

Flint Park Research Study

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Introduction

Researchers of Michigan State University collaborated with Transtria LLC to assess the impacts of efforts by Healthy Kids, Healthy Communities on public parks in Flint, MI. This specific reports aims to estimate the number of park uses in four parks operated by the City of Flint Parks and Recreation department. Transtria published another report, “Flint, Michigan Park Direct Observations: Summary Report,” that estimates the percentage of sedentary, moderate and very active physical activity levels. Both reports are based on an observation study that was conducted in Summer 2012 by Michigan State University, with training by Transtria and MSU researchers.

The goal of MSU’s research was to determine park use estimates for Summer 2012 at four Flint Parks using MSU’s use observation methodology, as well as to provide data to Transtria implementing the Parks and Play Spaces Direct Observation Tool developed by Robert Wood Johnson researchers and modified by Transtria. Both research reports feature summary data, park-level data, as well as provide analysis for two parks that were considered “intervention” parks and two parks as “comparison” parks.

Methods

Data were collected using observation techniques, including two observation forms (MSU’s form tallied users; Transtria’s form tallied user’s activity levels in an interval of every other minute). The population studied were park users over a period of 41 days from mid-July to late August (July 13, 2012 to August 23, 2012). Max Brandon and Bassett parks were “intervention” sites; Brennan and Whaley parks were “comparison” sites. Table 1 shows the number of observation hours that were used to calculate the projected number of park users.

Table 1. Study hours		
	Population (total across four parks)	Sample (per park)
Observation Days	41	11
Observation hours per day (one hour for 2 sites per park)*	10	2
Total Observation Hours	410	22*

*Brennan Park had less than 22 hours because of a single observation site.

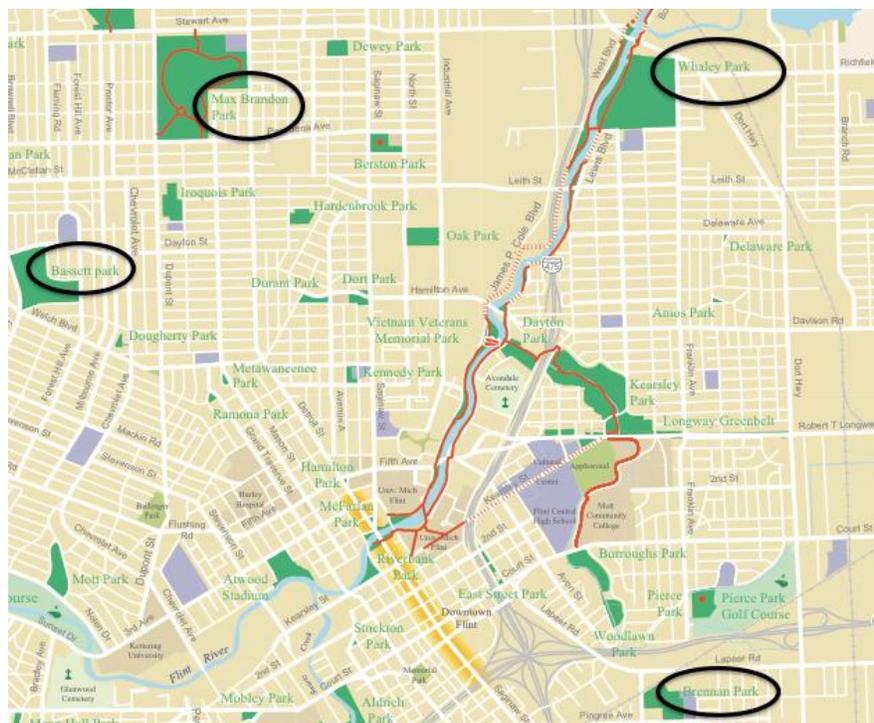
The sample was park users on 11 days during the sampling time frame. These 11 days were randomly selected and the order of visiting each park on these 11 days was also random. Observation times varied between approximately 7:00 AM and 5:00 PM.

The MSU userobservation form allowed observers to record the number of distinct park users within a sample period (See Appendix A).The form was developed by C. Vogt and C. Nelson for a trail study conducted in Michigan over the past 15 years. Tallies were made for children and adults. The level of physical activity was estimated on the MSU user observation form, but activity levels were best recorded and analyzed on the Parks and Play Spaces Direct Observation Tool used by Transtria. Observers collected data for a total of 120 minutes per park per day (the exception was at Brennan because there was only one observation area). At the four parks, the researchers and Crim Fitness Foundation staff visited the parks and selected the best places within the parks to observe users. At Max Brandon, site A was near the south parking lot and site B was near the northeast parking lot. At Bassett site, A was near a parking lot on the north side also near the baseball fields and site B was near the building where a youth summer camp was held. At Whaley, site A was near the baseball fields and tennis courts and site B was near the soccer field and near the Flint River trail. For Brennan, the observers stood in the middle of the park and were able to see all park users. Only people using outdoor park facilities were counted. Counts of multiple sites at each park were combined for the purposes of estimating the number of users during a 120 minute time period. The observers communicated during their field time to make sure that each park user was only counted once on the MSU observation form. For the other observation form, the field of sight was a 180-

degreeview where each observer started at 0 degrees and panned with their own eyes to count and record for a minute until a 180 degree point was reached. The observers often sat back-to-back to coordinate counting and panning.

Study Sites and Program Intervention

Max Brandon Park is the biggest of the four parks at 102.5 acres and has a softball field, basketball court, parcourse, paved path for non-motorized activity, a pavilion/shelter, a picnic area with grills, a playground and several parking areas. It is also a site for youth summer camps facilitated by the Crim Fitness Foundation and Salem Housing, Inc. Bassett Park is 35 acres and has several softball fields, tennis courts, a pavilion/shelter, a picnic area with grills, restrooms, a playground, and a parking area. Brennan Park is the smallest of the four parks at 14.4 acres and has softball fields, basketball courts, two playgrounds, a picnic area with shelter, and a parking area. Whaley Park is 72 acres and has softball/baseball fields, basketball courts, a soccer field, a football field, tennis courts, a pavilion/shelter, a playground, and parking areas. Whaley Park joins with the paved Flint River trail and provides for fishing access. All four parks are owned and operated by the City of Flint Parks and Recreation department. Three of the parks have adjacent schools that are now closed. The old Haskell school building adjacent to Bassett Park is a community center being used by the Boys and Girls Club of Greater Flint and Police Activities League and the use of Williams Elementary School building adjacent to Whaley is unknown. The closed school next to Brennan is currently in re-use by a church and a second building houses an indoor senior center.



Healthy Kids, Healthy Communities (HKHC) is a national program of the Robert Wood Johnson Foundation whose primary goal is to implement healthy eating and active living policy-and environmental-change initiatives that can support healthier communities for children and families across the United States. Flint, Michigan is one of 49 HKHC sites and this study aims to show the impact of the investment in Max Brandon Park. Bassett has also seen investment for improvement from Keep Genesee County Beautiful. For that reason, Max Brandon and Bassett Parks are intervention parks while Brennan and Whaley Parks are comparison parks because they lack such support at the time of study.

User estimates are based on data collected and analyzed by Michigan State University and include both adult and child park users. Table 2 compares park usage among the four parks that are included in this study. Three estimates were determined using different methods of calculation. Each method used the same observation data, but the calculation was different based on whether researchers looked at a daily average, time of day average, or type of day average. These three different estimates were used to increase the accuracy of our results in an effort to estimate

across the 41 days of summer during day light hours. Following are explanations of each estimation method:

Method 1: Based on the number of people noted in each park in each observation period, researchers estimated an average number of people using the park per hour. This average was then simply multiplied by the number of hours (410) in the total 41-day summer season that was observed.

Method 2: Each day of observation can be segmented into five general time periods of the day. An average user count for each time of day was calculated based on the sample and those averages were summed to estimate a total daily park use.

Method 3: Because park use numbers may vary based on whether it is a weekday or a weekend, another estimate was developed that combined different averages for those two types of days. The average use for weekends and average use for weekdays were added together for a total park use number.

Table 2. Comparing Park Use Estimates—represents outdoor use during daylight				
	Max Brandon	Brennan	Whaley	Bassett
Method 1: Daily average	5,962	3,992	1,746	476
Method 2: Time specific	5,640	4,028	1,668	488
Method 3: Type of day	6,300	3,650	1,741	511
Overall Average	5,967	3,890	1,718	492

As the weather observations presented in Table 3 suggest that 2012 was a very hot summer and most of the observation days fair weather days.

Table 3. Weather Conditions in Flint, MI		
Day	Date	Weather Conditions
1	7/13/12	Min: 61° F, Max: 94° F, Sunny
2	7/15/12	Min: 71° F, Max: 94° F, Sunny
3	7/18/12	Min: 70° F, Max: 86° F, Overcast/rainy
4	7/26/12	Min: 70° F, Max: 84° F, Rainy morning, sunny afternoon
5	7/30/12	Min: 60° F, Max: 88° F, Sunny
6	7/31/12	Min: 65° F, Max: 85° F, Sunny, some clouds in morning
7	8/4/12	Min: 67° F, Max: 90° F, Sunny
8	8/7/12	Min: 50° F, Max: 90° F, Sunny
9	8/12/12	Min: 58° F, Max: 79° F, Sunny, some clouds in morning
10	8/18/12	Min: 45° F, Max: 75° F, Sunny
11	8/23/12	Min: 50° F, Max: 85° F, Sunny

Findings

Based on the results in Table 2, it is evident that Max Brandon saw the most use overall at almost 6,000 uses over the 41-day summer period. Brennan had the next highest rate of use at almost 4,000 uses, followed by Whaley (1,718) and Bassett (492). The hot temperatures of Summer 2012 played a role in park visitation. Max Brandon has a good amount of tree cover over its trail way, which makes it more attractive because it was shady even on the hottest days. Observers noted that playgrounds with shade at Brennan and Whaley were used more frequently than those without any protection from the sun. Another interesting note is the popularity of the basketball court at Brennan Park. During lunch hour and evenings, there was usually a congregation of young adult males at the basketball court at Brennan Park, which is reflected in the time of day data. Adults used Max Brandon more than any other park while there was more frequent use of Brennan and Whaley by children than at Max Brandon, which could be a result of its location near neighborhoods where many children live. Evidence of this includes researchers observing kids walking to the park and lack of cars in the parking lot. Other major uses of the parks during the summer months of observations included youth summer camps and adults using the various recreation facilities available at each park. There were a few instances when summer campers were included in the user counts at Max Brandon, while the summer camps at Bassett almost never used the outdoor features of the park. The following pages of this report will explain how the numbers presented in Table 2 were calculated in more detail, sequenced in order from highest to lowest use.

Max Brandon Park

Method 1: Estimate based on average park use per hour

Table 4. Max Brandon average park use per hour estimate	
Observation hours	410
Average adult use per hour	9.51
Total projected adult uses	3,899
Observation hours	410
Average kid use per hour	5.03
Total projected kid uses	2,063
Total projected uses	5,962

Method 2: Estimate based on averages of different times of day

Table 5. Max Brandon time of day park use estimate						
Time Class	Adult Average	Kid Average	Observation Hours	Days	Total Adult Uses	Total Kid Uses
1 7:00 AM-9:00 AM	6.42	0.00	2	41	526	0
2 9:00 AM-11:00 AM	12.00	3.43	2	41	984	281
3 11:00 AM-1:00 PM	19.64	1.40	2	41	1610	115
4 1:00 PM-3:00 PM	8.06	10.20	2	41	6601	836
5 3:00 PM-5:00 PM	5.18	2.45	2	41	425	201
Total					4,207	1,433
Total Projected Uses					5,640	

Method 3: Estimate based on averages of different days of the week

Table 6. Max Brandon day of the week park use estimate					
	Hours	Average adult uses per hour	Total adult uses	Average kid use per hour	Total kid use
Weekday (Mon-Fri)	290	11.71	3,396	7.05	2,046
Weekend (Sat & Sun)	120	5.66	679	1.49	179
Total			4,075		2,225
Total projected park use					6,300

Conclusion

Among the three different methods to predict the park use over the 41-day summer period, the greatest difference in total park uses was 660 (6,300 – 5,640) uses. The estimates were combined to calculate one overall average as shown in Table 7.

Table 7. Max Brandon overall park use estimates			
	Adult park use estimate	Kid park use estimate	Total park use estimate
Method 1: Daily average	3,899	2,063	5,962
Method 2: Time specific	4,207	1,433	5,640
Method 3: Type of day	4,075	2,225	6,300
Overall Average	4,060	1,907	5,967

Brennan Park

Method 1: Estimate based on average park use per hour

Table 8. Brennan average park use per hour estimate	
Observation hours	410
Average adult use per hour	7.34
Total projected adult uses	3,010
Observation hours	410
Average kid use per hour	2.39
Total projected kid uses	982
Total projected uses	3,992

Note: There was one observation day when data were collected later into the evening in attempt to observe the amount of users using the lit facilities available at Brennan Park.

*There were no data available from the hours of 3:00 PM to 5:00 PM.

Method 2: Estimate based on averages of different times of day

Table 9. Brennan time of day park use estimate						
Time Class	Adult Average	Kid Average	Observation Hours	Days	Total Adult Uses	Total Kid Uses
1 7:00 AM-9:00 AM	1.33	0.00	2	41	109	0
2 9:00 AM-11:00 AM	0.00	1.25	2	41	0	102
3 11:00 AM-1:00 PM	15.67	1.28	2	41	1285	105
4 1:00 PM-3:00 PM	0.24	2.68	2	41	20	220
6* 5:00 PM-7:00 PM	16.00	10.67	2	41	1312	875
Total					2,726	1,302
Total Projected Uses					4,028	

Method 3: Estimate based on averages of different days of the week

Table 10. Brennan day of the week park use estimate					
	Hours	Average adult use per hour	Adult park uses	Average kid use per hour	Total kid use
Weekday (Mon-Fri)	290	2.79	809	2.67	775
Weekend (Sat & Sun)	120	15.31	1837	1.91	229
Total			2,646		1,004
Total projected park use					3,650

Conclusion

Among the three different methods to predict the park use over the 41-day summer period, the greatest difference in total park uses was 378 (4,028 – 3,650). The three estimates are combined to calculate one overall average as shown in Table 11.

Table 11. Brennan overall park use estimates			
	Adult park use estimate	Kid park use estimate	Total park use estimate
Method 1: Daily average	3,010	982	3,992
Method 2: Time specific	2,726	1,302	4,028
Method 3: Type of day	2,646	1,004	3,650
Overall Average	2,794	1,096	3,890

Whaley Park

Method 1: Estimate based on average park use per hour

Table 12. Whaley average park use per hour estimate	
Observation hours	410
Average adult use per hour	2.98
Total projected adult uses	1,222
Observation hours	410
Average kid use per hour	1.28
Total projected kid uses	524
Total projected uses	1,746

Note: There was one observation day when data were collected later into the evening in attempt to observe the amount of users using the lit baseball fields and other available facilities.

Method 2: Estimate based on averages of different times of day

Table 13. Whaley time of day park use estimate						
Time Class	Adult Average	Kid Average	Observation Hours	Days	Total Adult Uses	Total Kid Uses
1 7:00 AM-9:00 AM	1.81	0.00	2	41	148	0
2 9:00 AM-11:00 AM	0.54	0.00	2	41	44	0
3 11:00 AM-1:00 PM	3.88	2.50	2	41	318	205
4 1:00 PM-3:00 PM	2.18	0.00	2	41	179	0
5 3:00 PM-5:00 PM	5.88	3.02	2	41	482	247
6 5:00 PM-7:00 PM	0.55	0.00	2	41	45	0
Total					1,216	452
Total projected uses					1,668	

Method 3: Estimate based on averages of different days of the week

Table 14. Whaley day of the week park use estimate					
	Hours	Average adult use per hour	Adult park uses	Average kid use per hour	Total kid use
Weekday (Mon-Fri)	290	2.90	842	1.29	375
Weekend (Sat & Sun)	120	3.21	374	1.25	150
Total			1,216		525
Total projected park use					1,741

Conclusion

Among the three different methods to predict the park use over the 41-day summer period, the greatest difference in total park uses was 78 (1,746 – 1,668). The estimates are combined to calculate one overall average as shown in Table 15.

Table 15. Whaley overall park use estimates			
	Adult park use estimate	Kid park use estimate	Total park use estimate
Method 1: Daily average	1,222	524	1,746
Method 2: Time specific	1,216	452	1,668
Method 3: Type of day	1,216	525	1,741
Overall Average	1,218	500	1,718

Bassett Park

Method 1: Estimate based on average park use per hour

Table 16. Bassett average park use per hour estimate	
Observation hours	410
Average adult use per hour	0.86
Total projected adult uses	352
Observation hours	410
Average kid use per hour	0.30
Total projected kid uses	124
Total projected uses	476

Method 2: Estimate based on averages of different times of day

Table 17. Bassett time of day park use estimate						
Time Class	Adult Average	Kid Average	Observation Hours	Days	Total Adult Uses	Total Kid Uses
1 7:00 AM-9:00 AM	0.00	0.00	2	41	0	0
2 9:00 AM-11:00 AM	0.35	0.55	2	41	29	45
3 11:00 AM-1:00 PM	2.45	0.00	2	41	201	0
4 1:00 PM-3:00 PM	0.92	0.31	2	41	75	25
5 3:00 PM-5:00 PM	0.82	0.55	2	41	67	45
Total					373	115
Total projected uses					488	

Method 3: Estimate based on averages of different days of the week

Table 18. Bassett day of the week park use estimate					
	Hours	Average adult use per hour	Adult park uses	Average kid use per hour	Total kid use
Weekday (Mon-Fri)	290	1.27	370	0.32	93
Weekend (Sat & Sun)	120	0.13	16	0.27	33
Total			375		126
Total projected uses					511

Conclusion

Among the three different methods to predict park use over the 41-day summer period, the greatest difference in total park uses was 35 (511 – 476). The three estimates are combined to calculate one overall average as shown in Table 19.

Table 19. Bassett overall park use estimates			
	Adult park use estimate	Kid park use estimate	Total park use estimate
Method 1: Daily average	352	124	476
Method 2: Time specific	373	115	488
Method 3: Type of day	375	126	511
Overall Average	367	122	492

Appendix A—Observation Form

Location: _____ Temp/Weather conditions: _____ Day/Date _____

Your name: _____

Time Observed	Number of Adults (19 and older)		# of Children (babies through 18 years old)			
	Not Active	Moderate Active	Very Active	Not active	Moderate Active	Very
Subsite A time start : _____ time finish: _____						
Subsite B time start : _____ time finish: _____						

Directions:

- 1.Count during the entire time at each site
- 2.Try to count everyone just once - do your best at visually placing people in adult/children categories and by activity.
3. At end of site or day, count markings and place a number in each cell.
- 4.Complete a sheet each day. Keep with on-site surveys.

Complete at the end of the time:

Totals for the day _____ number of uses