



INDY PARKS ECONOMIC IMPACT STUDY

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EXECUTIVE SUMMARY

As a department of the city of Indianapolis, Indy Parks and Recreation provides and manages the various parks, green spaces, trails, and recreation activities in Marion County, Indiana. Across its system, Indy Parks offers 212 parks with a combined 11,258 acres of green space, and more than 3,000 annual sports, art, education, and recreation programs.

Despite Indy Parks' numerous natural and recreational offerings, Indianapolis has one of the lowest rates of park spending per resident in the nation. An internal needs study conducted in 2018 estimated that the budget for Indy Parks would need to be nearly double to fund an optimal parks and recreation system. Due to these findings, Indy Parks partnered with the IU Public Policy Institute to understand the current economic impact and community benefits of the park system on the local economy.

VALUE OF INDY PARKS' PROGRAMS AND SELECTED AMENITIES

Indy Parks' programming constitutes a significant portion of Indy Parks operations, with 2,544 events, classes, and other programs offered in 2019. Overall, the three park programs with the highest enrollment—traditional day camps, Bark Park passes, and aquatics programming—generated \$360,420 for the Indy Parks system. Based on private competitor pricing, however, these programs had an estimated value of \$569,788 in the private market, which is 58 percent greater than Indy Parks' actual revenue for these programs. Between all programs, the value of enrolled citizens' time spent in Indy Parks' programming is estimated to be worth nearly \$11 million. Additionally, Indy Parks' popular amenities, including open gyms, pools, and golf courses, generated \$4.3 million of revenue in 2019. However, in the private market, these amenities would have generated an estimated \$8.1 million in revenue, representing \$3.8 million in added value of these Indy Parks' features. These findings suggest that Indy Parks' programs and amenities have a greater economic value than their current revenue generation would suggest, and provide access to a public good that is not captured in program pricing.

IMPACT OF INDY PARKS ON PROPERTY VALUES

Numerous studies have found that proximity to a park can increase property values. In Marion County, properties that are within a quarter-mile of a park have a lower average assessed value than the rest of the county. However, as proximity to the park increases, so does the assessed property value. Homes within 250 feet of an Indy Park were valued at more than \$14,000 higher than the Marion County average. Additionally, although parcels within a quarter-mile of a park have a lower average property value than the county, the value of these properties grew at a faster rate between 2016 and 2019. Parcels within 250–500 feet of a park saw the largest growth in property values during this four-year period. Altogether, properties within a quarter-mile of a park were assessed to have an excess of \$281 million in value above the expected amount in 2019, resulting in an additional \$1.9 million in city-county tax revenues.

IMPACT OF INDY PARKS' EXPENDITURES ON THE LOCAL ECONOMY

In the five-year period between 2015 and 2019, Indy Parks spent an estimated \$136.3 million in direct expenditures, which generated an additional \$98.5 million of ripple-effect spending in the local economy. Combined, this suggests that Indy Parks' spending added \$235 million to the local economy. Additionally, this organization supported an estimated 1,818 jobs during this time frame, both within the park system itself and in other companies along the supply chain. These jobs produced an estimated additional \$106.5 million in employee wages and benefits.

OVERALL IMPACT

TABLE 1. Overall economic benefit of the Indy Parks system (2019)

CATEGORY	ECONOMIC BENEFIT
Value of citizens' time spent in parks programming	\$10,894,946
Added value of selected Indy Parks' amenities	\$3,825,920
Tax revenue impact from increased property values	\$1,896,608
Impact of Indy Parks' spending on local economy	\$62,090,380
Impact of Indy Parks' spending on employee wages and benefits	\$28,085,790
Total	\$106,793,644

Between parks programming, property value effects, and spending in the local economy, the Indy Parks and Recreation system had an estimated economic impact of approximately \$106.8 million in 2019, with every dollar spent on Indy Parks generating \$3.13 in the local economy. However, this amount may be an underestimate of the true economic impact, as factors such as health care cost savings from increased physical activity in parks, stormwater retention value, and air pollution removal values were not included in this study.

Although cities and their park systems face an uncertain financial future given the economic implications of the COVID-19 outbreak, parks play an important role in citizen well-being and attracting new talent and businesses.

A scenic view of a forest lake. In the foreground, a wooden picnic table is partially visible on the left. A large, mature tree with a thick trunk and dense green foliage stands on the right. The lake is calm, reflecting the surrounding greenery and trees. The background is a dense forest of tall, thin trees. The overall atmosphere is peaceful and natural.

**PART ONE:
OVERVIEW**

PROJECT OVERVIEW

City parks offer many benefits, such as bringing open space and recreation amenities to a community, though the economic value of these spaces is often overlooked and rarely quantified. The amenities offered by parks are public goods that are provided for the public to access, most times for little or no direct cost. In cities, parks can serve as catalysts that can add to the vitality of a place, as well as contribute to the revitalization of communities. The value of parks to the community and its citizens can be estimated through careful and thoughtful analysis.

The City of Indianapolis is challenged to establish investment priorities on a limited budget, especially when dealing with unplanned or growing maintenance requests and unforeseen events. As the city seeks additional sources of revenue, it is critical to comprehend the benefit Indy Parks provide to city residents, businesses, and visitors. City officials have engaged the IU Public Policy Institute to analyze the economic value of the Indy Parks system.

INDY PARKS & RECREATION

As a department of the City of Indianapolis, Indy Parks and Recreation provides and manages the various parks, green spaces, trails, and recreation activities that are accessible for both citizens and visitors of Marion County. Across the system, Indy Parks offers 212 parks with a combined 11,258 acres of green space, 125 playgrounds, 155 sports fields, 136 miles of trails, 23 recreation and nature centers, 19 aquatic centers, 13 golf courses, and four dog parks, along with more than 3,000 annual sports, art, education, and recreation programs.¹

Despite Indy Parks' numerous natural and recreational offerings, Indianapolis has one of the lowest rates of park spending per resident in the nation. The Trust for Public Land, which analyzes and ranks the effectiveness of park systems across the country, found that of the 100 largest cities in the United States, Indianapolis was tied for 93rd in park spending per resident.² This investment analysis—which factors in public spending, nonprofit spending, and volunteer hours³—concluded that Indianapolis spent \$35 per resident on parks in 2017, less than half the national median of \$80 per resident. In comparison, the city with the highest park spending level, Seattle, spent \$279 per resident on their park system—a rate nearly eight times greater than Indianapolis.⁴

The Indy Parks' budget in 2019 was \$34.1 million, an internal needs study conducted by Indy Parks in 2018 estimated that an annual budget of \$65–69 million would be needed to fund an optimal parks and recreation system.⁵ Due to these findings, Indy Parks seeks to understand the economic impact and value of the park system on the city and its citizens, as well as potential revenue generation mechanisms that could help support park operations, programming, and innovation going forward.

**PART TWO:
ECONOMIC
VALUE OF PARK
PROGRAMMING
& AMENITIES**



INDY PARKS' REGISTERED PROGRAMMING

In 2019, Indy Parks offered 2,544 events, classes, and other programs throughout their 212 parks. For programs that captured enrollment data, a total of 15,105 individuals registered in programming during that year. Those registrations and activity fees generated \$644,254 in revenue. Although revenue from parks programming can be an important measure of park value, it does not necessarily capture citizens' willingness to pay for a similar program in the private sector. For example, if Indy Parks did not exist, how much would residents have to pay for a similar program from a private company or venue?⁶

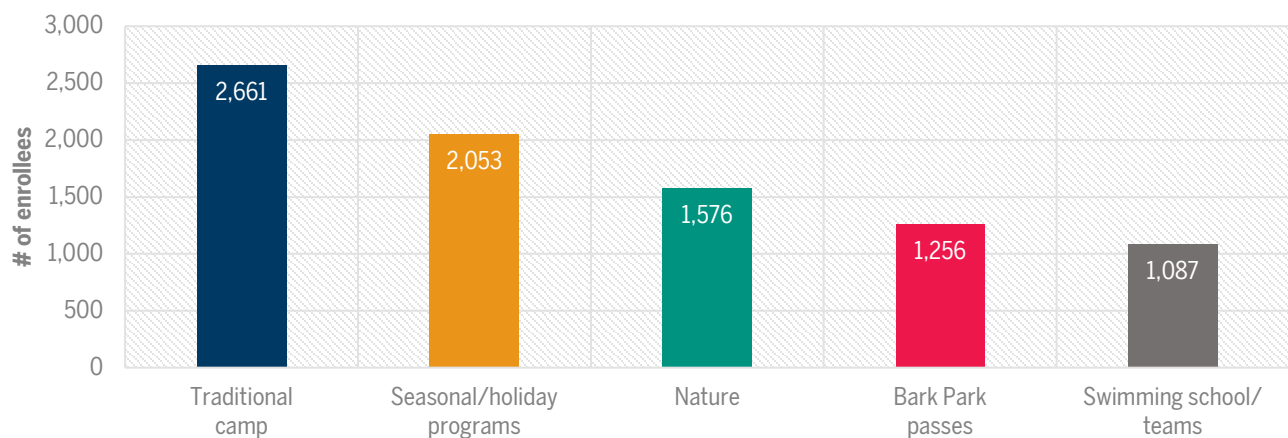
METHODOLOGY

To examine willingness to pay for Indy Parks' programs, we analyzed similar private sector offerings for Indy Parks' three highest-enrolled paid program categories in 2019. Three private sector offerings were identified for each type of program using internet searches in Marion and surrounding counties. Costs for these three competitor programs were averaged, and in some cases standardized, to most accurately reflect the rate of service. For example, if Indy Parks charges \$75 for five sessions of private swim lessons and a competitor's program charges \$100 for eight lessons, the competitor's program price was broken down to a per-session rate and then recalculated to reflect the total price of five sessions. Additionally, if a competitor's program price was found through an organization that listed both member and nonmember rates, member rates were used.

PROGRAMS WITH THE HIGHEST ENROLLMENT

Parks programming categories with the highest number of enrollees included traditional camps, seasonal/holiday events, nature programs, Bark Park passes, and swimming schools/teams. Although there were 45 different programming categories in 2019, these five program areas accounted for 57 percent of all enrollment.

FIGURE 1. Indy Parks' program categories with highest number of enrollees (2019)



Although these five program categories represent the highest share of enrollees, for this study, private comparison programs were only analyzed for traditional camp, Bark Park, and swimming school/team categories. Programs offered in the nature and seasonal/holiday categories were more likely to be free and/or represent events that had few adequate comparisons on the private market. For example, some of the nature programs with the highest enrollment were Friday night wildlife discovery programs offered at Eagle Creek and Holliday Parks, for which no comparable offering could be identified in the Indianapolis area.

VALUE OF HIGHEST-ENROLLED PROGRAMS

TRADITIONAL DAY CAMPS

Indy Parks' traditional day camp programs include summer camps focused on nature, crafts, games, and sports; therapeutic camps for young people with physical and/or intellectual disabilities; and camps focused on the arts, including painting, pottery, and performance art. These youth camps are offered on a weekly basis throughout the summer at multiple Indy Park locations. In 2019, 2,661 individuals registered in a traditional camp program, representing nearly 18 percent of all park program enrollees for the year.

TABLE 2. Added value of Indy Parks' traditional day camp programs based on private sector competitors

PROGRAM TYPE	# ENROLLED (2019)	PROGRAM FEE	REVENUE GENERATED FOR INDY PARKS	AVERAGE COMPETITOR PRICE	REVENUE GENERATED AT COMPETITOR PRICE	ADDED VALUE
Traditional five-day day camp	1,909	\$30–\$115	\$186,585	\$180	\$343,828	\$157,243
Traditional four-day day camp	379	\$25–\$92	\$27,706	\$144	\$54,609	\$26,903
Traditional arts day camp	61	\$150	\$9,150	\$282	\$17,225	\$8,075
Total	-	-	\$223,441	-	\$415,661	\$192,220

Analysis does not include Fall Break, Spring Break, or Summer Play Camps (number of enrollees=312).

In 2019, five-day, four-day, and arts-focused summer day camps generated \$223,441 in revenue for the Indy Parks system. Weekly prices for four-day and five-day day camps ranged from \$72–\$92 and \$90–\$115, respectively, depending on which park offered the camp. However, at Douglass Park, a budget version of the camps was offered at \$30 per week for five-day day camps and \$25 per week for four-day programs. For all three camp types, Indy Parks offered traditional day camps at a lower rate than the average competitor program. Using 2019 enrollment data, Indy Parks' day camp programs would have generated an estimated \$415,661 in the private sector, an amount roughly 86 percent greater than actual revenue received.

BARK PARK PASSES

Indy Parks has four dog parks—known as Bark Parks—across its system, located at Broad Ripple, Eagle Creek, Paul Ruster, and Smock parks. Residents can purchase a Bark Park pass for access to one of these parks at an annual fee of \$75 per dog. Alternatively, they could purchase a VIP Bark Park pass for \$125 per dog a year and have access to all four dog parks.

TABLE 3. Added value of Bark Park passes based on private sector competitors

PROGRAM TYPE	# OF PASSES PURCHASED (2019)	PROGRAM FEE	REVENUE GENERATED FOR INDY PARKS	AVERAGE COMPETITOR PRICE	REVENUE GENERATED AT COMPETITOR PRICE	ADDED VALUE
Bark Park annual pass	1,149	\$75	\$86,175	\$58	\$66,642	\$0

Analysis does not include VIP Bark Park Passes (n=107).

In 2019, 1,149 standard Bark Park passes were purchased, generating \$86,175 in revenue for Indy Parks. Upon analysis of competitor dog park membership fees in the Indianapolis area, Indy Parks' Bark Park membership was actually higher than the average competitor price of \$58 per year. These findings suggest that, on the private market, Indy Parks' Bark Parks would not generate any additional revenue beyond the \$86,175 in fees that it produced.

AQUATICS PROGRAMMING

The largest aquatics programs in the Indy Parks' system are swim lessons and youth swim teams. In 2019, 1,087 individuals registered in an aquatics program through Indy Parks, accounting for 7 percent of all Indy Parks programs enrollees. Together, these aquatics programs generated \$50,587 in revenue for the organization.

TABLE 4. Added value of Indy Parks' aquatics programming based on private sector competitors

AQUATICS PROGRAM TYPE	# ENROLLED (2019)	PROGRAM FEE	REVENUE GENERATED FOR INDY PARKS	AVERAGE COMPETITOR PRICE	REVENUE GENERATED AT COMPETITOR PRICE	ADDED VALUE
Youth swim team	150	\$75	\$11,250	\$98	\$14,650	\$3,400
Youth swim lessons	388	\$49	\$19,012	\$67	\$25,957	\$6,945
Preschool swim lessons	388	\$34	\$13,192	\$89	\$34,403	\$21,211
All ages private lessons	98	\$75	\$7,350	\$127	\$12,475	\$5,125
Total	-	-	\$50,804	-	\$87,485	\$36,681

Analysis does not include Junior Lifeguarding programs or programs without fee information (number of enrollees=63).

In all four instances, Indy Parks offered aquatic classes at a lower rate than the average competitor program. Using the average competitor pricing and Indy Parks 2019 enrollment data, Indy Parks' aquatic programs had an estimated value of \$87,485 in the private sector—72 percent greater than the actual revenue generated. Additionally, this private market value is likely a conservative estimate, as applicable competitor programs were calculated at the member rate, which assumes that a resident would have already been a member at the country club or fitness center that offered aquatics program.

OVERALL VALUE OF INDY PARKS' HIGHEST-ENROLLED PROGRAMS

Overall, traditional day camps, Bark Park passes, and aquatics programming generated \$360,420 for the Indy Parks system. Based on private competitor pricing however, these programs had an estimated value of \$569,788 on the private market, which was 58 percent greater than Indy Parks' actual revenue for these programs. This suggests that people are willing to pay higher prices on the private market for similar programs, and that these offerings have an economic value greater than its raw revenue generation.

However, programs in these three categories only represent a portion of all park programming. Identifying comparative offerings on the private market for all 2,544 programs, classes, and events offered through Indy Parks is not feasible. Additionally, several park programs are offered at no cost, which presents further challenges in determining the true economic value of these programs. To address this, we estimate the monetary value of all Indy Parks' programming by determining the value of citizens' time spent in these programs.

VALUE OF CITIZENS' TIME SPENT IN PARKS PROGRAMMING

One method for determining the value of park programs is using an opportunity cost approach, which assigns monetary value to a person's time spent in an activity. This monetary value is equal to that person's foregone income if he or she had worked during that time.⁷ This approach can generate an estimate of the monetary value of an individuals' time spent in Indy Parks' programs.

To determine the opportunity cost of residents attending park programs, we first identified the median hourly wage in Marion County, which—as of 2018—was \$19.41 per hour, not including benefits.⁸ In 2019, registered enrollees spent 561,306 hours engaged in an Indy Parks' program. By multiplying the total number of park program hours by the median hourly wage, we found the estimated value of enrolled citizens' time spent in Indy Parks' programming to be worth nearly \$10.9 million.

TABLE 5. Value of citizens' time spent in Indy Parks' programming

NUMBER OF HOURS SPENT	HOURLY WAGE RATE	VALUE OF PROGRAM HOURS
561,306	\$19.41	\$10,894,946

CONSIDERATIONS

There are several considerations when interpreting the estimated value of parks programming. First, estimates only include those who registered for park programs. Thus, they may not include walk-in registrations or events that do not require pre-enrollments. Conversely, people who pre-registered for a park program may not have ultimately attended, which could also impact the true number of participants in park programs. Additionally, using the opportunity cost approach includes several assumptions. For example, this approach assumes the average park program attendee earns the median Marion County wage, that these individuals are not demographically different from the county population as a whole, and that an hour spent in a leisure time activity—such as taking a swim lesson—is equal to an hour's worth of work.⁹ Because of these assumptions, this estimate should be interpreted cautiously.

ESTIMATING THE VALUE OF INDY PARKS' SELECTED AMENITIES

In addition to determining the value of its programming, Indy Parks also set out to determine the value of three of their popular amenities: open gyms, swimming pools, and golf courses.

OPEN GYM ADMISSION

Nine Indy Parks locations offer open hours for their gymnasium or indoor basketball courts, which attracted 29,477 visitors in 2019. Admission to open gym hours costs \$3 per adult and up to \$1 for children, depending upon their age.

TABLE 6. Added value of Indy Parks' open gym admission based on private sector competitors

ADMISSION TYPE	# OF ADMISSIONS (2019)	FEE	REVENUE GENERATED FOR INDY PARKS	AVERAGE COMPETITOR PRICE	REVENUE GENERATED AT COMPETITOR PRICE	ADDED VALUE
Adult	6,410	\$0-\$3	\$17,597	\$13.33	\$85,445.30	\$67,848.30
Youth/teen/junior	23,067	\$0-\$1	\$1,225	\$8.50	\$196,069.50	\$194,844.50
Total	-	-	\$18,822	-	\$281,514.80	\$262,692.80

To determine the value of Indy Parks' open gyms, we identified other fitness centers that also offered open gym hours at their facilities and allowed for purchase of guest or drop-in passes, rather than limiting use of the gym to only those with a monthly membership. Based on the average competitor price, attendance at Indy Parks' open gyms could have generated \$281,514 on the private market in 2019.

POOL ADMISSION

Some of the most popular amenities in Indy Parks are the 19 different aquatics centers located across the system. In 2019, 126,001 adults and children paid for single-day admission to an Indy Parks pool. Depending on the pool and time of visit, adult pool admission ranged from \$3-\$6, while admission for children 2 years and older and seniors ranged from \$2-\$5. A total of \$386,212 in revenue was generated from these pool admission fees.

TABLE 7. Added value of Indy Parks' pool admissions based on private sector competitors

POOL ADMISSION TYPE	# OF INDIVIDUALS (2019)	FEE	REVENUE GENERATED FOR INDY PARKS	AVERAGE COMPETITOR PRICE	REVENUE GENERATED AT COMPETITOR PRICE	ADDED VALUE
Adult admission	45,748	\$3-\$6	\$173,465	\$7.67	\$350,887	\$177,422
Youth/senior admission	75,033	\$2-\$5	\$212,747	\$6.67	\$500,470	\$287,723
Total	-	-	\$386,212	-	\$851,357	\$465,145

Compared to other aquatic centers that offer open swimming without requiring a membership, Indy Parks offered pool admission for a lower price. If pool visitors had been charged at the average competitor price, \$851,357 in revenue would have been generated, representing \$465,144 in added value.

GOLF GREEN FEES

Indy Parks owns 13 public golf courses, comprising roughly 1,800 acres of land. In 2019, 220,583 rounds of golf were played at these courses, generating \$6,541,430 in revenue through green fees, cart rentals, concessions, and other purchases. The average green fee per round at an Indy Parks was \$10.12 at a nine-hole golf course and \$18.59 at an 18-hole course. To calculate the economic value of Indy Parks' golf courses, we analyzed green fees at other public golf courses in Indianapolis.

TABLE 8. Added value of Indy Parks' golf green fees based on private sector competitors

GOLF COURSE TYPE	# OF ROUNDS PLAYED (2019)	AVERAGE GREEN FEE	REVENUE GENERATED	AVERAGE COMPETITOR PRICE	REVENUE GENERATED AT COMPETITOR PRICE	ADDED VALUE
Nine holes	23,193	\$10.12	\$234,646	\$18.25	\$423,272	\$188,626
18 holes	197,390	\$18.59	\$3,669,552	\$33.33	\$6,579,009	\$2,909,456
Total	-	-	\$3,904,199	-	\$7,002,281	\$3,098,082

Indianapolis-area public golf courses identified for comparison analysis offered an average green fee of \$18.25 per round for nine holes and \$33.33 per round for 18 holes. These green fees did not include cart rentals or other purchases. At these rates, the number of rounds played at Indy Parks' courses would have generated slightly more than \$7 million in green fees at the average competitor price, representing an additional \$3 million in value.


CONCLUSION

Overall, two out of three of Indy Parks' highest-enrolled program categories offered lower rates than their private market competitors in the Indianapolis area. Traditional day camps, Bark Park passes, and aquatics programs were worth a combined \$570,000 on the private market in 2019, although their raw revenue generation was only around \$360,000. Although all registered park programs generated a total of nearly \$644,000 in revenue in 2019, the value of citizens' time spent in these programs was estimated to be worth nearly \$11 million.

Indy Parks' pool admissions, open gym attendance, and golf course green fees generated \$4.3 million of revenue in 2019. However, on the private market, these amenities would have generated an estimated \$8.1 million in revenue, \$3.8 million more than Indy Parks brought in for those services.

These findings suggest that Indy Parks' programs and amenities have a larger economic value than their total revenue generation would suggest. However, it should be noted that the subsidized pricing of Indy Parks' programming is likely what drives its demand. These park offerings create positive externalities for the city as a whole, delivering benefits to the local community and its citizens by providing access to classes, activities, and facilities at a lower cost than elsewhere in the Indianapolis area. If these Indy Parks' program fees were increased closer to market value, it would likely be cost-prohibitive for some residents, leading to a possible decrease in overall park utilization.





**PART THREE:
EFFECTS OF
INDY PARKS
ON PROPERTY
VALUES**

THE IMPACT OF URBAN PARKS ON PROPERTY VALUES

There are several measurable benefits of city parks, including positive impacts on health and well-being, increases in biodiversity, reduction in air pollution levels, and management of stormwater runoff. In addition, studies have also found that in general, parks and green spaces can increase local property values. The appeal of living close to parks may be attributed to both the convenient access to the park for recreation purposes, as well as the possibility of being able to view the park from a resident's home.¹⁰

In this vein, the proximity of a home to a park matters when discussing the impact on property values. A review of 33 studies on the relationship between parks and property values found that, in general, home values increased as the proximity to the park increased, and that park proximity had the biggest impact on property values at a distance up to 500–600 feet. In some communities, houses immediately adjacent to the park tended to have lower property values than those at a slightly greater distance. That could possibly be attributed to negative factors of close park proximity, such as street congestion, litter, or noise. In general, evidence suggests that living near a park provides an 8–10 percent premium in property value.¹¹

However, some studies have found that parks can actually negatively impact neighborhood property values. One study in Baltimore, Maryland, found that parks positively impacted property values only if the combined rate of robberies and rapes in the area were below a certain threshold. Above that threshold, proximity to a park actually decreased property values.¹²

Ultimately, not only do such amenities contribute to the quality of life, they also pay for themselves many times over through increased property values and property tax revenues. As parks help increase home values, the benefits are much wider in terms of increased taxes paid to local government when properties are sold and bought.

INDY PARKS' IMPACT ON PROPERTY VALUES

DATA

To estimate whether close proximity to an Indy Park impacts property values, we used parcel-level assessed value data for Marion County from the Indiana Department of Local Government Finance from 2016 to 2019. Assessed value is determined by an assessor, and represents the monetary value of a residence for property tax calculation using comparable home sales and inspection information. It should be noted that although the assessed value approximates market value, it is not necessarily identical. Assessed value tends to be lower than the appraised market value¹³ and may be vulnerable to assessor bias,¹⁴ and should therefore be interpreted with caution.

Using 341,793 parcels in Marion County, parcels within a quarter mile of an Indy Parks location were extracted for the proximity analysis. Of the Marion County parcels, 335,999 had property value data. Parcels were grouped based on their distance from one of the 212 Indy Parks: 0 to 250 feet, 250 to 500 feet, 500 to 750 feet, 750 to 1,000 feet, and 1,000 feet to a quarter-mile.

There are 108,451 parcels in Marion County within a quarter-mile of an Indy Park. We calculated average property values for each group, as well as the change in property value over time. Property values across Marion County total \$61.6 billion according to the 2019 assessment.

VALUE OF PROPERTIES NEAR PARKS

Property values near parks are valued higher on average the closer they are to a park. In the quarter-mile radius around parks, properties within 500 feet have the highest value, and are slightly above the Marion County average.

Examining properties only within certain distance to a park further reveals that the highest average properties are within 250 feet of a park. These properties average about \$23,000 more than those located within 250 to 500 feet from a park. As the distance to a park increases within the quarter-mile area, the value of property decreases. Overall, the value of properties within a quarter mile of a park increased at a faster rate (15 percent increase between 2016 and 2019) compared to the Marion County average (11 percent increase).

FIGURE 2. Average property values within 1/4 mile of parks (2019)

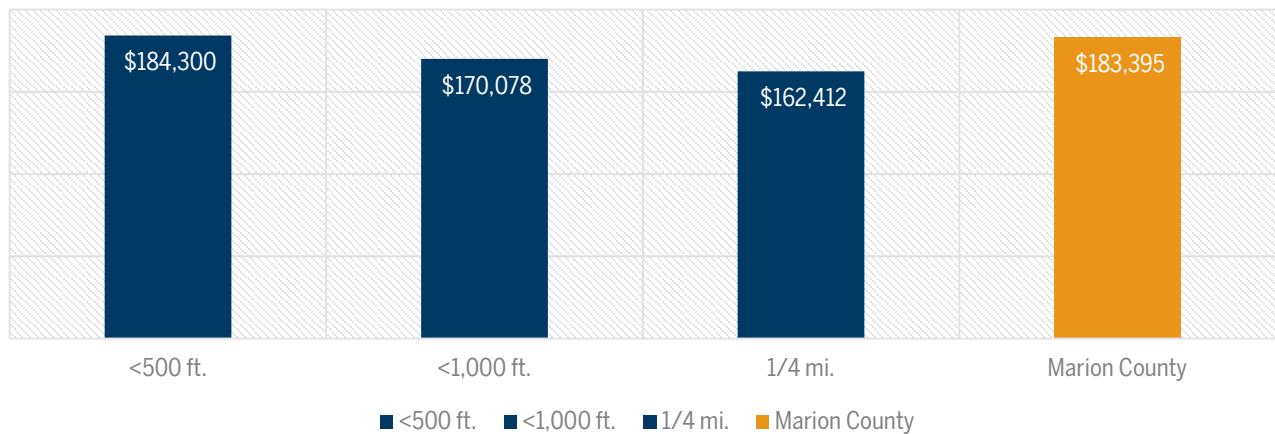
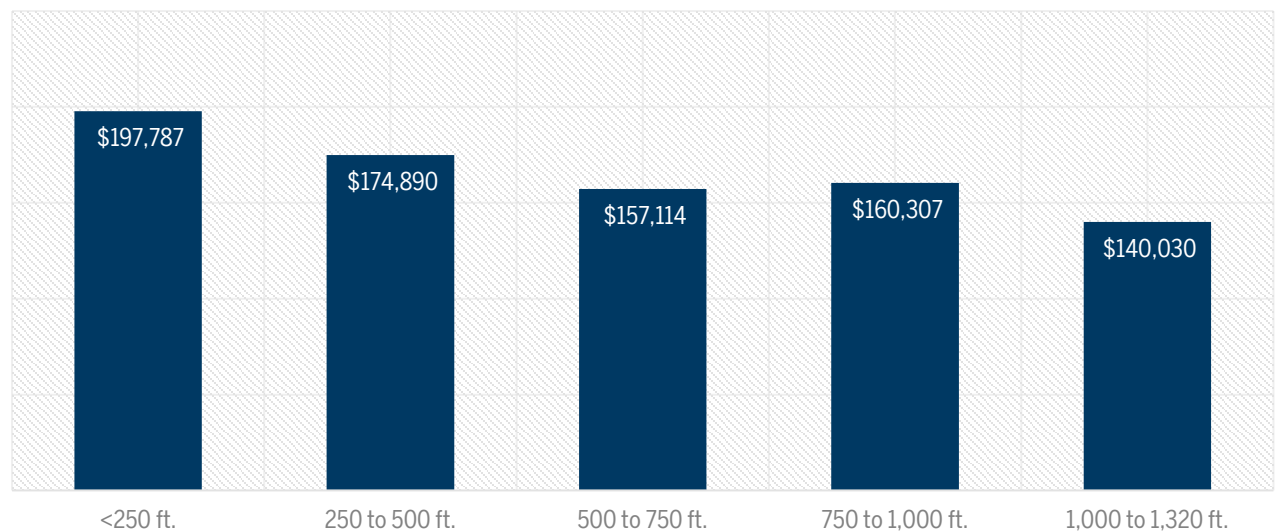


FIGURE 3. Average property values within a certain distance to parks (2019)

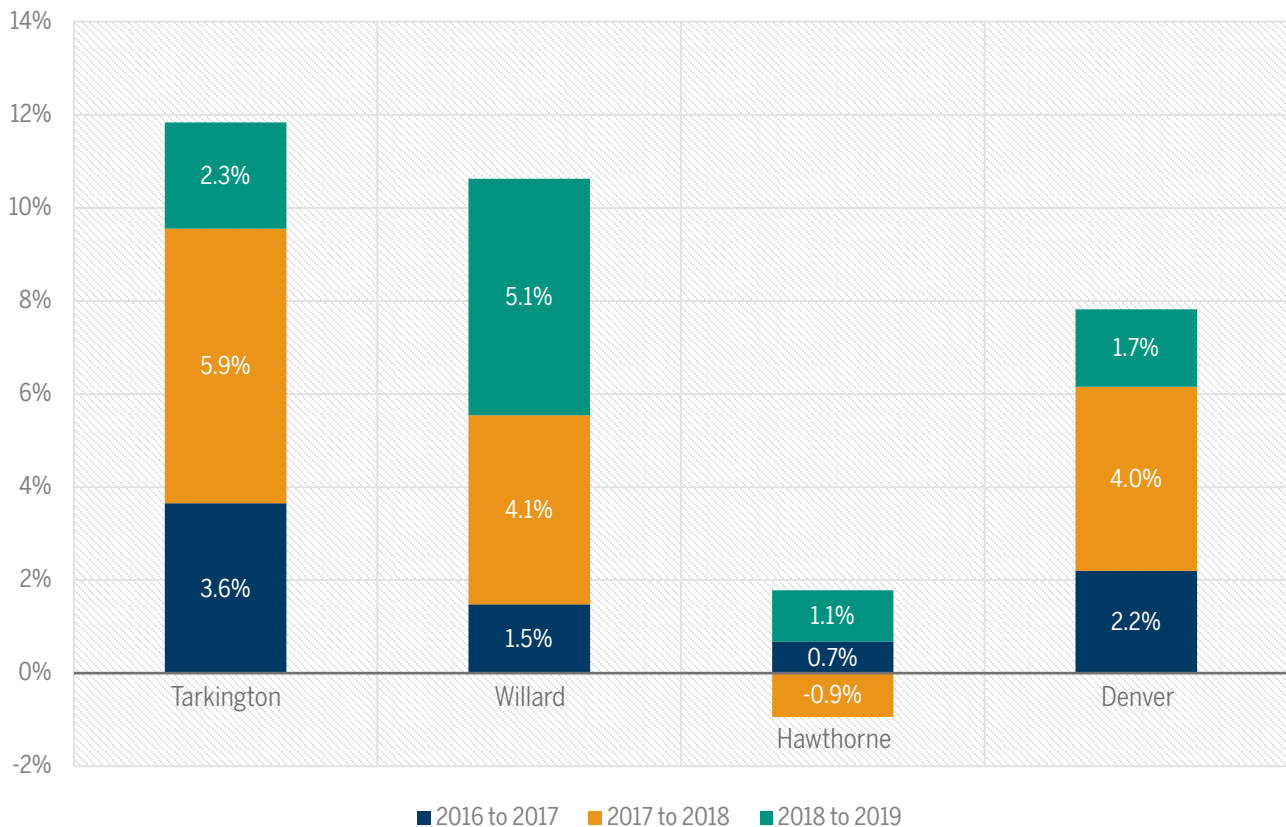


PROPERTY VALUES AROUND TARKINGTON PARK

Research suggests that improvements to parks would likely increase the value of surrounding properties. Tarkington Park—one of Indy’s most innovative community parks—completed its massive renovations in July 2017. The park now has new and improved basketball courts, playground equipment, a splash plaza, and a cafe. The cutting-edge investment in the park was long overdue, as the neighborhood suffered a disproportionately high amount of crime. This project aims to positively impact quality of life in the area and bring the community together.

In 2019, properties within a quarter mile of Tarkington Park had an average value of \$192,779, higher than the value of properties within a quarter mile of all parks (\$162,412) and the Marion County average (\$183,395). Between 2016 and 2019, property values within a quarter mile of Tarkington Park increased by 12 percent, which was greater than the Marion County average (11 percent increase), but less than the increase for properties within a quarter mile of all parks (15 percent). Property values around Tarkington Park were also compared to values around three other parks with similar size, neighborhood demographics, and violent crime rates: Denver Park, Hawthorne Park, and Willard Park. Although these parks had similarities to Tarkington Park, they did not receive the same level of investments. Between 2016 and 2019, properties around Tarkington Park increased more in value than properties around these similar parks

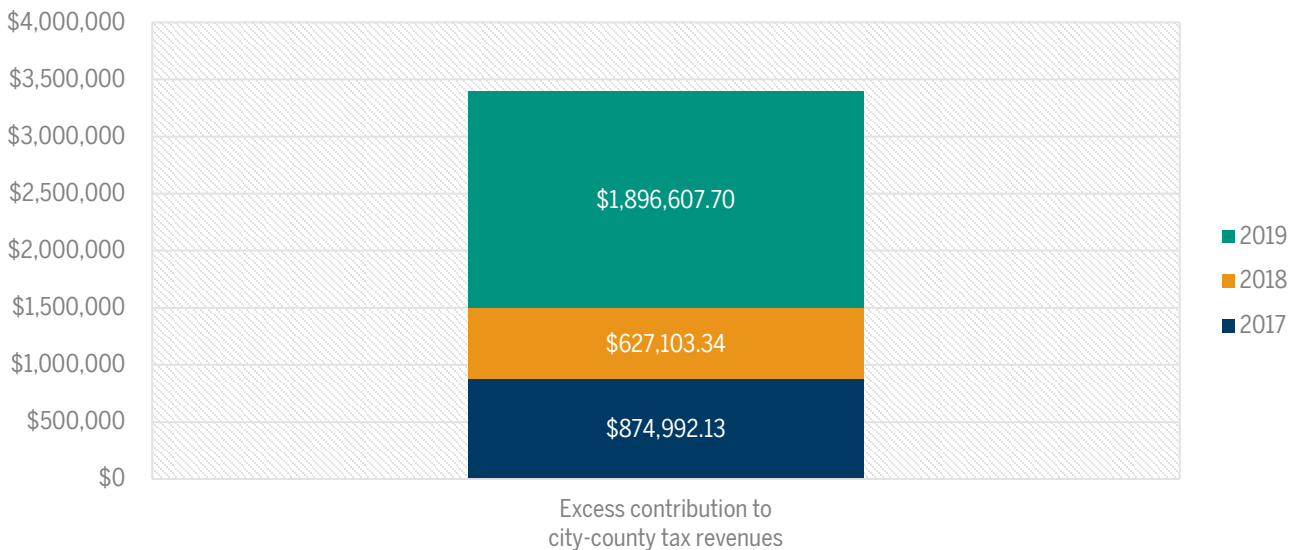
FIGURE 4. Year-by-year change in property values within 1/4 mile of parks (2016–2019)



VALUE GENERATED

Property values near parks in Indianapolis appreciate at a higher rate and can therefore contribute more in property taxes.^A Properties around parks contributed a total of \$3.4 million to city-county tax revenue from 2017 to 2019.

FIGURE 5. Estimated contribution of property value appreciations to tax revenues around Indy Parks (2017–2019)



^A Analysis assumptions: Marion County’s effective property tax rate is estimated at 0.6%. The actual rate varies by jurisdiction and type of property. The effective property tax rate is calculated as the four-year average property tax revenues/net assessed values (source: Indy 2020 budget & our value data). The expected property value equals the prior year’s actual property value multiplied by the baseline appreciation rate. Baseline (countywide) property value appreciation rates: 2016-2017: 2.17%, 2017-2018: 4.14%, 2018-2019: 4.44%. Finally, park proximity explains all contributions to changes in property value more than the baseline rate.





**PART FOUR:
IMPACT OF
INDY PARKS'
EXPENDITURES
ON LOCAL
ECONOMY**

INPUT/OUTPUT MODELING

To gain a complete picture of Indy Parks' economic impact, it is important to not only evaluate direct dollars spent by the organization, but also the ripple effects its investments create on the local economy. Input/output modeling is one of the most common methods for analyzing the interdependencies between industries to understand the broader economic impacts of an organization.¹⁵ To estimate these effects, PPI uses the IMPLAN input/output model, which combines extensive databases, economic factors, multipliers, and demographic statistics to quantify effects on the local economy.

The input/output model measures three different types of economic impact: direct, indirect, and induced. Direct effects represent the immediate impact on the economy from dollars spent by the Indy Parks system. Indirect effects represent economic impacts that stem from purchases of goods and services from other industries. For example, if Indy Parks constructs a new building in one of its parks, the first round of indirect effects includes the contractor's purchase of concrete from a supplier. The second round of indirect effects include the concrete manufacturer's purchase of sand and gravel to mix for concrete. These effects continue to work backward through the supply chain until the dollars spent no longer have an impact on the local economy. Finally, induced effects reflect the spending of wages by employees within the industries along the supply chain that contributed to the organization being modeled.¹⁶

METHODOLOGY

To run the input/output model, PPI used expenditure data from Indy Parks, the Indy Parks Foundation, and official park friend groups on operations, landscaping, maintenance, and construction activities within the parks system. Data for 2015–2018 reflects actual dollar amounts spent, whereas 2019 numbers are pulled from Indy Parks' adopted budget for that year. Additionally, 2015 and 2016 calculations do not include funds from the Parks Foundation or friends groups.


ECONOMIC CONTRIBUTIONS OF INDY PARKS USING THE INPUT/OUTPUT MODEL

TABLE 9. Indy Parks' direct, indirect, and induced economic impact using input/output modeling (2015–2019)

	2015	2016	2017	2018	2019 (ADOPTED)
Output					
Direct (expenditures)	\$16,410,278	\$17,535,729	\$33,015,164	\$33,292,917	\$36,062,817
Indirect/induced	\$11,892,973	\$12,708,618	\$23,838,060	\$24,055,097	\$26,027,563
Total	\$28,303,251	\$30,244,347	\$56,853,224	\$57,348,014	\$62,090,380
Jobs					
Direct	159	170	315	318	343
Indirect/induced	62	66	124	125	136
Total	221	236	439	444	479
Employee compensation (wages and benefits)					
Direct	\$7,773,572	\$8,306,700	\$15,474,037	\$15,634,870	\$16,882,002
Indirect/induced	\$5,141,876	\$5,494,517	\$10,265,892	\$10,366,878	\$11,203,788
Total	\$12,915,448	\$13,801,216	\$25,739,929	\$26,001,748	\$28,085,790

In the five-year period between 2015 and 2019, Indy Parks spent an estimated \$136.3 million in direct expenditures, which generated an additional \$98.5 million in indirect/induced economic effects. Combined together, this suggests that Indy Parks' spending added \$235 million to the local economy. Additionally, this organization supported an estimated 1,818 jobs during this time frame, both within the park system itself and in other companies along the supply chain. These jobs produced an estimated additional \$106.5 million in employee wages and benefits.





PART FIVE:
**OVERALL
IMPACT &
IMPLICATIONS**

TOTAL ECONOMIC IMPACT OF INDY PARKS

Between parks programming, property value effects, and spending in the local economy, it is estimated that the Indy Parks and Recreation system had an overall economic impact of approximately \$106.8 million in 2019, with every dollar spent on Indy Parks generating \$3.13 in the local economy. However, as this study only examined registered park programming and selected amenities, this number is likely an underestimate of the true economic benefit of the Indy Parks system.

TABLE 10. Overall economic benefit of the Indy Parks system (2019)

CATEGORY	ECONOMIC BENEFIT
Value of citizens' time spent in parks programming	\$10,894,946
Added value of selected Indy Parks' amenities	\$3,825,920
Tax revenue impact from increased property values	\$1,896,608
Impact of Indy Parks' spending on local economy	\$62,090,380
Impact of Indy Parks' spending on employee wages and benefits	\$28,085,790
Total	\$106,793,644

OTHER POTENTIAL ECONOMIC BENEFITS OF PARKS

Indy Parks likely has additional economic impact beyond the areas that were focused on for this study. It has been shown that park systems can also have a significant economic impact on human health and the environment. Multiple studies have found that having convenient access to a park increases physical activity of residents, which in turn can reduce body weight and the risk of several chronic diseases.¹⁷ These improved health outcomes have the potential to lead to significant health care savings. In one study of the economic benefits of the Virginia Beach, Virginia, park system, researchers estimated that more than \$38 million in health care cost savings could be attributed to the parks, based on the number of people who had engaged in moderate or vigorous activity within the parks.¹⁸

Additionally, park systems can provide significant environmental benefits, particularly related to air pollution removal and stormwater retention. Air pollution, particularly in urban areas, has been shown to negatively affect both human health and infrastructure. Vegetation in parks can remove pollutants—such as nitrogen dioxide, sulfur dioxide, carbon monoxide, and other particulates—from the air. A study of the park system in Mecklenburg County, North Carolina—which includes the city of Charlotte—estimated that park trees removed more than 1.5 million tons of pollutants from the air, saving nearly \$3.9 million in costs that would have been required to remove the pollutants using other methods.¹⁹

Parks also can reduce stormwater runoff, which has the potential to carry pollutants into waterways and/or cause sewer overflows. Vegetation and other pervious surfaces within parks can help absorb water and these pollutants, allowing stormwater runoff to be released more slowly and replenish ground water supplies. One study in Philadelphia found that its parks reduced stormwater runoff by 496 million cubic feet, resulting in stormwater treatment savings of \$5.9 million.²⁰

As a key contributor of a community's quality of life, parks can also serve as a crucial marketing tool for cities to attract employees and businesses.²¹ This can, in turn, attract more investments and jobs in these areas. One survey found that more

than 75 percent of corporate executives rated a city's quality-of-life factors as very important or important in their decisions to determine site locations, while employees considered these quality-of-life factors to be the most important in deciding where to live and work. Places with landscape—such as woods, water, and recreational appeal—are more likely to attract creative and entrepreneurial industries. Additionally, a review of economic development marketing materials from 133 cities and towns found that 72 percent use pictures of urban parks, outdoor amenities, and recreational and cultural facilities in their marketing materials, and 70 percent make specific reference to their park systems or other quality-of-life considerations.²²

PARK IMPORTANCE AND FUNDING IN THE TIME OF COVID-19

Unfortunately, due to the current and potential future economic impacts of the COVID-19 outbreak, cities and their park systems are facing an uncertain future. Cities across the United States are projecting budget shortfalls,^{23,24} including the City of Indianapolis, which has already instituted hiring freezes, salary cuts, and other spending reductions where possible.²⁵ In the time of economic distress, parks and recreation budgets are often susceptible to reductions. A study on the economic impacts of the 2008 Great Recession found that local park departments' budgets declined 21 percent between 2009 and 2013—the largest reduction of any government service. Additionally, a 2017 study found that local officials openly acknowledge that they target parks and recreation agencies for budget cuts when facing a financial crisis, despite their beliefs that parks benefit their communities and enhance their quality of life.²⁶

In the time of lockdowns, stay-at-home orders, and social distancing, parks may play an even more important role within communities. Time spent in nature has been shown to decrease negative thoughts in adults, reduce symptoms of ADHD in children, and improve cognitive development.²⁷ City parks may be of particular importance during this time, as they may be one of the only access points to nature for those living in urban areas. In New York City, for example, roughly half of the population identified the city's green spaces as their only sources of natural recreation.²⁸

Overall, the Indy Parks and Recreation system has a significant impact on the City of Indianapolis's economy, and provides opportunities for increased quality of life of its citizens.

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