratory primarily for drug testing (e.g., alcohol levels for DUI and other controlled substances), its long-term goal is to expand its function to include forensics, and other capabilities. The forensic lab improvements and the associated forensic lab equipment entail outfitting unimproved building square footage. Given that the equipment will need to be replaced on a ten-year cycle, the one-time cost of lab equipment is multiplied three times (for replacements in 2020, 2030, and 2040) to account for the full anticipated equipment costs from 2018 through 2040. Given that these improvements and equipment will only be necessitated by new growth, the full cost will be allocated to the fee program. Based on these assumptions, approximately \$3.6 million in DA facility and equipment costs are assigned to the PFF through 2040.

**Table 14 PFF District Attorney Facility Costs**

Facility Type	Total Cost	Cost Allocation	Total PFF Costs
		to PFF <sup>1</sup>	
	a	b	c = a * b
Forensic Lab Improvements <sup>2</sup>	\$643,138	100%	\$643,138
Forensic Lab Equipment <sup>3</sup>	<u>\$2,910,000</u>	100%	<u>\$2,910,000</u>
<b>Total</b>	<b>\$3,553,138</b>		<b>\$3,553,138</b>

[1] See Service Population calculations in Table 7.

[2] This space is currently unimproved but will need to be fitted out to accommodate new growth; therefore, 100% of the costs are allocated to new growth and to the fee program. Cost for build-out improvements to the current space were included in the County's FY 2012/13 to FY 2016/17 Capital Improvement Plan. For this fee update, those cost estimates were increased in proportion to ENR's Construction Cost Index for the San Francisco region, as of December 2018.

[3] Given that the forensic lab space improvements are needed to accommodate new growth, 100% of the equipment costs associated with this space are allocated to new growth. Cost estimates are provided by DA and includes a liquid chromatograph for comprehensive forensic toxicology testing and other equipment identified by the DA's office. All equipment is required to be replaced every 10 years. The calculation here shows the cost of three lifecycle replacements in 2020, 2030, and 2040.

Sources: Solano County; and Economic & Planning Systems, Inc.

## Public Protection's Share of Government Center Debt Service

Completed in 2005, the County Government Center complex was constructed to provide for County overhead, administration and other general government facility needs, including public protection, for a growing service population beyond 2030. The complex includes the County Probation Department, which occupies approximately 43,807 sq. ft. of office space at 475 Union Avenue in Fairfield, the Cogeneration Plant, parking structure, and the County Administration Center building located at 675 Texas Street in Fairfield.

As identified in the 2003 update of the Public Facilities Fee program, 25 percent of the total space at the Government Center complex was constructed to accommodate growth in general government and public protection services to serve future population growth. Of this, 11 percent is Public Protection's share of the remaining balance on the Government Center debt service for construction of the Probation facility and proportionate share of the Cogeneration Plant, parking structure, and the proportionate share of space occupied by the Departments of the District Attorney, Public Defender and Conflict Defender in the County Administration Center.

**Table 15** allocates a portion of the existing debt obligation for the County Government Center complex to the Public Protection portion of the PFF. As shown, out of the approximately \$97.1 million in debt refinancing, nearly \$7.9 million has been paid as of June 30, 2018, leaving \$89.3 million in outstanding debt. The share of this figure allocated to Public Protection, or 11 percent, amounts to roughly \$9.8 million.

**Table 15 Public Protection Share of Government Center Costs**

Government Center Debt Service	Formula	Amount
Total Debt Service Obligation	a	\$97,167,930
Less Total Debt Service Payments through 6/30/18	b	<u>\$7,869,555</u>
Outstanding Debt Service Obligation	c = a - b	\$89,298,375
<b>Allocation of Outstanding Debt Service Obligation to Public Protection<sup>1</sup></b>	<b>d = c * 11%</b>	<b>\$9,822,821</b>

[1] At the time of issuance, it was determined that 25% of the obligation was to benefit future growth. This 25% of the debt obligation was divided between General Government (responsible for 14%) and Public Protection (responsible for 11%).

Sources: Solano County Auditor; and Economic & Planning Systems, Inc.

## Cost Allocation and Public Protection Fee Calculation

The Public Protection fee is calculated in three steps. First, the fair share cost allocated to new development is further allocated to residential and nonresidential development based on the relative demand for services generated by residents and employees, as shown in **Table 16**. If the demand for the facility in question is driven by both residential and nonresidential growth, the cost allocation is based on relative Service Population growth of residents and employees, respectively, as calculated in **Table 7** in **Chapter II**.

Second, a per capita or per employee cost is determined by dividing costs allocated to residential and nonresidential uses by new population and employment growth, respectively.

Finally, the facility cost for each impact fee land use category is calculated based on the population and employment density assumptions shown in **Table 8** in **Chapter II**. As summarized in **Table 17** this methodology results in a Public Protection maximum impact fee ranging from \$819 to \$1,659 for residential development, depending on unit type, and from \$43 to \$525 per 1,000 sq. ft. for nonresidential development.

**Table 16 Public Protection Facilities Cost Allocation**

Cost Allocation Factor	Public Protection Facilities						Total Facilities
	Sheriff	Probation	Animal Care <sup>1</sup>	District Attorney	Courts	Gov. Center Debt (Public Prot. Share)	
Facility Costs Allocated to PFF Program	\$33,476,122	\$2,512,298	\$561,243	\$3,553,138	\$4,868,345	\$9,822,821	<b>\$54,793,967</b>
<u>Cost Allocation to Land Uses</u>							
Residential Development	93%	93%	100%	93%	93%	93%	
Nonresidential Development	7%	7%	0%	7%	7%	7%	
<u>Allocated Costs by Land Use</u>							
Residential Development	\$31,132,793	\$2,336,437	\$561,243	\$3,304,419	\$4,527,561	\$9,135,224	<b>\$50,997,676</b>
Nonresidential Development	\$2,343,329	\$175,861	-	\$248,720	\$340,784	\$687,597	<b>\$3,796,291</b>
<u>Service Population Growth</u>							
Residents	93,458	93,458	93,458	93,458	93,458	93,458	
Employees	28,901	28,901	-	28,901	28,901	28,901	
Facilities Cost per Resident	\$333.12	\$25.00	\$6.01	\$35.36	\$48.44	\$97.75	<b>\$545.68</b>
Facilities Cost per Employee	\$81.08	\$6.08	-	\$8.61	\$11.79	\$23.79	<b>\$131.35</b>

[1] Animal care facilities accommodate stray and/or abandoned cats and dogs. Since non-residential uses are not expected to generate any demand for such facilities, costs for animal care facilities are allocated to residential development only.

Sources: Solano County; and Economic & Planning Systems, Inc.

**Table 17 Estimated Public Protection Impact Fees**

Land Use	Density (See Table 9)	Public Protection Facilities						Total Fee per Unit
		Sheriff	Probation	Animal Care <sup>1</sup>	District Attorney	Courts	Gov. Center Debt	
<i>Cost per Resident</i>		\$333.12	\$25.00	\$6.01	\$35.36	\$48.44	\$97.75	<b>\$545.68</b>
<i>Cost per Employee</i>		\$81.08	\$6.08	\$0.00	\$8.61	\$11.79	\$23.79	<b>\$131.35</b>
<b>Residential</b>	Persons / Household							
Single Family	3.04	\$1,012.68	\$76.00	\$18.27	\$107.49	\$147.26	\$297.16	<b>\$1,658.87</b>
Multifamily	2.37	\$789.49	\$59.25	\$14.24	\$83.80	\$114.80	\$231.67	<b>\$1,293.26</b>
2nd SFR Unit/Accessory Dwelling Unit (ADU)	1.50	\$499.68	\$37.50	\$9.02	\$53.04	\$72.66	\$146.63	<b>\$818.52</b>
Age-Restricted/Senior Multifamily	1.50	\$499.68	\$37.50	\$9.02	\$53.04	\$72.66	\$146.63	<b>\$818.52</b>
<b>Nonresidential</b>	Employees / 1,000 SF							Fee per 1,000 SF
Retail/Commercial	1.49	\$120.81	\$9.06	\$0.00	\$12.83	\$17.57	\$35.45	<b>\$195.71</b>
Service/Commercial	2.86	\$231.89	\$17.39	\$0.00	\$24.62	\$33.72	\$68.04	<b>\$375.66</b>
Office	4.00	\$324.32	\$24.32	\$0.00	\$34.44	\$47.16	\$95.16	<b>\$525.40</b>
Institutional/Assembly	1.43	\$115.94	\$8.69	\$0.00	\$12.31	\$16.86	\$34.02	<b>\$187.83</b>
Lodging	0.91	\$73.78	\$5.53	\$0.00	\$7.84	\$10.73	\$21.65	<b>\$119.53</b>
Industrial	1.67	\$135.40	\$10.15	\$0.00	\$14.38	\$19.69	\$39.73	<b>\$219.35</b>
Warehouse/Distribution	0.50	\$40.54	\$3.04	\$0.00	\$4.31	\$5.90	\$11.90	<b>\$65.68</b>
<b>Agricultural Uses</b>								
Non-residential Agricultural Accessory Structures	0.33	\$26.76	\$2.01	\$0.00	\$2.84	\$3.89	\$7.85	<b>\$43.35</b>

[1] No impact fees for animal care facilities are calculated on nonresidential land uses. See footnote [1] in Table 16.

Source: Economic & Planning Systems, Inc.

## V. HEALTH AND SOCIAL SERVICES

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The County's Health and Social Services (H&SS) Department administers health and social service programs that counties are required to provide under State law. These include programs for public and mental health, disabled and elderly, substance abuse, and child welfare, among others to serve county residents in both incorporated and unincorporated areas. The entire county population receives benefits from public health programs.

The PFF for H&SS is designed to cover the costs associated with new health and social services facilities and equipment to serve a growing county resident population in both incorporated and unincorporated areas. Since health and social services are primarily provided for the benefit of county residents, it is assumed that nonresidential development will not pay the H&SS impact fee.

### Determination of Facility Needs and Costs

According to H&SS staff, the amount, type, and cost of future Department facilities needed to serve countywide population growth will be influenced by a variety of inter-dependent variables, including but not limited to the following:

- **Demographic Trends:** Given that the H&SS provides a disproportionate share of its services to poor and elderly, demographic changes in the County related to both age and income levels will have a significant impact on service requirements, and by extension, facility needs.
- **Regulatory Changes (e.g., Affordable Care Act):** New legislation continues to focus on increasing the number of county residents eligible for services provided by H&SS. For example, the expansion of health insurance requirements continues to increase the proportion of residents eligible for Medi-Cal, a program implemented by H&SS.<sup>2</sup> In addition to healthcare reforms, the variety of other State policies and programs being considered by the State could significantly increase client volume.
- **Technological Changes:** The evolution of current offices towards future structures that include video conferencing rooms, shared offices and hoteling will impact the need for more space but has not yet been fully vetted. In the healthcare field, telemedicine and portable mobile technology will alter the work environment. In the social services field, service delivery will be increasingly field-based using wireless technology and client self-service-oriented using interactive voice systems and online self-service. As a result, office hoteling, shared spaces and desks with integrated phone/screen environments will replace the current line of cubicles and reduce the need for the traditional expansion of office facilities.

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<sup>2</sup> For more information on this topic, see "Implementing National Health Reform in California, Payment and Delivery System Changes," by California Healthcare Foundation. November, 2011. See: [http://www.chcf.org/~media/MEDIA\\_percent20LIBRARY\\_percent20Files/PDF/1/PDF\\_percent20ImplementingHealthReformPaymentChanges.pdf](http://www.chcf.org/~media/MEDIA_percent20LIBRARY_percent20Files/PDF/1/PDF_percent20ImplementingHealthReformPaymentChanges.pdf)

The estimated amount and cost of the new H&SS capital facilities needed to serve future population is provided in **Table 18**. The H&SS Department anticipates that a campus of buildings at the Solano Business Park. Based on cost estimates prepared for the Solano County Master Plan, these future facilities will cost approximately \$173.8 million, with a portion of these costs allocated to the fee program.

Please note that the new dental clinic, which is slated to be built at the new facility at the Solano Business Park, is created to serve new growth. Therefore, 100 percent of the associated costs, including the equipment for the new dental clinic, could be allocated to new growth. The equipment for the new dental clinic is an additional tenant improvement cost in addition to basic construction costs. However, the dental clinic and the associated equipment are being funded through IGT Funds from the state and other funding sources for the full cost. Therefore, all costs associated with this dental clinic are not included in **Table 18**. In total, the County will need slightly more than \$70.8 million worth of capital facilities and equipment to accommodate increases in services to a growing population.

**Table 18 H&SS Projected Future Facilities and Estimated Costs**

Item	Building Sq. Ft. <sup>1</sup>	Cost Per Sq. Ft. <sup>2</sup>	Estimated Cost	Cost Allocation to PFF <sup>3</sup>	Total PFF Costs
	a	b	c = a * b	d	e = c * d
Solano Human Services and Training Center <sup>4</sup>	135,756	\$533.85	\$72,473,341	18.1%	\$13,117,675
Health Services and Clinic Building <sup>4</sup>	90,740	\$533.85	\$48,441,549	18.1%	\$8,767,920
Behavioral Health Crisis Unit <sup>4</sup>	9,071	\$533.85	\$4,842,436	18.1%	\$876,481
Future Regional Mental Health Facility <sup>5</sup>	73,934	\$533.85	\$39,469,783	100%	\$39,469,783
North County Healthcare Facility <sup>5</sup>	8,000	\$533.85	\$4,270,800	100%	\$4,270,800
East County Healthcare Facility <sup>5</sup>	<u>8,000</u>	\$533.85	<u>\$4,270,800</u>	100%	<u>\$4,270,800</u>
<b>Total</b>	<b>325,501</b>		<b>\$173,768,709</b>		<b>\$70,773,459</b>

[1] Building square footage for all facilities is detailed in the 2017 Solano County Board of Supervisors Report, Master Plan for Three County Campuses, p.98.

[2] Costs were prepared for the improvements identified in the 2017 Solano County Master Plan. For this fee update, relevant costs are adjusted to 2018 dollars.

[3] See Service Population calculations in Table 7.

[4] These facilities are needed to provide services to existing and future residents; therefore, only a share of the associated costs are allocated to new growth.

[5] These facilities are needed to serve future growth; therefore, the full cost is allocated to new growth.

Sources: Solano County Administrator; and Economic & Planning Systems, Inc.

## Health and Social Services Fee Calculation

The Health and Social Services facilities impact fee is calculated in two steps. First, the fair share cost allocated to new development is divided by the number of new residents projected by 2040. This yields a per capita cost of about \$757 as shown in **Table 19**.

Second, the cost for each type of unit is determined by multiplying the assumed persons per household by the per capita cost. As shown, this calculation results in an impact fee of \$2,302 for single-family units, \$1,795 for multifamily units, and \$1,136 for age-restricted multifamily units as well as second dwelling or accessory units.

**Table 19 Estimated County Health & Social Services Facilities Fee**

Item Description	Estimated Amount
<b>Total H&amp;SS Costs for PFF Program</b>	<b>\$70,773,459</b>
New Service Population	93,458
Facilities Cost per Service Population	\$757.28

  

<u>Residential Land Use</u>	<u>Persons per Unit</u>	<u>Fee Per Unit<sup>1</sup></u>
Single Family	3.04	\$2,302
Multifamily	2.37	\$1,795
2nd SFR Unit/Accessory Dwelling Unit (ADU)	1.50	\$1,136
Age-Restricted/Senior Multifamily	1.50	\$1,136

[1] County healthcare and social services primarily serve residents; any services provided to nonresident employees (nonresidential land uses) are expected to be incidental. As such, no impact fee is calculated for nonresidential land uses.

Source: Economic & Planning Systems, Inc.

## VI. LIBRARY FACILITIES

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The County's Department of Library Services provides library services to unincorporated areas of the County and five cities in the County: Fairfield, Rio Vista, Suisun City, Vacaville, and Vallejo. Library services to the City of Vacaville are provided through a contract with the Vacaville Unified School District Library District. The Library PFF is designed to cover the costs associated with new library facilities to serve a growing county resident population in these areas. Library services in the cities of Benicia and Dixon are outside the County's Library System and are served by the City of Benicia and the Dixon Public Library District, respectively, thus are excluded from the PFF. In addition, it is assumed that only residential development will pay a Library impact fee since these facilities primarily serve County residents.

### Determination of Facility Needs and Costs

The Solano County Library Facilities Master Plan (FMP) adopted in 2001 laid out the needed library facilities to serve the growing population of Solano County over a 20-year period with a goal to provide 0.76 sq. ft. of library space per capita. Consistent with the goal to provide 0.76 sq. ft. per capita, the 2009 FMP update identified six new library projects and two expansion projects for a total of 191,098 sq. ft. of additional library space to meet master plan goals for service standards and future population growth.

Estimated costs for the proposed library projects were prepared in the 2001 FMP and have been escalated to 2018 dollars as shown in **Table 20**. Completion of the FMP projects would require total capital investment of approximately \$138.5 million.

**Table 20 Library FMP Planned Facilities and Estimated Costs**

Proposed Project	Project Type	Building Sq. Ft. <sup>1</sup>	Master Plan Cost Estimates <sup>1</sup>	Escalated Costs <sup>2</sup>
			2001 dollars	2018 dollars
<u>FMP Phase 1</u>				
Suisun City	Expansion	13,864	\$5,861,732	\$9,598,105
<u>FMP Phase 2</u>				
Fairfield North	New	30,000	\$12,868,566	\$21,071,221
Vacaville Existing	Expansion	15,377	\$8,349,677	\$13,671,911
Vallejo Northwest	New	30,000	\$13,268,839	\$21,726,635
<u>FMP Phase 3</u>				
Fairfield Northeast	New	29,118	\$12,488,628	\$20,449,104
Vacaville North	New	36,000	\$15,462,153	\$25,318,007
Vallejo Northeast	New	25,237	\$10,801,551	\$17,686,653
Rio Vista	New	<u>11,502</u>	<u>\$5,502,729</u>	<u>\$9,010,267</u>
<b>Total</b>		<b>191,098</b>	<b>\$84,603,875</b>	<b>\$138,531,904</b>

[1] From the Solano County Library Facilities Master Plan, 2001 and April 2009 Update. Another update to the Library Facilities Master Plan is currently underway.

[2] The escalated costs are estimated by increasing the 2001 cost estimates by the percent change in ENR's Historical Cost Index for the San Francisco region between January 2001 and December 2018.

Sources: Solano County Library Facilities Master Plan, 2001 and 2009 Update; ENR Construction Cost Index for San Francisco region; Economic & Planning Systems, Inc.

## Cost Allocation

Because the FMP projects would serve both existing residents (by increasing the level of service) and future residents, only a portion of total costs can be allocated to the PFF. **Table 21** shows the calculation of a fair share allocation of library costs to new development. Based on the projected service area population growth of 88,134 residents, new residents would require 66,982 sq. ft. or 35 percent of the total proposed library space; as such only 35 percent of the FMP project costs can be attributed to new residential development. Given the total estimated cost of \$138.5 million, the fair share allocation to new residential development is \$48.5 million.

**Table 21 Cost Allocation of Planned Library Facilities to New Growth**

Item Description	Formula	Amount
Master Plan Facilities Standard (sq. ft. per capita) <sup>1</sup>	a	0.76
Existing 2018 Library Service Population <sup>2</sup>	b	376,578
Future 2040 Library Service Population <sup>2</sup>	c	464,712
Projected Population Growth in Library Service Area <sup>3</sup>	d = c - b	88,134
Required Library Sq. Ft. to Serve New Development (FMP Std.)	e = a * d	66,982
Planned Future Library Facilities Sq. Ft.	f	191,098
Estimated Share of Planned Facilities Needed to Serve New Growth	g = e / f	35%
Total Library Facilities Costs	h	\$138,531,904
<b>Library Facilities Costs Allocated to PFF Program</b>	<b>i = g * h</b>	<b>\$48,486,166</b>

[1] From the Solano County Library Facilities Master Plan, April 2009 Update.

[2] The existing and future library service population includes the population of Fairfield, Rio Vista, Suisun City, Vacaville, Vallejo, and the unincorporated areas of the County, as shown in Table 5.

[3] The library service area includes the cities of Fairfield, Rio Vista, Suisun City, Vacaville, Vallejo as well as the unincorporated area of the County. The projected population growth is the difference in existing and future populations, as shown in Table 5.

Sources: Solano County Library Facilities Master Plan; Fehr & Peers; Economic & Planning Systems, Inc.

## County Library Facilities Fee Calculation

The Library facilities impact fee is calculated in two steps. First, the fair share cost allocated to new development is divided by the number of new residents projected by 2040. This yields a per capita cost of \$550.14 as shown in **Table 22**.

Second, the cost for each type of unit is determined by multiplying the number of persons per household by the per capita cost. As shown in **Table 22**, this calculation results in a maximum impact fee of \$1,672 for single-family units, \$1,304 for multifamily units, and \$825 for age-restricted multifamily units as well as second dwelling or accessory units.

**Table 22 Estimated Library Facilities Fee**

<b>Item Description</b>		<b>Estimated Amount</b>
Library Facility Costs Allocated to PFF Program		\$48,486,166
Projected New Population in Library Service Area		88,134
Facilities Cost per Capita		\$550.14

  

<b><u>Residential Land Use</u></b>	<b><u>Persons/Unit</u></b>	<b><u>Fee Per Unit<sup>1</sup></u></b>
Single Family	3.04	\$1,672
Multifamily	2.37	\$1,304
2nd SFR Unit/Accessory Dwelling Unit (ADU)	1.50	\$825
Age-Restricted/Senior Multifamily	1.50	\$825

[1] County library services primarily serve residents, any services provided to or enjoyed by nonresident employees (nonresidential land uses) are expected to be incidental. As such no impact fee is calculated for nonresidential land uses.

Sources: Solano County Library Facilities Master Plan; Economic & Planning Systems, Inc.

## *VII. GENERAL GOVERNMENT FACILITIES*

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The General Government portion of the PFF covers a number of departments and offices that conduct a range of administrative duties and other functions necessary for the County to provide public services to residents and businesses in both incorporated and unincorporated areas. Specifically, the following 14 departments are included in General Government:

- Agricultural Commissioner
- Assessor Recorder
- Auditor-Controller
- Board of Supervisors
- Clerk of the Board
- Cooperative Extension
- County Administrator
- County Counsel
- Information Technology (includes Registrar of Voters/Elections)
- General Services
- Human Resources
- Resource Management (includes Parks and Recreation)
- Treasurer/Tax Collector/County Clerk
- Veteran Services

Since most general government services serve the needs of both residents and businesses (employees), it is assumed that both residential and nonresidential development will pay a General Government impact fee. The parks and elections components, however, will only be allocated to residential development.

### **Determination of Facility Needs and Costs**

#### **Countywide Administrative Services - Government Center**

With the exception of Agricultural Commissioner offices and capital equipment, Registrar of Voters (ROV) elections equipment, Cooperative Extension and county parks, the County's facility needs are housed in the County Government Center complex. Completed in 2005, the Government Center was constructed to satisfy general government facility needs for a growing service population beyond 2030.

As identified in the 2003 update of the Public Facilities Fee program, 25 percent of the total space in the Government Center was constructed to accommodate growth in general government and public protection services to serve future population growth. Of this, 14 percent was to accommodate growth in general government services (the remaining 11 percent was allocated to Public Protection). Consistent with this allocation, 14 percent of the cost of debt used to finance the facility was allocated to the General Government component of the PFF. Since the 2017 debt refinancing, out of the roughly \$97.2 million, nearly \$7.9 million has been paid as of June 30th, 2018, and leaving roughly \$89.3 million to be repaid. The General Government portion of the remaining balance is approximately \$12.5 million, as shown in **Table 23**.

**Table 23 Government Center Fair Share Costs for the PFF Program**

Government Center Debt Service	Formula	Amount
Total Debt Service Obligation	a	\$97,167,930
Less Total Debt Service Payments as of 6/30/18	b	<u>\$7,869,555</u>
Outstanding Debt Service Obligation	c = a - b	\$89,298,375
<b>Allocation of Outstanding Debt Service Obligation to General Government<sup>1</sup></b>	<b>d = c * 14%</b>	<b>\$12,501,773</b>

[1] At the time of issuance, it was determined that 25% of the obligation was to benefit future growth. This 25% of the debt obligation was divided between General Government (responsible for 14%) and Public Protection (responsible for 11%).

Sources: Solano County Auditor; and Economic & Planning Systems, Inc.

## General Services Facilities

The General Services Department assists other County departments in achieving their public service missions by providing essential support services in the areas of capital projects management, fleet services such as those of the Corp Yard, facilities operations, purchasing, and real estate services and other capital and deferred maintenance projects such as tenant improvements.

The County Administrative Center includes 36,204 square feet of unused, available space, which is designated for future growth. This space requires tenant improvement to be completed prior to occupation. The estimated cost to build out this space is roughly \$3.4 million. Secondly, the replacement and expansion of the Corp Yard is estimated to amount to another \$3.3 million. Third, the relocation and expansion of the General Services Administration is estimated to equal roughly \$9.6 million. And lastly, the asset protection project to prevent future flooding is estimated to cost \$12 million. Given that all of these facilities will serve the existing and new service population of the County, only 18 percent of the total costs, or approximately \$7.9 million has been allocated to the PFF, as shown in **Table 24**.

**Table 24 General Services Facilities Costs for the PFF Program**

Item	Formula	Amount
Tenant Improvements at Existing County Administrative Center (Sq. Ft.)	a	36,204
Average Tenant Improvement Cost per Sq. Ft. <sup>1</sup>	b	<u>\$92.70</u>
Cost of Tenant Improvements at County Administrative Center	$c = a * b$	\$3,356,111
<b>Administrative Center Cost Allocated to PFF<sup>2</sup></b>	<b><math>d = c * 100\%</math></b>	<b>\$3,356,111</b>
Corp Yard Replacement and Expansion (Sq. Ft.) <sup>3</sup>	e	8,000
Average Construction Cost Per Sq. Ft. <sup>1</sup>	f	<u>\$417.44</u>
Cost of Corp Yard Replacement and Expansion	$g = e * f$	\$3,339,520
<b>Corp Yard Cost Allocated to PFF<sup>4</sup></b>	<b><math>h = g * 18.1\%</math></b>	<b>\$604,453</b>
General Services Administrative Relocation and Expansion (Sq.Ft.) <sup>5</sup>	i	18,010
Average Construction Cost Per Sq. Ft. <sup>1</sup>	j	<u>\$533.85</u>
Cost of General Services Administrative Facility	$k = i * j$	\$9,614,639
<b>General Services Admin. Facility Cost Allocated to PFF<sup>4</sup></b>	<b><math>l = k * 18.1\%</math></b>	<b>\$1,740,250</b>
Asset Protection Project <sup>5</sup>	m	\$12,000,000
<b>Asset Protection Cost Allocated to PFF<sup>4</sup></b>	<b><math>n = m * 18.1\%</math></b>	<b>\$2,172,000</b>
<b>Total General Services Facilities Costs Allocated to PFF</b>	<b><math>o = d + h + l + n</math></b>	<b>\$7,872,813</b>

[1] Costs were prepared for the improvements identified in the 2017 Solano County Master Plan. For this fee update, relevant costs are adjusted to 2018 dollars.

[2] Given that the improvement of the existing space is planned to serve the needs of future populations, the full cost is allocated to the fee program.

[3] The new facility would serve as an administrative and storage location for road crews and their fleet as well as maintenance operations equipment.

[4] Given that the new facility is planned to serve both existing and future populations, only the share that can be attributed to future growth is allocated to the fee program. See Service Population calculations in Table 7.

[5] Perimeter project to prevent future flooding and to secure several County buildings. Building square footage is detailed in the 2017 Solano County Board of Supervisors Report, Master Plan for Three County Campuses, p.86.

Sources: Solano County Master Plan; Solano County Administrator; and Economic & Planning Systems, Inc.

## Agricultural Commissioner's Facilities

Currently, the Department of Agriculture operates from two locations. Administrative and related functions are accommodated at 2543 Cordelia Road in Fairfield and a satellite location at 580 North First Street in Dixon, occupying a total of 8,142 sq. ft. The Ag administrative functions occupy 2,071 square feet while the Weights and Measures function occupies 5,205 sq. ft. At the Dixon site, the department occupies 866 square feet.

In all, the department occupies a total of about 8,142 sq. ft., of which approximately 35 percent or 2,850 sq. ft. is allocated to functions primarily serving urban-type development including Structural Pest Control Regulation, Pest Detection, Exclusion and Eradication and Weights and Measures Device Inspection.

In addition, the department has 25 capital equipment items, including but not limited to a Heavy Capacity Truck, Petroleum Truck, National Knuckle Boom, Weight and Equipment Trailer, Electric Meter Test Bench, Undercover Gas Testing, Water Test Bench, Bell Prover, Slide in Prover, Dynamometer, Calibration Trailers, Multi-Terrain Loader, and Truck Chassis Box. The department estimates that 72 percent of the use of these capital equipment items is for service provision to urban land uses which implies an average of 18.1 capital equipment items serving urban uses. The department's capital equipment also includes 25 pool vehicles (includes those for seasonal extra-help) of which 17.5 (70 percent) are used to serve urban land uses.

The County has not adopted any formal standards for the Agricultural Commissioner's facilities and equipment to serve new development. According to the Solano County Agricultural Commissioner's office, the largest Agricultural Commissioner offices in California are in those counties with the highest populations. Therefore, although the department serves both residents and businesses, growth in resident population is regarded as the main driver for expanding facilities and capital equipment to serve new growth. Based on the amount of current building space utilized by the department and the inventory of equipment and vehicles used in providing services to urban-type development,<sup>3</sup> EPS calculated existing service standards which are used to estimate future facility requirements based on projected population growth.

**Table 25** shows the current service standards for the department's facilities and estimates required growth in these facilities to meet demand from new development. Based on projected population growth of 93,458 in the next 20 years, this analysis estimates that the County will require about 630 sq. ft. of departmental building space, an average of 4.0 capital equipment items and 3.9 vehicles for an approximate total cost of \$525,900.

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<sup>3</sup> While urban development may reduce agricultural production (by reducing the amount of available land) it does not necessarily reduce the department's workload (and facility needs). An increase in greenfield urban development tends to increase the agriculture/urban interface, which is a potent driver of pesticide conflicts, and creates more stringent permit review and pest control needs.

**Table 25 Existing Standards and Future Facility Needs for Agricultural Commissioner**

Item	Assumption	Building Space	Capital Equipment <sup>1</sup>	Vehicles <sup>2</sup>	Total Facilities
<i>Units</i>		<i>sq. ft.</i>	<i>count</i>	<i>count</i>	
Existing Departmental Facilities		8,142	25	25	
% Serving Urban Development <sup>3</sup>		35%	72%	70%	
Existing Urban Service Level		2,850	18.1	17.5	
Baseline County Population	422,764				
Existing Standard (facilities per 10,000 residents)		67	0.4	0.4	
Projected Population Growth	93,458				
Required Facilities to Serve New Growth		630	4.0	3.9	
Average Cost per Sq.Ft./Unit <sup>4</sup>		\$533.85	\$29,836	\$18,000	
<b>Facilities Costs to Serve New Growth</b>		<b>\$336,326</b>	<b>\$119,345</b>	<b>\$70,200</b>	<b>\$525,871</b>

[1] Per the County's Agricultural Commissioner, capital equipment items include but are not limited to a Heavy Capacity Truck, Petroleum Truck, National Knuckle Boom, Weight and Equipment Trailer, Electric Meter Test Bench, Undercover Gas Tank Testing, Water Test Bench, Bell Prover, Slide in Prover, Dynamometer, Calibration Trailers, Multi-Terrain Loader, and Truck Chassis Box.

[2] Per the County's Agricultural Commissioner, the Department owns 25 pool vehicles, including those for seasonal extra-help.

[3] Urban development refers to residential development and businesses excluding farming operations.

[4] The average cost per square foot for Agricultural buildings is the same as the average construction cost per square foot for projects listed in Solano County Master Plan. For this fee update, relevant costs are adjusted to 2018 dollars. The average cost per unit is based on inflationary increase of the cost per square foot weighted average provided by the Agricultural Commissioner in 2013.

Sources: Solano County Department of General Services; Agricultural Commissioner; and Economic & Planning Systems, Inc.

### Registrar of Voters Capital Equipment

Office space requirements for the ROV are addressed under General Government facilities. Future needs for other capital equipment directly impacted by changes in population, such as ballot counting machines, are projected to grow in direct proportion with growth in the County's population. Currently, the ROV estimates that the department uses approximately \$28.83 per capita in capital equipment to serve existing population.<sup>4</sup> This means that assuming a constant level of investment per resident, the ROV will require approximately \$2.5 million over the next

<sup>4</sup> Based on estimated equipment value of \$3 million per every five-year period serving the County population subject to the service standard of 416,283 (excluding inmate population at the State Prison in Vacaville).

20 years, as shown in **Table 26**, in new capital equipment to continue providing services at current levels of service.

**Table 26 Existing Standards and Future Capital Needs for Registrar of Voters**

Item	Amount
Current County Population	422,764
County Inmate Population	6,481
County Population Subject to Service Standard	416,283
Total Cost of Registrar's Voting Equipment Per Five-Year Period	\$3,000,000
Total Costs 2020-2040 (4 five-year periods)	\$12,000,000
Existing Service Standard (Equipment Value per Resident)	\$28.83
Projected Population Growth Subject to Service Standard <sup>1</sup>	86,977
<b>Elections Equipment to Service New Growth</b>	<b>\$2,507,547</b>

[1] This figure reflects the total projected population growth minus the county inmate population.

Sources: County Registrar of Voters; California Inmate Population Report; Economic & Planning Systems, Inc.

## County Parks

The County provides park services to the public at Solano County's four parks: Sandy Beach County Park, Lake Solano County Park, Belden's Landing Water Access Facility, and Lynch Canyon Open Space Park, serving an estimated countywide resident population of 422,764 in 2018. The PFF program includes improvement of County-owned land and/or County-owned parks.

The County's current total acreage consists of 234 acres, which implies a service standard of 0.56 acres per 1,000 county residents. Given projected population growth of about 93,458 residents in the next 20 years, 52.3 acres in expanded park facilities will be required to maintain the existing service standard, as shown in **Table 27**. The approximate park improvement cost of \$300,000 per acre is based on cost assumptions observed recently by EPS in other semi-rural California communities. Therefore, improving 51.7 acres would cost roughly \$15.7 million.

**Table 27 Park Facilities Cost Allocation to New Development**

Item Description	Formula	Amount
<b>County Parks</b>		
Existing County Parks Acres <sup>1</sup>	a	234.0
Current County Population	b	422,764
County Inmate Population	c	6,481
County Population Subject to Service Standard	d = b - c	416,283
Existing Facilities Standard (acres per 1,000 residents)	e = a * 1,000 / d	0.56
New Population Growth (2018-2040)	f	93,458
Required Park Acres to Serve New Population	g = e * f / 1,000	52.3
Estimated Improvement Cost Per Acre <sup>2</sup>	h	\$300,000
<b>County Park Improvement Costs Allocated to PFF</b>	<b>i = g * h</b>	<b>\$15,690,000</b>

[1] Acreage includes Lake Solano, Sandy Beach, Belden's, and the Lynch Canyon parking/staging area and trails, which are maintained by the County.

[2] Park improvement costs are based on average costs in other semi-rural California communities consistent with EPS experience and assuming similar levels of planned improvements.

Sources: Solano County Resource Management; Economic & Planning Systems, Inc.

## Information Technology Capital Improvements

The Department of Information Technology is responsible for providing information technology (IT) infrastructure to County facilities including network and telephone infrastructure but also servers and other telecommunications equipment. Depending on the type and use, some of the facilities included in the PFF Program will need to be outfitted with IT infrastructure.

Cost estimates for IT improvements were estimated based on an inflationary increase of the average per-square-foot cost provided by the County Department of Information Technology in 2013. Based on recent projects the County estimated that the average cost for IT improvements to County buildings was approximately \$8.69, as of 2013. EPS increased this figure by the rate of inflation between 2013 and 2018 to arrive at the IT cost of \$9.85 per gross building square foot for this PFF update. Total estimated IT costs for each department's facilities are shown in **Table 28**.

Allocation of IT capital costs to new development is based on the cost allocation for the facilities that generate the need for IT infrastructure. As shown in **Table 28**, approximately \$1.4 million of IT capital costs are allocated to new development.

**Table 28 Information Technology Capital Improvement Costs**

Future Facilities	Gross Sq. Ft.	IT Capital Improvements <sup>1</sup>	Costs Attributable to Future Growth	
			Percent	Total
Sheriff Facilities	229,595	\$2,261,511	18.1%	\$409,333
Probation Facilities	26,000	\$256,100	18.1%	\$46,354
Library Facilities	191,098	\$1,882,315	35.0%	\$658,810
Human & Social Services Facilities	135,756	\$1,337,197	18.1%	\$242,033
General Services	26,010	\$256,199	18.1%	\$46,372
Agricultural Facilities	<u>630</u>	<u>\$6,206</u>	100.0%	<u>\$6,206</u>
<b>Total</b>	<b>582,449</b>	<b>\$5,737,123</b>		<b>\$1,409,108</b>

[1] IT cost estimates assume \$9.85/sq. ft. based on inflation-adjusted increase of costs since 2013. The per-square-foot costs calculated in the 2013 PFF Update were based on IT cost estimates of recently completed projects, per the County's CIO.

Sources: Solano County; Economic & Planning Systems, Inc.

## General Government Fee Calculation

The General Government facilities impact fee is calculated in three steps. First, the fair share cost allocated to new development is further allocated to residential and nonresidential development, as shown in **Table 29**. Park improvement and election equipment costs are allocated to residential population growth only. Information Technology costs are allocated based on the allocation of the underlying facilities. The other cost components are allocated based on the relative demand for County services generated by residents and employees.

Second, the costs allocated to residential development are divided by the number of new residents. This yields a per-resident cost of about \$417. Costs allocated to nonresidential development are divided by the number of new employees, which yields a per-employee cost of about \$52 as shown in **Table 29**.

**Table 29 Total General Government Facilities Cost Allocation**

Item	General Government Facilities						Total Facilities
	Government Center Debt <sup>1</sup>	General Services	Agricultural Commissioner	Elections Equipment <sup>2</sup>	Information Technology	County Parks <sup>2</sup>	
Facility Costs Allocated to PFF Program	\$12,501,773	\$7,872,813	\$525,871	\$2,507,547	\$1,409,108	\$15,690,000	<b>\$40,507,112</b>
<u>Cost Allocation to Land Uses<sup>3</sup></u>							
Residential Development	93%	93%	93%	100%	97%	100%	
Nonresidential Development	7%	7%	7%	0%	3%	0%	
<u>Allocated Costs by Land Use</u>							
Residential Development	\$11,626,648	\$7,321,717	\$489,060	\$2,507,547	\$1,363,090	\$15,690,000	<b>\$38,998,062</b>
Nonresidential Development	\$875,124	\$551,097	\$36,811	-	\$46,018	-	<b>\$1,509,050</b>
<u>Service Population Growth</u>							
Residents	93,458	93,458	93,458	93,458	93,458	93,458	
Employees	28,901	28,901	28,901	-	28,901	-	
Facilities Cost per Resident	\$124.41	\$78.34	\$5.23	\$26.83	\$14.59	\$167.88	<b>\$417.28</b>
Facilities Cost per Employee	\$30.28	\$19.07	\$1.27	-	\$1.59	-	<b>\$52.21</b>

[1] General Government portion of the outstanding Government Center debt.

[2] Costs for these facilities are allocated to residential development only because they primarily benefit residents; any facility usage by employees in nonresidential land uses is expected to be incidental.

[3] The cost allocations reflect each department's proportion of costs allocated to growth in the resident population and/or employees. The cost allocations for Information Technology are weighted calculations of the share of IT infrastructure improvements for all four departments that comprise the IT costs (Sheriff, Probation, Library, Health & Social Services, Corp Yard, and Agricultural.)

Sources: Solano County; Economic & Planning Systems, Inc.

Third, the cost for each type of residential unit is determined by multiplying the assumed persons per household by the per-resident cost to derive the estimated fee per unit. As shown in **Table 30**, this calculation results in a maximum impact fee of \$1,269 for single-family units, \$989 for multifamily units, \$626 for age-restricted multifamily units and second dwelling or accessory units. The per-employee cost is multiplied by the employee density for each nonresidential land use category to derive the estimated fee per 1,000 sq. ft. of building space. As shown, the estimated fees per 1,000 sq. ft. range from \$17 for nonresidential accessory agricultural structures to \$1,269 for single-family residential development.

**Table 30 Estimated General Government Impact Fees**

Residential Land Use	Density (See Table 9)	General Government Fee Components						Total Fee per Unit
		Gov. Center Debt	General Services	Agricultural Comm.	Elections Equip't <sup>1</sup>	Information Technology	County Park Facilities <sup>1</sup>	
<i>Cost per Resident</i>		\$124.41	\$78.34	\$5.23	\$26.83	\$14.59	\$167.88	<b>\$417.28</b>
<i>Cost per Employee</i>		\$30.28	\$19.07	\$1.27	-	\$1.59	-	<b>\$52.21</b>
<b>Residential</b>	Persons per Unit							
Single Family	3.04	\$378.21	\$238.15	\$15.90	\$81.56	\$44.35	\$510.36	<b>\$1,268.53</b>
Multifamily	2.37	\$294.85	\$185.67	\$12.40	\$63.59	\$34.58	\$397.88	<b>\$988.95</b>
2nd SFR Unit/Accessory Dwelling Unit (ADU)	1.50	\$186.62	\$117.51	\$7.85	\$40.25	\$21.89	\$251.82	<b>\$625.92</b>
Age-Restricted/Senior Multifamily	1.50	\$186.62	\$117.51	\$7.85	\$40.25	\$21.89	\$251.82	<b>\$625.92</b>
<b>Nonresidential</b>	Employees per 1,000 SF							Fee per 1,000 SF
Retail/Commercial	1.49	\$45.12	\$28.41	\$1.89	-	\$2.37	-	<b>\$77.79</b>
Service/Commercial	2.86	\$86.60	\$54.54	\$3.63	-	\$4.55	-	<b>\$149.32</b>
Office	4.00	\$121.12	\$76.28	\$5.08	-	\$6.36	-	<b>\$208.84</b>
Institutional/Assembly	1.43	\$43.30	\$27.27	\$1.82	-	\$2.27	-	<b>\$74.66</b>
Lodging	0.91	\$27.55	\$17.35	\$1.16	-	\$1.45	-	<b>\$47.51</b>
Industrial	1.67	\$50.57	\$31.85	\$2.12	-	\$2.66	-	<b>\$87.19</b>
Warehouse/Distribution	0.50	\$15.14	\$9.54	\$0.64	-	\$0.80	-	<b>\$26.11</b>
<b>Agricultural Uses</b>								
Non-residential Agricultural Accessory Structures	0.33	\$9.99	\$6.29	\$0.42	-	\$0.52	-	<b>\$17.23</b>

[1] No impact fees on nonresidential land uses have been calculated for election and park facilities. See footnote [2] in Table 29.

Source: Economic & Planning Systems, Inc.

## VIII. TRANSPORTATION

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A transportation component of the PFF is evaluated as a means to address the impact of growth on the County road system. To the extent that required improvements serve both new and existing development, or travel through Solano County, only the portion that is attributable to new development inside the region is included in the Regional Transportation Impact Fee (RTIF) program, which has been in effect since 2013.

### Key Issues and Assumptions

The calculation of the traffic impact fees is based on a variety of assumptions regarding land use, growth projections, service standards, as well as facility needs and costs.

#### Land Use Assumptions

The impact fee calculations are based on commercial, industrial, and residential growth potential in Solano County through 2040. If the growth does not materialize as expected, the corresponding facilities will not be needed and/or impact fee revenue will not be sufficient to pay for facilities planned to accommodate growth. Consequently, the estimates of development and population should be periodically reviewed and updated.

#### Growth Projections and Travel Demand Model

The nexus calculations and analysis used to calculate maximum fees by land use category are based on the current version of the Solano-Napa Activity-Based Model (SNABM), the travel demand model currently maintained by the Solano Transportation Authority (STA). Fehr & Peers adjusted the land use projections contained in the SNABM to reflect the base year 2018 and build-out year 2040 assumptions described below. The new SNABM is an activity-based model that is built from the nine-county Bay Area regional model maintained by the Metropolitan Transportation Commission (MTC), and is different in many respects from the Solano-Napa trip-based model that was in place for many years and was used in the original RTIF nexus analysis. Thus, while the calculations used in this RTIF update to estimate a “fair share” cost allocation are the same as those used in the original RTIF nexus study, there will be differences in results because the underlying model that is being used to predict future traffic volumes has changed.

The regional household and employment projections shown in **Table 5** form the basis for developing growth forecasts by land use category that are used to estimate travel demand. Specifically, the 2018 through 2040 household and employment projections are used to estimate future residential, retail, and commercial/industrial development. For employment projections, approximately 390 sq. ft. per retail employee and 465 sq. ft. for all other employment categories are assumed to estimate the commercial/industrial development.<sup>5</sup> **Table 31** summarizes these estimates.

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<sup>5</sup> See Table A-2 in the Appendix for a detailed breakdown of the employment densities by land use categories. For retail employees, EPS used an average of the employment densities of the retail/commercial and the service/commercial categories listed in Table A-2. For the non-retail

**Table 31 Land Use Projections**

Land Use Category	Existing (Year 2018)	Total Growth (2018 - 2040)
<b>Residential Units<sup>1</sup></b>		
Single Family	110,640	19,336
Multifamily	<u>33,904</u>	<u>13,205</u>
<b>Subtotal</b>	144,544	32,541
<b>Employment (# Jobs)</b>		
Retail	16,944	261
Non-Retail	<u>115,283</u>	<u>28,640</u>
<b>Subtotal</b>	132,227	28,901
<b>Square Feet</b>		
Retail <sup>2</sup>	6,608,160	101,790
Non-Retail <sup>3</sup>	<u>53,606,595</u>	<u>13,317,600</u>
<b>Subtotal</b>	60,214,755	13,419,390

[1] Based on population projections in Table 5 and allocation between single-family and multifamily units developed as part of the RTIF Model.

[2] Calculations assume 390 square feet per employee.

[3] Calculations assume 465 square feet per employee.

Sources: Solano County Transportation Authority (STA); Fehr & Peers

### Dwelling Unit Equivalent (DUE) Calculations

This analysis relies on Dwelling Unit Equivalent (DUE) factors to compare and evaluate future development across land use categories. Specifically, DUE factors compare residential, retail, and commercial/industrial land uses to one another based on their vehicle trip generation rates in order to develop a common metric for analysis. The factors used to convert residential, commercial/industrial, and retail growth into DUEs are shown in **Table 32**, and are based on standard assumptions regarding trip generation and trip diversion.<sup>6</sup>

employees, EPS used an average of the employment densities for the office, institutional/assembly, lodging, industrial, and warehouse/distribution categories listed in Table A-2.

<sup>6</sup> Assumptions based on data from the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition), and the SANDAG Brief Guide of Vehicular Traffic Generation Rates (2002).

**Table 32 Dwelling Unit Equivalent Assumptions**

Fee Category	Unit Type	Peak Hour Trip Rate [1] <i>a</i>	Pass-through Trip Allowance [2] <i>b</i>	DUE Calculation <i>c = a * b</i>
<b>Residential</b>				
Single Family	/ Unit	1.00	100%	1.00
Multifamily	/ Unit	0.56	100%	0.56
2nd SFR Unit/Accessory Dwelling Unit (ADU)	/ Unit	0.48	100%	0.48
Age-Restricted/Senior Multifamily	/ Unit	0.26	100%	0.26
<b>Nonresidential</b>				
Retail/Commercial	/ 1,000 Sq. Ft.	3.81	50%	1.91
Service/Commercial	/ 1,000 Sq. Ft.	7.80	51%	3.98
Office	/ 1,000 Sq. Ft.	1.15	77%	0.89
Institutional/Assembly	/ 1,000 Sq. Ft.	0.49	64%	0.31
Lodging	/ Room	0.61	58%	0.35
Industrial	/ 1,000 Sq. Ft.	0.63	85%	0.54
Warehouse/Distribution	/ 1,000 Sq. Ft.	0.19	85%	0.16
<b>Agricultural Uses</b>				
Non-residential Agricultural Accessory Structures	/ 1,000 Sq. Ft.	0.19	80%	0.15

[1] Reflects average number of trips at peak hour of day for the unit type indicated based on data from the Institute of Transportation Engineers (ITE).

[2] Discount to peak trip rate to account for pass-through or loaded trips.

Sources: Fehr & Peers; and Economic & Planning Systems, Inc.

The DUE factors are then used to calculate total DUE growth by land use and jurisdiction. Specifically, the land use growth forecasts presented in **Table 31** are multiplied by the DUE factors in **Table 32** to derive total DUE growth (employment estimates are converted to building sq. ft. based on employment density assumptions). The results of these calculations are presented in **Table 33**. It should be noted that the SNABM model land use projections do not include the same level of detail as the Fee and DUE categories shown in **Table 32** (e.g., the SNABM model does not specify the number of hotel rooms, riding arenas or barns that will be developed in the County through 2040). Consequently, the conversion from land use growth (e.g., residential units and commercial square feet) to DUE growth aggregates certain land use categories. Overall these calculations result in a 20 percent increase in DUEs countywide between 2018 through 2040.

**Table 33 Growth Converted into DUEs (2018 – 2040)**

Category / Jurisdiction	Single Family	Multifamily	Retail Employment		Non-Retail Employment		Total DUEs
<b>Land Use Growth</b>	<u>Units</u>	<u>Units</u>	<u>Jobs</u>	<u>Sq. Ft. [1]</u>	<u>Jobs</u>	<u>Sq. Ft. [2]</u>	
Benicia	932	836	9	3,510	2,488	1,156,920	-
Dixon	337	112	(71)	(27,690)	477	221,805	-
Fairfield	6,026	7,780	55	21,450	9,203	4,279,395	-
Rio Vista	611	275	85	33,150	225	104,625	-
Suisun City	645	726	32	12,480	678	315,270	-
Vacaville	5,491	1,653	180	70,200	8,439	3,924,135	-
Vallejo	4,904	1,804	36	14,040	7,288	3,388,920	-
Unincorporated	390	19	(65)	(25,350)	(158)	(73,470)	-
<b>Total</b>	<b>19,336</b>	<b>13,205</b>	<b>261</b>	<b>101,790</b>	<b>28,640</b>	<b>13,317,600</b>	
<b>DUE Conversion Factor (see Table 32)</b>	1.00 Per Unit	0.56 Per Unit	1.91 Per KSF		0.60 Per KSF		
<b>DUE Growth [3]</b>							
Benicia	932	468		7		694	2,100
Dixon	337	63		(53)		133	480
Fairfield	6,026	4,357		41		2,566	12,989
Rio Vista	611	154		63		63	891
Suisun City	645	407		24		189	1,264
Vacaville	5,491	926		134		2,353	8,903
Vallejo	4,904	1,010		27		2,032	7,973
Unincorporated	390	11		(48)		(44)	308
<b>Total</b>	<b>19,336</b>	<b>7,395</b>		<b>194</b>		<b>7,985</b>	<b>34,909</b>
<b>Existing DUEs</b>	110,640	18,986		12,589		32,140	174,355
<b>% Growth</b>	17%	39%		2%		25%	20%

[1] Square feet estimates assume an average of 390 square feet per employee.

[2] Square feet estimates assume an average of 465 square feet per employee.

[3] For residential uses, DUE calculation involves multiplying number of units in the top part of the table by the DUE conversion factor per unit. For employment uses, DUE calculation involves dividing the sq. ft. by 1,000 and multiplying the result by the DUE factor per KSF (KSF = 1,000 sq. ft.).

Source: Fehr & Peers

### Calculation of Maximum Allowable RTIF Per DUE

Since the RTIF is a regional fee program, it is also important to identify the proportion of traffic on each facility that is regional in nature. For the purposes of this analysis, trips have been divided into regional and non-regional types. Regional trips are those trips that cross at least one jurisdictional boundary (e.g., trips that travel between two different jurisdictions in the County, or that have one end inside the County and one end outside the County). Non-regional trips would be all other types of trips, including those that pass through the County without stopping,

or those trips that remain entirely within a single jurisdiction.<sup>7</sup> The RTIF calculations are based on growth in regional trips only.

**Table 34** lists each of the RTIF projects and shows the percentage of the new traffic on the facility (i.e., the traffic resulting from new growth in Solano County) that falls within the category of regional trips, as described above. This update to the RTIF will maintain the original 11 capital improvement projects that were approved by the STA Board on May 8, 2013. In order to account for rising construction costs since 2013, STA updated these projects' costs for 2018. Nine of these projects were individual capital improvements and the remaining two were general categories for a) County Road Projects, and b) Express Bus Transit Centers and Train Stations. In addition to these 11 existing outstanding projects, the STA would like to add two projects for inclusion in this RTIF update. To meet the requirements of AB 1600, the transportation facilities included in the RTIF project list are needed in whole or in part to accommodate the impacts of growth in the County.

The primary result is the percentage of new trips projected to use each facility that are regional. The percentage of new regional traffic on each facility is then used as the percentage of that facility's improvement cost that will be considered eligible for inclusion in the RTIF program. It is not intended for these results to be used to determine the appropriate size or configuration for any particular facility, nor to directly support any project-specific planning activities.

Items #10 and #11 for County Road Projects and Transit Center Stations are the two categories that do not lend themselves to being directly modeled using the RTIF model, thus making it difficult to calculate the usage of these projects by travelers generated by new growth. However, it is reasonable to include these facilities in a regional fee program, since by their nature they serve regional travel between jurisdictions in Solano County or between Solano County and neighboring counties. Therefore, it is instead proposed that the proportion of these two projects' costs considered eligible for RTIF funding be calculated as the proportion of the total future population and employment in the County that is contributed by new development, i.e., 18% as calculated in **Table 7**.

The maximum fee calculation is based on the net RTIF capital project costs attributable to new growth throughout the County divided by the projected number of new housing units, retail and commercial square feet developed in the Solano County from 2018 through 2040. Specifically, the capital project costs are divided by the total DUE growth by land use, calculated in **Table 34**, to obtain total cost per DUE, resulting in a maximum fee calculation of \$10,997 per DUE.

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<sup>7</sup> Note that local jurisdictions may be using different definitions of "regional" and "non-regional" trips in their local fee programs than the definitions used for the purposes of this RTIF analysis.

**Table 34 Maximum Allowable RTIF Per DUE**

RTIF Project <sup>1</sup>	Total RTIF Project Cost a	RTIF Cost Allocation <sup>2</sup> b	RTIF Costs c = a * b	Maximum Fee Per DUE d = c / 34,909
#1 Jepson Parkway	\$246,288,159	77.2%	\$190,134,500	
#2 Peabody Road	\$5,845,000	78.5%	\$4,588,300	
#3 SR 12/Pennsylvania Ave	\$58,450,000	58.4%	\$34,134,800	
#4 SR 12/Church Road	\$10,394,735	79.3%	\$8,243,000	
#5 SR 37/Redwood Parkway/ Fairgrounds Drive	\$77,633,290	58.4%	\$45,337,800	
#6 Industrial Park Access Improvements	\$23,587,467	81.6%	\$19,247,400	
#7 Columbus Parkway Improvements	\$1,196,145	98.7%	\$1,180,600	
#8 North Connector West	\$46,124,646	83.1%	\$38,329,600	
#9 SR 113 Improvements	\$5,231,852	94.5%	\$4,944,100	
#10 County Road Projects	\$14,536,727	18.0%	\$2,616,600	
#11 Express Bus Transit Centers and Train Stations	\$14,536,727	18.0%	\$2,616,600	
#12 Railroad Extension	\$8,361,650	39.9%	\$3,336,300	
#13 New Canon Road	\$36,333,000	80.3%	\$29,175,400	
	-----	-----	-----	
<b>Total / Weighted Avg.</b>	<b>\$548,519,398</b>	<b>70.0%</b>	<b>\$383,885,000</b>	<b>\$10,997</b>

[1] Cost allocation for Projects #10 and #11 assumed to equal 18% of total project costs, or the percent increase in County DUEs from 2018 - 2040.

[2] The percentage of new traffic generated by each RTIF Project (based on the SNABM Travel Demand Model maintained by the STA) is the share of each project's total cost that will be allocated to the RTIF.

Sources: Solano County Transit Authority (STA); Fehr & Peers.

## Regional Transportation Impact Fee (Part A)

On October 24, 2006, the Board approved a loan from the General Fund of an amount up to \$3 million to fund regional transportation projects with the goal of repaying the loan, plus an interest rate equal to the rate earned by the County's Treasury, plus ½ percent from the PFF to be established for several regional transportation projects needed due to new development specifically Vanden Road segment of the Jepson Parkway and North Connector (now known as Suisun Parkway in the unincorporated area). The loan was granted under the premise that the balance plus interest would be repaid by a proposed new PFF transportation component which would be charged to new development throughout the County for transportation projects. The current balance of that General Fund loan for projects attributable to new growth is approximately \$1 million.

The first part, Part A, of the proposed transportation component of the PFF is designed to generate fair-share funding from new development to recover County debt service obligations on the two regional transportation projects discussed above. The costs for these facilities to be included in the PFF are based on outstanding debt obligations that were allocated to the PFF program, which total \$1,047,212 as shown in **Table 35**. The table also shows the estimated cost per dwelling unit equivalent (DUE) of \$30.00 which is the basis for estimating fee levels for all other land uses. The fee levels for other land use categories are based on their DUE factors relative to a single-family unit. **Table 36** shows the estimated fee amounts for all land uses.

**Table 35 PFF Transportation Facilities Costs (Part A)**

Facility/Cost Item	Amount
Outstanding Balance as of Dec. 2018	\$880,695
Interest Accrued to Date	<u>\$166,517</u>
<b>Total PFF Costs</b>	<b>\$1,047,212</b>
Cost Allocation to PFF <sup>1</sup>	100%
DUE Growth <sup>2</sup>	34,909
<b>Total Fee per DUE</b>	<b>\$30.00</b>

[1] County has identified this amount as 100% attributable to new growth.

[2] See Table 33.

Sources: Solano County; Fehr & Peers; Economic & Planning Systems.

**Table 36 PFF Transportation Impact Fee (Part A)**

Fee Category	DUE Factor	Maximum Fee per Unit	Rounded Fee per Unit
= DUE * \$30.00			
<b>Residential</b>		<u>Per Unit</u>	
Single Family	1.00	\$30.00	\$30
Multifamily	0.56	\$16.80	\$17
2nd SFR Unit/Accessory Dwelling Unit (ADU)	0.48	\$14.40	\$14
Age-Restricted/Senior Multifamily	0.26	\$7.80	\$8
<b>Non-residential</b>		<u>Per 1,000 Building Square Feet</u>	
Retail/Commercial	1.91	\$57.15	\$57
Service/Commercial	3.98	\$119.33	\$119
Office	0.89	\$26.56	\$27
Institutional/Assembly	0.31	\$9.41	\$9
Lodging	0.35	\$10.61	\$11
Industrial	0.54	\$16.06	\$16
Warehouse/Distribution	0.16	\$4.84	\$5
<b>Agricultural Uses</b>			
Non-residential Agricultural Accessory Structures	0.15	\$4.56	\$5

Sources: Fehr and Peers; and Economic & Planning Systems.

## Regional Transportation Impact Fee (Part B)

The second part (Part B) of the RTIF was initially prepared by the STA in coordination with the seven incorporated cities and the County to identify the priority projects that would be included in the regional fee program that will be impacted by regional growth throughout the County. The RTIF Priority Project list used to develop the RTIF is provided in **Table 34**. As shown, there are 13 separate proposed projects with an estimated total updated capital cost of about \$548.5 million. The cost estimates for the 11 projects from the existing RTIF have been increased to account for rising costs; the two new projects have current 2018 cost estimates. These cost estimates are intended for planning purposes, and will be further refined over time as individual capital improvement projects are designed. As with the estimates of growth, the cost estimates should be periodically reviewed and updated.

It is currently estimated that the maximum allowable fee for the RTIF will be approximately \$10,997 per DUE, which is equivalent to a single-family unit. **Table 37** shows the estimated maximum allowable fees for residential and nonresidential land uses.

**Table 37 Maximum Allowable RTIF (Part B)**

Fee Category	Peak Hour Trip Rate [1]	Pass-through Trip Allowance [2]	DUE Factor	Maximum Fee per Unit
	a	b	c = a * b	= c * \$10,997
<b>Residential</b>				
Single Family	1.00	100%	1.00	\$10,997
Multifamily	0.56	100%	0.56	\$6,158
2nd SFR Unit/Accessory Dwelling Unit (ADU)	0.48	100%	0.48	\$5,279
Age-Restricted/Senior Multifamily	0.26	100%	0.26	\$2,859
<b>Non-residential</b>		<i>Per 1,000 Building Square Feet</i>		
Retail/Commercial	3.81	50%	1.91	\$20,949
Service/Commercial	7.80	51%	3.98	\$43,746
Office	1.15	77%	0.89	\$9,738
Institutional/Assembly	0.49	64%	0.31	\$3,449
Lodging	0.61	58%	0.35	\$3,891
Industrial	0.63	85%	0.54	\$5,889
Warehouse/Distribution	0.19	85%	0.16	\$1,776
<b>Agricultural Uses</b>				
Non-residential Agricultural Accessory Structures	0.19	80%	0.15	\$1,672

[1] Reflects average number of trips at peak hour of day for the unit type indicated based on data from the Institute of Transportation Engineers (ITE).

[2] Discount to peak trip rate to account for pass-through or loaded trips.

Sources: Fehr and Peers; and Economic & Planning Systems.

## Total PFF Transportation Costs

Parts A and B of the transportation component of the PFF have total PFF eligible costs of \$385 million as illustrated in **Table 38**.

**Table 38 Total PFF Transportation Costs**

Item Description	Projected DUE Growth <sup>1</sup> <i>a</i>	Max. RTIF per DUE <sup>2</sup> <i>b</i>	Eligible Costs/ Revenues based on Max. Fee <sup>3</sup> <i>c = a * b</i>
<b>PFF Transportation Costs, Part A</b> (See Table 35)	<b>34,910</b>		<b>\$1,047,212</b>
<b>PFF Transportation Revenues/Costs Part B (RTIF)</b>			
Residential	26,731	\$10,997	\$293,960,807
Single Family	19,336		
Multifamily	7,395		
Nonresidential	8,179	\$10,997	\$89,944,463
Retail <sup>4</sup>	194		
Non-Retail <sup>5</sup>	7,985		
<b>Subtotal Transportation, Part B</b>	<b>34,910</b>		<b>\$383,905,270</b>
<b>Total PFF Transportation Costs (Part A and B)</b>			<b>\$384,952,482</b>

[1] See Table 33.

[2] See Table 34.

[3] See Table 34 for RTIF eligible project costs by transportation project.

[4] The maximum RTIF per retail DUE is an average of the maximum fee per unit for retail/commercial and service/commercial, as detailed on Table 37.

[5] The maximum RTIF per non-retail DUE is an average of the maximum fees per unit for office, institutional/assembly, industrial, warehouse/distribution, and non-residential agricultural accessory structures, as detailed on Table 37.

Sources: Solano County; Fehr & Peers; and Economic & Planning Systems.

## Total Regional Transportation Impact Fee

**Table 39** summarizes the total countywide regional transportation fee which combines recommended fees in Parts A and B.

**Table 39 Total Recommended Transportation Impact Fee**

Fee Category	Peak Hour Trip Rate <sup>1</sup>	% New Trips <sup>2</sup>	DUE Factor	Maximum Regional Transportation Fees		Total Maximum Fee
				Part A	Part B	
<b>Residential</b>					<i>Per Unit</i>	
Single Family	1.00	100%	1.00	\$30	\$10,997	\$11,027
Multifamily	0.56	100%	0.56	\$17	\$6,158	\$6,175
2nd SFR Unit/Accessory Dwelling Unit (ADU)	0.48	100%	0.48	\$14	\$5,279	\$5,293
Age-Restricted/Senior Multifamily	0.26	100%	0.26	\$8	\$2,859	\$2,867
<b>Non-residential</b>					<i>Per 1,000 Building Square Feet</i>	
Retail/Commercial	3.81	50%	1.91	\$57	\$20,949	\$21,006
Service/Commercial	7.80	51%	3.98	\$119	\$43,746	\$43,865
Office	1.15	64%	0.74	\$27	\$9,738	\$9,765
Institutional/Assembly	0.49	77%	0.38	\$9	\$3,449	\$3,458
Lodging	0.61	58%	0.35	\$11	\$3,891	\$3,902
Industrial	0.63	85%	0.54	\$16	\$5,889	\$5,905
Warehouse/Distribution	0.19	85%	0.16	\$5	\$1,776	\$1,781
<b>Agricultural Uses</b>						
Non-residential Agricultural Accessory Structures	0.19	80%	0.15	\$5	\$1,672	\$1,677

[1] Reflects average number of trips at peak hour of day for the unit type indicated based on data from the Institute of Transportation Engineers (ITE).

[2] Discount to peak trip rate to account for pass-through and loaded trips.

Sources: Fehr and Peers; and Economic & Planning Systems.

## *IX. ADMINISTRATION*

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The Administration portion of the PFF covers the cost associated with implementing the PFF program on an annual basis. While an administrative fee is not an AB 1600 impact fee, AB1600 allows for the collection of a surcharge to building permits to recover the costs related to on-going program implementation. Such costs generally include, but are not limited to, collecting, and applying the fee revenues (including coordination with local jurisdictions), overseeing and updating the fee program, complying with annual reporting requirements (as described in **Chapter I**).

An administrative fee equal to 0.75 percent of the subtotal fee level for all the departments has been included in the PFF program. As shown in **Table 40**, this administrative charge increases the total residential fee amounts by about \$47 to \$134 per unit inside the County Library System and by about \$82 to \$244 outside the County Library System. For nonresidential land use categories, the administrative charge increases the fee amounts by about \$13 to \$333 per 1,000 sq. ft. Overall, the administrative component could generate nearly \$4.5 million over 20 years, as shown in **Table 4**, or approximately \$225,000 per year to cover administrative costs.

**Table 40 Total PFF, including Administrative Charge**

Land Use	Subtotal PFF		PFF Admin. Charge		Total PFF <sup>1</sup>	
	Cities in Co. Library Sys./ Unincorp. Co.	Outside Co. Library System <sup>2</sup>	Inside Co. Library System	Outside Co. Library System <sup>2</sup>	Cities in Co. Library Sys./ Unincorp. Co.	Outside Co. Library System <sup>2</sup>
	a	b	c = a * 0.75%	d = b * 0.75%	e = a + c	f = b + d
<b>Residential</b>			<i>Fee Amount per Unit</i>			
Single Family	\$17,929	\$16,257	\$134	\$244	\$18,063	\$16,500
Multifamily	\$11,556	\$10,252	\$87	\$154	\$11,642	\$10,406
2nd SFR Unit/Accessory Dwelling Unit <sup>3</sup>	\$8,699	\$7,874	\$65	\$118	\$8,764	\$7,992
Age-Restricted/Senior Multifamily	\$6,272	\$5,447	\$47	\$82	\$6,319	\$5,529
<b>Nonresidential</b>			<i>Fee Amount per 1,000 Square Feet</i>			
Retail/ Commercial	\$21,280	\$21,280	\$160	\$319	\$21,439	\$21,599
Service Commercial	\$44,390	\$44,390	\$333	\$666	\$44,723	\$45,056
Institutional/Assembly	\$10,499	\$10,499	\$79	\$157	\$10,578	\$10,656
Office	\$3,721	\$3,721	\$28	\$56	\$3,749	\$3,777
Lodging	\$4,069	\$4,069	\$31	\$61	\$4,099	\$4,130
Industrial	\$6,212	\$6,212	\$47	\$93	\$6,258	\$6,305
Warehouse/Distribution	\$1,873	\$1,873	\$14	\$28	\$1,887	\$1,901
<b>Agricultural Uses</b>						
Non-residential Agricultural Accessory Structures	\$1,737	\$1,737	\$13	\$26	\$1,750	\$1,763

[1] Some total fee amounts may not add up precisely because of rounding.

[2] Excludes City of Benicia and Dixon Public Library District; development in these areas is exempt from the Library fee component of the PFF.

Source: Economic & Planning Systems, Inc.

## APPENDIX A:

### Detailed Fee Estimates and Land Use Density Assumptions



**Table A-1**  
**Detailed Fee Estimates By Land Use and Public Facility Category**  
**Solano County PFF Updated Nexus Study; EPS# 181056**

Land Use	Public Protection Facilities						Health & Social Services	Library	General Government Facilities						Transportation		Subtotal Fee	Admin. Charge at 0.75%	Total Fee
	Sheriff	Probation	Animal Care	District Attorney	Courts	Govt. Center Debt			Govt. Center Debt	General Services	Agriculture Commissioner	Registrar of Voters	Information Technology	County Parks	Part A	Part B			
a = a * 0.75%																			
Residential																			
Single Family	\$1,012.68	\$76.00	\$18.27	\$107.49	\$147.26	\$297.16	\$2,302.12	\$1,672.43	\$378.21	\$238.15	\$15.90	\$81.56	\$44.35	\$510.36	\$30.00	\$10,997.00	\$17,928.94	\$134.47	\$18,063
Multifamily	\$789.49	\$59.25	\$14.24	\$83.80	\$114.80	\$231.67	\$1,794.74	\$1,303.84	\$294.85	\$185.67	\$12.40	\$63.59	\$34.58	\$397.88	\$16.80	\$6,158.00	\$11,555.60	\$86.67	\$11,642
2nd SFR Unit/Accessory Dwelling Unit (ADU)	\$499.68	\$37.50	\$9.02	\$53.04	\$72.66	\$146.63	\$1,135.91	\$825.21	\$186.62	\$117.51	\$7.85	\$40.25	\$21.89	\$251.82	\$14.40	\$5,279.00	\$8,698.99	\$65.24	\$8,764
Age-Restricted/Senior Multifamily	\$499.68	\$37.50	\$9.02	\$53.04	\$72.66	\$146.63	\$1,135.91	\$825.21	\$186.62	\$117.51	\$7.85	\$40.25	\$21.89	\$251.82	\$7.80	\$2,859.00	\$6,272.40	\$47.04	\$6,319
Nonresidential																			
	Fee Amount per 1,000 Building Square Feet																		
Retail/Commercial	\$120.81	\$9.06	-	\$12.83	\$17.57	\$35.45	-	-	\$45.12	\$28.41	\$1.89	-	\$2.37	-	\$57.15	\$20,949.00	\$21,279.66	\$159.60	\$21,439
Service/Commercial	\$231.89	\$17.39	-	\$24.62	\$33.72	\$68.04	-	-	\$86.60	\$54.54	\$3.63	-	\$4.55	-	\$119.33	\$43,746.00	\$44,390.31	\$332.93	\$44,723
Office	\$324.32	\$24.32	-	\$34.44	\$47.16	\$95.16	-	-	\$121.12	\$76.28	\$5.08	-	\$6.36	-	\$26.56	\$9,738.00	\$10,498.80	\$78.74	\$10,578
Institutional/Assembly	\$115.94	\$8.69	-	\$12.31	\$16.86	\$34.02	-	-	\$43.30	\$27.27	\$1.82	-	\$2.27	-	\$9.41	\$3,449.00	\$3,720.89	\$27.91	\$3,749
Lodging	\$73.78	\$5.53	-	\$7.84	\$10.73	\$21.65	-	-	\$27.55	\$17.35	\$1.16	-	\$1.45	-	\$10.61	\$3,891.00	\$4,068.65	\$30.51	\$4,099
Industrial	\$135.40	\$10.15	-	\$14.38	\$19.69	\$39.73	-	-	\$50.57	\$31.85	\$2.12	-	\$2.66	-	\$16.06	\$5,889.00	\$6,211.61	\$46.59	\$6,258
Warehouse/Distribution	\$40.54	\$3.04	-	\$4.31	\$5.90	\$11.90	-	-	\$15.14	\$9.54	\$0.64	-	\$0.80	-	\$4.84	\$1,776.00	\$1,872.65	\$14.04	\$1,887
Agricultural Uses																			
Non-residential Agricultural Accessory Structures	\$26.76	\$2.01	\$0.00	\$2.84	\$3.89	\$7.85	-	-	\$9.99	\$6.29	\$0.42	-	\$0.52	-	\$4.56	\$1,672.00	\$1,737.13	\$13.03	\$1,750

Source: Economic & Planning Systems, Inc.

**Table A-2**  
**Employment Densities**  
**Solano County PFF Updated Nexus Study; EPS# 181056**

Data Source/ Specific Uses	Nonresidential							Non-residential
	Retail/ Commercial	Service/ Commercial	Office	Institutional/ Assembly	Lodging	Industrial	Warehouse/ Distribution	Agricultural Accessory Structures
<b>U.S. Green Building Council <sup>1</sup></b>								
General Light Industrial	-	-	-	-	-	463	-	-
Heavy Industrial	-	-	-	-	-	549	-	-
Industrial Park	-	-	-	-	-	500	-	-
Manufacturing	-	-	-	-	-	535	-	-
Warehousing	-	-	-	-	-	-	781	-
Warehousing	-	-	-	-	-	-	2,114	-
Elementary School	-	-	-	1,250	-	-	-	-
Elementary School	-	-	-	1,131	-	-	-	-
Hospital	-	-	-	372	-	-	-	-
Hospital	-	-	-	486	-	-	-	-
General Office - Suburbs	-	-	304	-	-	-	-	-
Corporate HQ - Suburbs	-	-	260	-	-	-	-	-
Single Tenant Office	-	-	295	-	-	-	-	-
Medical-Dental Building	-	-	207	-	-	-	-	-
Office Park	-	-	278	-	-	-	-	-
Research & Development Center	-	-	-	-	-	405	-	-
Business Park	-	-	332	-	-	-	-	-
Business Park	-	-	249	-	-	-	-	-
Building Material - Lumber Store	806	-	-	-	-	-	-	-
Specialty Retail Store	549	-	-	-	-	-	-	-
Discount Store	654	-	-	-	-	-	-	-
Hardware Store	1,042	-	-	-	-	-	-	-
Nursery-Garden Center	529	-	-	-	-	-	-	-
Quality Restaurant (Sit Down)	-	134	-	-	-	-	-	-
High Turnover (Sit Down)	-	100	-	-	-	-	-	-
Fast Food w/o drive-thru	-	70	-	-	-	-	-	-
Fast Food w/ drive-thru	-	92	-	-	-	-	-	-

**Table A-2**  
**Employment Densities**  
**Solano County PFF Updated Nexus Study; EPS# 181056**

Data Source/ Specific Uses	Nonresidential							Non-residential
	Retail/ Commercial	Service/ Commercial	Office	Institutional/ Assembly	Lodging	Industrial	Warehouse/ Distribution	Agricultural Accessory Structures
Grocery	938	-	-	-	-	-	-	-
Lodging	-	-	-	-	1,124	-	-	-
Lodging	-	-	-	-	917	-	-	-
Bank	-	317	-	-	-	-	-	-
Office under 100,000 sq.ft.	-	-	228	-	-	-	-	-
Office over 100,000 sq.ft.	-	-	221	-	-	-	-	-
Neighborhood Retail	588	-	-	-	-	-	-	-
Community Retail	383	-	-	-	-	-	-	-
<b>SCAG Employment Density Study<sup>2</sup></b>								
Regional Retail	857	-	-	-	-	-	-	-
Other Retail/Services	-	344	-	-	-	-	-	-
Low-Rise Office	-	-	288	-	-	-	-	-
High-Rise Office	-	-	311	-	-	-	-	-
Hotel/Motel	-	-	-	-	1,152	-	-	-
R&D/Flex Space	-	-	-	-	-	344	-	-
Light Manufacturing	-	-	-	-	-	439	-	-
Heavy Manufacturing	-	-	-	-	-	-	-	-
Warehouse	-	-	-	-	-	-	814	-
Government Offices	-	-	261	-	-	-	-	-
<b>Portland Metro Employment Density Study (by Industry Group)<sup>3</sup></b>								
Food & Kindred Products	-	-	-	-	-	630	-	-
Textile & Apparel	-	-	-	-	-	930	-	-
Lumber & Wood	-	-	-	-	-	640	-	-
Furniture; Clay, Stone & Glass; Misc.	-	-	-	-	-	760	-	-
Paper & Allied	-	-	-	-	-	1,600	-	-
Printing, Publishing & Allied	-	-	-	-	-	450	-	-
Chemicals, Petroleum, Rubber, Leather	-	-	-	-	-	420	-	-
Primary & Fabricated Metals	-	-	-	-	-	300	-	-
Machinery Equipment	-	-	-	-	-	400	-	-
Electrical Machinery, Equipment	-	-	-	-	-	700	-	-
Transportation Equipment	-	-	-	-	-	700	-	-

**Table A-2**  
**Employment Densities**  
**Solano County PFF Updated Nexus Study; EPS# 181056**

Data Source/ Specific Uses	Nonresidential							Non-residential
	Retail/ Commercial	Service/ Commercial	Office	Institutional/ Assembly	Lodging	Industrial	Warehouse/ Distribution	Agricultural Accessory Structures
Transportation and Warehousing	-						3,290	-
TCPU – Communications and Public Utilities	-	460						-
Wholesale Trade	-	-	-	-	-	-	1,390	-
Retail Trade	470	-	-	-	-	-	-	-
Finance, Insurance, & Real Estate	-	-	370	-	-	-	-	-
Non-Health Services	-	770			-	-	-	-
Health Services	-	-	-	350	-	-	-	-
Educational, Social, Membership Services	-	-	-	740	-	-	-	-
<b>Employment Density in the Puget Sound Region<sup>3</sup></b>								
Agriculture	-	-	-	-	-	-	-	3,023
Warehousing	-	-	-	-	-	-	1,086	-
School	-	-	-	766	-	-	-	-
Industrial	-	-	-	-	-	696	-	-
Commercial	-	-	-	323	-	-	-	-
Hospital/Convalescent Center	-	-	-	-	-	-	-	-
Office	-	-	292	-	-	-	-	-
<b>GSA Workspace Utilization Study (2011)<sup>4</sup></b>								
Government Offices (Fed.)	-	-	218	-	-	-	-	-
Private Sector Offices	-	-	230	-	-	-	-	-
GSA's Headquarters (2013)	-	-	92	-	-	-	-	-
<b>City of Davis Fiscal Model<sup>5</sup></b>								
Retail	500	-	-	-	-	-	-	-
Office	-	-	300	-	-	-	-	-
Senior Care Facility	-	-	-	750	-	-	-	-
Daycare	-	-	-	750	-	-	-	-
Church	-	-	-	1,000	-	-	-	-
Restaurant	-	500	-	-	-	-	-	-
Athletic Club	-	750	-	-	-	-	-	-

**Table A-2**  
**Employment Densities**  
**Solano County PFF Updated Nexus Study; EPS# 181056**

Data Source/ Specific Uses	Nonresidential							Non-residential
	Retail/ Commercial	Service/ Commercial	Office	Institutional/ Assembly	Lodging	Industrial	Warehouse/ Distribution	Agricultural Accessory Structures
Los Angeles Times article (12/15/2010)	-	-	200	-	-	-	-	-
Area Development Magazine <sup>6</sup>	-	-	200	-	-	-	-	-
Graebel.com <sup>7</sup>	-	-	161	-	-	-	-	-
Movie Theater (EPS analysis)	-	-	-	452	-	-	-	-
Maximum	1,042	770	370	1,250	1,152	1,600	3,290	3,023
Minimum	383	70	92	323	917	300	781	3,023
Average	665	354	252	698	1,064	603	1,579	3,023
<b>Average Sq. Ft. per worker (Rounded)</b>	<b>670</b>	<b>350</b>	<b>250</b>	<b>700</b>	<b>1,100</b>	<b>600</b>	<b>2,000</b>	<b>3,000</b>

[1] From the USGBC website. Data based on various sources including, Institute of Transportation Engineers, U.S. Department of Energy; and SANDAG. URL: <http://www.usgbc.org/showfile.aspx?documentid=4111>, Accessed 2/7/2013.

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[3] From Pflum (2004), "Employment Density in the Puget Sound Region" University of Washington. URL: [http://evans.uw.edu/sites/default/files/files/Pflum\\_2004.pdf](http://evans.uw.edu/sites/default/files/files/Pflum_2004.pdf), accessed 2/7/2013.

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[5] From City of Davis fiscal model assumptions. URL: [http://city-council.cityofdavis.org/Media/Default/Documents/PDF/Finance/Commission%20Agenda%20-%20December%202012/Item\\_9b\\_Fiscal%20Model%20Sample.pdf](http://city-council.cityofdavis.org/Media/Default/Documents/PDF/Finance/Commission%20Agenda%20-%20December%202012/Item_9b_Fiscal%20Model%20Sample.pdf), accessed 2/7/2013.

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Source: Economic & Planning Systems, Inc.