

Final Report

The Economics of Land Use



Nexus Analysis for Solano County Public Facilities Fee Update

Prepared for:

Solano County

Prepared by:

Economic & Planning Systems, Inc.

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*Economic & Planning Systems, Inc.
2501 Ninth Street, Suite 200
Berkeley, CA 94710-2257
510 841 9190 tel
510 841 9208 fax*

*Berkeley
Denver
Los Angeles
Sacramento*

www.epsys.com

EPS #121068

Table of Contents

I.	INTRODUCTION AND SUMMARY RESULTS.....	1
	Report Background and Legal Context	1
	Overview of Methodology and Key Assumptions.....	3
	Overview of Fee Program.....	4
	Implementation and Administration Overview.....	10
II.	DEMOGRAPHIC AND LAND USE ASSUMPTIONS.....	13
	Population and Employment Growth.....	13
	Service Population Calculations.....	14
	Land Use Density Assumptions	16
III.	IMPACT FEE CALCULATION	18
1.	PUBLIC PROTECTION.....	19
	Determination of Facility Needs and Costs.....	19
	Cost Allocation and Public Protection Fee Calculation	27
2.	HEALTH AND SOCIAL SERVICES	30
	Determination of Facility Needs and Costs.....	30
	Cost Allocation.....	32
	Health and Social Services Fee Calculation	33
3.	LIBRARY FACILITIES	35
	Determination of Facility Needs and Costs.....	35
	Cost Allocation.....	36
	County Library Facilities Fee Calculation.....	37
4.	GENERAL GOVERNMENT FACILITIES	39
	Determination of Facility Needs and Costs.....	39
	General Government Fee Calculation	44
5.	SHERIFF’S PATROL & INVESTIGATION	47
6.	TRANSPORTATION.....	48
	Regional Transportation Impact Fee (Part A)	48
	Regional Transportation Impact Fee (Part B)	50
	Total PFF Transportation Costs	54
	Total Regional Transportation Impact Fee	55
7.	ADMINISTRATION	56

APPENDIX A: Detailed Fee Estimates and Land Use Density Assumptions

ATTACHMENT 1: Regional Transportation Impact Fee Nexus Report

List of Tables

Table 1	Comparison of Existing and Proposed PFF Categories.....	2
Table 2	Comparison of Updated PFF and Existing Fees	5
Table 3	Estimated Fees by Land Use and Public Facility Category	8
Table 4	Estimated Capital Costs by Public Facility Category.....	9
Table 5	Recommended PFF Growth Forecasts (2013-33)	14
Table 6	Service Population Factors Based on Resident to Employee Equivalencies.....	15
Table 7	Estimated Solano County Service Population Growth (2013 - 2033)	16
Table 8	PFF Land Use Density Assumptions.....	17
Table 9	PFF Adult Detention, Rehabilitation and Crime Prevention Facility Costs	21
Table 10	Inmate Rehabilitation and Probation Facility Costs.....	22
Table 11	PFF Animal Care Facility Costs	23
Table 12	PFF Court Facility Costs.....	25
Table 13	PFF District Attorney Facility Costs	26
Table 14	Public Protection Share of Government Center Costs	27
Table 15	Public Protection Facilities Cost Allocation.....	28
Table 16	Estimated Public Protection Impact Fees	29
Table 17	H&SS Projected Future Facilities and Estimated Costs.....	32
Table 18	Cost Allocation of H&SS Facility Costs to PFF Program	33
Table 19	Estimated County Health & Social Services Facilities Fee.....	34
Table 20	Library Facilities and Service Standards	35
Table 21	Library FMP Planned Facilities and Estimated Costs.....	36
Table 22	Cost Allocation of Planned Library Facilities to New Growth.....	37
Table 23	Estimated Library Facilities Fee.....	38
Table 24	Government Center Fair Share Costs for the PFF Program	40
Table 25	Existing Standards and Future Facility Needs for Agricultural Commissioner	41
Table 26	Existing Standards and Future Capital Needs for Registrar of Voters	42

List of Tables (continued)

Table 27	Park Facilities Cost Allocation to New Development	43
Table 28	Information Technology Capital Improvement Costs	44
Table 29	Total General Government Facilities Cost Allocation	45
Table 30	Estimated General Government Impact Fees	46
Table 31	PFF Transportation Facilities Costs (Part A).....	49
Table 32	Transportation Impact Fee (Part A)	50
Table 33	Maximum Allowable RTIF (Part B)	52
Table 34	Recommended RTIF (Part B)	53
Table 35	Total PFF Transportation Costs.....	54
Table 36	Total Recommended Transportation Impact Fee.....	55
Table 37	Total PFF, including Administrative Charge	57

I. INTRODUCTION AND SUMMARY RESULTS

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, and 2007.

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 this Report have been modified, as summarized in **Table 1**, to fund a portion of capital facility costs associated with countywide Public Protection (to include Courts), Health and Social Services, Library, General Government, plus a new proposed category, Transportation.

Table 1 Comparison of Existing and Proposed PFF Categories

Existing PFF Categories	Proposed PFF Categories
Countywide Public Protection	Countywide Public Protection (includes Courts)
Health and Social Services	Health and Social Services
Library	Library
General Government	General Government
Sheriff's Patrol and Investigation	Transportation
Courts	(included under Public Protection)

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 2033. 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.** As part of this analysis, 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 conversations 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 square feet 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 25 percent of one resident. For a number of fee

categories, 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 non-resident employees is determined to be negligible and/or incidental). These specific fee categories include (1) Library, (2) Health and Social Services, (3) two components of the General Government category (Parks and Elections Capital Equipment), and (4) one component of the Public Protection category (Animal Care).

- **Facility Cost Estimates:** The fee calculations embody facility cost assumptions that have been developed based on County staff estimates and 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 three distinct fee districts or "zones of benefit" with different fee levels: (1) Incorporated areas within County library system, (2) Incorporated areas outside County library system, and (3) unincorporated County. 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 proposed fees calculated in the Report includes only two zones of benefit, (1) areas within the County library system and (2) areas outside the County library system, which include the City of Benicia and the area within the boundaries of the Dixon Public Library District. In this Report, there are no separate districts or zones of benefit in the unincorporated areas of the county.

Overview of Fee Program

Summary of Proposed 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**. 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 2013 of County capital facility needs and costs as well as projected development through 2033. The cost of administering the Fee Program is included in the calculations and assumed to equal 1.5 percent of the total program cost.

Table 2 also compares the maximum allowable fee by land use with (1) the proposed PFF and (2) the existing County fees. The proposed fees represent the PFF levels the County is seeking to levy based on the capital facilities currently proposed for inclusion in the PFF and County policy considerations. County staff is recommending that the proposed PFF levels be set at levels that were less than or equal to existing fees. As shown, the recommended fee levels in this Report are slightly lower than the existing fees for single family and multifamily residential uses and the same for nonresidential land use categories that are in the existing fee program, including retail, office, industrial, and warehouse.

Table 2 Comparison of Updated PFF and Existing Fees

Fee Benefit Zone/ Land Use	Existing PFF ¹		Estimated Maximum PFF	Recommended PFF
	Cities	Unincorp. County	Cities/ Unincorporated County	Cities/ Unincorporated County
<u>JURISDICTIONS IN COUNTY LIBRARY SYSTEM²</u>				
<u>Residential</u>				
			<i>Fee Amount per Unit</i>	
Single Family Residential (SFR)	\$9,150	\$10,349	\$15,745	\$8,962
Multi-Family Residential (MFR)	\$8,656	\$9,790	\$10,931	\$6,726
2nd SFR Unit/Accessory Unit	\$4,638	\$5,246	\$8,216	\$4,575
MFR Senior/ Retirement Housing	-	-	\$6,993	\$4,348
<u>Nonresidential</u>				
			<i>Fee Amount per 1,000 Building Square Feet</i>	
Retail/ Commercial	\$859	\$1,052	\$15,841	\$859
Service Commercial	-	-	\$39,048	\$1,927
Assembly Uses	-	-	\$3,312	\$471
General/ Medical Office	\$1,430	\$1,751	\$10,664	\$1,430
Hotels/ Motels	-	-	\$9,232	\$519
Industrial	\$601	\$735	\$6,687	\$601
Warehouse/Distribution	\$181	\$221	\$1,271	\$181
<u>Institutional</u>				
Health Care Facility	-	-	\$7,780	\$946
Place of Worship	-	-	\$3,208	\$367
Congregate Care Facility	-	-	\$3,151	\$598
Private School	-	-	\$31,256	\$1,221
Child Day Care Facility	-	-	\$29,025	\$313
<u>Agricultural</u>				
Riding Arena	-	-	\$2,141	\$363
Barn	-	-	\$1,158	\$125
<u>OUTSIDE COUNTY LIBRARY SYSTEM^{3,4}</u>				
<u>Residential</u>				
			<i>Fee Amount per Unit</i>	
Single Family Residential (SFR)	\$7,309	-	\$14,131	\$7,349
Multi-Family Residential (MFR)	\$6,914	-	\$9,676	\$5,471
2nd SFR Unit/Accessory Unit	\$3,705	-	\$7,402	\$3,761
MFR Senior/ Retirement Housing	-	-	\$6,178	\$3,533

[1] The existing PFF program includes only three residential and four nonresidential land use categories, as shown.

[2] Includes the unincorporated county and all cities except Benicia and area within the Dixon Public Library District.

[3] Nonresidential fees are the same in jurisdictions that are inside as well as outside the County Library System, since library facilities fees do not apply to nonresidential land uses.

[4] Outside County Library System includes the City of Benicia and the area of the county (including the City of Dixon) within the boundaries of the Dixon Public Library District.

Source: Solano County; and Economic & Planning Systems.

In contrast to the maximum and proposed PFF in this Report, the existing PFF is based on a nexus analysis completed in 2007 and covering the period 2007 – 2030. The primary differences between the proposed and existing PFF reflect the following key changes summarized below:

1. Changes in the type, amount, and cost of facilities to be funded. Some of the major changes include facilities for:
 - o **Public Protection.** A number of facilities included in the 2007 nexus study are no longer applicable in this study because they have since been constructed, including a Juvenile Detention facility, a laboratory for the DA's office, and general office space. Other costs still included in this Report are much lower than in the 2007 nexus study such as cost for the construction of an adult detention facility due to AB 900 funding received and Public Protection's share of the remaining balance on the Government Center debt service for construction of the Probation facility and proportionate share of Cogeneration Plant, parking structure, and District Attorney, Public Defender and Conflict Defender offices located in the County Administration Center (CAC) building.
 - o **Courts.** Responsibility for all court facilities was transferred to the State upon the Board of Supervisors' execution of transfer agreements on June 26, 2007. However, the County entered into a contract with the Administrative Office of the Courts (AOC) to collect the fee on behalf of the Courts. Therefore, court facility costs based on information provided by AOC are included in the PFF.
 - o **Health and Social Services.** The 2007 nexus study included costs for the construction of the William J. Carroll Government Center, the Twin Campus projects and other projects that have since been completed. As a result, costs included in this Report are lower than 2007 costs. However, this Report includes the remaining debt service for 275 Beck Avenue through 2020.
 - o **Sheriff Patrol and Investigation.** No costs have been included in this nexus study.
 - o **Regional Transportation Facilities:** The proposed PFF incorporates the cost of regional-serving transportation facilities needed to accommodate growth as requested by Solano Transportation Authority (STA) and the seven incorporated cities at a level considerably lower than maximum allowable fees as calculated in the STA's Regional Transportation Impact Fee nexus study. The existing PFF does not include this fee category.
2. Lower projected service population growth. As discussed above, facility costs included in this nexus study are in general considerably lower compared to the 2007 nexus study. However, because current population growth projections are also relatively much lower, fee amounts per capita and thus per unit have remained relatively unchanged from 2007.
3. The proposed fee schedule includes more land use categories. New nonresidential land use categories and a new residential land use, senior multi-family housing, were added in this Report to facilitate better matching between fee categories and land uses being developed in the county. This provides for additional land uses that are supported by this study.

Fees by Land Use and Category

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

Public Protection is also the highest component for some nonresidential land uses, while the Transportation component is the largest component for retail, service commercial, hotels, and private schools. General Government is the lowest fee component for nonresidential land uses. The Health & Social Services and Library fee components have not been applied to nonresidential land use categories 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 approximately, \$195 million in capital facilities through 2033. This represents approximately 36 percent of the total costs of the facilities identified. In other words, the County will need to identify and obtain funding for approximately \$346.8 million from non-PFF sources during the life of the fee program.

Table 3 Estimated Fees by Land Use and Public Facility Category

Land Use	Public Protection ¹	Health & Social Services ²	Library ²	General Govt. ³	Transportation (Parts A&B)	Admin. Fee ⁴	Total PFF Fee	
							Cities in Co. Library Sys./ Unincorp. Co.	Cities not in Co. Library System
Residential								
Single Family (SFR)	\$2,687	\$1,853	\$1,590	\$1,173	\$1,527	\$132	\$8,962	\$7,349
Multi-Family (MFR)	\$2,090	\$1,441	\$1,236	\$912	\$947	\$99	\$6,726	\$5,471
2nd SFR/Accessory Unit ³	\$1,357	\$936	\$803	\$592	\$820	\$68	\$4,575	\$3,761
MFR Senior/Retirement	\$1,357	\$936	\$803	\$592	\$596	\$64	\$4,348	\$3,533
Nonresidential								
			<i>Fee Amount per 1,000 Building Square Feet</i>					
Retail/ Commercial	\$326	-	-	\$87	\$433	\$13	\$859	\$859
Service Commercial	\$624	-	-	\$167	\$1,106	\$28	\$1,927	\$1,927
Assembly Uses	\$299	-	-	\$80	\$85	\$7	\$471	\$471
General/ Medical Office	\$874	-	-	\$234	\$301	\$21	\$1,430	\$1,430
Hotels/ Motels	\$199	-	-	\$53	\$260	\$8	\$519	\$519
Industrial	\$364	-	-	\$98	\$131	\$9	\$601	\$601
Warehouse/Distribution	\$109	-	-	\$29	\$40	\$3	\$181	\$181
Institutional								
Health Care Facility	\$575	-	-	\$154	\$203	\$14	\$946	\$946
Place of Worship	\$219	-	-	\$59	\$85	\$5	\$367	\$367
Congregate Care Facility	\$405	-	-	\$109	\$76	\$9	\$598	\$598
Private School	\$243	-	-	\$65	\$895	\$18	\$1,221	\$1,221
Child Day Care Facility	\$243	-	-	\$65	-	\$5	\$313	\$313
Agricultural Uses								
Riding Arena	\$240	-	-	\$64	\$53	\$5	\$363	\$363
Barn	\$73	-	-	\$20	\$31	\$2	\$125	\$125

[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, Agricultural Commissioner, County Parks, Registrar of Voters, and Information Technology improvements in proposed facilities.

[4] See Table 37 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.

Table 4 Estimated Capital Costs by Public Facility Category

Public Facility Category	Total Estimated Cost	Cost to be Funded by PFF Program	Cost to be Funded from Non-PFF Sources	
			Amount	% of Total
Public Protection				
Adult Detention & Rehabilitation	\$68,622,150	\$46,832,198	\$21,789,952	32%
Probation	\$6,200,000	\$859,790	\$5,340,210	86%
Government Center Debt Service	\$14,478,337	\$14,478,337	\$0	0%
Animal Control	\$2,011,901	\$2,011,901	\$0	0%
County Court Complex	\$5,462,035	\$757,452	\$4,704,583	86%
District Attorney	\$993,000	\$137,705	\$855,295	86%
Subtotal	\$97,767,423	\$65,077,382	\$32,690,041	33%
General Government				
Government Center Debt Service	\$15,468,454	\$15,468,454	\$0	0%
Information Technology	\$3,820,095	\$1,953,744	\$1,866,350	49%
Agriculture Commissioner	\$546,758	\$546,758	\$0	0%
County Parks	\$8,885,807	\$8,885,807	\$0	0%
Registrar of Voters	\$513,026	\$513,026	\$0	0%
Subtotal	\$29,234,139	\$27,367,789	\$1,866,350	6%
Library	\$134,569,645	\$30,153,406	\$104,416,238	78%
Health & Social Services	\$45,368,599	\$40,650,116	\$4,718,484	10%
Sheriff (Patrol & Investigation)	-	-	-	-
Transportation (Parts A & B)	\$234,831,984	\$31,762,750	\$203,069,233	86%
Subtotal Costs (excl. Admin Charge)	\$541,771,789	\$195,011,444	\$346,760,346	64%
PFF Administrative Charge (1.5%)	n/a	\$2,925,172	n/a	
Total Costs	\$541,771,789	\$197,936,615	\$346,760,346	64%

Source: Solano County, and Economic & Planning Systems.

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

Most fee programs are automatically escalated 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) and RSMeans publish 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 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. RSMeans produces a historical cost index (HCI), also a weighted aggregate cost index. However, unlike the ENR indices, the HCI by RSMeans uses actual average usage of quantities in current building practice to weight the components of the index. The types of materials and their weighting in the index reflect common practice by contractors and subcontractors. The quantities and costs represent approximately 80 construction materials, 24 trades, and 9 types of construction equipment.¹ By basing the index weights on the average usage of quantities in current building practices, RSMeans HCI also captures the effect on building cost inflation that arises from changing construction practices and technology. The HCI is produced for hundreds of U.S. cities, including Vallejo in Solano County.

EPS believes that the inclusion of significantly more construction materials and the dynamic weighting of the materials included in the HCI, as well as the fact that it's produced for a location within Solano County (Vallejo) make the HCI a more robust index for adjusting fee levels in the County's PFF Program to keep pace with facilities cost inflation.

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

The Impact Fee recommended here 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:

¹ The definitions of ENR's CCI, BCI, and RSMeans' HCI were adapted from <http://estimatingwithrsmeans.wordpress.com/> (accessed 10/11/2013), a blog by 4Clicks Solutions.

- **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

This chapter describes the demographic and land use assumptions utilized in this study for both existing and future conditions (i.e., through 2033). 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 and employment 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 2013 baseline population estimates are from the DOF. Population estimates for Vacaville are adjusted for the inmate population at the California State Prison.² Baseline employment estimates at the jurisdiction level are based on benchmark estimates from 2010 ABAG data. To obtain the 2013 baseline employment estimates, EPS applied countywide annual growth rates between 2010 and 2012 to the 2010 benchmark data from ABAG. Average annual growth rates between 2010 and 2012 are based on county industry employment data from the California Employment Development Department (EDD).

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 2030 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).

² Although State Prison inmates are physically located within the county in the City of Vacaville, it is assumed for the purpose of this Report that they do not use County facilities. Prisoners' families who may use County facilities are included in the remaining population estimates and projections for the county.

Table 5 Recommended PFF Growth Forecasts (2013-33)

Jurisdiction	Amount by Year		Growth ¹	
	2013	2033	Total	Avg. Annual
Population				
Benicia	27,163	28,507	1,344	0.24%
Dixon	18,449	25,827	7,378	1.70%
Fairfield	108,207	121,215	13,008	0.57%
Rio Vista	7,599	17,334	9,735	4.21%
Suisun City	28,234	33,342	5,108	0.83%
Vacaville ²	88,623	101,159	12,536	0.66%
Vallejo	117,112	132,540	15,428	0.62%
Unincorporated	<u>18,946</u>	<u>19,575</u>	<u>629</u>	<u>0.16%</u>
County Total³	414,333	479,499	65,166	0.73%
Employment				
Benicia	14,466	16,560	2,094	0.68%
Dixon	4,489	4,754	266	0.29%
Fairfield	40,286	49,424	9,139	1.03%
Rio Vista	1,965	3,591	1,626	3.06%
Suisun City	3,192	4,232	1,040	1.42%
Vacaville	30,336	35,304	4,968	0.76%
Vallejo	32,549	40,790	8,241	1.13%
Unincorporated	<u>8,074</u>	<u>8,667</u>	<u>593</u>	<u>0.35%</u>
County Total⁴	135,357	163,322	27,965	0.94%

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

[2] Population estimates exclude inmate population at the State Prison as of Jan. 2013. Inmate population data is published by the California Dept. of Corrections & Rehabilitation, Office of Research.

[3] Countywide population growth based on the average annual growth rates from ABAG, DOF, and Woods & Poole between 2010 and 2030.

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

Source: Economic & Planning Systems.

Service Population Calculations

The PFF is also based on calculations that translate the population and employment projections provided above 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).³ After accounting for regional commute patterns, the typical worker is estimated to have a service burden of about 25 percent of the typical resident.

Table 6 Service Population Factors Based on Resident to Employee Equivalencies

Service Population Category	Labor Force & Commute Patterns ¹		Resident to Employee Equivalencies		
	Number	Distribution	Weight ²	Weighted Average	Normalized to 100%
		a	b	= a * b	
County Residents					
Employed in County	65,545	16%	77%	12%	
Employed outside of County	125,569	30%	77%	23%	
All Other Residents	<u>223,218</u>	<u>54%</u>	100%	<u>54%</u>	
Total Residents	414,333	100%		90%	100%
Employees in Solano County					
Live in County	66,231	49%	23%	11%	
Live outside of County	<u>69,125</u>	<u>51%</u>	23%	<u>12%</u>	
Total Jobs	135,357	100%		23%	25%

[1] Commute patterns data from U.S. Census Bureau, LED On The Map Application, 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].

Source: U.S. Census LED; Bureau of Labor Statistics; ABAG; California DOF; and Economic & Planning Systems.

Table 7 calculates the existing and projected (2033) county service population based on the equivalency factors described above. The total county service population is expected to grow from 448,172 to 520,329 persons served, an addition of 72,157 in the county's service

population, representing a 16 percent growth from 2013 to 2033. This new growth that occurs

³ 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).

between 2013 and 2033 will constitute 14 percent of total population in 2033, as shown in **Table 7**.

Table 7 Estimated Solano County Service Population Growth (2013 - 2033)

Service Population Category	Amount by Year		New Growth		
	2013	2033	Number	Share of Buildout Pop.	Percent of Total
Residents	414,333	479,499	65,166	14%	90%
Employees¹	33,839	40,830	6,991	17%	10%
Total Service Population	448,172	520,329	72,157	14%	100%

[1] Assumes a service population factor of 25% (or 0.25) per job, as calculated in Table 6.

Source: Economic & Planning Systems.

Land Use Density Assumptions

In addition to the demographic calculations described above, 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 8**, 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 8**, 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 8 PFF Land Use Density Assumptions

Land Use Fee Categories	Persons per Household ¹	Sq. ft. per Employee ²	Employees per 1,000 Sq. Ft. ² = 1,000/b
	<i>a</i>	<i>b</i>	
	See Table A-2		
Residential			
Single Family Residential (SFR) Unit	2.97	-	-
Multi-Family Residential (MFR) Unit	2.31	-	-
2nd SFR Unit/Accessory Unit ³	1.50	-	-
MFR Senior/Retirement Housing ⁴	1.50	-	-
Nonresidential			
Retail/Commercial	-	670	1.49
Service Commercial	-	350	2.86
Assembly Uses	-	730	1.37
General/ Medical Office	-	250	4.00
Hotels/Motels	-	1,100	0.91
Industrial	-	600	1.67
Warehouse/Distribution	-	2,000	0.50
Institutional			
Health Care Facility	-	380	2.63
Places of Worship	-	1,000	1.00
Congregate Care Facility	-	540	1.85
Private School/ Day Care Facility	-	900	1.11
Agricultural Uses⁵			
Riding Arena	-	910	1.10
Barn	-	3,000	0.33

[1] Average number of persons per occupied unit in Solano County based on data from the 2011 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 (assembly and warehouse for riding arena and barn, respectively) and adjusted to reflect less intensive usage associated with agricultural uses.

Source: Economic & Planning Systems.

Table 8 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 consistent 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

This chapter is divided into seven 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. Sheriff's Patrol & Investigation (unincorporated County only)**
- 6. Transportation**
- 7. 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.

1. PUBLIC PROTECTION

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 (countywide functions)
- Animal Care
- District Attorney
- Courts
- Probation (includes Juvenile Hall)

The facilities required to provide the above 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 -- Adult Detention and Rehabilitation Facilities

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:

- **State Realignment:** In 2011, Gov. Brown signed Assembly Bill (AB) 109 and AB 117 transferring major functions of the State prison system to County control. Although the precise impact of these changes has yet to be fully determined, it is expected to significantly increase the County's responsibility for the detention and rehabilitation of sentenced individuals.⁴
- **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.

⁴ Public Safety Realignment pursuant to AB 109 allows non-violent, non-serious, and non-sex offenders to serve their sentence in county jails instead of state prisons. However, counties can contract back with the State to house local offenders. Although AB 109 provided a dedicated and permanent revenue stream to counties through Vehicle License Fees and a portion of the State sales tax, the allocation of these funds can be modified in the legislative process.

- **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. Criminal bookings have dropped precipitously as a result of major police department staff cutbacks stemming from various economic factors including the Great Recession. But the County anticipates bookings will spike up again, independent of actual criminal activity, if and when law enforcement budgets are restored.

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.

EPS has evaluated data from the Solano Adult Detention Needs Assessment and Master Plan completed in November 2003 as well as additional analysis of planned County projects and related capacity. The County currently operates two jails, 1) Justice Center Detention Facility (JCDF) located at the main jail in Downtown Fairfield and 2) existing Claybank Sentence Detention Facility (SDF) on Claybank Road in Fairfield, with another expected to be completed by mid-2014 (new AB900 Claybank facility). With completion of the new facility on Claybank Road, the County will have a total of 1,443 adult detention beds. At present, department staff anticipates that this will accommodate county growth through 2017. After 2017, adult detention, rehabilitation and crime prevention responsibilities will be accommodated through a variety of facilities, depending on crime, sentencing, and other factors, as described above.

Table 9 projects facility demand and costs, assuming the number of beds after the new Claybank Road facility is completed represents an "optimal" or desired service standard, based on county population through 2013 (approximately 3.22 beds per 1,000 population). Specifically, this calculation projects demand for 232 new beds by 2033 with an estimated net cost of \$186,500 per bed. The estimated net cost per bed is based on the budget (approximately \$90 million for 362 beds), assuming 25 percent of the funding is provided by State or other sources (e.g., AB 109 funds). For example, the County received approximately two-thirds of the funding for the current SDF from State sources. As shown, this methodology results in roughly \$43.3 million allocated to the PFF program for adult detention, rehabilitation and crime prevention facilities through 2033.

Table 9 PFF Adult Detention, Rehabilitation and Crime Prevention Facility Costs

Category	Amount
Number of Beds¹	
Existing	1,081
Optimal	1,443
Service Standard (Beds /1,000 Service Population)	
Existing	2.41
Optimal	3.22
Increase in Service Population (2013 - 33)	72,157
Required Beds in 2033	232
Net Cost per Bed²	\$186,500
PFF Costs	\$43,323,950

[1] Existing includes 1,081 adult detention beds for the JCDF and SDF facilities. The new Claybank Road facility will add 362 beds.

[2] Based on cost for the new Claybank Road facility at about \$90 million, assuming 25% from other sources.

Source: Solano County, and Economic & Planning Systems.

In addition to the jail facilities described above, the County's Capital Improvement Plan includes two additional facilities for adult rehabilitation and crime prevention. These include a training facility for training soon-to-be released inmates to learn life and job skills and a probation center offering probationers/parolees access to resources to assist with successful reintegration in the community. The total costs for these facilities and the fair share allocation to the PFF program are shown in **Table 10** below.

Table 10 Inmate Rehabilitation and Probation Facility Costs

Facility	Building Sq. Ft.	Estimated Cost ¹	New Growth % of Buildout Population ²	Total PFF Costs
		a	b	= a * b
Inmate Training Facility ³	34,000	\$25,298,200	14%	\$3,508,248
Probation Office Building ⁴	10,000	\$6,200,000	14%	\$859,790
Total	44,000	\$31,498,200		\$4,368,037

- [1] Excludes IT improvement costs, these cost components are accounted for separately in Table 28.
 [2] See Service Population calculations in Table 7.
 [3] Center for training soon-to-be released inmates to learn life and job skills. Cost estimate provided by County General Services Department.
 [4] Center offering parolees access to resources to become successful when reintegrating in the community. Cost estimate provided by County General Services Department.

Source: Solano County, and Economic & Planning Systems.

Sheriff -- Animal Care

The County Sheriff’s Office provides animal care services to unincorporated areas of the county. In addition, the Sheriff’s Office operates the existing Animal Shelter located on 2510 Claybank Road with 158 kennels and about 120 cat cages (one dog per kennel and one cat per cage). 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.

The Solano County Animal Care Facilities Master Plan, completed in October 2008, provides a methodology for projecting facility demand based on the historical relationship between population growth and animal intake. Specifically, this analysis calculates a rate of total animal intake per year roughly equal to 2.28 percent of the population. The 2008 Master Plan also states that the number of kennels and cages needed to accommodate animal intake is the primary factor in determining the size of an animal care facility. However, the actual capacity of each kennel or cage (i.e., the number of animals it can accommodate per year) depends on average holding time, which in turn depends on adoption and euthanizing rates, among other factors. Likewise, facility demand will be influenced by a variety of factors including socio-economic trends and the role of rescue organizations.

The 2008 Master Plan concluded that the existing 158-kennel Animal Shelter located on 2510 Claybank Road was significantly deficient based on an optimal service standard for holding time. Specifically, the Master Plan calculated facility need based on an optimal holding time of 20 days for dogs and 15 days for cats. Subsequent to the completion of the Master Plan, the County has approved a modernization and expansion to the existing Claybank Road facility resulting in maintaining 109 kennels in the existing building and adding 120 additional kennels in new building and 25 new recovery kennels within the new spay and neuter clinic. The new and

expanded spay/neuter room will benefit existing and future growth proportionately. Five new feline housing rooms are also included in the plans.

While the new facility will accommodate dogs, cats, and some other animals, as appropriate, the forecast presented herein is based on the demand for kennels since dogs are the primary determinant of facility size and cost requirements. **Table 11** calculates future animal care facility demand assuming the service standard articulated in the 2008 Master Plan is applied going forward. This would correspond to roughly 5.79 kennels per 10,000 in population, based on the 2013 county population. This methodology generates a need for 120 new kennels by 2033, with approximately 38 attributable to new growth and 82 representing an existing deficiency. The cost estimate per kennel is based on an estimated total cost of \$5.1 million for 96 new kennels at the existing Claybank Road facility.⁵

Table 11 PFF Animal Care Facility Costs

Category	Formula	Amount
Existing Service Level		
Existing # of Kennels	a	158
Existing Resident Population	b (See Table 5)	414,333
Kennels per 10,000 resident pop.	$c = a * 10,000 / b$	3.81
Service Standard		
Kennels per 10,000 pop. ¹	d	5.79
Existing Deficiency		
# of Kennels	$e = (d - c) * (b / 10,000)$	82
Population Growth (2013 - 2033)		
	f (See Table 5)	65,166
Amount Required to Serve Growth		
Kennels	$g = d * f / 10,000$	38
Cost Factor		
Per Kennel ²	h	\$53,320
Total PFF Costs	$= g * h$	\$2,011,901

[1] Estimate based on data from the Solano County Animal Care Facilities Master Plan (2008). The standard assumes an average annual dog intake of 1.06% per capita and an optimal average holding time of 20 days.

[2] Based on preliminary cost estimate of \$5,118,753 for 96 net new kennels currently under construction (Source: New Kennel Building Preliminary Project Cost Opinion by the Department of General Services, August 7 2012).

Source: Solano County; and Economic & Planning Systems.

⁵ The cost per kennel as calculated here is an average cost factor based on total costs inclusive of kennels and cat cages.

Based on the above assumptions and methodology, approximately \$2.0 million in animal care facility costs are assigned to the PFF through 2033.

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. With approximately 266 staff (including 20 judges, 3 commissioners, and 1 judge pro tem), the Court operates three facilities within the County: the Hall of Justice at 600 Union Avenue, Fairfield; the Law and Justice Center at 530 Union Avenue, Fairfield; and the Solano Justice Building at 321 Tuolumne Street, Vallejo.

In 2001, the State of California Task Force on Court Facilities recommended that the State assume full maintenance and operational responsibility for all court facilities in the State. These recommendations resulted in the passage of the Trial Court Facilities Act of 2002, which placed the State's responsibility for court facilities with the Judicial Council and its staff agency, the Administrative Office of the Courts (AOC). Responsibility for operation of all court facilities was transferred to the State upon the Board of Supervisors' execution of transfer agreements on June 26, 2007. The transfer agreements defined the joint operating and shared fiscal responsibility for each facility occupied by the local court. The Judicial Council now assumes operational responsibility for all court facilities with either the County or the AOC as the managing partner of each facility, with ongoing input from County and community representatives. On May 1, 2012, the County entered into a contract with the AOC to continue to collect the PFF fee on their behalf. Therefore, court facility costs based on information provided by the AOC are included in the PFF.

In this regard, AOC and County staff have identified two future facilities that would serve both new and existing residents and employees, as described below:

- **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 and AOC 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 12 calculates PFF costs for future Court facilities assuming that new development will generate demand in proportion to service population growth. It is worth noting that the court functions described above and listed in **Table 12** will support the State Realignment process as

described above. For example, an effective Collaborative Court system could support alternatives to incarceration and reduce the need to expand jails.

Table 12 PFF Court Facility Costs

County Court Complex(es), Potentially Including:	Building Sq. Ft.	Cost Estimate		Growth % of Buildout Population ²	Total PFF Costs
		Cost per Sq. Ft. ¹	Total Cost		
			a	b	= a * b
Juvenile Court ³	4,305	\$587	\$2,527,035	14%	\$350,439
Collaborative Courts ⁴	<u>5,000</u>	\$587	<u>\$2,935,000</u>	14%	<u>\$407,013</u>
Total	9,305		\$5,462,035		\$757,452

[1] Based on data from AOC (see http://www.courts.ca.gov/documents/Courthouse_construction_FAQs.pdf).

[2] See Service Population calculations in Table 7.

[3] The 1998 Juvenile Facilities Master Plan referenced a 4,305 sq. ft. Juvenile Court. The new Juvenile Detention facility opened in 2004 but did not include a Juvenile Court.

[4] To potentially include Courts for veterans, mental health, re-entry, and family services.

Source: Solano County, and Economic & Planning Systems.

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.

According to DA staff, 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 13**. 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, ballistics, and other capabilities. These improvements will benefit both new and existing residents and population. Based on these assumptions, approximately \$137,705 in DA facility and equipment costs are assigned to the PFF through 2033.

Table 13 PFF District Attorney Facility Costs

Facility Type	Total Cost	New Growth % of Buildout Population ¹	Total PFF Costs
	a	b	= a * b
Forensic Lab Improvements ²	\$550,000	14%	\$76,272
Forensic Lab Equipment ³	<u>\$443,000</u>	14%	<u>\$61,433</u>
Total	\$993,000		\$137,705

[1] See Service Population calculations in Table 7.

[2] Cost for build-out improvements to current space, included in the County's FY 2012/13 to FY 2016/17 Capital Improvement Plan.

[3] Cost estimates provided by DA. Includes ballistics high tech microscope and other equipment identified by the DA's office.

Source: Solano County, and Economic & Planning Systems.

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 14 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 \$20.4 million in debt originally allocated to Public Protection in the 2003 PFF Update, approximately \$5.9 million has been paid as of June 30, 2013, leaving \$14.5 million in outstanding debt. As a result, \$14.5 million is the PFF Program's portion under Public Protection to be paid by future development.

Table 14 Public Protection Share of Government Center Costs

Item	Amount
2003 PFF Update - Cost Allocation to Public Protection ¹	\$20,375,314
Less Debt Service Payments, FY 2005/06 to FY 2012/13	<u>(\$5,896,977)</u>
Remaining Costs (2013 Balance of Required Debt Service)	\$14,478,337

[1] Fair share allocation (11%) of debt service balance to be paid from the countywide public protection portion of PFF fees.

Source: Solano County; and Economic & Planning Systems.

Cost Allocation and Public Protection Fee Calculation

The Public Protection fee is calculated in three steps, as shown in **Table 15** and **Table 16**. 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. 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 16** this methodology results in a Public Protection maximum impact fee ranging from \$1,357 to \$2,687 for residential development, depending on unit type, and from \$73 to \$874 per 1,000 sq. ft. for nonresidential development.

Table 15 Public Protection Facilities Cost Allocation

Cost Allocation Factor	Public Protection Facilities						Total Facilities
	Adult Detention & Rehab. ¹	Probation	Animal Care ²	District Attorney	Courts	Gov. Center Debt (Public Prot. Share)	
Facility Costs Allocated to PFF Program	\$46,832,198	\$859,790	\$2,011,901	\$137,705	\$757,452	\$14,478,337	\$65,077,382
<u>Cost Allocation to Land Uses</u>							
Residential Development	90%	90%	100%	90%	90%	90%	
Nonresidential Development	10%	10%	0%	10%	10%	10%	
<u>Allocated Costs by Land Use</u>							
Residential Development	\$42,294,615	\$776,485	\$2,011,901	\$124,363	\$684,062	\$13,075,528	\$58,966,953
Nonresidential Development	\$4,537,582	\$83,305	\$0	\$13,342	\$73,390	\$1,402,809	\$6,110,429
<u>Service Population Growth</u>							
Residents	65,166	65,166	65,166	65,166	65,166	65,166	
Employees	27,965	27,965	0	27,965	27,965	27,965	
Facilities Cost per Resident	\$649.03	\$11.92	\$30.87	\$1.91	\$10.50	\$200.65	\$904.88
Facilities Cost per Employee	\$162.26	\$2.98	\$0.00	\$0.48	\$2.62	\$50.16	\$218.50

[1] Includes County Jail and Training facility for life and job skills to soon-to-be released inmates.

[2] Animal care facilities accommodate stray and/or abandoned cats and dogs from residential development. 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.

Source: Solano County, and Economic & Planning Systems.

Table 16 Estimated Public Protection Impact Fees

Land Use	Density (See Table 8)	Public Protection Facilities					Gov. Center Debt	Total Fee per Unit
		Adult & Rehab.	Probation	Animal Care	District Attorney	Courts		
<i>Cost per Resident</i>		\$649	\$12	\$31	\$2	\$10	\$201	\$905
<i>Cost per Employee</i>		\$162	\$3	\$0	\$0	\$3	\$50	\$219
Residential	Persons / Household							
Single Family Unit	2.97	\$1,928	\$35	\$92	\$5.67	\$31.18	\$596	\$2,687
Multi-Family Unit	2.31	\$1,499	\$28	\$71	\$4.41	\$24.25	\$464	\$2,090
2nd SFR Unit/Accessory Unit	1.50	\$974	\$18	\$46	\$2.86	\$15.75	\$301	\$1,357
MFR Senior/Retirement	1.50	\$974	\$18	\$46	\$2.86	\$15.75	\$301	\$1,357
Nonresidential	Employees / 1,000 SF							Fee per 1,000 SF
Retail/Commercial	1.49	\$242	\$4	-	\$0.71	\$3.92	\$75	\$326
Service Commercial	2.86	\$464	\$9	-	\$1.36	\$7.50	\$143	\$624
Assembly Uses	1.37	\$222	\$4	-	\$0.65	\$3.59	\$69	\$299
General/ Medical Office	4.00	\$649	\$12	-	\$1.91	\$10.50	\$201	\$874
Hotels/Motels	0.91	\$148	\$3	-	\$0.43	\$2.39	\$46	\$199
Industrial	1.67	\$270	\$5	-	\$0.80	\$4.37	\$84	\$364
Warehouse/Distribution	0.50	\$81	\$1	-	\$0.24	\$1.31	\$25	\$109
Institutional								
Health Care Facility	2.63	\$427	\$8	-	\$1.26	\$6.91	\$132	\$575
Place of Worship	1.00	\$162	\$3	-	\$0.48	\$2.62	\$50	\$219
Congregate Care Facility	1.85	\$300	\$6	-	\$0.88	\$4.86	\$93	\$405
Private School / Day Care	1.11	\$180	\$3	-	\$0.53	\$2.92	\$56	\$243
Agricultural Uses								
Riding Arena	1.10	\$178	\$3	-	\$0.52	\$2.88	\$55	\$240
Barn	0.33	\$54	\$1	-	\$0.16	\$0.87	\$17	\$73

[1] No impact fees for animal care facilities are calculated on nonresidential land uses. See footnote [2] in Table 15.

Source: Economic & Planning Systems.

2. HEALTH AND SOCIAL SERVICES

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. As of July 25, 2013, the department has approximately 1,140 full-time equivalent (FTE) employees throughout Solano County, including a number of clinics and estimates that it provides direct services to about 20 percent of the county's population. 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):** A number of provisions in the Affordable Care Act are likely to increase the number of county residents eligible for services provided by H&SS. For example, the expansion of health insurance requirements is likely to increase the proportion of residents eligible for Medi-Cal, a program implemented by H&SS.⁶ In addition to healthcare reform, 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-

⁶ 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%20LIBRARY%20Files/PDF/1/PDF%20ImplementingHealthReformPaymentChanges.pdf>

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.

While the combined effect of the above factors is difficult to predict with certainty, department staff have indicated that service levels (i.e., client load) are likely to increase faster than facility needs. In addition, as a result of recently completed projects including the Twin Campus projects in Fairfield and Vallejo and the William J. Carroll Government Center (WJCGC) in Vacaville, the H&SS Department forecasts moderate facility expansions by 2033. After the year 2020, the department anticipates that new facilities or expansions of existing facilities will be needed unless services are offset by home visits.

The estimated amount and cost of the new H&SS capital facilities needed to serve future population is provided in **Table 17**. The H&SS Department anticipates that an 18,000-square foot health care facility on approximately 1.4 acres of land would be required in the Dixon area (North County). In addition, the department forecasts that approximately 65,770 square feet of new space, consisting of a new building in Fairfield and small office spaces in Vallejo and Vacaville, will be required to accommodate staffing increases beyond 2020. Based on actual costs for the recently completed WJCGC, it is estimated that these future facilities will cost approximately \$43.8 million. The 28 projected new vehicles are estimated to cost \$17,130 each for a total cost of \$480,000. Furthermore, the H&SS PFF component has a remaining debt service obligation of \$1.05 million on COP debt that was used to acquire a 4.89 acre parcel of undeveloped land to construct the H&SS Administration building at 275 Beck Avenue in Fairfield that will accommodate staffing increases until 2020. In total, the County will need nearly \$45.4 million worth of capital facilities and equipment to accommodate increases in services to a growing population.

Table 17 H&SS Projected Future Facilities and Estimated Costs

Facility/Capital Equipment	Units	Quantity	Estimated Cost
Health care facilities in the North County ¹	Sq. ft.	18,000	\$9,630,000
Capital Equipment for new facility		-	\$1,323,993
New Office Space for Staff ²	Sq. ft.	65,770	\$32,884,967
Fleet Expansion (vehicles)	Count	28	\$479,640
Subtotal Future H&SS Costs			\$44,318,599
Remaining PFF Share of H&SS 2009 COP Debt Service ³			\$1,050,000
Total H&SS Facility Costs			\$45,368,599

[1] Assumes development cost of \$500/building sq. ft. and 1.4 acres land acquisition at \$450,000 per acre. Cost estimates based on actual costs for the WJCGC.

[2] Staff analysis indicates that H&SS will require a new building in Fairfield and added small offices in Vallejo, Vacaville to accommodate staff increases between 2020 and 2030.

[3] Based on 1999 COP debt, which was later refunded by 2009 Refunding COPs, used to acquire undeveloped land to construct the H&SS building at 275 Beck Avenue in Fairfield.

Source: Solano County Health & Social Services; and County Administrator's Office.

Cost Allocation

While the new facilities shown in **Table 17** are expected to mitigate impacts of population growth, these facilities will also serve to mitigate impacts of increased access by the existing population resulting from implementation of federal healthcare reforms (e.g. Affordable Care Act).

Because the required capital facilities would also serve existing residents, new development can only be allocated a portion of the total estimated costs. The allocation of facility costs to new development is based on new residents' proportionate contribution to new demand for health care services. **Table 18** shows the calculation of a fair share allocation of H&SS capital costs to new development. Fair share costs allocated to new development are included in the PFF program. By 2033, with an estimated resident population of 479,499 and 73,350 projected health care clients, the County will be providing health care services to 153 residents for every 1,000 County residents. This service ratio means that new residents would generate 9,969 new healthcare services clients based on the projected growth in population of 65,166. With total projected growth of 11,156 new health care clients, new clients resulting from new population would account for 89 percent of new health care services clients. As such, 89 percent of the total facilities cost of \$44.3 million or \$39.6 million constitutes a fair share allocation to new development. This is in addition to the remaining PFF share of COP debt service of \$1.05 million, for a total PFF cost of \$40.7 million in H&SS capital investments.

Table 18 Cost Allocation of H&SS Facility Costs to PFF Program

Year/ Item Description	Formula	Amount
2013 Baseline		
Resident Population	a	414,333
Healthcare Caseload ¹	b	62,194
Current Service Demand Factor (Cases/1,000 pop.)	$c = b / (a/1,000)$	150
2033		
Resident Population	d	479,499
Healthcare Caseload ^{1,2}	e	73,350
Future Service Demand Factor	$f = e / (d/1,000)$	153
2013-2033		
New Resident Population	$g = d - a$	65,166
Future Service Demand Factor	$h = f$	153
Estimated New Cases from New Residents	$i = (g/1000) * h$	9,969
Projected New Healthcare Cases	$j = e - b$	11,156
% Cases Due to Population Growth	$k = i / j$	89%
Facility Costs Allocated to PFF Program	$l = \$44,318,599 * k$	\$39,600,116
Remaining PFF Share of COP Debt Service	m	<u>\$1,050,000</u>
Total PFF Costs	$n = l + m$	\$40,650,116

[1] H&SS projections of departmental client volumes for healthcare services.

[2] Based on H&SS 2030 projected caseload of 71,557. Adjusted by EPS to 2033 by applying the H&SS projected average growth rate between 2013 and 2030 to the 2030 projection.

Source: Solano County; and Economic & Planning Systems.

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 2033. This yields a per capita cost of about \$623.80 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 \$1,853 for single-family units, \$1,441 for multifamily units, \$936 for age-restricted multifamily units and second dwelling or accessory units.

Table 19 Estimated County Health & Social Services Facilities Fee

Item Description	Estimated Amount
H&SS Future Costs Allocated to PFF Program	\$39,600,116
Debt Service	<u>\$1,050,000</u>
Total H&SS Costs for PFF Program	\$40,650,116
New Service Population	65,166
Facilities Cost per Capita	\$623.80
<hr/>	
<u>Residential Land Use</u>	<u>Persons per Unit</u>
Single Family Unit	2.97
Multi-Family Unit	2.31
2nd SFR Unit/Accessory Unit	1.50
MFR Senior /Retirement Housing	1.50
	<u>Fee Per Unit¹</u>
Single Family Unit	\$1,853
Multi-Family Unit	\$1,441
2nd SFR Unit/Accessory Unit	\$936
MFR Senior /Retirement Housing	\$936

[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.

3. LIBRARY FACILITIES

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.

Table 20 shows existing and projected library facilities required to raise the service standard to the Master Plan target and accommodate new population growth. As shown, based on current projections of future population growth the proposed projects would more than meet the master plan standard of 0.76 sq. ft. per capita by 2033 for both the existing and future population.

Table 20 Library Facilities and Service Standards

Library Service Area	Library Building Sq. Ft.		
	Existing	Planned	Buildout
Fairfield	47,654	59,118	106,772
Rio Vista	5,370	11,502	16,872
Suisun City	10,000	13,864	23,864
Vacaville	39,266	51,377	90,643
Vallejo	49,898	55,237	105,135
Unincorporated	0	0	0
Total Library Service Area	152,188	191,098	343,286
Projected Service Population ¹	365,670		422,012
Service Standard. (sq. ft./capita)	0.42		0.81

[1] Service population excludes residents in the City of Benicia and in the Dixon Public Library District, as well as inmates at the State Prison in Vacaville.

Source: Solano County Library Facilities Master Plan.

Estimated costs for the proposed library projects were prepared in the 2001 FMP and have been escalated to 2013 dollars as shown in **Table 21**. Completion of the FMP projects would require total capital investment of approximately \$134.6 million.

Table 21 Library FMP Planned Facilities and Estimated Costs

Proposed Project	Project Type	Building Sq. Ft. ¹	Master Plan	Escalated
			Cost Estimates ²	Costs ³
			2001 dollars	2013 dollars
<u>FMP Phase 1</u>				
Suisun City	Expansion	13,864	\$5,861,732	\$9,323,583
<u>FMP Phase 2</u>				
Fairfield North	New	30,000	\$12,868,566	\$20,468,546
Vacaville Existing	Expansion	15,377	\$8,349,677	\$13,280,870
Vallejo Northwest	New	30,000	\$13,268,839	\$21,105,215
Subtotal		75,377	\$34,487,082	\$54,854,631
<u>FMP Phase 3</u>				
Fairfield Northeast	New	29,118	\$12,488,628	\$19,864,223
Vacaville North	New	36,000	\$15,462,153	\$24,593,867
Vallejo Northeast	New	25,237	\$10,801,551	\$17,180,784
Rio Vista	New	11,502	\$5,502,729	\$8,752,558
Subtotal		101,857	\$44,255,061	\$70,391,431
Total Planned Facilities		191,098	\$84,603,875	\$134,569,645

[1] From the Solano County Library Facilities Master Plan, 2001 and April 2009 Update.

[2] Cost estimates are from the 2001 Solano County Library Facilities Master Plan.

[3] Costs escalated by 59%, the percent change in RSMears' Historical Cost Index for Vallejo between 2001 and 2013.

Source: Solano County Library Facilities Master Plan, 2001 and 2009 Update; and ENR.

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 22** shows the calculation of a fair share allocation of library costs to new development. Based on a service population of 365,670 and the FMP standard of 0.76 sq. ft. per capita, there's an existing deficiency of 125,721 sq. ft. in library facilities. In other words, about two-thirds (or 66 percent) of the proposed library space would serve to raise the existing level of service to 0.76 sq. ft. per capita for existing residents. Based on the projected service area population growth of 56,342 residents, new residents would require 42,820 sq. ft. or 22.4 percent of the total proposed library space; as such only 22.4 percent of the FMP project costs can be attributed to new residential development. Given the total estimated cost of \$134.6 million, the fair share allocation to new residential development is \$30.2 million.

Table 22 Cost Allocation of Planned Library Facilities to New Growth

Item Description	Formula	Amount
Master Plan Facilities Standard (sq. ft. per capita)	a	0.76
Existing 2013 Service Population	b	365,670
Required Library Sq. Ft. based on FMPn Std.	c = a * b	277,909
Existing Library Sq. Ft.	d	<u>152,188</u>
Existing Deficiency ¹	e = c - d	125,721
Planned Future Library Facilities Sq. Ft.	f	191,098
Projected Population Growth in Library Service Area	g	56,342
Required Library Sq. Ft. to Serve New Development (FMP Std.)	h = a * g	42,820
Estimated Share of Planned Facilities Needed to Serve New Growth	i = h / f	22.4%
Library Facility Costs Allocated to PFF Program	j = i * total cost	\$30,153,406

[1] New library sq. ft. needed to raise the level of service for the existing population to 0.76 sq. ft./capita.

Source: Solano County Library Facilities Master Plan; and Economic & Planning Systems.

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 2033. This yields a per capita cost of \$535.19 as shown in **Table 23**.

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 23**, this calculation results in a maximum impact fee of \$1,590 for single-family units, \$1,236 for multifamily units, and \$803 for age-restricted multifamily units and second dwelling or accessory units.

Table 23 Estimated Library Facilities Fee

Item Description	Estimated Amount
Library Facility Costs Allocated to PFF Program	\$30,153,406
Projected New Population in Library Service Area	56,342
Facilities Cost per Capita	\$535.19

<u>Residential Land Use</u>	<u>Persons/Unit</u>	<u>Fee Per Unit¹</u>
Single Family Unit	2.97	\$1,590
Multi-Family Unit	2.31	\$1,236
2nd SFR Unit/Accessory Unit	1.50	\$803
MFR Senior /Retirement Housing	1.50	\$803

[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.

Source: Solano County Library Facilities Master Plan; Economic & Planning Systems.

4. GENERAL GOVERNMENT FACILITIES

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, as described in **Chapter III-1**). 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 2003, the General Government portion of the PFF Program has contributed \$6.13 million in debt service payments towards its balance of \$17.66 million (2003 PFF Update). The remaining balance of \$15.47 million is the Government Center general government fair share for the PFF Program, as shown in **Table 24**.

Table 24 Government Center Fair Share Costs for the PFF Program

Item	Amount
2003 PFF Update - Balance of Debt Service Share ¹	\$17,656,709
Less Debt Service Payments, FY 2005/06 to 2012/13	(\$6,125,992)
Balance of PFF Share of Advance Funds on Govt. Center construction ²	<u>\$3,937,737</u>
Remaining General Government Costs	\$15,468,454

[1] Fair share allocation (14%) of debt service balance to be paid from the general government portion of PFF fees.

[2] Balance of fair share allocation of advance funds which lowered the debt issued on the Government Center Debt. Balance as of June 30, 2013.

Source: Solano County Administrator; and Economic & Planning Systems.

Agricultural Commissioner's Facilities

Currently, the Department of Agriculture operates from two locations. Administrative and related functions are accommodated at 501 Texas Street in Fairfield and occupy approximately 9,903 square feet, while the Weights and Measures function operates from 560 Fairgrounds Drive in Vallejo and occupies 1,717 square feet. The department also has a 400 square-foot outdoor storage structure at the Fairfield location. In all, the department occupies a total of about 12,000 sq. ft. of which approximately 74 percent or 8,860 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 15 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. The department estimates that 71 percent of the use of these capital equipment items is for service provision to urban land uses which implies an average of 10.7 capital equipment items serving urban uses. The department's capital equipment also includes 20 pool vehicles of which 19 (95 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,⁷ 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 65,166, this analysis estimates that the County will require about 1,400 sq. ft. of departmental building space, an average of 1.7 capital equipment items and 3 vehicles for an estimated total cost of \$547,000.

Table 25 Existing Standards and Future Facility Needs for Agricultural Commissioner

Item	Assumption	Building Space	Capital Equipment	Vehicles	Total Facilities
<i>Units</i>		<i>sq. ft.</i>	<i>count</i>	<i>count</i>	
Existing Departmental Facilities		12,020	15	20	
% Serving Urban Development ¹		74%	71%	95%	
Existing Urban Service Level		8,858	10.7	19.0	
Baseline County Population	414,333				
Existing Standard (facilities/ 10,000 residents)		214	0.3	0.5	
Projected Population Growth	65,166				
Required Facilities to Serve New Growth		1,393	1.7	3.0	
Average Cost per Unit		\$300	\$44,012	\$18,000	
Facilities Costs to Serve New Growth		\$417,937	\$74,821	\$54,000	\$546,758

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

Source: Solano County Dept. of General Services; Agricultural Commissioner; and Economic & Planning Systems.

⁷ 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.

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 \$7.87 per capita in capital equipment to serve existing population.⁸ This means that assuming a constant level of investment per resident, the ROV will require approximately \$513,026 over the next 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

Existing Service Standard (Equipment Value per Resident)	\$7.87
Projected Population Growth	65,166
Elections Equipment to Service New Growth	\$513,026

Source: Registrar of Voters; and Economic & Planning Systems.

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 414,333 in 2013. The PFF program includes improvement costs for expanding the existing facilities at Sandy Beach County Park, Lake Solano County Park and Belden’s Landing Water Access Facility.

Sand Beach County Park and Lake Solano County Park have a total acreage of 213 acres, which implies a service standard of 0.51 acres per 1,000 county residents. Given projected population growth of about 65,166 residents in the next 20 years, 33.5 acres in expanded park facilities will be required to maintain the existing service standard, as shown in **Table 27**. Assuming park improvement costs of \$260,377 per acre based on cost assumptions used in the 2007 PFF Study, improving 33.5 acres would cost about \$8.7 million.⁹

The Parks and Recreation Element of the 2008 Solano County General Plan estimated the expansion of facilities at Belden’s Landing to cost approximately \$1.2 million. Because this expansion would benefit both existing and future residents, the fair share cost to new development would be based on the proportion of new residents in the county’s total population.

⁸ Based on estimated equipment value of \$3,215,600 (Source: Registrar of Voters) in 2011 serving a county population of 408,453 (excluding inmate population at the State Prison in Vacaville).

⁹ Based on EPS’s review of costs for recent regional park projects in California and Nevada, the cost assumption used in the 2007 nexus study appears to still be a reasonable estimate.

New residents in the next 20 years are expected to comprise 14 percent of the total population by 2033, therefore, 14 percent or \$163,000 of total project costs would be allocated to new development. In total, approximately \$8.9 million in future park facility costs would be allocated to new residential development as its fair share of park improvements.

Table 27 shows the calculation of the fair share allocation of park and recreation facilities improvements costs to new development.

Table 27 Park Facilities Cost Allocation to New Development

Item Description	Formula	Amount
County Parks		
Existing County Parks Acres	a	213.0
Baseline Service Population	b	414,333
Existing Facilities Standard (acres per 1,000 residents)	$c = a * 1000 / b$	0.51
New Population Growth (2013-2033)	d	65,166
Required Park Acres to Serve New Population	$e = c * d / 1,000$	33.5
Estimated Improvement Cost Per Acre ¹	f	\$260,377
County Park Improvement Costs Allocated to PFF	$g = e * f$	\$8,722,722
Other Recreation Facilities²		
Buildout Population	h	\$1,200,000
Buildout Population	i	479,499
New Population Growth (2013-2033)	j	65,166
New Pop. as a % of Buildout Population	$k = d / i$	14%
Other Recreation Facilities Costs Allocated to PFF	$l = h * k$	\$163,085
Total Parks and Recreation Costs Allocated to PFF	$l = g + l$	\$8,885,807

[1] The 2007 PFF study assumed an improvement cost of \$138,000/1,000 persons and 0.53 acres/1,000 persons, which implies an improvement cost of \$138,000/0.53 acres or \$260,377/acre.

[2] Belden's Landing expansion project. Cost allocation to new development is based on share of new growth relative to existing population.

Source: Solano County Parks and Recreation Element; and Economic & Planning Systems.

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 gear. 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 for the Sheriff’s Inmate Training Facility and Probation Office building were provided by the Division of Architectural Services in the County Department of General Services. Costs for the remaining facilities were estimated based on an average per-square-foot cost provided by the County Department of Information Technology. Based on recent projects the County estimates that the average cost for IT improvements to County buildings is approximately \$8.69 per gross building square foot.¹⁰ Total estimated IT costs for the identified 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 51 percent or \$2.0 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	Costs Allocated to New Development	
			Percent	Total
Sheriff (Inmate Training Facility) ¹	34,000	\$300,000	14%	\$41,603
Probation Office Building ¹	10,000	\$200,000	14%	\$27,735
Adult Detention Facilities ^{2,3}	92,920	\$807,475	100%	\$807,475
Court Facilities ³	9,305	\$80,860	14%	\$11,213
Animal Care Facilities ^{3,4}	3,573	\$31,051	100%	\$31,051
Library Facilities ³	191,098	\$1,660,642	22%	\$372,105
H&SS Facilities ³	83,770	\$727,961	89%	\$650,457
Agricultural Commissioner Facilities ³	1,393	\$12,106	100%	\$12,106
Total	426,059	\$3,820,095	51%	\$1,953,744

[1] IT cost estimates prepared by the Division of Architectural Services.

[2] Gross square feet assumes a ratio of 400 gross sq. ft. per bed.

[3] IT cost estimates assume \$8.69/sq. ft. based on recently completed projects (Source: CIO)

[4] Gross square feet assumes a ratio of 94.7 sq. ft. per kernel.

Source: Solano County, and Economic & Planning Systems.

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 only. Information Technology costs are allocated based on the allocation

¹⁰ Square-foot cost estimate based on IT improvement costs in recent County building projects, including the William J. Carroll Government Center in Vacaville, and three buildings in Vallejo and Fairfield which are part of the Twin Campus project.

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 \$394.82. Costs allocated to nonresidential development are divided by the number of new employees, which yields a per-employee cost of about \$58.61 as shown in **Table 29**.

Table 29 Total General Government Facilities Cost Allocation

Item	General Government Facilities					Total Facilities
	Government Center Debt ¹	Agricultural Commissioner	Elections Equipment ²	Information Technology	County Parks ²	
Facility Costs Allocated to PFF Program	\$15,468,454	\$546,758	\$513,026	\$1,953,744	\$8,885,807	\$27,367,789
<u>Cost Allocation to Land Uses</u>						
Residential Development	90%	90%	100%	96%	100%	
Nonresidential Development	10%	10%	0%	4%	0%	
<u>Allocated Costs by Land Use</u>						
Residential Development	\$13,969,712	\$493,782	\$513,026	\$1,866,530	\$8,885,807	\$25,728,857
Nonresidential Development	\$1,498,742	\$52,975	-	\$87,214	-	\$1,638,932
<u>Service Population Growth</u>						
Residents	65,166	65,166	65,166	65,166	65,166	
Employees	27,965	27,965	-	27,965	-	
Facilities Cost per Resident	\$214.37	\$7.58	\$7.87	\$28.64	\$136.36	\$394.82
Facilities Cost per Employee	\$53.59	\$1.89	-	\$3.12	-	\$58.61

[1] General Government portion of the 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.

Source: Solano County, and Economic & Planning Systems.

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 \$1,173 for single-family units, \$912 for multifamily units, \$592 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 \$20 for agricultural storage uses (Barns) to \$234 for general and medical office development.

Table 30 Estimated General Government Impact Fees

Residential Land Use	Density (See Table 8)	General Government Fee Components					Total Fee per Unit
		Gov. Center Debt	Agricultural Comm.	Information Technology	Elections Equip't ¹	County Park Facilities ¹	
<i>Cost per Resident</i>		\$214.37	\$7.58	\$28.64	\$7.87	\$136.36	\$395
<i>Cost per Employee</i>		\$53.59	\$1.89	\$3.12	\$0.00	\$0.00	\$59
Residential	Persons per Unit						
Single Family Unit	2.97	\$637	\$23	\$85	\$23	\$405	\$1,173
Multi-Family Unit	2.31	\$495	\$18	\$66	\$18	\$315	\$912
2nd SFR Unit/Accessory Unit	1.50	\$322	\$11	\$43	\$12	\$205	\$592
MFR Senior/Retirement Housing	1.50	\$322	\$11	\$43	\$12	\$205	\$592
Nonresidential	Employees per 1,000 SF						Fee per 1,000 SF
Retail/Commercial	1.49	\$79.99	\$2.83	\$4.65	-	-	\$87
Service Commercial	2.86	\$153.12	\$5.41	\$8.91	-	-	\$167
Assembly Uses	1.37	\$73.42	\$2.59	\$4.27	-	-	\$80
General/ Medical Office	4.00	\$214.37	\$7.58	\$12.47	-	-	\$234
Hotels/Motels	0.91	\$48.72	\$1.72	\$2.84	-	-	\$53
Industrial	1.67	\$89.32	\$3.16	\$5.20	-	-	\$98
Warehouse/Distribution	0.50	\$26.80	\$0.95	\$1.56	-	-	\$29
Institutional							
Health Care Facility	2.63	\$141.03	\$4.99	\$8.21	-	-	\$154
Place of Worship	1.00	\$53.59	\$1.89	\$3.12	-	-	\$59
Congregate Care Facility	1.85	\$99.25	\$3.51	\$5.78	-	-	\$109
Private School/ Day Care Facility	1.11	\$59.55	\$2.10	\$3.47	-	-	\$65
Agricultural Uses							
Riding Arena	1.10	\$58.89	\$2.08	\$3.43	-	-	\$64
Barn	0.33	\$17.86	\$0.63	\$1.04	-	-	\$20

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

Source: Economic & Planning Systems.

5. SHERIFF'S PATROL & INVESTIGATION

Sheriff's Patrol & Investigation is primarily responsible for providing public protection services to unincorporated areas of the County. No capital facilities were identified to be included in the PFF for Sheriff's Patrol and Investigation. Given that growth in the unincorporated County is expected to be minimal, any PFF revenue from such a fee, if developed, would likely be negligible.

6. TRANSPORTATION

The issue of whether to adopt a countywide transportation component of the PFF has been analyzed by the County since 2006. In authorizing the preparation of this nexus study on June 26, 2012, the Solano County Board of Supervisors (Board) directed staff to include in the analysis a determination as to whether a transportation component of the PFF should be established as a means to address the impact of growth on the county road system.

In addition, 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 \$776,306.

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 second part, Part B, is the Regional Transportation Impact Fee (RTIF) which was prepared by the Solano Transportation Authority (STA) in coordination with the seven incorporated cities within the county and the County.

Regional Transportation Impact Fee (Part A)

There are two additional transportation capital facilities for which the PFF was identified as a funding source. 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 \$776,306 as shown in **Table 31**. The table also shows the estimated cost per dwelling unit equivalent (DUE) of \$27.47 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 32** shows the estimated fee amounts for all land uses.

Table 31 PFF Transportation Facilities Costs (Part A)

Facility/Cost Item	Amount	Notes
North Connector - outstanding debt	\$1,000,000	
Vanden Road Project - outstanding debt	\$1,000,000	
PFF Studies	\$176,306	
Interest	<u>\$100,000</u>	
Total PFF Costs	\$2,276,306	
% Allocated to New Growth	100%	County has identified this amount as 100% attributable to new growth
Less Funds received to date from PFF	<u>\$1,500,000</u>	
Remaining PFF Costs	\$776,306	
DUE Growth	28,259	See RTIF Nexus Report (Attachment 1)
Total Fee per DUE	\$27.47	

Source: Solano County; and Economic & Planning Systems.

Table 32 Transportation Impact Fee (Part A)

Fee Category	DUE Factor	Maximum Fee per Unit	Recommended Fee per Unit
		= DUE * \$27.47	
Residential			
		<i>Per Unit</i>	
Single Family Residential (SFR)	1.00	\$27.47	\$27
Multi Family Residential (MFR)	0.62	\$17.03	\$17
2nd SFR Unit/Accessory Unit	0.54	\$14.75	\$15
MFR Senior/Retirement Housing	0.39	\$10.71	\$11
Non-residential			
		<i>Per 1,000 Building Square Feet</i>	
Retail/Commercial	1.86	\$50.96	\$51
Service Commercial	4.60	\$126.37	\$126
Assembly Uses	0.35	\$9.67	\$10
General/Medical Office	1.15	\$31.52	\$32
Hotels/Motels	1.08	\$29.66	\$30
Industrial	0.75	\$20.55	\$21
Warehouse/Distribution	0.14	\$3.74	\$4
Institutional			
Health Care Facility	0.85	\$23.26	\$23
Place of Worship ¹	0.35	\$9.67	\$10
Congregate Care Facility	0.32	\$8.69	\$9
Private School	3.72	\$102.25	\$102
Child Day Care Facility ²	3.46	\$94.92	Exempt
Agricultural Uses			
Riding Arena	0.22	\$6.05	\$6
Barn	0.13	\$3.52	\$4

[1] Assumed to generate traffic at similar trip rates as Assembly Uses.

[2] It is recommended that Child Day Care facilities be exempt from the regional transportation fee based on the assumption that most of the trips associated with child day care centers are local in nature and/or included as part of linked commutes (e.g. travel to work).

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

Regional Transportation Impact Fee (Part B)

As stated above, the RTIF Nexus Report was prepared by STA in coordination with the seven incorporated cities and the County. According to the RTIF Nexus Report, it is currently estimated that the maximum allowable fee for the RTIF will be approximately \$8,282 per DUE, which is equivalent to a single-family unit. **Table 33** shows the estimated maximum allowable fees for residential and nonresidential land uses. The RTIF Nexus Report is included in this report as

Attachment 1.¹¹ The rationale and level of difference between the maximum allowable fee and the recommended fee is described in detail below.

The County recognizes that development impact fees can impose a significant financial challenge on developers, potentially affecting the economic viability of specific projects. Consequently, County policymakers have elected to not impose the maximum allowable transportation impact fee. Rather, the County has elected to impose a transportation fee level that ensures the final approved PFF level does not exceed the current PFF level for each of the land uses that currently pay the PFF.

The County's goal is to promote economic development by balancing the need to finance regional transportation infrastructure with the need to keep fee levels affordable to the development community and not deter private sector growth. The County and STA intend to use the RTIF to leverage and supplement a variety of other funding sources available for transportation infrastructure to ensure that all projects on the RTIF list are ultimately built.

A summary of the recommended RTIF fees is shown in **Table 34**. As shown, the recommended RTIF ranges from about 1.8 to 18.1 percent of the maximum allowable fee. It is also recommended that Child Day Care facilities be exempt from the regional transportation fee based on the assumption that most of these trips are local in nature and/or included as part of linked commutes (e.g., travel to work). The actual percent reduction varies by land use category and represents the amount needed to ensure that the updated PFF is less than or equal to the existing PFF for all land use categories that are currently identified in the fee program.

For residential land uses, the recommended fee is \$1,500 per DUE or single family unit, which is 18.1 percent of the maximum allowable fee. The actual recommended fee for other residential unit types is calculated by multiplying \$1,500 by the DUE factor for that unit type. For nonresidential land uses that are in the current fee program, which includes retail, general office, industrial and warehouse, it is recommended that the amount of the transportation fee component should be such that when added to other fee components, the total PFF fee for that land use category remains unchanged from the existing fee. For nonresidential land use categories not currently included in the existing PFF, it is recommended that the fee be set at 2.6 percent of the maximum allowable fee.¹² While child day care centers have relatively high trip generation rates, it is recommended that child day care facilities be exempt from the regional transportation fee because it's more likely that most of the trips associated with child day care centers are local in nature and/or are already included as part of linked commutes (e.g. travel to work via a child day care center).

¹¹ The RTIF Nexus Report included as Attachment 1 incorporates a number of minor updates to project costs and demographic projections. Consequently, the maximum fee differs slightly (i.e., by less than 5 percent) from the version approved by the STA Board on July 10, 2013. In addition, the updated RTIF Nexus Report in Attachment 1 includes several appendices that provide detailed documentation of the transportation model and cost assumptions underlying the maximum fee calculation.

¹² 2.6 percent of the maximum allowable fee is the average recommended level calculated for nonresidential land use categories in the existing fee program.

Table 33 Maximum Allowable RTIF (Part B)

Fee Category	Peak Hour Trip Rate ¹	% New Trips ²	DUE Factor	Maximum Fee per Unit
	a	b	c = a * b	= c * \$8,282
Residential				
Single Family Residential (SFR)	1.00	100%	1.00	\$8,282
Multi Family Residential (MFR)	0.62	100%	0.62	\$5,135
2nd SFR Unit/Accessory Unit	0.54	100%	0.54	\$4,446
MFR Senior/Retirement Housing	0.39	100%	0.39	\$3,230
Non-residential				
		<i>Per 1,000 Building Square Feet</i>		
Retail/Commercial	3.71	50%	1.86	\$15,364
Service Commercial	9.02	51%	4.60	\$38,101
Assembly Uses	0.55	64%	0.35	\$2,915
General/Medical Office	1.49	77%	1.15	\$9,502
Hotels/Motels ³	1.86	58%	1.08	\$8,943
Industrial	0.88	85%	0.75	\$6,195
Warehouse/Distribution	0.16	85%	0.14	\$1,126
Institutional				
Health Care Facility	1.16	73%	0.85	\$7,014
Place of Worship ⁴	0.55	64%	0.35	\$2,915
Congregate Care Facility ³	0.32	100%	0.32	\$2,621
Private School	6.53	57%	3.72	\$30,828
Child Day Care Facility	12.34	28%	3.46	\$28,618
Agricultural Uses				
Riding Arena ³	0.34	64%	0.22	\$1,825
Barn	0.16	80%	0.13	\$1,060

- [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.
- [3] Trip rates converted from (1) per-room basis assuming 325 sq.ft./hotel room; (2) per-DU basis assuming 1.6 units/1,000 sq.ft. for congregate care; and (3) per-acre basis assuming 0.1 Floor Area Ratio (FAR) for riding arena.
- [4] The nexus analysis prepared for the transportation fee did not include a Place of Worship category. This analysis assumes a fee equivalent to the Assembly Uses category.

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

Table 34 Recommended RTIF (Part B)

Fee Category	DUE Factor	Maximum Fee per Unit	Recommended Fee per Unit ¹	Percent of Max. Fee
			<i>= DUE * \$1,500</i>	
Residential				
Single Family Residential (SFR)	1.00	\$8,282	\$1,500	18.1%
Multi Family Residential (MFR)	0.62	\$5,135	\$930	18.1%
2nd SFR Unit/Accessory Unit	0.54	\$4,446	\$805	18.1%
MFR Senior/Retirement Housing	0.39	\$3,230	\$585	18.1%
Non-residential				
<i>Per 1,000 Building Square Feet</i>				
Retail/Commercial	1.86	\$15,364	\$382	2.5%
Service Commercial	4.60	\$38,101	\$980	2.6%
Assembly Uses	0.35	\$2,915	\$75	2.6%
General/Medical Office	1.15	\$9,502	\$269	2.8%
Hotels/Motels	1.08	\$8,943	\$230	2.6%
Industrial	0.75	\$6,195	\$110	1.8%
Warehouse/Distribution	0.14	\$1,126	\$36	3.2%
Institutional				
Health Care Facility	0.85	\$7,014	\$180	2.6%
Place of Worship	0.35	\$2,915	\$75	2.6%
Congregate Care Facility	0.32	\$2,621	\$67	2.6%
Private School	3.72	\$30,828	\$793	2.6%
Child Day Care Facility ²	3.46	\$28,618	Exempt	
Agricultural Uses				
Riding Arena	0.22	\$1,825	\$47	2.6%
Barn	0.13	\$1,060	\$27	2.5%

[1] Recommended transportation fees for nonresidential land use categories in the existing PFF (i.e., retail, office, industrial, and warehouse) were set such that when added to other fees, the total PFF fee for the category will be no more than the existing PFF for that category. This resulted in recommended fees calculated at 2.5% of maximum fees for retail, 2.8% for office, 1.8% for industrial, and 3.2% for warehouse. The average of these percentages is 2.6% and is applied to the maximum fee for each land use category that is not in the existing PFF program to derive the recommended fee. This ensured that the recommended fees for new nonresidential land use categories is set at comparable levels to recommended fees for existing land use categories.

[2] It is recommended that Child Day Care facilities be exempt from the regional transportation fee based on the assumption that most of the trips associated with child day care centers are local in nature and/or included as part of linked commutes (e.g. travel to work).

Source: 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 \$234.8 million as illustrated in **Table 35** below. As shown, the transportation component of the PFF is expected to generate about \$31.8 million for both Parts A and Part B, after incorporating the County's policy direction for the recommended RTIF and total PFF fees, as discussed in the preceding paragraphs.

Table 35 Total PFF Transportation Costs

Item Description	Projected DUE Growth ¹	Max. RTIF per DUE ²	Eligible Costs/ Revenues based on Max. Fee ³	Recommended Fee per DUE ⁴		Projected PFF Transportation Costs/Revenues
	a	b	c = a * b	% of Max. Fee	Amount	
d = Table 34						
e = b * d						
f = a * e						
PFF Transportation Revenues/Costs Part B (RTIF)						
Residential	19,400	\$8,282	\$160,678,446	18.1%	\$1,500	\$29,099,729
Nonresidential	<u>8,859</u>	\$8,282	<u>\$73,377,232</u>	2.6%	\$213	<u>\$1,886,716</u>
Subtotal Transportation, Part B	28,259		\$234,055,678			\$30,986,444
PFF Transportation Costs, Part A (See Table 31)						
	28,259		\$776,306	100.0%	\$27.47	\$776,306
Total PFF Transportation Costs (Part A and B)			\$234,831,984			\$31,762,750

[1] See Table 6 in Attachment 1.

[2] See Table 12 in Attachment 1.

[3] See also Table 2 in Attachment 1 for RTIF eligible project costs by transportation project.

[4] The County has established a recommended RTIF (Part B) fee of \$1,500 per DUE. However, applying a fee of \$1,500 per DUE (i.e., \$6,900 per 1,000 sq.ft. of Service Commercial) would result in total PFF fees above the existing PFF fees for nonresidential uses. To ensure that the total PFF fee per 1,000 sq.ft. remains equal to the existing PFF for nonresidential uses, a further downward adjustment of the maximum RTIF fee was required to obtain an appropriate level of the recommended fee. Based on the level of fees calculated for other facilities, only 2.6% of the maximum RTIF would have to be added-on to ensure that the total updated PFF remains equal to the existing PFF.

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

Total Regional Transportation Impact Fee

Table 36 summarizes the total countywide regional transportation fee which combines recommended fees in Parts A and B discussed above.

Table 36 Total Recommended Transportation Impact Fee

Fee Category	Recommended Regional Transportation Fees		Recommended Total Fee
	Part A	Part B	
Residential			
		<u>Per Unit</u>	
Single Family Residential (SFR)	\$27	\$1,500	\$1,527
Multi Family Residential (MFR)	\$17	\$930	\$947
2nd SFR Unit/Accessory Unit	\$15	\$805	\$820
MFR Senior/Retirement Housing	\$11	\$585	\$596
Non-residential			
		<u>Per 1,000 Building Square Feet</u>	
Retail/Commercial	\$51	\$382	\$433
Service Commercial	\$126	\$980	\$1,106
Assembly Uses	\$10	\$75	\$85
General/Medical Office	\$32	\$269	\$301
Hotels/Motels	\$30	\$230	\$260
Industrial	\$21	\$110	\$131
Warehouse/Distribution	\$4	\$36	\$40
Institutional			
Health Care Facility	\$23	\$180	\$203
Place of Worship	\$10	\$75	\$85
Congregate Care Facility	\$9	\$67	\$76
Private School	\$102	\$793	\$895
Child Day Care Facility ¹	Exempt		
Agricultural Uses			
Riding Arena	\$6	\$47	\$53
Barn	\$4	\$27	\$31

[1] It is recommended that Child Day Care facilities be exempt from the regional transportation fee based on the assumption that most of the trips associated with child day care centers are local in nature and/or included as part of linked commutes (e.g. travel to work).

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

7. ADMINISTRATION

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 1.5 percent of the subtotal fee level for all the departments has been included in the PFF program. As shown in **Table 37**, this administrative charge increases the total residential fee amounts by about \$64 to \$132 per unit inside the County Library System and by about \$52 to \$109 outside the County Library System. For nonresidential land use categories, the administrative charge increases the fee amounts by about \$2 to \$28 per 1,000 sq. ft. Overall, the administrative component could generate approximately \$2.9 million over 20 years, as shown in **Table 4**, or \$146,260 per year to cover administrative costs which have historically ranged between \$60,000 and \$200,000 per year.

Table 37 Total PFF, including Administrative Charge

Land Use	Subtotal PFF		PFF Admin. Charge		Total PFF ¹	
	Cities in Co. Library Sys./ Unincorp. Co.	Outside Co. Library System ²	Inside Co. Library System	Outside Co. Library System ²	Cities in Co. Library Sys./ Unincorp. Co.	Outside Co. Library System ²
	a	b	c = a*1.5%	d = b*1.5%	e = a + c	f = b + d
Residential						
	<i>Fee Amount per Unit</i>					
Single Family Residential	\$8,830	\$7,240	\$132	\$109	\$8,962	\$7,349
Multi-Family Residential	\$6,627	\$5,390	\$99	\$81	\$6,726	\$5,471
2nd SFR Unit/Accessory Unit ³	\$4,508	\$3,705	\$68	\$56	\$4,575	\$3,761
MFR Senior/Retirement Housing	\$4,284	\$3,481	\$64	\$52	\$4,348	\$3,533
Nonresidential						
	<i>Fee Amount per 1,000 Square Feet</i>					
Retail/ Commercial	\$847	\$847	\$13	\$13	\$859	\$859
Service Commercial	\$1,898	\$1,898	\$28	\$28	\$1,927	\$1,927
Assembly Uses	\$464	\$464	\$7	\$7	\$471	\$471
General/ Medical Office	\$1,409	\$1,409	\$21	\$21	\$1,430	\$1,430
Hotels/ Motels	\$512	\$512	\$8	\$8	\$519	\$519
Industrial	\$592	\$592	\$9	\$9	\$601	\$601
Warehouse/Distribution	\$178	\$178	\$3	\$3	\$181	\$181
Institutional						
Health Care Facility	\$932	\$932	\$14	\$14	\$946	\$946
Place of Worship	\$362	\$362	\$5	\$5	\$367	\$367
Congregate Care Facility	\$589	\$589	\$9	\$9	\$598	\$598
Private School	\$1,203	\$1,203	\$18	\$18	\$1,221	\$1,221
Child Day Care Facility	\$308	\$308	\$5	\$5	\$313	\$313
Agricultural Uses						
Riding Arena	\$358	\$358	\$5	\$5	\$363	\$363
Barn	\$123	\$123	\$2	\$2	\$125	\$125

[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.

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# 121069

Land Use	Public Protection Facilities						Health & Social Services	General Government Facilities					Transportation		Subtotal Fee	Admin. Charge at 1.5%	Total Fee			
	Adult Detention	Probation	Animal Care	District Attorney	Courts	Govt. Center Debt		Library	Govt. Center Debt	Agriculture Commissioner	Information Technology	Registrar of Voters	County Parks	Part A				Part B		
Residential																**1.5%				
Single Family Residential (SFR) Unit	\$1,028	\$35.39	\$82	\$5.67	\$31.18	\$590	\$1,053	\$1,600	\$838.08	\$22.50	\$65.07	\$23.38	\$404.88	\$27	\$1,500	\$9,829.75	\$132.45	\$8,992		
Multi-Family Residential (MFR) Unit	\$1,469	\$27.52	\$71	\$4.41	\$24.25	\$484	\$1,441	\$1,238	\$485.20	\$17.50	\$68.10	\$18.19	\$314.88	\$17	\$930	\$6,826.58	\$89.40	\$6,738		
2nd SFR Unit/Accessory Unit	\$974	\$17.87	\$48	\$2.88	\$15.75	\$301	\$936	\$803	\$321.58	\$11.37	\$42.86	\$11.81	\$204.54	\$15	\$805	\$4,507.77	\$67.82	\$4,575		
MFR Senior/Retirement Housing	\$974	\$17.87	\$48	\$2.88	\$15.75	\$301	\$936	\$803	\$321.58	\$11.37	\$42.86	\$11.81	\$204.54	\$11	\$585	\$4,283.73	\$64.28	\$4,348		
Nonresidential								<i>Fee Amount per 1,000 District Square Feet</i>												
Retail/ Commercial	\$242	\$4.45	-	\$0.71	\$3.92	\$75	-	-	\$78.89	\$2.83	\$4.85	-	-	\$51	\$382	\$648.55	\$12.70	\$659		
Service Commercial	\$484	\$8.51	-	\$1.38	\$7.50	\$143	-	-	\$153.12	\$5.41	\$8.91	-	-	\$128	\$880	\$1,888.11	\$28.47	\$1,917		
Assembly Uses	\$222	\$4.08	-	\$0.65	\$3.59	\$69	-	-	\$73.42	\$2.58	\$4.27	-	-	\$10	\$75	\$484.27	\$8.86	\$471		
General/ Medical Office	\$848	\$11.92	-	\$1.91	\$10.50	\$201	-	-	\$214.37	\$7.58	\$12.47	-	-	\$32	\$289	\$1,408.84	\$21.13	\$1,430		
Hotels/ Motels	\$148	\$2.71	-	\$0.43	\$2.39	\$48	-	-	\$48.72	\$1.72	\$2.84	-	-	\$30	\$230	\$511.58	\$7.67	\$519		
Industrial	\$270	\$4.88	-	\$0.80	\$4.37	\$84	-	-	\$89.32	\$3.16	\$5.20	-	-	\$21	\$110	\$592.38	\$9.89	\$601		
Warehouse/Distribution	\$81	\$1.48	-	\$0.24	\$1.31	\$25	-	-	\$28.80	\$0.95	\$1.58	-	-	\$4	\$38	\$178.28	\$2.87	\$181		
Institutional																				
Health Care Facility	\$427	\$7.54	-	\$1.26	\$6.91	\$132	-	-	\$141.03	\$4.99	\$8.21	-	-	\$23	\$180	\$932.49	\$13.89	\$946		
Place of Worship ¹	\$182	\$2.88	-	\$0.48	\$2.62	\$50	-	-	\$53.59	\$1.89	\$3.12	-	-	\$10	\$75	\$361.78	\$5.43	\$367		
Congregate Care Facility	\$300	\$5.52	-	\$0.88	\$4.88	\$93	-	-	\$88.25	\$3.51	\$5.78	-	-	\$8	\$67	\$588.85	\$8.83	\$598		
Private School	\$180	\$3.31	-	\$0.53	\$2.92	\$56	-	-	\$58.55	\$2.10	\$3.47	-	-	\$102	\$783	\$1,203.15	\$18.05	\$1,221		
Child Day Care Facility	\$180	\$3.31	-	\$0.53	\$2.92	\$56	-	-	\$58.55	\$2.10	\$3.47	-	-	-	-	\$307.90	\$4.82	\$313		
Agricultural Uses																				
Riding Arena	\$178	\$3.27	-	\$0.52	\$2.88	\$55	-	-	\$58.89	\$2.08	\$3.43	-	-	\$8	\$47	\$357.57	\$5.38	\$363		
Barn	\$54	\$0.99	-	\$0.16	\$0.87	\$17	-	-	\$17.88	\$0.63	\$1.04	-	-	\$4	\$27	\$122.89	\$1.84	\$125		

[1] The nexus analysis prepared for the RTIF (Part D) did not include a Place of Worship category. This analysis assumes a fee equivalent to the Assembly Uses category.

Source: Economic & Planning Systems.

Table A-2
 Employment Details
 Bolano County PFF Updated Nexus Study; EPS# 121086

Data Source/ Specific Uses	Nonresidential					Institutional					Agricultural Uses		
	Retail/ Commercial	Service Commercial	Assembly Uses	General/ Medical Office	Hotels/ Motels	Industrial	Warehouse/ Distribution	Health Care Facility	Places of Worship	Congregate Care Facility	Private School/ Day Care Facility	Riding Arena ¹	Barn
U.S. Green Building Council ¹	-	-	-	-	-	-	-	-	-	-	-	-	-
General Light Industrial	-	-	-	-	-	463	-	-	-	-	-	-	-
Heavy Industrial	-	-	-	-	-	549	-	-	-	-	-	-	-
Industrial Park	-	-	-	-	-	500	-	-	-	-	-	-	-
Manufacturing	-	-	-	-	-	535	-	-	-	-	-	-	-
Warehousing	-	-	-	-	-	-	761	-	-	-	-	-	-
Warehousing	-	-	-	-	-	-	2,114	-	-	-	-	-	-
Elementary School	-	-	-	-	-	-	-	-	-	1,250	-	-	-
Elementary School	-	-	-	-	-	-	-	-	-	1,131	-	-	-
Hospital	-	-	-	-	-	-	-	372	-	-	-	-	-
Hospital	-	-	-	-	-	-	-	488	-	-	-	-	-
General Office - Suburbs	-	-	-	304	-	-	-	-	-	-	-	-	-
Corporate HQ - Suburbs	-	-	-	260	-	-	-	-	-	-	-	-	-
Single Tenant Office	-	-	-	285	-	-	-	-	-	-	-	-	-
Medical-Dental Building	-	-	-	207	-	-	-	-	-	-	-	-	-
Office Park	-	-	-	270	-	-	-	-	-	-	-	-	-
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/ drive-thru	-	70	-	-	-	-	-	-	-	-	-	-	-
Fast Food w/ drive-thru	-	92	-	-	-	-	-	-	-	-	-	-	-
Grocery	938	-	-	-	-	-	-	-	-	-	-	-	-
Lodging	-	-	-	-	1,124	-	-	-	-	-	-	-	-
Lodging	-	-	-	-	817	-	-	-	-	-	-	-	-
Bank	-	317	-	-	-	-	-	-	-	-	-	-	-
Office under 100,000 sq.ft.	-	-	-	228	-	-	-	-	-	-	-	-	-
Office over 100,000 sq.ft.	-	-	-	221	-	-	-	-	-	-	-	-	-
Neighborhood Retail	580	-	-	-	-	-	-	-	-	-	-	-	-
Community Retail	383	-	-	-	-	-	-	-	-	-	-	-	-

Table A-2
 Employment Densities
 Solano County PFF Updated Nexus Study; EPS# 121058

Data Source/ Specific Uses	Nonresidential					Institutional					Agricultural Uses	
	Retail/ Commercial	Service Commercial	Assembly Uses	General/ Medical Office	Hotels/ Motels	Industrial	Warehouse/ Distribution	Health Care Facility	Places of Worship	Congregate Care Facility	Private School/ Day Care Facility	Riding Areas ¹
SCAG Employment Density Study²												
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	-	-	-	-	-	-	614	-	-	-	-	-
Government Offices	-	-	-	261	-	-	-	-	-	-	-	-
Portland Metro Employment Density Study (by Industry Group)³												
Food & Kindred Products	-	-	-	-	-	830	-	-	-	-	-	-
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	-	-	-	-	-	-
Transportation and Warehousing	-	-	-	-	-	-	3,200	-	-	-	-	-
TCPU - Communications and Public Utilities	-	480	-	-	-	-	-	-	-	-	-	-
Wholesale Trade	-	-	-	-	-	-	1,300	-	-	-	-	-
Retail Trade	470	-	-	-	-	-	-	-	-	-	-	-
Finance, Insurance, & Real Estate	-	-	-	370	-	-	-	-	-	-	-	-
Non-Health Services	-	770	-	-	-	-	-	-	-	-	-	-
Health Services	-	-	-	-	-	-	-	350	-	-	-	-
Educational, Social, Membership Services	-	-	-	-	-	-	-	-	-	740	-	-

Table A-2
Employment Densities
Bolano County PFF Updated Nexus Study; EPS# 131068

Data Source/ Specific Uses	Nonresidential						Institutional					Agricultural Uses	
	Retail/ Commercial	Service Commercial	Assembly Uses	General/ Medical Office	Hotels/ Motels	Industrial	Warehouse/ Distribution	Health Care Facility	Places of Worship	Congregate Care Facility	Private School/ Day Care Facility	Riding Arena ⁸	Barn
Employment Density in the Puget Sound Region¹													
Agriculture	-	-	-	-	-	-	-	-	-	-	-	-	3,023
Warehousing	-	-	-	-	-	-	1,088	-	-	-	-	-	-
School	-	-	-	-	-	-	-	-	-	-	788	-	-
Industrial	-	-	-	-	-	600	-	-	-	-	-	-	-
Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-
Hospital/Convalescent Center	-	-	-	-	-	-	-	323	-	323	-	-	-
Office	-	-	-	202	-	-	-	-	-	-	-	-	-
GSA Workspace Utilization Study (2011)⁴													
Government Offices (Fed.)	-	-	-	218	-	-	-	-	-	-	-	-	-
Private Sector Offices	-	-	-	230	-	-	-	-	-	-	-	-	-
GSA's Headquarters (2013)	-	-	-	62	-	-	-	-	-	-	-	-	-
City of Davis Fiscal Model⁵													
Retail	500	-	-	-	-	-	-	-	-	-	-	-	-
Office	-	-	-	300	-	-	-	-	-	-	-	-	-
Senior Care Facility	-	-	-	-	-	-	-	-	-	750	-	-	-
Daycare	-	-	-	-	-	-	-	-	-	-	750	-	-
Church	-	-	1,000	-	-	-	-	-	1,000	-	-	-	-
Restaurant	-	500	-	-	-	-	-	-	-	-	-	-	-
Athletic Club	-	750	-	-	-	-	-	-	-	-	-	-	-
Los Angeles Times article (12/15/2010)													
Area Development Magazine ⁶	-	-	-	200	-	-	-	-	-	-	-	-	-
Greenbelt.com ⁷	-	-	-	151	-	-	-	-	-	-	-	-	-
Movie Theater (EPS analysis)	-	-	452	-	-	-	-	-	-	-	-	-	-
Maximum	1,042	770	1,000	370	1,152	1,500	3,200	400	1,000	750	1,250	0	3,023
Minimum	303	70	452	92	917	300	781	323	1,000	323	740	0	3,023
Average	665	354	726	252	1,064	603	1,570	303	1,000	537	827	0	3,023
Average Sq. Ft. per worker (Rounded)	670	350	730	250	1,100	600	2,000	380	1,000	540	900	910	3,000

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

[2] From The National Company (2001). "Employment Density Study." Data based on a survey of 5-courses in Southern California. URL: http://www.sag.ca.gov/files/downloads/empdy_dsn.pdf. Accessed 2/7/2013.

[3] From Pham (2004). "Employment Density in the Puget Sound Region" University of Washington. URL: [studyhttp://evans.uw.edu/sites/default/files/Pham_2004.pdf](http://evans.uw.edu/sites/default/files/Pham_2004.pdf). Accessed 2/7/2013.

[4] From U.S. General Services Administration (2011). "Workspace Utilization and Allocation Benchmark." URL: http://www.gsa.gov/graphics/gsp/Workspace_Utilization_Benchmark_Ady_2012.pdf. Accessed 2/7/2013.

[5] From City of Davis fiscal model assumptions. URL: http://cityof-davis.org/Meeting/DefaultDocuments/2011/Fiscal/Commission%20Agenda%20-%20December%202011/2011_Bem_06_Fiscal%20Model%202011.pdf. Accessed 2/7/2013.

[6] From URL: <http://www.area-development.com/area-development/2012/area-development-re-planning-27720223.shtml>. Accessed 2/7/2013.

[7] From URL: http://www.greenbelt.com/HR/industry/586200A9-40FE-43B0-8ACF-8A0067011870/ID5/GRA13681_FactSheet/WhatPaper_FINALHR.PDF. Accessed 2/7/2013.

[8] Assumes 25% more space per employee than assembly uses.

Source: Economic & Planning Systems.

ATTACHMENT 1:

Solano County Regional Transportation Impact Fee
Nexus Report



ATTACHMENT 1

Regional Transportation Impact Fee Nexus Report: A Component of Solano County Public Facility Fee

The Economics of Land Use



*Economic & Planning Systems, Inc.
2501 Ninth Street, Suite 200
Berkeley, CA 94710-2257
510 841 9190 tel
510 841 9208 fax*

*Berkeley
Denver
Los Angeles
Sacramento*

www.epsys.com

Acknowledgements

Prepared for:

Solano County Board of Supervisors
and
Solano Transportation Authority

Prepared by:

Economic & Planning Systems, Inc. and
Fehr & Peers

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Table of Contents

1.	INTRODUCTION AND SUMMARY OF FINDINGS	1
	Nexus Report Overview	1
	Summary of Fees.....	2
	Key Issues and Assumptions	4
2.	RTIF GROWTH PROJECTIONS	6
	Growth Projections.....	6
	Use of Projections in Nexus Analysis.....	8
	Dwelling Unit Equivalent Calculations	9
3.	RTIF CAPITAL PROJECTS AND COSTS	12
	RTIF Priority Projects and Costs	12
	Changes to RTIF Priority Projects	16
4.	RTIF NEXUS ANALYSIS AND FEE CALCULATION.....	17
	Existing Traffic Conditions	17
	Transportation Modeling	18
	Calculation of Maximum Fee.....	22
	 APPENDIX A: Documentation of RTIF Facility Costs Estimates	

List of Tables

Table 1	Maximum Allowable Fee Level.....	3
Table 2	Total RTIF Priority Project Costs	4
Table 3	RTIF Growth Forecasts by Jurisdiction (2013-2033).....	7
Table 4	Land Use Growth Forecasts	9
Table 5	Dwelling Unit Equivalent Assumptions.....	10
Table 6	Growth Converted into DUEs (2013 – 2033)	11
Table 7	RTIF Priority Project Cost Estimates.....	13
Table 8	RTIF Eligible County Road Projects	15
Table 9	Eligible RTIF Transit Projects	16
Table 10	Information on Existing Traffic Conditions at RTIF Project Locations	19
Table 11	Regional Trip Percentages for Priority RTIF Projects	21
Table 12	RTIF Project Cost Per DUE.....	22
Table 13	Maximum Allowable Fee by Land Use Category	23

1. INTRODUCTION AND SUMMARY OF FINDINGS

The Regional Transportation Impact Fee Nexus Report (hereafter "RTIF Report"), a component of the Solano County Public Facility Fee (PFF), is designed to provide Solano County with the necessary technical documentation and nexus analysis supporting the adoption of a Regional Transportation Impact Fee. It has been prepared by Economic & Planning Systems, Inc. (EPS) and Fehr & Peers Associates Inc., for Solano County and the Solano Transportation Authority (STA). The RTIF program described herein is consistent with the most recent relevant case law and the principles of AB1600 or Government Code Section 66000 et seq ("Fees for Development Projects"; except where specific citations are provided, these statutes will be referred to in this Report as AB 1600).

This study effort was initiated by the STA and is being completed in connection with Solano County as part of its PFF update. The study process has included input from variety of stakeholders, including representatives from County jurisdictions as well as developer, housing, and environmental interests. Specifically, the methodology, assumptions and overall structure of the RTIF have been developed with both technical input from two Technical Working Groups (TWGs) consisting of staff from the County and its seven (7) municipalities. In addition, the Report incorporates guidance received by a Stakeholder Committee (SC) consisting of representatives from various community interest groups, and a Policy Committee (PC) composed of the members of the STA Board, the STA Executive Directors, and the Chief Executive Officers of the STA's member agencies.

This RTIF Report contains a number of relatively minor updates and refinements to the RTIF Report approved by the STA Board on July 10th, 2013 ("July Report"). These changes and refinement reflect on-going technical analysis that has been conducted by EPS and Fehr and Peers to ensure consistency between the July Report and the County's PFF Study, incorporate new or updated information, and address technical questions or issues that have arisen as part of both efforts. This includes updated facility cost estimates, exclusion of State Inmate population, incorporation of most recent Department of Finance population estimates, and other minor changes that are documented in subsequent sections. Consequently, some of the detailed assumptions and data contained in the July Report have been refined and updated herein where appropriate, resulting in a small change in the maximum allowable fee (i.e., less than five (5) percent).

Following this introductory chapter, **Chapter 2** discusses population and employment growth potential used in this analysis and **Chapter 3** describes the methodology for identifying "priority RTIF project" and estimating their costs. **Chapter 4** describes the modeling techniques used to establish nexus for the RTIF and the resulting RTIF fee calculation by land use category.

Nexus Report Overview

The RTIF program described in this Report will provide funding for regional transportation improvements required to serve new development and to ensure that desired service levels can be achieved and/or maintained. To the extent that required improvements serve both new and existing development, or travel through the Solano County, only the portion that is attributable

to new development inside the region is included in the RTIF program. It is expected that the RTIF program funding will be augmented by other revenue sources to meet overall funding requirements, including local, State, and Federal sources.

This RTIF Report provides a schedule of fees to be established and collected as a part of the County Public Facilities Fee. The proposed RTIF program fee, if approved, will need to be included in the adoption of a County Resolution authorizing its collection as a component of the current County PFF program. The current enabling Ordinance allows the County to adopt, by Resolution, a fee schedule consistent with supporting technical analysis and findings. The Resolution approach to setting the fee allows periodic adjustments of the fee amount that may be necessary over time, without amending the enabling Ordinance.

This RTIF Report and the technical information it contains should be reviewed periodically by the County and STA as necessary to ensure its accuracy and to enable the adequate programming of funding sources. To the extent that improvement requirements, costs, or development potential changes over time, the RTIF program will need to be updated.

This RTIF Report does not determine, or advocate for, a particular fee level. Rather its purpose is to calculate the maximum allowable fee that could be charged pursuant to the requirements of AB 1600. In addition, the following considerations are important in reviewing this Report:

- The acceptance or approval of this RTIF Report does not, in itself, constitute the approval of the RTIF or a corresponding fee schedule. This can only occur through the approval of a required Resolution by the County Board of Supervisors.
- The acceptance or approval of this RTIF Report or the RTIF does not constitute approval of the construction for a particular transportation project or set of improvements. The funding and approval of the particular transportation improvements identified as part of the RTIF will be subject to the same approval and entitlement process that would be applicable in the absence of this fee program.
- The acceptance or approval of this Report or the RTIF does not constitute approval for any particular land use program or project. The entitlement and permitting process for future land use development in the County and its individual jurisdictions will remain the same regardless of whether the RTIF is approved.
- Any revenue generated from fees collected as part of the RTIF must be segregated into a designated account and only used to fund RTIF projects.

Summary of Fees

A summary of the maximum RTIF fees calculated by land use category are provided in **Table 1**. The fees shown represent the maximum RTIF fee that can be charged based on the nexus findings described in this Report. The maximum fees estimated assume one County-wide fee for each land use. These fees are calculated to generate sufficient revenue to cover the RTIF capital facility costs associated with new development throughout the County. The fee levels are based on the proportion of RTIF facility costs attributable to the growth in regional trips as a result of

new development in the County.¹ It should be noted that the Day Care Facility under "Institutional Land Uses" was modified from the July Report for consistency with the County PFF.

Table 1 Maximum Allowable Fee Level

Land Use Category	Maximum RTIF ¹
Residential	
Single Family Residential (SFR)	\$8,282 / Unit
Multi Family Residential (MFR)	\$5,135 / Unit
2nd SFR Unit/Accessory Unit	\$4,446 / Unit
MFR Senior/Retirement Housing	\$3,230 / Unit
Non-residential	
Retail/Commercial	\$15,364 / 1,000 Sq.Ft.
Service Commercial	\$38,101 / 1,000 Sq.Ft.
Assembly Uses	\$2,915 / 1,000 Sq.Ft.
General/Medical Office	\$9,502 / 1,000 Sq.Ft.
Hotels/Motels	\$2,906 / Room
Industrial	\$6,195 / 1,000 Sq.Ft.
Warehouse/Distribution	\$1,126 / 1,000 Sq.Ft.
Institutional	
Health Care Facility	\$7,014 / 1,000 Sq.Ft.
Congregate Care Facility	\$1,656 / Unit
Private School	\$30,828 / 1,000 Sq.Ft.
Day Care Facility ²	Exempt
Agricultural Uses	
Riding Arena ³	\$7,951 / Acre
Barn	\$1,060 / 1,000 Sq.Ft.

[1] The maximum RTIF is based on new regional trips. Local fee programs can also include RTIF facilities based on local trips and/or revenue shortfalls resulting from reductions to the maximum RTIF level.

[2] Differs from the July 2013 Report to be consistent with the County PFF.

[3] If a barn is included in the development than that portion of the project is charged separately based on the rate shown for "Barn".

A summary of the transportation projects and corresponding costs included in the RTIF program is provided in **Table 2**. As shown, the current project list includes eleven (11) "priority" RTIF transportation projects approved by the STA Board for an updated total cost of approximately

¹ A "regional trip" is defined in this Report as one that crosses at least one jurisdictional boundary and originates and/or terminates in a Solano County jurisdiction.

\$431 million. Of this amount approximately \$234 million or 54 percent is allocated to the RTIF program based on the nexus analysis.

Table 2 Total RTIF Priority Project Costs

RTIF Project	Total RTIF Project Cost		% New Regional Trips	Total RTIF Project Cost	
	Amount	% of total		Amount	% of total
#1 - Jepson Parkway	\$210,682,771	48.9%	57.717%	\$121,599,775	52%
#2 - Peabody Road	\$5,000,000	1.2%	77.900%	\$3,895,000	2%
#3 - SR 12/Pennsylvania Avenue	\$50,000,000	11.6%	71.400%	\$35,700,000	15%
#4 - SR 12/Church Road	\$8,891,989	2.1%	34.700%	\$3,085,520	1%
#5 - SR 37/Redwood Pkwy/ Fairgrounds Dr.	\$66,410,000	15.4%	32.900%	\$21,848,890	9%
#6 - Benicia Industrial Park Access	\$20,177,474	4.7%	77.800%	\$15,698,075	7%
#7 - Columbus Parkway	\$1,023,221	0.2%	84.500%	\$864,622	0%
#8 - North Connector	\$39,456,498	9.2%	64.300%	\$25,370,528	11%
#9 - SR 113 Improvements	\$4,475,494	1.0%	39.200%	\$1,754,394	1%
#10 County Rd. Projects	\$12,435,181	2.9%	17.044%	\$2,119,437	1%
#11 Regional Transit Project	\$12,435,181	2.9%	17.044%	\$2,119,437	1%
Total / Weighted Avg.	\$430,987,810	100.0%	54.307%	\$234,055,678	100%

The County may as a matter of policy decide to charge a fee below the maximum fee legally allowed based on the nexus calculations presented herein for any or all of the land uses.²

Key Issues and Assumptions

The calculation of the traffic impact fees is based on a variety of assumptions regarding land use, growth potential, service standards, and facility costs, as documented in subsequent chapters of this Report. However, some of the key issues that may warrant on-going consideration during the implementation of the RTIF program include:

- Land Use Assumptions.** The impact fee calculations are based on commercial, industrial, and residential growth potential at buildout in Solano County through 2033. 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.

² The revenue shortfall to the RTIF program that would result from reducing the fees must ultimately be made up by other non-RTIF revenue sources to ensure that the projects actually get built. Individual jurisdictions may elect to make up all or a portion of this shortfall through their local fee programs.

- **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 STA travel demand model. Fehr & Peers worked with a modeling Technical Advisory Committee to validate and update the base year 2013 and build-out year 2033 assumptions embodied in this model. This model calculates the demand that projected growth will generate for regional transportation improvements and thus serves the basis for estimating a “fair share” cost allocation.
- **Eligible and Selected RTIF Projects:** The maximum fee calculated based on 11 specific transportation projects that were selected based on input from the Technical Working Group (TWG), Stakeholder Committee (SC), and Policy Committee (PC) and ultimately approved by the STA Board on May 8, 2013. These projects were also reviewed to ensure that they meet the nexus requirements of AB 1600.
- **Consistency with Local Fee Programs:** Jurisdictions in Solano County may implement their own impact fee programs which may include facilities that overlap with those included in the RTIF. To avoid double-counting (i.e. charging a developer twice for the same improvements), these local fees should be developed in a way that is cognizant of the difference (shortfall) between the maximum allowable RTIF and the actual RTIF, and of the difference between regional impacts (as defined in this study) and local impacts which may be defined differently by individual jurisdictions.
- **Cost Estimates.** The fee calculations embody facility cost assumptions that have been developed based on published studies where available, City, County and STA staff estimates, as well as additional cost analysis provided by Mark Thomas & Company, Inc., a civil engineer retained by the STA as part of the Study. The 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.

2. RTIF GROWTH PROJECTIONS

The RTIF is a one-time fee levied on new development at a rate proportional to its demand for transportation capital improvements. Thus, a forecast of new development in Solano County is required to calculate the fee. This Chapter documents the land use growth assumptions used to calculate the RTIF program fee. Specifically, it describes the amount of residential, retail, and commercial/industrial land use development expected to occur in Solano County through the year 2033. These estimates are used for the following primary purposes in the fee calculation:

- Estimates of existing and future development are used to evaluate future traffic levels and determine the need for transportation improvements in Solano County.
- Estimates of future development are used to allocate the costs of required transportation improvements and ultimately to calculate a fee per unit of new growth.

The following sections describe the development projections and the key assumptions underlying them.

Growth Projections

Table 3 provides the population and employment forecasts by jurisdiction used in the RTIF modeling process which, for consistency, are the same projections being used as part of Solano County's broader PFF update. The projections incorporate a variety of analytical steps and data sources, as summarized below:

1. The County-wide population and employment growth forecasts are based on the average growth rate estimates from the most recent Association of Bay Area Governments (ABAG), California Department of Finance (DOF), and Woods & Poole (employment excludes DOF) projections.
2. The 2013 baseline population numbers used in this RTIF Report are based on actual DOF population estimates for each County jurisdiction in 2013. EPS excluded State prison inmates, estimated at 4,054 as of January 2013, from the Vacaville population estimates both in 2013 and 2033.
3. The baseline, year 2013 employment estimates at the jurisdiction level are based on benchmark estimates from the 2010 ABAG. To obtain the 2013 baseline employment estimates, EPS applied countywide annual growth rates between 2010 and 2012 in job growth based on California Employment Development Department (EDD) to the 2010 benchmark estimates.
4. The allocation of growth between these areas is based on the existing 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 2033 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).

Table 3 RTIF Growth Forecasts by Jurisdiction (2013-2033)

Jurisdiction	Amount by Year		2013 - 2033 Growth ¹	
	2013	2033	Total	Avg. Annual
Population				
Benicia	27,163	28,507	1,344	0.24%
Dixon	18,449	25,827	7,378	1.70%
Fairfield	108,207	121,215	13,008	0.57%
Rio Vista	7,599	17,334	9,735	4.21%
Suisun City	28,234	33,342	5,108	0.83%
Vacaville ²	88,623	101,159	12,536	0.66%
Vallejo	117,112	132,540	15,428	0.62%
Unincorporated	<u>18,946</u>	<u>19,575</u>	<u>629</u>	<u>0.16%</u>
County Total³	414,333	479,499	65,166	0.73%
Employment				
Benicia	14,466	16,560	2,094	0.68%
Dixon	4,489	4,754	266	0.29%
Fairfield	40,286	49,424	9,139	1.03%
Rio Vista	1,965	3,591	1,626	3.06%
Suisun City	3,192	4,232	1,040	1.42%
Vacaville	30,336	35,304	4,968	0.76%
Vallejo	32,549	40,790	8,241	1.13%
Unincorporated	<u>8,074</u>	<u>8,667</u>	<u>593</u>	<u>0.35%</u>
County Total⁴	135,357	163,322	27,965	0.94%

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

[2] Population estimates based on California DOF 2013 population estimates (2013 Pop. estimates in the July Report were based on Census 2010 and DOF 2012 numbers). Estimates shown here have been adjusted to exclude inmate population of 4,054 (as of Jan. 31, 2013) at the State Prison in Vacaville. Inmate population data is published by the California Dept. of Corrections & Rehabilitation, Office of Research.

[3] Countywide population growth based on the average annual growth rates from ABAG, DOF, and Woods & Poole between 2010 and 2030.

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

Source: Economic & Planning Systems.

The projections provided above deviate slightly from those utilized in the July Report based on updated and refined analysis. Specifically, the following refinements were made to these projections:

- 1. Exclusion of Prison Population:** For consistency with the County's PFF projections, EPS excluded State prison inmates, estimated at 4,054 as of January 2013, from Vacaville population estimates both in 2013 and 2033 used in the July Report.

- 2. Use of Updated DOF Population Estimates:** The 2013 baseline population numbers used in this report are based on actual DOF population estimates for each County jurisdiction in 2013 (DOF publishes the city and county population numbers mid-year, and the 2013 numbers were not available when the population analysis for the July Report was prepared). The 2013 baseline population numbers in the July Report were estimated using Census 2010 County population and DOF 2012 County population estimate.³ This update to incorporate 2013 DOF estimates increased the 2013 population estimate by 1,184.
- 3. Employment Estimates:** The RTIF Report updated the transportation model to incorporate the growth implied by the most recent EDD employment estimates for 2012 (the July Report utilized slighter older estimates). Specifically, the 2013 Countywide employment estimate of 135,157 used in this RTIF Report includes 712 less jobs than used in the July Report (Table 4), a change of less than 1 percent.

As described further below and noted at the outset of the RTIF Report, these changes (combined with updates to the facility cost estimates described in **Chapter 3**) have a slight ripple effect on the RTIF calculations and corresponding tables provided herein. The overall impact on the maximum RTIF is less than 5 percent.

Use of Projections in Nexus Analysis

The regional household and employment projections provided above form the basis for developing growth forecasts by land use category that are used to estimate travel demand. Specifically, the 2013 through 2033 household and employment projections are used to estimate future residential, retail, and commercial/industrial development. For employment projections, approximately 350 square feet per retail employee and 375 square feet for all other employment categories are assumed to estimate the commercial/industrial development. **Table 4** summarizes these estimates.

³In the July Report, EPS applied the county-wide average annual growth rate from 2010 to 2012 to 2010 census baseline population to derive 2013 county population estimates. The 2013 county population estimated was then distributed to individual cities based on each city's relative share of countywide population.

Table 4 Land Use Growth Forecasts

Land Use Category	Existing (Year 2013)	Total Growth (2013 - 2033)
Residential¹		
Single Family	100,391	14,000
Multi-Family	<u>36,701</u>	<u>8,709</u>
Subtotal	137,092	22,709
Employment		
Retail	29,178	6,136
Other	<u>106,179</u>	<u>21,832</u>
Subtotal	135,357	27,968
Square Feet		
Retail ²	10,212,244	2,147,456
Other ³	<u>39,817,185</u>	<u>8,187,071</u>
Subtotal	50,029,429	10,334,527

[1] Based on population projections in Table 3 and allocation between single-family and multi-family developed as part of the STA Travel Demand Model.

[2] Calculations assume 350 square feet per employee.

[3] Calculations assume 375 square feet per employee.

Dwelling Unit Equivalent 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 5**, and are based on standard assumptions regarding trip generation and trip diversion.⁴

⁴ Assumptions based on data from the Institute of Transportation Engineers (ITE) Trip Generation Model (9th Edition) and the San Diego Council of Governments (SANDAG) Brief Guide to Vehicular Traffic Generation Rates, July 1998.

Table 5 Dwelling Unit Equivalent Assumptions

Fee Category	Unit Type	Peak Hour Trip Rate ¹ a	% New Trips ² b	DUE Calculation c = a * b
Residential				
Single Family Residential (SFR)	/ Unit	1.00	100%	1.00
Multi Family Residential (MFR)	/ Unit	0.62	100%	0.62
2nd SFR Unit/Accessory Unit	/ Unit	0.54	100%	0.54
MFR Senior/Retirement Housing	/ Unit	0.39	100%	0.39
Non-residential				
Retail/Commercial	/ 1,000 Sq.Ft.	3.71	50%	1.86
Service Commercial	/ 1,000 Sq.Ft.	9.02	51%	4.60
Assembly Uses	/ 1,000 Sq.Ft.	0.55	64%	0.35
General/Medical Office	/ 1,000 Sq.Ft.	1.49	77%	1.15
Hotels/Motels	/ Room	0.61	58%	0.35
Industrial	/ 1,000 Sq.Ft.	0.88	85%	0.75
Warehouse/Distribution	/ 1,000 Sq.Ft.	0.16	85%	0.14
Institutional				
Health Care Facility	/ 1,000 Sq.Ft.	1.16	73%	0.85
Congregate Care Facility	/ Unit	0.20	100%	0.20
Private School	/ 1,000 Sq.Ft.	6.53	57%	3.72
Day Care Facility	/ 1,000 Sq.Ft.	Exempt		
Agricultural Uses				
Riding Arena ³	/ Acre	1.50	64%	0.96
Barn	/ 1,000 Sq.Ft.	0.16	80%	0.13

[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.

[3] If a barn is included in the development then that portion of the project is charged separately based on the rate shown for "Barn".

Source: Fehr & Peers.

The DUE factors described above are then used to calculate total DUE growth by land use and jurisdiction. Specifically, the land use growth forecasts presented in **Table 4** are multiplied by the DUE factors in **Table 5** to derive total DUE growth (employment estimates are converted to building square feet based on employment density assumptions). The results of these calculations are presented in **Table 6**. It should be noted that the STA travel demand model land use projections do not include the same level of detail as the Fee and DUE categories shown in **Table 5** (e.g., the STA travel demand model does not specify the number of hotel rooms, riding arenas or barns that will be developed in the County through 2033). 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 17 percent increase in DUEs countywide between 2013 through 2033.

Table 6 Growth Converted into DUEs (2013 – 2033)

Category / Jurisdiction	Single Family	Multi-Family	Retail Employment		Other Employment		Total DUEs
Land Use Growth	<u>Units</u>	<u>Units</u>	<u>Jobs</u>	<u>Sq. Ft.¹</u>	<u>Jobs</u>	<u>Sq. Ft.²</u>	
Benicia	249	249	0	0	2,093	785,020	-
Dixon	2,124	189	118	41,344	147	55,077	-
Fairfield	1,530	3,174	1,824	638,322	7,314	2,742,834	-
Rio Vista	2,519	1,283	368	128,645	1,258	471,916	-
Suisun City	3,820	681	1,627	569,459	3,341	1,252,866	-
Vacaville	2,520	2,643	2,094	732,881	6,147	2,305,146	-
Vallejo	1,112	487	105	36,753	935	350,622	-
Unincorporated	<u>125</u>	<u>3</u>	<u>0.1</u>	<u>52</u>	<u>596</u>	<u>223,590</u>	-
Total	14,000	8,709	6,136	2,147,456	21,832	8,187,071	
DUE Conversion Factor (see Table 5)	1.00 Per Unit	0.62 Per Unit		1.86 Per KSF		0.60 Per KSF	
DUE Growth³							
Benicia	249	155		0		468	871
Dixon	2,124	117		77		33	2,351
Fairfield	1,530	1,968		1,184		1,633	6,316
Rio Vista	2,519	795		239		281	3,835
Suisun City	3,820	422		1,056		746	6,045
Vacaville	2,520	1,639		1,359		1,373	6,891
Vallejo	1,112	302		68		209	1,691
Unincorporated	<u>125</u>	<u>2</u>		<u>0</u>		<u>133</u>	<u>260</u>
Total	14,000	5,400		3,984		4,876	28,259
Existing DUEs	100,391	22,755		18,944		23,713	165,802
% Growth	14%	24%		21%		21%	17%

[1] Square feet estimates assume an average of 350 square feet per employee.

[2] Square feet estimates assume an average of 375 square feet per employee.

[3] For residential uses, DUE calculation involves multiplying no. 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.

3. RTIF CAPITAL PROJECTS AND COSTS

This chapter documents the transportation improvements included in the initial RTIF capital project list and their corresponding costs. The RTIF capital project list includes all the projects that are assumed to be funded, in full or in part, by RTIF revenue and thus form the basis for the fee calculation. 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.

RTIF Priority Projects and Costs

As part of the RTIF study process, the STA convened numerous study sessions and public meetings with staff from the County's eight jurisdictions and other stakeholders to identify the priority projects that would be included in the regional fee program that will be impacted by regional growth throughout the County.⁵ In addition, all of the projects proposed and ultimately included in the RTIF Priority Project list have been reviewed to ensure consistency with the requirements of AB 1600. Based on this input and analysis, a final "RTIF Priority Project" list has been approved by the STA Board on May 8, 2013.

A description of the RTIF Priority Project list used to develop the fee calculated in this RTIF Report is provided in **Table 7**. As shown, there are 11 separate proposed RTIF projects with an estimated total updated capital cost of about \$431 million. The cost estimates and updates are further documented in **Appendix A** and are based on the best information available at the time of this Report.

To the extent that this project list and/or the corresponding cost estimates are updated, the maximum fee amount will change accordingly. In this regard it should be noted that project costs have been updated since the STA Board approved the July Report to reflect updated research for the County PFF. These changes increased the total costs of RTIF facilities by about \$3.2 million, or 0.8 percent. In addition, the list of eligible Express Bus Transit Centers and Train Stations projects was updated as follows:

1. The Fairfield /Vacaville Train Station, next phase project has been added to the list. This project, although approved by STA Board on May 8, 2013, was inadvertently excluded from the list of eligible projects for Express Bus Transit Centers and Train Stations expenditures on Table 7 of the July Report.
2. The Vallejo Station or Curtola Park & Ride, next phase project has been separated into two discrete projects. These two projects were combined into one project in the July Report.

⁵ The project list was developed based on input from two Technical Working Groups (TWGs) consisting of staff from the County and its seven (7) municipalities. In addition, it incorporates policy guidance received by a Stakeholder Committee (SC) consisting of representatives from various community interest groups, and a Policy Committee (PC) composed of the members of the STA Board, the STA Executive Directors, and the Chief Executive Officers of the STA's member agencies.

Table 7 RTIF Priority Project Cost Estimates

RTIF Project	Project Description	Project Cost Estimates ¹
#1 - Jepson Parkway	Construct remaining segments of Jepson Parkway, including Canon Road embankment	\$210,682,771
#2 - Peabody Road	New Canon Rd. to Fairfield City Limits, widen from 2 to 4 lanes	\$5,000,000
#3 - SR 12/Pennsylvania Avenue	Construct new interchange	\$50,000,000
#4 - SR 12/Church Road	Improve intersection	\$8,891,989
#5 - SR 37/Redwood Pkwy/ Fairgrounds Dr.	Widen roads and improve interchanges	\$66,410,000
#6 - Benicia Industrial Park Access	Add traffic signals and better accommodate trucks at I-680/Lake Herman Rd, and I-680/Park/Industrial	\$20,177,474
#7 - Columbus Parkway	Add traffic signal at Columbus/ Rose and improve westbound approach	\$1,023,221
#8 - North Connector	Construct North Connector from Business Center Drive to SR 12	\$39,456,498
#9 - SR 113 Improvements	TSM, TDM and ITS (e.g. incentives for carpooling, transit services, Park and Ride facilities, advance swerve warning signs, speed feedback signs and fog detection or closed circuit TV)	\$4,475,494
#10 County Rd. Projects	Unincorporated County roadway improvements that address new growth impacts (see RTIF Eligible County Road Projects)	\$12,435,181 ²
#11 Express Bus Transit Centers and Train Stations	County-wide Express Bus Transit Centers and Train Stations that address new growth impacts (see Table 9)	\$12,435,181 ²
Total RTIF Priority Projects Cost		\$430,987,810

[1] See Appendix A for detailed assumptions and documentation.

[2] Calculated based on 5% percent of total DUE revenue assuming a fee of \$1,500 / DUE. See Table A-7 in Appendix A for further detail.

The fee calculations embody facility cost assumptions that have been developed based on published studies where available, City, County and STA staff estimates, as well as additional cost analysis provided by Mark Thomas & Company, Inc., a civil engineer retained as part of the Study. Costs from studies published before 2013 were translated into year 2013 dollars using the Engineering News Record (ENR) construction cost index for the San Francisco Bay Area. The cost estimates are intended for planning purposes only, and will be refined over time as individual capital improvement projects are further developed and designed.

County Road and Transit Projects

In addition to discrete transportation projects, this RTIF Report includes two additional packages of improvements to address the impact of growth on the regional transportation system. One package includes major regional transit facilities, which could be either train stations or intermodal transfer centers that serve regional and express bus lines. The other package includes improvements to rural roads in unincorporated County areas that are affected by growth in the incorporated cities. It is proposed that 5 percent of the RTIF revenue be directed to each of these project packages. The total cost for these packages is based on the maximum allowable nexus, as described further in the subsequent chapter and also documented in **Appendix A**.

The STA in consultation with Solano County, the County Transit Operators and other stakeholders has developed an eligibility list of County road and Transit projects that will be eligible for the 5 percent RTIF revenue allocation. The list of eligible transit projects and preliminary cost estimates are summarized in **Table 8** and **Table 9** based on information assembled by the STA. It is important to note that the maximum RTIF fee is not derived based on this project list or corresponding costs. Rather it is calculated based on 5 percent of total RTIF revenue. This list of eligible facilities and cost estimates is provided in this RTIF Report for information purposes only.

Table 8 RTIF Eligible County Road Projects

Road Name	Begin Location	End Location	Cost to Upgrade ¹
ABERNATHY ROAD	Suisun Parkway	Mankas Corner Road	\$5,380,000
AZEVEDO ROAD	SR 12	Canright Road	\$1,380,000
CANRIGHT ROAD	McCormack Road	0.5 mi e/Azevedo Road	\$430,000
CHERRY GLEN ROAD	I-80 at Lyon Road	Vacaville c/l (at I-80)	\$5,740,000
CORDELIA ROAD	I-680	Suisun City c/l	\$7,700,000
FOOTHILL ROAD	Vacaville c/l	Pleasants Valley Road	\$450,000
LAKE HERMAN ROAD	Vallejo c/l	Benicia c/l	\$1,210,000
LOPES ROAD	Fairfield c/l	Lake Herman Road	\$19,090,000
LYON ROAD	Fairfield c/l	Cherry Glen Road	\$6,930,000
MANKAS CORNER ROAD	Abernathy Road	Fairfield c/l	\$2,920,000
McCLOSKEY ROAD	SR 12	McCormack Road	\$430,000
McCORMACK ROAD	SR 113	Rio Vista c/l	\$5,330,000
MIDWAY ROAD	I-80 at Vacaville c/l	SR 113	\$9,490,000
PEDRICK ROAD	Midway Road	Yolo County Line	\$14,830,000
PITT SCHOOL ROAD	Midway Road	Dixon c/l	\$580,000
PLEASANTS VALLEY ROAD	Cherry Glen Road	Vaca Valley Road	\$1,280,000
PORTER ROAD	Midway Road	Dixon c/l	\$665,000
ROCKVILLE ROAD	I-80	Suisun Valley Road	\$11,430,000
SUISUN VALLEY ROAD	Fairfield c/l	Rockville Road	\$3,330,000
VACA VALLEY ROAD	Pleasants Valley Road	Vacaville c/l	<u>\$455,000</u>
TOTAL			\$99,050,000

[1] Based on data provided by Solano County Public Works.

Table 9 Eligible RTIF Transit Projects

Project Name	Cost Estimate¹
Benicia Industrial Park Multi-modal Transit Center	\$1,800,000
Dixon Multimodal Transportation Center	\$27,800,000
Fairfield Transportation Center, next phase	\$25,000,000
Fairfield/Vacaville Train Station, next phase ²	\$8,609,720
360 Project Area Transit Center	\$295,640
Vallejo Station, next phase	\$10,000,000
Curtola Park & Ride, next phase	\$10,000,000
Vacaville Transportation Center, next phase	\$10,500,000
Suisun City Train Station improvements	<u>\$650,000</u>
Total	\$94,655,360

[1] Cost estimates provided by STA based on a variety of sources. Costs are for information purposes only and not used in the calculation of the maximum RTIF.

[2] Reflects net cost (i.e., total project costs of \$68,975,600 less identified revenues of \$60,365,880).

Changes to RTIF Priority Projects

While the initial RTIF Priority Project List was adopted as part of the July Report and now included in this RTIF Report, it is recognized that the list of transportation projects may need to be amended over time as circumstances change. In other words, the STA and participating jurisdictions will need to update the RTIF priority project list on a periodic basis as development occurs. Typically this would occur on a 5-year basis concurrent with AB 1600 statutory requirements for updating development impact fee programs.

4. RTIF NEXUS ANALYSIS AND FEE CALCULATION

This chapter describes the modeling techniques used to establish the basis for calculating the fee for the RTIF program. The fee per DUE is based on the cost of RTIF Priority Projects that can be attributable to new growth within Solano County divided by projected number of DUEs in the County.

Existing Traffic Conditions

By definition, a fee program charges fees to new development in order to fund transportation improvements necessary to serve the demand and impacts generated by that new development. The following procedure was used to determine if any of the transportation projects identified for inclusion in the RTIF are at locations that experience current traffic problems.

Available traffic analysis studies and reports were consulted, and the analysis of current traffic operations reported in those studies was reviewed to determine if any of the proposed RTIF projects are located on road facilities that currently operate at a level worse than LOS D during the peak hour; if that is the case, then that RTIF project would be at a location that is currently an "existing deficiency", and the cost of the capital improvement at that location would need to be divided between existing development and new development in proportion to their relative contribution to the deficiency.

For any location where there is an existing deficiency, the cost share attributable to new development, and therefore included in the RTIF, is calculated as follows:

1. Quantify the existing deficiency by determining the current traffic volumes that exceed the available capacity. For example, if a facility with a theoretical capacity of 2,000 vehicles is currently carrying 2,100 vehicles, the existing deficiency would be calculated as $2,100 - 2,000 = 100$.
2. Determine the future traffic growth by subtracting the current traffic volumes from the forecasted future traffic volumes. For example, if the future demand on that facility is projected to be 2,500 vehicles, the future traffic growth would be calculated as $2,500 - 2,100 = 400$.
3. Define the overall benefit of the project as the correction of the existing deficiency (from number 1 above) plus the accommodation of future growth (from number 2). In our example, the overall benefit of improving the road would be to correct the existing deficiency of 100 vehicles and to accommodate the future growth of 400 vehicles, for a total benefit of 500.
4. Calculate new development's share of the benefit as the result of number 2 divided by number 3. In this case, the share of the benefit to new development would be 80 percent, or 400 divided by 500. Therefore, 80 percent of the project cost would be included in the fee program. The remaining 20 percent of the project cost would need to be funded through other sources.

Existing Deficiency Evaluation

The results of the review of existing traffic information are shown in **Table 10**. As shown in that table, there was one location along the proposed Jepson Parkway project (at the intersection of Peabody Road and Cement Hill Road) where the traffic analysis results from a recent traffic study indicated peak hour operations at worse than LOS D conditions. This location was thus identified as an existing deficiency. The other RTIF projects did not have existing deficiencies.

The Jepson Parkway project involves a long corridor that extends between Fairfield and Vacaville. An existing deficiency was identified at a single location along that corridor. While that single location does not reflect conditions along the entire corridor, for the purposes of presenting a very conservative fee calculation it was decided to apply an existing deficiency discount to the total cost of the Jepson Parkway project. As part of the recently-adopted City of Fairfield traffic impact fee program update, an existing deficiency discount was calculated, per the approach outlined above, for the intersection of Peabody Road and Cement Hill Road; the resulting discount was calculated at 1 percent. Therefore, it is recommended that the cost of the Jepson Parkway project that is included in the RTIF be reduced by 1 percent.

Transportation Modeling

The adopted regional Solano-Napa Travel Model, which is the modeling tool approved for use in regional transportation planning efforts in Solano County, was used to establish the nexus between new development in Solano County and the capital improvement projects proposed for inclusion in the RTIF program. Information related to the proposed RTIF program was incorporated into the STA regional travel model, and a series of analyses were conducted to determine the proportion of usage on each RTIF facility that comes from new development in the Solano County region.

Background Assumptions

For the purposes of conducting the year 2033 RTIF analysis, it was necessary to determine what other, non-RTIF capital improvements are anticipated to be constructed by 2033. Based on direction from STA staff, the following improvements were assumed to be in place regardless of the status of the RTIF program:

- HOV/HOT lanes on I-80 and I-680 throughout the County
- Completion of Phase 1 of the I-80/I-680/SR 12 interchange improvements
- Widening of SR 12 West (Jameson Canyon) to 4 lanes from Red Top Road to SR 29

This is not intended to be an exhaustive list of all projects that would be constructed by 2033, but is intended to capture the most significant, large regional projects that are planned to be completed during that period. Undoubtedly there would be a number of local projects that could be completed during this timeframe, but for the purposes of the RTIF it is most important to capture the major regional projects and the effects those might have on regional traffic patterns.

Table 10 Information on Existing Traffic Conditions at RTIF Project Locations

RTIF Project	Source of Traffic Analysis Information	Traffic Analysis Result	Existing Deficiency?	Deficiency Percentage*
#1 - Japson Parkway	Fairfield Train Station Specific Plan Recirculated Draft EIR, City of Fairfield, February 2011, Table 4.14-4.	Peak hour LOS E at intersection of Peabody Rd/ Cement Hill Rd; all other intersections in vicinity of Japson Parkway at peak hour LOS D or better	Yes	1%
#2 - Peabody Road	Fairfield Train Station Specific Plan Recirculated Draft EIR, City of Fairfield, February 2011, Table 4.14-4.	Peak hour LOS E or better at all study intersections in vicinity of proposed project	No	N/A
#3 - SR 12/Pennsylvania Avenue	SR 12 Comprehensive Evaluation and Corridor Management Plan, STA, November 2012, page 4-15.	Peak hour LOS D or better	No	N/A
#4 - SR 12/Church Road	SR 12 Comprehensive Evaluation and Corridor Management Plan, STA, November 2012, page 4-15.	Peak hour LOS D or better	No	N/A
#5 - SR 37/Redwood Pkwy/ Fairgrounds Dr.	Redwood Parkway - Fairgrounds Drive Improvements Traffic Operations Analysis Report, STA, 2011, Table 16	Peak hour LOS D or better at all study intersections in vicinity of proposed project	No	N/A
#6 - Benicia Industrial Park Access	Valon Improvement Project Addendum to VIP EIR, City of Benicia, June 2008, page 3-43.	Peak hour LOS D or better at all study intersections in vicinity of proposed project	No	N/A
#7 - Columbus Parkway	Borden Ranch Project EIR, City of Vallejo, July 2004, Table IV.C-0.	Peak hour LOS D or better at intersection of Columbus Parkway/Rose Drive	No	N/A
#8 - North Connector	North Connector Project Draft EIR, STA, January 2008, Table 4.2-3	Peak hour LOS D or better at all study intersections in vicinity of proposed project**	No	N/A
#9 - SR 113 Improvements	SR 113 Major Investment Study Final Report, STA, May 2009, Table 2.4	Peak hour LOS D or better at all roadway segments studied	No	N/A

* Deficiency Percentage is calculated as the amount of traffic volume that is currently over capacity at that intersection, as a proportion of the total future growth in traffic volume projected. The project cost to be included in the STA RTIF program should be reduced by this deficiency percentage. For the intersection of Peabody Rd/Cement Hill Rd, the deficiency percentage was calculated as part of the City of Fairfield Traffic Impact Fee Program update, adopted by the Fairfield City Council in May 2013.

** The North Connector Project Draft EIR referenced above did find LOS F conditions at one intersection, at SR 12/Red Top Road. Since the study was completed, that intersection has been modified as part of the ongoing SR 12 Jameson Canyon widening project. Therefore, the LOS results reported at that intersection from the North Connector Project Draft EIR are no longer reflective of current operations, and that intersection is not identified as an existing deficiency.

Modeling Procedure

Using the STA regional travel model, the trip tables were separated into "baseline" and "growth" trip tables. The baseline trip table came from the 2013 model, and was subtracted from the 2033 trip table to produce a "growth" table that would represent the trips generated by new development. This is an important step since the fee will be charged only to new development, and is based on an evaluation of that new development's effects on the RTIF projects. The baseline and growth trip tables were then assigned simultaneously to a year 2033 network that reflected the assumed projects described above as well as the proposed RTIF projects. This method allows for the production of a year 2033 traffic assignment, while still allowing each trip to be characterized as either part of the baseline or part of the growth increment.

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.⁶ One way of determining the "regional significance" of a project, then, would be to look at the percentage of regional trips that are anticipated to use that facility. This RTIF fee is based on growth in regional trips only.

Results

The results are shown in **Table 11**. The table 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. The percentage of new regional traffic on each facility will be used as the percentage of that facility's improvement cost that will be considered eligible for inclusion in the RTIF program.

⁶ 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 11 Regional Trip Percentages for Priority RTIF Projects

RTIF Project	Existing Deficiency (see Table 10) a	% of New Regional Vehicle Trips ¹ b	RTIF Cost Allocation = (1-a) * b
#1 - Jepson Parkway	1.000%	58.3%	57.717%
#2 - Peabody Road	0.000%	77.9%	77.900%
#3 - SR 12/Pennsylvania Avenue	0.000%	71.4%	71.400%
#4 - SR 12/Church Road	0.000%	34.7%	34.700%
#5 - SR 37/Redwood Pkwy/ Fairgrounds Dr.	0.000%	32.9%	32.900%
#6 - Benicia Industrial Park Access	0.000%	77.8%	77.800%
#7 - Columbus Parkway	0.000%	84.5%	84.500%
#8 - North Connector	0.000%	64.3%	64.300%
#9 - SR 113 Improvements	0.000%	39.2%	39.200%
#10 County Rd. Projects ²	82.956%	100.0%	17.044%
#11 Regional Transit Projects ²	82.956%	100.0%	17.044%

[1] Regional trips are defined in this Report as those that include more than one jurisdiction and originate or terminate somewhere in Solano County.

[2] Cost allocation assumed to equal approx. 17% of total project costs, or the projected increase in County DUEs from 2013 - 2033. See Table A-7 in Appendix A for further detail.

It should be noted that the intent of this analysis was solely for the purposes of the RTIF process. The primary result is the percentage of new trips projected to use each facility that are regional (i.e., that involve travel between Solano County jurisdictions, or between a jurisdiction inside the County and another outside the County). It is not intended for these results to be used to determine the appropriate size or configuration for any particular facility, or to directly support any project-specific planning activities.

As described earlier, the RTIF program also includes a set of regional transit and County road projects. Neither of these packages lends itself to being directly modeled using the regional Solano-Napa Travel Model described in this chapter. However, it is reasonable to include facilities such as these 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.

These regional transit and County road projects are expected to benefit all County residents and workers, both those that are already in the County and those that will come to the County as a result of new development. Because it is not possible to directly model these projects using the regional Solano-Napa Travel Model, thus making it difficult to calculate the usage of these specific facilities by travelers generated by new development, it is instead proposed that the proportion of the 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. That percentage is 17 percent; that is, 17 percent of the total future

population and employment in Solano County is anticipated to occur as a result of new growth during the planning horizon covered by this study.

Calculation of Maximum Fee

As described in **Chapter 2**, this analysis relies on DUE factors to compare and evaluate future development across land use categories. 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 2013 through 2033. Specifically, the capital project costs (see **Table 7**) is divided by the total DUE growth by land use, calculated in **Table 6**, to obtain total cost per DUE. This calculation is summarized in **Table 12**.

Table 12 RTIF Project Cost Per DUE

RTIF Project	Total RTIF Project Cost a (see Table 7)	RTIF Cost Allocation b (see Table 11)	RTIF Costs c = a * b	Maximum Fee / DUE = c / Total DUE growth, or 28,259
#1 - Jepson Parkway	\$210,682,771	57.717%	\$121,599,775	
#2 - Peabody Road	\$5,000,000	77.900%	\$3,895,000	
#3 - SR 12/Pennsylvania Avenue	\$50,000,000	71.400%	\$35,700,000	
#4 - SR 12/Church Road	\$8,891,989	34.700%	\$3,085,520	
#5 - SR 37/Redwood Pkwy/ Fairgrounds Dr.	\$66,410,000	32.900%	\$21,848,890	
#6 - Benicia Industrial Park Access	\$20,177,474	77.800%	\$15,698,075	
#7 - Columbus Parkway	\$1,023,221	84.500%	\$864,622	
#8 - North Connector	\$39,456,498	64.300%	\$25,370,528	
#9 - SR 113 Improvements	\$4,475,494	39.200%	\$1,754,394	
#10 County Rd. Projects ¹	\$12,435,181	17.044%	\$2,119,437	
#11 Regional Transit Project ¹	\$12,435,181	17.044%	\$2,119,437	
Total / Weighted Avg.	\$430,987,810	54.307%	\$234,055,678	\$8,282

[1] Calculated based on 5% percent of total DUE revenue assuming a fee of \$1,500 / DUE. Cost allocation assumed to equal 17% of total project costs, or the percent increase in County DUEs from 2013 - 2033. See Table A-7 in Appendix A.

A summary of the maximum RTIF per DUE by land use is provided in **Table 13**. The actual fees by land use category are derived based on the DUE factors shown in **Table 5** (total fee per DUE multiplied by the DUE factor by land use category). As noted, the RTIF provides a single fee representing the entire County. To the extent that the costs are reduced because of outside funding sources, changed facility requirements, or reduced DUE growth, the fee would be reduced by a proportionate amount.

Table 13 Maximum Allowable Fee by Land Use Category

Fee Category	Unit Type	Peak Hour Trip Rate ¹ a	% New Trips ² b	DUE Calculation c = a * b	Max. Fee Per Unit = c * \$8,282 (see Table 12)
Residential					
Single Family Residential (SFR)	/ Unit	1.00	100%	1.00	\$8,282
Multi Family Residential (MFR)	/ Unit	0.62	100%	0.62	\$5,135
2nd SFR Unit/Accessory Unit	/ Unit	0.54	100%	0.54	\$4,446
MFR Senior/Retirement Housing	/ Unit	0.39	100%	0.39	\$3,230
Non-residential					
Retail/Commercial	/ 1,000 Sq.Ft.	3.71	50%	1.86	\$15,364
Service Commercial	/ 1,000 Sq.Ft.	9.02	51%	4.60	\$38,101
Assembly Uses	/ 1,000 Sq.Ft.	0.55	64%	0.35	\$2,915
General/Medical Office	/ 1,000 Sq.Ft.	1.49	77%	1.15	\$9,502
Hotels/Motels	/ Room	0.61	58%	0.35	\$2,906
Industrial	/ 1,000 Sq.Ft.	0.88	85%	0.75	\$6,195
Warehouse/Distribution	/ 1,000 Sq.Ft.	0.16	85%	0.14	\$1,126
Institutional					
Health Care Facility	/ 1,000 Sq.Ft.	1.16	73%	0.85	\$7,014
Congregate Care Facility	/ Unit	0.20	100%	0.20	\$1,656
Private School	/ 1,000 Sq.Ft.	6.53	57%	3.72	\$30,828
Day Care Facility	/ 1,000 Sq.Ft.	Exempt			
Agricultural Uses					
Riding Arena ³	/ Acre	1.50	64%	0.96	\$7,951
Barn	/ 1,000 Sq.Ft.	0.16	80%	0.13	\$1,060

[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.

[3] If a barn is included in the development then that portion of the project is charged separately based on the rate shown for "Barn".

APPENDIX A:
Documentation of RTIF Facilities
Cost Estimates



APPENDIX A: DOCUMENTATION OF RTIF FACILITIES COST ESTIMATES

This Appendix provides documentation for the construction cost estimates assumed as a basis for calculating the RTIF. While the cost estimates are derived from a variety of sources as documented herein, all estimates have been reviewed by the Solano Transportation Authority for use in the RTIF. It should be noted that that project costs have been updated since the July Report to reflect updated research. These changes increased the total costs of RTIF facilities by about \$3.2 million, or 0.8 percent.

As described in the RTIF Report, the transportation projects selected for inclusion in the RTIF study were the result of many meetings over the last three years with several key advisory groups, including a technical working group, a stakeholder group, and a policy advisory group. These groups include representation from all of the jurisdictions in the County. Starting with a very extensive list of about 90 possible projects, those groups worked to narrow the list and reach consensus on a set of projects that could be agreed upon as representing high-priority regional transportation investment needs.

Cost Estimate Summary

A summary of the RTIF program costs is provided in **Table A-1** and further detail for individual projects is provided below. The facility cost assumptions that have been developed are based on published studies that were available and City, County and STA staff input, as well as additional cost analysis provided by Mark Thomas & Company, Inc., a civil engineering firm retained by the STA as part of the Study. The cost estimates are intended for planning purposes, and is anticipated to be further refined over time as individual capital improvement projects are designed. The estimates will be periodically reviewed and updated as new information becomes available through the planning process and design process with revised estimates incorporated into updated RTIF calculations and nexus analysis, a process that generally occurs every five (5) years.

Table A-1 Summary of RTIF Estimated Project Costs

RTIF Project	Project Description	Project Cost Estimates ¹
#1 - Jepson Parkway	Construct remaining segments of Jepson Parkway, including Canon Road embankment	\$210,682,771
#2 - Peabody Road	New Canon Rd. to Fairfield City Limits, widen from 2 to 4 lanes	\$5,000,000
#3 - SR 12/Pennsylvania Avenue	Construct new interchange	\$50,000,000
#4 - SR 12/Church Road	Improve intersection	\$8,891,989
#5 - SR 37/Redwood Pkwy/ Fairgrounds Dr.	Widen roads and improve interchanges	\$66,410,000
#6 - Benicia Industrial Park Access	Add traffic signals and better accommodate trucks at I-680/Lake Herman Rd, and I-680/Park/Industrial	\$20,177,474
#7 - Columbus Parkway	Add traffic signal at Columbus/ Rose and improve westbound approach	\$1,023,221
#8 - North Connector	Construct North Connector from Business Center Drive to SR 12	\$39,456,498
#9 - SR 113 Improvements	TSM, TDM and ITS (e.g. incentives for carpooling, transit services, Park and Ride facilities, advance swerve warning signs, speed feedback signs and fog detection or closed circuit TV)	\$4,475,494
#10 County Rd. Projects	Unincorporated County roadway improvements that address new growth impacts (see RTIF Eligible County Road Projects)	\$12,435,181
#11 Express Bus Transit Centers and Train Stations	County-wide Express Bus Transit Centers and Train Stations that address new growth impacts (see Table 9)	\$12,435,181
Total RTIF Priority Projects Cost		\$430,987,810

[1] Cost revisions based on updated sources and assumptions. Detail assumptions presented below for each facility.

Cost Escalators

Because a number of project cost estimates were prepared between 2008 and 2010, this analysis relies on published cost escalators that measure the average change in construction costs between 2013 and the specific year cost estimates were initially prepared. The Construction Cost Index for San Francisco published by Engineering News Record (ENR) is used to calculate escalation factors, as summarized in **Table A-2**.

This analysis has not applied a cost escalator for land right-of-way (ROW) acquisition costs. According to MSA-level Land Price Indexes published by the Lincoln Institute of Public Policy,¹ land prices in the Sacramento metropolitan area² declined markedly during the recent recession but have been trending up in the last two years and are now close to 2009/10 levels when most project cost estimates were prepared.

Table A-2 Cost Indices and Construction Cost Escalators

Cost Year	San Francisco Construction Cost Index (March)	2013 Construction Cost Escalators Relative to Cost Year
2008	9,150.17	
2009	9,757.67	
2010	9,728.17	
2011	10,151.04	
2012	10,369.54	
2013	10,368.09	

Source: Engineering News Record

Assumptions for Individual Facilities

Further detail on the cost estimation assumptions for each of the RTIF transportation facilities is provided below.

1. Jepson Parkway

The Jepson Parkway Project proposes to upgrade existing roadways to create a continuous north-south arterial in central Solano County connecting Vacaville and Fairfield. The project would provide a four-lane divided arterial for the entire length of the corridor and includes improvements to Walter Road, Cement Hill Road, Vanden Road, and Leisure Town Road. Original cost estimates for the Project are provided in the Jepson Parkway Project Technical Report released by the STA in February 19, 2009. This detailed cost estimate included roadway items, structure items, right-of-way, utilities, and support costs on a segment by segment basis for a total Project cost of \$186.7 million (see **Exhibit A**). According to the STA, these cost estimates represent uncompleted portions of the Jepson Parkway only. This revised cost was adjusted for cost inflation and is now estimated at \$197.7 million (in 2013 dollars) as shown in **Table A-3**.

¹ Davis, Morris A. and Michael G. Palumbo, 2007, "The Price of Residential Land in Large US Cities," Journal of Urban Economics, vol. 63 (1), p. 352-384; data located at Land and Property Values in the U.S., Lincoln Institute of Land Policy <http://www.lincolninst.edu/resources/>.

² EPS believes that changes in land prices in Solano County are more likely to be consistent with the Sacramento metropolitan area rather than the San Francisco metro area. Therefore, while construction cost escalation is based on a San Francisco index, land costs escalation is based on a Sacramento metropolitan area index.

In addition, STA provided additional costs prepared by HDR to be added to Jepson Parkway Project for the construction of an embankment at Canon Road, for a grand total project cost of \$210.7 million (2013 dollars).

Table A-3 Jepson Parkway Revised Project Cost Estimate (2013 dollars)

Cost Item	Engineer's Cost Estimate (2009\$)	Cost Escalator	Revised Cost Estimate (2013\$)
Right-Of-Way	\$10,774,000	0.00%	\$10,774,000
Utilities	\$2,927,500	6.26%	\$3,110,638
Construction (Roadway/Structures)	\$141,776,667	6.26%	\$150,645,927
Support (22% of construction costs) ¹	<u>\$31,190,867</u>		<u>\$33,142,104</u>
Subtotal	\$186,669,034		\$197,672,669
Canon Road Embankment²			
Construction Cost (unescalated cost in 2013 dollars)		-	\$11,616,162
Construction Mgmt. (12% of construction cost)		-	<u>\$1,393,939</u>
Subtotal			\$13,010,102
Total Jepson Parkway Costs			\$210,682,771

[1] 12% engineering and 10% construction administration.

[2] According to STA, costs for this project are not part of the initial 2009 cost estimates for the Jepson Parkway Project. Cost estimates prepared by HDR and dated May 16, 2013.

Source: Jepson Parkway Project, Project Technical Report, February 2009; Engineering News Record; STA; and Economic & Planning Systems.

2. Peabody Road

The civil engineering firm Carlson, Barbee & Gibson, Inc. provided an initial estimate for the widening of Peabody Rd. from two (2) to four (4) lanes from New Canon Rd. to the Fairfield City limits, as part of the Northeast Fairfield Train Station Specific Plan. This detailed estimate conducted on May, 2012 generated a project cost of \$4.9 million (see **Exhibit B**). Subsequently, in May 2013 the City of Fairfield updated this cost estimate to \$5 million, as documented in a May 2013 letter to the STA (see attached **Exhibit C**). This updated project cost estimate is used in the RTIF nexus analysis.

3. State Route 12/Pennsylvania Avenue

The cost estimate for the SR 12 / Pennsylvania Ave. intersection is based on information provided by Mark Thomas & Company, Inc., a civil engineering firm retained by STA. The estimate covers the full cost associated with replacing the existing SR 12/Pennsylvania at-grade intersection with a new grade-separated interchange. The \$50 million estimate incorporates a set of relatively generic cost assumptions for a new interchange of this size and scope. The estimates were also informed by the 2008 Contra Costa Transportation Authority (CCTA) Cost Estimating Guide (CEG).

4. State Route 12/Church Road

The State Route 12 (SR-12)/Church Road project in Rio Vista involves the re-alignment of either Church Road or Amerada Road to eliminate the offset between Church Road and Amerada Road intersections on SR 12, addition of acceleration/deceleration lanes along SR-12, and addition of left turn lanes along the four intersection approaches. The Project cost was originally estimated at \$7.5 million (excluding the 5 percent escalation) based on cost estimates in the Project Study Report prepared by Caltrans in December 2009.³ For the RTIF Nexus Study these costs were updated to 2013 dollars as shown in **Table A-4**. Including environmental mitigation, the Project's total cost is estimated at approximately \$8.9 million (in 2013 dollars).

Table A-4 SR 12/Church Road Revised Project Cost Estimate (2013 dollars)

Cost Item	Engineer's Cost Estimate (2009\$)	Cost Escalator	Revised Cost Estimate (2013\$)
Right-of-Way	\$2,063,368	0.00%	\$2,063,368
Construction	\$4,001,038	6.58%	\$4,264,227
5% construction cost escalation	\$1,105,413		n/a
Environmental Mitigation ¹	\$0	-	\$985,000
Support ²	<u>\$1,485,000</u>	-	<u>\$1,579,394</u>
Total	\$8,654,819		\$8,891,989

[1] Based on STA estimate.

[2] Revised support costs calculated at the ratio of original support costs to construction and ROW costs.

Source: Project Study Report, June 2010; Engineering News Record; and Economic & Planning Systems.

5. State Route 37/Redwood Parkway/Fairgrounds Drive

The STA, Solano County, and the City of Vallejo, in cooperation with Caltrans and the Federal Highway Administration (FHWA), propose to construct high occupancy vehicle (HOV) lanes on westbound and eastbound I-80 between the Alfred Zampa (formerly Carquinez) Bridge and State Route 37. The project would add approximately ten (10) lane miles of HOV lanes to the I-80 corridor and consolidate access points within the project limits via ramp closures. The project costs included in the RTIF program reflect Alternative 2C-Redwood Parkway Interchange Modifications, as described in the CALTRANS Project Study Report (PSR), completed in December, 2008.⁴ The costs exclude construction of the HOV lane itself, but include the following elements, as described in the PSR (page 21).

³ The report can be downloaded at:

http://www.sta.ca.gov/docManager/1000002498/100622%20EA%2004-0G050k%20Final%20PSR_signed.pdf

⁴ See:

<http://www.sta.ca.gov/docManager/1000002418/Project%20Study%20Report%20and%20Signatures%20pages%201-33-web.pdf>)

- Construction of a tight diamond at I-80/Redwood Parkway Interchange
- Widening of Fairgrounds Drive from two to four lanes from Redwood Street to Coach Lane, and from four to six lanes from Coach Lane to Route 37.
- Signalized intersections at the Redwood Parkway/I-80 eastbound ramps, Redwood Road/I-80 WB ramps, and Redwood Road/Fairgrounds Drive
- Signalized intersections at Fairgrounds Drive/Solano County Fairgrounds Development Entrance (south), and Fairgrounds Drive/Nalle Vista Avenue
- Signal modifications at Fairgrounds Drive/Route 37 WB ramps, Fairgrounds Drive/Route 37 eastbound ramps, Fairgrounds Drive/Solano County Fairgrounds Development Entrance (north), Sereno Drive/Fairground Drive, and Redwood Road/Admiral Callaghan Way
- Relocation of the Fairgrounds Drive/Redwood Road intersection
- Cul-de-sac at Moorland Street west of Fairgrounds Drive

For the purposes of the RTIF the 2008 cost estimate of between \$60 and \$65 million is assumed to be \$62.5 million. This cost has been escalated to 2013 dollars based on ENR escalation factors (see **Table A-2**), resulting in a total cost estimate of \$66,410,000.

6. Benicia Industrial Park Access

A preliminary engineer's opinion of probable cost was prepared in August 2013 by Omni-Means, and is included here as **Exhibit D**. It estimates the Project's cost at approximately \$20.2 million. The total cost includes right-of-way, utilities, roadway construction, environmental mitigation, contingency and support items.

7. Columbus Parkway Improvements

The Columbus Parkway improvements consist of an extension and widening of the westbound right hand turn lane commencing approximately 700 feet east of Rose Drive. The cost for this improvement were provided by City of Benicia staff and documented in **Exhibit E**.

8. North Connector (West End)

The West End of the North Connector Project includes a 1-mile portion of roadway between SR 12/Red Top Road intersection and Business Center Drive. Proposed improvements consist of extending Business Center Drive as a two-lane roadway westward to connect with SR 12 at Red Top Road where a four-way signalized intersection would be installed with lane expansions to accommodate through, left- and right-turn movements in all directions. Caltrans prepared a Project Technical Report in April 2008 which estimated the Project cost at \$30.4 million (2008 dollars).⁵ After adjusting for cost inflation, as shown below, the Project cost is estimated at approximately \$33.9 million (in 2013 dollars). As shown, the 2013 cost also includes an environmental mitigation cost of \$5.6 million for a total Project cost of \$39.5 million.

⁵ The report can be downloaded at:

<http://www.sta.ca.gov/docManager/1000002605/01%20NC%20Project%20Technical%20Report%20%28042208%29.pdf>

Table A-5 North Connector Revised Project Cost Estimate (2013 dollars)

Cost Item	Engineer's Cost Estimate (2008\$)	Cost Escalator	Revised Cost Estimate (2013\$)
Right-of-Way	\$4,100,000	0.00%	\$4,100,000
Construction	\$21,450,000	13.31%	\$24,305,071
Environmental Mitigation ¹	\$0	-	\$5,555,875
Support ²	<u>\$4,850,000</u>	-	<u>\$5,495,552</u>
Total	\$30,400,000		\$39,456,498

[1] Mitigation costs for environmental mitigation for biological impacts, based on STA estimate.

[2] Revised support costs calculated at the ratio of original support costs to construction costs.

Source: North Connector Project Technical Report, April 2008; Engineering News Record; and Economic & Planning Systems.

9. State Route 113 Improvements

State Route 113 improvement costs in the RTIF include baseline Transportation System Management (TSM), Traffic Demand Management (TDM), and Intelligent Transportation Management Systems (ITS) enhancements. The enhancements are part of a list of projects proposed under the SR 113 Major Investment and Corridor Study prepared by Kimley-Horn and Associates and Cambridge Systematics for STA in May 2009. These TSM, TDM and ITS projects are intended to provide incentives for carpooling, transit services and construction of Park and Ride facilities. Project costs were estimated at \$4.2 million in 2009 dollars. For the RTIF, costs were escalated to \$4.5 million (in 2013 dollars) as shown in **Table A-6** below.

Table A-6 SR 113 TSM, TDM, and ITS Projects Revised Cost Estimate (2013 dollars)

Cost Item	Engineer's Cost Estimate (2009\$)	Cost Escalator	Revised Cost Estimate (2013\$)
Right-of-Way	\$0	0.00%	\$0
Construction	\$3,240,000	6.26%	\$3,442,688
Support ¹	<u>\$970,000</u>	-	<u>\$1,032,806</u>
Total	\$4,210,000		\$4,475,494

[1] Support costs calculated at 30% of construction costs.

Source: State Route 113 Major Investment Study, May 2009 prepared by Kimley-Horn and Associates; Engineering News Record; and Economic & Planning Systems.

10. County Road Projects

The RTIF program has been designed to allocate approximately 5 percent of all fee revenue to County road projects over the life of the program. The cost estimates are based on revenue projections assuming an RTIF of \$1,500 per DUE. Specifically, the RTIF forecast of 28,259 new DUEs in the County through 2033 multiplied by \$75 per DUE (5 percent of \$1,500) equals approximately \$2.2 million in revenue for County road projects.

As shown in **Table A-7**, the RTIF revenue of \$2.1 million generated from 2013 to 2033 equates to a total cost estimate for eligible RTIF County road projects of \$12.4 million. This is because the nexus allocates approximately 17 percent of these costs to the RTIF, or \$2.1 million, based on a proportional fair share allocation of County-wide DUE growth relative to existing DUEs. In other words, the RTIF forecast of 28,259 new DUEs in the County through 2033 represents a 17 percent increase over the existing DUEs.

Table A-7 RTIF Cost Allocation to County Road and Transit Projects

Item	Source	Formula	Amount
Total Projected DUE Growth	Table 6	a	28,259
Potential RTIF Total Revenue			
Recommended RTIF Per DUE		b	\$1,500
Total RTIF Revenue		c = a * b	\$42,388,739
5% of Total RTIF Revenue		d = c * 5%	\$2,119,437
Project Cost Allocation to RTIF		e = d	\$2,119,437
RTIF Allocated Cost as a % of Total Eligible Cost	Table 6	f	17%
Total Eligible Project Cost		g = e / f	\$12,435,181

It should be noted that the County has developed a list of County road projects that will be eligible for the 5 percent RTIF revenue allocation assumed for the RTIF program. **Table A-8** provides further documentation of the eligible facilities and corresponding preliminary cost estimates for the County road projects (Item #10 from **Table A-1**). As shown, the combined cost of these County road projects is \$99 million, significantly above the \$12.4 million estimate used to calculate the maximum nexus in the RTIF.

Again, it is important to note that the maximum RTIF fee is not derived based on this project list or corresponding costs. Rather it is calculated based on 5 percent of total RTIF revenue. This list of eligible facilities and cost estimates is provided for information purposes only. However, given that the capital cost associated with the identified list of eligible RTIF County road projects significantly exceeds the cost estimate assumed in the RTIF Nexus Reports, the methodology is highly conservative.

Table A-8 County Road Projects

Road Name	Begin Location	End Location	Cost to Upgrade ¹
ABERNATHY ROAD	Suisun Parkway	Mankas Corner Road	\$5,380,000
AZEVEDO ROAD	SR 12	Canright Road	\$1,380,000
CANRIGHT ROAD	McCormack Road	0.5 mi e/Azevedo Road	\$430,000
CHERRY GLEN ROAD	I-80 at Lyon Road	Vacaville c/l (at I-80)	\$5,740,000
CORDELIA ROAD	I-680	Suisun City c/l	\$7,700,000
FOOTHILL ROAD	Vacaville c/l	Pleasants Valley Road	\$450,000
LAKE HERMAN ROAD	Vallejo c/l	Benicia c/l	\$1,210,000
LOPES ROAD	Fairfield c/l	Lake Herman Road	\$19,090,000
LYON ROAD	Fairfield c/l	Cherry Glen Road	\$6,930,000
MANKAS CORNER ROAD	Abemathy Road	Fairfield c/l	\$2,920,000
McCLOSKEY ROAD	SR 12	McCormack Road	\$430,000
McCORMACK ROAD	SR 113	Rio Vista c/l	\$5,330,000
MIDWAY ROAD	I-80 at Vacaville c/l	SR 113	\$9,490,000
PEDRICK ROAD	Midway Road	Yolo County Line	\$14,830,000
PITT SCHOOL ROAD	Midway Road	Dixon c/l	\$580,000
PLEASANTS VALLEY ROAD	Cherry Glen Road	Vaca Valley Road	\$1,280,000
PORTER ROAD	Midway Road	Dixon c/l	\$665,000
ROCKVILLE ROAD	I-80	Suisun Valley Road	\$11,430,000
SUISUN VALLEY ROAD	Fairfield c/l	Rockville Road	\$3,330,000
VACA VALLEY ROAD	Pleasants Valley Road	Vacaville c/l	\$455,000
TOTAL			\$99,050,000

[1] Based on data provided by Solano County Public Works.

11. Express Bus Transit Centers and Train Stations

The cost estimates for RTIF eligible transit projects assumed in the RTIF Report were developed in a fashion similar to those for the County Road projects. Again, it was assumed that County Transit projects will receive approximately 5 percent of RTIF revenue over the life of the program, or about \$75 per DUE which equates to \$2.2 million. The RTIF revenue of \$2.2 million generated from 2013 to 2033 equates to a total cost estimate for eligible RTIF transit projects of \$12.4 million (see **Table A-7**).

The STA in consultation with the Solano County Transit Operators and other stakeholders has developed an eligibility list of County Transit projects that will be eligible for the 5 percent RTIF revenue allocation (referred to as Express Bus Transit Centers and Train Stations projects). The list of eligible transit projects and preliminary cost estimates are summarized in **Table A-9** based on information assembled by the STA. As shown, the combined cost of these County transit projects is \$94.7 million, significantly above the \$12.4 million estimate used to calculate the maximum nexus in the RTIF.

As noted in the body of this Report, the list of eligible Express Bus Transit Centers and Train Stations projects have been updated since the July Report as follows:

1. The Fairfield /Vacaville Train Station, next phase project has been added to the list. This project, although approved by STA Board on May 8, 2013, was inadvertently excluded from the list of eligible projects for Express Bus Transit Centers and Train Stations expenditures on Table 7 of the STA RTIF Nexus Report.
2. The Vallejo Station or Curtola Park & Ride, next phase project has been separated into two discrete projects. These two projects were combined into one project in the STA RTIF Nexus Report.

Again, it is important to note that the maximum RTIF fee is not derived based on this project list or corresponding costs. Rather it is calculated based on 5 percent of total RTIF revenue. This list of eligible facilities and cost estimates is provided for information purposes only. However, given that the capital cost associated with the identified list of eligible RTIF County road projects significantly exceeds the cost estimate assumed in the RTIF Report, the methodology is highly conservative.

Table A-9 Eligible RTIF Transit Projects

Project Name	Cost Estimate ¹
Benicia Industrial Park Multi-modal Transit Center	\$1,800,000
Dixon Multimodal Transportation Center	\$27,800,000
Fairfield Transportation Center, next phase	\$25,000,000
Fairfield/Vacaville Train Station, next phase ²	\$8,609,720
360 Project Area Transit Center	\$295,640
Vallejo Station, next phase	\$10,000,000
Curtola Park & Ride, next phase	\$10,000,000
Vacaville Transportation Center, next phase	\$10,500,000
Suisun City Train Station improvements	<u>\$650,000</u>
Total	\$94,655,360

[1] Cost estimates provided by STA based on a variety of sources. Costs are for information purposes only and not used to calculate the maximum RTIF.

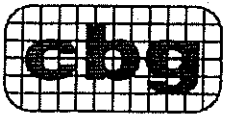
[2] Reflects net cost (i.e., total project costs of \$68,975,600 less identified revenues of \$60,365,880).

EXHIBIT A



EXHIBIT B





Carlson, Barbee & Gibson, Inc.

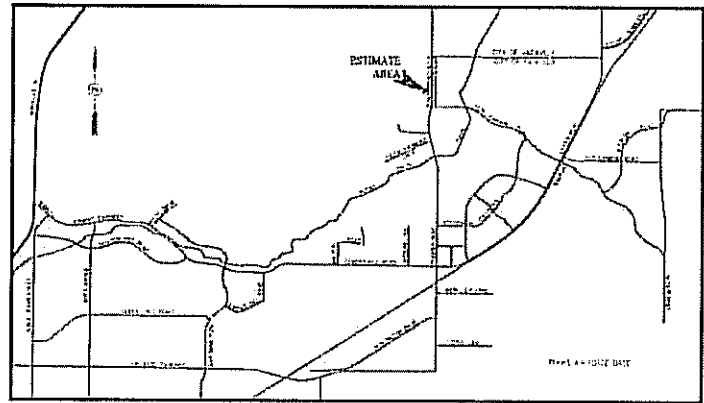
CIVIL ENGINEERS • SURVEYORS • PLANNERS

ENGINEER'S PRELIMINARY COST ESTIMATE
PEABODY ROAD

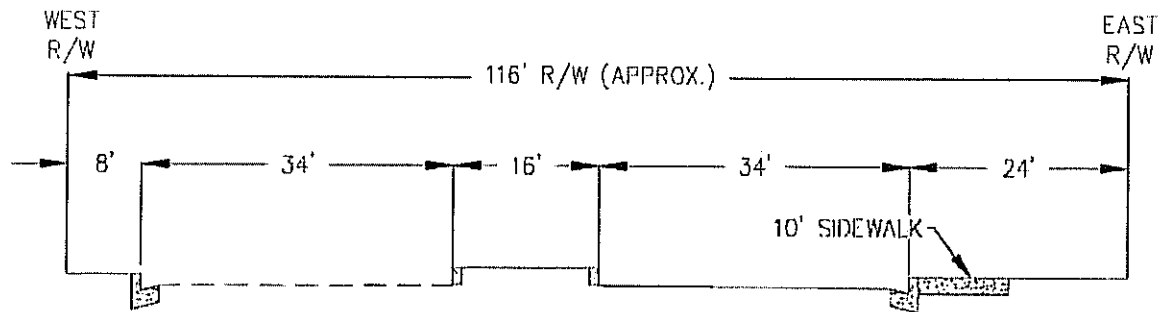
May 30, 2012
Job No.: 1668-000

NEW CANON ROAD TO CITY LIMITS
BACKBONE TRANSPORTATION INFRASTRUCTURE FOR
NORTHEAST FAIRFIELD TRAIN STATION SPECIFIC PLAN AREA
FAIRFIELD, CALIFORNIA

Item	Description	Quantity	Unit	Unit Price	Amount
2,580	LF				
116	Right of Way Width - 4 Lanes				
34	Curb to Curb Width				
15	Median Landscaping Area				
0	Landscaping Area				



Northeast Fairfield Vicinity Map



NEW CANON ROAD TO CITY LIMIT

Carlson, Barbee & Gibson, Inc.

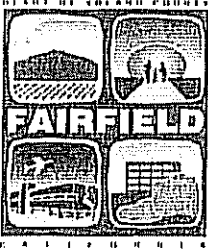
<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
<u>STREET IMPROVEMENTS</u>					
1	Mobilization	2,580	LF	\$ 25.00	\$ 64,500.00
2	Clearing and Grubbing (82' x 2,580')	211,560	SF	\$ 0.20	\$ 42,312.00
3	Roadway Earthwork	0	CY	\$ 10.00	-
4	Export (Truck & Off Haul) (34' x 2,580' x 3' deep/27)	9,800	CY	\$ 20.00	\$ 196,000.00
5	Finish Grading to Right of Way (82' x 2,580')	211,560	SF	\$ 0.40	\$ 84,624.00
6	Subgrade Fabric (34' x 2,580')	87,720	SF	\$ 0.15	\$ 13,158.00
7	7" Asphalt Concrete (32' x 2,580')	82,560	SF	\$ 3.15	\$ 260,064.00
8	25.5" Aggregate Base (32' x 2,580')	82,560	SF	\$ 3.83	\$ 315,792.00
9	Curb and Gutter	5,160	LF	\$ 18.00	\$ 92,880.00
10	Median Curb and Gutter	5,160	LF	\$ 18.00	\$ 92,880.00
11	Sidewalk (10' East Side)	25,800	SF	\$ 5.50	\$ 141,900.00
12	Handicap Ramps	0	EA	\$ 1,500.00	-
13	Signing and Striping (4 or 6 lane roadways)	2,580	LF	\$ 20.00	\$ 51,600.00
14	Signing and Striping (2 lane roadways)	0	LF	\$ 15.00	-
15	Temporary Signing and Striping	0	LF	\$ 10.00	-
16	Traffic Control (Major)	0	LF	\$ 40.00	-
17	Traffic Control (Standard)	2,580	LF	\$ 20.00	\$ 51,600.00
18	Traffic Control (Minor)	0	LF	\$ 10.00	-
19	Erosion Control	2,580	LF	\$ 10.00	\$ 25,800.00
Subtotal Street Improvements					\$ 1,433,110.00
<u>ADDITIONAL STREET IMPROVEMENTS</u>					
20	Sawcut Existing Pavement	2,580	LF	\$ 4.00	\$ 10,320.00
21	2" AC Overlay (32' x 2,580')	82,560	SF	\$ 1.00	\$ 82,560.00
22	Remove Existing Pavement (8' x 2,580')	20,640	SF	\$ 1.00	\$ 20,640.00
23	Additional Road Grading (Due to topography)	1	LS	\$ 100,000.00	\$ 100,000.00
24	Relocate Existing Fiber Optic Line	2,580	LF	\$ 100.00	\$ 258,000.00
Subtotal Additional Street Improvements					\$ 471,520.00
<u>STORM DRAINAGE</u>					
25	18"-30" Storm Drain Pipe	2,580	LF	\$ 60.00	\$ 154,800.00
26	18" Storm Drain Crossing (Every 300')	722	LF	\$ 40.00	\$ 28,896.00
27	Catch Basins/Manholes (2 Every 300')	18	EA	\$ 4,000.00	\$ 72,000.00
28	Extend Existing Drainage Culvert	1	LS	\$ 50,000.00	\$ 50,000.00
29	Connect to Existing Creek	1	EA	\$ 25,000.00	\$ 25,000.00
Subtotal Storm Drainage					\$ 330,696.00
<u>SANITARY SEWER</u>					
30	No Items of Work			\$ -	\$ -
Subtotal Sanitary Sewer					\$ -

Carlson, Barbee & Gibson, Inc.

Item	Description	Quantity	Unit	Unit Price	Amount
<u>POTABLE WATER</u>					
31	No Items of Work			\$ -	\$ -
	Subtotal Potable Water			\$	-
<u>ELECTRICAL</u>					
32	Street Lights (2 Every 150' Both Sides)	36	EA	\$ 4,000.00	\$ 144,000.00
33	Street Light Trench	2,580	LF	\$ 20.00	\$ 51,600.00
34	Underground Existing Overhead Electric	2,580	LF	\$ 175.00	\$ 451,500.00
35	Relocate Existing Overhead Poles		EA	\$ 15,000.00	FRANCHISE
	Subtotal Electrical			\$	647,100.00
<u>MISCELLANEOUS</u>					
36	Landscaping and Irrigation	0	SF	\$ 5.00	\$ -
37	Median Landscaping and Irrigation	38,700	SF	\$ 5.00	\$ 193,500.00
	Subtotal Miscellaneous			\$	193,500.00
SUBTOTAL NEW CANON ROAD TO CITY LIMITS COST					\$ 3,075,926.00
CONTINGENCY (15%)					\$ 461,388.90
ENGINEERING, PLAN CHECK, ETC. (15%)					\$ 461,388.90
<u>RIGHT OF WAY AND MITIGATION</u>					
38	Right of Way Acquisition (116'-60') (East Side)	144,480	SF	\$ 1.34	\$ 193,603.20
39	Environmental Mitigation (116'-40')	196,080	SF	\$ 3.66	\$ 717,652.80
TOTAL NEW CANON ROAD TO CITY LIMITS COST					\$ 4,910,000.00
<i>(to the nearest \$1,000)</i>					

EXHIBIT C





CITY OF FAIRFIELD

Founded 1856

Incorporated December 12, 1903

CITY MANAGER'S OFFICE

May 8, 2013

COUNCIL

Mayor
Harry T. Price
707.428.7395

Vice-Mayor
Rick Vaccaro
707.428.6288

Councilmembers
707.428.6288

Patricia Bertani
Catherine May
John Mraz

Jim Spering
C/O Solano Transportation Authority
Regional Transportation Impact Fee Policy Committee
One Harbor Center, Suite 130
Suisun City, CA 94585-2473

Dear Jim:

I have a conflict and will be unable to attend the Regional Transportation Impact Fee (RTIF) policy committee. As you are aware, Fairfield supports the implementation of a Regional Transportation Impact Fee and its inclusion in the Solano County Public Facilities Fee.

We have two comments for your consideration. First, we would like to see the unincorporated section of Peabody Road between Fairfield and Vacaville added to the list. The City and County have now agreed on the funding of this section of Peabody Road. We believe its inclusion in Package 1 is appropriate and we estimate the value of this section of Peabody Road to be \$5 million.

The second comment relates to the value of the Fairfield portion of Jepson Parkway. We believe the \$28 million value is significantly understated. Our estimate of the cost to complete the portions of Jepson Parkway in Fairfield is approximately \$115 million.

We appreciate the opportunity to provide comments.

Sincerely,


SEAN P. QUINN
City Manager

SPQ/eh

cc: Daryl Halls
Mayor Harry Price

DEPARTMENTS

Administrative Services
707.428.7384

Community Development
707.428.7461

Community Resources
707.428.7485

Finance
707.428.7488

Fire
707.428.7375

Police
707.428.7362

Public Works
707.428.7485

EXHIBIT D



City Of Benicia
PRELIMINARY ENGINEER'S OPINION OF PROBABLE COST
I-680/ Industrial Way/Bayshore Road/ Park Road Improvements

Prepared 8/12/2013
 On:

Prepared By: 

No.	Description	Units	Quantity	Unit Cost	Amount
Existing Facilities					
1	Remove Concrete Barrier	LF	175	\$ 30.00	\$ 5,250
2	Removal of Metal Beam Guard Rail	LF	379	\$ 10.00	\$ 3,790
3	Removal of Existing Trees	EA	18	\$ 500.00	\$ 9,000
4	Relocate Existing Fence	LF	114	\$ 24.00	\$ 2,736
5	Relocate Existing Sign Structure	EA	1	\$ 8,800.00	\$ 8,800
Roadway					
6	Remove Thermoplastic Traffic Stripe	LF	2857	\$ 1.50	\$ 4,285
7	Remove Thermoplastic Pavement marking	SF	949	\$ 7.00	\$ 6,643
8	Cold Plan Asphalt Concrete	SQYD	15470	\$ 9.00	\$ 139,226
9	Roadway Excavation	CY	5880	\$ 40.00	\$ 235,236
10	Type A Asphalt Concrete	Ton	3551	\$ 95.00	\$ 337,328
11	Class 2 Aggregate Base	CY	3874	\$ 40.00	\$ 154,941
12	Concrete Sidewalk	SF	32040	\$ 10.00	\$ 320,400
13	Curb and Gutter	LF	8574	\$ 20.00	\$ 171,480
14	Driveway	EA	12	\$ 3,000.00	\$ 36,000
15	Curb Ramp	EA	27	\$ 2,000.00	\$ 54,000
16	Thermoplastic Traffic Stripe	LF	17600	\$ 1.00	\$ 17,600
17	Thermoplastic Pavement Markings	SF	1603	\$ 6.50	\$ 10,420
18	Roadside Signs	EA	40	\$ 280.00	\$ 11,200
19	Storm Drain Pipe & appurtenances	LF	1330	\$ 300.00	\$ 399,000
20	Storm Drain Inlet	EA	5	\$ 3,000.00	\$ 15,960
21	Street Lights and Pull Boxes	EA	19	\$ 5,000.00	\$ 93,029
22	Metal Beam Guard Rail	LF	2853	\$ 17.00	\$ 45,101
Traffic Signals					
22	Traffic Signal (New)	LS	1	\$ 1,350,000.00	\$ 1,350,000
Utilities					
23	Relocate Utility Pole	EA	7	\$ 5,000.00	\$ 35,000
24	Remove Light Poles	EA	6	\$ 2,000.00	\$ 12,000
25	Adjust Utility to Grade	EA	25	\$ 350.00	\$ 8,750
Structural Items					
26	Bridge	SF	38500	\$ 220.00	\$ 8,470,000
Additional Miscellaneous Items					
27	Concrete Barrier (Type 60)	LF	320	\$ 86.00	\$ 27,520
Additional Miscellaneous Items					
28	Railroad Crossing Gate with Cantilevered Lights	EA	1	\$ 110,000.00	\$ 110,000
29	Relocate Railroad Crossing Gate	LS	1	\$ 27,500.00	\$ 27,500
30	Reconstruct Rail Road	LS	1	\$ 20,000.00	\$ 20,000
31	Minor Concrete (Rail Improvements)	CY	12	\$ 780.00	\$ 9,042
Right of Way					
32	Developed (landscaped/minor concrete)	SF	23070	\$ 12.00	\$ 276,836
33	Undeveloped	SF	67457	\$ 8.00	\$ 539,653
Environmental Mitigation					
34	Environmental Mitigation	LS	1	\$ 50,000.00	\$ 50,000
Construction Subtotal					\$ 13,017,725
Contingency & Support Items					
35	Construction Cost Contingency	20%	1	\$ 2,603,545.01	\$ 2,603,545
36	PA&E (Plan Assessment & Envmt Review)	10%	1	\$ 1,301,772.50	\$ 1,301,773
37	PS&E (Plans Specifications & Estimate)	15%	1	\$ 1,952,658.76	\$ 1,952,659
38	Construction Management Support	5%	1	\$ 650,886.25	\$ 650,886
39	Right of Way Acquisition Support	5%	1	\$ 650,886.25	\$ 650,886
Contingency Subtotal					\$ 7,159,749
Total					\$ 20,177,474

EXHIBIT E



**Exhibit E
Preliminary Engineer Cost Estimate**

COLUMBUS PARKWAY WIDENING PROJECT

Item No.	Item Description	QTY	Unit	Unit Price	Item Total
Environmental					
1	Environmental Cost	1	LS	\$75,000.00	\$75,000.00
				Subtotal	\$75,000.00
Design					
	Design Cost	1	LS	\$140,000.00	\$130,000.00
	Geotechnical Investigation	1	LS	\$20,000.00	\$20,000.00
				Subtotal	\$150,000.00
Construction					
1	Mobilization	1	LS	\$25,000.00	\$25,000.00
2	Traffic Control	1	LS	\$20,000.00	\$20,000.00
3	SWPPP	1	LS	\$10,000.00	\$10,000.00
4	Clearing and Grubbing (Include Tree Removal)	1	LS	\$20,000.00	\$20,000.00
	Traffic Light System	1	LS	\$250,000.00	\$250,000.00
5	Grading (Cut/Fill)	1	LS	\$50,000.00	\$50,000.00
6	Relocation of Power Pole	3	EA	\$15,000.00	\$45,000.00
7	Site Adjustment	1	LS	\$30,000.00	\$30,000.00
8	AB (6")	256	CY	\$90.00	\$23,004.00
9	AC (5")	520	TON	\$125.00	\$65,000.00
10	Striping	1	LS	\$10,000.00	\$10,000.00
11	Advance Traffic Loop	2	EA	\$4,000.00	\$8,000.00
12	Misc. Site Adjustment	1	LS	\$25,000.00	\$25,000.00
1	Street Light	5	EA	\$10,000.00	\$50,000.00
				Subtotal	\$631,004.00
				10% Contingency	\$63,100.40
				Subtotal	\$694,104.40
Construction Engineering					
	Construction Engineering Cost	1	LS	\$104,116.00	\$104,116.00
				Subtotal	\$104,116.00
				Total	\$1,023,221.00