

# Impact Fee Nexus Study Templates

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Nexus Study and Residential Feasibility Calculation Templates  
in fulfillment of AB 602

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## Table of Contents

Impact Fee Nexus Study Templates	1
I. Evaluated Nexus Study Template	1
A. Evaluated Nexus Study Report Preparation	1
Step 1. Reasoning Behind Impact Fee Program	3
Step 2. Existing and Future Development Projections	5
Step 3. Determination of Facility Standards	7
Step 4. Cost of Facilities to Serve New Development	10
Step 5. Fair Share Allocation of Facility Costs to New Development	16
Step 6. Maximum Fee Based on Nexus Analysis	17
Step 7. Financial Impact of Fees	19
Step 8. Fee Adoption and Program Implementation	20
II. Residential Feasibility Analysis	23
A. Overview of Development Feasibility Analysis	23
B. Development Risk and Return	24
C. Feasibility Analysis Framework	25
D. Return Metrics	26
E. Illustrative Development Return Analysis	27
F. Residual Land Value Analysis	32
III. Conclusion	35
IV. Acknowledgments	36

# I. Evaluated Nexus Study Template

The nexus study template provides a framework that jurisdictions can utilize to adopt or update an impact fee program affecting residential development in accordance with the requirements of relevant sections of the Government Code. The template begins with recommendations regarding the report content, which is followed by eight key steps to be undertaken as part of the nexus study preparation and the process to adopt or update a development impact fee that will be applicable to residential development.

## A. Evaluated Nexus Study Report Preparation

A nexus study is the key supporting document that is relied upon by the decision makers, developers, and the public to understand how the underlying data, analysis and fee calculations of the nexus analysis has been performed. Thus, the nexus study should be a well-organized and user-friendly report that contains the relevant data and analysis that can be relied upon by the jurisdiction when making the required findings described in Section II.

Given that the nexus study is a technical document, defining key terms is very helpful in promoting the report's comprehension. The following key terms are used and defined as follows for this report:

- Nexus– A relationship or connection between two (or more) items.
- Facility– Public facility or capital facilities including public buildings, community facilities, land, infrastructure, and/or other public improvements, as well as equipment and supplies with a long duration of use.<sup>1</sup>
- Fee– A development impact fee that is used to mitigate the impacts of new development on facilities and will be spent on capital projects that improve or expand facilities to accommodate growth in service demand from new development.
  - Fee revenues cannot be used for rehabilitation unless related to a major capital project upgrade.
  - Fee revenues also cannot be used for maintenance or operating costs.
- Jurisdiction– Any subdivision of the state including a county, city, whether general law or chartered, or special district.
- Large Jurisdiction– A large jurisdiction means a county that has a population of 250,000 people or more as of January 1, 2019, or any city regardless of size within such a county.<sup>2</sup>

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<sup>1</sup> While duration of use is not specifically defined, equipment and supplies with a life span of 5 years or longer are often included in a Capital Improvement Plan (CIP) and/or nexus study. While the Mitigation Fee Act defines “public facilities” to be “public improvements, public services, and community amenities”, fees adopted under the Act are typically limited to funding capital facilities. See also Government Code section 65913.8 that in most cases does not allow the use of fees for capital facilities to be used for the maintenance or services.

<sup>2</sup> California Health and Safety Code (HSC) section 53559.1

Exhibit 1 summarizes the key steps to prepare a nexus study and includes a corresponding question for local jurisdictions to ask as they undertake each step.

Exhibit 1 : Summary of Steps to Prepare a Nexus Study

Step 1	Describe reasoning behind impact fee program	Why does an impact fee program need to be adopted or updated?
Step 2	Project existing and future development	What types of existing and new development are occurring, and are there geographic differences that might affect the need for facilities and associated fees charged to certain types of development in an area?
Step 3	Determine facility standard(s) used to identify the facilities required to serve new development	How will different types of new development change the need/demand for facilities?
Step 4	Determine costs of facilities needed to serve new development	How will facility costs increase as the result of new development?
Step 5	Allocate the fair share of facility costs to new development	What is a reasonable (fair share) allocation of future facility costs to new development based on three sets of nexus findings that establish a reasonable relationship according to need, benefit and proportionality?
Step 6	Calculate a maximum fee for each land use, including consideration of fee based on residential square feet	What is the maximum justified fee by land use type based on the prior steps that can be charged to new development, with the fee on residential land uses levied per building square foot unless an alternative method is justified?
Step 7	Analyze the financial impact of fees on housing development	What is the potential financial impact of adopting the maximum fee levels on housing development, considering that additional fee amounts may inhibit new housing supply?
Step 8	Adopt fee(s) and implement the fee program	What fees should be charged to each type of new development, and how will the fee program be implemented?

## Step 1. Reasoning Behind Impact Fee Program

The nexus study should describe the reasons for adopting or updating an impact fee program, and how fees will be charged and used to build new facilities, as well as the nexus findings used to establish the fee amounts for different types of new development. This should include evaluating how fees may be used and/or generated from different areas within a local jurisdiction.

### Purpose of Fee

Before adopting a fee, a local jurisdiction must make specific findings that include identifying the purpose of the fee and describing why the fee is needed to provide new or expanded facilities to mitigate the impacts of new development.<sup>3</sup> Exhibit 2 presents a summary table that illustrates how a local jurisdiction could identify each type of impact fee, the fee’s purpose, and the types of facilities that fee revenues could help fund in addition to the acquisition of property to build these facilities.

Exhibit 2: Typical Types of Impact Fees, Fee Purpose and Facilities to be Funded

Type of Fee	Typical Purpose of Fee	Typical Facilities and Use of Fees
Transportation	Expand road and multi-modal transportation infrastructure to address increased transportation needs of new development.	Road and intersection improvements, transit, bicycle, and pedestrian improvements
Civic Facilities	Expand the provision of civic and community facilities that serve future residents, employees, and businesses in the community.	Library, City Hall, other civic facilities
Public Safety Facilities	Expand the capacity for fire, police, and other public safety systems to serve future residents, employees, and businesses in the community.	Police facilities, fire stations, public safety and emergency vehicles
Park and Recreation	Expand the provision of parks and recreational facilities to meet future sport, health and recreational needs of residents and employees.	Park land, park development, park and recreation centers

<sup>3</sup> Government Code section 66001(a)(1)

Environmental Mitigation	Mitigate a negative environmental impact typically by preserving or restoring agriculture, open space, or natural lands.	Agriculture and open space preservation, habitat conservation, restoration and/or creation.
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## Geography

While fee programs often apply to new development occurring throughout a jurisdiction, some improvements may be required to serve a specific geographic area or “zone,” such as new development governed by a Specific Plan or Master Plan. The Government Code also requires that a local jurisdiction must evaluate the geography for any fee related to vehicular traffic impacts charged on residential development that meets certain characteristics regarding transit access, proximity to convenience retail uses and meets specific minimum parking requirements.<sup>4</sup>

Given that the need for facilities to serve new development may vary across different areas within a jurisdiction, a jurisdiction needs to evaluate whether a geographic subarea or “zone” approach to the calculation of fees meets the reasonable relationship findings required by the Mitigation Fee Act than if a uniform fee were applied to all areas within a jurisdiction. For example, infill development within an urbanized area that is well-served by public facilities could be subject to a different fee schedule compared to non-urbanized areas proposed for new development that have a greater need for new facilities given inadequate existing infrastructure to serve new development.

A jurisdiction should also consider whether adopting a regional, multi-jurisdictional fee where future facilities may be more efficiently delivered on a regional basis. Some cities and counties have evaluated and/or adopted regional fees where the expansion of facilities is best accomplished across jurisdictional boundaries within a specified region. For example, the purpose of a regional transportation fee could be to fund multi-modal transportation improvements like road, transit, bicycle, and pedestrian facilities that traverse local boundaries and are best provided on a regional basis. In another example, a county impact fee for countywide facilities, such as health and criminal justice, may be adopted by cities within the county because new development within cities benefit from those facilities.

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<sup>4</sup> As indicated in Government Code section 66005.1 (a), if housing development satisfies all of the following characteristics, then a transportation fee, or the portion of the fee relating to vehicular traffic impacts, must be set at a rate that reflects a lower rate of automobile trip generation associated with such housing developments in comparison to housing developments without these characteristics, unless the local agency adopts specific findings:

- The housing development is located within one-half mile of a transit station and there is direct access between the housing development and the transit station along a barrier-free walkable pathway not exceeding one-half mile in length.
- Convenience retail uses, including a store that sells food, are located within one-half mile of the housing development.
- The housing development provides either the minimum number of parking spaces required by the local ordinance, or no more than one onsite parking space for zero to two bedroom units, and two onsite parking spaces for three or more bedroom units, whichever is less.

The implementation and administration of impact fee programs by zone within a jurisdiction can be more challenging because it could take more time to accumulate fee revenue by zone compared to a jurisdiction-wide fee, delaying implementation of capital projects. Fee collection and use of fee revenues by zone or region may also be more complex to administer and report on over specified time frames.

### **Use of Fee Revenues**

A locality needs to describe why each fee is being charged and how fee revenues from new development will be used. Preferably, the jurisdiction needs to identify the intended use of fee revenues in public documents, such as the General Plan, relevant Specific Plan(s) and Five-Year Capital Improvement Program (CIP), and if not possible through those documents then in the nexus study itself. The CIP is an important planning and budgeting tool that identifies the needs for short- and long-term capital improvements and aligns those needs with appropriate financing, scheduling, and implementation, which should include the use of impact fees. As further discussed in Step 4, a large jurisdiction must adopt a CIP while small jurisdictions may adopt a CIP as part of a nexus study.<sup>5</sup>

### **Summary of Nexus Findings**

The nexus study should also include a summary of the nexus findings and the underlying data, methodology and analysis that is used to support these nexus findings. When adopting or revising more than one fee, consider clarifying why different data and/or methodologies are utilized for different fees and preparing a background report that summarizes key data and the nexus methodology for each fee.

Many nexus studies include an Executive Summary that describes the relevant data and analysis performed for each of the impact fees. Furthermore, many nexus studies include the nexus findings in the conclusion. As further described in Step 5, the nexus study should include findings that demonstrate a reasonable relationship based on three nexus findings regarding need, benefit, and proportionality.

## **Step 2. Existing and Future Development Projections**

A development impact fee is a fee to be spent on capital facilities that are needed to address and accommodate future service demand from new development. The second step in the nexus analysis is to prepare estimates of existing and future development by land use, including the various types of residential uses that are planned in a jurisdiction by undertaking the following:

- Decide on the types of residential and non-residential land uses that the nexus study will utilize to indicate demand from new development for public facilities.
  - To ensure that fees are proportionate to the facility demand associated with a development project, fee programs typically use two to three residential land use categories

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<sup>5</sup> Government Code section 66016.5 (a)(6)

(for example, single family detached, single family attached up to four units, and multifamily with five units or more) and three to five non-residential categories.

- Project the demand for public facilities based on the relevant “service population” that often includes residents and employees.
  - Certain land uses will need to have “density” factors associated with them (for example, number of residents per unit and number of employees per building square feet).
  - For example, number of bedrooms may be used to estimate the average number of residents per dwelling unit that is correlated with facility demand.<sup>6</sup>
  - In the calculation of service population, facility demand from employees is often weighted at less than one resident because one employee does not place as much demand on public facilities as one resident. (The term “employee” in this report includes all workers on a site, including owners, proprietors, partners, and self-employed workers.)
- Gather and analyze relevant data regarding existing and new development over the nexus study planning horizon, by zone if relevant.
- Identify a base year for existing development and project future growth in new development that is associated with increased demand for facilities.
  - For consistency with other planning efforts, many fee studies use long-range projections prepared by the local Metropolitan Planning Organization (MPO), a federally designated agency for regional transportation planning and funding.
- When adopting or revising more than one fee, consider preparing a background report that utilizes a common set of existing and new development data for all nexus studies.

### **Existing Development**

Existing development is used to evaluate how well existing facilities are serving existing land uses, referred to as existing level of service (LOS), so a nexus study needs to assemble and present reliable baseline data to the extent data is available:

- Analyze existing development by land use and by zone where relevant
- Identify, analyze, and present reliable data regarding existing development by residential and non-residential land use, development square feet and acreage, existing service population, and corresponding service demand for existing facilities.
- Identify a base year to estimate existing development that will be used as the baseline reference point for the projection of planned development by land use.
- Analyze whether and how existing LOS standards may have changed over time, recognizing that older communities may have been developed when LOS standards did not exist or were lower than current standards may require.

### **New Development**

New development is used to evaluate how future development by relevant land use categories would increase demand for public facilities:

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<sup>6</sup> For ease of program administration, residential density or type of unit (such as single family detached) are typically easier to determine based on building plan submittals than number of bedrooms per unit.

- Project future growth over the nexus study planning horizon by land use and zone where relevant.
- Identify, analyze, and present reliable data regarding future development by residential and non-residential land use, new residential square feet (where relevant), and future growth in service population and/or demand for facilities.

**Residential Square Feet**

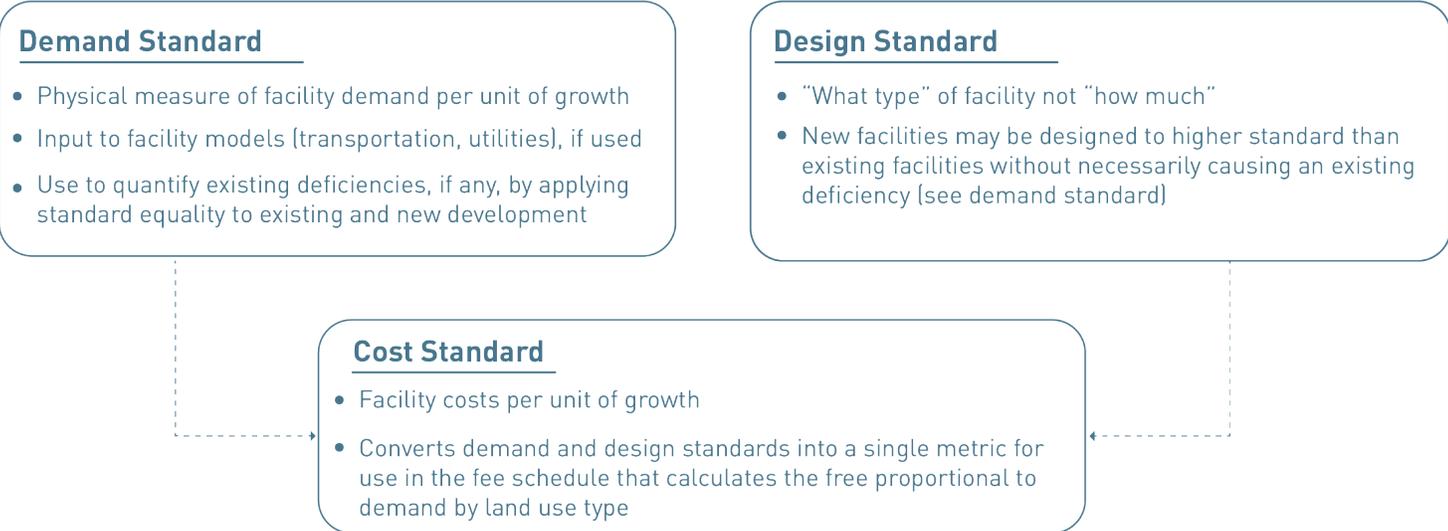
Given recent changes in AB 602, the nexus study should analyze and determine estimates for residential square feet or explain why the use of residential square feet would not be appropriate, as further described in Step 4 below:

- Evaluate how existing and future residential development can be estimated by residential square feet or document why the use of residential square feet is not relevant as it would not appropriately reflect the relationship between the fee, facility demand and a residential land use.

**Step 3. Determination of Facility Standards**

To evaluate how growth from new development will increase the need for facilities, a nexus study should analyze and develop facility standards that consider facility **demand, design, and cost**, as illustrated in Exhibit 3 and described further below. When adopting or updating more than one fee, the background report could include summary text and/or an exhibit that summarizes what facility standard(s) are used for each fee and how the facility costs are allocated per unit of growth.

Exhibit 3: How Facility Standards Are Used to Evaluate Need and Cost for Facilities



## **Demand Standard**

The demand standard is used to evaluate the need for facilities based on growth from new development, which typically consists of the following analysis:

- Evaluate an appropriate physical measure of facility demand for existing and/or future facilities by land use, which is also used to quantify any existing deficiencies.
  - For example, a jurisdiction may establish that a neighborhood park needs to be located within a 10-to-15-minute walk from surrounding homes and one neighborhood park should be provided per 1,000 residents.
- Analyze existing and future facilities that will be needed to serve new development based on equivalent standard of demand (ESD) by land use, which can be translated to residential square feet, if applicable.
- When applicable, identify the existing and/or new level of service (LOS) for each facility.
  - The use of existing LOS can be a more balanced approach as new residents would not have to shoulder the financial burden of a future facility needed to achieve a higher LOS. However, the use of existing LOS may prevent an underserved jurisdiction from meeting its future facility needs when existing LOS is too low to meet regional and/or desired standards.
  - The use of a new LOS that is different from existing LOS can be a more appropriate approach to addressing future facility demand in areas with a significant amount of planned new development as described in a Specific Plan, Area Plan and/or Master Plan.
  - If a new LOS is proposed, the nexus study should provide an explanation why the new level of service is appropriate and what other revenue sources will be leveraged to help achieve that new LOS outside of impact fees on new residents.

## **Design Standard**

The design standard is used to evaluate how new facilities will need to be designed and built to meet the needs of new development, which affects how much these facilities cost. The design standard analysis typically consists of the following analysis:

- Evaluate the appropriate design standard for the types of facilities that are needed to accommodate future growth.
  - For example, the design and cost of park facilities may vary depending on whether it is a neighborhood park designed to serve neighborhood residents (with tot lots, dog parks and/or other recreational uses to meet local neighborhood needs) or a community park that serves the entire jurisdiction with one or more types of sports fields, associated lighting and specialized recreational facilities.
- Based on this design standard, estimate the cost for each type of facility based on an appropriate increment of facility expansion.
  - For example, a neighborhood park may cost \$5 million per acre to acquire land and construct the park improvements in an urban infill location.
- When applicable, identify how the design of future facilities will accommodate the new LOS.

## Cost Standard

The cost standard converts the facility demand and design standards into a single facility cost metric, sometimes referred to as the cost per unit of demand (CUD), which will be used to calculate the fee per land use. Exhibit 4 illustrates typical demand, design, and cost standards for different types of fees.

- Based on considering the facility demand and design standards and the associated cost of facilities as outlined in Step 4 below, determine the relevant CUD for each fee.
- As shown in Exhibit 4, the cost standard for a park may be established based on a cost per capita (based on a person and/or employee).
  - For example, a demand standard of a one-acre neighborhood park per 1,000 residents and a neighborhood park design standard that results in a facility cost of \$5 million for a one-acre neighborhood park would yield a CUD of \$5,000 per resident.

Exhibit 4: Typical Demand, Design and Cost Standards for Typical Types of Fees

	<b>Demand Standards</b>	<b>Design Standards</b>	<b>Cost Standards</b>
<b>Parks</b>	<ul style="list-style-type: none"> <li>• Neighborhood park within 10 minute walking distance</li> <li>• Acres per capita</li> <li>• Weight workers vs. residents based on relative demand to calculate total service population</li> </ul>	<ul style="list-style-type: none"> <li>• Turf and irrigation</li> <li>• Sports fields and lights</li> <li>• \$ per acre</li> </ul>	<ul style="list-style-type: none"> <li>• \$ per capita</li> </ul>
<b>Fire</b>	<ul style="list-style-type: none"> <li>• 5 minute response time</li> <li>• Fire station bldg. sq. ft per capita</li> <li>• Weight workers vs. residents based on relative demand to calculate total service population</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency Facilities building standards</li> <li>• Fire apparatus (vehicles, etc.)</li> <li>• \$ per station</li> </ul>	<ul style="list-style-type: none"> <li>• \$ per capita</li> </ul>
<b>Traffic</b>	<ul style="list-style-type: none"> <li>• Volume-to-capacity ration (LOS)</li> </ul>	<ul style="list-style-type: none"> <li>• Roadway standards</li> <li>• Transit, bike and pedestrian standards</li> <li>• \$ per lane mile</li> </ul>	<ul style="list-style-type: none"> <li>• \$ per trip</li> </ul>

## Step 4. Cost of Facilities to Serve New Development

The cost of facilities to serve new development are evaluated based on the facility demand and design standards described in Step 3. The nexus study should provide a narrative and relevant exhibits that identify the types and costs of facilities to be funded by fees, how fee revenues will be used and an expenditure plan for future facility costs.

A nexus study typically uses one or three types of facility cost methods to evaluate and determine the costs of facilities: existing inventory, planned facility and system plan method. In addition to evaluating the cost of facilities according to these three methods, the nexus study should also describe how facilities will be funded by fees and other funding sources, whether there are any existing deficiencies, how alternative funding sources may be used to address these deficiencies and/or help pay for future facilities, and whether costs to administer the program will be factored into the fee calculation.

### Three Typical Facility Cost Methods

Nexus studies typically use one of three methods to evaluate and determine the costs of facilities, as described below and summarized in Exhibit 5.

- **Existing Inventory Method**– Determine existing facility costs or value based on an inventory of existing facilities and their associated cost or value, such as their replacement value, based on supporting documentation and analysis.
  - Allocate cost per unit of demand (CUD) based on the ratio of existing facilities to demand from existing development as follows:  
*Current Cost or Value of Existing Facilities divided by Existing Development Demand = CUD*
- **Planned Facility Method** – Estimate the costs for future facilities needed to serve new development based on a long range expenditure plan for these future facility costs.<sup>7</sup>
  - Allocate CUD based on the ratio of planned facility costs to demand from new development as follows:  
*Cost of Planned Facilities divided by New Development Demand = CUD*
- **System Plan Method** – Estimate the costs for an integrated system of existing and future facilities
  - Allocate CUD based on the cost or value of existing facilities plus the cost of planned facilities, divided by demand from both existing and new development as follows:  
*Value of Existing Facilities + Cost of Planned Facilities divided by Existing + New Development Demand = CUD*

Each of these methods needs to rely on data and analysis prepared in consultation with relevant department staff, a review of the Five-Year Capital Improvement Plan and relevant sources of data, such as replacement cost estimates prepared for insurance purposes, capital cost estimates

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<sup>7</sup> This should include identifying what types of public facilities will be needed in the future to serve new development and their associated costs, which may include refurbishment of existing facilities to maintain the existing level of service or achieving an adopted level of service that is consistent with the General Plan.

based on associated facility design, and facility cost estimates associated with integrated service delivery (for example, costs for public safety facilities and associated capital equipment).

Exhibit 5: Description of Typical Facility Cost Methods<sup>8</sup>

Facility Standard	Standard Used to Determine Facility Costs	Cost Allocation Formula to Determine Cost Per Unit of Demand	Description of Facility Standard
<b>Existing Inventory Method</b>	Value or Cost of Existing Facilities	$\frac{\text{Current Value of Existing Facilities}}{\text{Existing Development Demand}}$	New development will fund the expansion of facilities at the same standard as currently used to service existing development.
<b>Planned Facility Method</b>	Cost of Future Facilities Under Planned Expansion	$\frac{\text{Cost of Planned Facilities}}{\text{New Development Demand}}$	New development will fund the planned expansion of facilities at the future standard attributable to new development.
<b>System Plan Method</b>	Cost of Integrated System of Current and Future Facilities	$\frac{\text{Value of Existing Facilities} + \text{Cost of Planned Facilities}}{\text{Existing} + \text{New Development Demand}}$	New development will fund an integrated system of facilities at the future standard attributable to new development.

Many nexus studies refer to the Existing Inventory Method as “Incremental” and the Planned Facility and System Plan methods as “Plan-based” or “Project List”. The distinction is significant because the Existing Inventory method does not require a list of future public facilities to calculate the fee.

The Existing Inventory Method simply requires new development to fund the incremental expansion of public facilities at the same level as existed when the fee program is adopted. While facilities need to be identified for use of fee revenues in the CIP (see further description below in

<sup>8</sup> Two other facility cost methods are not shown in Exhibit 5 that may be used in nexus studies. The “Buy-In” method divides the current value of existing facilities (often at their depreciated cost) by existing plus new development demand. This method is often used for sewer and water connection fees when the utility system does not need expansion and new development contributes to replacement costs. The second method is the “New Service” method that applies when there are no relevant existing facilities, and therefore no existing facility standard to utilize in the nexus study. This method is similar to the “System Plan” method without any value for existing facilities.

Funding Plan and Capital Improvement Plan), but a specific list of projects and costs is not needed to calculate the fee itself.

In contrast, the Planned Facility and System Plan Methods require a specified list of future public facilities to calculate facility costs and therefore the impact fee. Consequently, the project list needs to be carefully considered because future changes could result in changes to the fee.

Project lists used for fee programs may need to be revised for any number of reasons, including changes in service standards, project costs or funding. Project lists are also revised as master facility plans are implemented. As an implementation requirement, fee programs based on the Planned Facility or System Plan Methods need to regularly update the impact fee to remain consistent with the project lists and current plans. If the fee program continues to fund the same type of facilities, project lists may be updated and unexpended fee account balances may be applied to the revised project list.

### **Existing Deficiencies**

New development should only pay for its fair share of costs attributable to the increased demand for public facilities, and impact fees should not be used to address existing deficiencies.

Therefore, a jurisdiction needs to evaluate and identify whether there are any existing facility deficiencies based on the following.<sup>9</sup>

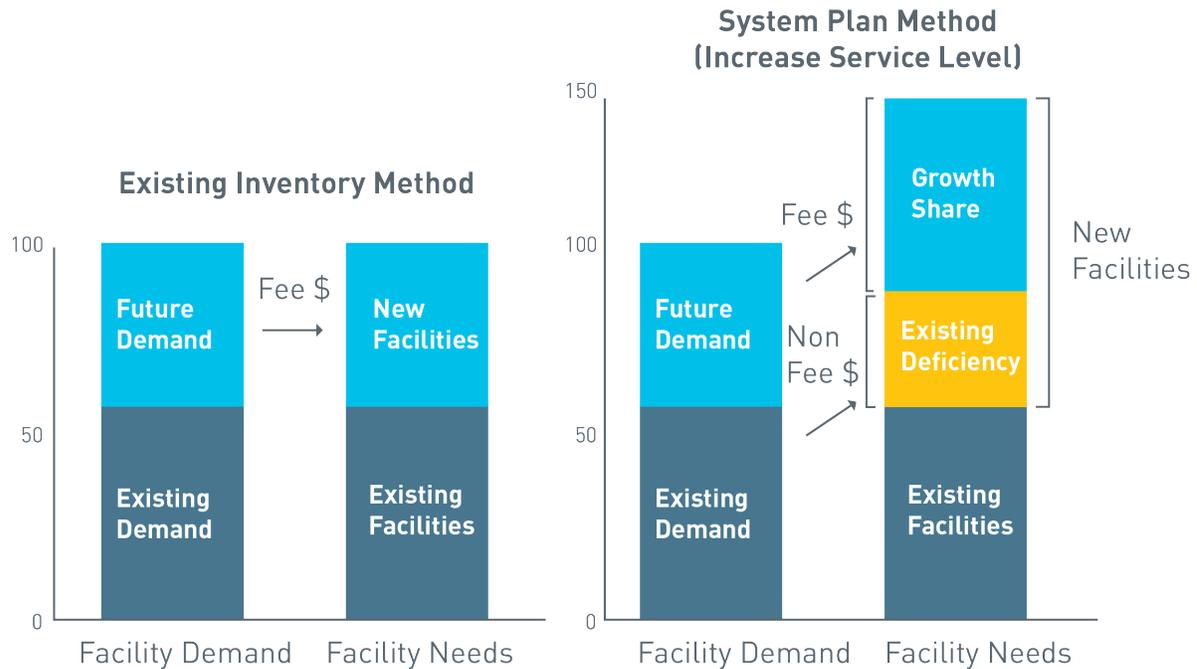
- Identify and analyze existing deficiencies in public facilities to assure that the fee will not include costs attributable to existing deficiencies.
- Clearly describe what public improvements are needed to mitigate the effects of new development and distinguish them from those needed to serve existing development.

Exhibit 6 illustrates how the Existing Inventory Method compares to the System Plan Method and the identification of existing deficiencies. When using the Existing Inventory Method, no existing deficiencies are assumed because the impact fee associated with this method funds the expansion of facilities at the existing service level. On the other hand, the System Plan Method is often used when a jurisdiction seeks to raise facility standards above existing levels. In this case, new facilities are needed to provide this higher standard to existing development, which results in existing deficiencies for areas that don't meet this standard.

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Exhibit 6: Illustrative Comparison of Existing Inventory With System Plan Method



### Alternative Funding Sources

The nexus study should analyze how alternative funding sources would be used to address existing deficiencies<sup>10</sup> and needs to consider how alternative funding sources could help pay for future facilities to effectively implement the fee program:

- Estimate how much alternative funding sources are needed to pay for existing deficiencies.<sup>11</sup>
- Estimate how much alternative funding sources are needed to complete projects in addition to addressing existing deficiencies.
- Address the need for alternative funding prior to the availability of revenue from impact fees.
  - This process helps to address the "chicken or egg problem" of facility funding, which recognizes that funds may be needed to acquire land and/or construct a facility before full funding is available from impact fees.
- Identify the sources and approximate timing of alternative funding needed to finance improvements funded over the nexus study planning horizon to assist in the preparation of future reporting requirements for the fee program.<sup>12</sup>

<sup>10</sup> Government Code section 66001(g)

<sup>11</sup> An implementation funding plan for a Specific Plan or Area Plan can be a resource document for this analysis.

<sup>12</sup> Government Code section 66001(d)(1)

## Funding Plan and Capital Improvement Plan

The preparation of a funding plan that describes facilities and their associated costs, how facilities will be funded and how fees will be used to pay for facilities is an important component of a nexus study. In essence, a nexus study should include a narrative and relevant exhibits that identify the type of facilities to be funded by the fees, and the total amount and cost of facilities to be funded over the planning horizon of the nexus study, which needs to extend through the period during when facilities would be completed. Often nexus studies include facilities that may be constructed over a significantly longer period than the jurisdiction's Five-Year Capital Improvement Plan (CIP), for example, over a twenty-year period.

When adopting or updating a fee, a large jurisdiction must adopt a Capital Improvement Plan (CIP) as part of the nexus study,<sup>13</sup> while smaller jurisdictions may adopt a CIP.<sup>14</sup> A CIP indicates the approximate location, size, time of availability, and estimates of cost for all facilities or improvements to be financed with the fees.<sup>15</sup> At a minimum, the use of fee revenues needs to be programmed in the jurisdiction's Five-Year Capital Improvement Plan (CIP).

The following are key components of preparing a funding plan for the use of fees:

- A Capital Improvement Plan (CIP) should be adopted as a part of the nexus study for a large jurisdiction or reference the use of fee revenues in the jurisdiction's adopted Five-Year CIP if it includes the facilities that need to be funded by impact fees as indicated in the nexus study.
- If the jurisdiction does not have an adopted Five-Year CIP or the proposed facilities will be constructed over a longer time horizon, then the nexus study should include a five-year (or longer) programming of impact fee revenues to capital facility projects.
- For nexus study purposes, a CIP provides the approximate location, size, time of availability, and cost estimates for all facilities to be funded with the fees and should indicate alternative (non-fee) sources of funding to complete a project.
- The sources, amounts and timing of funding are also important to reference in the jurisdiction's five-year findings regarding the use of funds from fees that remain unencumbered, which should be consistent with the CIP.<sup>16</sup>
  - Often fees are accumulated over more than five years to fund capital projects and are not programmed in the current CIP.
  - In these cases, the CIP should include a “Reserve To Complete” project account with a general description of both the project and funding plan (including the source and timing of alternative funding, if needed) to indicate the future use of these unencumbered fee funds.

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<sup>13</sup> Government Code section 66016.5 (a)(6)

<sup>14</sup> Government Code section 66002 (a)

<sup>15</sup> Ibid.

<sup>16</sup> Government Code section 66001(d)(1)

Even if a complete funding plan is not in place, the general types or categories of funding required to complete the project should be identified.

### **Program Administration Costs**

A jurisdiction must implement its fee program according to various administrative, accounting, reporting, and public notice responsibilities that are specified in the Government Code. These responsibilities require the expenditure of staff time and often include retaining outside advisory services from professional consultants that specialize in nexus studies and/or legal counsel.

A reasonable cost allowance for these implementation responsibilities may be included in the fees charged to new development based on a review of comparable staff, attorney, and consultant costs to administer the fee program, including costs related to fee collection, accounting of fee revenues and expenditures, mandated public reporting, and nexus studies to justify fees. The following process is typically used to establish a fee program administration cost:

- Compile information regarding the cost of staff, attorney and consultant time for fee collection and accounting, preparation of annual fee adjustments and master fee schedule based on historical experience or estimates for the anticipated costs.
  - This should include the preparation of periodic nexus fee study updates, annual reports, and five-year reporting requirements.
- Consider calculating the administration cost as a percentage of the adopted fee and setting a maximum allocation of fee revenues for administrative expenses.
  - Typically, the percentage allocation for implementation costs in representative nexus studies years ranges between a 1 percent to 2.5 percent add-on to the adopted fee.
  - While this percentage range has been used in many fee programs and seems reasonable based on State administrative standards for other programs, best practice indicates that administrative costs should be considered like other “user fees” requiring cost justification.
  - Records of fee program administration costs should be maintained to justify fee charges, and total costs periodically compared to the revenue generated by the percentage allocation. The percentage should be adjusted as needed to maintain revenues in line with actual costs.

## Step 5. Fair Share Allocation of Facility Costs to New Development

The nexus study needs to allocate a fair share of facility costs to new development and must demonstrate a reasonable relationship based on three sets of nexus findings regarding need, benefit and proportionality that can be summarized as follows:

- **Need**– Nexus between different types of new development and their respective need for facilities.
- **Benefit**– Nexus between different types of new development and the use of fee revenues to accommodate new development.
- **Proportionality**– Nexus between fee amount and proportionate share of facility costs attributable to new development.

Exhibit 7 illustrates these three required nexus findings and best practices regarding each finding.

Exhibit 7: Nexus Findings Regarding Need, Benefit and Proportionality

<b>1. Need</b>	Types of development reasonably related to...	Need for public facilities
<b>2. Benefit</b>		Use of fee revenues
<b>3. Proportionality</b>	Amount of fee reasonable related to...	Cost of facility attributable to development project

### Need

The nexus study needs to establish a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed:<sup>17</sup>

- Identify, measure, and describe the relationship between various types of new residential and non-residential development and their respective facility demand by land use.
  - For example, new multifamily residential development will increase demand for bicycle facilities, such as dedicated bike lanes, based on a specified facility need standard per multifamily unit or multifamily residential square feet.
- Estimate existing and future demand for facilities based on a clearly defined and documented standard that reflects variations in public service demand among land uses.

<sup>17</sup> Government Code section 66001(a)(4)

- The need finding should reference the facility standards developed in Step 3.

### **Benefit**

The nexus study needs to establish a reasonable relationship between the fee's use and the type of new development on which the fee is imposed: <sup>18</sup>

- Identify, measure, and describe the relationship between different residential and non-residential land uses and how fee revenues will be used to pay for needed improvements to accommodate new development, along with other funding sources.
  - For example, fee revenues from new multifamily residential development will be used to pay for dedicated bike lanes (as well as other multi-modal transportation improvements).
- Evaluate and document the benefit relationship between the fee's use and development type, e.g., trip generation, population served (residents and/or employees).
  - The benefit finding should reference the facilities to be funded by fees developed in Step 4.

### **Proportionality**

The nexus study needs to establish a reasonable relationship between the fee amount and the facility cost or proportionate share of the facility cost attributable to new development on which the fee is imposed: <sup>19</sup>

- Identify, measure, and describe the relationship between the fees to be charged by land use and new development's fair share of facility costs attributable to new development.
  - The proportionality finding should reference the land use categories to be used for charging the fee, and how the fee per unit for each category reflects the relative demand for capital facilities associated with that type of development (see discussion of "service population" in Step 2).
  - If applicable, the proportionality finding may also reference any analysis from Step 4 that separates out facility costs associated with correcting existing deficiencies versus facility costs associated with new development.
  - For example, only dedicated bike lanes that are needed to serve new development would be funded by fees, and fees would not be used to address existing deficiencies.

## **Step 6. Maximum Fee Based on Nexus Analysis**

During the nexus study preparation process, Steps 3, 4 and 5 are often performed iteratively to determine the most appropriate approach to establishing the nexus for each fee and to calculate the maximum fee for each type of new development by land use. The sixth step is to summarize the data, analysis, and calculation methodology used to establish the maximum fee amount:

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<sup>18</sup> Government Code section 66001(a)(3)

<sup>19</sup> Government Code section 66001(b)

- Develop an appropriate method to charge fees for each land use ("fee basis") and determine the maximum fee.
- Identify and determine future land uses/development types that will be subject to a fee.
- Analyze and recommend how fees will be charged based on the ESD for each land use.
- For residential uses, translate ESD to residential square feet or explain why this would not appropriately reflect the relationship between facility demand and a residential land use.
  - Evaluate and explain what measurement(s) are used to determine residential square feet and the translation between ESD and residential square feet. (For example, facility demand per bedroom could be translated to residential square feet based on an average unit size given a specific number of bedrooms.)

### **Justification for Different Fee Basis than Residential Square Feet**

For residential uses, fees should be established based on residential square feet unless the jurisdiction makes specific findings regarding why this fee metric is not reasonably related to residential demand for facilities. The nexus study should evaluate different methods to charge fees for residential development and provide supporting information to substantiate the following three findings if a fee will not be charged based on residential square feet:

- If residential square feet is not being used, explain why it is not being used to calculate fees for new housing development.
- Explain why an alternative basis of calculating a fee (other than residential square feet) bears a more reasonable relationship between the fee charged and the burden posed by new development.
- Explain that other policies in the proposed fee structure for residential development will support smaller housing developments or otherwise ensure that smaller developments are not charged disproportionate fees.

### **Justification for Fee Increase**

If a fee is being updated, and the proposed fee levels will increase as the result of the update, the jurisdiction must review the assumptions of the original nexus study that supported the original fee and evaluate the amount of fees collected under the original fee.<sup>20</sup> This information should be documented in the nexus study that accompanies the update.

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<sup>20</sup> Government Code section 66016.5(a)(4).

## Step 7. Financial Impact of Fees

As impact fees may substantively increase the cost of residential development, particularly when several fees are adopted or updated simultaneously, a jurisdiction should consider performing an analysis of the financial impact of these fees on residential development:

- Analyze how new or increased fees will affect the cost and/or feasibility of new housing development.
- Convene a developer and community stakeholder group to review draft nexus studies and the potential impact of fee increases, along with other development costs.
- Consider modifying the fee levels or phasing in fees over several years to allow the real estate market to adjust based on findings from an analysis of financial impact.

### Comparison of Fee Levels

Based on a review of nexus studies, most jurisdictions have typically relied on a comparison of fee levels or similar financial indicators to evaluate the financial impact of fee levels on new development using the following methods:

- Proposed fee levels compared to existing fee levels.
  - This fee comparison enables the development community, public and policy makers to understand how much fees are proposed to be increased.
- Proposed fee levels compared to what similar jurisdictions charge housing development.
  - The proposed fee amounts are calculated and compared to what is being charged by other jurisdictions based on published master fee schedules.
  - To provide a more “apples to apples” financial comparison, typical type(s) of housing units are identified, and development fees are calculated on a per unit or residential square foot basis for a typical housing product, for example a 1,500 square foot townhome.
- Proposed fee levels as a percent of construction cost or development cost for typical housing types or market value by housing type.
  - To perform this comparison, the jurisdiction’s fee amount is calculated per unit or per residential square foot and then compared to the total construction or development cost of a typical residential unit, such as the townhome unit described above. <sup>21</sup>
  - Data on market value (sales price) by type of residential unit is typically easier to gather than construction or development cost data.
- Proposed fee levels in combination with other fees and exactions that are charged on new development, such as fees by school districts, utility districts, and development exactions (additional required obligations not reimbursable from impact fees).
  - This is a similar comparison to what is described above except that it considers the total amount for all fees and exactions, which are then compared to the construction, development cost or market value of a typical housing unit like a townhome.

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<sup>21</sup> The comparison with total development cost is more complex and time consuming than construction cost comparison as it requires the assembly of data and related calculations to project the cost of land, direct costs (including construction costs) and indirect costs for typical housing units, as further described in the feasibility analysis.

As a single fee is typically part of a larger program of impact fees, comparisons are best done based on the total amount of all impact fees applicable to a given development project. This best practice is particularly applicable when comparing fees with those of other jurisdictions because of differences in fee programs. While these financial comparisons of fee levels are helpful, they do not provide a full picture of the local real estate market and development conditions.

### **Feasibility Analysis**

As further described in Section IV, a development feasibility analysis evaluates how the proposed impact fees may affect the feasibility of developing new housing based on the combination of the proposed fees and other development costs, including other development exactions levied by the jurisdiction or fees charged by school districts and/or utility districts. A feasibility analysis presents a more robust picture regarding how the adoption or updating of fees may affect the production of new housing.

## **Step 8. Fee Adoption and Program Implementation**

The final step is to determine and adopt a fee for each land use, after evaluating local policy and financial considerations, and to summarize how the impact fee program will be implemented. This should include an evaluation regarding whether fees should be charged at or below the maximum nexus fee amount and how the impact fee program will be implemented, including how fees may be annually adjusted.

### **Fee Minimums or Maximums**

The nexus study should consider whether minimum or maximum fee charges should be established where facility demand will not substantively differ depending on the size of a residential unit.

- For example, a one-bedroom housing unit with an average size of 700 square feet may be considered the minimum unit size that would impact future facility demand, and therefore, the minimum fee for a residential unit would be based on a 700 square foot sized residential unit.
- Likewise, a maximum fee amount may be established for a four bedroom unit as housing units with more than four bedrooms are anticipated to have the same facility demand as a four bedroom unit.

### **Fee Reductions by Land Use**

The nexus study should evaluate policy and financial considerations regarding whether the fee program will include fee reductions, exemptions and/or waivers from the adopted fee amount based on the nexus study calculations:

- Evaluate potential fee reductions for a defined set of housing developments for an impact fee program that is based on the mitigation of vehicular traffic impacts.<sup>22</sup>

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<sup>22</sup> Government Code section 66005.1 (a).

- Describe why each development type is or is not required to pay a fee.
- Consider whether fees on affordable housing units may be waived or reduced.
- If non-residential fees are proposed to be reduced significantly below the maximum fee amount, evaluate why this cannot occur for residential development.
- If fees are reduced, develop a funding strategy to help offset the facility costs or accept a lower facility standard in the future.

For example, jurisdictions could adopt lower fees related to vehicular traffic for infill, transit oriented development that meets certain criteria. Jurisdictions could also lower other types of fees for infill development, such as park fees based on findings that focus on the need for neighborhood parks in infill areas and/or the use of larger community-wide parks to provide new sports facilities for future residents.

Any revenue loss from fee reductions or waivers and the potential for alternative funding to address funding gaps should be considered as part of this evaluation process.

### **Fee Phase-in**

The jurisdiction should consider whether to phase-in fees over time to allow developers additional time to factor in future fee increases into the cost of development to maintain financial feasibility. As securing land use approval for new development may take one or more years, developers must often obtain site control and line up sufficient funding to undertake their development in advance of receiving land use approvals, which is typically when new impact fees would apply to new development.

The phase-in of fees allows a developer to factor in a fee increase or the imposition of a new fee. If a phase-in is allowed, the jurisdiction should specify how and when proposed development projects qualify for the phase-in and whether the phase-in includes a “step-up” in fee charges over one or more years.

### **Fee Implementation (Including Annual Inflation Adjustment)**

As described earlier, a jurisdiction must implement its fee program to meet various administrative, accounting, reporting, and public notice responsibilities as specified in the Government Code.<sup>23</sup> These responsibilities include the following:

- Update the impact fee program every eight years starting on January 1, 2022.
- Annually publish a master fee schedule that specifies the fee charges by land use.
- Perform annual and five-year reporting requirements regarding the collection and expenditure of fees on facilities, as well as other obligations.
- Make pertinent documents available on a jurisdiction’s website, including relevant nexus studies, annual and five-year reports on the fee program and the current master fee schedule.
- Meet all public noticing and transparency requirements.

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<sup>23</sup> Government Code sections 66006 through 660025

As facility costs increase in relationship to increases in costs related to building construction and land acquisition, a jurisdiction should consider whether to adopt an annual inflation index for each fee to enable the fee to keep pace with potential cost increases. This should be based on an evaluation of alternative indices that most closely match historical increases in facility costs associated with each fee.

Exhibit 8 summarizes typical, publicly available annual inflation indices that are used by jurisdictions to annually adjust fees or by public agencies to make other annual cost adjustments. For example, the California Construction Cost Index is published by the State of California and is based on the Building Cost Index and Construction Cost Index published by the Engineering News Record for San Francisco and Los Angeles.<sup>24</sup> A jurisdiction needs to carefully evaluate the relevance of each these annual inflation indices to the nexus analysis.

Exhibit 8: Annual Inflation Indices

	Engineering News Record (ENR)		California Construction Cost Index	Local Median Home Sales Price	Case Schiller Index of Home Prices	Annual Appraisal	Consumer Price Index
	Building Cost Index (BCI)	Construction Cost Index (CCI)	(Based on BCI for San Francisco and LA)				All Urban Consumers by Geography
<b>Buildings</b>	X		X				X
<b>Infrastructure</b>		X	X				X
<b>Land</b>				X	X	X	
<b>Comments</b>	<i>ENR publishes BCI for San Francisco and LA metro areas.</i>	<i>ENR publishes CCI for San Francisco and LA metro areas.</i>	<i>California wide cost index with significant variations</i>	<i>Used as proxy for changes in land value in some jurisdictions.</i>	<i>Used as proxy for changes in land value in some jurisdictions.</i>	<i>Typically used for park land acquisition.</i>	<i>Not relevant for most facilities but used as a common inflation standard</i>

<sup>24</sup> <https://www.dgs.ca.gov/RES/RESOURCES/Page-Content/Real-Estate-Services-Division-Resources-List-Folder/DGS-California-Construction-Cost-Index-CCCI>

## II. Residential Feasibility Analysis

Once a nexus has been established, localities must decide on the level of impact fees to charge to new development. At this stage, localities should consider the ability of residential development and land to absorb the added cost of new or increased impact fees in addition to other development costs so that impact fees do not inhibit housing production.

AB 602 requires HCD to provide a template or method for calculating feasibility of housing being built with a given fee level. In practice, there is no single way to determine feasibility, and development feasibility is typically fluid in nature as development and economic conditions change over time. Thus, no single method is likely to fully capture the dynamism of the local real estate market.

The use of financial analysis models to test development feasibility, such as those presented in the Turner Center’s Dashboard, can provide “gut checks” for policymakers to ensure that their fee levels are set within reasonable limits given a set of high-level development assumptions.<sup>25</sup> This section describes two analysis methods regarding how residential feasibility could be evaluated and the associated inputs and calculations required to conduct them:

- Development return analysis
- Residual land value (RLV) analysis.

These methods are not a substitute for more rigorous financial analysis conducted by real estate finance professionals. Nor are these methods intended to supplant engagement and collaboration with the local development community to understand how fees may affect new housing development.

### A. Overview of Development Feasibility Analysis

A development feasibility analysis models the financial calculations that developers perform to evaluate whether a housing development is financially feasible to build. Understanding the impact of fees on feasibility is important to ensuring that fees are not set at such a level where housing becomes either too expensive to build or reduces the amount that developers can afford to pay for land below the market value of properties in a location.

Feasibility studies have been performed by economic consulting firms retained by jurisdictions to evaluate whether a proposed inclusionary housing ordinance that applies to rental housing does not unduly constrain the production of housing.<sup>26</sup> Some jurisdictions have also

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<sup>25</sup> Information on the Turner Center Dashboard can be found here: <https://turnercenter.berkeley.edu/blog/policy-dashboard-los-angeles/>

<sup>26</sup> Assembly Bill 1505 requires that qualified economic consulting firms perform feasibility studies at the request of HCD in specified circumstances to evaluate whether a proposed inclusionary housing ordinance that applies to rental housing does not unduly constrain the production of housing.

commissioned economic feasibility studies to evaluate how the adoption of impact fees will affect housing feasibility.

Policymakers need to understand the link between their chosen residential impact fee levels and the impact those fees might have on housing outcomes to balance their community need for fee revenues with new housing construction. Developers may endeavor to pass the cost of impact fees on to a future occupant in the form of either higher rents or home sales prices, thus pushing housing to more unaffordable levels.<sup>27</sup> While impact fees increase housing costs, they also fund public facilities that improve a jurisdiction, promote quality of life and enhance land values. Depending on a variety of financial and policy considerations, impact fees can have a positive or negative affect on housing production, land values and long term community success.

## B. Development Risk and Return

To successfully build housing in California, developers must identify a development site, obtain site control, prepare a development proposal, which is often refined based on input from a broad variety of stakeholders, secure government approvals, and raise sufficient private capital to fund the development prior to starting construction, referred to as the predevelopment period. This predevelopment period is typically the riskiest phase of development, and developers must raise sufficient funds to pay for land, predevelopment and construction costs before they can proceed to build housing. Many jurisdictions are trying to reduce predevelopment risk by making development approval ministerial if compliant with the jurisdiction’s general plan, and recent State housing laws are facilitating predevelopment streamlining.

Given the high risks associated with new development not occurring or not occurring as planned, developers must be able to generate sufficient “return” (or “margin”) to attract private equity and loan funds commensurate with these risks<sup>28</sup> Prior to starting construction, a developer must be able to demonstrate to its investors and lenders that a project is financially feasible, meaning that a new housing development will generate sufficient revenues and return to meet all capital obligations.<sup>29</sup> The projected development return must be equal to or higher than what investors and lenders will require when underwriting a future housing development,

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<sup>27</sup> <https://turnercenter.berkeley.edu/blog/it-all-adds-up-the-cost-of-housing-development-fees-in-seven-california-cities/>

<sup>28</sup> Private equity must be available during the construction and the sales or lease-up period, as private lenders often require between a 35% to 50% equity contribution before providing a construction loan and/or permanent mortgage for housing, and typically equity must be contributed prior to any draw-down of construction loan funds.

<sup>29</sup> In most capital structures, the priority of capital repayment is as follows:

- Construction and permanent lenders must receive required monthly loan payments, and loans must be repaid upon specified due dates.
- Private equity investors typically receive a preferred return and a share of profits that are generated by the development.
- Developers are last in the “waterfall” of payments, receiving a share of profits generated by the development after payment to lenders and private equity investors.

which must compete with alternative national and international investment opportunities with varying degrees of risk and return.

## C. Feasibility Analysis Framework

A development feasibility analysis models the analysis that a developer and/or its investors or lenders perform to analyze feasibility by projecting the following development revenues, costs, and return:

- **Revenues** based on projected revenues from the future sale or value of new housing from both affordable and market rate housing<sup>30</sup>
- **Costs** based on total costs of a project including land, direct costs (such as building construction) and indirect costs (including impact fees and other soft costs)<sup>31</sup>
- **Return** is equal to the difference between development revenues and costs.
  - **Return** = Development Revenues less Costs

For a development to be feasible, the anticipated return must be equal to or higher than market-driven return metrics that investors and lenders will utilize when underwriting a residential development to determine whether to provide capital funding or not.

While development feasibility can be analyzed several ways depending on the characteristics of the proposed project, two analysis methods are often used to analyze the feasibility of a proposed housing development and to compare feasibility under different development assumptions:

- **Development return analysis**– This method projects development revenues and then deducts costs to solve for the return that would likely be achieved at buildout. If the return is equal to or greater than market-driven return metrics, then development would likely be feasible.
- **Residual land value (RLV) analysis**– This method analyzes how much a developer could afford to pay for land because a developer must be able to generate sufficient development revenues to pay for all development costs while achieving sufficient returns to attract funding. The calculated RLV must be greater than or equal to what a developer would need to pay for land to be feasible.

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<sup>30</sup> Revenues from new residential development are generated from rental and ownership units and must be calculated based on the number of market rate and affordable housing units (at restricted rents or sales prices) that are required to be built.

<sup>31</sup> Development costs typically include the following costs (before consideration of development return or profit) as further described in this report:

- Land costs to acquire and pay for all associated costs to “carry” land until the development process is finished.
- Direct costs to improve sites and construct buildings (also known as hard costs).
- Indirect costs to pay for other development related costs (also known as soft costs).

Both methods are further described below and are used to illustrate how development feasibility could be analyzed for a typical residential ownership and rental development in this report.

## D. Return Metrics

Developers, lenders and investors evaluate and measure returns for residential development in many ways. Three measures are often used by the real estate community to calculate returns at a future “static” point in time rather than based on the annual flow of cash flows from a development:

- Return on Development Cost
- Return on Cost (Yield on Cost)
- Return on Sale (Net Margin)

This point in time analysis compares future development revenues and costs at project build out assuming stabilized rental income (at the end of the initial lease-up period) or when all units are assumed to be sold in “constant dollars.”<sup>32</sup>

The real estate community also evaluates return based on future cash flow projections. For example, an internal rate of return (IRR) measures the total anticipated return over the life of an investment period (as opposed to a return measured at one point in time) based on cash flow.<sup>33</sup> An IRR is more complex to project and analyze because it relies on monthly or annual projections regarding the anticipated phasing of development revenues and costs, and projected appreciation in revenues and increased costs due to inflation and other development or economic factors that might change in the future.

### **Return on Development Cost for Ownership or Rental Housing**

Developer margin or return is equal to the difference between future revenues generated by the development (based on future sales or value of the development) and development costs (before consideration of developer margin or return).

***Return on Development Cost = Revenues less Costs (Return) divided by Development Cost***

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<sup>32</sup> Constant dollars reflect development revenues and costs at a specific point in time and do not reflect any adjustment for future increases that may occur to price appreciation or inflation.

<sup>33</sup> IRR measures an investor’s total anticipated return over the life of their investment. Specifically, the IRR is calculated by summing the anticipated annual or monthly cash flow for the number of years that an investor expects to hold the property (generally 7-10 years) with the anticipated value at sale. Cash flow is equal to projected revenues less costs for each year or month during this time period.

Developers and investors use different target thresholds for return on development cost depending on the level of complexity of the project, construction types, construction schedule, sales/rental absorption timeline, and potential equity sources including the use of tax credits. Projects with longer timelines, pioneering housing types not currently available in the community, and/or greater building complexity have higher risk and as a result require a higher return on development cost.

### **Return on Cost (also known as Yield on Cost) for Rental Housing**

An important feasibility return metric for rental properties is called Return on Cost (ROC) or Yield on Cost. ROC measures the expected annual return after accounting for the cost to build and operate a new apartment development. ROC is measured based on Net Operating Income (NOI) at stabilized occupancy divided by development costs.

$$\text{ROC} = \text{Net Operating Income (NOI) divided by Development Costs}$$

A related metric is the capitalization rate (cap rate), which is used by appraisers and underwriters to value property based on how much NOI is generated by properties compared to their purchase price or value.<sup>34</sup> If the project's ROC is reasonably above the appropriate cap rate for the proposed housing type at its location (typically based on a "spread" of 1 percent above a market cap rate), then the development is feasible and can move forward.

To put it another way, a development project must yield a higher return than capital sources would receive by buying an existing property in this location. Essentially, by comparing ROC to capitalization rates, capital sources are measuring the return of building a new project against the return of simply buying an existing building with a known amount of NOI.

### **Return on Sale for Ownership Housing**

Return on Sale (also known as Net Margin) is typically used to evaluate for-sale residential developments and is equal to development return divided by sales revenues. This metric is used by homebuilders to evaluate returns particularly for single family developments and is used less frequently in development feasibility studies that evaluate both ownership and rental housing.

$$\text{Return on Sale} = \text{Revenues less Costs (Return) divided by Sales Revenues}$$

## **E. Illustrative Development Return Analysis**

For purposes of illustrating how a feasibility analysis could be performed, this section describes and presents an illustrative pro forma model that tests development feasibility based on a

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<sup>34</sup> Value = NOI divided by cap rate. Cap rates for new development must be greater than those for existing development because existing development is already generating NOI whereas new development may or may not generate revenues as projected..

calculation of potential returns for two typical multifamily residential product types (prototypes) that could be built on one acre of land:

- **Ownership– Condominium (condo) development** – 50 unit midrise ownership development with an average unit size of 1,100 net square feet and 1.5 parking spaces per unit.
- **Rental– Apartment development** – 60 unit midrise rental development with an average unit size of 900 net square feet and 1.0 parking spaces per unit.

As discussed earlier, new housing may be built in many different product types and configurations. While the three most common residential land use categories are single family detached (1 unit), single family attached (2-4 units), and multifamily (5 units or more), housing products evolve and change, and the development feasibility analysis needs to evaluate what is currently being constructed or proposed to be built in a jurisdiction. While this illustrative analysis focuses on multifamily development, the same methodology could be applied to ownership or rental development of different product types, densities and development characteristics.

These high-level pro forma examples are not a substitute for more rigorous financial analysis conducted by real estate finance professionals. Nor are these methods intended to supplant engagement and collaboration with the local development community to understand the types of residential developments that are being undertaken and their associated development revenues, costs and return thresholds.

This illustrative analysis was informed by the simulations that were performed in 2021 for the Turner Housing Policy Dashboard for the City of Los Angeles (Policy Dashboard), which has a diverse set of housing development types and development conditions that are representative of many communities in California.<sup>35</sup> While this illustrative analysis is used to generally illustrate residential development feasibility in California, it is important to note that each jurisdiction must conduct or commission their own analysis that takes into account local housing types and development conditions.

As described in the Policy Dashboard, a sensitivity analysis may be performed to analyze how feasibility changes if different development factors change such as changes in local policies. Sensitivity analysis is also often performed to test what happens when development revenues are significantly lower and/or development costs are significantly higher than projected, and whether the return thresholds need to be adjusted given the dynamic nature of the real estate lending and investment environment. For example, the recent increase in interest rates and economic conditions have raised construction loan interest rates, and capitalization rates have also been increasing for multifamily developments in many locations across the United States. In addition, the cost of housing construction has increased significantly over the past few years, exacerbated by supply chain issues due to the COVID pandemic. In recognition of changes that

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<sup>35</sup> <https://turnercenter.berkeley.edu/research-and-policy/policy-dashboard-los-angeles/>

have occurred since 2021, the illustrative feasibility analysis assumes higher rents, income levels, construction costs and a cap rate for multifamily rental than assumed in the Policy Dashboard.

### Development Revenues

The first step in the process of preparing a feasibility analysis is to project the revenues that could be generated from new residential rental and/or ownership units. The revenues need to reflect the number of market rate units and affordable housing units that are required to be built at restricted below market rate (BMR) rents or sales prices based on the jurisdiction’s inclusionary housing requirements and the potential use of State Density Bonus Law where applicable.<sup>36</sup>

The illustrative feasibility analysis assumes that 10 percent of total units are provided as affordable housing units and calculates revenues as follows for each housing type:

- **Ownership– Condo development** – Development revenues are generated from the sale of market rate and affordable ownership units.
- **Rental– Apartment development** – Development revenues are generated from monthly rent payments and miscellaneous income generated by apartments, which are translated into a development value of the property based on NOI divided by the capitalization rate.

Revenue assumptions for the condo and apartment prototypes are included in Appendix Table 2, and the supporting pro forma calculations are included in Appendix Table 3.

### Development Costs

The illustrative feasibility analysis assumes that the development costs consist of the following costs before consideration of development return or profit:

- **Land costs** to acquire and pay for all associated costs to “carry” land until the development process is finished.
- **Direct costs** to improve sites and construct buildings (also known as hard costs).
  - Site improvement costs typically include demolition of existing structures, onsite and offsite improvements, and environmental remediation work.
  - Building construction costs include all costs related to residential, parking and any ground floor retail uses.
- **Indirect costs** to pay for other development related costs (also known as soft costs).
  - Government fees– Indirect costs include public fees and other costs, including the jurisdiction’s impact fees, impact fees of other entities such as School Districts and Utility Districts, planning, permitting, subdivision and building fees, community benefits, or other development exactions. For this illustrative analysis, the jurisdiction’s total impact fees

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<sup>36</sup> The feasibility analysis should reflect the applicable local and state requirements that inform the calculation of affordable rents and sales prices at the targeted household incomes for affordable housing. These will likely include an allowance for resident-paid utility costs for both rental and ownership units, as well as the monthly costs that homeowners will need to pay, such as mortgage principal and interest, property taxes and homeowner association dues.

are assumed to be \$20,000 per unit for the condo development and \$17,000 per unit for the apartment development, although fees can be higher or lower in some jurisdictions. The jurisdiction's impact fees are estimated to represent less than 50% of public fees and other costs.

- Other indirect costs include construction financing and soft costs, such as professional services (architectural design, engineering, environmental studies, insurance, legal, marketing, and allowable developer overhead costs to pay staff during the development process.

### Development Return

The development return is equal to the difference between development revenues and costs, as shown below in Table 1 that summarizes the results of the illustrative development return analysis. The calculated return is compared to the following return metrics for the two prototypes:<sup>37</sup>

- **Condo development** – Development return is calculated based on an assumed target return threshold of 15 percent return on development cost.
- **Apartment development** – Development return is calculated in two ways:
  - Like ownership housing, the development return is calculated based on an assumed target return threshold of 15 percent return on development cost.
  - In addition, return is calculated based on an assumed 5.5 percent annual return on cost, which is 1 percent higher than the assumed cap rate of 4.5 percent.

These assumed minimum returns are for illustrative purposes only and may be higher or lower depending on the type of housing to be developed and development conditions in the local area.

### Results of Illustrative Development Return Analysis

Table 1 shows the results of the illustrative development return analysis, which indicate that the jurisdiction's proposed impact fees do not appear to adversely affect development feasibility for the condo development but may inhibit the construction of apartment developments:

- **Condo development** – The projected return on development cost from the condo development is 15.3 percent, which exceeds the target return threshold of 15 percent.
- **Apartment development** – The projected return on development cost from the apartment development is 6.1 percent, which is significantly less than the target return threshold of 15 percent. Furthermore, the projected annual return on cost is 4.9 percent, which is less than the target return on cost of 5.5 percent.

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<sup>37</sup> Depending on the complexity, construction type, time frame and risks associated with new development, target returns will differ from what is assumed in this analysis, and they can be significantly different for owner and rental housing.

**Table 1 : Illustrative Development Return Analysis**

	Condominium		Apartment	
	Project	Per Unit	Project	Per Unit
<b>Development Revenues</b>	<b>\$39,187,500</b>	<b>\$783,750</b>	<b>\$32,778,861</b>	<b>\$546,314</b>
<b>Development Costs</b>				
Land Costs	\$1,960,200	\$39,204	\$1,960,200	\$32,670
Direct Costs	\$23,686,875	\$473,738	\$21,781,500	\$363,025
Jurisdiction Impact Fees	\$1,000,000	\$20,000	\$1,020,000	\$17,000
<u>Other Indirect Costs</u>	<u>\$7,336,629</u>	<u>\$146,733</u>	<u>\$6,134,494</u>	<u>\$102,242</u>
<b>Total Development Cost</b>	<b>\$33,983,704</b>	<b>\$679,674</b>	<b>\$30,896,194</b>	<b>\$514,937</b>
<b>Developer Return (Margin)</b>	<b>\$5,203,796</b>	<b>\$104,076</b>	<b>\$1,882,667</b>	<b>\$31,378</b>
<i>Return on Development Cost</i>	<i>15.3%</i>		<i>6.1%</i>	
<i>Yield on Cost (Return on Cost)</i>	<i>N/A</i>		<i>4.9%</i>	
<b>Target Returns</b>				
<i>Return on Development Cost</i>	<i>15.0%</i>		<i>15.0%</i>	
<i>Yield on Cost (Return on Cost)</i>	<i>N/A</i>		<i>5.5%</i>	

These projected returns are very sensitive to the development revenue and cost projections. If total development costs are significantly higher than what is projected, new residential development would not likely be feasible with the proposed level of impact fees. The analysis also indicates that even if the jurisdiction did not charge any impact fees, apartment feasibility would still be difficult to achieve because the difference between total development revenues and costs for all other items (i.e., \$0 assumed for jurisdiction fees) would not meet target returns.

The development program, revenue and cost assumptions for the condo and apartment prototypes are shown in Appendix Tables 1 and 2, and the supporting pro forma calculations of development feasibility for the illustrative development return analysis are included in Appendix Table 3.

## F. Residual Land Value Analysis

A Residual Land Value (RLV) analysis models the financial calculations that developers perform to evaluate how much to pay for land and is another method to determine project feasibility as a developer must be able to generate sufficient development revenues and return to meet all development costs including the cost of land.<sup>38</sup> Once those costs are calculated, the balance of revenue that remains is the Residual Land Value— what a developer can afford to pay for land.

- $RLV = \text{Development Revenues} + \text{Target Return} - \text{Development Costs}$ 
  - RLV must be equal to or greater than comparable land cost or value.

In summary, a RLV analysis solves for RLV while a development feasibility analysis solves for returns.

RLV can be compared against land sale comparables to see if the RLV is in line with what the market is commanding for similar properties. If the RLV is too low, a developer will not likely be able to move forward with a project because they will not have sufficient revenues to purchase the land or have already purchased the land at a price that cannot be covered by projected revenues after taking into account anticipated development costs and target return. An RLV can also be used to calculate the financial impact of increased costs on new development by comparing the change in land values before and after changes in costs, such as impact fees, are factored in to the RLV analysis.

This section illustrates how a feasibility analysis could be performed using a residual land value analysis. The RLV analysis uses the same revenue, cost and return assumptions that were used in the illustrative development feasibility analysis described above except that the RLV analysis solves for land value. As described above, these illustrative pro forma examples are not a substitute for more rigorous financial analysis conducted by real estate finance professionals. (Refer to Appendix Tables 1 and 2 for key assumptions and the supporting pro forma calculations of RLV in Appendix Table 4.)

### **Development Revenues**

The first step in the process of preparing an RLV analysis is to project the revenues that could be generated from new residential rental and/or ownership units. The same revenue assumptions are used for the RLV analysis as were assumed in the development return analysis.

### **Development Costs**

The second step in the process of preparing an RLV analysis is to project the development costs that could be generated from new residential rental and/or ownership units. The same cost assumptions are assumed in the RLV analysis as were used in the development return analysis

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<sup>38</sup> Land refers to property on which housing development may be built and could include existing buildings that could be demolished prior to new housing development.

except that land is omitted from the development costs because an RLV analysis solves for land value.

### **Target Return**

The third step is to project the target return as the RLV analysis must factor in this target return in order to calculate the residual land value. The RLV analysis assumes the same target return threshold of 15 percent return on development cost as was used in the development return analysis.<sup>39</sup>

### **Results of Illustrative RLV Analysis**

Table 2 shows the results of the illustrative RLV analysis, which indicate that condo development would likely generate sufficient RLV compared to market value while an apartment development would not:

- **Condo development** – The projected residual land value is \$54/land square foot (SF) exceeds the market value for land in the jurisdiction of \$45/land SF.
- **Apartment development** – The projected residual land value is negative, which means that a developer could not afford to pay the market price of land and achieve the target return.

The development program, revenue and cost assumptions for the condo and apartment prototypes are shown in Appendix Tables 1 and 2 and are consistent with what is assumed in the development feasibility analysis. The supporting pro forma calculations of the RLV analysis are included in Appendix Table 4.

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<sup>39</sup> These assumed minimum returns are for illustrative purposes only and may be higher or lower depending on the type of housing to be developed and development conditions in the local area. As the cost of land is excluded from development costs, an RLV analysis may use different assumptions for indirect costs and a higher target percentage return on development cost (because it excludes land costs) than a development return analysis.

**Table 2 : Illustrative Residual Land Value Analysis**

	Condominium		Apartment	
	Project	Per Unit	Project	Per Unit
<b>Development Revenues</b>	<b>\$39,187,500</b>	<b>\$783,750</b>	<b>\$32,778,861</b>	<b>\$546,314</b>
<b>Development Costs (Before Land)</b>				
Direct Costs	\$23,686,875	\$473,738	\$21,781,500	\$363,025
Jurisdiction Impact Fees	\$1,000,000	\$20,000	\$1,020,000	\$17,000
<u>Other Indirect Costs</u>	<u>\$7,336,629</u>	<u>\$146,733</u>	<u>\$6,134,494</u>	<u>\$102,242</u>
<b>Development Costs (Before Land)</b>	<b>\$32,023,504</b>	<b>\$640,470</b>	<b>\$28,935,994</b>	<b>\$482,267</b>
<i>Target Return on Development Cost</i>	<i>15.0%</i>		<i>15.0%</i>	
<b>Less: Target Developer Return</b>	<b>\$4,803,526</b>	<b>\$96,071</b>	<b>\$4,340,399</b>	<b>\$72,340</b>
<b>Residual Land Value (RLV)</b>	<b>\$2,360,470</b>	<b>\$47,209</b>	<b>(\$497,532)</b>	<b>(\$8,292)</b>
RLV Per Land Square Foot	\$54 /Land SF		(\$11) /Land SF	
<b>Market Land Value (Target)</b>				
RLV Per Land Square Foot	\$45 /Land SF		\$45 /Land SF	
RLV per Acre	\$1,960,200 /Acre		\$1,960,200 /Acre	

## III. Conclusion

This report meets the key requirements of AB 602 to provide jurisdictions with a template that they can use to prepare nexus studies for impact fees that will be imposed on new residential development and a methodological approach to calculating the feasibility of housing to be built at a given fee level.

- Chapter I describes a template of eight steps to be followed when preparing nexus studies based on the requirements of the Mitigation Fee Act, as summarized in Exhibit 1. These steps were developed based on relevant State legal requirements and input regarding best practice from professionals experienced with the preparation of nexus studies.
- Chapter II presents two typical methodologies for evaluating the feasibility of housing to be built at a given fee level– a development return analysis and residual land value analysis. The feasibility of two typical residential owner and rental developments are then analyzed based on these two methods to illustrate how a feasibility analysis could be conducted.

The information and guidance presented is not intended to replace the need for sage expertise from experienced professionals. This expertise is necessary to assure that a nexus study meets relevant legal requirements and provides policy guidance to decision makers regarding how a proposed set of impact fees could affect the feasibility of residential development.

## IV. Acknowledgments

We would like to thank the following individuals and their companies for sharing their time and expertise in developing this resource: Joshua Abrams, William Anderson, David Doezema, James Edison, Rick Jacobus, Ashleigh Kanat, Lufti Kharuf, Teifion Rice-Evans, Robert Spencer, and Carlos Villarreal. We would also like to thank Robert Spencer / Urban Economics for providing graphic materials that were used to prepare the nexus analysis graphics in this resource.

# Appendix ##

## Supporting Tables and Resources

### for Illustrative Development Feasibility Analysis

**Appendix Table 1**  
**Development Program**  
**Illustrative Development Feasibility Analysis**

	<b>Condominium</b>	<b>Apartment</b>
<b>Site</b>		
Lot Size	43,560 SF	43,560 SF
Lot Acreage	1.00 Acres	1.00 Acres
<b>Development Program</b>		
Density	50 Units/Acre	60 Units/Acre
<b>Residential</b>		
Units	50 Units	60 Units
Affordable Units	5 Units	6 Units
Percent Affordable	10%	10%
Average Unit Size (NSF)	1,100	900
Average Bedroom Size	3 Bedroom	2 Bedroom
Percent of AMI Adjustment	100%	90%
Efficiency	80%	80%
Total Gross SF	68,750 GSF	67,500 GSF
Total Net SF	55,000 NSF	54,000 NSF
<b>Parking</b>		
Podium	75 Spaces	60 Spaces
Total	75 Spaces	60 Spaces
Parking Ratio	1.5 Spaces/Unit	1.0 Spaces/Unit

**Appendix Table 2  
Development Revenue and Cost Assumptions  
Illustrative Development Feasibility Analysis**

<b>Revenue Assumptions</b>	<b>Condo</b>	<b>Apartment</b>	<b>Notes on Assumptions</b>
Residential Sale Price	\$800 /NSF	N/A	Assumed market sale price of \$880,000 for new home.
Affordable Sales Price	\$300 /NSF	N/A	Based on \$100,000 income for 4 person household less \$150 monthly utility cost
Monthly Market Rental Rate	N/A	\$3.60 /NSF	Assumed monthly rent of \$3,240 for new apartment
Monthly Affordable Rental Rate	N/A	\$2.33 /NSF	Based on \$90,000 income for 3 person household less \$150 monthly utility cost
Monthly Miscellaneous Income	N/A	\$50 /unit	Assumed revenue
Vacancy Rate	N/A	5%	Per LA Dashboard
Operating Expenses (as a % of EGI)	N/A	30%	Per LA Dashboard
Capitalization Rate	N/A	4.5%	Per LA Dashboard plus 0.5% based on recent increases in cap rates
Sales/Marketing Expense	5%	3%	Assumed expense
<b>Cost Assumptions</b>	<b>Condo</b>	<b>Apartment</b>	<b>Notes on Assumptions</b>
Land Cost	\$45 /Land SF	\$45 /Land SF	Assumed cost
Development Costs			
Site Improvements	\$15 /GSF	\$15 /GSF	Assumed cost
Residential Building Construction	\$285 /GSF	\$271 /GSF	Per LA Dashboard plus 15% inflation adjustment to 2023
Construction Cost Premium	5%	N/A	
Government Fees			
Jurisdiction Impact Fees	\$20,000 /Unit	\$17,000 /Unit	Assumed cost with fee adjustment for rental due to smaller average unit size
Affordable Housing Fee	\$0 /Unit	\$0 /Unit	No in-lieu fee as affordable units assumed to be built on site
Utility District Fees	\$8,000 /Unit	\$7,000 /Unit	Assumed cost with fee adjustment for rental due to smaller average unit size
School Fees	\$7,000 /Unit	\$5,000 /Unit	Based on Level 1 school fees of \$4.79 per square foot as of 2023
Community Benefits/Exactions	\$3,000 /Unit	\$3,000 /Unit	Assumed cost, which vary significantly from project to project.
Permits and Processing Fees	1.00% of DC	1.00% of DC	1% of Direct Cost (DC)
Construction Financing			
Average Outstanding Balance	60%	60%	Assumed outstanding balance
Loan to Cost Ratio	65%	65%	Per LA Dashboard; 65% of Direct Cost
Construction Loan Term	24 Months	24 Months	Per LA Dashboard plus 3 months for building permit and unit absorption.
Construction Interest Rate	7.0%	7.0%	Per LA Dashboard plus 2.5% rate increase since 2021
Loan Fee (Points)	1.50% of Loan Amount	1.50% of Loan Amount	Assumed cost
Other Soft Costs	18% of Direct Costs	15% of Direct Costs	Assumed cost with higher marketing and insurance costs for condo.
<b>Return Assumptions</b>	<b>Condo</b>	<b>Apartment</b>	<b>Notes on Assumptions</b>
Developer Return (Margin)	15.0% of TDC	15.0% of TDC	Assumed target return on Total Development Cost (TDC)
Return on Cost (Yield on Cost)	N/A	5.5%	Assumed target return based on Net Operating Income (NOI)/TDC
<b>Parking Construction Cost</b>	<b>Parking Hard Cost</b>	<b>Stall Area (SF)</b>	<b>Notes on Assumptions</b>
Surface	\$23 /SF	330 /Space	Per LA Dashboard plus 15% inflation adjustment to 2023
<u>Podium</u>	<u>\$102 /SF</u>	<u>400 /Space</u>	Per LA Dashboard plus 15% inflation adjustment to 2023
Total	\$165 /SF	400 /Space	Per LA Dashboard plus 15% inflation adjustment to 2023

**Appendix Table 3  
Illustrative Development Return Analysis  
Development Pro Forma of Typical Housing Developments**

	Condominium		Apartment	
	Project	Per Unit	Project	Per Unit
<b>Development Revenues</b>				
<b>Residential - For Sale</b>				
Market Rate	\$39,600,000	\$880,000	N/A	N/A
<u>Affordable Housing</u>	<u>\$1,650,000</u>	<u>\$330,000</u>	N/A	N/A
Total Sales Proceeds	\$41,250,000	\$825,000	N/A	N/A
<u>Less Sales/Marketing Expense at 5%</u>	<u>(\$2,062,500)</u>	<u>(\$41,250)</u>	N/A	N/A
<b>Revenues - For Sale</b>	<b>\$39,187,500</b>	<b>\$783,750</b>	<b>N/A</b>	<b>N/A</b>
<b>Residential - Rental</b>				
Monthly Revenues				
Market Rate	N/A	N/A	\$174,960	\$3,240
Affordable Housing	N/A	N/A	\$12,600	\$2,100
<u>Miscellaneous Income</u>	<u>N/A</u>	<u>N/A</u>	<u>\$3,000</u>	<u>\$50</u>
Total Monthly Revenues	N/A	N/A	\$190,560	\$3,176
Annual Revenues	N/A	N/A	\$2,286,720	\$38,112
<u>Less: Vacancy at 5%</u>	<u>N/A</u>	<u>N/A</u>	<u>(\$114,336)</u>	<u>(\$1,906)</u>
Gross Effective Income	N/A	N/A	\$2,172,384	\$36,206
<u>Less: Operating Expenses at 30%</u>	<u>N/A</u>	<u>N/A</u>	<u>(\$651,715)</u>	<u>(\$10,862)</u>
Net Operating Income	N/A	N/A	<b>\$1,520,669</b>	<b>\$25,344</b>
Projected Value at 4.5% cap rate	N/A	N/A	\$33,792,640	\$563,211
<u>Less Sales/Marketing Expense at 3%</u>	<u>N/A</u>	<u>N/A</u>	<u>(\$1,013,779)</u>	<u>(\$16,896)</u>
<b>Revenues - Rental</b>	<b>N/A</b>	<b>N/A</b>	<b>\$ 32,778,861</b>	<b>\$546,314</b>
<b>Total Revenues</b>	<b>\$39,187,500</b>	<b>\$783,750</b>	<b>\$ 32,778,861</b>	<b>\$546,314</b>
<b>Development Costs</b>				
<b>Land Costs</b>	<b>\$1,960,200</b>	<b>\$39,204</b>	<b>\$1,960,200</b>	<b>\$32,670</b>
<b>Direct Costs</b>				
Site Improvements	\$1,031,250	\$20,625	\$1,012,500	\$16,875
Construction Costs				
Residential	\$19,593,750	\$391,875	\$18,319,500	\$305,325
<u>On-site Parking</u>	<u>\$3,061,875</u>	<u>\$61,238</u>	<u>\$2,449,500</u>	<u>\$40,825</u>
<b>Subtotal: Direct Costs</b>	<b>\$23,686,875</b>	<b>\$473,738</b>	<b>\$21,781,500</b>	<b>\$363,025</b>
<b>Indirect Costs</b>				
Government Fees				
Jurisdiction Impact Fees	\$1,000,000	\$20,000	\$1,020,000	\$17,000
Affordable Housing Fee	\$0	\$0	\$0	\$0
Utility District Fees	\$400,000	\$8,000	\$420,000	\$7,000
School Fees	\$350,000	\$7,000	\$300,000	\$5,000
Community Benefits/Exactions	\$150,000	\$3,000	\$180,000	\$3,000
<u>Permits and Processing Fees</u>	<u>\$236,869</u>	<u>\$4,737</u>	<u>\$217,815</u>	<u>\$3,630</u>
Subtotal: Government Fees	\$2,136,869	\$42,737	\$2,137,815	\$35,630
Construction Financing Costs	\$1,936,123	\$38,722	\$1,749,454	\$29,158
Other Soft Costs	<u>\$4,263,638</u>	<u>\$85,273</u>	<u>\$3,267,225</u>	<u>\$54,454</u>
<b>Subtotal: Indirect Costs</b>	<b>\$8,336,629</b>	<b>\$166,733</b>	<b>\$7,154,494</b>	<b>\$119,242</b>
<b>Total Development Cost</b>	<b>\$33,983,704</b>	<b>\$679,674</b>	<b>\$30,896,194</b>	<b>\$514,937</b>
<b>Development Return Analysis</b>				
<b>Developer Return (Margin)</b>	<b>\$5,203,796</b>	<b>\$104,076</b>	<b>\$1,882,667</b>	<b>\$31,378</b>
<i>Return on Development Cost</i>	<i>15.3%</i>		<i>6.1%</i>	
<i>Yield on Cost (Return on Cost)</i>	<i>N/A</i>		<i>4.9%</i>	
<b>Target Returns</b>				
<i>Return on Development Cost</i>	<i>15.0%</i>		<i>15.0%</i>	
<i>Yield on Cost (Return on Cost)</i>	<i>N/A</i>		<i>5.5%</i>	

**Appendix Table 4  
Illustrative Residual Land Value Analysis  
Development Pro Forma of Typical Housing Developments**

	Condominium		Apartment	
	Project	Per Unit	Project	Per Unit
<b>Development Revenues</b>				
<b>Residential - For Sale</b>				
Market Rate	\$39,600,000	\$880,000	N/A	N/A
<u>Affordable Housing</u>	<u>\$1,650,000</u>	<u>\$330,000</u>	N/A	N/A
Total Sales Proceeds	\$41,250,000	\$825,000	N/A	N/A
<u>Less Sales/Marketing Expense at 5%</u>	<u>(\$2,062,500)</u>	<u>(\$41,250)</u>	N/A	N/A
<b>Revenues - For Sale</b>	<b>\$39,187,500</b>	<b>\$783,750</b>	<b>N/A</b>	<b>N/A</b>
<b>Residential - Rental</b>				
Monthly Revenues				
Market Rate	N/A	N/A	\$174,960	\$3,240
Affordable Housing	N/A	N/A	\$12,600	\$2,100
<u>Miscellaneous Income</u>	<u>N/A</u>	<u>N/A</u>	<u>\$3,000</u>	<u>\$50</u>
Total Monthly Revenues	N/A	N/A	\$190,560	\$3,176
Annual Revenues	N/A	N/A	\$2,286,720	\$38,112
<u>Less: Vacancy at 5%</u>	<u>N/A</u>	<u>N/A</u>	<u>(\$114,336)</u>	<u>(\$1,906)</u>
Gross Effective Income	N/A	N/A	\$2,172,384	\$36,206
<u>Less: Operating Expenses at 30%</u>	<u>N/A</u>	<u>N/A</u>	<u>(\$651,715)</u>	<u>(\$10,862)</u>
Net Operating Income	N/A	N/A	<b>\$1,520,669</b>	<b>\$25,344</b>
Projected Value at 4.5% cap rate	N/A	N/A	\$33,792,640	\$563,211
<u>Less Sales/Marketing Expense at 3%</u>	<u>N/A</u>	<u>N/A</u>	<u>(\$1,013,779)</u>	<u>(\$16,896)</u>
<b>Revenues - Rental</b>	<b>N/A</b>	<b>N/A</b>	<b>\$ 32,778,861</b>	<b>\$546,314</b>
<b>Total Revenues</b>	<b>\$39,187,500</b>	<b>\$783,750</b>	<b>\$ 32,778,861</b>	<b>\$546,314</b>
<b>Development Costs</b>				
<b>Direct Costs</b>				
Site Improvements	\$1,031,250	\$20,625	\$1,012,500	\$16,875
Construction Costs				
Residential	\$19,593,750	\$391,875	\$18,319,500	\$305,325
<u>On-site Parking</u>	<u>\$3,061,875</u>	<u>\$61,238</u>	<u>\$2,449,500</u>	<u>\$40,825</u>
<b>Subtotal: Direct Costs</b>	<b>\$23,686,875</b>	<b>\$473,738</b>	<b>\$21,781,500</b>	<b>\$363,025</b>
<b>Indirect Costs</b>				
Government Fees				
Jurisdiction Impact Fees	\$1,000,000	\$20,000	\$1,020,000	\$17,000
Affordable Housing Fee	\$0	\$0	\$0	\$0
Utility District Fees	\$400,000	\$8,000	\$420,000	\$7,000
School Fees	\$350,000	\$7,000	\$300,000	\$5,000
Community Benefits/Exactions	\$150,000	\$3,000	\$180,000	\$3,000
<u>Permits and Processing Fees</u>	<u>\$236,869</u>	<u>\$4,737</u>	<u>\$217,815</u>	<u>\$3,630</u>
Subtotal: Government Fees	\$2,136,869	\$42,737	\$2,137,815	\$35,630
Construction Financing Costs	\$1,936,123	\$38,722	\$1,749,454	\$29,158
Other Soft Costs	\$4,263,638	\$85,273	\$3,267,225	\$54,454
<b>Subtotal: Indirect Costs</b>	<b>\$8,336,629</b>	<b>\$166,733</b>	<b>\$7,154,494</b>	<b>\$119,242</b>
<b>Total Development Cost</b>	<b>\$32,023,504</b>	<b>\$640,470</b>	<b>\$28,935,994</b>	<b>\$482,267</b>
<b>Residual Land Value Analysis</b>				
Development Revenues	\$39,187,500	\$783,750	\$32,778,861	\$546,314
Less: Development Cost Before Land	\$32,023,504	\$640,470	\$28,935,994	\$482,267
Less: Target Return	<u>\$4,803,526</u>	<u>\$96,071</u>	<u>\$4,340,399</u>	<u>\$72,340</u>
<b>Residual Land Value (RLV)</b>	<b>\$2,360,470</b>	<b>\$47,209</b>	<b>(\$497,532)</b>	<b>(\$8,292)</b>
RLV Per Land Square Foot	\$54 /Land SF		(\$11) /Land SF	
RLV per Acre	\$2,360,470 /Acre		(\$497,532) /Acre	
<b>Target Returns</b>				
Return on Development Cost	15.0%		15.0%	
Yield on Cost (Return on Cost)	N/A		5.5%	

## **Terner Center Dashboard**

The Terner Center has also developed tools and resources that can be useful in understanding the relationship between project feasibility and impact fee levels. The Terner Labs Dashboard takes parcel-level land use information and market data to show how different variables impact predicated housing production. One of these variables could be impact fees, allowing a locality to test what fee levels will impact future housing creation estimates. Currently used in the city of Los Angeles, the dashboard will expand to several other cities in 2024 and is looking to expand to more localities thereafter. The Terner Center’s “Making it Pencil” series on development math also includes examples of how residential development can be impacted by policy decisions, including impact fee levels.

## **Typical Data Sources**

Conducting the analyses described above requires data on development revenues and costs. The following companies provide published data, although in some cases the information might not be complete or could be proprietary and require a subscription or payment to obtain.

- Revenues (sales prices and rents)
  - Zillow
  - Costar
- Land values
  - Costar
- Construction costs
  - Marshall and Swift
  - RS Means
  - Saylor Current Construction Cost
- Capitalization Rate
  - IRR Viewpoint
  - Costar

To supplement published data, localities may also rely on data collected through development working groups comprised of local practitioners to understand what kinds of costs they are incurring on projects at that time, as well as anticipated revenues.