

Draft Report

City of Merced Public Facilities Financing Plan and Impact Fee Update

The Economics of Land Use



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Table of Contents

1.	Background, Context, and Summary of Maximum Fees	1
	Report Background and Legal Context.....	2
	Overview of Methodology and Key Assumptions.....	2
	Overview of Fee Program	4
	Fee Implementation	7
2.	Demographic and Land Use Assumptions	9
	Purpose of Assumptions	9
	Population and Employment Growth	9
	Land Use and Service Population Calculations.....	10
	Land Use Categories and Density Assumptions	11
3.	Transportation Fee.....	13
4.	Fire Facilities Fee	19
5.	Police Facilities Fee	25
6.	Park Facilities Fee	31
7.	Public Works Fee	37
8.	Information Technology Fee	41
9.	Summary of Nexus Findings and Maximum Fee.....	45
	Overview of Nexus Findings.....	45
	Summary of Fees.....	46
10.	Fee Program Implementation and Administration	47
	Administration Fee Component	47
	Fee Amount	47
	Fee Program Updates	48
	Fee Program to Replace Quimby Act Fees	49

List of Tables

Table 1	Summary of Preliminary Maximum Justified Development Impact Fee	5
Table 2	Fee Comparison by Land Use Type	6
Table 3	Summary of Total PFFP Facility Cost Allocation	6
Table 4	Land Use and Service Population Summary.....	10
Table 5	Service Population Factors Based on Resident to Employee Equivalencies	11
Table 6	Transportation and Road Projects (2 pages).....	14
Table 7	Estimated Vehicle Trip Growth	15
Table 8	Cost Allocation for Transportation Projects	16
Table 9	Transportation Fee Amounts	17
Table 10	Fire Facility Costs	20
Table 11	Fire Department Cost Allocation	22
Table 12	Fire Department Fee Calculation.....	23
Table 13	Police Facility Costs	26
Table 14	Police Department Cost Allocation	28
Table 15	Police Department Fee Calculation	29
Table 16	Developed Park Requirements & Facility Costs.....	32
Table 17	Park Facilities Cost Allocation	34
Table 18	Park Facilities Fee Calculation	35
Table 19	Public Works Facility Costs	38
Table 20	Public Works Cost Allocation	38
Table 21	Public Works Fee Calculation.....	40
Table 22	Information Technology Costs.....	42
Table 23	Information Technology Cost Allocation	42
Table 24	Information Technology Fee Calculation.....	43
Table 25	Summary of Maximum Justified Fees	46

1. Background, Context, and Summary of Maximum Fees

This Nexus Report is designed to provide the City of Merced (City) with the necessary technical documentation to support an update of its Development Impact Fee (DIF) program. It has been prepared by Economic & Planning Systems, Inc. (EPS), with support City staff and input received at two public meetings. The Report serves as an update to the City's 2012 Public Facilities Finance Plan which EPS reviewed as part of this analysis.

Impact fees are one-time charges on new development, collected and used by jurisdictions to fund the cost of public facilities necessary to serve new growth. Impact fees are collected as a condition of development. This Report contains technical documentation to assess potential updates to five (5) existing and two (2) new fee categories, as summarized below:

Existing Fee Categories

1. Roadways, Bridges, and Railway Crossings
2. Traffic Signals
3. Fire
4. Police
5. Parks, Recreation, and Bikeways

Proposed New Fee Categories

1. Public Works
2. Information Technology

The City initially established these fees in 1998. In 2009, the City approved a fee reduction to stimulate development during the recession. A further fee reduction was adopted in 2010 based on the removal of three (3) roadway projects from the fee program. Lastly, in 2011, the City extended the 2009 fee reduction and suspended annual cost increases based on the Construction Cost Index until January 2014. In October 2012, the City adopted a comprehensive update of the Public Facilities Financing Plan and Impact Fee Program.

This Report provides the technical calculations required to determine the maximum fees the City can charge for each fee category based on the nexus between the impacts of new development and the costs of constructing the public facilities necessary to serve that development. The City may elect to reduce the fees based on economic or policy considerations. For example, the City may choose to phase-in fee increases or adopt fees that are lower than the maximum justified amount to encourage new development.

Report Background and Legal Context

The fee program described in this Report is consistent with the most recent state legislation and relevant case law, as well as the principles of the Mitigation Fee Act (Government Code Section 66000 et seq). The City's Municipal Code currently authorizes the collection of fees for roadways, bridges and railway crossings, traffic signals, fire, police, parks, recreation, and bikeways facilities. This Report is designed to provide the necessary technical analysis supporting an updated schedule of fees to be adopted. Below are the key requirements of the Mitigation Fee Act that determine the structure, scope, and amount of the City's proposed impact fee program:

- **Collected for Capital Facility and Infrastructure Improvements.** Development impact fee revenue can only be collected and used to cover the costs of capital facilities and infrastructure. Impact fee revenue cannot be used to cover the operation and maintenance costs of these or any other facilities.
- **Used to Fund Facility Needs Created by New Development Rather than Existing Deficiencies.** Impact fee revenue 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 City's capital facilities or infrastructure. In other words, the cost of capital projects or facilities that are designed to meet the needs of the City'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.
- **Fee Amount Must Be Based on a Reasonable Relationship.** An impact fee amount must be based on a reasonable nexus, or connection, between new development and the need for and corresponding costs of the capital facilities and improvements included in the fee program. 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 City, service standards and facility demand, and corresponding costs. These key issues may warrant consideration in conjunction with this Report:

- **Socioeconomic Data and Projections.** The impact fee calculations are based on projections related to population and employment in the City through 2040. Baseline population and growth projections were developed based on projections from the

Merced County Association of Governments. The estimates of development and population should be periodically reviewed and updated.

- **Capital Facility Service Standards and Future Needs.** The main source of information on future capital facilities needs are the various City departments responsible for maintaining and improving the City's infrastructure. EPS worked with these Departments and collected information to determine existing levels of service and service standards relative to future growth projections. Both the existing level of service and the service standard relate capital facility or infrastructure requirements to the land use categories that represent the primary source of demand for the capital facility or infrastructure improvement in question.

EPS worked to transform the analysis of existing levels of service and articulated service standards into estimates of the type and amount of new or expanded capital facilities and infrastructure that will be necessary to serve new development over the next 20 years.

- **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 the Mitigation Fee Act, 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 or employees in a relatively proportional manner, the costs are allocated as such.
 - Finally, in cases where there is an existing level of service to be preserved as new development occurs, the average cost of providing the current level of service is charged to new development, ensuring that new development does not create deficiencies in the level of service.
- **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. All fees in the program will be charged to both residential and nonresidential development as both residents and employees create demand on these facilities.

The fee calculations also use assumptions related to population and employment densities by land use type. Specifically, fee programs' cost estimates per resident or per service population are converted to fee rates per unit or square foot based on average persons-per-household and square-feet-per-employee factors. This ensures that fees charged by land use are proportional to one another.

- **Facility Cost Estimates.** The fee calculations include facility cost assumptions that have been developed based on City staff estimates, records of prior expenditures, as well as additional research.

Overview of Fee Program

The existing City fee program has the five capital improvement categories described below:

- 1. Roadways, Bridges, and Railroad Crossings.** The Roadways, Bridges, and Railroad Crossings fee is a one-time charge the City imposes on new residential and nonresidential development. This fee is charged to fund improvements and expansions of roadways, bridges, and railroad crossings to meet the transportation demand of new development.
- 2. Traffic Signals.** The Traffic Signals fee is a one-time charge the City imposes on new residential and nonresidential development. The purpose of this fee is to cover the costs of new traffic signals to provide safe and reliable traffic control services to meet the transportation demand of new development.
- 3. Fire.** The Fire fee is a one-time charge the City charges to new residential and nonresidential development. The purpose of the fee is to fund facilities and equipment necessary for the Fire Department to provide fire and emergency response services to new residential and nonresidential growth in the City.
- 4. Police.** The Police fee is a one-time charge the City charges to new residential and nonresidential development. The purpose of the fee is to fund facilities and equipment necessary for the Police Department to provide law enforcement and emergency response services to new residential and nonresidential growth in the City.
- 5. Parks, Recreation, and Bikeways.** The Parks, Recreation, and Bikeways fee is a one-time charge the City charges to new residential and nonresidential development. The purpose of the fee is to fund new and expanded parks, recreational facilities, and bikeways necessary to meet the demands of new development.

This update to the fee program includes two new fee categories, as described below:

- 6. Public Works Fee:** The Public Works fee is a one-time charge the City charges to new residential and nonresidential development. The purpose of the fee is to fund a portion of the new corporation yard necessary to meet the demands of new development.
- 7. Information Technology Fee:** The Information Technology fee is a one-time charge the City charges to new residential and nonresidential development. The purpose of the fee is to fund fiberoptic connectivity to City facilities necessary to meet the demands of new development.

Summary of Maximum Allowable Fees and Their Relationship to Existing Programs

A summary of the maximum allowable impact fees calculated in this analysis by land use and fee category is provided in **Table 1**. The maximum allowable impact fee represents the highest fee the City may charge based on the requirements of the Mitigation Fee Act and this nexus analysis.

To simplify the fee program, the Roadways, Bridges, and Railroad Crossings and Traffic Signal fee categories were combined into one fee component for this Report, which is called the Transportation fee. Also, this Report identifies two (2) new fee programs: (1) a Public Works facilities fee to fund a portion of the costs for the City's new corporation yard and (2) an Information Technology fee to fund fiber optic cable installation and associated connectivity equipment for some new City facilities.

Table 2 compares the maximum allowable fee with the existing fees by land use category. The City has reduced fees previously justified. As noted, EPS has reviewed the assumptions and methodology contained in the existing fee program. The updated fee amounts are justified based on increased costs and additional capital facility requirements.

Table 3 provides a summary of the facilities funded by each fee category.

Table 1 Summary of Preliminary Maximum Justified Development Impact Fee

Item	Source	Residential Fee per		Nonresidential Fee per			
		Single-Family Unit	Multifamily Unit	Retail Bldg. Sq. Ft.	Office Bldg. Sq. Ft.	Industrial Bldg. Sq. Ft.	Lodging (Per Room)
Fee Component		<i>fee per unit</i>		<i>fee per bldg. sq. ft.</i>			<i>per room</i>
Transportation Fee	Table 9	\$3,171	\$1,794	\$7.14	\$4.77	\$2.40	\$1,922
Fire Department Fee	Table 12	\$1,658	\$1,316	\$1.30	\$1.48	\$0.58	\$259
Police Department Fee	Table 15	\$1,263	\$1,003	\$0.99	\$1.13	\$0.44	\$197
Parks Fee	Table 18	\$4,902	\$3,891	\$3.83	\$4.38	\$1.70	\$766
Public Works Fee	Table 21	\$190	\$151	\$0.15	\$0.17	\$0.07	\$30
Information Technology Fee	Table 24	\$147	\$117	\$0.12	\$0.13	\$0.05	\$23
Subtotal PFFP Fee		\$11,331	\$8,272	\$13.53	\$12.06	\$5.24	\$3,197
Administration (3 Percent)		\$340	\$248	\$0.41	\$0.36	\$0.16	\$96
Total Maximum Justified Fee		\$11,671	\$8,520	\$13.94	\$12.42	\$5.40	\$3,293

max fee

Table 2 Fee Comparison by Land Use Type

Land Use Type	Proposed Fee	Existing Fee	Change
Residential			
Single-Family Unit	\$11,671	\$5,533	111%
Multifamily Unit	\$8,520	\$3,827	123%
Nonresidential			
Retail Bldg. Sq. Ft.	\$14	\$11	25%
Office Bldg. Sq. Ft.	\$12	\$7	71%
Industrial Bldg. Sq. Ft.	\$5	\$2	159%
Lodging(Per Room)	\$3,293	n/a	

fee comp

Table 3 Summary of Total PFFP Facility Cost Allocation

PFFP Fee Component	Total PFFP Facility Costs	PFFP Costs Allocated to New Development		PFFP Costs Allocated to Existing
		\$	%	
Transportation Facilities				
Existing Highway 59 Improvements	\$7,240,140	\$1,949,738	27%	\$5,290,402
Major Arterials	\$157,298,990	\$42,359,935	27%	\$114,939,055
Railroad Crossings	\$17,564,000	\$4,729,909	27%	\$12,834,091
Bridges	\$17,773,000	\$4,786,192	27%	\$12,986,808
Other Transportation Projects	\$28,400,000	\$7,647,997	27%	\$20,752,003
Subtotal Transportation	\$228,276,130	\$61,473,771	27%	\$166,802,359
Fire Department				
Facilities [1]	\$17,473,679	\$17,473,679	100%	N/A
Subtotal Fire Department	\$17,473,679	\$17,473,679	100%	\$0
Police Department				
Facilities	\$48,165,000	\$11,841,809	25%	\$36,323,191
Equipment	\$1,469,308	\$1,469,308	100%	N/A
Subtotal Police Department	\$49,634,308	\$13,311,117	27%	\$36,323,191
Parks & Recreation				
Neighborhood & Community Parks	\$51,660,794	\$51,660,794	100%	\$0
Community Center	\$3,638,191	\$894,483	25%	\$2,743,708
Bikeways	\$9,440,000	\$2,320,911	25%	\$7,119,089
Subtotal Parks & Recreation	\$64,738,985	\$54,876,188	85%	\$9,862,797
Public Works	\$22,400,000	\$2,000,000	9%	\$20,400,000
Information Technology	\$1,552,300	\$1,552,300	100%	\$0
Total	\$384,075,402	\$150,687,054	39%	\$233,388,347

total cost

[1] Fire facilities costs include equipment costs.

Fee Implementation

This Report develops the nexus between the maximum justified fee for each category of facilities and the benefit to each land use category included in the analysis. While the Report derives the maximum justified fee, in enacting the fee program, the City Council may choose to implement fees at less than the maximum justified fee. Options available to the City Council are shown below but certainly do not exclude other potential options:

- Approve maximum allowable fees for all categories
- Phase in any fee increases over a specified period.
- Phase in fees by fee category.
- Approve a fee less than the maximum justified fee.
- Approve a fee at a lesser rate for land uses within a fee category.

Residential Fee Based on Residential Unit Size

Assembly Bill (AB) 602 states that a “nexus study adopted after July 1, 2022, shall calculate a fee imposed on a housing project proportionately to the square footage of proposed units of the development. A local jurisdiction that imposes a fee proportionately to the square footage of the proposed units of the development shall be deemed to have used a valid method to establish a reasonable relationship between the fee charged and the burden posed by the development.”

This nexus study allocates facility costs to residential units based on the average persons per household shown in Census data or other available resources. Currently, average persons per household data are shown for household types (single-family and multifamily) but not by home size or range of home sizes. A fee program that allocates costs per building square footage would also have to demonstrate a direct correlation between increased home sizes and a corresponding increase in the average number of persons per household. Definitive resources that establish the relationship between building square footage and persons per household have not been identified at the time of this Report.

An alternative to establishing a fee program for residential uses that is based on building square footage would be to implement lower fee rates for residential units based on ranges of building square footage. The City Council could adopt the maximum justified fee for residential uses and implement a lesser fee for residential units that fit within a lower range of home sizes (by building square foot).

Ramifications of Implementing a Lower Fee for Certain Categories

The maximum justified fee establishes the amount of the fee, by category, that is required to fully fund all items included in the fee program. By implementing the fee at less than the maximum justified fee, the fee program, or fee categories, may become underfunded. Any reduction in the fee amount to be collected cannot be applied to other fee categories or land use categories.

Existing Quimby Act Fees

The City has historically collected fees or accepted dedication of land under the Quimby Act to acquire parkland and open space to serve new development. Most often, developers opted to dedicate land to fulfill their obligations under the Quimby Act.

This Nexus Report Update assumes the City will incorporate the cost of land acquisition into the fee program, in addition to costs of developing parks. This change will allow the City to coordinate the acquisition and development of parkland under fee program. If this Update is approved, the City will no longer use the Quimby Act as a source for funding park acquisition or dedication of land. Accordingly, the City will need to eliminate the existing Quimby Act requirements as part of the approval of the new fees calculated in this Update.

2. Demographic and Land Use Assumptions

This chapter describes the demographic and land use assumptions used for the technical calculations in this nexus study. The estimates are based principally on projections provided by Merced County Association of Governments.

Purpose of Assumptions

The assumptions detailed in this chapter are used to calculate the following metrics, which will be necessary to calculate maximum justifiable fees:

- **Service Standards.** Estimates of existing population and employment levels are used to formulate current levels of service standards for each type of capital facility, so estimated demand from future growth is proportional to current demand from existing development. The approach to estimating the level of service varies among the fee categories.
- **Future Capital Needs.** Estimates of future population and employment growth in the City are used to determine the future demand for capital facilities. These capital facilities are intended to be funded by the fee.
- **Allocation of Costs.** Estimates related to population and employment density (e.g., persons per household or employees per square foot) are used to allocate costs between residential and commercial land use categories. Additionally, for facilities that will serve both new and existing residents, the growth in employment and residents relative to current levels is used to determine the proportion of costs that should be paid by new development through the fee program.

Population and Employment Growth

Table 4 provides the future residential population and employment projections used in this fee program update, reflecting a 21-year time horizon (from 2019 to 2040). These projections, based on data from the Merced County Association of Governments, show the combined number of residents and employees in Merced growing from 120,715 in 2019 to 160,791 in 2040, an increase of 40,076 people.

Table 4 Land Use and Service Population Summary

Item	2019	2040	Estimated Growth		
			Amount	% Change	Avg. Annual % Change
Population	88,600	116,864	28,264	32%	1.33%
Households	28,630	38,561	9,931	35%	1.43%
Employment	32,115	43,927	11,812	37%	1.50%

growth summ

Source: Merced County Association of Governments; EPS.

[1] See Table A-1 for details.

Land Use and Service Population Calculations

Some of the fee categories are also based on calculations that translate the population and employment projections into estimates of existing and future “service populations.” Service population is a term that represents a combined weighting of population (residents) and jobs (employees). The weighted service population is derived from assumptions that compare residents and employees based on the relative service demands or typical service profiles of each, allowing for allocations of demand for facilities across residential and nonresidential land uses.

To accurately assess future employees’ and residents’ impact on public services, this Report analyzes the current service population’s employment and residence status to determine the typical employee’s and resident’s demand for public services. This service population calculation weights residents’ impact on public services and facilities based on whether they work inside the City or commute elsewhere and, similarly, weights workers’ impact based on whether they also live in the City or elsewhere. Residents of Merced who are not in the labor force are weighted at 100 percent.

Because residents who work outside of the City have lower demand on public services than other residents, these residents are weighted at 67 percent of a non-working resident. Those who are employed in Merced but live elsewhere are weighted at 33 percent (i.e., 1 – 67%). The residents of Merced who also work in the City are weighted at 50 percent under the calculation of residential service population and are again weighted at 50 percent under the calculation of weighted employee service population. This adjustment ensures that this population’s demand for public services is allocated to both residential and nonresidential portions of the service population.

These relative weights for each employment and residences status are then multiplied by the share of their population within the residents' and employees' groups to determine a weighted average for the average resident and average employee. These weighted averages are applied to the current estimates and future (year 2040) projections of total residential and employment population to determine a weighted service population for each period.

As shown in **Table 5**, the weighted service population is estimated to grow from 103,447 in 2019 to 137,172 in 2040. The growth of 33,725 in the service population represents 24.6 percent of the total service population in 2040. This is the percentage of demand on public facilities attributable to new growth, so this is the fair-share percentage of new public facilities that new growth is expected to pay for through the development impact fee program.

Table 5 Service Population Factors Based on Resident to Employee Equivalencies

Item	Existing (2019)		Weight [2]	Weighted Average	Build-out (2040)		Growth	
	Amount	Percentage			Amount	Percentage	Amount	Percentage
Employment Status of Merced Residents [1]	Formula: $a = b * c$							
Not in Labor Force	88,600	b [1]	c	$= b * c$				
Employed in the City	53,743	60.7%	100%	60.7%				
Employed Outside of the City	11,846	13.4%	50%	6.7%				
Total Residents [3]	23,011	26.0%	67%	17.4%	116,864	From Table 4	28,264	
	88,600	100.0%		84.8%				
Residence Status of Merced Employees [1]	Formula: $a = b * c$							
Live in the City	32,115	b [1]	c	$= b * c$				
Live Outside the City	11,846	36.9%	50%	18.4%				
Total Jobs [3]	20,269	63.1%	33%	20.8%	43,927	From Table 4	11,812	
	32,115	100.0%		39.2%				
Employee to Resident Equivalency Factor [4]				(39.2% / 84.8%) = 46.2%				
Service Population Calculation								
Amount Attributable to Residents (@ 100%)	88,600	85.6%			116,864	85.2%	28,264	83.8%
Amount Attributable to Employees (@ 46.2%)	14,847	14.4%			20,308	14.8%	5,461	16.2%
Total Service Population	103,447	100.0%			137,172	100.0%	33,725	100.0%
Service Population Growth as % Build-out Service Population							(33,725 / 137,172) = 24.6%	

Source: U.S. Census Bureau, LEHD OnTheMap (2017); Merced County Association of Governments; EPS.

- [1] Distribution based on data from U.S. Census OnTheMap (2017). Total Merced residents and workers are based on 2019 estimates interpolated from MCAG projections. See Table A-1 for details.
- [2] Represents EPS estimate of how various types of residents and employees relate to each other in terms of demand for City Services.
- [3] See Table 4 and Table A-1 for growth assumptions.
- [4] Equals weighted average of residents divided by weighted average of employees.

Land Use Categories and Density Assumptions

As shown in **Appendix A, Table A-1**, this analysis uses data from the U.S. Census Bureau on the current number of persons living in multifamily and single-family housing, divided by the total number of multifamily and single-family units, to estimate the number of persons per newly developed single-family and multifamily dwelling unit. This Report also uses assumptions from the 2012 City Public Facilities Financing Plan for the number of employees per 1,000 square feet of various types of nonresidential land uses to calculate the number of employees that is generated by a newly developed nonresidential project.

Based on the U.S. Census Bureau's American Community Survey, single-family units average 3.20 persons per household and multifamily units average 2.54 units per household. For employment uses, the 2012 City Public Facilities Financing Plan estimated that, for every 1,000 square feet of floor area, retail/service commercial uses would have 2.50 employees, office uses would have 2.86 employees, and industrial uses would have 1.11 employees. Lodging and hotels are assumed to have 0.50 employees per guest room, based on previous similar studies conducted by EPS.

3. Transportation Fee

The City's transportation fee category is designed to fund improvements to major arterials, bridges, and railway crossings needed to accommodate increased transportation demand generated by new growth. The City's roadways provide safe and reliable transportation routes for people and goods. Because of Merced's extensive creek system and legacy railway infrastructure, connecting all of the City's neighborhoods and districts requires numerous bridges and railroad crossings.

Methodology

The City's transportation facilities serves both residents and businesses and thus the transportation impact fee is charged to residential and nonresidential development. The fee is designed to cover costs associated with new and improved roadways, interchanges, bridges, and traffic signals necessary to serve new development.

The cost allocation to new development was established using a buildout level-of-service approach where new development is allocated its pro rata share of the total based on the share of automobile trips generated by new development versus existing development over the fee program's timeframe. The calculation results in approximately 26.9 percent of the transportation facilities' total cost being allocated to future development.

Transportation Improvements and Cost Allocation

The two main components of the transportation fee, as shown on **Table 6**, include roadway widening and extensions, construction of new bridges and railroad crossings, and the construction of new traffic signals. Roadway improvements include improvements to increase the capacity of existing roadways, such as Yosemite Avenue, G Street, and Childs Avenue. For these improvements, it is assumed that improvements to minor arterial roadways will cost approximately \$1,053 per linear foot, major arterials will cost \$1,371 per linear foot, and divided arterials will cost \$1,268 per linear foot. The category also includes six roadway bridges over creeks, and one grade-separated railroad crossing over the Santa Fe Railroad tracks. Lastly, the fee category also includes costs for the installation of 45 traffic signals and the Parsons Avenue Corridor project, a long-standing priority of the City to complete a north-south arterial in the eastern portion of Merced.

Because new and improved transportation facilities will benefit both existing and new residences and employees, only 26.9 percent, or the fair share cost of improvements, is allocated to the fee category. As shown in **Table 7**, this fair share is calculated based on the share of total afternoon peak hour trips that new residences and employees will account for in 2040.

Table 6 Transportation and Road Projects (2 pages)

Project	Project Category	Quantity	Arterial Cost/LF	Total Arterial Costs (2020\$) [1]
Transportation				
Existing Highway 59 Improvements				
North 59 - Childs to Mission	Major Arterial	5,280	\$1,371.24	\$7,240,140
Existing Highway 59 Improvements Subtotal				\$7,240,140
Major Arterials				
Yosemite Ave (Lake Road to Campus Parkway)	Minor Arterial	2,640	\$1,052.86	\$2,779,540
G Street (Mercy to Bellevue)	Major Arterial	13,200	\$1,371.24	\$18,100,350
R Street (Lehigh to Bellevue)	Major Arterial	13,200	\$1,371.24	\$18,100,350
Childs Ave (Hwy 59 to Kibby)	Minor Arterial	23,760	\$1,052.86	\$25,015,860
Bellevue Rd (Hwy 59 to Lake)	Major Arterial	21,120	\$1,371.24	\$28,960,560
Cardella Rd (Hwy 59 to Lake)	Divided Arterial	21,120	\$1,268.24	\$26,785,200
Gardner Rd (Yosemite to Bellevue)	Minor Arterial	10,560	\$1,052.86	\$11,118,160
Mission Ave (South Hwy 59 to Hwy 99)	Major Arterial	13,200	\$1,371.24	\$18,100,350
Thornton Rd (Hwy 140 to Mission)	Minor Arterial	7,920	\$1,052.86	\$8,338,620
Major Arterial Subtotal				\$157,298,990
Railroad Crossings				
Santa Fe RR & R St or Parsons Ave	Railroad Crossing			\$17,564,000
Bridges				
Cardella/Fahrens Creek	Divided Arterial Bridge			\$3,000,000
G St/Cottonwood Creek	Major Arterial Bridge			\$2,250,000
Gardner/Cottonwood Creek	Minor Arterial Bridge			\$2,000,000
M St/Fahrens Creek	Minor Arterial Bridge			\$2,000,000
Bellevue/Fahrens Creek	Major Arterial Bridge			\$2,250,000
Parsons/Bear Creek	Minor Arterial Bridge			\$6,273,000
Bridges Subtotal				\$17,773,000
Other Transportation Projects				
Parsons Ave Corridor (Hwy 140 to Yosemite)	Minor Arterial		Unit Cost -	\$10,052,000
Traffic Signals		45	\$325,000	\$18,348,000
Other Transportation Projects Subtotal				\$28,400,000
Total Transportation Costs				\$228,276,130

transp costs

Source: City of Merced and EPS.

[1] Railroad Crossings, Bridges, and Other Transportation Projects: EPS used ENR-CCI for San Francisco for the period of January 2012 to January 2020, rounded to the nearest \$1,000.

Table 6 Transportation and Road Projects

Project	Project Category	Facility Type	Notes
Transportation			
Existing Highway 59 Improvements			
North 59 - Childs to Mission	Major Arterial	Road widening	2 to 4 through lanes
Major Arterials			
Yosemite Ave (Lake Road to Campus Parkway)	Minor Arterial	-	Lake Road is Campus Parkway
G Street (Mercy to Bellevue)	Major Arterial	-	Road segment looks new or recently widened
R Street (Lehigh to Bellevue)	Major Arterial	New road/extension	
Childs Ave (Hwy 59 to Kibby)	Minor Arterial	Road widening	2 to 4 through lanes
Bellevue Rd (Hwy 59 to Lake)	Major Arterial	Road widening	2 to 6 through lanes
Cardella Rd (Hwy 59 to Lake) [1]	Divided Arterial	New road/extension	[1]
Gardner Rd (Yosemite to Bellevue) [2]	Minor Arterial	Road widening & new road/extension	[2]
Mission Ave (South Hwy 59 to Hwy 99)	Major Arterial	Road widening	[3]
Thornton Rd (Hwy 140 to Mission)	Minor Arterial	Road widening	2 to 4 through lanes
Railroad Crossings			
Santa Fe RR & R St or Parsons Ave	Railroad Crossing	-	
Bridges			
Cardella/Fahrens Creek	Divided Arterial Bridge	-	Connect Cardella to Hwy 59
G St/Cottonwood Creek	Major Arterial Bridge	-	Facility already constructed
Gardner/Cottonwood Creek	Minor Arterial Bridge	-	Facility already constructed
M St/Fahrens Creek	Minor Arterial Bridge	-	Connect M Street to Old Lake Road?
Bellevue/Fahrens Creek	Major Arterial Bridge	-	Needed to expand Bellevue
Parsons/Bear Creek	Minor Arterial Bridge	-	Connect two existing neighborhoods
Other Transportation Projects			
Parsons Ave Corridor (Hwy 140 to Yosemite)	Minor Arterial	-	-
Traffic Signals		-	-

transp projects

Source: City of Merced and EPS.

- [1] Portions of this segment of Cardella Road are already built to the General Plan 2030 design standards. See notes for details.
Hwy 59 to Freemark Avenue: New road/extension (4 through lanes). Appears bridge would be needed to cross Fahrens Creek.
Freemark Avenue to G Street: Built to General Plan 2030 design standards.
G Street to Lake Road: New road/extension (4 through lanes).
 [2] Yosemite Avenue to Cardella Road: Road widening (2 to 4 through lanes).
Cardella Road to Bellevue Road: New road/extension (4 through lanes).
 [3] Hwy 59 to Henry Street: Road widening (2 to 4 through lanes).
Henry Street to Hwy 99: Road widening (4 to 6 through lanes).

Table 7 Estimated Vehicle Trip Growth

Item	Amount [1]			Weighted PM Peak Trip Rate [2]			Trips		
	Existing	Buildout	Growth	Existing	Buildout	Growth	Existing	Buildout	Growth
Residenti	28,630	<u>dwelling units</u> 38,561	9,931	0.75	0.75	0.75	21,473	28,921	7,448
Nonreside	32,115	<u>employees</u> 43,927	11,812	0.95	0.96	0.99	30,603	42,346	11,744
Total							52,075	71,267	19,192
Share of New Trips (Buildout) [3]							(11,744 / 42,346) = 26.9%		

trip growth

Source: City of Merced 2030 General Plan; Merced County Association of Governments; Institute of Transportation Engineers; EPS.

- [1] See Table 4.
 [2] Based on a weighted trip weight for each land use type based on the growth indicated in the City 2030 General Plan.
 [3] Based on ITE's Trip Generation, 9th Edition.

Transportation Fee Calculation

The transportation impact fee is calculated in two steps. First, the total cost of transportation improvements is multiplied by the fair share percentage to determine the cost of improvements allocated to the fee category, as seen in **Table 8**. Secondly, the total allocated cost is divided by the number of afternoon peak hour trips generated by new development, yielding a per trip cost of \$3,203. Lastly, the cost per trip is multiplied by the afternoon peak hour trip generation for each type of land use specified in the fee category, as shown in **Table 9**.

Table 8 Cost Allocation for Transportation Projects

Name	Estimated Project Cost	% Allocated to Growth [1]	Allocated Fee Cost
Existing Highway 59 Improvements North 59 - Childs to Mission	\$7,240,140	26.9%	\$1,949,738
Major Arterials	\$157,298,990	26.9%	\$42,359,935
Railroad Crossings	\$17,564,000	26.9%	\$4,729,909
Bridges	\$17,773,000	26.9%	\$4,786,192
Other Transportation Projects	\$28,400,000	26.9%	\$7,647,997
Totals	\$228,276,130		\$61,473,771
New Trips [1]			19,192
Cost per Trip			\$3,203.11

transp alloc

Source: City of Merced 2030 General Plan; Merced County Association of Governments; Institute of Transportation Engineers; EPS.

[1] See Table 7.

Table 9 Transportation Fee Amounts

Land Use Category	Trip Rate [1]	Cost per Trip [2]	Fee Rate [3]
Residential			<u>Per Unit</u>
Single-Family (per unit)	0.99	\$3,203	\$3,171
Multifamily (per unit)	0.56	\$3,203	\$1,794
Nonresidential			<u>Per Bldg. Sq. Ft.</u>
Retail (per Sq. Ft.)	2.23	\$3,203	\$7.14
Office (per Sq. Ft.)	1.49	\$3,203	\$4.77
Industrial (per Sq. Ft.)	0.75	\$3,203	\$2.40
			<u>Per Room</u>
Lodging (per Room)	0.60	\$3,203	\$1,922

transp fee calc

Source: Institute of Transportation Engineers; EPS.

- [1] Trip rates represents averages based on ITE's Trip Generation, 9th Edition (P.M. peak hour). The retail trips rates include a 40 percent discount for "pass-by" trips.
- [2] See Table 8.
- [3] Fee per unit and room rounded to the nearest dollar; fee per building sq. ft. rounded to the nearest cent.

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4. Fire Facilities Fee

The City of Merced Fire department provides a full range of fire protection, first responder, and emergency response services to local residents and businesses from its 5 stations located throughout the city, responding to over 11,000 calls for service during 2020. The City first established the fire fee category in 1998.

Methodology

The fire facility fee is designed to cover new development's portion of the costs of a new firefighter training facility, as well as the cost of constructing and outfitting new fire stations needed to serve new growth and maintain existing levels of fire department service. Because the fire department serves both residents and businesses in the city, both residential and non-residential development will pay the fire facilities fee.

Fire Improvements and Cost Allocation

Currently, the City has 5 fire stations for a service population of 120,715 residents and employees, or 1 fire station for every 24,143 persons served. With the addition of 40,076 persons served by 2040, the City will need 1.66 additional fire stations to maintain the current level of service. Additionally, the City needs to construct a new training facility, the Hawk Training Facility, in order to train fire department staff serving at existing and new stations.

The two main components of the fire fee category, as shown in **Table 10**, are the new Hawk Training Facility and approximately 1.66 new fire stations. The cost of the Hawk Training Facility includes the cost of acquiring the 16.41 acres of land needed to develop the training facility. Because the Hawk Training Facility would serve both existing and new development, only 24.59 percent, or new growth's fair share based on weighted service population growth, of the facility's land cost is allocated to the fee category. This percentage of the land cost amounts to \$564,837.

Table 10 also lists the major cost items of a new fire station, which include the costs of constructing and furnishing the station, as well as vehicles and equipment needed to operate the station. The total cost of a new fire station is estimated at \$11,461,400, which includes the cost of construction, vehicles, and protective equipment. In addition, each new fire station needs furnishings, including wellness equipment, kitchen supplies, office furniture, and furnishings for sleeping and personal hygiene. The costs of station furnishings are estimated at \$500,000 per new station. Because the fire department needs 1.66 new fire stations to maintain the current level of service with new growth, the total amount allocated to the fee category for new fire stations is \$19,025,269. Combined with the land cost for the Hawk Training Facility, the total fire facilities costs allocated to the fee category is \$19,590,106.

Table 10 Fire Facility Costs (2019\$)

Item	Source	Formula	Amount
Current Level of Service Standards [1]			
Current Population Estimate	Table A-1	<i>a</i>	88,600
Current Employment Estimate	Table A-1	<i>b</i>	32,115
Current Total Service Population		$c=a+b$	120,715
Total Service Population in 2040		<i>d</i>	160,791
Total New Service Population from New Growth		$e=d-c$	40,076
Current Number of Stations	Fire Department	<i>f</i>	5
Level of Service Standard for Fire Stations		$g=c/f$	24,143
New Fire Stations Required Based on Current LOS		$h=e/g$	1.66
Fire Facilities for New Growth [2]			
Hawk Training Facility	Fire Department	$i=(16.41 \text{ acres}) * \$140,000$	\$2,297,400
Allocation to New Growth	Table 4	<i>j</i>	24.59%
Fire Facilities for New Growth Subtotal		$k=i*j$	\$564,837
New Fire Station Costs [3]			
Fire Station (8,000 bldg. sf.)	Fire Department	<i>l</i>	\$8,000,000
Station Furnishings [4]	Fire Department	<i>m</i>	\$500,000
Ladder Truck [5]	Fire Department	<i>n</i>	\$425,000
Engine	Fire Department	<i>o</i>	\$875,000
Auxiliary Engine/Off-Road Type 6	Fire Department	<i>p</i>	\$350,000
Protective Equipment [6]	Fire Department	$q=(13 * \$2,800)$	\$36,400
New Fire Station Subtotal		$r=l+m+n+o+p+q$	\$10,186,400
New Fire Stations Required		<i>h</i>	1.66
New Fire Stations Costs for New Growth		$s=r*h$	\$16,908,842
Fire Totals		$t=k+s$	\$17,473,679

[1] Service standards for fire services is based upon the current service population (incorporated population plus number of current employees) divided by the current number of fire stations serving the incorporated area of the City.

[2] Fire facilities for new growth includes a new training facilities, to be located on 16.41 acres of land. The assumed cost of acquisition is 16.41 acres at the estimated sales price of \$140,000 per acre.

[3] These are the costs of constructing and furnishing a fire station. It also includes the cost of three trucks, and protective gear for 13 personnel operating the station.

[4] Station furnishings includes including wellness equipment, kitchen supplies, office furniture, and furnishings for sleeping and personal hygiene.

[5] Ladder truck costs assigned at 25-percent of a new truck.

[6] Each station has a total of 13 personnel required to provide 24/7 operations. Assumes protective gear costs approximately \$2,800 each.

Source: City of Merced.

Table 11 shows how the total fire facility costs are allocated to residential and employment growth. First, the total fire facilities costs attributable to new growth are allocated to residential and non-residential land uses based on the relative residential and employment growth in weighted service population calculated in **Table 5**. Next, the total costs allocated to residential development are divided by the weighted growth in residents to determine a fire facilities cost per new resident and the total costs allocated to non-residential development are divided by the weighted growth in employees to determine a fire facilities cost per new employee. This results in a per resident and per employee cost of \$581.

Fire Fee Calculation

The fire facilities impact fee is calculated using the per resident and per employee fire facilities cost of \$580.88 shown in **Table 12**. For residential land uses, this per resident cost is multiplied by the number of persons per household for single-family and multifamily units, yielding a per unit fee of **\$1,859** for single-family units and **\$1,475** for multifamily units. For non-residential land uses, this per employee cost is multiplied by the estimated number of employees per 1,000 square feet (or per guest room for lodging uses) to determine a fee per square foot. This results in a maximum per-square-foot impact fee of **\$1.45** for retail/service commercial uses, **\$1.66** for office uses, and **\$0.64** for industrials uses. The maximum impact fee for lodging uses would be **\$290** per room.

Service Population

The fire facilities fee will be charged to new residential and non-residential development. As shown on **Table 5**, the total weighted service population is expected to grow from 103,447 to 137,172, and addition of 33,725 people. This growth represents 24.59 percent of the projected 2040 service population. For the Hawk Training Facility land costs, which is needed to serve current and future populations, this percentage represents the fair share allocation of costs related to the investments needed to serve new growth. The construction of 1.66 additional fire stations to maintain the current level of 24,143 persons served per station is only needed to serve new growth. As such, 100 percent of costs related to new fire stations are allocated to the fee category.

Table 11 Fire Department Cost Allocation

Cost Allocation Factor	Formula	Amount
Facility Costs Allocated to Fee Program [1]	<i>a</i>	\$17,473,679
Cost Allocation to Land Use [2]		
Residential Development	<i>b</i>	84%
Nonresidential Development	<i>c</i>	16%
Allocated Costs by Land Use		
Residential Development	$d = a*b$	\$14,644,212
Nonresidential Development	$e = a*c$	\$2,829,467
Service Population Growth [1]		
Residents	<i>f</i>	28,264
Employees	<i>g</i>	5,461
Facilities Cost per Resident [3]	$h = d/f$	\$518.12
Facilities Cost per Employee [3]	$l = e/g$	\$518.12

fire alloc

[1] See Table 10 for details.

Per City Fire Department, all costs should be allocated to new growth.

[2] See Table 5 for details.

[3] Rounded to 2 decimal places.

Table 12 Fire Department Fee Calculation

Land Use	Assumption/ Source	Total Fee per Unit [1]/ 1,000 Sq. Ft./ Room	Total Fee Per Bldg. Sq. Ft. [2]
Facilities Cost per Resident	Table 11	\$518.12	-
Facilities Cost per Employee	Table 11	\$518.12	-
Residential	<u>Persons/Household [3]</u>	<u>Per Unit</u>	
Single-Family	3.20	\$1,658	-
Multifamily	2.54	\$1,316	-
Nonresidential	<u>Employees/1,000 SF [3]</u>	<u>Per 1k Bldg. Sq. Ft.</u>	<u>Per Bldg. Sq. Ft.</u>
Retail/Service Commercial	2.50	\$1,295	\$1.30
Office	2.86	\$1,482	\$1.48
Industrial	1.11	\$575	\$0.58
Lodging	<u>Employees/Room [3]</u>	<u>Per Room</u>	
	0.50	\$259	-

fire fee calc

- [1] Fee per unit and room rounded to the nearest dollar.
 [2] Fee per building sq. ft. rounded to the nearest cent.
 [3] See Table A-2.

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5. Police Facilities Fee

The City of Merced Police Department provides a full range of criminal investigation, animal control, code enforcement, and general patrol services to local residents and businesses from its 2 stations, the Main Station at 611 W. 22nd Street and the South Area Station at 470 W. 11th Street. The City first established the police fee category in 1998.

Methodology

The police facility fee is designed to cover new development's portion of the costs of a new police facility, as well as the cost of vehicles and equipment needed to serve new growth and maintain existing levels of police department service. Because the police department serves both residents and businesses in the city, both residential and non-residential development will pay the police facilities fee.

Police Improvements and Cost Allocation

Currently, the Police Department has 98 sworn officers for a service population of 120,715 residents and employees, or 0.81 sworn officers for every 1,000 persons served. With the addition of 40,076 persons served by 2040, the City will need 33 additional sworn officers to maintain the current level of service. Additionally, the City needs to construct a new Main Police Station to replace the current headquarters, which was constructed in 1959.

The two main components of the police fee category, as shown in **Table 13**, are the new police facility and equipment and vehicles to outfit 33 new sworn officers. The cost of the outfitting a new officer includes officer equipment, a vehicle, and vehicle equipment. The total equipment cost per officer is \$45,161 and the total equipment cost for 33 new sworn officers is \$1,469,308. Because equipment for new sworn officers is only needed to maintain current levels of service with service population group, 100 percent of the cost of this equipment is allocated to the fee category.

The cost of the new police facility includes the cost of acquiring the 4.5 acres of land needed to develop the facility and constructing the approximately 66,000 square-foot facility. Because the new police facility would serve both existing and new development, only 24.59 percent, or new growth's fair share based on weighted service population growth, of the facility's cost is allocated to the fee category. This percentage of the cost amounts to \$11,841,809. The total police department costs allocated to new growth through the fee category is \$13,311,117.

Table 13 Police Facility Costs (2019\$)

Item	Source	Formula	Amount
Level of Service Standards			
Current Population Estimate	Table A-1	<i>a</i>	88,600
Current Employment Estimate	Table A-1	<i>b</i>	32,115
Current Total Service Population		$c=a+b$	120,715
Total Service Population in 2040		<i>d</i>	160,791
Total New Service Population from New Growth		$e=d-c$	40,076
Current Number of Sworn Officers		<i>f</i>	98
Level of Service Standard (Officers/1,000 Service Population) [1]	City	$g=(f*1,000)/c$	0.81
Required Additional Police Officers based on Current LOS [2]		$h=e*g$	33
Equipment Costs per Police Officer			
Officer Equipment	Police Dept.	<i>i</i>	\$7,190
Vehicle [3]	Police Dept.	<i>j</i>	\$22,192
Vehicle Equipment [3]	Police Dept.	<i>k</i>	\$4,197
Vehicle Communications [3]	Police Dept.	<i>l</i>	\$11,583
Total Estimated Equipment Costs per Police Officer	Police Dept.	$m=i+j+k+l$	\$45,161
Total Estimated Equipment Costs		$n=h*m$	\$1,469,308
Police Facilities Development Costs			
Police Facility Sq. Ft.	Police Dept.	<i>o</i>	66,000
Police Facility Construction Costs per Sq. Ft.	Police Dept.	<i>p</i>	\$725
Estimated Police Facility Construction Costs		$q=o*p$	\$47,850,000
Required Acres	Police Dept.	<i>r</i>	4.50
Land Acquisition Costs per Acre	City	<i>s</i>	\$70,000
Total Estimated Land Acquisition Costs		$t=r*s$	\$315,000
Total Estimated Police Facilities Development Costs		$u=q+t$	\$48,165,000
Total Estimated Police Facilities Development Costs - New Development [3]	Table 5	$v = u * 24.6\%$	\$11,841,809
Total Police Costs		$t = k+s$	\$13,311,117

police costs

Source: City of Merced; Merced County Association of Governments; EPS.

[1] Based on the current level of service standard per population served.

[2] Rounded to the nearest whole number.

[3] One vehicle serves two police officers. These vehicle costs represent 50% of a new vehicle's cost.

[4] Based on the percentage growth of service population. See Table 5 for details.

Table 14 shows how the total police department costs are allocated to residential and employment growth. First, the total police department costs attributable to new growth are allocated to residential and non-residential land uses based on the relative residential and employment growth in weighted service population calculated in **Table 5**. Next, the total costs allocated to residential development are divided by the weighted growth in residents to determine a police department cost per new resident and the total costs allocated to non-residential development are divided by the weighted growth in employees to determine a cost per new employee. This results in a per resident and per employee cost of \$395.

Police Fee Calculation

The police department impact fee is calculated using cost of \$395 per new employee or resident shown in **Table 15**. For residential land uses, this per resident cost is multiplied by the number of persons per household for single-family and multifamily units, yielding a per unit fee of **\$1,263** for single-family units and **\$1,003** for multifamily units. For non-residential land uses, this per employee cost is multiplied by the estimated number of employees per 1,000 square feet (or per guest room for lodging uses) to determine a fee per square foot. This results in a maximum per-square-foot impact fee of **\$0.99** for retail/service commercial uses, **\$1.13** for office uses, and **\$0.44** for industrial uses. The maximum impact fee for lodging uses would be **\$197** per room.

Service Population

The fire facilities fee will be charged to new residential and non-residential development. As shown on **Table 5**, the total weighted service population is expected to grow from 103,447 to 137,172, and addition of 33,725 people. This growth represents 24.59 percent of the projected 2040 service population. For the new police facility, which is needed to serve current and future populations, this percentage represents the fair share allocation of costs related to the investments needed to serve new growth. The addition of 33 sworn officers to maintain the current service level of 0.81 officer per 1,000 persons served is only needed to serve new growth. As such, 100 percent of costs related providing equipment and vehicles for new officers are allocated to the fee category.

Table 14 Police Department Cost Allocation

Cost Allocation Factor	Formula	Amount
Facility Costs Allocated to Fee Program [1]	<i>a</i>	\$13,311,117
Cost Allocation to Land Use [2]		
Residential Development	<i>b</i>	84%
Nonresidential Development	<i>c</i>	16%
Allocated Costs by Land Use		
Residential Development	$d = a*b$	\$11,155,683
Nonresidential Development	$e = a*c$	\$2,155,434
Service Population Growth [1]		
Residents	<i>f</i>	28,264
Employees	<i>g</i>	5,461
Facilities Cost per Resident [3]	$h = d/f$	\$394.70
Facilities Cost per Employee [3]	$l = e/g$	\$394.70

police alloc

[1] See Table 13 for details.

[2] See Table 5 for details.

[3] Rounded to 2 decimal places.

Table 15 Police Department Fee Calculation

Land Use	Assumption/ Source	Total Fee per Unit/ 1,000 Sq. Ft./ Room [1]	Total Fee Per Bldg. Sq. Ft. [2]
Facilities Cost per Resident	Table 14	\$394.70	-
Facilities Cost per Employee	Table 14	\$394.70	-
Residential	<u>Persons/Household [3]</u>	<u>Per Unit</u>	
Single-Family	3.20	\$1,263	-
Multifamily	2.54	\$1,003	-
Nonresidential	<u>Employees/1,000 SF [3]</u>	<u>Per 1k Bldg. Sq. Ft.</u>	<u>Per Bldg. Sq. Ft.</u>
Retail/Service Commercial	2.50	\$987	\$0.99
Office	2.86	\$1,129	\$1.13
Industrial	1.11	\$438	\$0.44
Lodging	<u>Employees/Room [3]</u>	<u>Per Room</u>	
	0.50	\$197	-

police fee calc

- [1] Fee per unit and room rounded to the nearest dollar.
 [2] Fee per building sq. ft. rounded to the nearest cent.
 [3] See Table A-2.

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6. Park Facilities Fee

The City of Merced Parks and Community Services Department is responsible for the development and operation of municipal parks, open spaces, and bikeways in the City of Merced. Currently, the City has over 300 acres of parkland and open space and approximately 17 miles of bikeways. The City first established the parks fee category in 1998. The City has previously implemented the collection of a Quimby Act fee to fund the cost of purchasing new parkland. This Report incorporates the cost of purchasing required parkland, thus replacing the Quimby Fee category.

Methodology

The parks facility fee is designed to cover the cost of acquiring and developing new parkland to serve population growth, as well as the new development's share of the costs for developing bikeways in the City's Active Transportation Plan and the cost of developing a new community center. Because the parks facilities serves both residents and businesses in the city, both residential and nonresidential development will pay the parks facilities fee.

Park Improvements and Cost Allocation

The City of Merced's General Plan dictates that the City provide 5 acres of developed parkland per 1,000 residents. As shown in **Table 16**, the City expects 28,264 new residents by 2040. These 28,264 residents would require 141.32 acres of parkland to meet the standard in the General Plan. The City currently has ownership of 54.90 acres of undeveloped parkland, meaning that the City needs to acquire an additional 86.42 acres to meet the standard in the general plan. The cost of acquiring those 86.42 acres and developing all 141.32 acres needed to serve future population growth is \$42,396,000.

Because these additional park areas are only needed to serve new development, 100 percent of these costs are allocated to the fee category. Under the State's Quimby Act (California Government Code Section 66477), local jurisdictions may charge fees (or receive land dedications in lieu of fees) to residential development for neighborhood and community parks. Previously, the City collected fees for neighborhood parks (Quimby Fees) and collected a separate fee charged to both residential and non-residential development for citywide improvements to parks facilities and bikeways. This update eliminates the Quimby Fee program, and the costs of acquiring land for neighborhood parks are included in this citywide Public Facilities Financing Program.

Table 16 Developed Park Requirements & Facility Costs (2020\$)

Item	Source	Formula	Amount
Current Population Estimate	Table 4	<i>a</i>	88,600
Estimated Population in 2040	Table 4	<i>b</i>	116,864
Estimated New Population Growth		$c=b-a$	28,264
Developed Park Standards - 5 Acres/1,000 Population Required Additional Developed Parks (Acres)		$d=(c/1000)*5$	141.32
Current Total of Developed Park Acreage	Table C-1	<i>e</i>	305.16
Total Required Developed Park for City		$f=(a/1000)*5$	443.00
Total Park Acreage Requirement		$g=d$	141.32
Current Undeveloped Park Acreage (Owned by City)	Table C-1	<i>h</i>	54.90
Park Acreage to be Acquired		$i=g-h$	86.42
Land Acquisition Costs			
Estimated Cost of Land per Acre [1]	City	<i>j</i>	\$70,000
Estimated Land Acquisition Cost for New Parks		$k=i*j$	\$6,049,400
Park Facility Development Costs			
Park Development Costs per Acre [2]	Table C-3	<i>l</i>	\$300,000
Estimated Park Facility Development Costs		$m=g*l$	\$42,396,000
Class I Bike Paths			
Total Estimated Costs	[3]	<i>n</i>	\$9,440,000
New Development Share of Costs	Table 5	$o = n * 24.6\%$	\$2,320,911
Community Center			
Total Estimated Costs	Table E-5	<i>p</i>	\$3,638,191
New Development Share of Costs		$q = p * 24.6\%$	\$894,483
Total Park Development Costs		$r = k+m+o+q$	\$51,660,794

Source: City of Merced; Merced County Association of Governments; CoStar; Various jurisdictions; EPS. *park cost*

[1] Assumption based on a park site appraisal report prepared by Tiffany K.V. Mach, MAI on February 4, 2020.

[2] Assumption based on a conservative estimate based on EPS's research of park improvement costs in the Central Valley. See Table C-3 for details.

[3] City of Merced Active Transportation and Safe Routes to School Plan (July 2019).

In addition to the additional park lands and facilities, the parks fee also supports the implementation of the City's Active Transportation and Safe-Routes-to-School plan by funding the development of 16 miles of off-street bikeways identified in that Plan at a total cost of \$9,440,000. Lastly, the parks fee will fund the development of a new community center. Because the bikeways and community center would serve both existing and new development, only 24.59 percent, of new growth's fair share based on weighted service population growth, of these facilities' cost is allocated to the fee category. In total, \$51,660,794, which includes the costs of parks needed to serve new development as well as a portion of the costs to develop bikeways and a community center, is allocated to the parks fee category.

Table 17 shows how the total parks facilities costs are allocated to residential and employment growth. First, the total parks facilities costs to be paid by new growth are allocated to residential and non-residential land uses based on the relative residential and employment growth in weighted service population calculated in **Table 5**. Next, the total costs allocated to residential development are divided by the weighted growth in residents to determine a cost per new resident and the total costs allocated to non-residential development are divided by the weighted growth in employees to determine a cost per new employee. This results in a per resident and per employee cost of \$1,532. For further information on the calculation of parks costs, see **Appendix E**.

Park Facility Fee Calculation

The park facilities impact fee is calculated using cost of \$395 per new employee or resident shown in **Table 18**. For residential land uses, this per resident cost is multiplied by the number of persons per household for single-family and multifamily units, yielding a per unit fee of **\$4,902** for single-family units and **\$3,891** for multifamily units. For non-residential land uses, this per employee cost is multiplied by the estimated number of employees per 1,000 square feet (or per guest room for lodging uses) to determine a fee per square foot. This results in a maximum per-square-foot impact fee of **\$3.83** for retail/service commercial uses, **\$4.38** for office uses, and **\$1.70** for industrial uses. The maximum impact fee for lodging uses would be **\$766** per room.

Service Population

The parks facilities fee will be charged to new residential and non-residential development. As shown on **Table 5**, the total weighted service population is expected to grow from 103,447 to 137,172, and addition of 33,725 people. This growth represents 24.59 percent of the projected 2040 service population. For the new bikeways and community center, which are needed to serve current and future populations, this percentage represents the fair share allocation of costs related to the investments needed to serve new growth. The addition of 141.82 acres of developed parkland to meet the standard of 5 acres of parkland per 1,000 residents is only needed to serve new growth. As such, 100 percent of costs related to developing this new parkland (except for the cost of land already owned by the City) is allocated to the fee category.

Table 17 Park Facilities Cost Allocation

Cost Allocation Factor	Formula	Amount
Facility Costs Allocated to Fee Program [1]	<i>a</i>	\$51,660,794
Cost Allocation to Land Use [2]		
Residential Development	<i>b</i>	84%
Nonresidential Development	<i>c</i>	16%
Allocated Costs by Land Use		
Residential Development	$d = a*b$	\$43,295,498
Nonresidential Development	$e = a*c$	\$8,365,296
Service Population Growth [1]		
Residents	<i>f</i>	28,264
Employees	<i>g</i>	5,461
Facilities Cost per Resident [3]	$h = d/f$	\$1,531.82
Facilities Cost per Employee [3]	$l = e/g$	\$1,531.82

park alloc

[1] See Table 16 for details.

[2] See Table 5 for details.

[3] Rounded to 2 decimal places.

Table 18 Park Facilities Fee Calculation

Land Use	Assumption/ Source	Total Fee per Unit/ 1,000 Sq. Ft./ Room [1]	Total Fee Per Bldg. Sq. Ft. [2]
Facilities Cost per Resident	Table 17	\$1,531.82	-
Facilities Cost per Employee	Table 17	\$1,531.82	-
Residential	<u>Persons/Household [3]</u>	<u>Per Unit</u>	
Single-Family	3.20	\$4,902	-
Multifamily	2.54	\$3,891	-
Nonresidential	<u>Employees/1,000 SF [3]</u>	<u>Per 1k Bldg. Sq. Ft.</u>	<u>Per Bldg. Sq. Ft.</u>
Retail/Service Commercial	2.50	\$3,830	\$3.83
Office	2.86	\$4,381	\$4.38
Industrial	1.11	\$1,700	\$1.70
Lodging	<u>Employees/Room [3]</u>	<u>Per Room</u>	
	0.50	\$766	-

park fee calc

- [1] Fee per unit and room rounded to the nearest dollar.
 [2] Fee per building sq. ft. rounded to the nearest cent.
 [3] See Table A-2.

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7. Public Works Fee

The City of Merced Public Works Department is responsible for the development, maintenance, and operation of a variety of public facilities and services, including solid waste, street lighting, water, and wastewater. In addition, the Public Works Department provides maintenance for City-owned vehicles, buildings, and parks.

Methodology

The public works facility fee is designed to cover a portion of the cost of expanding the City's Corporation Yard at 1776 Grogan Avenue. Because the Public Works Departments' services and facilities serve both residents and businesses, the public works facility fee is charged to both residential and non-residential development.

Public Works Improvements and Cost Allocation

The City of Merced's Corporation Yard contains Department of Public Works administrative offices and provides a storage yard for City-owned heavy vehicles such as trash trucks and materials needed for the repair and maintenance of City-owned facilities. Additionally, the corporation yard contains a facility for performing maintenance and repair of City-owned vehicles.

The City is planning for an expansion and update to the corporation yard including an improved parking lot, fleet shop, and new offices. The City expects that much of this project will be funded by ratepayers who receive solid waste, water, wastewater, and other public services from the City's Public Works Department. However, a portion of the cost of this project is attributable to general fund services impacted by new growth. This portion of the project cost, totaling \$2,000,000, is allocated to the public works facilities fee category, as shown in **Table 19**.

Table 20 shows how the public works facilities costs are allocated to residential and employment growth. First, the total public facilities costs to be paid by new growth are allocated to residential and non-residential land uses based on the relative residential and employment growth in weighted service population calculated in **Table 5**. Next, the total costs allocated to residential development are divided by the weighted growth in residents to determine a cost per new resident and the total costs allocated to non-residential development are divided by the weighted growth in employees to determine a cost per new employee. This results in a per resident and per employee cost of \$59.

Table 19 Public Works Facility Costs

Item	Costs
New Corp Yard	\$22,400,000
Cost allocated to PFFP [1]	\$2,000,000

pw costs

Source: City of Merced

[1] Based on discussions with the Public Works Director, required corporation yard expansions costs for Phase 1 of the overall expansion is attributable to general fund services impacted by new growth. The overall corporation yard expansions costs will be funded primarily with enterprise funds. It is expected that the fee study will be updated in 5 years and will assign remaining costs for general fund services for the fee program at that time.

Table 20 Public Works Cost Allocation

Cost Allocation Factor	Formula	Amount
Facility Costs Allocated to Fee Program [1]	<i>a</i>	\$2,000,000
Cost Allocation to Land Use [2]		
Residential Development	<i>b</i>	84%
Nonresidential Development	<i>c</i>	16%
Allocated Costs by Land Use		
Residential Development	$d = a*b$	\$1,676,145
Nonresidential Development	$e = a*c$	\$323,855
Service Population Growth [1]		
Residents	<i>f</i>	28,264
Employees	<i>g</i>	5,461
Facilities Cost per Resident [3]	$h = d/f$	\$59.30
Facilities Cost per Employee [3]	$l = e/g$	\$59.30

pw alloc

[1] See Table 19 for details.

[2] See Table 5 for details.

[3] Rounded to 2 decimal places.

Public Works Fee Calculation

The public works facilities impact fee is calculated using cost of \$59.30 per new employee or resident shown in **Table 21**. For residential land uses, this per resident cost is multiplied by the number of persons per household for single-family and multifamily units, yielding a per unit fee of **\$190** for single-family units and **\$151** for multifamily units. For non-residential land uses, this per employee cost is multiplied by the estimated number of employees per 1,000 square feet (or per guest room for lodging uses) to determine a fee per square foot. This results in a maximum per-square-foot impact fee of **\$0.15** for retail/service commercial uses, **\$0.17** for office uses, and **\$0.07** for industrial uses. The maximum impact fee for lodging uses would be **\$30** per room.

Service Population

The public works facilities fee will be charged to new residential and non-residential development. As shown on **Table 5** the total weighted service population is expected to grow from 103,447 to 137,172, an addition of 33,725 people. The weighted growth in service population is expected to be composed of 84 percent residential growth and 16 percent employment growth. As such, those are the proportions of public works facilities costs assigned to residential land uses and non-residential land uses. As these new facilities are only needed to serve new development, 100 percent of the costs shown in **Table 19** are allocated to new growth.

Table 21 Public Works Fee Calculation

Land Use	Assumption/ Source	Total Fee per Unit/ 1,000 Sq. Ft./ Room [1]	Total Fee Per Bldg. Sq. Ft. [2]
Facilities Cost per Resident	Table 20	\$59.30	-
Facilities Cost per Employee	Table 20	\$59.30	-
Residential	<u>Persons/Household [3]</u>	<u>Per Unit</u>	
Single-Family	3.20	\$190	-
Multifamily	2.54	\$151	-
Nonresidential	<u>Employees/1,000 SF [3]</u>	<u>Per 1k Bldg. Sq. Ft.</u>	<u>Per Bldg. Sq. Ft.</u>
Retail/Service Commercial	2.50	\$148	\$0.15
Office	2.86	\$170	\$0.17
Industrial	1.11	\$66	\$0.07
	<u>Employees/Room [3]</u>	<u>Per Room</u>	
Lodging	0.50	\$30	-

pw fee calc

[1] Fee per unit and room rounded to the nearest dollar.

[2] Fee per building sq. ft. rounded to the nearest cent.

[3] See Table A-2.

8. Information Technology Fee

The City of Merced Information Technology Department is responsible for the development, implementation, and maintenance, of computer and network services for the City, coordinating information flow between City agencies and between the City and the general public.

Methodology

The information technology fee is designed to cover the cost of expanding the City's communication infrastructure to future City facilities and modernizing communication infrastructure at existing City facilities. Because these facilities serve both residents and businesses, the information technology fee is charged to both residential and non-residential development.

Information Technology Improvements and Cost Allocation

Secure, fast, and reliable communication and transfer of information between City agencies and facilities is key to the functioning of City departments. New City facilities require connections to Smart City Technology Infrastructure via existing fiber optic networks to connect to the internet and facilitate voice, video, and data communications. In addition, connection to fiber optic networks allows the use of Supervisory Control and Data Acquisition (SCADA), which allows for automated computer monitoring and control of City utilities and facilities, such as wastewater treatment and traffic signals. Lastly, each new City facility listed in **Table 22** needs to be equipped with the ability to communicate on public safety radio to enable communication during emergencies.

The cost to install fiber optic cable to connect City facilities depends on the facility's distance to the nearest fiber optic conduit, which is why the cost of connecting each facility differs, as seen in **Table 22**. The total cost of connecting all of these facilities is \$1,552,300. Because these facilities and associated information technology infrastructure are needed to serve new growth, 100 percent of the cost of the technology infrastructure is allocated to the fee category.

Table 23 shows how the information technology costs are allocated to residential and employment growth. First, the total information technology costs to be paid by new growth are allocated to residential and non-residential land uses based on the relative residential and employment growth in weighted service population calculated in **Table 5**. Next, the total costs allocated to residential development are divided by the weighted growth in residents to determine a cost per new resident and the total costs allocated to non-residential development are divided by the weighted growth in employees to determine a cost per new employee. This results in a per resident and per employee cost of \$46.

Table 22 Information Technology Costs

Item	Cost
Smart City Technology Infrastructure	
Connecting Central Police Station	\$442,500
Connecting Fire Station 56	\$167,500
Connecting Fire Station 57	\$580,000
Connecting Fire Station 58	\$310,500
Connecting Public Works	\$51,800
Total	\$1,552,300

it cost

Source: City of Merced.

Table 23 Information Technology Cost Allocation

Cost Allocation Factor	Formula	Amount
Facility Costs Allocated to Fee Program [1]	<i>a</i>	\$1,552,300
Cost Allocation to Land Use [2]		
Residential Development	<i>b</i>	84%
Nonresidential Development	<i>c</i>	16%
Allocated Costs by Land Use		
Residential Development	$d = a*b$	\$1,300,940
Nonresidential Development	$e = a*c$	\$251,360
Service Population Growth [1]		
Residents	<i>f</i>	28,264
Employees	<i>g</i>	5,461
Facilities Cost per Resident [3]	$h = d/f$	\$46.03
Facilities Cost per Employee [3]	$l = e/g$	\$46.03

it alloc

[1] See Table 22 for details.

Costs allocated to new growth based on discussions with the City.

[2] See Table 5 for details.

[3] Rounded to 2 decimal places.

Information Technology Fee Calculation

The public works facilities impact fee is calculated using cost of \$46 per new employee or resident shown in **Table 24**. For residential land uses, this per resident cost is multiplied by the number of persons per household for single-family and multifamily units, yielding a per unit fee of **\$147** for single-family units and **\$117** for multifamily units. For non-residential land uses, this per employee cost is multiplied by the estimated number of employees per 1,000 square feet (or per guest room for lodging uses) to determine a fee per square foot. This results in a maximum per-square-foot impact fee of **\$0.12** for retail/service commercial uses, **\$0.13** for office uses, and **\$0.05** for industrial uses. The maximum impact fee for lodging uses would be **\$23** per room.

Table 24 Information Technology Fee Calculation

Land Use	Assumption/ Source	Total Fee per Unit/ 1,000 Sq. Ft./ Room [1]	Total Fee Per Bldg. Sq. Ft. [2]
Facilities Cost per Resident	Table 23	\$46.03	-
Facilities Cost per Employee	Table 23	\$46.03	-
Residential	<u>Persons/Household [3]</u>	<u>Per Unit</u>	
Single-Family	3.20	\$147	-
Multifamily	2.54	\$117	-
Nonresidential	<u>Employees/1,000 SF [3]</u>	<u>Per 1k Bldg. Sq. Ft.</u>	<u>Per Bldg. Sq. Ft.</u>
Retail/Service Commercial	2.50	\$115	\$0.12
Office	2.86	\$132	\$0.13
Industrial	1.11	\$51	\$0.05
Lodging	<u>Employees/Room [3]</u>	<u>Per Room</u>	
	0.50	\$23	-

it fee calc

[1] Fee per unit and room rounded to the nearest dollar.

[2] Fee per building sq. ft. rounded to the nearest cent.

[3] See Table A-2.

Service Population

The information technology fee will be charged to new residential and non-residential development. As shown on **Table 5** the total weighted service population is expected to grow from 103,447 to 137,172, an addition of 33,725 people. The weighted growth in service population is expected to be composed of 84 percent residential growth and 16 percent employment growth. As such, those are the proportions of information technology cost assigned to residential land uses and non-residential land uses. As these new facilities and associated information technology infrastructure are only needed to serve new development, 100 percent of the information technology costs shown in **Table 22** are allocated to new growth.

9. Summary of Nexus Findings and Maximum Fee

This chapter summarized the nexus findings based on the fee calculations provided in previous chapters and present a maximum allowable fee by facility category and land use.

Overview of Nexus Findings

The technical calculations detailed in previous chapter establish the following updated nexus findings, consistent with the requirements of the Mitigation Fee Act.

Purpose

The updated fee will help maintain adequate levels of service in the City.

Use of Fee

Fee revenue will be used to fund City infrastructure and capital facility improvements, including roadways and police and fire facilities and equipment, as well as the reimbursement of upfront investments from other City funds for improvements required to serve future growth.

Relationship

New development in the City will increase demands for and impacts on City infrastructure (e.g., the transportation network, park facilities, public safety building and vehicles). The Impact Fee Program will be used to fund additional capacity necessary to accommodate growth. New development will benefit from the increased capacity.

Need

Each new development project will add to the incremental need for infrastructure capacity and improvements. The improvements considered in this study are considered necessary to meet the City's future capital facility needs. The capital facilities needs are determined based on existing level of service standards and, in some cases, new level of service standards as identified in this study for each fee category.

Proportionality

The fee levels are tied to fair share cost allocations to new Citywide development based on growth and facility demand metrics or factors calculated in this study for each fee category.

Summary of Fees

Table 25 calculates the updated maximum allowable impact fee by facility category and land use type. The City would be justified in implementing the fees up to the amounts shown in **Table 25**. City Council may choose to implement fees at lower rates than shown in the table.

Table 25 Summary of Maximum Justified Fees

Item	Source	Residential Fee per		Nonresidential Fee per			
		Single-Family Unit	Multifamily Unit	Retail Bldg. Sq. Ft.	Office Bldg. Sq. Ft.	Industrial Bldg. Sq. Ft.	Lodging (Per Room)
Fee Component		<i>fee per unit</i>		<i>fee per bldg. sq. ft.</i>			<i>per room</i>
Transportation Fee	Table 9	\$3,171	\$1,794	\$7.14	\$4.77	\$2.40	\$1,922
Fire Department Fee	Table 12	\$1,658	\$1,316	\$1.30	\$1.48	\$0.58	\$259
Police Department Fee	Table 15	\$1,263	\$1,003	\$0.99	\$1.13	\$0.44	\$197
Parks Fee	Table 18	\$4,902	\$3,891	\$3.83	\$4.38	\$1.70	\$766
Public Works Fee	Table 21	\$190	\$151	\$0.15	\$0.17	\$0.07	\$30
Information Technology Fee	Table 24	\$147	\$117	\$0.12	\$0.13	\$0.05	\$23
Subtotal PFFP Fee		\$11,331	\$8,272	\$13.53	\$12.06	\$5.24	\$3,197
Administration (3 Percent)		\$340	\$248	\$0.41	\$0.36	\$0.16	\$96
Total Maximum Justified Fee		\$11,671	\$8,520	\$13.94	\$12.42	\$5.40	\$3,293

max fee

10. Fee Program Implementation and Administration

The fee program presented in this Report is based on the best facility improvement cost estimates, existing facility cost or value estimates, administrative cost estimates, and land use information available at this time. If costs change significantly, if the type or amount of new development changes, if other assumptions significantly change, or if other funding becomes available (as a result of legislative action on state and local government finance, for example), the fee program should be updated accordingly.

After the fees presented in this Report are established, the City should conduct periodic reviews of facility improvement costs and other assumptions used as the basis of this Report. Based on these reviews, the City may make necessary adjustments to the fee program through subsequent fee program updates.

The cost estimates presented in this Report are in constant 2019 dollars, except where stated. The City automatically may adjust the costs and fees for inflation each year as outlined in this chapter.

The fee program will be implemented in accordance with Government Code Section 66000. City ordinances and resolutions required for implementation of this Nexus Study are an integral and controlling part of the policies and procedures authorized for this Nexus Study. If there are any inconsistencies or contradictions between the implementing ordinance and resolution(s) and the Nexus Study, the ordinance/resolution(s) shall prevail.

Administration Fee Component

An administrative fee will be collected to fund the administration, oversight, implementation, and updates of the fee program, including administration of any credit and reimbursement agreements. The administration fee will include adequate funding to cover all City costs.

Fee Amount

This Report identifies fee rates for the major land use categories, which are detailed in **Table 25**. The fee rates have been calculated for single-family and multifamily unit dwellings and a few nonresidential land use categories. For projects that do not fit the land use categories identified in **Table 25**, the Director of Development Services or designee may compute the required fee based on usage factors determined for the specific development project.

The fee rates for a development project are those fees in effect as of the date of acceptance of a complete building permit application. Any adjustments to the fees that occur after that time (e.g., automatic inflation adjustment) would not apply.

The Director of Development Services or designee shall determine and calculate the required fees for each development project in accordance with this Report. Fees shall be computed based on the primary use or uses of the development project, defined as the principal functions of a building or structure, based on the rates specified for that primary use by this Report. In some cases, a development project may include ancillary uses that are different from the primary use, but which exist only to support the primary activities or operation of the primary use, such as office space for management or accounting functions in a retail enterprise. These ancillary uses would not exist absent the operations associated with the primary use. In these cases, the ancillary use would not be charged a different fee rate, and the area associated with ancillary uses would be included in the commercial building area of the primary use.

For projects with multiple primary uses that are operationally separate (i.e., mixed-use projects such as office over retail), fees shall be computed based on applying the applicable fee rate to the total residential units or total commercial building area for each primary use.

Fee Program Updates

The fees presented in this Report are based on the best available cost estimates and land use information at this time. If costs or land uses change significantly in either direction, or if other funding becomes available, the fees will need to be updated accordingly. Updates to the fee program, other than the automatic annual adjustments described below, must be adopted by a City Council Resolution.

Annual Inflation Adjustment

The fee program may be escalated annually. The annual adjustments, effective January 1 of each year, consider the potential for inflation of public facility design, construction, installation, and acquisition costs. The proposed adjustment procedure is described below.

The fee program will be escalated annually using the percentage change in the Engineering News-Record Construction Cost Index (ENR-CCI) for the 20-city CCI as published by ENR/McGraw-Hill Construction Weekly. The percentage change in the ENR-CCI is the year-over-year change as of each March. The City shall carry out the percentage change calculation to 2 decimal places.

Periodic Fee Updates

The proposed fee program is subject to periodic update based on changes in developable land, cost estimates, or outside funding sources. The City will review the costs and the fee programs periodically to determine if any updates to the fees are warranted. During the periodic reviews, the City will analyze these items:

- Changes to the required facilities listed in this Report.
- Changes in the cost to update or administer the fee.
- Changes in costs greater than inflation.
- Changes in assumed land uses.
- Changes in other funding sources.
- Other issues as warranted.

Any changes to the fee based on the periodic update will be presented to the City Council for approval before an increase or decrease in the fee.

Based on facility level of service evaluations, the location of approved new development that will add significant housing or jobs, or other considerations, the City has the ability to spend the fee revenues on any of the projects identified in the fee program, regardless of project location and the location of collected fees.

Fee Program to Replace Quimby Act Fees

Under the State's Quimby Act (California Government Code Section 66477), local jurisdictions may charge fees (or receive land dedications in lieu of fees) to residential development for neighborhood and community parks. Previously, the City collected fees for neighborhood parks (Quimby Fees) and collected a separate fee charged to both residential and non-residential development for citywide improvements to parks facilities and bikeways. This update eliminates the Quimby Fee program, and the costs of acquiring land for neighborhood parks are included in this citywide Public Facilities Financing Program.

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APPENDIX A: Growth and Density Assumptions

Table A-1	Population, Household, and Employment Growth Projections
Table A-2	Land Use Density Assumptions
Table A-3	Estimated Population per Household

**Table A-1
Population, Household, and Employment Growth Projections [1]
City of Merced Public Facilities Financing Plan & Impact Fee Program Update; #182170**

Item	2015	2019 [2]	2020	2025	2030	2035	2040	Change (2019-2040)		
								Amount	Average Annual Amount	Average Annual Percentage
Population Projections	84,125	88,600	89,719	95,670	102,952	109,986	116,864	28,264	1,346	1.33%
Household Projections	26,790	28,630	29,090	31,178	33,729	36,147	38,561	9,931	473	1.43%
Employment Projections [3]	29,693	32,115	32,720	35,049	37,871	40,723	43,927	11,812	562	1.50%

projections

Source: Merced County Association of Governments; EPS.

[1] MCAG projections based on analysis prepared by the University of the Pacific Eberhardt School of Business Center for Business & Policy Research, dated July 7, 2016.

[2] MCAG: 2019 estimates based on straight line interpolation.

**Table A-2
Land Use Density Assumptions
City of Merced Public Facilities Financing Plan & Impact Fee Program Update; #182170**

Land Use Fee Categories	Persons per Household [1]	Sq. Ft. per Employee [2]	Employees per 1,000 Sq. Ft./Room [3]
Residential			
Single-Family	3.20	-	-
Multifamily	2.54	-	-
Nonresidential			
			<i>per 1,000 sq. ft.</i>
Retail/Service Commercial	-	400	2.50
Office	-	350	2.86
Industrial	-	900	1.11
			<i>per room</i>
Lodging	-	1,000	0.50

density assumps

Source: U.S. Census Bureau; City of Merced; EPS.

- [1] Based on U.S. Bureau American Community Survey data. See Table A-3 for details.
- [2] Based on the following assumptions:
Retail/Service Commercial: 2012 Merced PFFP.
Office: 2012 Merced PFFP.
Industrial: 2012 Merced PFFP.
Lodging: EPS, based on similar studies.
- [3] Retail/Service Commercial, Office, and Industrial: Equal to 1,000 sq. ft. / sq. ft. per employee.
Lodging: Assumes 500 gross sq. ft. per hotel room.

Table A-3
Estimated Population per Household
City of Merced Public Facilities Financing Plan & Impact Fee Program Update; #182170

Item	Single-Family Residential	Multifamily Residential
Population [1]	59,398	19,725
No. of Units [1]	18,590	7,754
Population per Household [2]	3.20	2.54

pph

Source: U.S. Census Bureau, 2013-2017 American Community Survey, Table B25033, Table B25024.

[1] Based on the following population by unit type and number of units in structure:
Single-Family Residential: Attached or detached single-unit dwelling by structure.
Multifamily Residential: 2 or more dwelling units by units in structure.
Note: Assumptions do not include population and units for mobile home, boat, RV, van, etc.

[2] Rounded to two decimal places.

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