



--Study of Parkland Dedication Requirements for Commercial Uses--
Published August 10th, 2022

This study provides an overview of parkland dedication as it pertains to retail, industrial, office, and hotel uses, as directed by City Council in Resolution No. 20220407-042, passed April 7th, 2022. This Study, produced by the Parks and Recreation Department, examines the relationship between commercial developments and the use of parkland by the commuting employees of such developments, explains the need for an ordinance requiring parkland dedication for commercial development, and outlines the methodology behind the proposed new ordinance.

This study may be used as the basis for establishing a commercial parkland dedication ordinance, for review and approval by City Council following a public and stakeholder engagement period.

Purpose

Parkland is an essential city service that affords well documented economic, recreational, physical, and mental health benefits to its users (see research conducted by Rigolon, et al. 2022¹, who cite Crompton and Nicholls 2019, and Markevych, et al. 2017²). The current parkland dedication ordinance is a critical tool that allows the Parks and Recreation Department (PARD) to mitigate the impact of new users on the existing park system in accordance with goals and mandates set forth in the City Charter, City Council Resolution 20091119-068, the Imagine Austin Comprehensive Plan, and the PARD Long Range Plan. Parks provide recreational opportunities, create community, preserve the city's character and natural resources, contribute to economic growth and tourism, increase transportation opportunities, and keep Austin beautiful. Currently, new residential developments are required to account for their direct impact on the existing park system, thereby addressing several of the Imagine Austin Comprehensive Plan's key goals, including: "Expanding Transportation Choices", "Tackling the Ethnic Divide", "Prosperity for All", "Protecting Our Natural Resources", and "Preserving Livability", by providing consistent parkland under rapidly changing development conditions.

On February 25, 2020, the Parks and Recreation Board passed Recommendation 20200225-B3, which included the provision that commercial developments be subject to parkland dedication requirements. On March 28, 2022, the Parks and Recreation Board reaffirmed its support to require parkland dedication for office, retail, and industrial developments in Recommendation 20220328-B5. Enacting this provision would better mitigate the impacts of

¹ Rigolon, et al., "A park is not just a park': Toward counter-narratives to advance equitable green space policy in the United States", 2022. <https://www.sciencedirect.com/science/article/pii/S0264275122002311>

² Markevych, et al., "Exploring pathways linking greenspace to health: Theoretical and methodological guidance", 2017.

<https://www.sciencedirect.com/science/article/abs/pii/S0013935117303067?via%3Dihub>

Austin's growing workforce on parkland. Currently, 35.8% of the workforce live outside the city limits, and as such are not served by the existing parkland dedication ordinance, which only addresses the impact of residential and hotel developments.

Research shows that access to parkland is directly connected to an individual's health, safety and wellness (see footnotes #1 and 2). St. David's "Healthy Parks Plan for Travis, Bastrop, Caldwell Counties" states that "Local Parks provide enormous community health benefits.... Parks enhance community health by":

1. Improving Mental and Physical Health
2. Increasing Community Cohesion and Combating Isolation
3. Improving Air Quality
4. Reducing Climate Hazards

The study cites several stressors resultant from the rapidly densifying urban environment that are unique to the Austin area. Urban stressors include increased occurrence of asthma, diabetes, and chronic health conditions, high rates of premature mortality, assaults and homicide, environmental stressors related to climate change including extreme heat, extreme floods, drought, clean water availability, and life-threatening pollutants. The St. David's Foundation study presents research that shows how increased access to parkland is proven to: reduce stress, improve immune system function, increase levels of mutual trust and willingness to help others, reduce effects of urban heat islands through shade trees and green infrastructure that decreases flooding while increasing availability of clean water.³

Currently, commercial developments are not required to mitigate the impact of their employees on the park system. These types of developments have a direct impact on the city's park system by employing potential park users. While the visitors of hotel/motel developments have been accounted-for in the parkland dedication ordinance since 2016, the employees of hotel/motel have not. As such, the impact of new commercial developments on parkland is absorbed by residential parkland dedication and existing residents. Enacting a new parkland dedication ordinance to include new office, retail, industrial, and hotel developments would mitigate that direct impact to the city's park system.

Parkland dedication is paramount to fulfilling City Council Resolution 20091119-068, which establishes the goal that all Austinites be within walking distance of a park. By accounting for the impacts of new commercial developments on the City's parks system, PARD would be able to better fulfill this goal so that employees and residents alike have access to the parks system at the existing level of service.

Notably, parkland dedication has been proven to address many of the goals outlined in the Imagine Austin Comprehensive Plan adopted by City Council in 2012⁴. Park trails and greenbelts acquired through the existing parkland dedication ordinance expand multi-modal access to transportation across the city, in accordance with the goal of "Expanding Transportation Choices" in Austin. Public trails provide healthy-commuting options for workers to walk or bike to work. Greenbelts provide additional recreation value and access to nature, which enhances workers' commutes and enriches them with ancillary health and wellness

³ St. David's Foundation, "Healthy Parks Plan for Travis, Bastrop and Caldwell Counties", 2019, page xii.

⁴ AUSTIN, TX, Image Austin Comprehensive Plan, 2012.

benefits. “Tackling the Ethnic Divide”, another goal outlined in Imagine Austin, is addressed through parkland by providing relief from urban life, green space for those who do not have access to a yard, opportunities to gather and recreate, and numerous physical and mental health benefits in historically under-resourced communities. Over the last 20 years, nearly 80% of PARD’s investment through land acquisition and parkland development has been in the Eastern Crescent, a collection of economically and socially under-resourced neighborhoods along the eastern borders of the city. Furthermore, parkland dedication aids in “Protecting Our Natural Resources” and the numerous services they provide by preserving necessary green spaces, natural habitats, creeks, and other environmental features in perpetuity through State law and City Charter protections. Finally, parkland acquired through parkland dedication promotes “Prosperity for All” by helping to attract high-tech industries, creative professionals, and local entrepreneurs, ensuring Austin continues to experience job growth and economic opportunities for its residents.

The PARD Long Range Plan provides a roadmap for park planning throughout the city. The Plan identifies parkland dedication as an essential tool to mitigate the impact of new development on the park system. Community stakeholders identified closing critical gaps in trail and greenbelt infrastructure as a number one priority for park planning and development initiatives. New trail infrastructure and greenbelt acquisition are a major focus of the existing parkland dedication ordinance for residential and hotel/motel site development permits.

Applicability

Currently, the parkland dedication ordinance requires dedication or fee-in-lieu for new residential and visitors in hotel/motel developments, as parks are necessary for the well-being of the future occupants of the new development. Public parks benefit the well-being of the city’s commuting workforce and commerce, in that they provide recreational, health, and wellness opportunities, as well as connections to nature. New commercial developments do create a need for additional parkland in order to serve future occupants of the commercial spaces. New commercial developments bring additional commuting employees, clients, and consumers that use the city’s parks, thereby establishing a relationship between new commercial development and an increased demand for park services. Per the latest Census information, 35.8% of the City’s workforce resides beyond the city limits, adding park users that do not factor into the City of Austin’s current parkland dedication requirements⁵.

A core principle of the Imagine Austin Comprehensive Plan is to “integrate nature into the city”, which has “an increased need for parks” as “we grow into a more compact city”. One of the growth tenets to accomplishing this is to “provide parks and open space close to where people live, work and play.” Currently, Austin’s parkland dedication ordinance accounts for where people live, but not where they work and play, i.e. the impact of commercial developments. For example, 14,000 people live in downtown Austin, but, as of 2021, 106,000 employees have the opportunity to enjoy its parks. According to reporting from the Downtown Austin Alliance, half of all those employees commute in from other jurisdictions and are not currently accounted-for in the parkland dedication ordinance.

⁵ U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates, Total Workers by Workplace Geography.

Commercial Parkland Dedication in Comparison Cities

Fewer cities currently have an established parkland dedication requirement for commercial development, compared to those cities with a residential requirement. This Study explores the U.S. landscape for commercial parkland dedication requirements with specific metropolitan examples.

Texas

In Texas, Hutto accounts for the impact of non-residential developments on parkland by assessing a parkland development fee at a rate of \$800/acre for developments consisting of 3 or more acres.⁶ El Paso requires non-residential developments to meet parkland dedication requirements through payment of a fee-in-lieu, on-site land dedication, or purchase of park facilities for existing or proposed park space at the subdivision phase.⁷ For fees, El Paso uses a rate of \$1,000 per acre of the non-residential subdivision. In the case of land dedication, park space must meet the criteria outlined in the City of El Paso's Open Space Master Plan and have a value equivalent to the fee amount required for the subdivision. The El Paso ordinance also expands on the use of any funds collected through parkland dedication for non-residential subdivisions. The ordinance stipulates that all funds must be used on the acquisition or the development of both public parkland and other recreational facilities, but not for any ongoing maintenance. Additionally, funds must be spent on a neighborhood park within the applicable park planning zone or on a community or regional park within an adjacent park zone. El Paso is in the process of updating their parkland dedication ordinance fee schedule, which has not been updated since it was passed in 2008. Colleyville, within the Dallas-Fort Worth Metropolitan Statistical Area, established a parkland dedication requirement of 1 acre of parkland for every 56 gross acres of non-residential development.⁸ Colleyville argues that parkland dedication helps to address the negative environmental and societal impacts of commercial developments. Similar to the El Paso ordinance, developers have the option to satisfy parkland dedication requirements through payment of fee-in-lieu, improvement to existing facilities, or through on-site land dedication.

Overall, the requirements for these Texas cities may be based on the acreage of their parklands, rated against the percentage of the cities' gross acreage devoted to commercial/non-residential use. This Study focuses more on the actual impact on levels of service, like the Impact Fees observed in California, Denver, and Atlanta, which described in more detail below.

California

In California, several cities charge impact fees for parks, using an established level of service from which a fee is derived. Impact fees are based on a different legal framework than existing parkland dedication ordinances in Texas, and are not allowed in the State. While the proposed commercial parkland dedication ordinance is not an impact fee authorized under Chapter 395 of the Texas Local Government Code, the methods used by other jurisdictions in developing

⁶ HUTTO, TX., City Fee Schedule, Sec. A1.005(a), 2021.

⁷ EL PASO, TX., Code of Ordinances, Chapter 19.20.110(A)2.b.

⁸ COLLEYVILLE, TX., Land Development Code, Chapter 11.5.B.2.b, 2000.

impact fee studies provide guidance in crafting a formula for the amount of parkland dedication required that recognizes the difference in demand for commercial uses. In Sacramento, the park impact fees are derived from a maximum justifiable rate associated with the planned expansion of the city's parks system and established level of service.⁹ Similarly, Palo Alto updated its fee schedule for fiscal year 2021 with a rate of \$5,564 per 1,000 sf of new commercial or industrial development based on an established level of service.¹⁰ Belmont, CA, a mid-sized city in the Bay Area, formulated their current park service level and apportions park impact fees to commercial developments based on a service population factor.¹¹ As described in their nexus report, the demand from employees must be "informed by assumptions about the hours of availability of park facilities and an employee's relative opportunity to access the City's park facilities." Below are the steps outlined in the service population factor calculation:

Service Population Factor = ((% Employees Live in the City x Park Impact Weight) + (% Employees Live Outside the City * Park Impact Weight)) / ((% Residents Not in Labor Force * Park Impact Weight) + (% Residents Employed in the City x Park Impact Weight) + (% Residents Employed Outside the City x Park Impact Weight))

% Employees and Residents commuting based on U.S. Census Bureau ACS estimates and the U.S. Census On the Map Tool

Park Impact Weight based on assumptions of relative opportunity of cohorts to use park facilities

The overall service population is then calculated by adding the total residents in the city to the employees in the city multiplied by the service population factor. Each commercial use is assigned a service population per square foot using an assumed employee density and the service population factor. Employee densities are researched estimates based on industry standards and informed by Institute of Transportation Engineers reports. A current cost per service population is calculated by an estimated cost for new park facilities based on historical acquisition and construction costs in the city. The resulting impact fees for commercial development range from \$1.27 per square foot for industrial space to \$3.16 per square foot of office space. While impact fees for parks are not authorized in Texas, cities like Sacramento, Palo Alto, and Belmont do offer a framework for measuring commercial development's impact on parkland in order to assess proportional requirements.

Denver, Colorado

Denver, Colorado imposes development impact fees for new residential and non-residential development in the Gateway District of the city. As stated in the ordinance, these fees are intended to counteract new development's 'new, increased and excessive demands on city public facilities and services, including, without limitation, fire protection, roads, drainage and parks and recreation.' Subdivision regulations for the District require a 2% parkland dedication for commercial development in the area or a fee-in-lieu of dedication. The regulations, passed in 2000, established a fee-in-lieu rate of \$403 per acre for non-residential buildings with a 5% increase recalculated every three years. The fee rate is based on a rough proportionality between the cost of facilities that are attributable to new development and the overall public

⁹ SACRAMENTO, CA., Chapter 18.56.220

¹⁰ Palo Alto, CA. "Adopted Municipal Fee Schedule", 2022.

¹¹ CITY OF BELMONT, CA, Economic & Planning Systems, Inc., "Park Improvement Impact Fee Nexus Study", 2020.

costs of the provision of such facilities, shifting the responsibility for financing new public facilities to entities and property owners creating the increased demand for them. Planners in Denver indicated they are currently exploring an update to their current parkland requirements, as well as applying a parkland dedication requirement citywide.

Atlanta, Georgia

Atlanta Georgia introduced a commercial parks impact fee in 1993¹² and updated it with a fee impact study in 2021 and 3-phase implementation plan between 2021 to 2025.¹³ The impact fee reflects the current level of park service (LOS) across three service areas in the city. The LOS considers both land acquisition and park improvements in order to accurately assess the costs associated with maintaining and expanding a park system. The final impact fees were derived by multiplying the functional population for each land use by the net cost per functional population. The land use is broken down into residential uses at different densities (such as multifamily, single family, hotel/motel) and commercial uses broken into several categories including shopping/commercial, warehouse, public/institutional, office, industrial, warehouse and mini warehouse.

The functional population of each use was determined by a calculation that considers employees/people per unit, visitors per unit, number of hours per day of occupancy, and average daily trips (ADT) derived from various national standards including the U.S. Department of Transportation, *National Household Travel Survey*, 2009, ITE, *Trip Generation*, 10th ed., 2017 and U.S. Department of Energy, *Commercial Buildings Energy Consumption Survey*, 2012. The following formula is used to calculate the functional population for non-residential land uses:

$$\text{Functional population/unit} = (\text{employee hours}/1000 \text{ sf} + \text{visitor hours}/1000 \text{ sf}) \div 24 \text{ hours/day}$$
$$\text{Functional population/employee} = \text{functional population/unit} \div \text{employee/unit}$$

Where: Employee hours = employees x 8 hours/day

Visitor hours/1000 sf = visitors/1000 sf x 1 hour/visit

Visitors/1000 sf = weekday ADT/1000 sf x avg. vehicle occupancy – employees/1000 sf

Weekday ADT/1000 sf = one way average daily trips (total trip ends ÷ 2)

The resulting fee ranges from \$53/1000 sq ft for mini-warehouses to \$1,202/1000 sq feet for shopping centers/commercial uses.

Minneapolis, Minnesota

Minneapolis, Minnesota requires parkland dedication for new residential and commercial development. Minneapolis' requirement for commercial developments is based on ½ the requirement for residential developments, recognizing that employees of commercial developments place demand on the park system at a lower extent than residents¹⁴. As with similar parkland dedication ordinances seen across the country, fees must be spent in the neighborhood in which they were received. As of April 2022, the fee rate was set at \$240.50 per

¹² ATLANTA, GA., Ordinance 92-0-1817, (1993)

¹³ ATLANTA, GA., Ordinance 21-0-0096, (2021)

¹⁴ MINNEAPOLIS, MN., Ordinance 2007-103

development employee and the land requirement is set at 100 sf of dedicated parkland per development employee. The formula for calculating the number of development employees is based on data maintained by the City's community planning and economic development department.

Examining the Relationship Between Commercial Uses and Existing Parkland In Austin

PART 1: Establishing regional trends in the relationship between commercial uses and parkland

Austin's quality of life is routinely cited as an economic driver for workforce growth, and parkland plays a pivotal role in creating that high quality of life. The National Recreation and Park Association (NRPA) has documented this relationship, stating that "quality-of-life considerations (including those made possible by high-quality parks and recreation) play a supporting role in site-location decisions. For some companies, high-quality park amenities can be critical in their final location decisions."¹⁵ As such, commercial developments do receive direct benefits in the form of parks for employees, thereby attracting, expanding, and retaining their workforces, all while creating a greater demand for parks with the growth of those workforces. By enacting a new parkland dedication ordinance to create dedication requirements for office, retail, industrial, and hotel developments, the City would be able to continue to provide active and passive recreational opportunities near the places of employment, thereby advancing the health, safety, and general welfare of the workforce.

UT Arlington, sponsored by the Landscape Architecture Foundation, further documented this correlation between economic performance and adjacency to parkland in a case study on The Shops at Park Lane in the north Dallas area. The project replaced surface parking with an integrated pedestrian-focused landscape including a central community park adjacent to a vertical mixed use development housing residential, office and retail space. The study measured the environmental and economic impacts of the park space and determined there is a positive correlation between the park and the economic performance of the commercial space.



(Source: TBG Partners, 2017)

Illustration of the parkland integrated into the commercial development at the Shops at Park Lane

The economic performance benefits reported by the third-party retailers at this site include:

1. "Stimulated increase in occupancy rates for retail and multifamily up to 95% and for office up to 100% in its newly added 550,000 sq ft of retail and mixed-use development

¹⁵ National Recreation and Park Association, "Promoting Parks and Recreation's Role in Economic Development", 2018.

as well as other adjacent buildings since its inception. According to project client, the office tenants attribute this change to park, on site amenities and restaurants.”¹⁶

2. “Contributed to the position of most of the national retailers* in The Shops at Park Lane in the top 10% of their respective chains in sales by increasing customer dwell time and providing additional park-side restaurants.” *retailers included chains like Starbucks.¹⁷
3. “Contributed to a 1% increase in total market value (or property value) of Park Lane District between 2010 and 2016.”¹⁸

Overall, the park space and park programming positively impacted the economic viability and operations of the shopping center.

A recent report by the Trust for Public Land analyzed the economic impact of the park system in New York City.¹⁹ The report indicated that the nearly 50,000 acres of parkland in New York City generates an additional \$17.9 billion in tourism spending related to outdoor activity, equal to over \$350,000 in increased spending per acre of parkland. This increased revenue is a direct benefit to commercial developments such as hotels, restaurants, and outdoor related retail stores. The report also states that park space leads to over \$15.2 billion increased property value for properties within 500 feet of a park, due to the increased appeal of property next to or near park space.

In 2016, Dallas Parks and Recreation Department conducted a similar economic impact analysis of their park system.²⁰ The report demonstrates that parkland generates \$345 million in annual real estate value through ‘park value premiums’ and ‘park-oriented development.’ The report defines park value premiums as the enhanced value of existing real estate surrounding parks and park-oriented development as the increase in real estate development activity surrounding new or improved parks. In Dallas, the recent redevelopment of Klyde Warren Park attracted significant commercial development, averaging approximately \$2.2 million more development per acre per year within a ¼-mile radius of the park. Each year, Dallas attracts approximately 6,500 new workers; this growth may be attributed to Dallas’s high quality of life and open space. The report adds that local economic development experts cite trails as the most appealing assets to future businesses, with amenities playing an outsized role in talent attraction and retention, especially in the technology and creative sectors of the economy.

PART 2: Establishing Austin’s Unique Rapid Workforce Growth and Contributing Factors

Austin is considered one of the fastest-growing and most attractive U.S. cities for its job market, due to its quality of life, specifically its parks and trails. "Austin is a special place with an appealing culture. It has a lot of great parks, river access, hike and bike trails, good food, great music and it has a collaborative tech culture that is warm and accepting of people who are not

¹⁶ Ozdil, T., & Munshi, R., & Pradhan, R. “2017 LAF’s SCI Program Performance Series: Shops at Parklane, Dallas Methodology”, 2017.

¹⁷ Ibid.

¹⁸ Ibid.

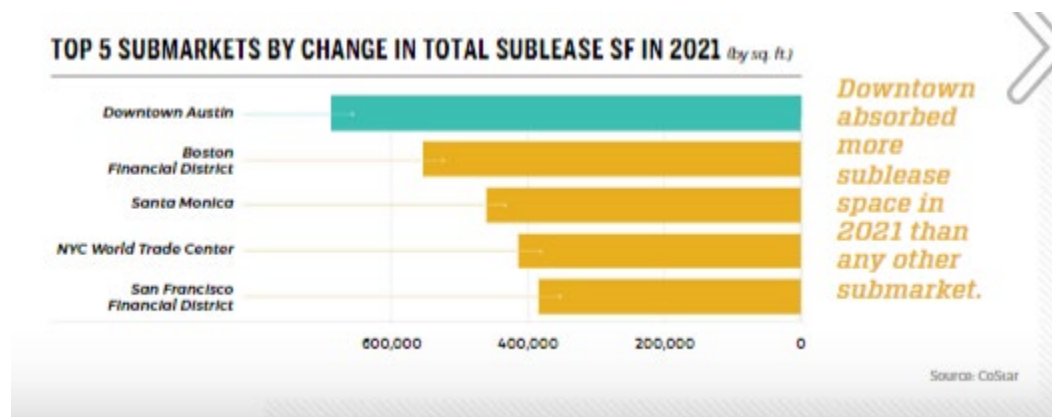
¹⁹ Trust for Public Land, “The Economic Benefits of Parks in New York City”, 2022.

²⁰ HR&A, Dallas Park and Recreation, “Economic Value and Benchmarking Study of the Dallas Park System”, 2016.

from here.”²¹ The Downtown Austin Alliance’s (DAA) “State of Downtown Report 2022”²² provides insights on the economic and workforce growth that is unique to the city. The report establishes downtown as the commercial/job hub of the city while emphasizing Austin’s unique character, noting that “the city center connects the community providing an atmosphere like no other, featuring high-quality parks, art and public spaces.”²³ The report acknowledges the direct connection between growth and the demand on public services: “As the region flourishes, the demand for transportation connections and *well-maintained park space* continue to grow” (emphasis added). This is nowhere truer than in downtown, the core employment center for the city, where some of the city’s foundational parks are located.

The report further emphasizes the importance of parkland to the overall character of downtown, citing them as a place for community building and entertainment – key factors in what make the urban core so successful, according to the DAA. Republic Square is noted several times as a community hub: “on a more regular basis, downtown’s public markets are a community staple, bringing together local artisans, specialty shops, unique finds and eateries that embody that Austin vibe.”²⁴

Austin has had some of the greatest job-market growth in the nation. DAA reports that post-pandemic, Austin absorbed more sublease space than any other sub-market, including downtown Boston, Santa Monica, NYC’s World Trade Center and San Francisco’s Financial District.



Source: Downtown Austin Alliance ‘State of Downtown Report 2022’

In fact, according to DAA, “total leasing activity downtown has surpassed its 2018-2019 average”²⁵ revealing that “major tech companies continue to see downtown as a place to hire and retain talents in such a highly competitive employment market”. Just under 2 million new square feet of office space were built downtown between 2020 and 2021, 3.3 million square feet

²¹ Bloom, Forbes, “Is Austin, Texas, The Best City In America?”, 2019.

<https://www.forbes.com/sites/laurabegleybloom/2019/05/31/is-austin-texas-the-best-city-in-america/?sh=6446842b65c5>

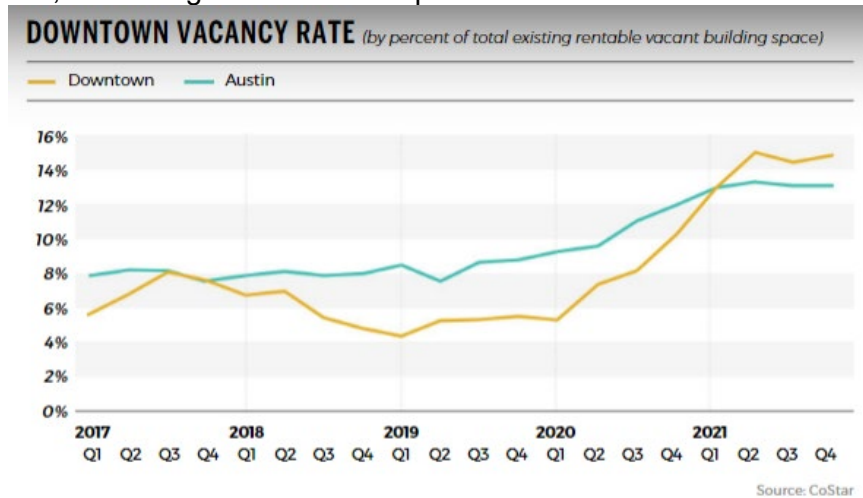
²² Downtown Austin Alliance, “State of Downtown Report 2022”, 2022. <https://downtownaustin.com/state-of-downtown-report-2022/>

²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.

are currently in progress, and 6.2 million are in the proposal or planning stage.²⁶ This indicates that the number of employees commuting in from out of town to work will only grow in the foreseeable future, increasing the demand on parkland.



Source: Downtown Austin Alliance ‘State of Downtown Report 2022’

Also unique to Austin is the percentage of employees that commute into town from outside jurisdictions. DAA reports that “downtown employers draw talent from the entire Central Texas region, where half of the downtown’s 106K employees live outside the city limits.”²⁷ Census data from the American Community Survey reveals that over a third of all workers in Austin commute from outside jurisdictions²⁸.

DAA attributes this rapid job-market growth to the prime location and high quality of life offered to residents and employees alike. Specifically, DAA mentions “Lady Bird Lake and the string of quality parks along its banks serve as downtown’s backyard” and downtown’s proximity to the airport as major contributors to why Austin is able to “attract and retain a highly educated workforce.”²⁹ There is a clear demand for parks downtown, and throughout the City, for employment centers to offer the kinds of amenities expected from a city like Austin. As the commercial growth indicated by the DAA report continues to put pressure on the city’s park system, the city needs tools account for that impact.

PART 3: The Relationship Between Commuting Employees and Increase Demand for Parkland

The commuting workforce of office, retail, industrial and hotel developments increase the potential service population of the city’s park system, and therefore create a greater demand for the City’s parks services. To quote Dr. John Crompton, Texas A&M University Distinguished Professor of recreation, parks and tourism:

²⁶ Ibid.

²⁷ Ibid.

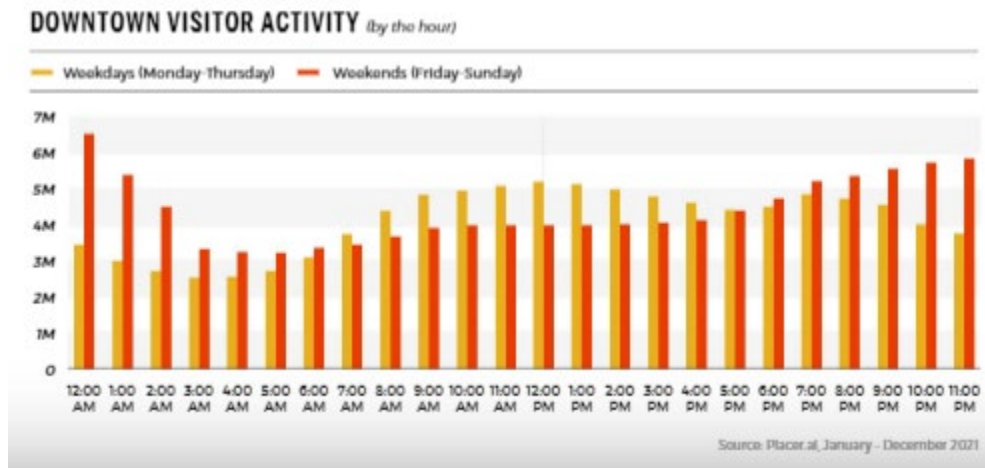
²⁸ U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates, Total Workers by Workplace Geography.

²⁹ Downtown Austin Alliance, “State of Downtown Report 2022”, 2022. <https://downtownaustin.com/state-of-downtown-report-2022/>

“[...] commercial buildings and office spaces attract new businesses and workers to fill new jobs. The new workers need parks, so the commercial buildings contribute to growth and, therefore, should contribute to paying for the needs that growth creates. They are directly linked to creating new employment opportunities and to increasing demand for new or improved park facilities.”³⁰

Reports from the Downtown Austin Alliance, The Trail Foundation and third party platform Placer.ai all affirm the correlation between the impact on park use and the work day. During weekdays, there is a consistent spike in park and public space usage during the hours around lunch and the immediately after work.

The chart below shows a spike of activity in downtown public spaces during the lunch hour on weekdays specifically. The chart compares weekday and weekend usage and shows that weekday lunch time activity is higher than weekend activity at the same time, indicating a direct correlation between workforce and increased park usage.



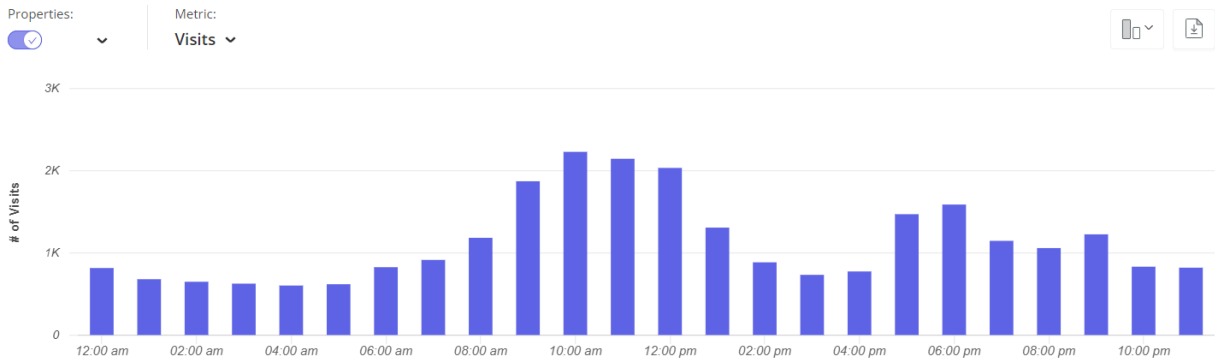
Source: Downtown Austin Alliance ‘State of Downtown Report 2022

Placer.ai is a population count tool that utilizes cell phone location data to provide detailed user analytics. Republic Square Park in the downtown commercial center receives most of its visitors during the hours around lunch and immediately after work:

³⁰ Crompton, “Parkland Dedication: Optimizing an Underutilized Resource”, 2022.

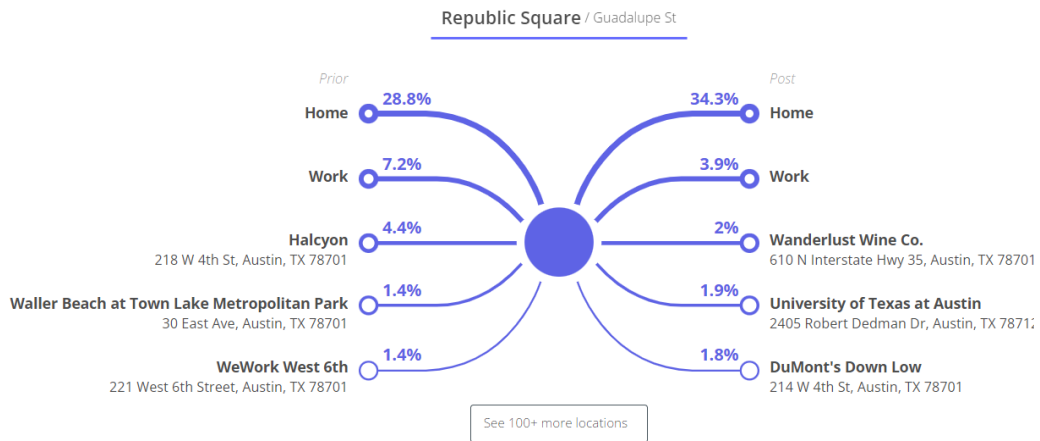
Hourly Visits

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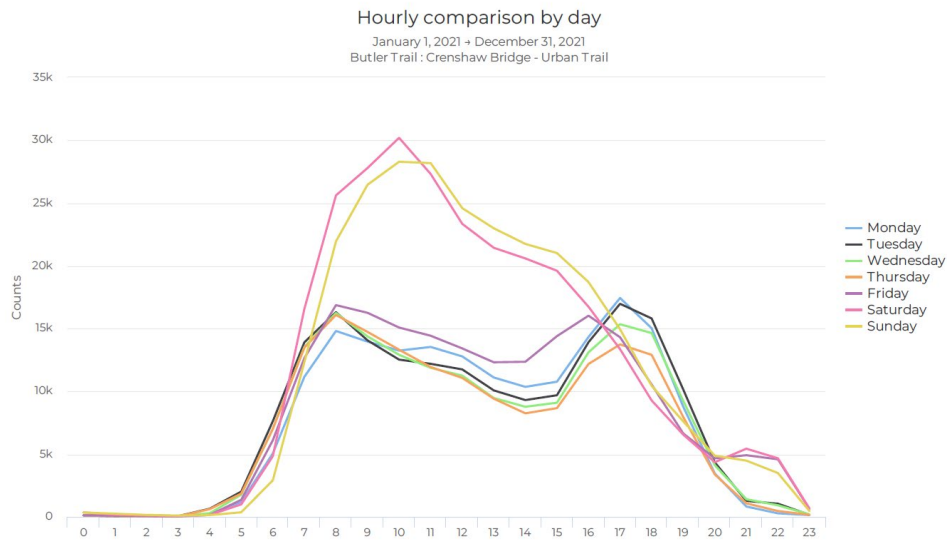
More visit insights

Source: *placer.ai* June, 2022



See 100+ more locations

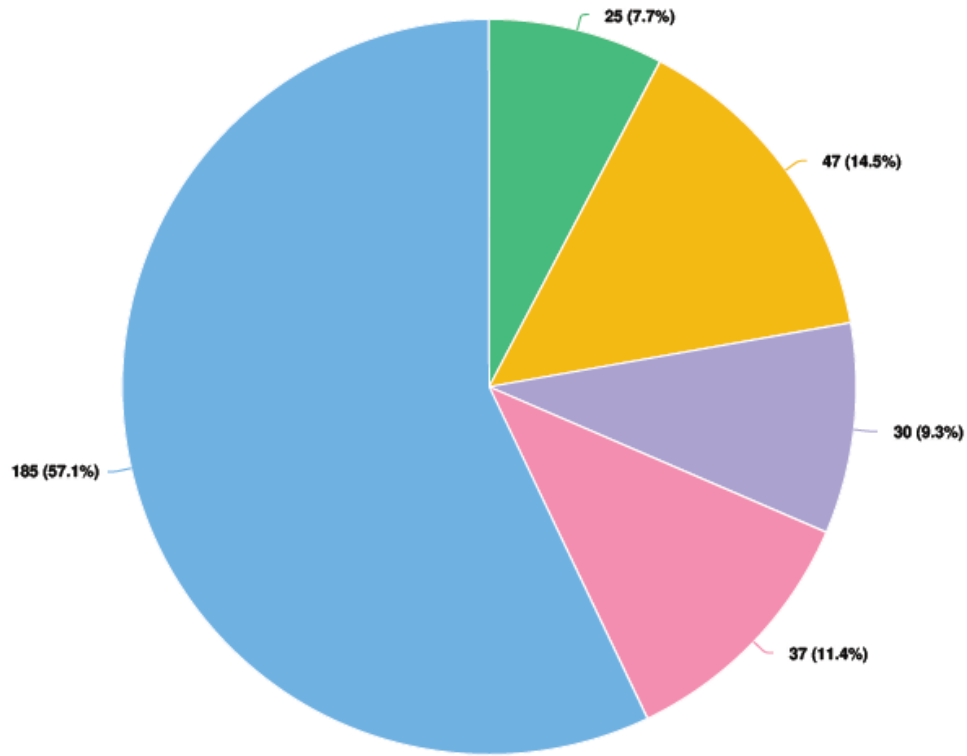
The Trail Foundation trail count data show park usage on weekdays compared to weekends broken down throughout the day:



The trail use shows a distinct use spike during the hours of 7-8 am and again between 4:30-6:30 pm on weekdays, the hours directly before and after work. There is a distinct lull in trail usage between 1pm and 4:30 pm, during the workday. These use patterns are distinct from the use patterns on the weekend, which shows a greater trail usage in the morning. The weekday use pattern is clearly tied to typical employee shift hours.

In a survey conducted by PARD which was made available to the public, over 50% of the survey takers indicated that they used a park before, during or after work more than twice a month. Another 19.5% visited a park before during or after work at least 10 times a year.

Q2 How often do you access public parks before, during, or after work?



Question options

- Never
- Rarely (fewer than 5 times a year)
- Occasionally (5 to 10 times a year)
- Sometimes (10 to 20 times a year)
- Often (more than twice a month)

Source: Public opinion survey conducted by PARD May 9- July 10, 2022

Many companies utilize parkland during or after work for corporate intramural teams. The Austin Sports and Social Club (Austin SSC) reserves time at parks throughout Austin to host corporate intramural games such as sand volleyball, kickball and flag football. Austin SSC advertises: “include team sports in your wellness program and get coworkers communicating, building bonds, and strategizing for success!”³¹ Parks are booked most weeknights for intramural games throughout the year according to the Austin SSC Schedule.

Austin promotes workplace health through the Mayor’s Health & Fitness Council (MHFC). The MHFC provides resources to employees and employers, sponsors wellness events and presentations, and organizes the Austin Business Group on Health, a membership organization of employers to promote health in the workplace. The Austin Business Group on Health includes members from finance, construction, retail, marketing, and hospitality. The MHFC also certifies workplaces that support employee health and wellbeing annually through the Mayor’s Healthiest Workplaces Awards. In 2019, the employers that participated in the MHFC certification process represented over 130,000 employees in the Austin area. As part of the certification process, employers must demonstrate the promotion of physical activity in the workplace. The MHFC argues that “incorporating physical activity into the workplace can lead to greater productivity and positive economic returns.”³² As Austin continues to promote health and wellbeing in the workplace, the demand for parkland from employees of commercial spaces will continue to rise.

The Waterloo Greenway Conservancy also partners with Ascension Seton to provide active recreational programming in Waterloo Park on weekdays at 6pm to accommodate the availability of employees after work.

In sum, there is a relationship between parkland and commercial uses. Employers of commercial uses benefit directly from externalities of being adjacent parkland by providing their growing workforce with an improved quality of life. In turn, the growth in commercial development resulting from a robust park system further increases impact on said park system, thereby requiring that the park system grow proportionate to the impact.

Demographic and Park Use Factors

The existing parkland dedication ordinance for residential developments requires 9.4 acres of parkland per 1,000 new residents or hotel occupants, roughly proportional to maintaining Austin’s current level of park service.³³ However, parkland is utilized by more than just residents and hotel occupants, with commuting workforces adding to the demand for park services. According to census data, 35.8% of Austin’s workforce, approximately 267,815 employees, travel in from cities and areas outside of the City’s planning jurisdiction and are not accounted-for by the existing ordinance. Employees commuting into Austin have an impact on parkland that is proportionate to their relative opportunity to use park spaces and amenities. A new parkland dedication requirement should extend to office, retail, industrial, and hotel developments based on the impact of the commuting workforce, the number of people occupying commercial spaces, and amount of time the commercial spaces are occupied to proportionately address the impact of the workforce users on the city’s park system.

³¹ Austin Sports and Social Club, “Corporate Culture”, 2022.

https://austinssc.com/corporate?utm_source=header&utm_medium=website&utm_campaign=menu&utm_content=Company.

³² Austin Public Health, Mayor’s Health and Fitness Council. “Partner Certification User Guide”, 2021.

³³ Consistent with U.S. Supreme Court decision Dolan v. City of Tigard, 512 U.S. 374

Estimates from the U.S. Green Building Council of the employees per square foot of commercial space provide a basis for establishing the impact that new office, retail, industrial, and hotel developments have on the demand for nearby parkland. It is assumed that employees do not have the same opportunity to access parkland as full-time residents and requirements will need to be proportional to the relative demand created by employees. The impacts of the COVID-19 pandemic have also shifted the commuting pattern of office workers significantly, with substantial increases in the number of employers allowing ‘telecommuting’ or other hybrid work models. To adjust for this relative impact, a “functional population” equation is applied to the total employee population, whereby discounts are added to the total number of employees. The “functional population” is the effective population being served over the course of a day. This approach is a commonly used methodology for “estimating the current and future demand for facilities” and helps to address the “need to rationalize differences in facility demand by land-use category” by “properly weigh[ing] population and employment figures to create a common unit of measure.”³⁴ For the purpose of this requirement, the functional population formula is a combination of factors that account for the time commercial development is occupied and impacting the park system. The resulting figure is representative of the “full-time equivalent” population of any given commercial development, considering the relative opportunity of employees to access parkland. Factors include business operation hours, city-wide occupancy/vacancy rate of commercial spaces, percent of employees commuting from beyond Austin’s city limits, and employee density. This equation for accounting impact to the parks system – including assumptions and parks level of service – is further expanded in the worksheet at the end of this Study.

Summary

Parkland dedication is meant to address the impact new development has on the City of Austin’s parks system. Despite increasing the demand on park facilities, commuters of commercial development are not presently accounted-for in the current parkland dedication requirements. As Austin continues to experience large commercial growth, so does its need to accommodate the increased demand caused by the new park users. By including commuting occupants of commercial spaces, Austin’s parkland dedication requirement will fully account for new commercial developments’ impact on the City’s parks system, and better serve the Austin community consistent with the Imagine Austin Comprehensive Plan. Parkland dedication would directly benefit commerce through improved physical and mental health; increased productivity via access to nature and physical exercise; greater innovation through community spaces; and expanded trail options to and from commercial spaces. This study establishes a relationship between commercial uses and increased use of existing parkland. Requiring new commercial developments to meet the needs for parkland based on the economic and workforce growth ultimately advances a legitimate public interest and promotes the health, safety, and general welfare of the people of Austin.

³⁴ Nelson, A.; Nicholas, J., “Estimating Functional Population for Facility Planning,” *Journal of Urban Planning and Development*, Vol. 118, Issue 2, 1992.

Supplemental Worksheet for Commercial Parkland Dedication Requirements

The below worksheet describes the methodology for determining the annual fee schedule. Variables included reflect the time of publishing and, if indicated, will be updated annually.

Commercial development is broken up into three distinct categories to more finely capture the impact of each use. The categories are:

- **Office:** Includes but not limited to general office use, coworking spaces, and medical offices.
- **Retail:** Includes but not limited to restaurants, retail spaces, gyms, coffee shops, bars, food service spaces, supermarket, grocery store, hardware store, bank, entertainment venues, print and copy services.
- **Industrial** Includes but not limited to industrial buildings, manufacturing warehouse, storage facilities.
- **Hotel:** Includes but not limited to use of a site for the provision of rooms for temporary lodging.

Assumptions

Variables	Calculation Factor	Description
Fee In-Lieu of Land		
Park Level of Service	96.70 people per 1 acre	City Population/Park Acres
Park Acres	10,086.32 acres	Park Acres to be Updated Annually (excludes Metro and District Parks)
City Population	975,321	Current City Population (Provided by City Demographer) updated annually
Parkland Cost Factor	\$365,653.44 per acre	Average land cost of acres purchased over the last five years excluding Metro and District Parks updated annually
Park Development		
Facilities Level of Service	4,046.98 people per park	City Population / Number of Developed Parks
Number of Developed Parks	241	Count of all developed parks to be updated annually
Park Development Cost Factor	\$1,423,928.42	Average cost of development the last five Neighborhood Parks to be updated annually

Assumptions updated annually, all data shown above is FY 2021 data

Park land assumptions:

Park Level of Service

The park level of service is determined by dividing the Population by the number of park acres – the number will change annually as the population changes and the park acres change. Typically, both the dedicated land and the city’s population increases. This calculation of park level of service is defined in the [2014 parkland fee methodology report](#).

Parkland Cost Factor

The parkland cost factor is updated annually based on the average cost per acre of parkland in the previous five years. This average allows fees to lag behind the current market price of land which mitigates the impact of rising land costs on the annual fee-in-lieu. Parkland acquisition costs also include lower-value floodplain properties, which further reduces the overall fee amount. Land is acquired throughout the city, with no bias for higher or lower value properties. This calculation of park level of service is defined in the 2014 parkland fee methodology report. The parkland cost factor at the time of this study is \$365,653.28 per acre based on the average cost per acre of parkland in the previous five years.

2017			
Country Club Creek	2/2/2017	1.148	\$57,999.00
Tahoe Trail	9/27/2017	0.308	\$13,022.68
2018			
Southern Walnut Creek addition*	9/7/2018		
Scenic Brook*	9/25/2018		
North Star*	9/20/2018		
2019			
Little Walnut Creek Greenbelt	4/16/2019	0.222	\$185,000.00
Brook Crest	6/12/2019	9.04	\$279,626.60
2020			
Country Club Creek Addition	4/24/2020	3.695	\$251,483.00
Georgian Pocket Park	8/19/2020	0.7	\$226,948.00
Georgian Pocket Park	8/21/2020	0.2571	\$360,902.00
Theckla Pocket Park	12/28/2020	0.192	\$106,000.00
Upper Little Walnut Creet	10/23/2020	7.2581	\$1,485,500.00
Williamson Creek Greenbelt East	6/19/2020	6.51	\$183,195.00

Williamson Creek Greenbelt West	9/28/2020	2.66	\$1,286,353.00
Wood Street Settlement Pocket Park	12/7/2020	0.2146	\$1,166,686.00
2021			
Clawson Neighborhood Park	4/7/2021	3.0154	\$2,301,605.50
College Row Pocket Park	1/29/2021	0.6303	\$2,211,501.00
Cooper Neighborhood Park	2/5/2021	4.957	\$2,326,971.49
Hill County View Neighborhood Park	1/22/2021	3.2889	\$431,223.80
Jamestown Neighborhood Park	11/19/2021	2.8485	\$3,234,668.60
Mocassin Neighborhood Park	12/20/2021	5.376	\$838,796.10
Poquito Creek Greenbelt	4/26/2021	0.1779	\$449,351.64
Texas Oaks Neighborhood Park	9/17/2021	4.2	\$4,223,484.60
Upper Bull Creek Greenbelt	7/27/2021	10	\$2,768,327.50
TOTAL		66.6988	\$24,388,645.51
AVERAGE ACRE COST			\$365,653.44

*Acquired through Parkland Dedication or Donation

Park Development Assumptions:

Facilities Level of Service

This is the population divided by the total number of developed parks. The population and the number of developed parks will change annually as the population changes and new parks are developed. Typically, both the number of developed parks and the city’s population increases.

Park Development Cost Factor

The park development cost factor is updated annually based on the average cost of development of the previous five neighborhood parks. This is set simply as the average cost of developing a park, not the average cost per acre. Neighborhood parks represent the typical park improvements found in a walking distance service area of most residents. The park development cost factor is \$1,423,928.42 at the time of this study, based on the average cost of development of the previous five neighborhood parks.

Park	Cost	Acres
Del Curto	\$970,179.00	2.0840
Copperfield	\$1,010,262.00	4.6200
Little Stacy	\$1,206,416.91	6.7793
Georgian Acres	\$944,952.85	4.9970
Duncan Neighborhood Park	-	5.9100
Highland	\$1,580,705.00	5.2983
Brownie	\$1,699,941.00	7.4157
Oertli	\$1,687,626.32	6.0000
Little Stacy to Oertli (Last 5)	\$7,119,642.08	-
Average cost of last 5 Developed Parks	\$1,423,928.42	-

Now that the assumptions have been defined, they can be applied to determining the land and fee requirements for a new commercial development.

Using Assumptions to Determine the Land and Fee Requirements

Variables	Calculation Factor	Description
Fee In-Lieu of Land		
Park Level of Service	96.70 people per 1 acre	City Population/Park Acres
Park Acres	10,086.32 acres	Park Acres to be Updated Annually (excludes Metro and District Parks)
City Population	975,321 -	Current City Population (Provided by City Demographer) updated annually
Parkland Cost Factor	\$365,653.44 per acre	Average land cost of acres purchased over the last five years excluding Metro and District Parks updated annually
Park Development		
Facilities Level of Service	4,046.98 people per park	City Population / Number of Developed Parks
Number of Developed Parks	241	Count of all developed parks to be updated annually
Park Development Cost Factor	\$1,423,928.42	Average cost of development the last five Neighborhood Parks to be updated annually

A. Parkland Service Level for Calculating Park Land Dedication Requirements:

The parkland service level is 9.4 acres per 1,000 people as established under [Ord. No. 20160128-086, Pt. 2, 2-8-16](#). This number represents the parkland level of service at the time of the [2014 parkland fee methodology report](#). The intent is to ensure development maintains a minimum level of park service and by proxy the quality of life, so that as Austin grows, so does its park system.

B. Fee In-lieu of Land Formula

The fee-in-lieu per person is \$3,781.32 per person. To be updated annually based on the following formula:

$$\text{Parkland Cost Factor/Parkland Level of Service} = \text{Land Cost Per Person}$$
$$\text{\$365,653.28 per acre / 96.70 persons per acre} = \text{\$3,781.32 per functional population}$$

C. Park Development Fee Formula

The park development fee is \$351.85 per person. To be updated annually based on the following formula:

$$\text{Park Development Cost Factor/Facilities Level of Service} = \text{Development Cost Per Person}$$
$$\text{\$1,423,928.42 park development cost factor / 4,046.98 people per developed park} = \text{\$351.85 per functional population}$$

Functional Population Formula

The “functional population” approach is a commonly used methodology for “estimating the current and future demand for facilities” and helps to address the “need to rationalize differences in facility demand by land-use category” by “properly weigh[ing] population and employment figures to create a common unit of measure.”³⁵ For the purpose of this requirement, the functional population formula is a combination of factors that account for the time commercial development is occupied and impacting the park system. The resulting figure is representative of the “full-time equivalent” population of any given commercial development, considering the relative opportunity of employees to access parkland. Factors include business operation hours, City-wide occupancy/vacancy rate of commercial spaces, percent of employees commuting from beyond Austin’s city limits, and employee density.

Employees Density

The number of square feet devoted to each employee, or employee density, is used to determine the population of a new commercial development. Conservative estimates from the U.S. Green Building Council put the square feet per person in commercial spaces at the following:

- Office: 300 sq ft / person
- Retail 550 sq ft/ person
- Industrial: 2,500 sq ft / person
- Hotel: 1,500 sq ft / person

Percent Commuter

Commercial development attracts employees from beyond Austin’s city limits, thereby creating an increased demand for park services that is unaccounted for under current parkland dedication requirements imposed on new residential development. The American Community Survey (ACS) estimates the total number of employees working in Austin³⁶ and those working and living in

³⁵ Nelson, Arthur; Nicholas, James. “Estimating Functional Population for Facility Planning.” *Journal of Urban Planning and Development*, Vol. 118, Issue 2, 1992.

³⁶ U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates, Total Workers by Workplace Geography.

Austin³⁷. The percent of employees who commute from outside jurisdictions is equal to the residual of those two estimates. The impacts of the COVID-19 pandemic have shifted the commuting pattern of office workers, with increases in the number of employers allowing “telecommuting” or other hybrid work models.³⁸ The ACS data counts only employees who work on-site at a job in Austin, but live outside the jurisdiction; it does not count those employees who live outside Austin but telecommute.

Business and Parkland Operation Hours:

The impact of commercial development is temporary in nature and the requirements must reflect the relative opportunity of employees to access parkland near their place of employment. Assumed business operation hours indicate when employees can access parkland near their place of employment, thereby increasing the demand on the park system.

Commercial Operation Hours vary by use:

Office use occurs 5 out of 7 days of the week, and 8 hours a day, 23.8 percent (40 hours out of 168 hours a week) operation occupancy.

Retail use occurs 7 days of the week, and an average of 9 hours a day for operation. This is equal to 37.5 percent (63 hours out of 168 hours a week) operation occupancy.

Industrial use occurs 24 hours every day of the week, equal to 100 percent, in part due to the Just-in-Time delivery models that has overtaken this sector. Generally, park space is open for use by the public from 5am to 10 pm, and so the operations hours are capped at 70.8 percent.

Hotel/motel use occurs 24 hours every day of the week, equal to 100 percent, as staff is necessary to maintain building operations. Generally, park space is open for use by the public from 5am to 10 pm, and so the operations hours are capped at 70.8 percent.

Occupancy Rates

Occupancy rates for each use category are factored into the functional population to account for changes in the impact of commercial development on the park system as space sits vacant. Vacant commercial space would not be occupied by employees and thus not impact the park system. Occupancy rates derived from industry standard sources are to be updated annually, thus reacting to changes in impact on the park system. Occupancy by use below:

Office: 92%³⁹ Retail 95%⁴⁰ Industrial: 94%²⁷ Hotel: 100%

³⁷ U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates, Sex of Workers by Place of Work.

³⁸ Dingel, Jonathan; Neiman, Brent. "How Many Jobs Can be Done at Home." National Bureau of Economic Research, 2020.

³⁹ Austin area occupancy rates for office and warehouse/industrial derived from the Chamber of Commerce 'Austin Area Profile' reflecting occupancy by use in Q2 2021

⁴⁰ Retail occupancy based on NAI Partners report published in Q2 2021

Formulas by Use

The parkland requirements for office, retail, industrial and hotel can be calculated with the following formulas:

General Formula:

Functional Population -

$$\text{Functional Population} = (A / B) \times C \times D \times E$$

A = Sq feet of development

B = Employee Density for Use Class

C = Occupancy of Use Class

D = Assumed Operation Hours of Use Class

E = Percent Commuters

Fees -

$$\text{Fee-In-Lieu} = \text{Functional Population} \times \$3,781.32$$

$$\text{Development Fee} = \text{Functional Population} \times \$351.85$$

Land -

$$\text{Land Owed (Acres)} = (\text{Functional Population}/1000) \times 9.4 \text{ acres}$$

Office:

$$\text{Sq feet of office}/300 \text{ sq ft/person} \times 0.92 \text{ occupancy} \times 0.238 \text{ operations hours} \times 0.358 \text{ commuters} = \text{Functional Population}$$

$$\text{Functional Population} \times (\$3,781.32 \text{ FIL} + \$351.85 \text{ DEV}) = \text{Total Parkland dedication fees}$$

Retail:

$$\text{Sq feet of retail}/550 \text{ sq ft/person} \times 0.95 \text{ occupancy} \times 0.375 \text{ operations hours} \times 0.358 \text{ commuter} = \text{Functional Population}$$

$$\text{Functional Population} \times (\$3,781.32 \text{ FIL} + \$351.85 \text{ DEV}) = \text{Total Parkland dedication fees}$$

Industrial:

$$\text{Sq feet of warehouse}/2,500 \text{ sq ft/person} \times 0.94 \text{ occupancy} \times 0.708 \text{ operation hours} \times 0.358 \text{ commuters} = \text{Function Population}$$

$$\text{Functional Population} \times (\$3,781.32 \text{ FIL} + \$351.85 \text{ DEV}) = \text{Total Parkland dedication fees}$$

Hotel:

$$\text{Sq feet of hotel}/1,500 \text{ sq ft/person} \times 0.708 \text{ operation hours} \times 0.358 \text{ commuters} = \text{Functional Population}$$

$$\text{Functional Population} \times (\$3,781.32 \text{ FIL} + \$351.85 \text{ DEV}) = \text{Total Parkland dedication fees}$$

Several of the variables in the formula are static from year to year, including the (B) square feet per person and the (D) operations hours. Some of the variables will be reevaluated each year based on publicly available data, such as the (C) occupancy rate and the (E) percent commuter workforce, as well as the fees-in-lieu of parkland land dedication and park development. The only variable in the above formula that is unique to a given commercial development is the (A) total square feet of the development.

Functional Population Factor by Use

Overall, the City’s parkland dedication requirements will be applied to seven distinct land uses. The table below demonstrates the relative weight given to occupants of each land use category and the derived functional population per unit or 1,000 SF of development. Currently, the functional population per units or 1,000 SF range from 2.80 per low density residential unit to 0.10 per 1,000 sf of industrial space.

	People Per Unit or Employee Per 1,000 SF	Occupancy Rate	Operational Hours	Percent Commuter	Functional Population Factor	Functional Population Per Unit or 1,000 SF
Residential Low Density	2.8	-	-	-	1.00	2.80
Residential Medium Density	2.2	-	-	-	1.00	2.20
Residential High Density	1.7	-	-	-	1.00	1.70
Hotel - Guests	1.7	62%	-	-	0.62	1.05
Industrial	0.4	94%	0.708	0.358	0.24	0.10
Hotel - Employees	0.67	-	0.708	0.358	0.25	0.10
Retail	1.82	95%	0.375	0.358	0.13	0.23
Office	3.33	92%	0.238	0.358	0.08	0.26

Fee per Square Foot

The below tables express the current fee schedules for commercial development using the methodology described above on a square foot basis for each use category. The intention of providing a fee rate expressed on a square foot basis is to simplify the administration of the requirement and estimation of fees on the part of any potential applicant.

Park Land fees:

\$365,653.44	Acre Value				2022 Fees
96.70	persons per acre				
\$3,360.79	per functional pop				
	Sq Ft Per Employee	Occupancy Rate	Operational Hours	% Commuter	Fee per Square Foot
Industrial	2500	0.94	0.708	0.358	\$0.3604
Hotel	1500	-	0.708	0.358	\$0.6390
Retail	550	0.95	0.375	0.358	\$0.8768
Office	300	0.92	0.238	0.358	\$0.9880

Park Development Fees:

\$1,423,928.42	Neighborhood Park Cost				
4046.98	people per developed park				
\$351.85	per functional pop				
	Sq Ft Per Employee	Occupancy Rate	Operational Hours	% Commuter	Fee per Square Foot
Industrial	2500	0.94	0.708	0.358	\$0.0335
Hotel	1500	-	0.708	0.358	\$0.0595
Retail	550	0.95	0.375	0.358	\$0.0816
Office	300	0.92	0.238	0.358	\$0.0919

Current Fee Rate and Comparison Cities

As a point of comparison, the below table displays the calculated fee schedule for Austin relative to established rates in Belmont, California and Atlanta, Georgia. The variation in the price of parkland across the different municipalities may be a contributing factor to the differences in fee cost per square foot.

City	Office	Retail	Industrial	Hotel
Belmont, California*	\$3.16 per SF	\$1.90 per SF	\$1.27 per SF	\$569 per room
Atlanta, Georgia*	\$1.20 per SF	\$0.54 per SF	\$0.23 per SF	\$538 per room
Austin, Texas	\$1.08 per SF	\$0.96 per SF	\$0.39 per SF	\$0.70 per SF + \$1,478.62 per room**

* Impact Fees

**Required under existing Parkland dedication ordinance

Example Office:

Step 1: Calculate Total Employees

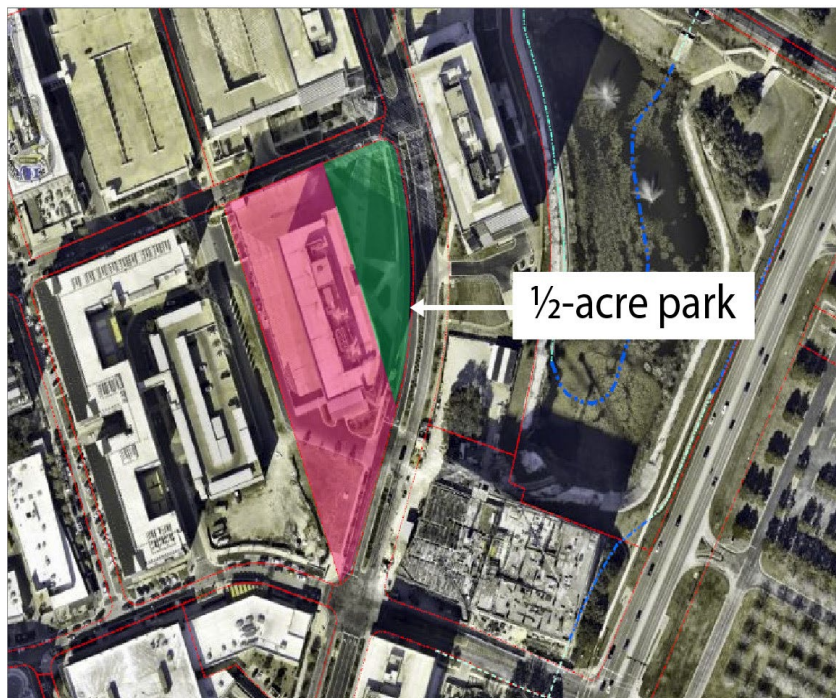
Total SF	SF/Employee	Total Employees
325,000	300	1,083

Step 2: Derive Functional Population

Total Employees	Occupancy	Operation Hours	Percent Commuter	Functional Population
1,083	92%	23.8%	35.8%	84.92
A	B	C	D	Formula = A x B x C x D

Step 3: Calculate Requirements

Land Owed	Fee-In-Lieu	Development Fee
0.80 acres	\$321,110	\$29,867
Formula = (Functional Population/1000) x 9.4 acres	Formula = SF of Development x \$0.9880	Formula = SF of Development x \$0.0919



Park space would serve the future occupants of the office, supporting mental and physical well-being, and act as a refuge for employees as well as an invitation to the community. This amenity would help to attract tenants and major employers because of their employee's ability to access park amenities at the front door of the office.

Example Retail:

Step 1: Calculate Total Employees

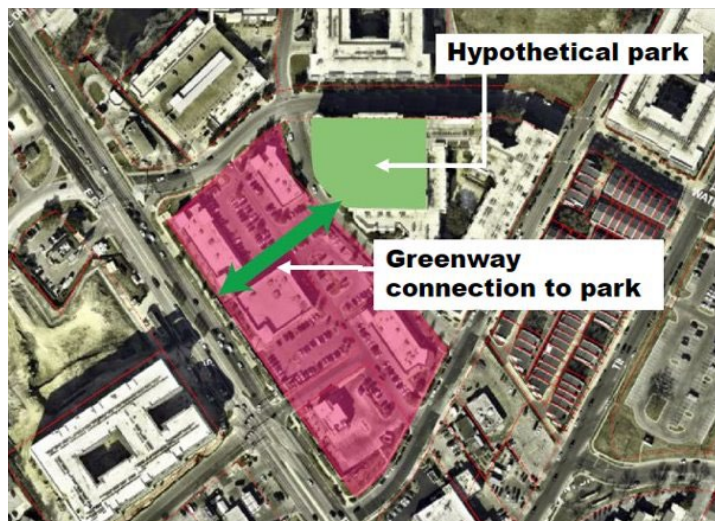
Total SF	SF/Employee	Total Employees
50,000	550	91

Step 2: Derive Functional Population

Total Employees	Occupancy	Operation Hours	Percent Commuter	Functional Population
91	95%	37.5%	35.8%	11.59
A	B	C	D	Formula = A x B x C x D

Step 3: Calculate Requirements

Land Owed	Fee-In-Lieu	Development Fee
0.11 acres	\$43,842	\$4,080
Formula = (Functional Population/1000) x 9.4 acres	Formula = SF of Development x \$0.8768	Formula = SF of Development x \$0.0816



Dedicated parkland could allow for a connection to a hypothetical existing park, ensuring the future occupants of the development, as well as the wider community, maintain access to parklands. The new park space would enable retail workers to walk to park amenities on breaks or before and after their shifts.

Example Industrial

Step 1: Calculate Total Employees

Total SF	SF/Employee	Total Employees
200,000	2,500	80

Step 2: Derive Functional Population

Total Employees	Occupancy	Operation Hours	Commuter Percent	Functional Population
80	94%	70.8%	35.8%	19.06
A	B	C	D	Formula = A x B x C x D

Step 3: Calculate Requirements

Land Owed	Fee-In-Lieu	Development Fee
0.18 acres	\$72,074	\$6,700
Formula = (Functional Population/1000) x 9.4 acres	Formula = SF of Development x \$0.3604	Formula = SF of Development x \$0.0335



In a suburban warehouse, requirements would allow for the continuation of a greenbelt on land that would otherwise sit unutilized by the development. This greenbelt could serve as an alternative transportation method for the future workers of the development and as a recreational amenity available to them before or after their shift.

Example Mixed-Use

Commercial Step 1: Calculate Estimated Employees in Commercial Space

Total SF	SF/Employee	Total Employees
136,000	300	453

Commercial Step 2: Derive Functional Population of Commercial Space

Total Employees	Occupancy	Operation Hours	Percent Commuter	Functional Population
453	92%	23.8%	35.8%	35.54
A	B	C	D	Formula = A x B x C x D

Commercial Step 3: Calculate Commercial Requirements

Commercial Land Owed	Commercial Fee-In-Lieu	Commercial Development Fee
0.33 acres	\$134,372	\$12,498
Formula = (Functional Population/1000) x 9.4 acres	Formula = SF of Development x \$0.9880	Formula = SF of Development x \$0.0919

Residential Step 1: Calculate Residential Population

Total Units	SMART Units	Resident Population
309	0	525

Residential Step 2: Calculate Residential Requirements

Residential Land Owed	Residential Fee-In-Lieu	Residential Development Fee
4.94 acres	\$899,681	\$162,685
Formula = (Total Units x 1.7 / 1,000) x 9.4	Formula = People x \$2,912.17	Formula = People x \$526.49



The commercial uses would follow the commercial PLD requirements while the residential portion would follow the existing residential parkland dedication requirements. The greenbelt connection would serve as a recreational amenity for both the residents and office employees at the new development

Example Hotel

Hotel Employees Step 1: Calculated Estimated Employees of Hotel

Total SF	SF/Employee	Total Employees
41,000	1,500	27

Hotel Employees Step 2: Derive Functional Population

Total Employees	Occupancy	Operation Hours	Percent Commuter	Functional Population
27	-	70.8%	35.8%	6.93
A	B	C	D	Formula = Ax B x C x D

Hotel Employees Step 3: Calculate Hotel Employee Requirements

Commercial Land Owed	Commercial Fee-In-Lieu	Commercial Development Fee
0.07 acres	\$26,197	\$2,439
Formula = (Functional Population/1000) x 9.4 acres	Formula = SF of Development x \$0.6390	Formula = SF of Development x \$0.0595

Hotel Guests Step 1: Calculate Guest Population

Total Rooms	Occupancy	Guest Population
98	62%	103.29

Hotel Guests Step 2: Calculate Guest Requirements

Guest Land Owed	Guest Fee-In-Lieu	Guest Development Fee
0.97 acres	\$122,718	\$22,186.22
Formula = (Total Units x Occupancy x 1.7 / 1,000) x 9.4	Formula = Rooms x \$2,912.17	Formula = Guests x \$526.49



New hotel development would be required to address the impact of both its guest and its employees. The total rooms would be used to calculate the requirements associated with the guests while the total project square footage would be used to calculate the impact of the employees. As with the mixed-use example, a single park space could serve as an amenity for future guests and employees alike.