



## Grand Junction Park and Plaza Methods

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The full case study can be found at: <https://landscapeperformance.org/case-study-briefs/Grand-Junction>

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## Research Strategy

The evaluation of Grand Junction Park and Plaza is informed by a dual research approach combining both cross-sectional and longitudinal methods. The cross-sectional analysis compares current conditions within the park to other areas of Westfield that reflect a pre-development baseline, which offers insight into how the park performs relative to similar urban contexts that have not been redeveloped. The longitudinal component tracks changes within the park site itself over time, examining differences in social, environmental, and experiential factors before and after construction. This combined strategy allows for a more comprehensive understanding of the park's impact by capturing both relative and temporal shifts in quality of life, ecological performance, and community perception.

## Environmental Benefits

*Creates a healthier soil ecosystem. Phosphorus concentrations rose from very low pre-restoration (2,13 ppm) to optimal levels (25,45 ppm), and organic matter rose from 2.9 to 5.0, signaling enhanced soil health and nutrient retention.*

### Background:

Before the park was constructed, the stream (Grassy Branch of Cool Creek) was shaped into a narrow, V-shaped ditch which was modified under Indiana's 1850 Swamp Act to drain land for agriculture. The narrowed, deepened channel increased water flow rates, causing streambank erosion and poor soil quality. Within the development of the creek restoration, strategies were employed to remediate soil health by stabilizing soil using plants, importing new planting soil, and transplanting more vegetation.

### Method:

To the south of the project site, beyond an offsite stormwater retention facility, there is an area along Cool Creek that is similar to pre-existing site conditions. The research team took two soil samples in this location and three of the remediated soils within the project boundary. The samples were put into sealed soil sampling bags and mailed to Midwest Soil Labs (<https://midwestlabs.com/>) for soil quality testing.



Figure 1: Using soil sample probe (left); the location represents pre-development creek condition (right)

### Calculations:

#### SOIL ANALYSIS REPORT

LAB NUMBER	SAMPLE IDENTIFICATION	ORGANIC MATTER L.O.I.	PHOSPHORUS						NEUTRAL AMMONIUM ACETATE (EXCHANGEABLE)								pH		CATION EXCHANGE CAPACITY C.E.C.	PERCENT BASE SATURATION (COMPUTED)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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*Figure 2. Soil analysis report (sample 1 contains pre-development condition; sample 2 contains on-site). This represents an average across the (2) and (3) samples submitted.*

As indicated in the table above, while the neutral ammonium acetates are similar among the two samples, the organic matter, the phosphorus levels, and pH levels are different between the two.

Specifically, the pH level is more neutralized and less alkaline (reduced from 8.0 to 7.8);

Soil phosphorus levels are measured to determine the amount of phosphorus available for plant uptake. Generally, phosphorus levels in the range of 20-40 ppm (parts per million) are considered sufficient for gardens and landscapes. In the pre-conditions, the phosphorus levels are “very low” and “low”, indicating the erosion issues of the river bank. Baseline tests showed phosphorus concentrations at just 2, and 13 parts per million (ppm), suggesting poor soil fertility. Following the Grand Junction Park and Plaza redevelopment and ecological restoration, phosphorus levels rose dramatically, reaching 25, and 45 ppm. This threefold to tenfold increase in some areas reflects improved soil health. This also indicates possible organic matter additions, reduced erosion, and better nutrient retention.

Soil organic matter is the portion of soil made up of decomposing plant and animal material. In most productive agricultural soils, it typically ranges from 3% to 6%. This organic matter plays a vital role in supporting soil fertility and overall productivity in numerous ways (Fenton et al., 2008). The pre-condition’s soil organic matter is 2.9 (medium), and raised to 5.0 (very high) after the slope stabilization strategies.

#### **Sources:**

Fenton, M., Albers, C., & Ketterings, Q. (2008). *Soil Organic Matter* (Agronomy Fact Sheet No. 41). Cornell Cooperative Extension, Department of Crop and Soil Sciences, Cornell University. Retrieved from Cornell Cooperative Extension. <https://franklin.cce.cornell.edu/resources/soil-organic-matter-fact-sheet>

#### **Limitations:**

Soil testing provides a snapshot of nutrient levels but may not fully capture spatial variability, seasonal changes, or biological activity in the soil.

***Contributes to flood management by providing an estimated additional 65,737 cu ft of storage capacity (almost three quarters of an Olympic-sized swimming pool), which helps to slow water flow and increase water retention.***

#### **Background:**

As part of the Grassy Branch Creek’s restoration process, the design team expanded the profile and floodplain to improve bank stability, which increases stormwater storage capacity during peak flow



events. The regrading of the stream banks expanded the active channel's volumetric capacity while enhancing the sinuosity of the creek. This approach not only helps manage stormwater but also preserves and enhances the park's ecological value. By combining these techniques, the end result was a park with significantly increased stormwater holding capacity, and a reduced risk of flooding while ensuring long-term sustainability and water management.

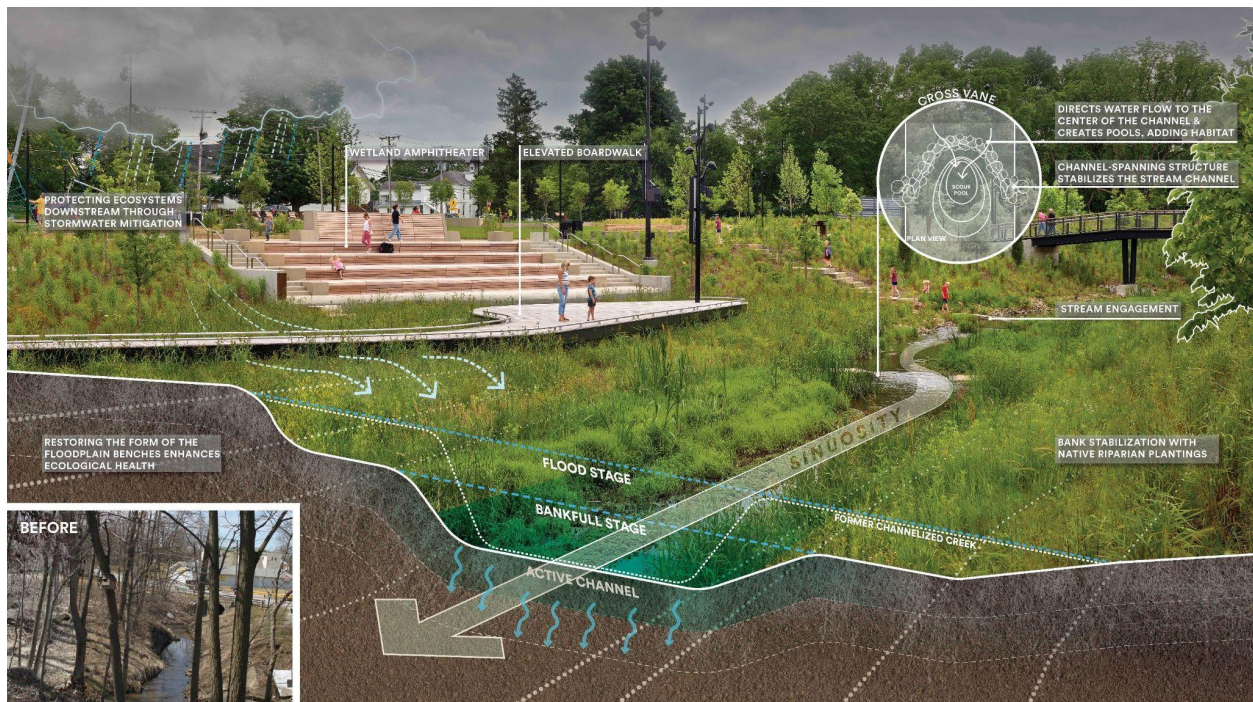


Figure 3: The Grassy Branch Creek restoration involved restoring the creek's natural profile. Source DAVID RUBIN Land Collective



Figure 4: Before (left) and after (right) images of Westfield's downtown after a major stormwater event in 2014. Source DAVID RUBIN Land Collective





*Figure 5: The flood projection modeling graphic. Original modeling incorporated streambank restoration north of the current site; however, this was removed from the scope of work due to the construction of a mixed-use development. Source: DAVID RUBIN Land Collective*

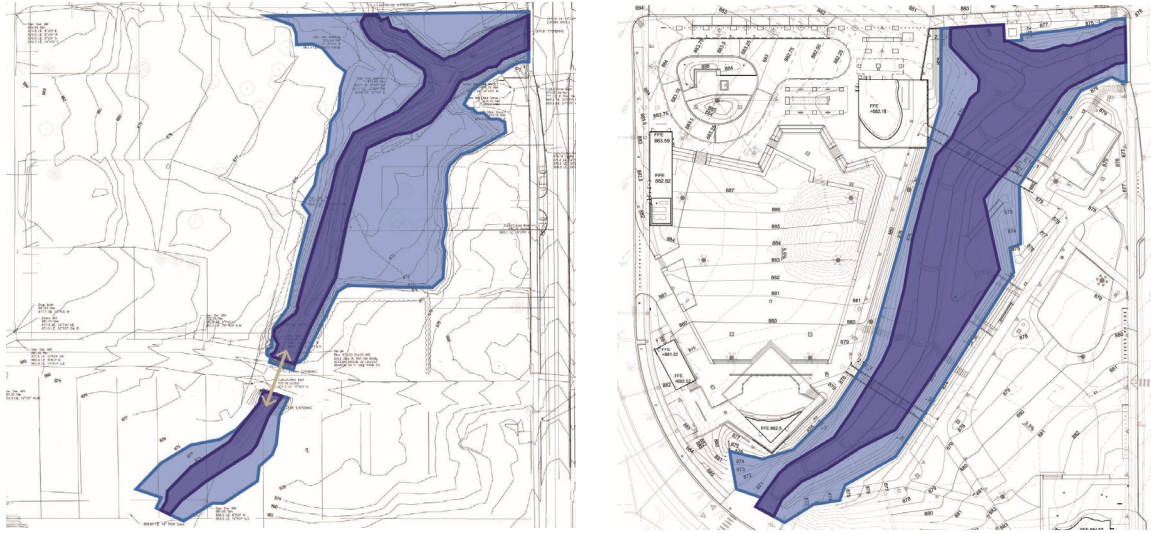


*Figure 6: A major flooding event after the weir's construction. Source: Michael Gangstad*

In addition, Michael Gangstad, Professional Engineer, Water Resources Dept. Manager, and Senior associate from Lochmueller Group who did the hydraulic modeling of the project, also monitored the project after its completion, and has shared his observation of years of performance of the park. See picture above.

### **Method:**

The team analyzed the topographical information from the pre-condition site survey and compared the volumetric capacity to the design's grading. Using AutoCAD software, the team found area calculations for each 1ft contour interval pre-development survey. The team used area calculations for the contours spanning between 867-875 since the profile of the creek stayed largely the same below contour 869 as documented by the design (see Figure 7).



*Figure 7: A reference image of pre-development survey grading (left) and current grading (right) comparison calculation. The 875 contour is highlighted in light blue and the 870 contour is highlighted in dark blue.*

The team used Prismoidal Formula to calculate the total volume of the applicable contours. The same method for volume calculations was applied to the current condition grading. The volume increased from the pre-development survey and the current condition was converted into gallons.

Prismoidal Formula:  $V = L (A + \text{Square Root } (A*B) + B) / 3$

*Table 1: Pre-Development Calculations*

Pre-Development Calculations				
Contour	Current Area (A)	Previous Area (B)	Contour Interval (L)	Volume (cu sf) $L(A + \text{Square Root } (A*B) + B)/3$
867	3503.848	n/a	1	n/a
868	6128.655	3503.848	1	4755.498107
869	14750.152	6128.655	1	10128.87482
870	17814.297	14750.152	1	16258.14441
871	26207.147	17814.297	1	21876.14377
872	37722.373	26207.147	1	31790.48764
873	45542.306	37722.373	1	41571.00217
874	56113.011	45542.306	1	50735.8093

875	63,628.45	56113.011	1	59831.38402
<b>Total Volume (cu sf)</b>				<b>236947.3442</b>

*Table 2: Current Condition Calculations*

Current Condition Calculations				
Contour	Current Area (A)	Previous Area (B)	Contour Interval (L)	Volume ( cu sf) $L(A + \text{Square Root } (A*B) + B)/3$
867	3503.848	n/a	1	n/a
868	6128.655	3503.848	1	4755.498107
869	25891.6102	6128.655	1	14872.37327
870	38072.5596	25891.6102	1	31786.9943
871	43794.371	38072.5596	1	40900.09895
872	48221.9278	43794.371	1	45990.38568
873	52794.2022	48221.9278	1	50490.80999
874	57226.8482	52794.2022	1	54995.63689
875	61,513.46	57226.8482	1	59357.25334
<b>Total Volume (cu sf)</b>				<b>303149.0505</b>

- Pre-Development Volume: **236,947.3442 cu ft**
- Current Condition Volume: **303,149.0505 cu ft**
- Volume Increase (cubic sf):  $303,149.0505 - 236,947.3442 = \mathbf{66,201.70629 \text{ cu ft}}$
- Volume Increase (gallons):
  - 1 cu sf = 7.48052 gallons
  - $66,201.70629 \times 7.48052 = \mathbf{495,223.1879 \text{ gallons}}$
- Olympic Pool Conversion
  - Volume of Olympic Pool: **660430 gallons**
  - Olympic Pool Ratio:  $495,223.1879 / 660430 = \mathbf{0.7498}$

**Sources:**

CAD files provided by the landscape architect (DAVID RUBIN Land Collective)

***Limitations:***

- The volume calculations were based on CAD drawings provided by a landscape architect. The CAD drawing represent idealized grading, and do not capture real-time environmental site conditions
- The Prismoidal Formula approximates volume and does not completely capture complex topography. This can include steep slopes and irregular contours, leading to an estimation of the total volumetric capacity.

***Supports habitat for at least 51 bird species observed at the nearby Midland Trace Trail Station, including 13 species not recorded before 2019; nearby bird hotspots also showed increased species richness and rising observation frequency for some populations.***

***Background:***

The Grand Junction Plaza's rewilding of Grassy Branch, including the stabilization of the creek and installation of engineered weirs that create slow-moving pools, has significantly enhanced aquatic habitat, leading to the return of fish and attracting waterfowl, herons, and even birds of prey. Additionally, its connection to wooded riparian corridors and nearby parks such as Cool Creek Park provides habitat features, like woodland edges, wetlands, and native plantings, that support a diversity of bird species, including warblers, sparrows, and waterfowl.

***Method:***

For this study the team utilized an online tool, eBird, to gather data on bird sightings. eBird is one the world's biggest biodiversity tool compiled by users contributing bird sightings around the world. This collaborative tool is composed of hundreds of partner organizations, regional experts, and hundreds of thousands of bird enthusiasts, with the web features managed by the Cornell Lab of Ornithology. For our study, one hotspot was identified right next to the park, which is Midland Trace Trail Station. This hotspot station is 0.5 miles away from the Grand Junction Park and Plaza. The construction of the park serves to better connect the existing Midland Trace Trails and enhance bird habitat. In addition, the team also focused on the number of species spotted around our primary location that ranged to a reasonable distance (around 2-3 miles) and the frequency of those species at those locations. Thanks to the data found we were able to see the number of species seen from 2015-2020 the 5-year period prior to the construction of the park as well as the increase of species after construction from 2020-2025.





Figure 8: eBird website reference. Source: eBird

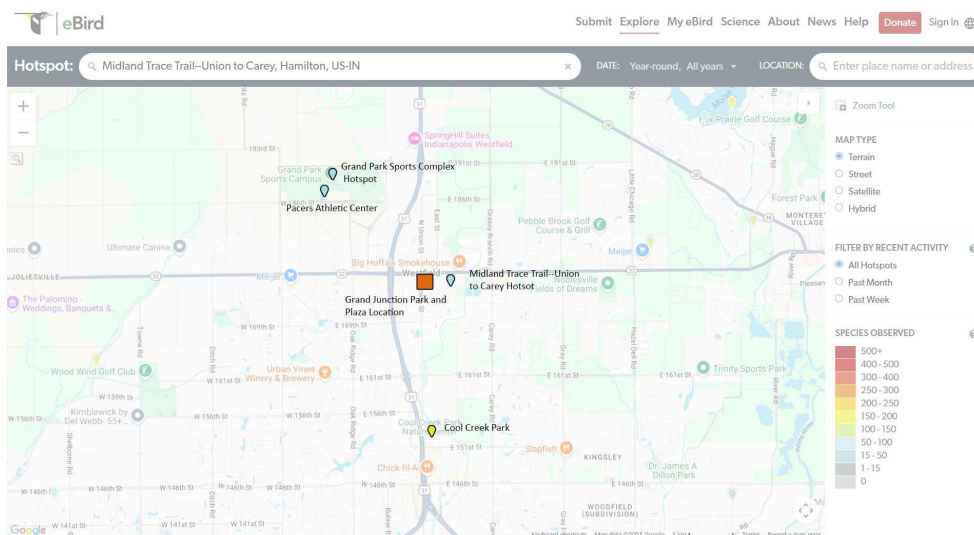


Figure 9: eBird Hotspot Map close to Grand Junction Park and Plaza. Source: eBird with adaptations

After a study conducted to understand both the general species richness of species recorded and frequency of said species, it was able to be determined that in general the creation and installation of Grand Junction Park and Plaza has been a benefit to local bird species. eBird has provided several hotspots, areas where birds were commonly reported to be seen, that gave a general idea of the overall health of the ecosystem of regional greenspaces in terms of bird species. These hotspots include Midland Trace Trail, Pacers Athletic Center, Cool Creek Park, and River Road Park North. These hotspots were picked due to their close proximity to the Grand Junction Park and Plaza (see Figure 9). This method followed a trajectory path from 2015-2020 observing the number of reports that flowed in going from 2015-2016, 2015-2017, 2016-18, etc. Then the same pattern from 2020-2025 revealed the data we needed. This process allowed us to see the number of recorded species as well as the frequency of those species being spotted. For frequency while there is a large pool of birds to pick, the chosen ones were picked based on their being the most commonly observed species in categories.



### Calculations:

Table 3: Total species observed within a year

Hotspot Observed Data	-->2019	-->2020	2021	2022	2023	2024	2025	TREND
Midland Trace Trail--Union to Carey	38	47	18	38	48	51	51	Steady Increase
Pacers Athletic Center	5	9	6	40	40	40	40	Increased and Plateaued
Cool Creek Park	152	156	149	152	158	162	163	Slight Increase
River Road Park North	127	144	135	139	140	141	141	Slight Increase

The first recorded table covered the Midland Trace Trail that indicated that from 2015-2020 the general population of different species has steadily improved since 2019 until present day. At Pacers Athletic Center, trends indicated noticeable improvement in 2021-2022 jumping from 6 species recorded to 40 and then plateaued until 2025. Cool Creek Park (the largest sample study) has shown a steady trend from 2015-2025, but numbers reached an all-time high in 2025. Lastly, at River Road Park North the number of species has larger portions after the creation of the park in comparison to the time frame of 2015-2020. The recorded data indicates that for all locations of the hotspots species in a general sense tended to populate the surrounding areas after the construction of the park.

Table 4: Frequency of some commonly seen species within Midland Trace Trail Hotspot

Hotspot Observed Data	-->2019	-->2020	2021	2022	2023	2024	2025
Frequency: how often a species is reported on complete checklists within a specified date range and region, measured by percent of checklists reporting the species. Frequency is used on the <a href="#">eBird Bar Charts</a> and in the purple grids on species maps.							
<b>Midland Trace Trail--Union to Carey</b>							
Canada Goose	50	50	100	100	100	100	100
Blue Jay	50	50	0	100	100	100	100
American Robin	100	100	100	100	100	100	100
Mallard	0	0	0	0	0	100	100
Carolina Chickadee	50	50	0	100	100	100	100
Killdeer	50	100	100	100	100	100	100

The second table was to record the frequency of certain species. Frequency was defined by the eBird Glossary as how often a species is reported on complete checklists within a specified date range and region, measured by percent of checklists reporting the species. Frequency is used on the eBird Bar Charts and in the purple grids on species maps. For this data set we recorded the closest hotspot and picked different types of native bird species that include Canada Geese, Blue Jays, American Robin, Killdeer, and Carolina Chickadee. A common trend found was no recorded data from 2015-2018 and

frequency of recorded species was pretty much the same going from 50-50 (50% of chance being observed) or 100-100 (observed every time) during the 2015-2020 time period. After the construction from 2020-2025 frequency of these birds doubled, indicating a positive effect that the park has had on bird species.

**Sources:**

eBird. n.d. "Explore Hotspots - eBird." Accessed May 20, 2025. <https://ebird.org/hotspots>.

**Limitations:**

- Some locations lack recorded bird data between 2015 and 2019. These gaps reduce temporal completeness and may skew trend analysis. Plus, the impact of COVID might have low numbers of observed species as well.
- eBird data relies heavily on citizen scientists, and uneven observer effort across locations and times can lead to sampling bias.
- As the platform continues to grow, fewer species could be reported in earlier years due to lower eBird participation.

*Provides habitat for at least 9 consistently observed fish and amphibian species, as documented by a citizen science program that has been conducted continuously for over 3 years.*

**Method:**

The City of Westfield hosts "Creek Stomp" activities on Grand Junction Park and Plaza every summer from June to August. The Creek Stomp is a community engagement activity that allows residents to splash around in the creek and learn about watersheds, invasive species, and creek wildlife with activity supervisors. This is a family-friendly event and space is limited to 20 participants per Creek Stomp.

Over the past 3.5 years that this activity has been hosted, it has consistently been led by John Capes, Program Coordinator for Westfield Parks and Recreation. In our interview with John, he noted that while he did not systematically record the number of organisms observed or caught during the creek stomp events, he has retained some photographs of past specimens (see Figure 11). Anecdotally, he believes the habitat has improved, citing an apparent increase in sightings of water snakes, aquatic frogs, and fish.

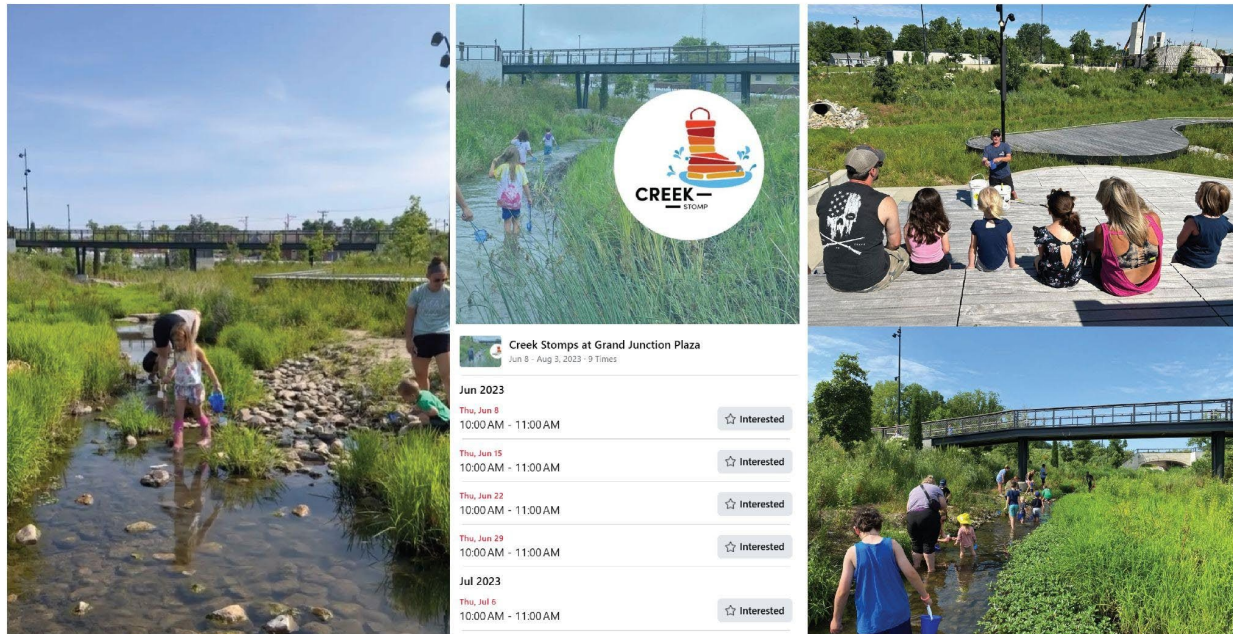


Figure 10. The Creek Stomp Program announcement and activity pictures. Source: Westfield Welcome.



Figure 11. Some examples of animals that were spotted or caught during the creek stomp activities in the past three years. Source: John Capes.

**Sources:** In person interview with John Capes, program manager of the Creek Stomp Program.



### **Limitations:**

One key limitation of this study is the lack of quantitative data from external sources such as the Indiana Department of Natural Resources (DNR) or other environmental monitoring agencies. Despite efforts to locate historical or regional biodiversity and habitat data, no comprehensive datasets were available at this point to support a detailed comparison or trend analysis. As a result, our findings rely heavily on anecdotal evidence, observational records, and localized field data.

***Creates 80,280 sf of riparian woodland and wetland habitat consisting of 83% native plant species, with approximately 20% having specific pollinator value, 54% significantly supporting wildlife habitat and foraging, 56% serving as larval hosts, and 48% providing significant erosion control.***

### **Background:**

The Swamp Land Act of 1850 facilitated the transfer and drainage of wetlands across the United States to encourage agricultural development, significantly altering natural waterways. Grand Junction's pre-construction condition reflected this legacy, with a channelized creekbed bordered by a degraded, narrow planting buffer. In 2012, much of the site featured private residences and open lawn which abutted the creek (see Figure 12). While limited documentation exists on the original vegetation, a comparable upstream site included turfgrass and invasives like *Euonymus fortunei*, *Morus alba*, and *Glechoma hederacea* (see Figure 13). In response, restoration efforts prioritized a planting palette of native riparian species selected for their ability to stabilize streambanks, support wildlife habitat and foraging, and enhance visual aesthetic of the publicly facing park. A gradient of three riparian planting zones was introduced, designed to tolerate both dry conditions and periodic flooding from storms.



Figure 12: Pre-development aerial from 2012 (left); current condition aerial from 2024 (right). The current condition shows the riparian woodland and wetland extents highlighted in red. Source: Google Earth Pro



Figure 13: The undeveloped upstream planting condition includes turfgrass and invasives like *Euonymus fortunei*, *Morus alba*, and *Glechoma hederacea*.

### Method:

Using construction documents provided by Land Collective, the team identified the boundaries of three riparian planting zones which consisted of two woodland mixes and one wetland mix that form the larger riparian gradient along the Grassy Branch of Cool Creek. Through a combination of on-site plant identification and reference of the provided construction documents, the team assessed the ecological benefits of selected species. Ecological benefits were categorized by native status (specific to Indiana), pollinator value, support of wildlife through habitat creation and foraging, larval host potential, and erosion control.

Species were identified as having specific pollinator value if recognized by pollination ecologists, based on criteria from the Xerces Society for Invertebrate Conservation as attracting large numbers of bees, butterflies, flies, wasps, beetles, and moths. Species data regarding supporting wildlife, larval hosts, and erosion control was sourced from the Indiana Native Plant Society, the USDA PLANTS Database, and several university databases. The collected information was then converted into percentages based on each ecological benefit. (See Appendix B for complete plant calculations)

### Calculations:

Table 5: Planting Calculations

Riparian Woodland and Wetland Species Calculations		
Category	Number	Percent
Total Overall Species	41	n/A
Total Native Indiana Species	34	$(34/41) \times 100 = 83\%$
Total Nonnative Species	7	$(7/41) \times 100 = 17\%$

Total Pollinator Attractors	7	$(7/41) \times 100 = 17\%$
Total Wildlife Attractors	22	$(22/41) \times 100 = 54\%$
Total Larval Hosts	23	$(23/41) \times 100 = 56\%$
Total Erosion Control Species	20	$(20/41) \times 100 = 49\%$

### **Sources:**

Indiana Native Plant Society. n.d. "Indiana Native Plant Finder." Indiana Native Plant Finder.

<https://finder.indiananativeplants.org/>

Missouri Botanical Garden. n.d. "Plant Finder." Accessed July 21, 2025.

<https://www.missouribotanicalgarden.org/plantfinder/plantfindersearch.aspx>.

NC State Extension. n.d. "North Carolina Extension Gardener Plant Toolbox." Accessed July 21, 2025.

<https://plants.ces.ncsu.edu/>.

Purdue University Arboretum. n.d. "Purdue Arboretum Explorer." Purdue Arboretum Explorer. Accessed July 21, 2025. <https://www.arboretum.purdue.edu/explorer/>.

USDA Natural Resources Conservation Service. n.d. "USDA Plants Database." Accessed July 21, 2025.

<https://plants.usda.gov/>.

Xerces Society. n.d. "Pollinator-Friendly Native Plant Lists." Accessed July 21, 2025.

[https://xerces.org/pollinator-conservation/pollinator-friendly-plant-lists?field\\_state\\_target\\_id=69](https://xerces.org/pollinator-conservation/pollinator-friendly-plant-lists?field_state_target_id=69).

Construction document data provided by the landscape architect (David Rubin Land Collective)

### **Limitations:**

- Some species of plants may have been misidentified due to similarities with other species and cultivars.
- Depending on the season and time, certain plant species may or may not have been visible when the counts were conducted. Consequently some species may be over- or underrepresented.
- Ecological benefits for each species may vary between or beyond what has been noted by certain resources. The overall benefits may vary regionally or be under-researched.



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## Social Benefits

### ***Overall strategies for social benefits:***

To evaluate the social benefits of Grand Junction Park and Plaza, the research employed a combination of methods that ranged from on-site engagement and behavioral observation to digital tools and data analysis. Sources included archival materials, social media content, publicly available city datasets, direct surveys and interviews with park users, and mobility insights generated by Placer.ai. To recruit survey responses, the team produced two yard signs with survey QR code and placed them on two spaces of Grand Junction Park and Plaza from May 29th to July 24th. Moreover, a total of six site visits were conducted between February and July 2025, with student volunteers and the PI actively seeking participants to answer survey questions, on May 22, May 29, June 5, and June 12, during farmers market events. These efforts yielded 52 survey responses. Participation was entirely voluntary, and not all respondents answered every question; as such, the number of responses varies across individual survey items and is noted accordingly in each section. The complete survey instrument is included in Appendix 1.



Figure 14: Survey recruitment for Grand Junction Park and Plaza.

***Attracted 89,700 visits between July 2024 to June 2025, with an average of 246 daily visitors. 35,500 of those visits were by Westfield residents. The average dwell time for each visit was 55 minutes.***

### ***Background:***

Grand Junction Park and Plaza was envisioned as a civic centerpiece for Westfield to serve as a place where the community could come together, celebrate, and connect. Measuring visitation patterns and times spent at the park provides insight into how well the park is fulfilling its role as a vibrant social hub and anchor for community life.

### Methods:

Placer.ai is a location analytics platform that uses anonymous mobile device data to gain insights into real-world human movement and visitation patterns. It works by aggregating GPS signals from smartphones to estimate foot traffic, dwell time, and visitor origin and visitation trends at specific locations. We worked with Hamilton County Tourism information center and received the Placer.ai data for Grand Junction Park and Plaza. Between July 2024 and June 2025, Grand Junction Park and Plaza attracted approximately 89,700 visits, averaging 246 visitors per day. Of these, an estimated 35,500 visits were made by Westfield residents, highlighting strong local engagement with the space. The average dwell time per visit was 55 minutes, suggesting that visitors not only frequent the park but tend to stay and engage with its amenities for extended periods.

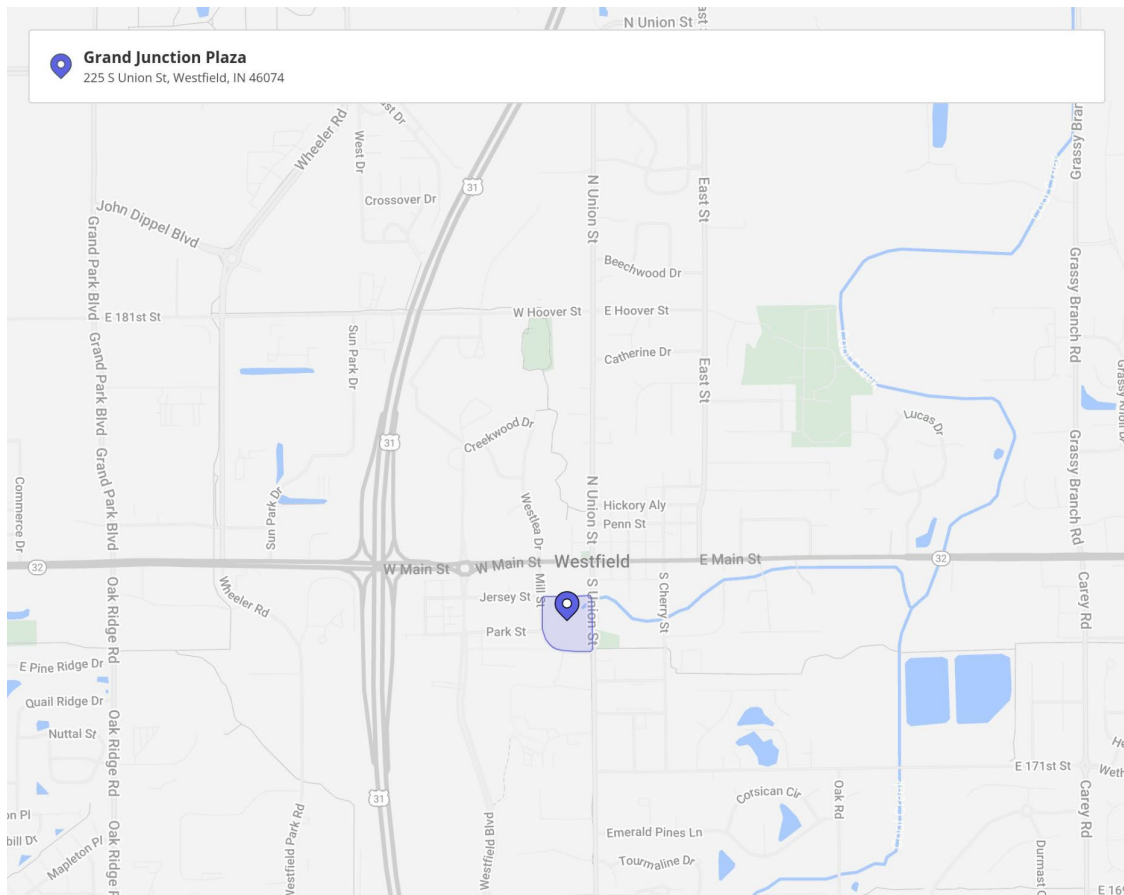


Figure 15: Boundary set up for Grand Junction Park and Plaza in Placer.ai. Source: Placer.ai

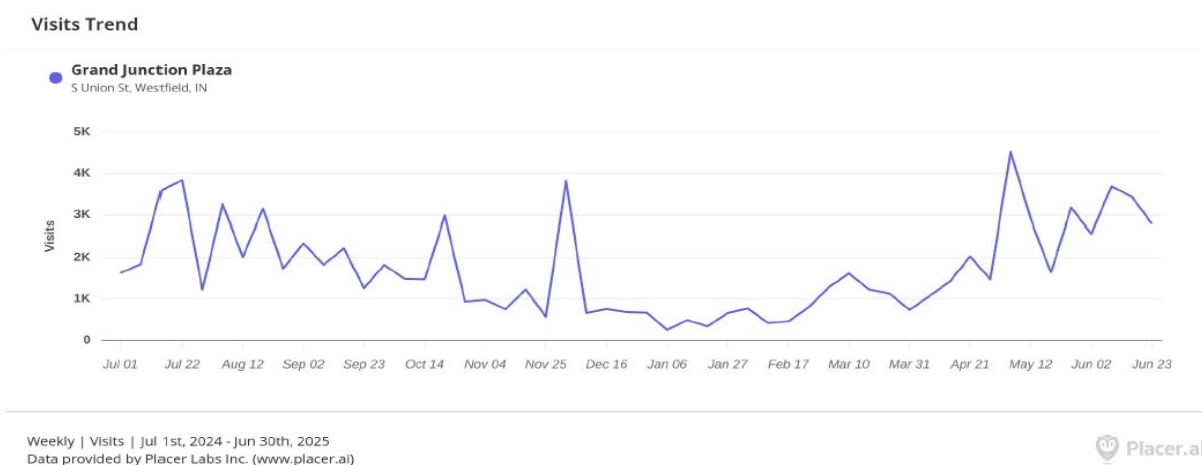


Figure 16: The Visits Trend of Grand Junction Park and Plaza. Source: Placer.ai

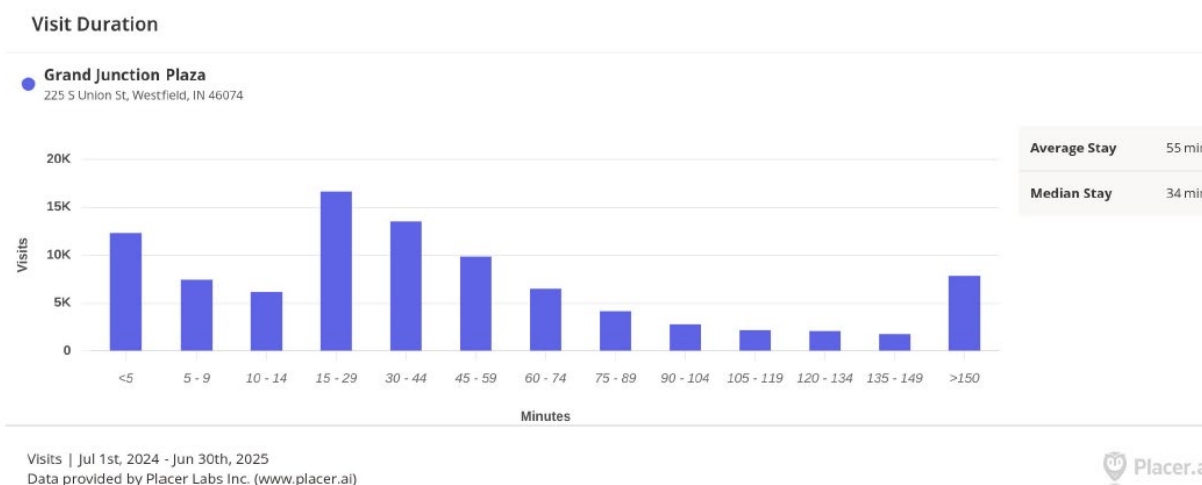


Figure 17: The visit duration time for Grand Junction Park and Plaza. Source: Placer.ai

### Source:

Report of Grand Junction Park and Plaza and Park by Placer.ai.

### Limitations:

- Placer.ai relies on anonymous location data from mobile devices, hence it may not be completely equivalent to the specific data of the user population. For example, it may underestimate the population with low smartphone usage, such as young children and the elderly. In addition, it cannot capture mobile phone users who choose not to share location information.



*Provides 17 different physical and recreational programs for a wide range of age groups, totaling 55,206 participants annually. 100% of 36 surveyed visitors agree that the park is friendly to all age groups.*

**Background:**

Grand Junction Park & Plaza has become a recreational hub for the community, offering many physical and recreational programs for all age groups. Since opening, the park has hosted 91 events. These 91 events encompassed 17 unique programs, such as the Shamrock Drop, Kid's Concert Series, and Creek Stomps. The events have engaged a wide range of age groups and span across multiple seasons throughout the year.



Figure 18: Activities hosted at Grand Junction throughout the years. Source: The City of Westfield

**Method:**

Data was collected by the Westfield Parks and Recreation Department using surveys, Placer.Ai, and other quantitative methods such as observation and counting since 2023. The team also distributed

surveys in-person and online to determine park user's experience when visiting Grand Junction Park and Plaza.

**Calculations:**

*Table 6: Programming and estimated participants*

Grand Junction Park and Plaza Programming 2023-April 2025	
<b>Event (Number in event series)</b>	<b>Participants at each event (age group)</b>
Shamrock Drop (2)	600
Farmers Market (17)	23,800 (Family-Friendly)
Jams at the Junction (13)	10,500
Kids Summer Series (12)	2,600
Movies in the Plaza (9)	3,000 (Family-Friendly)
Cuisine. Connect. Culture. (2)	4,000
Pumpkin Funktion (2)	3,000
Ice Ribbon Grand Opening (1)	N/A
Westfield in Lights (2)	5,000
DWA's Party On the Plaza (2)	250
Trick or Treating (1)	2,000
Creek Stomps (8)	87
Workout Wednesdays (9)	32 (Ages 12 and up)
Gardening for Butterflies (1)	12
Wiffle Ball Wednesday (1)	4 (Family-Friendly)
Farm to Glass Program (5)	49
Friday Fitness Walks (4)	22

Moreover, within the survey, 36 people answered the question, "Do you agree with the following statement: The Grand Junction Park and Plaza is friendly to a variety of age groups." 9 responses choose the choice, "agree", while 27 responses choose "Yes! Strongly Agree," indicating the users' satisfaction of the age-friendly features and programs provided by Grand Junction Park and Plaza.

**Sources:**

Participant and Program Data were collected from the Westfield Parks and Recreation Department. Survey responses were collected using online platform Qualtrics via “Grand Junction Park and Plaza User Experience Survey,” see Appendix A for survey question details.

**Limitations:**

- Some data collection methods are estimations provided by the Westfield Parks and Rec department. The research team did not independently verify this data.

*Promotes the quality of life for nearby residents. 86% of 52 surveyed visitors find that Grand Junction Park and Plaza has improved the aesthetics of Westfield, 80% agree that it has provided more spaces for communities to gather and enhanced social and cultural value, and 74% agree that it has improved environmental quality.*

**Method:**

In the online survey that was distributed, questions were posed to evaluate how communities perceive the park’s impact across multiple dimensions of quality of life, from visual appeal and environment to social values, inclusivity, and connectivity. Specifically, the question below aims to provide insight into which aspects the park has brought the most changes.

Do you find the Grand Junction Park and Plaza to have improved in the quality of life in any of the following categories? (select all that applies)

- ☐ Aesthetics (it makes Westfield more beautiful)
- ☐ Environmental (it increased water quality and added more plants)
- ☐ Social and cultural (it provided more spaces for people to gather)
- ☐ Accessibility (it allows people with all abilities to explore the park)
- ☐ Connectivity (it helped connecting the existing trail systems)
- ☐ None of the above

**Calculations:**

A total of 35 respondents completed this question, with non-responses excluded from the analysis. The number of selections for the corresponding options were 30, 26, 28, 21, and 19, respectively. Survey responses indicate that the Grand Junction Park and Plaza has positively impacted multiple aspects of quality of life for Westfield residents. Aesthetics ranked highest, with 86% of respondents agreeing that the park has made the city more beautiful. This was closely followed by social and cultural benefits, with 80% recognizing the park’s role in providing more spaces for people to gather. Environmental improvements, such as enhanced water quality and increased plantings, were acknowledged by 74% of



participants. Additionally, 60% of respondents noted improved connectivity through better integration with existing trail systems, while 54% appreciated the park’s accessibility features that allow people of all abilities to explore the space.

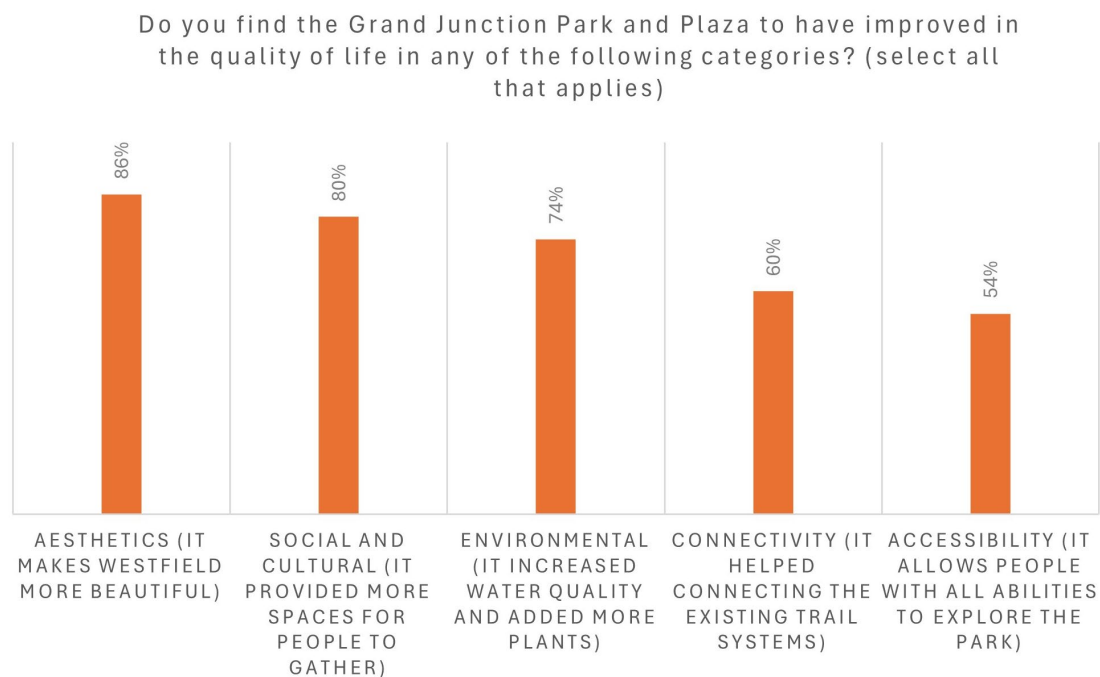


Figure 19: Survey response to answer the quality of life improvement of Grand Junction Park and Plaza.

**Sources:** Survey responses were collected using online platform Qualtrics via “Grand Junction Park and Plaza User Experience Survey,” see Appendix A for survey question details.

**Limitations:** See overall description of social benefit on Page 16.

*Promotes spending time outdoors. 83% of 18 surveyed Westfield residents reported spending more time outside after the park was built; of this group 61% reported visiting the park at least once a week. 78% of surveyed residents reported spending an average of 30 minutes to 2 hours each visit.*

**Method:**

Do you agree with the following statement: After this Park was built, I/my family has spent more time outside

- Yes! Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

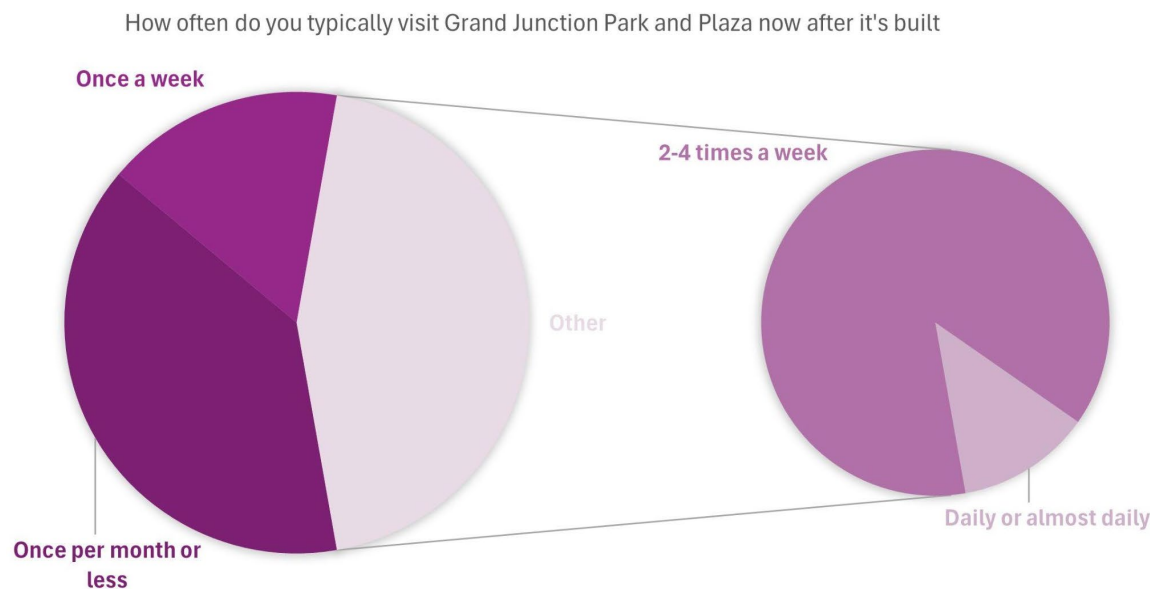
How often do you typically visit Grand Junction Park and Plaza now after it's built

- Daily or almost daily
- 2-4 times a week
- Once a week
- Once per month or less
- Never

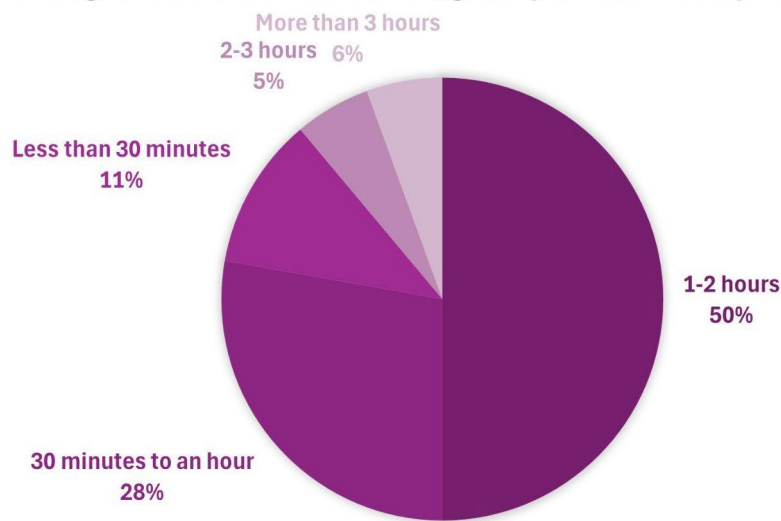
When visiting the Grand Junction Park and Plaza, generally how much time do you spend here?

- Less than 30 minutes
- 30 minutes to an hour
- 1-2 hours
- 2-3 hours
- More than 3 hours

**Calculations:**



When visiting the Grand Junction Park and Plaza, generally how much time do you spend here?



*Figure 20: Visitation and duration survey responses*

While Westfield serves as a junction for surrounding communities, this evaluation focuses specifically on the park's impact on Westfield residents in order to assess its "living room" effect. Among all survey participants, 18 identified themselves as Westfield residents. Of those, 15 indicated that the Grand Junction Park and Plaza has increased the amount of time their family spends outdoors, suggesting a strong local benefit tied to daily quality of life ( $15/18 = 83.3\%$ ).

Among the 18 Westfield residents surveyed, park usage varied: 7 reported visiting once per month or less, 3 visited once a week, another 7 used the park 2–4 times per week, and 1 resident indicated daily or near-daily use.  $(3+7+1)/18 = 61.1\%$  of residents visit the park at least once a week.

When asked about the average length of their visits to Grand Junction Park and Plaza, a majority of Westfield residents reported spending meaningful time in the space. Nine respondents said they typically stay for 1–2 hours, while five reported visits lasting 30 minutes to an hour. Two residents indicated shorter visits of less than 30 minutes, and two others reported longer stays, one for 2–3 hours and another for more than 3 hours. The majority of residents  $(5+9)/18 = 77.8\%$  spend an average of 30 minutes to 2 hours in every of their visits to the park.

**Sources:** Survey responses were collected using online platform Qualtrics via "Grand Junction Park and Plaza User Experience Survey," see Appendix A for survey question details.

**Limitations:**

See overall description of social benefit on Page 16.

*Positively influences the well-being and mental health of park users, with 95% of 37 surveyed visitors reporting feeling "overjoyed," "happy and relaxed," or "tranquil".*

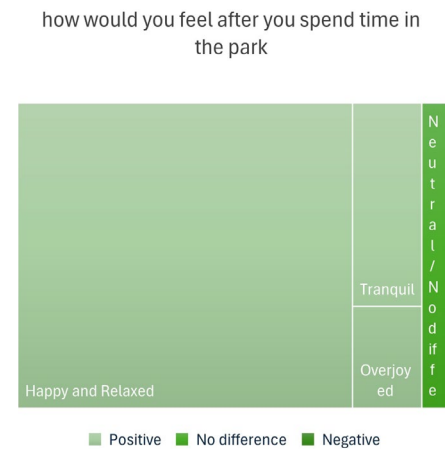
**Method:**

Normally, how would you feel after you spend time in the park?

- ☐ Overjoyed
- ☐ Happy and Relaxed
- ☐ Tranquil
- ☐ Neutral/No different
- ☐ Bored
- ☐ Sad
- ☐ Upset

**Calculations:**

Positive	Happy and Relaxed	29
	Overjoyed	2
	Tranquil	4
No difference	Neutral/No different	2
Negative	Bored	0
	Sad	0
	Upset	0



Among the respondents, 2 out of 37 selected 'Overjoyed,' 29 chose 'Happy and Relaxed,' and 4 indicated 'Tranquil.' In total, 35 out of 37 participants (94.6%) reported experiencing positive emotions.

**Sources:** Survey responses were collected using online platform Qualtrics via “Grand Junction Park and Plaza User Experience Survey”, see Appendix A for survey question details.

**Limitations:** See overall description of social benefit on Page 16.

*Decreases noise levels by an average of 14.4 decibels between the area adjacent Union Street and the Wetland Amphitheater within the park.*

**Background:**

Grand Junction Park and Plaza is bordered by several busy roads which carry high volumes of vehicular traffic throughout the day. In the meantime, due to the development of the city, the surrounding areas

have gone through some major improvement, with construction constantly underway. Mitigating the noise is important to enhance the comfort and enjoyment of the park.

The park design does not have mitigating noise as a top priority, however, the landscaped berms, plantings, terraced topography, and even water, all function as natural sound buffers that absorb, deflect, or muffle urban noises.

**Method:**

The research team conducted acoustic sampling at several strategically selected locations across the site using Tadeto Digital Portable Sound Level Meter. The measuring range of the sound level meter is 30dB to 130dB, highly accurate with  $\pm 2.0$  dB. The goal was to capture a representative range of noise levels and assess how the park’s design has mitigated surrounding noises. Sampling locations were chosen based on a combination of regularly spaced intervals—to establish a baseline understanding of ambient noise across the site—and targeted zones of interest. These included areas with high volumes of human activity, such as the Wetland Amphitheater; areas that closely mimicked the site’s pre-development conditions, such as those adjacent to the main road; and areas near natural features like the creek.

Two of the referenced sampled locations were positioned directly adjacent to the road to simulate the acoustic environment from the urban environment. At the same time, the Wetland Amphitheater, which is located near both the creek and a high-traffic pedestrian zone, was selected to evaluate how natural and social elements interact to influence sound levels. By comparing these varied conditions, the study aimed to identify gradients in noise exposure and delineate zones of acoustic impact across the park.



Figure 21. Images showing measurement process.

**Calculations:**

Table 7: Average Noise Calculations

Location	Average noise level calculated over 10 seconds using 5 readings (dB)
Along the street (active traffic) #1	66.0

Along the street (active traffic) #2	70.0
Along the street (Construction Site area)#3	67.5
Inside the park (meadow area) #1	52.7
Inside the park (playground) #2	56.0
Inside the park (along creek) #3	51.4

We used logarithmic mean (Mitchell, 2022) to calculate the appropriate average ambient noise level. The general process is indicated here: We first convert each dB value to its linear "anti-log" equivalent, and then we average all those linear values, and then we convert back to decibels.

With that calculation, the average ambient noise level (logarithmic mean) for the three near-street locations is approximately 68.15 dB.

The average ambient noise level (logarithmic mean) for the park areas is approximately 53.82 dB.

The average deduction of noise level =  $68.15 - 53.82 = 14.33$  dB

**Source:**

Mitchell, J. (2022, May 13). Calculating a logarithmic mean for noise data. eagle.io Help Center. Retrieved July 25, 2025, from eagle.io website

**Limitations:**

- The team attempted to measure average noise levels at different locations; however, intermittent construction noise may have led to slight inaccuracies in the measurements.
- Portable devices are highly sensitive to environmental factors which may lead to inconsistent or unrepresentative readings.
- Repeating the study across more locations and at different times may yield more reliable and representative results.

*Increased public sightlines of the creek by 560%, providing 2,316 linear ft of fully ADA-compliant access along the riparian corridor. This improvement appears to have contributed to greater environmental awareness among residents: 65% of 37 surveyed visitors reported being more aware of Cool Creek's water level and condition, and 60% noticed an increase in vegetation.*

**Background:**

The design of Grand Junction Park and Plaza significantly enhances publicly accessible views to Grassy



Creek, bringing the once-hidden stream back to light and creating unobstructed views from multiple vantage points throughout the park. The terraced amphitheater, gentle slopes, and strategically placed paths and seating areas now provide a continuous view of the water, inviting visitors to observe and interact with the stream as an integral part of the park experience. This then fosters a deeper level of environmental awareness by establishing the natural waterway as a striking and revered feature of the urban landscape, encouraging active participation and appreciation for the role of natural systems in their daily lives.

Grand Junction Park and Plaza has also played a key role in making Westfield a more accessible and inclusive community. Designed with universal access in mind, the park features smooth, ADA-compliant pathways, accessible play structures, and inclusive seating areas, ensuring that individuals of all ages and abilities can enjoy its amenities.

#### **Method:**



*Figure 22: Pre-development sightlines condition (left); current condition sightlines (right)*

To calculate the increased sightlines, we used GIS tools as well as on-site mapping to quantify the number of clear sightlines to the water from key public areas, which include paths, bridges, streets where water is visible, and edges. We compared the current sightlines with the pre-development phase, where rivers were only visible at the street and river intersection areas (see Figure 22).

In addition, to understand the environmental awareness improvement, the survey asks the following two questions:

By visiting the Grand Junction Park and Park, do you have a better understanding of Cool Creek's water level, water quality, and aquatic life, such as fish, within the river?

- o I better understand the river's water level, water quality, and aquatic life.
- o I notice them more, but did not understand better
- o I did not notice these changes

By visiting the Grand Junction Park and Park, have you noticed more different plants (trees and flowers) around you?

- o Yes, I definitely noticed more plant species (different flower types)
- o Maybe
- o No, I don't usually notice them.

#### Calculations:

- Pre-development total path distance with creek sightlines: **350 ft**
- Current condition total path distance with creek sightlines: **2,316 ft**
- Percent increase of paths with sightlines is  $(2316-350)/350 = 560\%$

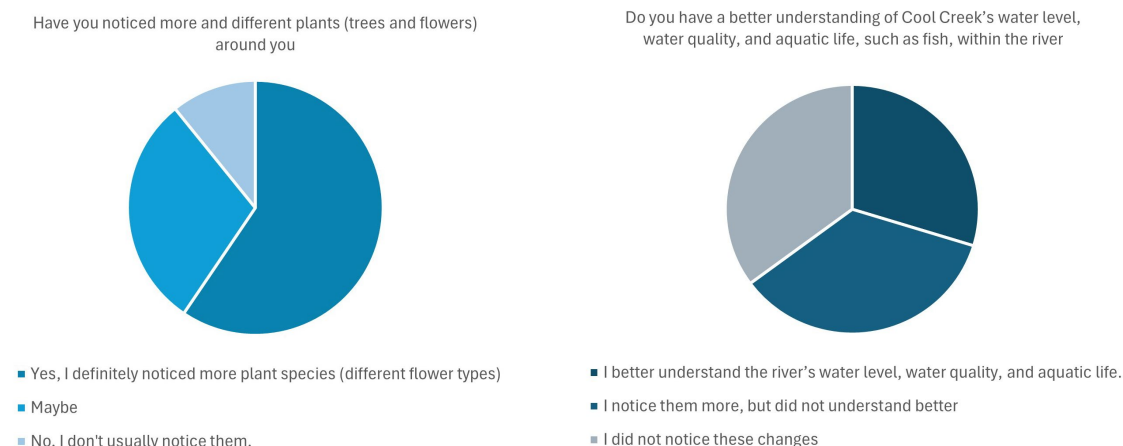


Figure 23: Environmental awareness survey responses

When asked about their awareness and understanding of the creek following the redevelopment of Grand Junction Park and Plaza, 11 respondents indicated that they now have a better understanding of the river's water level, water quality, and aquatic life. 13 others reported that they notice these aspects more than before, though their understanding has not necessarily deepened ( $11+13/37=64.9\%$ ). Another 13 respondents stated that they did not notice any changes. A majority of respondents (22) reported that they definitely noticed a greater variety of plant species, particularly different types of flowers, after the redevelopment of Grand Junction Park and Plaza ( $22/37 = 59.5\%$ ). An additional 11 respondents said they might have noticed more plants, while only 4 indicated they generally do not pay attention to vegetation.

**Sources:**

Survey responses were collected using online platform Qualtrics via “Grand Junction Park and Plaza User Experience Survey”, see Appendix A for survey question details.

Trust for Public Land | Park Score: <https://www.tpl.org/city/westfield-indiana>

**Limitations:** See overall description of social benefit on Page 16.

*Serves as a defining feature of the community’s identity and belonging, widely celebrated and embraced by local residents. 951 Instagram posts have been tagged with the “Grand Junction Park and Plaza” location since the park’s opening in 2022, with an average of 6.49 positive tones and 0.34 negative tones, indicating an overwhelmingly positive influence on the community.*

















**Background:**

Social media has become a powerful indicator of how people engage with and value public spaces. When residents frequently post photos, stories, and positive comments about a park or plaza, it signals not only high usage but also emotional attachment and pride. A surge in location-tagged content, hashtags, and shared experiences often reflects a place that resonates with the community and serves as both a backdrop for daily life and a symbol of shared identity.

After the plaza opened in 2022, the Grand Junction Plaza Instagram account quickly attracted over 2,000 followers, and its Facebook page earned nearly 2,800 likes, reflecting growing appreciation for the new community gathering place. The Instagram location of “Grand Junction Park and Plaza” in Westfield (<https://www.instagram.com/explore/locations/102739795587210/grand-junction-plaza/>) has received 951 posts as of 06/16/2025, with all posts were posted after 01/01/2022, indicating the success of “place making” of the park.

**Method:**

The researchers used Python and coding and scrapped all the available data points (Instagram posts) tagged with the “Grand Junction Park and Plaza” location on [Instagram website](#). A total of 361 posts were downloaded and categorized in excel format, as shown below. (Note: The number of Instagram posts we can scrape is often lower than what appears on the website because Instagram restricts access to older posts, private accounts, and certain content types. Scraping tools can usually only collect a limited sample of the most recent and publicly available posts.)

Alt	Caption	Child Posts	Comments Count	Dimensions	Dimensions	Display URL	First Comment Text/Content	Hashtags	ID	Images	Input URL
				Width	Height	displayURL					
1	Photos by Adam Awan on April 16, 2020 Checking out Westfield's newest park	4 items	0	1080	1580						<a href="https://www.instagram.com/adamawansp/IGC8tAgGta/">https://www.instagram.com/adamawansp/IGC8tAgGta/</a>
	Photos by Algeid Ghan on December 17, 2024 We watched the lighting of the Christmas tree this evening! 🌟🎄👉🏻	3 items	1	1350	1800				2 items	<a href="https://www.instagram.com/algeidgham/IGD77NqG7W/">https://www.instagram.com/algeidgham/IGD77NqG7W/</a>	<a href="https://www.instagram.com/algeidgham/IGD77NqG7W/">https://www.instagram.com/algeidgham/IGD77NqG7W/</a>
	Photos shared by Adam Baker on August 16, 2022 The first Seeds in the year is Westfield's great tropical food truck. 🌿	9 items	2	1350	1800						<a href="https://www.instagram.com/adamabaker/IGD90C218n/">https://www.instagram.com/adamabaker/IGD90C218n/</a>
	Photos by Algeid Ghan on Grand Junction Park We went on stunts! 🤸🏻‍♂️👉🏻	0 items	0	1350	1800						<a href="https://www.instagram.com/algeidgham/IGD77NqG7W/">https://www.instagram.com/algeidgham/IGD77NqG7W/</a>
	Photos by smart_privacy_chick on March 15, 2023 Checked out the new park in downtown Westfield last week. Not completed. 🏗️	3 items	10	1350	1800						<a href="https://www.instagram.com/smart_privacy_chick/IGD90C218n/">https://www.instagram.com/smart_privacy_chick/IGD90C218n/</a>
	Photos by Adam Awan on April 16, 2020 Checking out Westfield's newest park	5 items	0	1080	1580						<a href="https://www.instagram.com/adamawansp/IGC8tAgGta/">https://www.instagram.com/adamawansp/IGC8tAgGta/</a>
	Photos by Algeid Ghan on December 17, 2024 We've never had so much fun falling! 🌟🎄👉🏻	3 items	0	1350	1800						<a href="https://www.instagram.com/algeidgham/IGD77NqG7W/">https://www.instagram.com/algeidgham/IGD77NqG7W/</a>
	Photos by Adam Awan on May 25, 2023 Cicle plate are some playground and chocolate milk at the Westfield. 🍫👉🏻	4 items	0	1080	1580						<a href="https://www.instagram.com/adamawansp/IGC8tAgGta/">https://www.instagram.com/adamawansp/IGC8tAgGta/</a>

After initial investigation, we found out that all posts were posted after the park's opening in 2022.





After running the test, the team found that among all the posts, the positive tone and negative tone posts general division were as follows:

**Positive tone:**

Average = 6.49

Min. = 0

Max. = 33.33

Std. Dev. = 5.72

**Negative tone:**

Average = 0.34

Min. = 0

Max. = 33.33

Std. Dev. = 2.06

The park was voluntarily discussed among residents with an average of 6.49 positive tones and 0.34 negative tones, indicating an overwhelming positive influence it has brought to the community.

# Meaning Extraction

DATASET

SEGMENTATION

MEANING EXTRACTION SETTINGS

RESULTS

dataset\_instagram-scraper\_2025... (MEM Frequencies)

dataset\_instagram-scraper\_2025... (MEM Frequencies)

dataset\_instagram-scraper\_2025... (MEM Frequencies)

Word	Frequency	Frequency: Percent of Total Words	Rows with Word	Percentage of Rows with Word
market	80	0.3588	61	17.5287
see	60	0.2691	53	15.2299
pm	60	0.2691	39	11.2069
night	59	0.2646	53	15.2299
tonight	56	0.2512	47	13.5057
join	55	0.2467	48	13.7931
farmers	48	0.2153	44	12.6437
free	48	0.2153	40	11.4943
event	48	0.2153	39	11.2069
farmers market	47	0.2108	43	12.3563
westfieldindiana	45	0.2018	45	12.931
fun	43	0.1929	38	10.9195
great	41	0.1839	39	11.2069

Figure 26: Word meaning data extraction results documenting word frequency

We also ran a word analysis (by taking out the defining keywords like “Westfield” and “Grand Junction Park and Plaza”) and found frequent meaning words are mostly positive, like “fun”, “great”,

“alwaysfree”, “farmers market”, when people discuss the place. The word cloud of the social media posts attached below.



Figure 27: Word cloud of the most mentioned keywords in people's Instagram posts

**Source:**

Instagram Platform: <https://www.instagram.com/explore/locations/102739795587210/grand-jeff-plaza/>

**Limitations:**

- Using natural language models to analyze social media data for park sentiment has limitations, as posts may not explicitly reflect users' true feelings or intentions. Additionally, the sample can be biased, in which the platform might favor those who post more frequently or have strong opinions. The people who post regularly won't necessarily capture a representative view of the broader community.

## Economic Benefits

***Contributed to a 96% average increase in assessed property values within a half-mile radius from 2019 to 2025, as compared to a 51% increase in surrounding neighborhoods beyond that radius.***

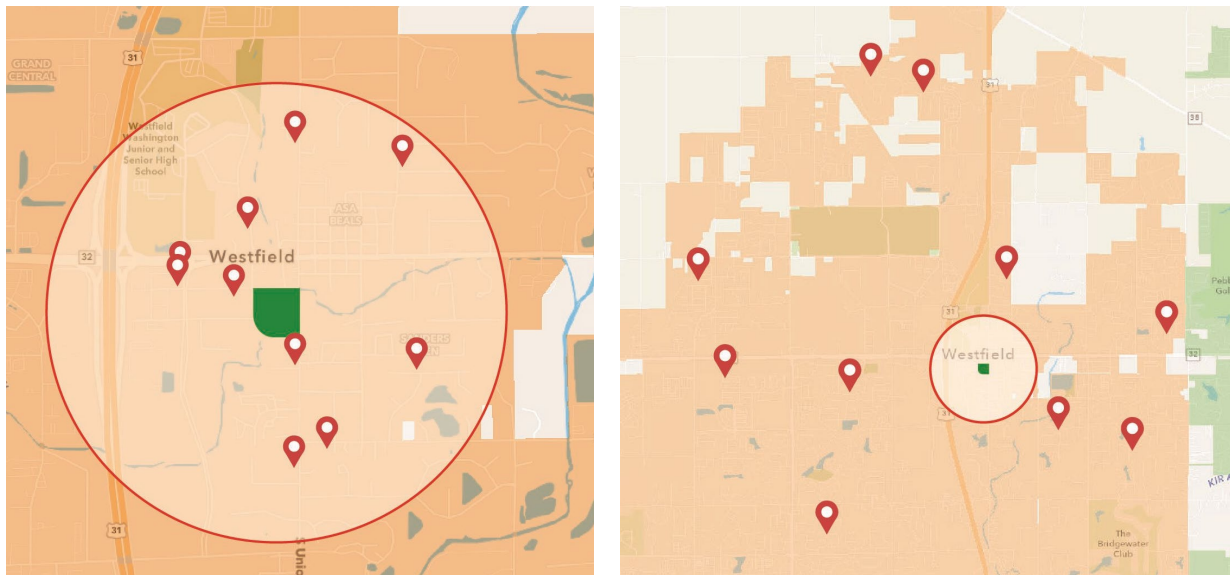
### ***Background:***

According to a 2022 estimate by the US Census Bureau, the City of Westfield Indiana was noted as one of the fastest growing cities in the United States. Over the past few years, new commercial developments and public amenities have been established near Grand Junction Park and Plaza which may contribute to a rise in the property values of the adjacent neighborhoods over the past decade.

### ***Method:***

The change in property values was calculated using property reports from Hamilton County's Property Reports and Payments online portal and Hamilton County GIS. The property value records date from 2019 to 2025 and includes ownership, acreage, property use, and valuation records.

The research team set a 0.5-mile radius from Grand Junction Park and Plaza to capture ten residential property values of similar size. Using the figures from 2019 and 2025, the team found the percent change for each property. The same calculation process was applied for a control group consisting of ten residential properties within the Westfield city limits and outside of the 0.5-mile Grand Junction Park and Plaza radius.



**Figure 28: Properties within 0.5-mile radius (left); Properties outside of 0.5-mile radius (right). The green denotes Grand Junction Park and Plaza**

**Calculations:**

*Table 8: Properties Within 0.5-Mile Radius*

Properties Within 0.5 Mile Radius						
Address	Acres	Property Use	Year	Appraised Value	Increase (2019-2025)	Percent Change
123 Poplar St	N/A	Residential	2019	\$113,300	\$106,200	93.73%
			2025	\$219,500		
131 Poplar St	N/A	Residential	2019	\$172,000	\$165,500	96.22%
			2025	\$337,500		
133 Westlea Dr	N/A	Residential	2019	\$100,600	\$93,100	92.54%
			2025	\$193,700		
201 E South St	0.37	Residential	2019	\$115,200	\$118,600	102.95%
			2025	\$233,800		
401 S Union St	0.43	Residential	2019	\$209,700	\$203,200	96.90%
			2025	\$412,900		
227 Jersey St	N/A	Residential	2019	\$105,000	\$105,100	100.10%
			2025	\$210,100		
611 S Union St	N/A	Residential	2019	\$137,400	\$125,700	91.48%
			2025	\$263,100		
2114 Pheasant Run	N/A	Residential	2019	\$154,900	\$137,000	88.44%
			2025	\$291,900		



408 Birch St	N/A	Residential	2019	\$80,700	\$94,100	116.60%
			2025	\$174,800		
345 N Union St	N/A	Residential	2019	\$196,300	\$167,500	85.33%
			2025	\$363,800		
						<b>Average Percent Increase: 96.43%</b>

Table 9: Properties Outside of 0.5-Mile Radius

Properties Outside of 0.5-Mile Radius						
Address	Acres	Property Use	Year	Appraised Value	Increase (2019-2025)	Percent Change
24 W Woodsage Ct	0.40	Residential	2019	\$229,100	\$98,600	43.00%
			2025	\$327,700		
16736 Oak Manor Dr	0.37	Residential	2019	\$556,100	\$189,400	34.06%
			2025	\$745,500		
17749 Sundial Ct	0.21	Residential	2019	\$254,600	\$111,900	78.41%
			2025	\$142,700		
1041 Retford Dr	0.17	Residential	2019	\$242,900	\$130,900	53.89%
			2025	\$373,800		
1000 Chatham Hills Blvd	0.38	Residential	2019	\$937,500	\$413,500	44.11%
			2025	\$1,351,000		

1291 Reichart Dr	0.24	Residential	2019	\$360,200	\$115,200	31.98%
			2025	\$475,400		
258 E Pine Ridge Dr	0.23	Residential	2019	\$166,400	\$113,500	68.21%
			2025	\$279,900		
1956 Harvest Meadows Dr S	0.16	Residential	2019	\$140,600	\$120,300	85.56%
			2025	\$260,900		
3910 Woodcrest Ct	0.61	Residential	2019	\$822,000	\$357,900	43.54%
			2025	\$1,179,900		
75 Old Ashbury Rd	0.33	Residential	2019	\$1,010,500	\$293,100	29.01%
			2025	\$1,303,600		
						<b>Average Percent Increase: 51.18%</b>

**Sources:**

“Hamilton County Property Report and Payments.” n.d. Hamilton County Indiana. Accessed July 11, 2025. <https://secure2.hamiltoncounty.in.gov/PropertyReports/index.aspx>.  
Hamilton County Surveyor’s Office. n.d. “Hamilton County Map Viewer.” ESRI ArcGIS. Accessed July 11, 2025. <https://experience.arcgis.com/experience/619d96a48c8241cbad905b9e640c157f>.

**Limitations:**

- While the overall appraisal value of a home may be correlated to the introduction of the park, other factors such as renovations, amenity upgrades, national and local housing market trends, and environmental influences may impact property values.
- Many residential properties in Westfield have been developed since 2019. These properties were not considered for this analysis to reduce timeframe variables.
- Property data before 2019 is not publicly accessible.

- Residences that were constructed between 2019 and 2025 were not considered in the calculation.

*Contributed to Westfield, Indiana's economic development by supporting \$125 million in applied investments and \$364 million in proposed investments within a half mile of the site since 2021. Developments include approximately 1,204 housing units and over 309,000 sf of commercial, retail, and office space.*

#### **Background:**

Over the past three decades, the City of Westfield has made significant efforts to revitalize and grow its historic downtown district. These efforts were formalized in the Grand Junction Implementation Plan of 2013, which set a clear vision for downtown redevelopment centered around the creation of Grand Junction Park and Plaza as the gateway development. As the district's signature public space, the plaza is set to encourage broader development by connecting regional trail networks, supporting local commerce, and contributing to the city's stormwater management system. Prior to and since its construction, the park has contributed to a wave of private and publicly funded investment in the surrounding area.

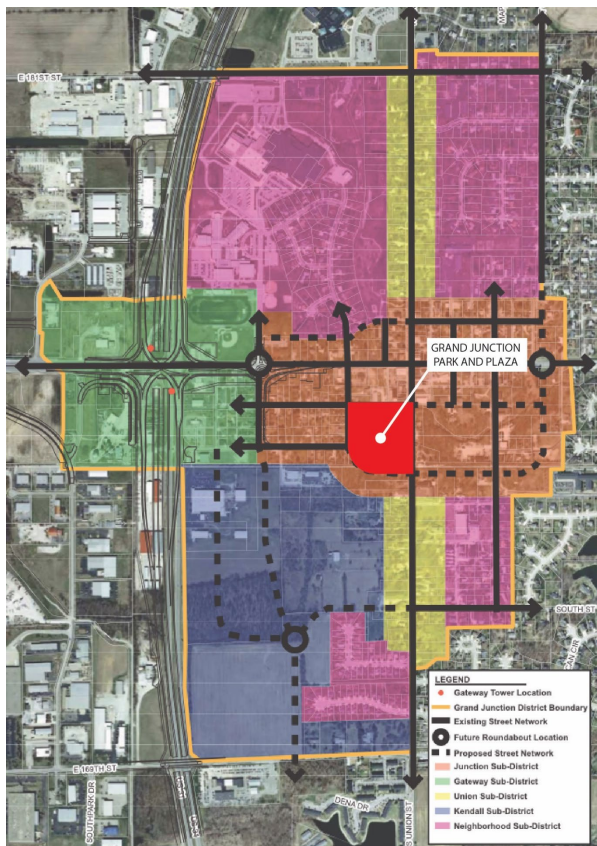


Figure 29: Grand Junction District Boundaries with Grand Junction Park and Plaza shown in red. Source: Grand Junction Implementation Plan 2013

**Method:**

Data on proposed, ongoing, and completed development projects was collected from online resources which include the City of Westfield's GIS project viewer, the City of Westfield's News Flash updates, developer websites, and local news articles. Development projects within a 0.5-mile radius and fall within the Grand Junction District were selected for review.

**Calculations:**

*Table 10: Residential and mixed use developments within a 0.5-mile radius of the park*

<b>RESIDENTIAL &amp; MIXED USE DEVELOPMENTS</b>						
Development	Investment	Status	Developer	Number of Units	Space Usage (sf)	Type
32 Jersey	\$105 million	Bond Ordinance Consideration (2025)	Jersey 32	209	58,500 (Commercial, office, retail)	Mixed Use
Ambrose on Main	\$26.2 million	Approvals Complete (2025)	Rebar Development	87	13,000 (Commercial/retail)	Mixed Use
The Cottages at Sanders Glen	\$6 million	Completed (2021)	Patch Development	27	N/A	Residential (Senior Living)
Grand Millennium Center	\$110 million	Approvals Complete (2025)	EdgeRock Development, CRG Development	340	71,200 (Commercial, office, retail)	Mixed Use
Legato Living at Union Street	N/A	Under Construction	Sigma Builders	N/A	4,715 (Residential)	Residential (Assisted Living)
The Union at Grand Junction	\$50 million	Under Construction	Old Town Companies	196	13,000 (retail and office)	Mixed Use
Midland South Townhomes	N/A	Under Construction	Old Town Companies	49	52,864 (Residential)	Residential (Single-Family)
Park & Poplar	\$123 million	Bond Ordinance Introduction (2025)	Old Town Companies	296	69,500 (retail)	Residential (Multi-family)

*Table 11: Community facilities within a 0.5-mile radius of the park*



COMMUNITY FACILITIES					
Development	Investment	Status	Developer	Space Usage (sf)	Type
Westfield Tennis Complex	\$12 million	Completed (2024)	Westfield Washington Schools	N/A	Public Facility (Sports Complex)
Westfield Washington Public Library	\$17.7 million	Completed (2023)	GM Development	55,000	Public Facility (Library)

Table 12: Commercial and office developments within a 0.5-mile radius of the park

COMMERCIAL & OFFICE DEVELOPMENTS					
Development	Investment	Status	Developer	Space Usage (sf)	Type
227 Park Street	N/A	Under Construction	Tom and Anthony Lazzara	4,000	Hospitality (Restaurant)
Bub's Burgers	N/A	Under Construction	R&M Burgers	3,910	Hospitality (Restaurant)
H Steakhouse	\$5.5 million	Under Construction	H Steakhouse (Henri Najem)	7,190	Hospitality (Restaurant)
Medical Office Building - Grand Millennium	\$34 million	Under Construction	NexCore Group	60,000 (office)	Office
RIVET Coffee Bar and Roastery	N/A	Completed (Cafe component 2021)	Allie Commons, Chris and Stefanie Dillow	N/A	Hospitality (Restaurant)
Sun King Brewery	N/A	Under Construction	Old Town Companies	8,700	Hospitality (Restaurant)

Table 13: Economic development calculations

ECONOMIC DEVELOPMENT SUMMARY				
Total	Total	Total	Total Residential Units	Total Commercial, Retail, and

Investment	Applied Investment	Proposed Investment		Office Space (sf)
<b>\$489.4 million</b>	<b>\$125.2 million</b>	<b>\$364.2 million</b>	<b>1,204</b>	<b>309,000 sf</b>

**Sources:**

“32 Jersey development project introduced at City Council meeting.” 2025. The City of Westfield Indiana. May 28, 2025. Accessed June 15, 2025.  
<https://www.westfieldin.gov/CivicAlerts.aspx?AID=122>.

Adams, Amy. 2023. “New Westfield Library Takes Shape.” Current Publishing. December 5, 2023. Accessed June 15, 2025. <https://youarecurrent.com/2023/12/05/new-westfield-library-takes-shape/?fbclid=IwAR06iuVR-QfcOc89TaixZsF0PpPWvUBhpMhJteC4TiZXcC6F7MvRis5nG0>.

Arnold, Kayla. 2024. “H Steakhouse announced in Downtown Westfield.” The City of Westfield Indiana. May 13, 2024. Accessed June 15, 2025. <https://www.westfieldin.gov/CivicAlerts.aspx?AID=44>.

Bradley, Daniel. 2022. “Carmel, Westfield Expand, Build New Libraries as Demands for Services Change - Indianapolis Business Journal.” Indianapolis Business Journal. May 6, 2022. Accessed June 15, 2025. <https://www.ibj.com/articles/carmel-westfield-expand-build-new-libraries-as-demands-for-services-change>.

City of Westfield, Economic and Community Development Department. 2013. “Grand Junction Implementation Plan 2013.” City of Westfield Indiana. City of Westfield Indiana. Accessed June 15, 2025. <https://westfieldin.gov/DocumentCenter/View/193/2013-Grand-Junction-Implementation-Plan-PDF>.

City of Westfield Economic Development Department. 2025. “Economic Development - 2025 Downtown Projects.” PDF Slides.

Collingwood, Ryan and The City of Westfield Indiana. 2025. “What’s Building Here?” ArcGIS StoryMaps. June 13, 2025. Accessed June 15, 2025.  
<https://storymaps.arcgis.com/stories/a6d796adee1c44acbeed0ef85a872b4a>.

Collingwood, Ryan Collingwood and The City of Westfield Indiana. 2025. “What’s Happening Here?” ArcGIS StoryMaps. June 13, 2025. Accessed June 15, 2025.  
[https://storymaps.arcgis.com/stories/5890365756964fd38c50e1d6eb207f97?fbclid=IwY2xjawK7BBRleHRuA2FlbQlxMAABHr8zqumKRaurhEtM6qiCzy4plcNJMUWBn\\_L2WZSBP4K4N2B7wokRbjbMUXDu\\_aem\\_3sQ-jlSsNknf6XNKUftGEQ](https://storymaps.arcgis.com/stories/5890365756964fd38c50e1d6eb207f97?fbclid=IwY2xjawK7BBRleHRuA2FlbQlxMAABHr8zqumKRaurhEtM6qiCzy4plcNJMUWBn_L2WZSBP4K4N2B7wokRbjbMUXDu_aem_3sQ-jlSsNknf6XNKUftGEQ).

- Rebar Development. n.d. "AMBROSE ON MAIN — PUBLIC PRIVATE PARTNERSHIP WITH THE CITY OF WESTFIELD | COMING 2026." Accessed June 15, 2025. <https://www.rebardev.com/ambrose-on-main>.
- Russell, Kyla. 2024. "Westfield Schools to Unveil \$12M Tennis Complex." WISH-TV News 8, August 8, 2024. <https://www.wishtv.com/news/education/westfield-schools-to-unveil-12m-tennis-complex/>.
- Schultz, Chris. 2020. "Patch Planning Symbiotic Senior Living in Westfield - Indianapolis Business Journal." Indianapolis Business Journal. March 25, 2020. Accessed June 15, 2025. <https://www.ibj.com/blogs/north-of-96th/patch-development-planning-symbiotic-senior-living-in-westfield>.
- Simon, Marney. 2025. "Westfield City Council Approves Park and Poplar Project." Current Publishing. May 27, 2025. Accessed June 15, 2025. <https://youarecurrent.com/2025/05/27/westfield-city-council-approves-park-and-poplar-project/>.
- "The Union | Westfield, IN." n.d. Westfield Indiana. Accessed June 15, 2025. <https://westfieldin.gov/429/The-Union>.
- "What's Next - Old Town Companies." n.d. Old Town Companies. Accessed June 15, 2025. <https://www.oldtowncompanies.com/whats-next/>.

### ***Limitations:***

- While regional development in the surrounding area may be correlated to the introduction of the park, other factors such as tourism, broader city development initiatives, etc. may also be contributing to additional economic gains.
- The data analyzed highlights positive economic growth and development activity. This study does not account for displacement of existing residents and homes, loss of small businesses, negative implications of tax increment financing, and alterations to existing ecology.
- The data analyzed was directly sourced from publicly available information and is subsequently not a completely comprehensive list. Data that has not been disclosed through the City of Westfield, news outlets, current developers, or businesses were not incorporated in the calculations. This also includes information on single-family residential-only developments.
- Many components within proposed development projects have either been completed or are currently under construction. Reported investments of these components may be already included within projected investments for the larger land development proposal.

*Indirectly supports over 135 local businesses across 11 sectors with over 38,252 people visiting nearby establishments before and after spending time in the park.*

**Background:**

Over the past few years, the City of Westfield has experienced rapid economic growth fueled by downtown investment, commercial development, and its strategic location near Indianapolis. The city's abundant recreational opportunities and the continued success of Grand Park Sports Complex have made it a regional destination for tourism and visitation. As of 2024, Westfield is home to 1,861 businesses, reflecting its expanding and diversified economic base.

**Method:**

Using Placer.ai data provided by Hamilton County Tourism, the team analyzed visitor movement patterns to and from the park between July 1, 2024, and June 30, 2025. By tracking where visitors went immediately before and after their park visit, the team identified which businesses and business sectors received the most engagement. These locations were then grouped by category, and the total number of visits was aggregated to determine overall activity levels and sector-specific impacts.

**Calculations:**

See Appendix 3 for the full spreadsheet listing the individual businesses.

*Table 14: Business visitation calculations*

Total Businesses	135
Total Business Categories	11 <ul style="list-style-type: none"><li>• Apparel</li><li>• Beauty &amp; Spa</li><li>• Dining</li><li>• Fitness</li><li>• Groceries</li><li>• Home Improvements &amp; Furnishings</li><li>• Hotels &amp; Casinos</li><li>• Leisure</li><li>• Medical &amp; Health</li><li>• Shopping Centers</li><li>• Shops &amp; Services</li></ul>
Total Prior Visits	19,661
Total Post Visits	18,591
Total Visits	(19,661 + 18,591 = 38,252)



**Sources:**

Placer.ai. 2025. "Prior \_ Post Compare - Grand Junction Park and Plaza - Jul 1, 2024 - Jun 30, 2025" distributed by Hamilton County Tourism.

**Limitations:**

- Placer.ai data uses mobile devices to track visitation patterns. The software draws information from users who have enabled location tracking on certain apps. Consequently, certain groups without mobile devices or with devices not compatible with Placer.ai may be underrepresented.
- Placer.ai tracks the location of individual devices, so individuals carrying multiple mobile devices may be overrepresented.
- Transactions between visitors and local businesses were not tracked. Purchases and payments cannot be differentiated from non-monetary engagement and visitation.

***Provides a weekly venue for over 60 local vendors during the summer farmers market series, with an over 200% increase the number of participating vendors since 2022.***

**Background:**

The long-running Westfield Farmer's Market debuted at its current location in Grand Junction Park and Plaza in 2022. Originally hosting around 15 vendors, the market has expanded significantly, with over 60 vendors participating in the 2025 season. The market is held every Thursday throughout the summer and features fresh produce, artisan goods, food, and beverages. The event supports local vendors and community partners, featuring live music and family-friendly activities.

**Method:**

The team reviewed news updates from the City of Westfield's Westfield Welcome Department website and posts from the Westfield Farmers Market's official Facebook and Instagram accounts, to assess weekly vendor and community partner participation during each summer season. Weekly vendor lists were analyzed for both the market's 2022 debut at Grand Junction Park and Plaza and the ongoing 2025 season to calculate the percent change of participation over time.

**Calculations:**

- Total Participating Vendors in 2022: **20**
- Total Participating Vendors in 2025: **60+**
- Percent Change in Vendor Participation:  $(60-20)/20 = 200\%$

**Sources:**

City of Westfield, Indiana. n.d. "Westfield Farmers Market." Accessed July 24, 2025.  
<https://www.westfieldin.gov/433/Westfield-Farmers-Market>.

Westfield Markets, Westfield Markets. "Westfield Markets." Facebook.

<https://www.facebook.com/westfieldinmarkets>

Westfield Markets, westfieldmarkets. "Westfield Markets." Instagram.

<https://www.instagram.com/westfieldmarkets/?hl=en>

***Limitations:***

- Not all participating vendors attended every week during the respective summer series.
- Vendor participation records for four events in 2022 were not available through social media or other public sources. As a result, the reported maximum vendor count for that year may underestimate actual participation if more than 20 vendors were present at those events.
- Vendor participation records from the 2023 and 2024 seasons were not included.

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## **Appendix 1: Survey Questions**

### **Grand Junction Park and Plaza User Experience Survey**

Thank you for taking the time to participate in this survey about Grand Junction Park and Plaza. This study aims to better understand how residents/visitors use the space, what features they enjoy, and how the park contributes to their overall experience. Your feedback is valuable and will help contribute to the "Landscape Performance Study" report, which is led by Purdue University landscape architecture professor Yiwei Huang. This is a research study to assess the sustainable performances of established landscape architecture projects, and is sponsored by Landscape Architecture Foundation. The survey will take approximately 5–10 minutes to complete, and all responses will remain confidential. Your participation for this survey is totally voluntary, and if you feel uncomfortable answering any of the questions during the process, you have the right to terminate the survey any time. The survey has been approved by the human ethics office, with IRB NUMBER: IRB-2025-736. If you have any questions, you are welcome to reach out directly to Yiwei Huang (huan1655@purdue.edu). Thank you for your time!

Beginning: Have you read the consent form and confirm that you are 18 years of age or older and voluntarily agree to participate in this survey?

- Yes, I am 18 or older, and I agree to participate. (1)
- No, I am under 18. (if so, please do not fill in the survey) (2)

Q1 Are you a resident of Westfield, IN, nearby cities, or visitor to Indiana?

- I am a resident of Westfield, Indiana (1)
- I am a resident of a different city in the state of Indiana (2)
- I am a visitor from outside of the state of Indiana (3)

Q2 Were you aware of this area prior to the construction of Grand Junction Park and Plaza?

- ☐ No (1)
- ☐ Yes (2)

Q3 How often do you typically visit Grand Junction Park and Plaza now after it's built

- ☐ Daily or almost daily (1)
- ☐ 2-4 times a week (2)
- ☐ Once a week (3)
- ☐ Once per month or less (4)
- ☐ Never (5)

Q4 When visiting the Grand Junction Park and Plaza, generally how much time do you spend here?

- ☐ Less than 30 minutes (2)
- ☐ 30 minutes to an hour (3)
- ☐ 1-2 hours (4)
- ☐ 2-3 hours (5)
- ☐ More than 3 hours (6)

Q5 Normally, how would you feel after you spend time in the park?

- ☐ Overjoyed (1)
- ☐ Happy and Relaxed (4)
- ☐ Tranquil (5)
- ☐ Neutral/No different (6)
- ☐ Bored (7)
- ☐ Sad (8)
- ☐ Upset (9)

Q6 Do you find the Grand Junction Park and Plaza to have improved in the quality of life in any of the following categories? (select all that applies)

- ☐ Aesthetics (it makes Westfield more beautiful) (1)
- ☐ Environmental (it increased water quality and added more plants) (2)
- ☐ Social and cultural (it provided more spaces for people to gather) (3)
- ☐ Accessibility (it allows people with all abilities to explore the park) (4)
- ☐ Connectivity (it helped connecting the existing trail systems) (5)
- ☐ None of the above (6)

Q7 Do you agree with the following statement: The Grand Junction Park and Plaza is friendly to a variety of age groups.

- ☐ Yes! Strongly Agree (1)
- ☐ Agree (2)
- ☐ Neither agree nor disagree (3)
- ☐ Disagree (4)
- ☐ Strongly disagree (5)

Q8 Do you agree with the following statement: After this Park was built, I/my family has spent more time outside

- ☐ Yes! Strongly agree (1)
- ☐ Agree (2)
- ☐ Neither agree nor disagree (3)
- ☐ Disagree (4)
- ☐ Strongly disagree (5)

Q9 By visiting the Grand Junction Park and Park, do you have a better understanding of Cool Creek's water level, water quality, and aquatic life, such as fish, within the river?

- ☐ I better understand the river's water level, water quality, and aquatic life. (1)
- ☐ I notice them more, but did not understand better (2)
- ☐ I did not notice these changes (3)

Q10 Do you find that it is easier for you (or your children) to get closer to the water than it was before?

- ☐ Yes (1)
- ☐ Maybe (2)
- ☐ No (3)
- ☐ I am not familiar with the site prior to its reconstruction (4)

Q11 By visiting the Grand Junction Park and Park, have you noticed more and different plants (trees and flowers) around you?

- ☐ Yes, I definitely noticed more plant species (different flower types) (1)
- ☐ Maybe (2)
- ☐ No, I don't usually notice them. (3)



Q12 Have you ever participated the special events at this park?(e.g.: Farmers' market, Movies in the plaza, Jams at the Junction, etc.)?

- ☐ Yes (1)
- ☐ Maybe (2)
- ☐ No (3)

Q13 When visiting the Grand Junction for an event, do you patronize (spend money) any of the businesses nearby? (Select all that applies)

- ☐ Farmer's market vendors (1)
- ☐ Nearby restaurants and bars (2)
- ☐ Retail and recreational shops (3)
- ☐ Hotels and others (4)
- ☐ I typically do not spend money at any of the businesses (5)

Q14 Have you used the wayfinding maps or read the educational signages?

- ☐ Yes (1)
- ☐ Maybe (2)
- ☐ No (3)

## Appendix 2 Planting List

RIPARIAN PERENNIALS						
SCIENTIFIC NAME	COMMON NAME	INDIANA NATIVE	POLLINATOR ATTRACTOR	WILDLIFE ATTRACTOR	LARVAL HOST	EROSION CONTROL
<i>ARISAEMA TRIPHYLLUM</i>	Jack in the pulpit	YES				
<i>CAREX ANNECTENS</i>	Yellow fox sedge	YES				YES
<i>CAREX GRAYII</i>	Bur sedge	YES				YES
<i>CAREX VULPINOIDEA</i>	Fox sedge	YES				YES
<i>CAREX PENNSYLVANICA</i>	Pennsylvania sedge	YES				YES
<i>DRYOPTERIS AUSTRALIS</i>	Dixiewood fern					
<i>DENNSTAEDTIA PUNCTILOBULA</i>	Hay scented fern	YES				
<i>ELYMUS VIRGINICUS</i>	Virginia wild rye	YES				YES
<i>HYSTRIX PATULA</i>	Bottlebrush grass	YES				YES
<i>IRIS VIRGINICA</i>	Virginia iris	YES	YES			
<i>JUNCUS TENUIS</i>	Poverty rush	YES				YES
<i>OSMORHIZA CLAYTONII</i>	Clayton's sweetroot	YES		YES (foliage)		
<i>PODOPHYLLUM PELTATUM</i>	May apple	YES				
<i>SCIRPUS ATROVIRENS</i>	Green bulrush	YES				YES
<i>TRILLIUM RECURVATUM</i>	Wood lily	YES		YES (foliage)		
	<b>TOTAL</b>	<b>9</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>8</b>

RIPARIAN SHRUBS						
SCIENTIFIC NAME	COMMON NAME	INDIANA NATIVE	POLLINATOR ATTRACTOR	WILDLIFE ATTRACTOR	LARVAL HOST	EROSION CONTROL
<i>HAMAMELIS VIRGINIANA</i>	Common witchhazel	YES		YES (fruits)	YES	YES
<i>HAMAMELIS X INTERMEDIA</i> 'DIANE'	Hybrid witchhazel			YES (fruits)	YES	YES
<i>HYDRANGEA ARBORESCENS</i>	Smooth hydrangea	YES			YES	YES
<i>ILEX VERTICILLATA</i>	Winterberry holly	YES		YES (fruits)	YES	YES
<i>ILEX VERTICILLATA</i> 'RED SPRITE' AND 'JIM DANDY'	Winterberry holly				YES	YES
<i>LINDERA BENZOIN</i>	Northern spicebush	YES		YES (fruits)	YES	
<i>MYRICA PENNSYLVANICA</i>	Northern bayberry	YES		YES (fruits)	YES	YES
<i>RHUS AROMATICA</i> 'GRO-LOW'	Fragrant low growing sumac		YES	YES (fruits, nesting)	YES	YES
<i>RHUS TYPHINA</i> 'LACINIATA'	Cutleaf staghorn sumac		YES	YES (fruits, foliage)	YES	YES
<i>SASSAFRAS ALBIDUM</i>	Sassafras	YES		YES (fruits, foliage, nesting)	YES	YES
<i>SPIRAEA ALBA</i>	White meadowseet	YES	YES		YES	
<i>SAMBUCUS CANADENSIS</i>	American black elderberry	YES		YES (fruits & foliage)	YES	YES
<i>VIRBURNUM ACERIFOLIUM</i>	Mapleleaf viburnum	YES		YES (fruits)	YES	

	<b>TOTAL</b>	<b>9</b>	<b>3</b>	<b>10</b>	<b>13</b>	<b>10</b>
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<b>RIPARIAN TREES</b>						
SCIENTIFIC NAME	COMMON NAME	INDIANA NATIVE	POLLINATOR ATTRACTOR	WILDLIFE ATTRACTOR	LARVAL HOST	EROSION CONTROL
<i>CARYA OVATA</i>	Shagbark hickory	YES		YES (fruits & nesting)	YES	
<i>CERCIS CANADENSIS</i>	Eastern redbud	YES	YES	YES (fruits & nesting)	YES	
<i>CORNUS FLORIDA</i>	Flowering dogwood	YES	YES	YES (fruits & nesting)	YES	
<i>JUNIPERUS VIRGINIANA</i>	Eastern red cedar	YES		YES (fruits & nesting)	YES	YES
<i>LIRODENDRON TULIPIFERA</i>	Tulip poplar	YES		YES (fruits & nesting)	YES	
<i>MAGNOLIA VIRGINIANA</i>	Sweetbay magnolia			YES (flowers & nesting)	YES	
<i>NYSSA SYLVATICA</i>	Black gum	YES		YES (fruits & nesting)	YES	YES
<i>PICEA PUNGENS</i>	Blue spruce					
<i>QUERCUS ALBA</i>	White oak	YES		YES (fruits & nesting)	YES	
<i>QUERCUS BICOLOR</i>	Swamp white oak	YES		YES (fruits & nesting)	YES	
<i>QUERCUS MUEHLENBERGII</i>	Chinkapin oak	YES		YES (fruits & nesting)	YES	
<i>QUERCUS IMBRICARIA</i>	Shingle oak	YES		YES (fruits & nesting)	YES	
<i>TILIA AMERICANA</i>	American basswood	YES	YES	YES (seeds & nesting)	YES	
	<b>TOTAL</b>	<b>11</b>	<b>3</b>	<b>10</b>	<b>10</b>	<b>2</b>

### Appendix 3 Visitors' Prior and Post Destinations

NAME	CATEGORY	SUB CATEGORY	ADDRESS	PRIOR VISITS	POST VISITS
Affinity Equestrian LLC	Fitness	Fitness	18326 Springmill Road	91	108
Aldi	Groceries	Groceries	54 E Spring Mill Pointe Drive	N/A	20
Angel Nails	Beauty & Spa	Beauty & Spa	833 IN-32	38	19
Arby's	Dining	Fast Food & QSR	1399 Chatham Commons Blvd	53	N/A
Ascension St. Vincent Hospital Rehabilitation	Medical & Health	Doctor and Health Professional Offices	631 IN-32	18	N/A
Athletico	Medical & Health	Doctor and Health Professional Offices	956 E Tournament Trl	44	32
AutoZone	Shops & Services	Car Shops & Services	3550 Sr 32 E	59	N/A
Bash Boutique	Apparel	Clothing	149 S Walnut St	102	153
Becky the Bakerster	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	203 Jersey St	672	670
Benge's Ace Hardware	Home Improvements & Furnishings	Home Improvement	3400 Nancy St	65	31
Big Hoffa's Smokehouse	Dining	Restaurants	800 E Main St	525	224
Big Red Liquors	Groceries	Groceries	966 E Tournament Trl	29	34
Birdies Grill House and Sports Bar	Dining	Restaurants	632 IN	246	199



BMO Harris Bank	Shops & Services	Banks & Financial Services	508 East State Road 32	220	140
BP	Shops & Services	Gas Stations & Convenience Stores	1440 In-32 W	74	72
Carter's Play Place	Leisure	Attractions	1021 Kendall Ct	24	52
Chi Nail Salon	Beauty & Spa	Beauty & Spa	16030 Spring Mill Rd	44	N/A
Chick-fil-A	Dining	Fast Food & QSR	763 E Tournament Trl	721	611
Circle K	Shops & Services	Gas Stations & Convenience Stores	1821 E 151st St	119	175
Clover Cottage	Shops & Services	Stores & Services	203 Jersey Street	87	N/A
Community Bank	Shops & Services	Banks & Financial Services	144 W Main St	1440	1240
Community First Bank of Indiana	Shops & Services	Banks & Financial Services	707 East	36	61
Cosmo Nails	Beauty & Spa	Beauty & Spa	3400 Nancy St Suite B	18	36
Countryside Pool	Leisure	Attractions	N/A	50	N/A
Crew Carwash	Shops & Services	Car Wash Services	777 IN-32	331	138
CrossFit	Fitness	Fitness	16462 Southpark Dr Suite E	53	47
Culver's	Dining	Fast Food & QSR	17651 Sun Park Dr	399	349
CVS/pharmacy	Medical & Health	Drugstores & Pharmacies	730 IN-32	82	42
CVS/pharmacy	Medical & Health	Drugstores & Pharmacies	1447 South Waterleaf Dr	32	N/A
CVS/pharmacy	Medical & Health	Drugstores & Pharmacies	3280 E State Road 32	N/A	17

Dairy Queen Restaurant	Dining	Fast Food & QSR	940 E Tournament Trl940	276	134
Dunkin'	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	950 E Tournament Trl	108	56
Ella Community Pharmacy	Medical & Health	Drugstores & Pharmacies	103 S Union St	1044	1017
Esler's Auto Repair	Shops & Services	Car Shops & Services	350 Parkway Cir	207	97
Family Express	Shops & Services	Gas Stations & Convenience Stores	1477 Chatham Commons	105	94
Field Brewing	Leisure	Bars & Pubs	303 E Main St	269	176
Flaming Kuma	Dining	Restaurants	637 IN-32	N/A	57
Forget Me Not Gourmet Treat Company	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	Hamilton County	91	57
FORUM Credit Union	Shops & Services	Banks & Financial Services	759 IN-32	50	N/A
GetGo Gas Station	Shops & Services	Gas Stations & Convenience Stores	17531 Wheeler Rd	837	535
Goodwill	Apparel	Clothing	17404 Carey Rd	123	157
Goodwill	Apparel	Clothing	25 E Spring Mill Pointe Dr	90	82
Grand Junction Brewing Co.	Leisure	Bars & Pubs	1189 E 181st St	39	140
Grand Junction Brewing Co. Restaurant	Dining	Restaurants	110 S Union St	978	862
Grand Park Events Center	Leisure	Attractions	19000 Grand Park Blvd	137	75
Grand Park Sports Campus	Leisure	Theaters & Music Venues	19000 Grand Park Blvd	N/A	17

Greek's Pizzeria	Dining	Fast Food & QSR	231 Park St	1383	1185
Grindstone on the Monon	Dining	Restaurants	17470 Wheeler Road	25	104
H2O Nail & Massage	Beauty & Spa	Beauty & Spa	649 IN-32	N/A	26
Hampton Inn Westfield	Hotels & Casinos	Hotels & Casinos	17400 Wheeler Rd	96	41
HealthSource America's Chiropractor	Medical & Health	Doctor and Health Professional Offices	120 South Walnut St	12	N/A
Huntington Bank	Shops & Services	Banks & Financial Services	3560 E State Road 32	25	N/A
Huston Electric Westfield	Shops & Services	Hobbies, Gifts & Crafts	1105 E 181st St	61	68
IBeach31	Fitness	Fitness	17341 Westfield Park Rd	N/A	15
ICE Gym	Fitness	Fitness	17435 Tiller Court, Suite B	N/A	19
J.L. Photography	Shops & Services	Stores & Services	1919 Riverstone Ct	N/A	19
Jan's Village Pizza	Dining	Fast Food & QSR	108 S Union St	490	621
Jimmy John's	Dining	Fast Food & QSR	17409 Wheeler Rd	N/A	30
KFC	Dining	Fast Food & QSR	330 W Spring Mill Pointe Dr	27	26
KMG Supply	Apparel	Clothing	106 N. Union Street	N/A	47
Kroger	Groceries	Groceries	17447 Carey Rd	N/A	31
Kroger Fuel Center	Shops & Services	Gas Stations & Convenience Stores	17447 Carey Rd	N/A	154
Kroger Fuel Center	Shops & Services	Gas Stations & Convenience Stores	16201 Spring Mill Rd	N/A	42

Lincoln Square Pancake House	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	3186 IN-32	48	50
Los Agaves	Dining	Restaurants	17471 Wheeler Rd, Ste 116	97	106
Marco's Pizza	Dining	Fast Food & QSR	16072 Spring Mill Station Dr #104	24	27
Market District Supermarket	Groceries	Groceries	744 E Tournament Trl	192	80
McClure	Shops & Services	Gas Stations & Convenience Stores	21575 Us Highway 31	N/A	69
McDonald's	Dining	Fast Food & QSR	945 Tournament Trl	687	707
McDonald's	Dining	Fast Food & QSR	15101 N Meridian St	96	139
Meijer	Groceries	Groceries	225 W Spring Mill Pointe Drive	284	413
Meijer Gas Station	Shops & Services	Gas Stations & Convenience Stores	20 W Spring Mill Pointe Dr	210	73
Merchants Bank	Shops & Services	Banks & Financial Services	3002 In-32 E	47	N/A
Monon Crossing	Shopping Centers	Community Shopping Centers	829 IN-32	298	394
Monon Marketplace	Shopping Centers	Community Shopping Centers	17409-17471 Wheeler Rd	131	157
Mufflers & More	Shops & Services	Car Shops & Services	119 S Union St	174	117
Nori	Dining	Restaurants	3400 Nancy St	55	34
O'Reilly Auto Parts	Shops & Services	Car Shops & Services	3246 E State Road 32	27	52

Pacers Athletic Center	Fitness	Fitness	200 E 186th St	25	16
Panda Express	Dining	Fast Food & QSR	390 W Spring Mill Pointe Dr	25	39
Papa John's Pizza	Dining	Fast Food & QSR	17435 B Carey Rd	30	N/A
Patsy's Pub	Leisure	Bars & Pubs	17419 Suite C Carey Rd		23
Penn Station East Coast Subs	Dining	Fast Food & QSR	755 In-32	39	39
Planet Fitness	Fitness	Fitness	3440 IN-32 Unit B	76	N/A
PNC Bank	Shops & Services	Banks & Financial Services	3267 IN-32	N/A	58
Portillo's	Dining	Fast Food & QSR	870 IN-32	114	262
Portside Marine Sales & Service	Shops & Services	Car Shops & Services	18622 Chad Hittle Dr	24	N/A
Posh Polish Nail Salon	Beauty & Spa	Beauty & Spa	1517 S Waterleaf Dr	N/A	13
Prime Car Wash	Shops & Services	Car Wash Services	801 E Tournament Trl	47	28
Randall Dermatology	Medical & Health	Doctor and Health Professional Offices	201 N Union St	22	N/A
Regal Cinemas Village Park 17	Leisure	Theaters & Music Venues	2222 E 146th St	53	N/A
Rise 'n Roll Bakery	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	16030 Spring Mill Road	41	N/A
RoundTripper Sports Academy	Leisure	Stadiums, Arenas & Athletic Fields	16708 Southpark Dr	36	17
SecurCare Self Storage	Shops & Services	Shipping & Storage	613 IN-32	41	N/A
Siggy's	Home Improvements & Furnishings	Home Improvement	957 S Union St, Apt B	N/A	31



Slim Chickens	Dining	Fast Food & QSR	100 E Spring Mill Pointe Dr	139	41
Smoothie King	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	3300 IN-32 Unit A		87
Sobczak Construction Service	Shops & Services	Stores & Services	125 W Main St	541	674
SONIC Drive In	Dining	Fast Food & QSR	188 E Spring Mill Pointe Dr	744	402
Speedway	Shops & Services	Gas Stations & Convenience Stores	704 IN-32	103	242
Spring Mill Commons	Shopping Centers	Community Shopping Centers	150 W 161st St	82	585
SpringHill Suites Indianapolis Westfield	Hotels & Casinos	Hotels & Casinos	19317 Westmore Ln	136	41
Springmill Family Dental of Westfield	Medical & Health	Doctor and Health Professional Offices	16072 Spring Mill Station Dr Suite 101	50	N/A
Starbucks	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	741 E Sr 32	79	136
Starbucks	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	1323 Chatham Commons Blvd		50
SUBWAY	Dining	Fast Food & QSR	976 E Tournament Trl	129	75
Sundown Gardens	Home Improvements & Furnishings	Home Improvement	505 W. 186th Street	N/A	8
Sunny's Chicken Westfield	Dining	Fast Food & QSR	214 E. Main Street	67	39
Taco Bell	Dining	Fast Food & QSR	965 E Tournament Trl	694	380

The Jungle	Leisure	Attractions	16707 Southpark Dr	N/A	20
The UPS Store	Shops & Services	Shipping & Storage	17437 Carey Rd	25	49
The Wandering Peacock	Leisure	Attractions	227 Jersey St.	131	167
Titus Bakery and Deli	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	17471 Wheeler Rd	96	87
Titus Orthodontics	Medical & Health	Doctor and Health Professional Offices	719 E Main St	22	N/A
Tom Roush Mitsubishi	Shops & Services	Car Shops & Services	525 David Brown Dr	29	N/A
Tractor Supply Co.	Home Improvements & Furnishings	Home Improvement	17500 Austrian Pine Way	82	21
Tropical Smoothie Cafe	Dining	Breakfast, Coffee, Bakeries & Dessert Shops	661 IN-32		67
Tucker Automotive Group	Shops & Services	Car Shops & Services	17414 Tiller Ct	85	76
Twisted Sister Beauty	Beauty & Spa	Beauty & Spa	546 N Union St	N/A	32
Unraveled Boutique	Apparel	Clothing	104 N Union St	97	95
unseenpress.com Historic Indiana Ghost Walks & Tours	Leisure	Attractions	N/A	158	490
Urban Vines Winery & Brewery	Leisure	Bars & Pubs	303 E 161st St	73	19
Walgreens	Medical & Health	Drugstores & Pharmacies	3275 IN-32	55	188
Wendy's	Dining	Fast Food & QSR	1501 Chatham Commons Blvd	N/A	72

West Fork Whiskey Co	Leisure	Bars & Pubs	10 E 191st St Suite A	149	180
Westfield Auditorium	Leisure	Stadiums, Arenas & Athletic Fields	N/A	13	N/A
Westfield Crossing	Shopping Centers	Community Shopping Centers	3246 IN-32	146	36
Westfield Diner Pancake House & Grill	Dining	Restaurants	781 E Main St	22	75
Westfield Family Dental	Medical & Health	Doctor and Health Professional Offices	215 E Main St	30	N/A
Westfield Marketplace	Shopping Centers	Community Shopping Centers	17417- 17419 Carey Road	321	596
Westfield Powersports	Shops & Services	Car Shops & Services	18128 Market Ct	42	N/A
Westfield Tire & Muffler	Shops & Services	Car Shops & Services	199 Maple St	151	76
Wittler Orthodontics	Medical & Health	Doctor and Health Professional Offices	534 IN-32	24	N/A
Wyndham Westfield	Hotels & Casinos	Hotels & Casinos	18592 Carousel Ln	58	68
YMCA	Fitness	Fitness	851 E 181st St	N/A	19