



## MEMORANDUM

**To:** Heidi Vonblum, City of San Diego  
**From:** Stephen Cook, Intersecting Metrics  
**Date:** March 16, 2022  
**Regarding:** Library Development Impact Fee Program - Unit Cost Analysis

### **1.0 Introduction**

The purpose of this memorandum is to establish the fair-share cost that can legally be imposed on new development, within the City of San Diego (City), to mitigate any potential impacts they may cause on the City's Library System. The fair-share cost will be used to establish the maximum fee rates for the City's Library Developer Impact Fee (DIF) program. The City's Library DIF program collects fees from new development and invest them into the City's Library System in order to help achieve the level of library services prescribed by the City's General Plan, as new growth occurs.

### **1.1 Project Background**

The City is currently in the process of updating its DIF Program. The biggest difference with the updated DIF Program (as compared to the previous program) is that fees and associated nexus studies, are proposed to be calculated, collected, and allocated based on asset class instead of by community. Deriving and implementing the DIF Program based on asset class allows the City to collect and allocate fees on a higher geographical level than by individual communities, which helps to better fund and implement citywide assets that are shared throughout the City. This methodology is also more closely aligned with the City's needs to provide assets which serve the entire City. This methodology also acknowledges that fire stations are part of an integrated network of fire response infrastructure throughout the City.

### **1.2 Purpose**

San Diego Municipal Code §142.0640 provides for the imposition and administration of development impact fees. Development impact fee programs are generally established and utilized to provide new or expanded public capital infrastructure needed to serve future development. The fees are established based on a methodology and calculation derived from the cost of the public facilities needed and the nature and size of the proposed development, also known as establishing a nexus. A "rational nexus" must be established between the fee and the needs created by future development and the benefits incurred by the development. The nexus identifies a fair-share cost (or unit cost) of the needed capital infrastructure that can be allocated to individual developments based on a standard metric (e.g., project square footage, generated vehicle miles traveled (VMT), population and/or projected employment). The fees collected through a DIF program cannot be used to improve or mitigate current needs or deficiencies, only those associated with future growth.



## 2.0 Standards

This section documents the standards and methods that were utilized to establish the fair-share cost that new development will need to contribute to achieve the required level of service for Library System within the City.

### 2.1 Relevant Policies

The following policies are included in the *City of San Diego's General Plan Public Facilities, Services & Safety Element* which pertain to the standard of library infrastructure that should be provided within the City. Maintaining the level of service prescribed by these policies will serve as guidance for identifying the impacts that new development will have on the City's current library infrastructure as well as the fair-share cost that new development will be responsible for to achieve the required levels of service prescribed within the General Plan. It should be noted that the language below is an abridged version of the policies contained in the City's General Plan. Relevant pages from the City's General Plan are provided in **Attachment 1**.

**PF-J.1.** Develop and maintain a Central Library to adequately support the branch libraries and serve as a major resource library for the region and beyond.

This policy identifies that the City's branch libraries operate as a system with shared resources. It also identifies that the Central Library acts as the hub of the system and should be considered in a different manner than the branch libraries. Finally, this policy notes that the Central Library and the City's system can be used as a resource not just for the City of San Diego itself, but for the entire San Diego Region and beyond.

**PF-J.2.** Design all libraries with a minimum of 15,000 square feet of dedicated library space, with adjustments for community-specific needs. Library design should incorporate public input to address the needs of the intended service area.

This policy establishes the minimum size of the libraries within the City's system. It should be noted that 23 of the City's 36 libraries are currently smaller than 15,000 SF. It should also be noted that the City is currently in the process of updating their Library Master Plan, which may look to re-evaluate this policy.

**PF-J.3.** Plan for larger library facilities that can serve multiple communities and accommodate sufficient space to serve the larger service area and maximize operational and capital efficiencies.

As noted in this policy, libraries within the City's system can serve multiple communities but should be sized and programed to accommodate their intended service area. This is policy also notes that each library within the system is unique based on its service area and that the 15,000 SF minimum established in Policy PF-J.2 may not be applicable in all cases.



**PF-J.6.** Design libraries to provide consistent and equitable services as communities grow in order to maintain service levels which consider operational costs and are based on established guidelines.

This policy highlights the importance that libraries play within the community beyond access to books and other media. As the libraries digital collection continues to grow, the actual physical collection within the branch libraries may be reduced. This may present additional opportunities for the branch libraries to expand their services, programs, and meeting spaces to better serve the needs of their service area.

**PF-J.8.** Build and maintain a library system that adapts to technological changes, enhances library services, expands access to digital information and the internet, and meets community and library system needs.

As stated previously, as technology advances more of the City's library collection will be available to the public digitally. Therefore, to ensure that all members of the public will continue to have access to the Library System's collection, proving the infrastructure for the public to access its digital collection, as well as other resources, is critical. As such, libraries within the system will continue to expand the number of computers and tablets that can used or checked out by the public, provide free public Wi-Fi for its visitors, and provide and maintain the necessary back end digital infrastructure (servers, routers, databases, etc.) that is necessary to provide these services. The Library System has also set up a series of Idea Labs, within their branch locations, which is a multimedia lab designed to prepare everyone for 21st century job skills by exposing them to new technology. Idea Labs provide 3D design software, audio and visual recording and editing equipment/programs, coding software, and graphic design software. Idea Labs may also include fabrication equipment such as 3D printers as well as other trade tools and materials.

## **2.2 Methodology**

Using the policies outlined in Section 2.1, a series of standards was developed to allow for the impacts on the City's Library System, associated with new development, to be quantified (standards). The associated infrastructure needs to achieve the prescribed levels of service, based on the standards, were also established (requirements).

Annual visitor data, from year 2019, was used to establish the Library System's current level of service that was used in developing the standards and requirements for the system. It should be noted that the Central Library was not included in determining these standards, since it serves a bigger purpose in the region, as outlined in policy in PF-J.1. Additionally, including the Central Library in the standards and requirements would present an anomaly when compared to the various branch libraries.

Since the service area for each branch library varies in size, and the population and employment densities within each service area also vary, the annual attendance at each branch was normalized based on the service population (residents plus employees) that are located within their respective service areas. Therefore, the number of annual visitors per service population was used as the metric



in which the systems current level of service was measured, and the standards and requirements were based upon.

To develop the Library System standards and associated requirements, the physical features and infrastructure at each branch library was compared to the annual attendance rates<sup>1</sup>. A correlation analysis<sup>2</sup> was developed to identify which features within existing libraries had a high positive correlation to annual attendance. These features were then linked to corresponding policies within the City's General Plan (outlined in Section 2.1) to identify the standards needed to achieve the levels or service that are prescribed. Requirements to achieve the identified standards were developed based on the quantity and/or size of the features, identified by the standards, which are provided at the highest performing libraries within the City.

### **Sample Locations**

The City continually strives to improve the level of service their Library System provides; therefore, the system's standards were derived from the features of the branch libraries that perform within the 85<sup>th</sup> percentile of annual visits per service population served. The following five libraries were the branches identified to operate within the 85<sup>th</sup> percentile of the system based on 2019 visitor data:

- Logan Heights
- University Community
- La Jolla/Rifford
- Rancho Bernardo
- Ocean Beach

## **2.3 Developing Standards and Requirements**

This section outlines the data and analysis utilized to derive the Library System standards and requirements for the City of San Diego. Since new development will only be responsible for paying its fair-share of the needed library infrastructure, all requirements were developed on a per person (resident or employee) basis. This method was designed to isolate the impacts associated with new development based on the number of residents or employees that they are anticipated to house and exclude any cumulative impacts associated with existing deficiencies or outside users.

To help better organize the Library System standards, the policies outlined in Section 2.1 were separated into the following three general categories:

- *Libraries as a Community Resource* - Policies: PF-J.2, PF-J.3, PF-J.6 - These policies provide guidance on the size, features, and role that libraries play within the community. As such, standards determining the needed size (square feet) per person, meeting space (maximum occupancy) per person, and the number of items in the collection per can be derived from these policies.

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<sup>1</sup> Detailed data including physical features, program information, service area, and visitor information from Year 2019, for all branch libraries, is provided in **Attachment 2**.

<sup>2</sup> Library features correlation analysis is provided in **Attachment 3**.



- *Access to Technology - Policy PF-J.8* - The library system needs to adapt to technological advances and provide opportunities to the public to access that technology. Standards regarding the number of tech seats per person and the expansion of the City's Idea Labs are both derived from this policy.
- *The Library System - PF-J.1* - This policy establishes that the City's library resources should act as a system with a central hub to assist with the support and share resources within the system. As part of the new Library Master Plan, which is currently being prepared by Friends of the Library, the City will look to store much of its existing physical collection in an off-site, centrally located, warehouse and distribute items to branch libraries based on request. Therefore, new standards were derived based on the anticipated warehouse space that will be required to house a portion of the City's collection, the number of vehicles need to distribute pieces of the collection to the branch libraries, and the sorting equipment to properly catalog and sort items from the collection as they come in and out of the facility.

**Libraries as a Community Resource**

*General Size Requirement* - Based on the Year 2019 library data, the size of a library has strong positive correlation (0.77)<sup>3</sup> with library attendance. This shows that the size of a library plays a key role in the level of service in which it provides. To determine the associated requirement for a size standard, the building size of the five example libraries was divided by the total service population within their respective service areas. **Table 1** displays the results of this analysis.

**Table 1: General Size Requirements**

Library	Building Size (SF)	Service Population within Service Area	SF per Person
Logan Heights	25,000	51,963	0.481
University Community	10,000	30,223	0.330
La Jolla/Riford	24,750	32,849	0.753
Rancho Bernardo	22,950	51,568	0.445
Ocean Beach	4,579	29,413	0.155
<b>Average</b>	<b>15,403</b>	<b>38,604</b>	<b>0.433</b>

As shown in the table, to achieve the prescribed level of service of the Library System, 0.433 square feet (SF) per person of library space is needed. This requirement will also help to fulfill the 15,000 SF requirements outlined in policy PF-J2, as well as ensure that the branch libraries can be constructed or expanded to meet the needs of their service area, as outlined in Policy PF-J3.

*Meeting Space Requirement* - Based on the Year 2019 library data, the amount of meeting room capacity within a library also has strong positive correlation (0.63)<sup>3</sup> with library attendance. Meeting room space/capacity plays a key role in the ability to connect and serve the community by providing free space for public or group meetings, as well as providing space to host local programs for both the youth and adults within the community. To determine the associated requirement for the meeting space, the meeting space capacity of the five example libraries was divided by the total service population within their respective service areas. **Table 2** displays the results of this analysis.

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See Attachment 3.



**Table 2: Meeting Space Requirements**

Library	Meeting Room Capacity	Service Population within Service Area	Meeting Room Capacity Per Person
Logan Heights	345	51,963	0.00664
University Community	66	30,223	0.00218
La Jolla/Riford	170	32,849	0.00518
Rancho Bernardo	165	51,568	0.00320
Ocean Beach	0	29,413	N/A
<b>Average</b>	<b>130</b>	<b>38,604</b>	<b>0.00433</b>

As shown in the table, a meeting room capacity of 0.00433 occupants per service population is needed to achieve the prescribed level of service of the Library System. It is assumed that each meeting occupant will require 15 SF of space, resulting in a need of 0.064 SF per person (0.00433 occupant x 15 SF per occupant space). This requirement will help the Library System to meet Policy PF-J6, as it will allow the system to expand its meeting spaces to allow consistent and equitable services as communities grow.

*Items in the Collection Requirement* - As the service population within the City continues to grow, there will be a higher demand for the items within the City's collection, both physically and digitally. As such, the City's collection needs to grow at the same rate as its population. The number of items within a branch library's collection has the highest overall positive correlation to annual attendance (0.87)<sup>3</sup>. This shows how critical the size and variety of a collection is to the overall level of service of the Library System. To determine the associated requirement for items within the collection, the collection housed at each of the five example libraries was divided by the total service population within their respective service areas. **Table 3** displays the results of this analysis.

**Table 3: Item Requirements**

Library	Items in the Collection	Service Population within Service Area	Items Per Person
Logan Heights	91,174	51,963	1.755
University Community	71,220	30,223	2.356
La Jolla/Riford	116,026	32,849	3.532
Rancho Bernardo	111,905	51,568	2.170
Ocean Beach	44,889	29,413	1.527
<b>Average</b>	<b>79,550</b>	<b>38,604</b>	<b>2.268</b>

As shown in the table, the library system needs to provide 2.268 items per person to achieve the prescribed level of service of the Library System.

**Access to Technology**

*Tech Seats Requirement* - As outlined in Policy PF-J.8 the Library System is expected to adapt to new technology and expand access to digital information to its community. The branch libraries are a critical resource for members within their serve area that do not have personal access to computers, technology, or the internet. Additionally, as more and more items in the collection and other resources transfer from physical to digital, access to technology will become even more critical. To satiate this need, each library provides public computers and other digital interfaces to its



community, known as “Tech Seats.” To determine the associated requirement for the number of Tech Seats that are needed to service the public, the number of seats provided at each of the five example libraries was divided by the total service population within their respective service areas. **Table 4** displays the results of this analysis.

**Table 4: Tech Seat Requirements**

Library	Number of Tech Seats	Service Population within Service Area	Items Per Person
Logan Heights	71	51,963	0.001366
University Community	9	30,223	0.00029
La Jolla/Riford	45	32,849	0.001370
Rancho Bernardo	33	51,568	0.000640
Ocean Beach	12	29,413	0.000408
<b>Average</b>	<b>31</b>	<b>38,604</b>	<b>0.00082</b>

As shown in the table, the library system needs to provide 0.00082 tech seats per person (or one per every 1,220 people) to achieve the prescribed level of service of the Library System.

*Idea Labs* - As noted previously, the Library System has also developed a series of Idea Labs throughout the City. Idea labs are multimedia labs designed to prepare everyone for 21st century job skills by exposing them to new technology. Idea Labs provide 3D design software, audio and visual recording and editing equipment/programs, coding software, and graphic design software. Idea Labs may also include fabrication equipment such as 3D printers as well as other tools and materials. The City currently has six Idea Labs (including the Central Library) which serve its 2,130,000 employees and residents (service population) within the City. This results in one Idea Lab for every 355,000 people within the City. Therefore, to achieve the prescribed level of service of the Library System, this ratio will need to be maintained as growth continues to occur within the City.

**The Library System**

*Central Warehouse Space* - As noted previously, the City is currently in the process of updating their Library Master Plan. The new Master Plan will look to better utilize the existing space within the current branch libraries by storing some of their existing collection off-site in a central warehouse. This will allow branch libraries to dedicate more space to Idea Labs, tech seats, meeting space, program space and other needs of the community. Additionally, providing a central location for the City’s collection will help to create a more efficient system to distribute and share the items within the City’s collection between the branch libraries, and even potentially libraries outside of the City.

Based on architectural estimates and comparable examples, it is assumed that a central warehouse facility can generally house around six collection items per SF of space. It is also assumed that approximately half of the City’s current collection would be housed within the central warehouse, with the other half staying in the branch libraries. Based on these assumptions, as well as the previously established standard of 2.268 items per person, the City would need to provide 0.189 SF or warehouse space per person (2.268 items per person X 50% of the collection / 6 items per SF).

*Delivery Vehicle* - The Hamilton County, OH (Cincinnati) Library system is similar in size to the City of San Diego’s Library System with 40 branch locations as compared to 37 locations in San Diego, and



is also similar in size to the City of San Diego, 412 square miles vs 372 square miles in San Diego. The Hamilton County Library system recently implemented a similar central warehouse facility in 2019, as is being proposed by the City of San Diego. Their facility employs four book distribution routes, with each covering approximately 10 branch locations. As such, a similar routing demand can be assumed within the City of San Diego. Therefore, the City would need to provide one delivery vehicle per every 697,500 people (2,790,000 future service population / 4 delivery vehicles).

*Sorting Equipment* - The central warehouse will also need sorting equipment to catalog and sort the different items as they come in and out of the facility.

**Summary**

**Table 5** summarizes the different standards and requirements that were established above.

**Table 5 : Summary of Library Standards and Requirements**

Standard	Requirement
Size	0.433 SF Per Person
Meeting Space	0.0645 SF Per Person
Items Per Person	2.268 Per Person
Tech Seats Per Person	1 Per 1,220 People
Idea Lab	1 Per 355,000 People
Book Delivery Trucks	1 Truck Per 697,500 People
Central Warehouse Space	0.189 SF Per Person
Sorting Equipment	1 for the Region





### 3.0 Unit Cost Analysis

This section evaluates the fair-share cost on a per person basis (unit cost), in which new development within the City will need to pay to satisfy the City’s library standards. Fair-share costs for new development were determined based on the standards and requirements outlined in Section 2.0, as well as planning level costs estimates to implement the needed infrastructure.

#### 3.1 Infrastructure Cost

Planning level cost estimates for the infrastructure required to meet the standards outlined in Section 2.0 are outlined in **Table 6**. Planning level cost estimate worksheets are provided in **Attachment 4**.

**Table 6: Planning Level Costs for Required Infrastructure**

Standard	Cost	Notes
Size	\$1,550 Per SF	Includes furniture and land value costs
Meeting Space	\$1,550 Per SF	Includes furniture and land value costs
Items Per Person	\$24 per item	Assumes digital and physical items
Tech Seats Per Person	\$9,501 Per Seat	Assumes backend infrastructure
Idea Lab	\$34,616 Per Space	Assumes equipment and software costs
Book Delivery Trucks	\$150,000 Per Truck	Assumes zero emissions vehicles
Central Warehouse Space	\$373 Per SF	Assumed cost to buy an existing building in a central location.
Book Sorter	\$500,000 Per Sorter	

#### 3.2 Unit Cost

To develop the individual fair-share unit costs to fulfil each standard outlined in Section 2.0, the associated requirement (outlined in Table 5) was compared to the cost to provide the required infrastructure (outlined in Table 6). **Table 7** documents the fair-share unit cost (requirement x infrastructure cost) to satisfy each requirement outlined in Section 2.0. The fair-share cost for each requirement was then summed to identify the total fair-share unit cost, per person, to satisfy all of the City’s library standards.

**Table 7: Fair-Share Unit Cost**

Standard	Requirement	Cost	Unit Cost (Per Person)
Size	0.433 SF Per Person	\$1,550	\$671.51
Meeting Space	0.064 SF Per Person	\$1,550	\$99.20
Items	2.268 Per Person	\$24	\$54.43
Tech Seats - Per Person	1 Per 1,220 People	\$9,501	\$7.79
Idea Labs	1 Per 355,000 People	\$34,676	\$0.10
Book Delivery Trucks	1 Truck Per 697,500 People	\$150,000	\$0.22
Central Warehouse Space	0.19 SF Per Person	\$373	\$70.50
Book Sorter	1 for the Region	\$500,000	\$0.18
<b>Total</b>			<b>\$903.57</b>



As outlined in Table 7, new development within the City of San Diego would need to pay \$903.57 per person (resident or employee) that will occupy their development to satisfy the City's library standards. Based on these calculations \$903.57 per person would be the maximum fee rate the City's Library DIF Program would be able to charge.

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**Attachment 1**  
**City of San Diego General Plan Policy Excerpts**

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**Attachment 2**  
**Year 2019 Branch Library Information**

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**Attachment 3**  
**Year 2019 Branch Library Information - Correlation Analysis**  
**Results**

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**Attachment 4**  
**Planning Level Cost Estimates**

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