Flint, Michigan
Park Direct Observations
Summary Report

Prepared by Transtria LLC

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Executive Summary

BACKGROUND

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. For more information about HKHC, please visit **www.healthykidshealthycommunities.org**.Transtria LLC, a public health evaluation and research consulting firm located in St. Louis, Missouri, is leading the evaluation and dissemination activities. For more information about the evaluation, please visit **www.transtria.com**.

In order to better understand the impact of their work on parkuse, Flint, Michigan,one of the 49 HKHC sites and led by the Crim Fitness Foundation, chose to participate in the enhanced evaluation data collection activities. Flint completed this evaluation for their park renovations strategy using the direct observation method.

METHODS

The Parks and Play Spaces Direct Observation Tool was used to collect data (see Appendix). An Evaluation Officer from Transtria LLC trained members of Flint's community partnership on proper data collection methods using the tool who then collected all data.

Observers collected data for a total of 120 minutes per park per day. During the scan, the observer completed the observation tool by tallying activity levels by age groups (i.e., children = aged 3-12 years; adolescents = aged 13-18 years; adults = aged 19+ years). All people were accounted for as either participating in very active, moderate, or sedentary behaviors. In addition to identifying the number of individuals at each activity level, observers reported the activity codes by age groups (e.g., "Walking"or "Basketball").The activity code "No Identifiable Activity" was used to indicate no movement (over 95% of these codes were correlated with sedentary observations). The activity code "None of the Above" was used when an individual was engaging in an activity not included in the other activity codes (e.g., biking).

RESULTS

Prevalence of activity

Level of Activity

- Adults (aged 19 and over) were the most sedentary(55.3%) of all ages and least likely to be engaged in moderate or very active behavior.
- Adolescents (aged 13-18) were the greatest share of observationsacross all three age groups engaged in very active behavior (16.2%).
- Children (aged 3-12) were the most likely (58.1%) to be engaged in moderate level activity of all ages.
- Max Brandon and Whaley had the two highest rates of moderate level activity observations (64.8% and 54.3%, respectively) and the lowest sedentary percentage of sedentary

observations (26.2% and 35.0%, respectively. This was also true for children in the two parks. Bassett was the most sedentary (88.8%) of all parks.
- Adults were least sedentary in Max Brandon (27.8%) and Whaley(49.1%), but more than two-thirds of all adults were sedentary in Brennan (75.0%) and Bassett (89.7%).

Type of Activity

- "Walking" was the most common activity across all ages (33.4%).
- Children were often (26.7%) engaged in "No Identifiable Activity," an analogue for sedentary level activity (see methods section), followed by "Walking"(24.1%) and "Other Playground Games" (21.6%). Adolescents were most likely to be "Walking"(29.3%) followed by "No Identifiable Activity" (22.4%).
- The only identifiable activity adults engaged in over 10% of the time was "Walking" (41.7%).
- "No identifiable activity," often synonymous for sedentary activity, was the most frequent single activity code for most parks across all ages with the exception of Bassett park.
- Max Brandon had the highest rate of walkers (32.9% of children, 31.3% of adolescents, and 50.2% of adults) and "Other Playground Games"(26.0% of children, 22.0% of adolescents, and 5.4% of adults) across almost all ages in all parks. Children in Bassett, however, were almost exclusively engaged in "Other Playground Games" (85.7%).
- The only universal activities observed across all four parks were "Other Playground Games" and "Walking" (excluding "No Identifiable Activity" and "None of the Above").

Intervention and comparison parks

Level of Activity

- Intervention parks (Max Brandon and Bassett) had lower levels of sedentary activity (32.4%) than comparison parks (Whaley and Brennan; 53.6%).
- Intervention parks had higher rates of moderate activity (59.4%) than comparison parks (37.9%).
- Very active behavior rates were almost identical in both intervention (8.2%) and comparison (8.5%) parks.

Type of Activity

- Intervention parks had a greater percentage of individuals engaged in "Other Playground Games"(28.8%) while both comparison and intervention parks had a large rate of observations of individuals "Walking" across all ages.

Background

BACKGROUND

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. HKHC places special emphasis on reaching children who are at highest risk for obesity on the basis of race/ethnicity, income and/or geographic location.For more information about HKHC, please visit **www.healthykidshealthycommunities.org**.

Flint, Michigan is one of 49 HKHC communities and is led by the Crim Fitness Foundation. Flint focuses its work on healthy eating and active living strategies around parks and recreation with the end goal of improving park conditions and park access through policy and environmental changes.

Transtria LLC, a public health evaluation and research consulting firm located in St. Louis, Missouri, is leading the evaluation and dissemination activities from April 2010 to March 2014. For more information about the evaluation, **please visit www.transtria.com**.

In order to better understand the impact of their work on park use, Flint chose to participate in the enhanced evaluation data collection activities. This supplementary evaluation focuses on the six cross-site HKHC strategies: park and play spaces, street design, farmers' markets, corner stores, physical activity standards in childcare settings, and nutrition standards in childcare settings. Communities may use two main evaluation methods: direct observation and/or environmental audits. Tools and training are provided by Transtria staff (see www.transtria.com/hkhc). Flint completed this evaluation for their park renovations strategy using the direct observation method.

Methods

The Parks and Play Spaces Direct Observation Tool was used to collect data (see Appendix). The tool and protocol were adapted from the System for Observing Play and Leisure Activity (SOPLAY) and System for Observing Play and Recreation in Communities (SOPARC) tools, protocols, and operational definitions. An Evaluation Officer from Transtria LLC trained members of Flint's community partnership on proper data collection methods using the tool. Three individuals collected all observation data while an additional trained community member collected the mapping data.

Observers collected data for a total of120 minutesper park per day. The 120 minute observation was divided into one or two intervals, depending on the size of the park (i.e., a large park was divided into two areas, each observed for 60 minutes). The observers scanned the park area for one minute and then took a one minute break to record observations for the duration of each observation period. During the scan, the observer completed the observation tool by tallying activity levels by age groups (i.e., children = aged 3-12 years; adolescents = aged 13-18 years; adults = aged 19+ years). All people were accounted for as either participating in very active, moderate, or sedentary behaviors.

- **Sedentary** behaviors are defined as activities in which people are not moving (e.g. standing, sitting, playing board games).
- **Moderate** intensity behaviors require more movement but no strenuous activity (e.g. walking, biking slowly).
- **Very active** behaviors show evidence of increased heart rate and inhalation rate (e.g. running, biking vigorously, playing basketball).

In addition to identifying the number of individuals at each activity level, observers reported the activity codes by age groups. Activity codes are shown below:

No Identifiable Activity	Aerobics	Baseball/Softball	Basketball
Dance	Football	Gymnastics	Martial Arts
Racquet Sports	Soccer	Swimming	Weight Training
Other Playground Games	Walking	Jogging/Running	None of the Above

The activity code "No Identifiable Activity" was used to indicate no movement (over 95% of these codes were correlated with sedentary observations). The activity code "None of the Above" was used when an individual was engaging in an activity not included in the other activity codes (e.g., biking).

Data were collected on eleven days between July 13, 2012 and August 23, 2012 by the observers in order to collect data prior to the start of the school year. Data were collected at least once on each day of the week, with data being collected on a Sunday, Tuesday, Thursday, and Saturday two separate times (e.g., Sunday morning and Sunday afternoon or Tuesday morning and afternoon). All observations occurred between 6:56 AM and 7:17 PM. On each day of data collection, two observers collected data in each of the four parks. Three of the four parks (Max Brandon, Whaley, and Bassett) were divided into two park areas for data collection while the last park (Brennan) was small enough to be observed without subdivision; each day, seven parks areas were observed cumulatively.

In addition to observation data, mapping data were collected on the park areas being observed. These data were collected once by an auditor for each of the seven park areas observed. The auditor recorded the setting, location, type of park area, condition of the area, any permanent modifications (the specific permanent alterations present that assist children in participating in physical activity such as lines painted on courts orbasketball poles and nets;this does not include temporary improvements such as chalk lines and portable nets.), the presence of overlap modifications (e.g., the space has multiple improvements that overlap but cannot be used simultaneously such as a space that is used for both volleyball and basketball), and the surface type (e.g., gravel, grass).

All data were entered and reviewed for errors. The method of data quality control chosen was to have a single point of entry with visual spot-checking. Based on the quantity of data, it was determined that 10% of the observation data would be checked for accuracy. A total of 13,214 data points were checked and 97 errors were found (99.26% correct). Data quality control measures were also performed on the mapping data. Due to the small quantity of mapping data, all data points were checked. A total of 220 data points were checked and 2 errors were found (99.09% correct). All errors were recorded and corrected.

Results

There were 3,953 observation periods throughout the four parks (Brennan, Whaley, Max Brandon, and Bassett). The weather was generally fair during observations: 87.6% of observations occurred in good weather and 12.4% of observations occurred in poor weather, with good weather requiring both 60-90 degree temperatures and sunny conditions and poor weather reflecting any amount of rain and temperatures below 60 degrees and exceeding 90 degrees.
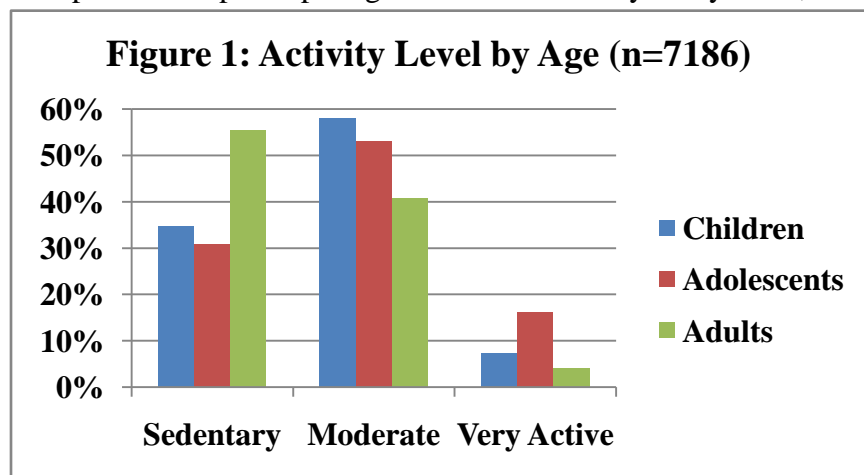
Activity Levels by Age

Observers rated the activity level of each child, adolescent, or adult during the minute observation period. There were a total of 7,186 observations rated during all observation

Table 1: Overall Activity Level (n=7186)

	Children	Adolescents	Adults	Total
Sedentary	34.7%	30.8%	55.3%	41.9%
Moderate	58.1%	52.9%	40.7%	49.8%
Very Active	7.2%	16.2%	4.0%	8.3%

periods; however, this does not indicate that there were over 7,000 unique individuals in the parks. Rather, there were 7,186 observations of individuals. It is likely that the unique number of observed individuals is a small fraction of the number of observations and that most observations were repetitive observations of the same individuals.

The results, Table 1 above, show that almost half (49.8%) of all observations rated in the four parks were participating in moderate activity. Only 8.3%, however, were engaged in very active activity and the remainder (41.9%) was observed as sedentary (sitting, standing). There were differences by age as well. Specifically, adults were the most likely to be sedentary (55.3%) while adolescents were most likely to be very active (16.2%) and children were most likely to be moderate (58.1%). Conversely, adolescents were least likely to be sedentary (30.8%) while adults were the least likely to be engaged in moderate activity (40.7%) and very active behavior (4.0%).

Figure 1: Activity Level by Age (n=7186)

Key Takeaways

- Adults (aged 19 and over) were the most sedentary (55.3%) of all ages and least likely to be engaged in moderate or very active behavior.

- Adolescents (aged 13-18) were the greatest share of observations across all three age groups engaged in very active behavior (16.2%).

- Children (aged 3-12) were the most likely (58.1%) to be engaged in moderate level activity of all ages.

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Activity Levels by Park

Table 2: Overall Activity Level by Park

	Whaley	Max Brandon	Brennan	Bassett
Sedentary	35.0%	26.2%	59.5%	88.8%
Moderate	54.3%	64.8%	32.7%	10.9%
Very Active	10.7%	9.1%	7.7%	0.3%

The four parks had different rates of sedentary, moderate, and very active. Whaley had the highest rate of observationswho were very active (10.7%) while Basset had the lowest (0.3%). The greatest percentage of observations engaged in moderate level activity was seen in Max Brandon (64.8%) and again the lowest percentage was seen in Bassett (10.9%). Sedentary rates were greatest in Bassett (88.8%) and lowest in Max Brandon (26.2%). Examining each park's overall activity levels in the following charts shows significant differences by age.

Children's activity levels were highest in Whaley and Max Brandon parks. Whaley (as shown above) had the second lowest rates of sedentary observations but the lowest rate of sedentary children. Bassett, however, had the highest percentage of sedentary observations overall and sedentary children – though the extremely small number of observations (14) caution against

Figure 2: Child Activity Level by Park

reading overly into these results. Max Brandon, however, had the lowest rate of very active children – barely registering on the chart but coming in at 0.1% (2 very active child observations out of 1488 total observations in Max Brandon).

Figure 3: Adolescent Activity Level by Park
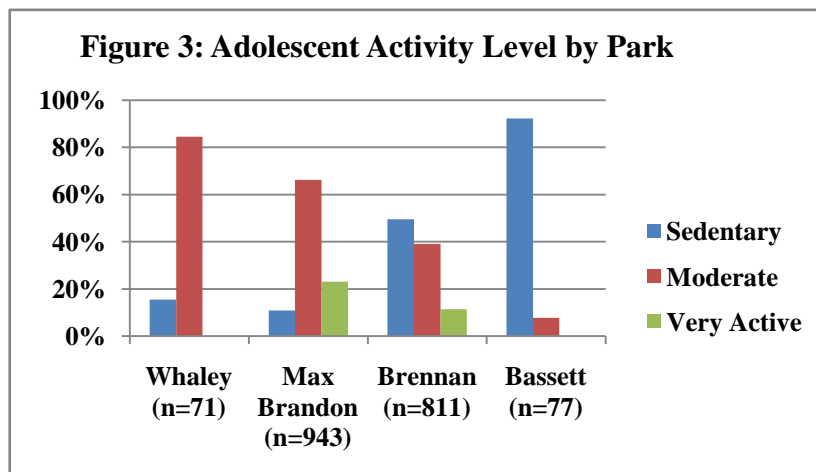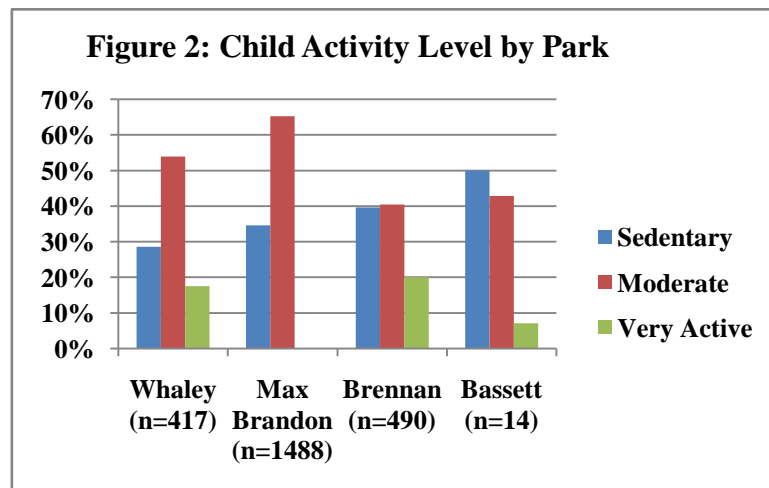
Adolescents, though, were most active in Max Brandon Park with over 20% of adolescent observations being rated as very active. Max Brandon also had the lowest rate of sedentary adolescents and second highestrate of moderate activity adolescents. Whaley had the highest percentage of moderate activity adolescents and second lowest sedentary but had no very active adolescents. Again Bassett has the greatest rate of sedentary adolescents, least moderate level adolescents, and no adolescents engaged in very active behavior. About half of

Figure 4: Adult Activity Level by Park
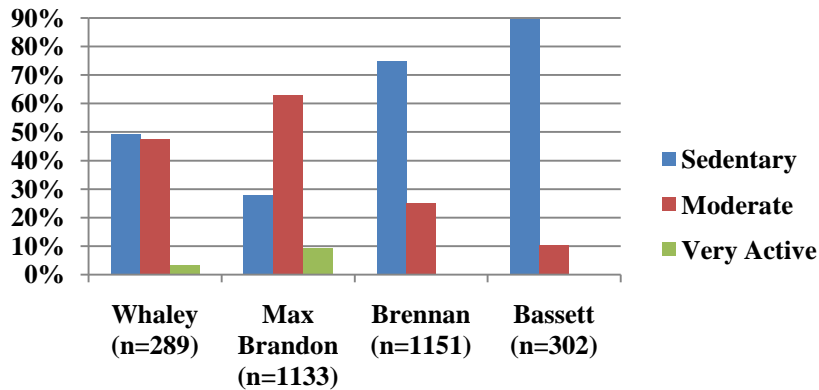
adolescent observations in Brennan were sedentary, followed by almost 40% engaged in moderate activity while the remainder (11.3%) was engaged in very active types of physical activity.

Adults, as noted above (Figure 4) in the overall activity levels are consistently the most sedentary across all four parks. In Bassett, there were a total of 10.3% of observations of moderate activity results with the remaining 89.7% of sedentary adults. Brennan had the second most sedentary adult observations (75.0%), followed by Whaley (49.1%) and Max Brandon (27.8%). Max Brandon did have the greatest percent of adults engaged in both moderate (62.9%) and very active (9.3%) behaviors.

Key Takeaways

- Max Brandon and Whaley had the two highest rates of moderate level activity observations (64.8% and 54.3%, respectively) and the lowest sedentary percentage of sedentary observations (26.2% and 35.0%, respectively. This was also true for children in the two parks. Bassett was the most sedentary (88.8%) of all parks.

- Adults were least sedentary in Max Brandon (27.8%) and Whaley (49.1%), but more than two-thirds of all adults were sedentary in Brennan (75.0%) and Bassett (89.7%).

Type of Activity by Age

Observers identified what activities children, adolescents, and adults were engaged in during the one minute observation period. Activity codes are not linked to specific activity levels – in other words, we are unable to tell if a child playing basketball was playing at a moderate or veryactive level. Results do indicate what sort of activities in which observed individuals were participating.

Table 4: Activity Codes by Age

	Children	Adolescents	Adults	Total
Walking	24.1%	29.3%	41.7%	33.4%
No Identifiable Activity	26.7%	22.4%	21.4%	23.2%
None of the Above	10.3%	18.1%	24.4%	18.6%
Other Playground Games	21.6%	14.8%	3.5%	11.8%
Basketball	12.1%	9.8%	2.6%	7.3%
Jogging/Running	4.5%	3.5%	2.9%	3.5%
Weight Training	0.0%	0.0%	3.0%	1.4%
Football	0.0%	1.7%	0.0%	0.4%
Baseball/Softball	0.6%	0.4%	0.0%	0.3%
Dance	0.0%	0.0%	0.2%	0.1%
Aerobics	0.0%	0.0%	0.1%	0.0%

Figure 5: Activity Codes by Age (n=2173)
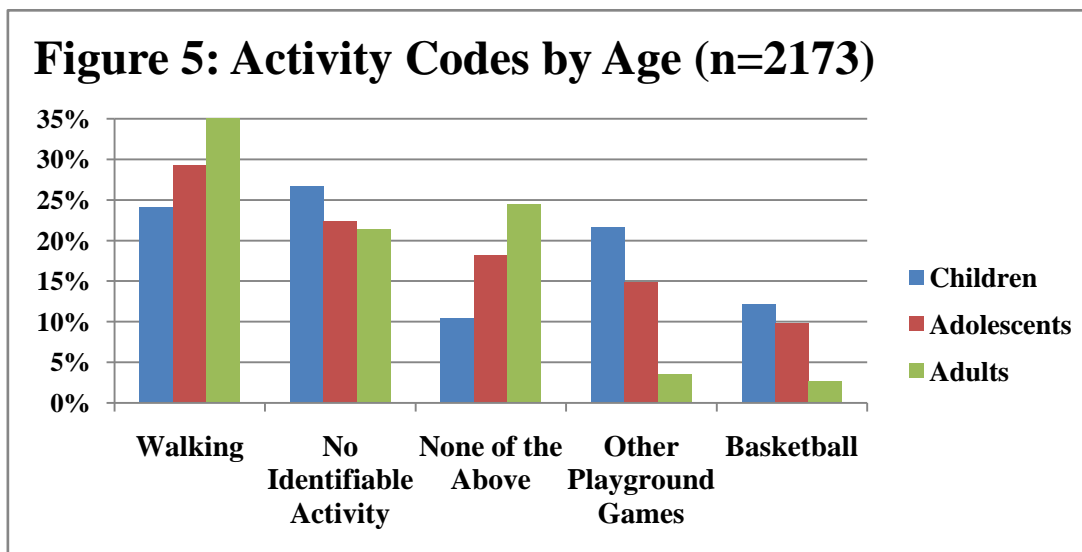
The most common activity code for all observations in the four parks was "Walking" (33.4%) while the next two were "No Identifiable Activity" (23.2%) and "None of the Above" (18.6%). Among children, however, the most common activity code was "No Identifiable Activity." In fact, the percentage of adults "Walking" (41.7%) skewed the results sharply as shown (Figure 5).

Key Takeaways

- "Walking" was the most common activity across all ages (33.4%).

- Children were often (26.7%) engaged in "No Identifiable Activity," an analogue for sedentary level activity (see methods section), followed by "Walking" (24.1%) and "Other Playground Games" (21.6%). Adolescents were most likely to be "Walking" (29.3%) followed by "No Identifiable Activity" (22.4%).

- The only identifiable activity adults engaged in over 10% of the time was "Walking" (41.7%).

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Type of Activity by Park

The observed activities differed from park to park. In the above chart (Table 5) summarizing child activity codes by park, "Walking" is the second most common activity in Max Brandon, the most common activity in Whaley, the third most common in Brennan but not seen at all in Bassett. And

Table 5: Child Activity Code by Park

	Max Brandon	Whaley	Brennan	Bassett
No Identifiable Activity	32.9%	20.0%	24.2%	0.0%
Walking	30.8%	26.2%	16.0%	0.0%
Other Playground Games	26.0%	18.5%	13.9%	85.7%
None of the Above	8.9%	10.8%	11.7%	14.3%
Baseball/Softball	0.7%	1.5%	0.0%	0.0%
Basketball	0.3%	6.2%	31.2%	0.0%
Jogging/Running	0.3%	16.9%	3.0%	0.0%

while all parks had some children engaged in other playground games (slides, jungle gyms, etc.), Bassett had the most: almost all (85.7%) of observed children were playing other playground games. Since no identifiable activity generally indicated observed individuals either standing or sitting around (effectively sedentary), it follows that this is one of the highest rated activities across the four parks. Bassett, per results from above, had an extremely low rate (0%) of children engaged in "No Identifiable Activity", however there was a total of 14 observations of children in Bassett (7 engaged in sedentary activity, 6 engaged in moderate, and 1 very active). Likely the sedentary observations were of children engaged in a playground game but not moving – perhaps waiting their turn to climb the slide.

Table 6: Adolescent Activity Codes by Park

	Max Brandon	Whaley	Brennan	Bassett
Walking	31.3%	37.5%	29.8%	5.7%
Other Playground Games	22.0%	6.3%	11.5%	14.3%
No Identifiable Activity	17.6%	12.5%	19.8%	80.0%
None of the Above	12.1%	41.7%	20.6%	0.0%
Jogging/Running	8.8%	0.0%	0.8%	0.0%
Football	4.9%	0.0%	0.0%	0.0%
Basketball	3.3%	2.1%	17.5%	0.0%

Adolescents appeared to spend more time "Walking" than children – in fact, in half of the parks, "Walking" was the most frequently observed activity by adolescents and the second most frequent activity observed in a third park (Whaley).

Adults were observed "Walking" more frequently than any other age group.

Table 7: Adult Activity Code by Park

	Max Brandon	Whaley	Brennan	Bassett
Walking	50.2%	31.3%	40.8%	14.1%
No Identifiable Activity	21.7%	31.9%	17.9%	8.1%
None of the Above	8.9%	35.5%	31.0%	77.8%
Weight Training	5.6%	0.0%	0.0%	0.0%
Other Playground games	5.4%	0.0%	3.3%	0.0%
Jogging/Running	5.4%	0.0%	0.0%	0.0%
Basketball	2.8%	0.0%	6.0%	0.0%
Aerobics	0.2%	0.0%	0.0%	0.0%
Baseball/Softball	0.0%	1.2%	0.0%	0.0%
Dance	0.0%	0.0%	1.1%	0.0%

However, "Walking" was the only the most observed activity in 2 of the parks (Max Brandon and Brennan). The most frequently observed activity for adults in both Whaley and Bassett was none of the above (35.5% and 77.8% respectively).

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Key Takeaways

- "No identifiable activity," often synonymous for sedentary activity, was the most frequent single activity code for most parks across all ages with the exception of Bassett park.

- Max Brandon had the highest rate of walkers (32.9% of children, 31.3% of adolescents, and 50.2% of adults) and "Other Playground Games" (26.0% of children, 22.0% of adolescents, and 5.4% of adults) across almost all ages in all parks. Children in Bassett, however, were almost exclusively engaged in "Other Playground Games" (85.7%).

- The only universal activities observed across all four parks were "Other Playground Games" and "Walking" (excluding "No Identifiable Activity" and "None of the Above").

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Intervention and Comparison Parks

Two of the parks, Max Brandon and Bassett, were designated intervention parks because of the investment by HKHC in Max Brandon and Keep Genesee County Beautiful in Bassett. Whaley and Brennan parks were designed comparison parks as they lacked such support.

Table 8: Activity Level by Intervention

Activity Level in Comparison Parks (n=3229)

	Children	Adolescents	Adults	Overall
Sedentary	34.5%	46.8%	69.8%	53.6%
Moderate	46.6%	42.7%	29.5%	37.9%
Very Active	18.9%	10.4%	0.7%	8.5%

Activity Level in Intervention Parks (n=3957)

	Children	Adolescents	Adults	Total
Sedentary	34.8%	17.0%	40.8%	32.4%
Moderate	65.0%	61.8%	51.8%	59.4%
Very Active	0.2%	21.3%	7.3%	8.2%

When overall activity levels are compared, comparison parks (Whaley and Brennan) have a higher rate of sedentary (53.6%) observations than in intervention parks (32.4%), lower rate of moderate (37.9%) than intervention parks, but a similar percentage of very active observations in both the intervention and comparison parks (8.2% and 8.5%, respectively). In Table 8, above, there are some differences by age. Children and adolescents are less sedentary in the intervention parks (Max Brandon and Bassett) than in comparison parks. However, the largest percentage of very active children was in the comparison parks (18.9%). And on the other side, the highest percentage of sedentary adults (69.8%) was in the comparison parks as well.

Table 9: Child Activity Code by Intervention

	Comparison (n=361)	Intervention (n=306)
No Identifiable Activity	22.7%	31.4%
Baseball/Softball	0.6%	0.7%
Basketball	22.2%	0.3%
Other Playground Games	15.5%	28.8%
Walking	19.7%	29.4%
Jogging/Running	8.0%	0.3%
None of the Above	11.4%	9.2%

The intervention parks had similar percentages of children engaged in "No Identifiable Activity" as the comparison parks (22.7% and 31.4%), as well as adolescents (comparison parks with 18.7% and intervention parks with 27.6%) and adults (24.6% of comparison park activity codes and 18.1% of intervention park activity codes). The other codes hinted at the potential differences in infrastructure or preferences by individuals living around the parks. One of the most popular activities by children and adolescents in comparison parks were "Basketball" and "Walking" (22.2% and 19.7% in children and 15.0% and 31.0% in adolescents); while in the intervention parks "Other Playground Games" and "Walking" took the top places (28.8% and 29.4% for children and 20.7% and 27.2% for adolescents) – see Tables 9 and 10.

Table 10: Adolescent Activity Code by Intervention

	Comparison (n=300)	Intervention (n=217)
No Identifiable Activity	18.7%	27.6%
Basketball	15.0%	2.8%
Football	0.0%	4.1%
Other Playground Games	10.7%	20.7%
Walking	31.0%	27.2%
Jogging/Running	0.7%	7.4%
None of the Above	24.0%	10.1%

The most common activity codes by adults in both comparison and intervention parks were "Walking" (36.3% and 41.4%, respectively). In fact, very few adult observations were doing anything more than "Walking" – almost all of the rest of the adults were either engaged in "No Identifiable Activity" or "None of the Above" – see Table 11.

Table 11: Adult Activity Code by Intervention

	Comparison (n=350)	Intervention (n=689)
No Identifiable Activity	24.6%	18.1%
Aerobics	0.0%	0.1%
Baseball/Softball	0.6%	0.0%
Basketball	3.1%	2.2%
Dance	0.6%	0.0%
Weight Training	0.0%	4.4%
Other Playground games	1.7%	4.2%
Walking	36.3%	41.4%
Jogging/Running	0.0%	4.2%
None of the Above	33.1%	18.1%

Key Takeaways

- Intervention parks (Max Brandon and Bassett) had lower levels of sedentary activity (32.4%) than comparison parks (Whaley and Brennan; 53.6%).

- Intervention parks had higher rates of moderate activity (59.4%) than comparison parks (37.9%).

- Very active behavior rates were almost identical in both intervention (8.2%) and comparison (8.5%) parks.

- Intervention parks had a greater percentage of individuals engaged in "Other Playground Games" (28.8%) while both comparison and intervention parks had a large rate of observations of individuals "Walking" across all ages.

Parks and Play Spaces Direct Observation Tool

Park or Play Space Name/Address: _____ Observer Name: _____

Community Partnership: _____ Weather Condition: _____ Date: _____

Start Time	Play Space	Children 3-12 (# of children)				Adolescent 13-18 (# of youth)				Adults 19+ (# of adults)			
		Sedentary	Moderate	Very Active	Activity Code	Sedentary	Moderate	Very Active	Activity Code	Sedentary	Moderate	Very Active	Activity Code
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Activity Codes: **0** = No Identifiable Activity (i.e. not moving); **1**= Aerobics; **2** = Baseball/Softball; **3**= Basketball; **4** = Dance; **5** = Football; **6** = Gymnastics; **7** = Martial Arts; **8** = Racquet Sports; **9** = Soccer; **10** = Swimming; **11**= Volleyball; **12** = Weight Training; **13** = Other Playground Games; **14** = Walking; **15** = Jogging/Running; **16** = None of the Above