Arlington Heights Park District and GP RED Healthy Communities Research Group Surveillance and Management Toolkit™ Beta Site Project

Year One Report

May 2016

Arlington Heights Park District

GP RED Healthy Communities Research Group

Table of Contents

Table of Figures

Table of Tables

Acknowledgements

This project is a joint effort of a variety of Arlington Heights Park District (AHPD) staff, partners, community stakeholders, consultants, and researchers.

Thank You to all of the Participating Partners and Stakeholders in the Community!

Funding Partners

- Arlington Heights Park District
- Northwest Community Healthcare
- Arlington Heights Memorial Library
- Arlington Heights Park District Parks Foundation
- Arlington Heights School District 25
- Prospect Heights School District 23

Supporting Community Partners

- Village of Arlington Heights
- Arlington Heights Chamber of Commerce Wellness Committee
- And community residents

Arlington Heights Park District, IL
Brian Meyer, CPRP, Director of Recreation and Facilities, Project Manager

Healthy Communities Research Group (HCRG) - Project Team
Teresa Penbrooke, MAOM, CPRE, GP RED, GreenPlay, LLC, and North Carolina State University
HCRG Director and Project Manager | Contact: TeresaP@GPRED.org or 303-870-3884 *www.GPRED.org*

David Peterson, PLA, Design Concepts
Carter Marshall, Design Concepts
Kiboum Kim, PhD, Department of Human Service Studies, Winston-Salem State University, Research Consultant for GP RED
David M. Compton, MS, MPH, E.D., Professor Emeritus, Department of Environmental Health, Indiana University, Research Consultant for GP RED
Deb Jordan, Ph.D., Professor and Department Chair, Department of Recreation and Leisure Studies, Eastern Carolina University

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Executive Summary –Year One Report

In Spring 2015, the Arlington Heights Park District in Arlington Heights, Illinois, contracted with the GP RED *Healthy Communities Research Group (HCRG)* to become *a Beta Site* for the national *Healthy Communities Surveillance and Management Toolkit (SMT)* project. Multiple trainings, intensive data collection, and facilitated visioning sessions were held. This *Year One Report* compiles results of the first year of a three-year project.

What is the Project About?

The SMT Project helps parks, recreation, and related departments and agencies assess, analyze, document, and evaluate five elements related to the repositioning of parks and recreation as one of the primary preventative public health providers in the community. The project consists of key systematic focus areas that address how to increase physical activity and reduce obesity, primarily for middle school-aged youth. Steps include evaluating:

- **Creating a Warrant for Agency Action** – Why? Who? What is the Impact?
- **Convening Community Stakeholders and Champions** – Residents? Partners? Providers?
- **Policies, Laws, and Procedures** – What is influencing active living?
- **Fiscal Resources and Distribution** – What funds? How should they be allocated?
- **Inventory of Assets and Affordances** – Programs? Parks? Facilities? Food?

From an analysis of these elements, the project moves to creation of a systems portfolio, strategic concepts for improvement, and future modeling for the purposes of articulation, prioritization, management, and surveillance of outcomes over time.

The Key Elements for Year One of this project were to:

- ❖ Create templates to help organize and collect data.
- ❖ Focus on ages 10–15 (but templates are scalable for all ages).
- ❖ Convene partners and identify champions for this work.
- ❖ Collect both qualitative and quantitative data to summarize current findings.
- ❖ Have the project be evidence-based, but implementation focused.

From review of all of the data and conversations it must be stated that overall, Arlington Heights is doing pretty well in terms of addressing these issues. Great strides were achieved. As can be seen from this report, a very large amount of pertinent information has been collected, compiled, and shared. The following list highlights some of the positive outcomes already achieved from this project:

Highlights of the Positive Outcomes in Year One

1. Strong increased partnerships for AHPD with the Library, Hospital, Schools, Village, Parks Foundation, and the Chamber Wellness Committee to create an agreement for the newly formed *Arlington Heights Health Action Alliance (AHHAA)*, concentrating actions on conversations and changing policy.
2. The project helped to “create a buzz” among the partners for Year One findings and toward moving into Year Two, including work on the committee’s brand identity and tag line.
3. A complete inventory and level of service analysis for all facilities, parks, trails, and programs.
4. The Arlington Heights Youth Focus Group was formed to give youth a voice.

5. Relevant trends, demographics, financial, and key management aspects were compiled.
6. Multiple program and participation enhancements were achieved:
    a. AHPD developed sponsorships with Northwest Community Healthcare beyond this project for Community Events and the Youth Soccer Program.
    b. A Fit Kids series of classes was started, geared toward kids between the ages of 4-12.
    c. The AHPD incorporated healthy snacks into preschool program.
    d. The AHPD incorporated pickle ball lines into the gym floor at Pioneer Park for all ages.
    e. The Youth Nutrition program was put in front of approximately 900 middle schools students, to help to start the conversation towards better nutritional habits.

Recommendations for Year Two

Community partners have rallied to create the AHHAA. While there is room for improvement, there are no glaring gaps in program or asset availability, walkable access is fairly available, and the youth feel fairly safe. It appears that the largest focus needs to be on continued increases in participation and retention, education of the needs around these topics (both for youth and adults), positive policy adjustments, marketing and branding around these efforts, funds to do so, and continued assessment to monitor results. The following chart represents a summary of the draft *Goals and Objectives* in the Recommendations section of this *Year One Report*, along with potential responsibility, timing, and financial implications for Year Two. Note: no currently recommended items include capital expenses.

Arlington Heights Healthy Communities SMT DRAFT Goals and Objectives for Year Two	Responsibility	Timing	Financial Implications
Goal One: Continued tracking of key variables and data to make improvements			
1.a: Increase participation in AHPD programs in this age group.	AHPD Staff	Annually	AHPD Staff Time
1.b: Increase retention in AHPD programs for this age group.	AHPD Staff	Annually	AHPD Staff Time
1.c: Demonstrate positive policy practices in centers and programs.	AHPD Staff	Annually	AHPD Staff Time
1.d: Identify priority locations for additional programs and add physical activity component basis in GIS.	APHD Staff/HCRG	Annually	AHPD Staff Time
1.e: Retest YANS in District 25 and add 23.	HCRG/Schools	Annually	AHPD Staff Time
1.f: Re-collect detailed program mix analysis.	AHPD Staff/HCRG	Annually	AHPD Staff Time
1.g: Re-collect detailed financial analysis for this group.	AHPD Staff/HCRG	Annually	AHPD Staff Time
1.h: AHHAA will meet quarterly - Identify priority policy changes - Create Branding - Identify funding opportunities	AHPD Staff/AHHAA Members	Quarterly	AHPD Staff Time
1.i: Continue facilitation of the Youth Focus Groups	AHPD/Library Staff	Semi-Annually	AHPD Staff Time
1.j: Continue monitoring the perception of safety	AHPD Staff/HCRG	Annually	AHPD Staff Time
Goal Two: Construct and Adopt Positive Policies and Coordination			
2.a: Identify and address any policies related to the five factors	AHPD/AHHAA	Quarterly	AHPD Staff Time
2.b: Trail staff around positive policy	AHPD	Annually	AHPD Staff Time
2.c: Use system analytics to monitor and track	AHPD/HCRG	Annually	AHPD Staff Time

It is anticipated that these Goals and Objectives will be further vetted with AHPD staff and AHHAA members to outline detail for the year in June 2016.

I. Introduction

A. Summary Overview of Year One Project Methodology and Schedule

Project Tasks and Milestones	Dates
Initial Planning Meetings with Staff and Stakeholders	February 2015
Data collection and research	March – December, 2015
Staff and Stakeholder initial trainings and information gathering meetings, MAUT exercise	June 2015
Presentation of Summary Findings, Trainings, and Visioning Sessions with Staff and Stakeholders	October 2015
Drafting of Year One Recommendations, Impact Simulation, and Stella Modeling	November 2015 – May 2016
Year One Report of Project to Staff and Stakeholders	June 2016

Details of each of these steps can be found in the following sections. This full project is also a continuing test, validation, and refinement of Beta testing of ***The HCRG "Surveillance and Management Toolkit."***

B. Significance of the Project

Alignment with AHPD Comprehensive Plan

This project is in accordance with the *2014 Arlington Height Park District Comprehensive Plan*, which includes a variety of goals and tasks related to this work. The following goals and objectives are directly tied to this project:

Goal 2.2 Provide quality recreational programs and services which meet the needs of all age groups, and promote a healthy lifestyle in the community.

Specific Tasks from the Comprehensive Plan Goal 2.2

1. Coordinate with all community partners to implement the agreement with GP RED for the Healthy Communities Surveillance and Management Project.

14. Offer five new health and wellness programs yearly for youth ages 6-12.

C. Background of the Healthy Communities Surveillance and Management Toolkit (SMT) Project

Since 2009, the ***Healthy Communities Research Group*** (GP RED and Indiana University Bloomington, along with the Indiana Parks and Recreation Association, the Bloomington Parks and Recreation Department, GreenPlay, Design Concepts, East Carolina University, and Beta Site communities) has been working together to develop and test the **Healthy Communities Surveillance and Management Toolkit (SMT).** The project targets the preventative community aspects that influence obesity and active living that may be modified by Parks and Recreation agencies and their community partners. The initial "alpha project," was in Bloomington, Indiana, and other Beta Sites followed with testing that has been successful. Arlington Heights is the third "Beta Site." The methods are now being integrated into a training process and toolkit to be applied to additional "beta" site communities for further refinement, testing, and implementation around the U.S. in the future.

Beyond Health
The Economy of Obesity

A high population of obese youth leads to a high population of obese adults. According to 2009 studies of 187 U.S. metro areas, *The Gallup Management Journal* estimates that the direct costs associated with obesity and related chronic conditions are about $50 million per 100,000 residents annually in cities with high rates of obesity. The direct and additional hidden costs of obesity are stifling businesses and organizations that stimulate jobs and growth in U.S. cities.

What is the Project About?

The Healthy Communities SMT Project helps parks, recreation, and related departments and agencies assess, analyze, document, and evaluate five elements related to the repositioning of parks and recreation as a primary preventative public health provider in the community:

- **Creating a Warrant for Agency Action** – Why? Who? What is the Impact?
- **Convening Community Stakeholders and Champions** – Residents? Partners? Providers?
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- ❖ Collect both qualitative and quantitative data to summarize current findings.
- ❖ Have the project be evidence-based, but implementation focused.

This project aims to position AHPD as a preventative public health provider to work with community partners to address and potentially modify key factors that may contribute to increased physical activity and reduced obesity in middle school aged youth.

Obesity and Physical Activity

Obesity is one of the greatest health threats currently facing the United States. It contributes significantly to a variety of serious diseases including heart disease, diabetes, stroke, and certain cancers, as well as poor general health and premature death.[1] In addition, research shows that at this point in time, in large part due to this epidemic, the current generation of youth are the first that will most likely have a shorter lifespan than their parents.[2] Physical activity and nutrition are the key elements that contribute to obesity, but challenges remain in how to best address these from a community level.[3]

Body Mass Index (BMI)

Body Mass Index (BMI) is a measurement of height relative to weight that is often used to evaluate health as related to body size, including measuring obesity. As stated by Jones and Crawford[4]:

> "Body mass index (BMI) has been a standard measure of relative physical status with larger values indicating greater adiposity. In the literature on adolescent girls, a positive, linear relationship between BMI and body dissatisfaction has been reported frequently. For boys, the pattern has been more inconsistent. In some cases, BMI has not been a significant predictor of body image dissatisfaction among boys. However, the majority of the evidence has shown that higher BMI scores are related to greater body dissatisfaction and weight related concerns."

There are limitations related to using BMI as a self-reported measurement tool (an explanation of which is beyond the scope of this report), but it is a well-accepted practice (CDCP, 2014), and with limited resources, it is the best mechanism available for assessing overall body mass in large populations. The national categories for weight classifications typically include categories (underweight, healthy weight, overweight, and obese) as established by the Centers for Disease Control and Prevention (CDCP, 2014). According to the CDCP, a healthy BMI for girls in this age range is 16.5 – 22.8, and for boys it is 15.5 – 22.5.

Body Mass Index was the primary response variable measured in the Youth Activities and Nutrition Survey (YANS), through self-reported weight of students (they weighed themselves privately just prior to taking the survey) and height (an attendant measured their height for them just prior to survey) using the standard BMI percentage calculation of:
weight (lb) / [height (in)]2 x 703 = BMI

Note: While BMI is calculated the same way for youth and adults, standard youth classification charts indicate slightly different ranges for normal, overweight, and obesity to accommodate the variability of younger bodies. Sample BMI Charts for boys and girls ages 2-20 from the Centers for Disease Control and Prevention were provided in Appendix A of the November 2015 YANS Report.

[1] CDC - Centers for Disease Control and Prevention. (2014). *State Indicator Report on Physical Activity*. Atlanta, GA: U.S. Department of Health and Human Services. http://www.cdc.gov/obesity/.

[2] Compton, D.M., and Kim, K. (2013). Getting Kids off the Couch and into Healthy Communities: Modeling Recreation Programs with STELLA, *The Connector: ISEE Systems*, Fall 2013 Ezine, http://www.iseesystems.com/community/connector.

[3] Sallis, J. F., Cutter, C. L., Lou, D., Spoon, C., Wilson, A. L., Ding, D., Orleans, C. T. (2014). Active Living Research: creating and using evidence to support childhood obesity prevention. *American Journal of Preventive Medicine*, 46(2), 195–207.

[4] Jones, D. C., and Crawford, J. K. (2006). The Peer Appearance Culture During Adolescence: Gender and Body Mass Variations. *Journal of Youth and Adolescence*, 35(2), 243–255. http://doi.org/http://dx.doi.org.prox.lib.ncsu.edu/10.1007/s10964-005-9006-5

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II. Community Profile

Local demographics and relevant trends were collected to help supplement the findings and potential recommendations. This project was conducted to get actual representative data from Arlington Heights youth to help guide community decisions in the future.

A. Demographics

Understanding detailed community demographics and needs is an important component of planning for the Arlington Heights Healthy Community Surveillance and Management Toolkit. The population data used in this demographic profile comes from Esri Business Information Solutions, based on and projected from the 2000 and 2010 U.S. Census data. They are similar to (but not exactly the same as) demographics reported by Arlington Heights School District 25 in 2014.

Arlington Heights Park District Boundaries

The 16.2-square mile District is located in northern Cook County and southern Lake County, 27 miles northwest of downtown Chicago. It lies in Elk Grove and Wheeling Townships and is bordered by Buffalo Grove and Wheeling to the north; Elk Grove Village on the south; on the west by Rolling Meadows and Palatine; on the east by Mt. Prospect. The District serves most of Arlington Heights and small portions of Palatine, Mt. Prospect, Prospect Heights, Rolling Meadows, and Lake County.

Population Summary

Arlington Heights population is approximately 75,000. It's the third largest suburb in Cook County, the eighth largest suburb in the Chicago Metropolitan area, and the twelfth largest community in the State of Illinois.

Table 1: Summary Demographics for Arlington Heights Park District

Summary Demographics - 2015	
Population	72,287
Number of Households	29,407
Avg. Household Size	2.43
Median Household Income	$77,020
Median Age	44
% of Youth ages 10-15	6%
No. of Youth ages 10-15	4,337

- As compared to Cook County and U.S. overall, median age for the District is higher (County median is 35.3, slightly lower than the median age of 37.1 for the United States).
- The median income in Arlington Heights is higher than the County (the estimated median household income for Cook County residents was $51,004).

Population Projections

Although future population growth cannot be predicted with certainty, it is helpful to make growth projections for planning purposes. ***Table 2*** contains actual population figures based on the 2000 and 2010 U.S. Census for Arlington Heights, as well as a population estimate for 2015 and projection for 2020. The park district's annual growth rate from 2000 through 2010 was -0.19 percent. Esri's projected growth rate for 2015 through 2020 is 0.15 percent for the park district, compared to the projected 2015 – 2020 annual growth rate for the State of Illinois (0.21%) and the United States as a whole (0.75%). The growth trend is graphically represented in ***Figure 1***.

Table 2: Arlington Heights Park District Population projections, 2000--2020

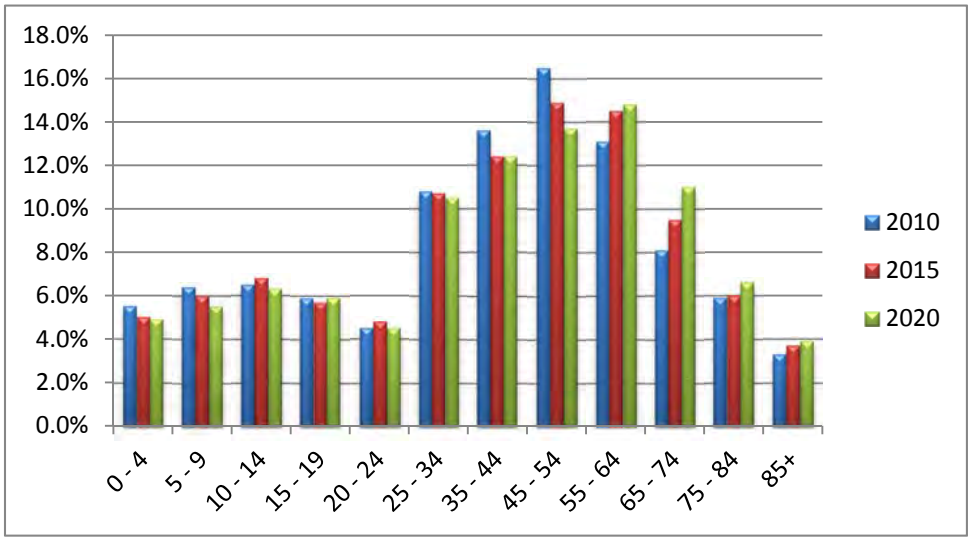
U.S. Census (2000 and 2010) and Esri Projections	
2000 Population	73,491
2010 Population	72,086
2015 Estimated	72,287
2020 Projected	72,814

Source: 2010 U.S. Census; 2015 estimates and 2020 forecasts provided by Esri Business Information Solutions.

Population Age Distribution

A comparison of the estimated population break down by age for Arlington Heights Park District from 2010 to 2020 is shown in ***Figure 1***. The gender distribution in 2015 is 50.3 percent male to 49.7 percent female. The median age projected for the park district by Esri in 2015 is 44.0. When broken down by race/ethnicity by the U.S. Census in 2010, the median age for the Caucasian population was 44.5, the Asian population was 36.1, the African American population was 32.2, and the Hispanic population (irrespective of race) was 27.8.

Figure 1: Arlington Heights Park District Age Distribution for the Years 2010, 2015, and 2020



Source: 2010 U.S. Census; 2015 estimates and 2020 forecasts by Esri Business Information Solutions.

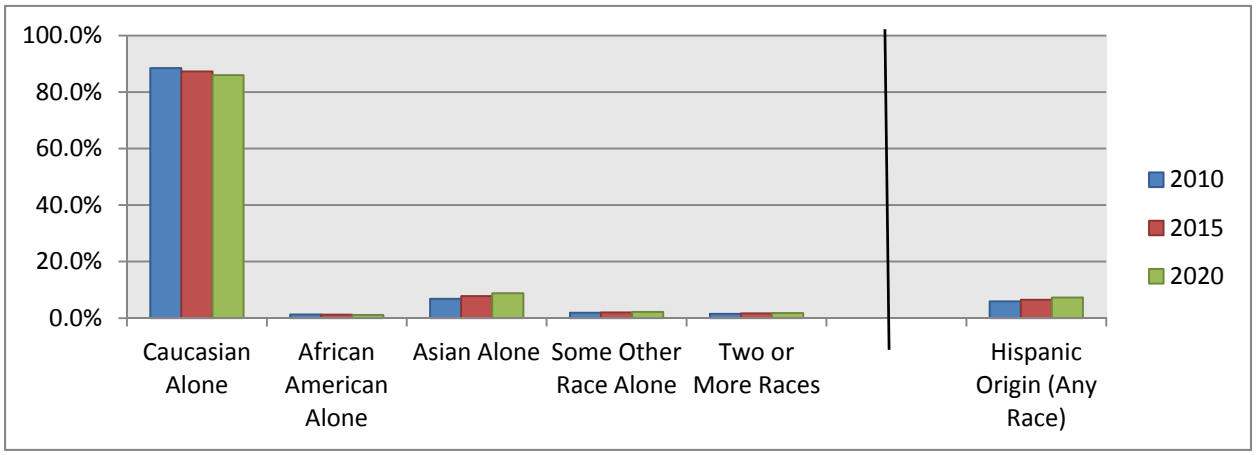
The age demographics have undergone a number of changes in the district from 2010 to 2015 with these trends predicted to continue through 2020. The percentage of Arlington Heights Park District residents in the 55-85+ age range is expected to grow 5.9 percent respectively, from 2010 to 2020. Conversely, the percentage of residents in the 25-54 age range is predicted to drop 4.3 percent from 2010 to 2020. **The percentage of youth in the 10-15 age range from 2010 to 2020 is over six percent, with an estimated peak at 6.8 percent in 2015.**

Race/Ethnicity

Figure 3 reflects the racial/ethnic population distribution for Arlington Heights Park District. Esri estimates that 87.3 percent of the population in 2015 is Caucasian, with the African American population at 1.2 percent and the Asian population at 7.8 percent. The population of Hispanic origin* provides separate look at the population, irrespective of race, and this population is estimated at 6.5 percent of the population in 2015.

- The Caucasian population is trending downward from 88.5 percent in 2010 to a predicted 86 percent in 2020.
- The Asian population is trending upward, with the percentage increasing by 1.4 percent from 2010 to 2020, while the African American population percentages are staying relatively level at around 1.2 percent.
- The population of Hispanic origin (irrespective of race), at 5.9 percent in 2010, is expected represent 7.3 percent of the population by 2020.

Figure 2: Arlington Heights Park District Race/Ethnicity Statistics (2010, 2015, 2020)



Source: 2010 U.S. Census; 2015 estimates and 2020 forecasts by Esri Business Information Solutions.

* Hispanic origin can be viewed as the heritage, nationality, lineage, or country of birth of the person or the person's parents or ancestors before arriving in the United States. In the U.S. Census, people who identify as Hispanic, Latino, or Spanish may be any race and are included in all of the race categories. Figure 3 represents Hispanic Origin as recorded in the U.S. Census.

Educational Attainment

As shown in ***Table 3,*** the highest ranking educational cohorts in Arlington Heights are those residents with a Bachelor's degree (31.9%), those with a graduate degree (21.2%), and high school graduates (18.3%), followed by those with some college, no degree (16.2%). According to a census study, education levels had more effect on earnings over a 40-year span in the workforce than any other demographic factor, such as gender, race, and ethnic origin.[5]

Table 3: Arlington Heights Educational Attainment, 2015

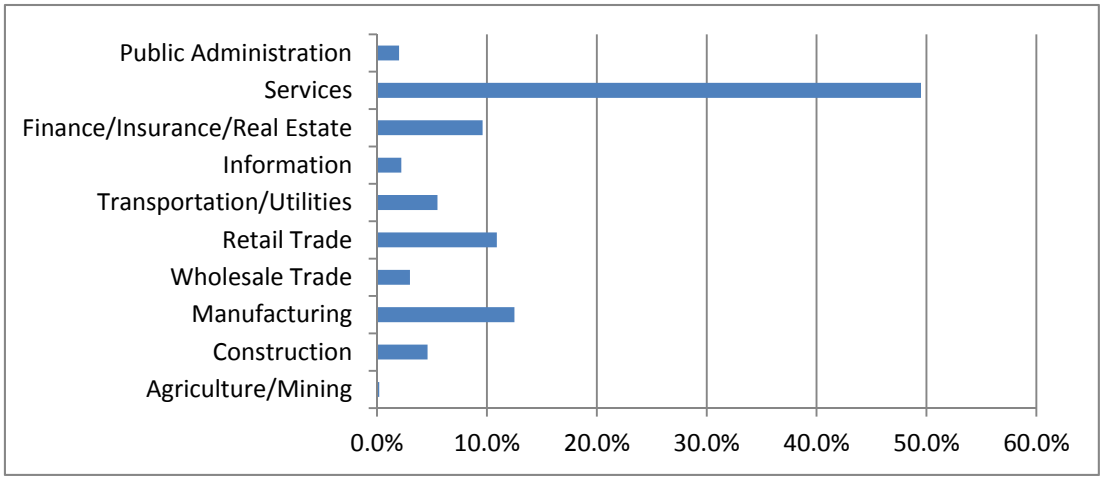
Educational Attainment	Service Area Percentage
Less than 9th grade	2.1%
9th to 12th grade, no diploma	
High school graduate	18.3%
GED/alternative credential	1.6%
Some college, no degree	16.2%
Associate's degree	6.6%
Bachelor's degree	31.9%
Graduate or professional degree	21.2%

Source: Esri Business Information Solutions 2015 estimate based on the 2010 U.S. Census.

Employment

According to the Esri estimates for 2015, the industries in the district providing the greatest employment percentages are the service industry (49.5%), manufacturing (12.5%), the retail trade (10.9%), and finance/insurance/real estate (9.6%). ***Figure 3*** reflects the Esri estimate in 2015.

Figure 3: Arlington Heights Employment by Industry, 2015



Source: Esri Business Information Solutions 2015 estimate based on the 2010 U.S. Census.

[5] Tiffany Julian and Robert Kominski, "Education and Synthetic Work-Life Earnings Estimates" American Community Survey Reports, US Census Bureau, http://www.census.gov/prod/2011pubs/acs-14.pdf, September 2011.

Household Information

As reflected in ***Table 5,*** in 2015, Arlington Heights has 31,239 housing units with a 71.1 percent owner-occupied housing rate, compared to a renter occupied rate of 23.0 percent. The owner-occupied housing rate has dropped somewhat since 2000, when 74.2 percent of the housing in the park district was owner-occupied. The average household size in 2015 is 2.43.

Table 4: Arlington Heights Housing Statistics

	2000	2010	2015	2020
Total housing units	30,031	30,804	31,239	31,573
Percent owner occupied	74.2%	73.6%	71.1%	70.8%
Percent renter occupied	22.9%	20.9%	23.0%	23.4%
Percent vacant	2.8%	5.6%	5.9%	5.8%

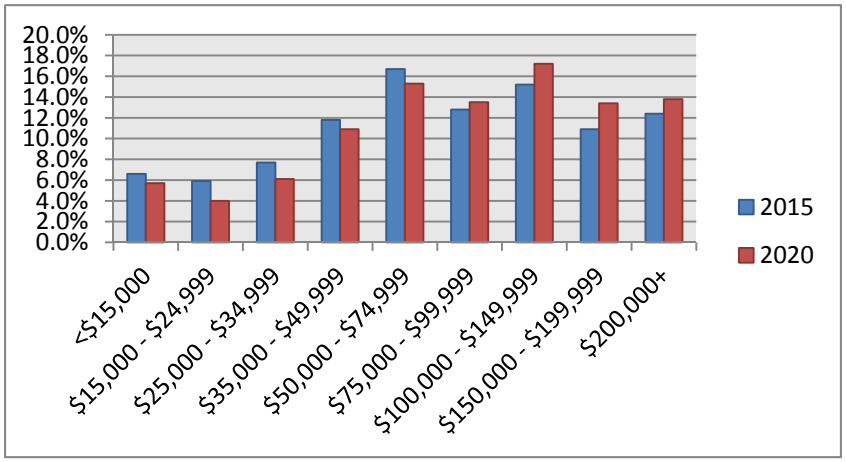
Source: 2010 U.S. Census; 2015 Estimates and 2020 forecasts provided by Esri Business Information Solutions.

Household Income

The estimated 2015 median household income for residents of Arlington Heights is $77,020 and is expected to grow to $88,069 by 2020. ***Figure 4*** illustrates the full income distribution estimated for the park district in 2015 and projected for 2020.

- In 2015, most residents have an income in the $50,000-$74,000 income range (16.7%), followed by the $100,000-$149,999 income range (at 15.2%).
- Income distribution in the $75,000 through $200,000+ income range is expected to grow by a total of 6.6 percent, from 2015 to 2020.

Figure 4: Annual Household Income Distribution Comparison (2015 – 2020)



Source: Esri Business Information Solutions, 2015.

B. State and County Health Rankings

While detailed data on health was not previously available for youth specifically for Arlington Heights (it is part of the goals for this project), available statewide health and obesity information follows.

The United Health Foundation ranked Illinois 30th in its *State Health Rankings* in 2014, retaining the state's 2013 ranking.

The State's biggest strengths include:

- Ready availability of primary care physicians
- Ready availability of dentists
- Low occupational fatalities rate

Some of the challenges the State faces include:

- High prevalence of binge drinking
- High levels of air pollution
- High rate of preventable hospitalizations

C. Statewide and County Obesity Levels

Obesity levels in Illinois vary by age. According to the United Health Foundation, 25.3 percent of those in the 18-44 age range are obese, with this percentage rising to 35.3 percent for the 45-64 age range, and dropping again to 28.8 percent for the 65+ age range. A report entitled "The State of Obesity in Illinois," found that in 2011, the obesity rate for 2-4 year olds from low-income families was 14.7 percent, while the rate was 19.3 percent for 10-17 year olds.[6]

The Cook County Department of Public Health conducted a study of the prevalence of obesity and overweight among school children in suburban Cook County from 2010 to 2012.[7] Obesity rates for youth in Northwest Cook County, where the Arlington Heights Park District is located, were 13.8 percent for kindergarteners (age 4.5 to 6.5), 20.7 percent for 6th graders (age 10.5 to 12.5), and 15.8 percent for ninth graders (age13.5 to 15.5). These obesity rates were similar to most other regions of suburban Cook County, and they are somewhat higher than the national average of 12.7 percent (kindergarten), 20.4 percent (6th Grade), and 16.7 percent (9th grade).

[6] Robert Wood Johnson Foundation and the Trust for America's Health, "The State of Obesity in Illinois," http://stateofobesity.org/states/il/,accessed on July 14, 2015.

[7] CCDPH Brief, September 2013, http://www.cookcountypublichealth.org/files/community-toolbox/Obesity_Brief_091913_final_339PM.pdf, accessed on July 14, 2015.

III. Data Gathering and Findings

This Year One portion of the Healthy Communities ***Surveillance and Management Toolkit (SMT)*** includes a strong focus on collecting the data that is available, and compiling this data in Findings for future action.

A. Arlington Heights Health Action Alliance (AHHAA) Partners Group

To begin Year One of the project, a group of partners and potential champions was created and convened. They met quarterly, and minutes were taken. Initial meetings were centered around organizing, familiarization with the project, discussions of additional potential partners, group structure, and review of findings presentations. Contact information was collected, and the group now includes representatives from:

- Arlington Heights Park District
- Arlington Heights Memorial Library
- Northwest Community Hospital
- Arlington Heights Park District
- Arlington Heights Park District Parks Foundation
- Prospect Heights School District 23
- Arlington Heights School District 25
- Village of Arlington Heights
- Arlington Heights Chamber of Commerce Wellness Committee
- And any interested community residents (open meeting, but not advertised publicly).

This group has been heavily involved in each stage of this project, and has become stronger in attendance and action. In April 2016, the group determined that its priority is to **focus on policy** to be the umbrella that brings stakeholders together around the recommendations and Action Plan for Arlington Heights. In addition, there was a strong desire to create an identity, branding, tag line, and logo for the Group. A sub-committee was created to work on this task with the AHPD Marketing Staff in May 2016. It is anticipated that this group will continue to work together with AHPD and GP RED, and hopefully in perpetuity to address these and other important issues.

B. Arlington Heights Youth Focus Group

Since a key part of the project is trying to hear what the Youth ages 10–15 in Arlington Heights think, one mechanism utilized was to invite a group of middle school teens to specific semi-structured, facilitated Focus Group meetings. The library staff helped identify participants and provided space for the meetings. Two Focus Groups were held in Year One, and there was consensus that should continue as on a semi-annual basis.

1) The first meeting was held in June 2015. Seven students in fifth through eighth grade attended. A protocol was created using a semi-structured format, and an outline provided as a staff resource document. A summary of responses is included in ***Appendix A***.

Focus Group Questions: The following seven (7) questions were asked during the 60 minute session.

Question #1 – Describe a "Healthy" and "Unhealthy" Middle School student.
Question #2 – What challenges does a Middle School student face who is not of healthy weight?
Question #3 – What are some ideas you and your parents have about watching TV and playing video games? How can this time be used in a more active and productive manner?
Question #4 – Who most influences your nutrition habits?
Question #5A – Many of you have participated in youth sports. Who decided you should be on the team?
Question #5B – Which would most influence a decision for you to continue in youth sports?
Question #6 – Share with us how adults in your life can have a direct impact on your overall well-being for now and in the future?
Question #7 – What is missing or gets in the way of you being more physically active in Arlington Heights? What would entice you to be more active?

2) There was a second meeting in April 2016, with **eight** teens in attendance, ranging from fourth to seventh grade. The summary of this meeting is as follows:

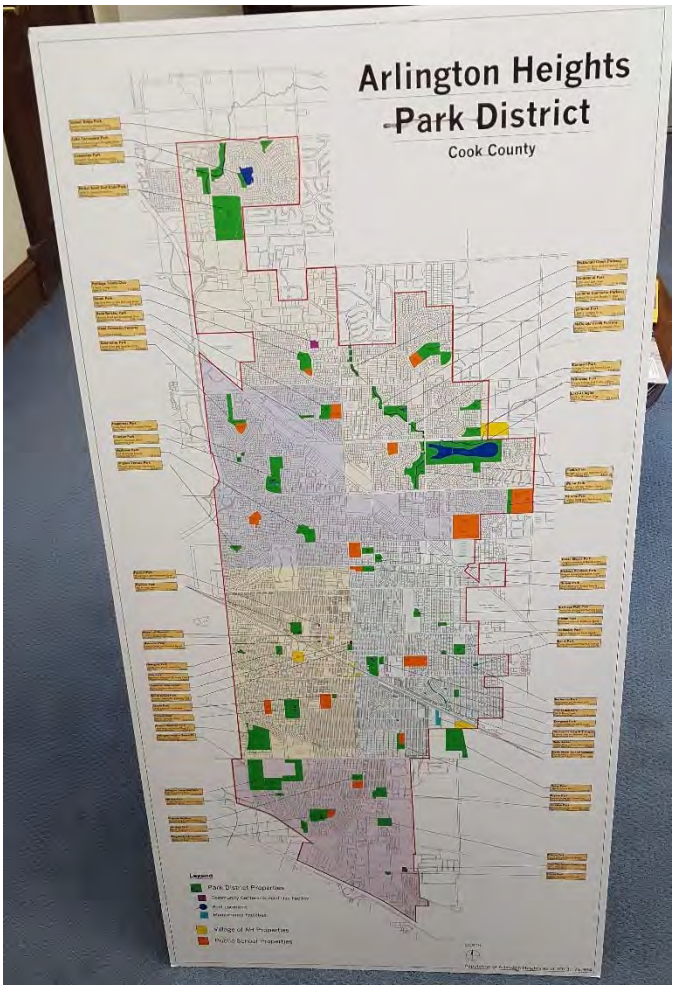
Activities Discussion

The group had a discussion on what type of Out of School Recreation Activities they would like to do that they are not doing now and why are they not.

Additional **activities** they would like to see include: running, one day art classes, non-competitive swim team, drop-in activities, biking programs, camping, parkour, horseback riding, hockey groups, lawn games, mini golf, go cart racing, waterpark, poms, and drama.

Obstacles stated as to why they are not doing activities are:

- Too busy, transportation, too early start times, too far away, or expensive.



U Mapping Process

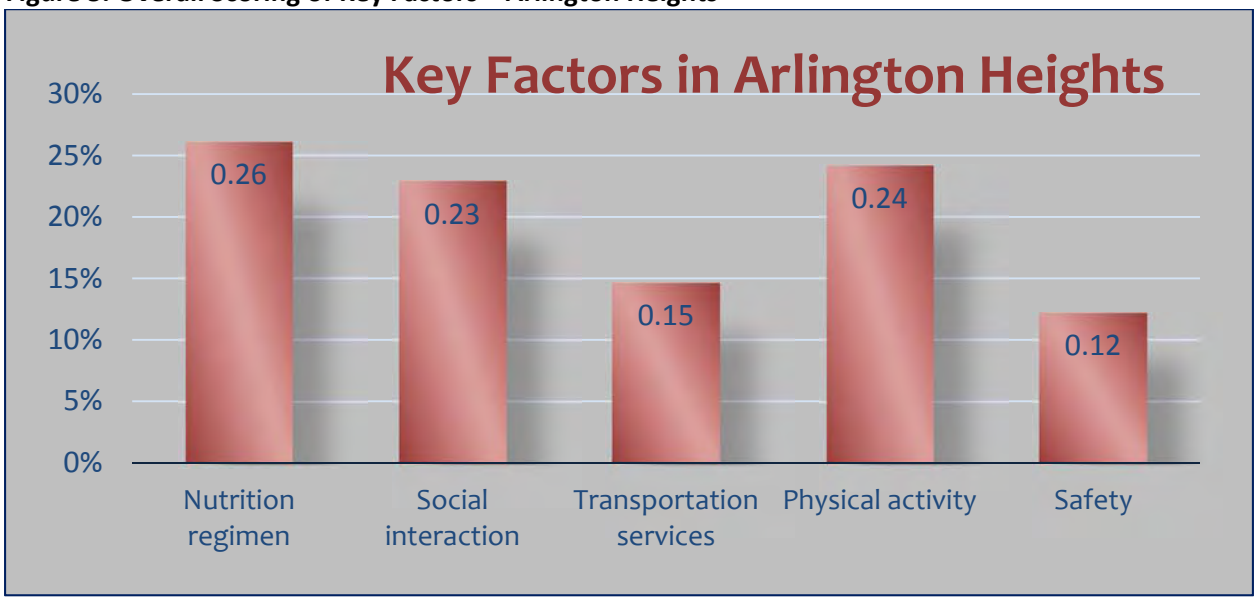
The group was shown an overall map of Arlington Heights, and then smaller maps were passed out for them to write on. They wrote out their usual routes whether by walking, car, bus, or biking. Many teens said they were not allowed to cross Northwest Highway or Arlington Heights Road and that this can be a barrier for their activities. It was explained that the Village is working to establish ideas for safe crossings.

C. Identified Key Factors and Indicators for Physical Activity and Obesity

An extensive review of the current relevant literature has identified the key factors (indicators, determinants, correlates, etc.) that appear to be most relevant for potential modification related to increasing physical activity and reducing obesity through parks and recreation and related community level systems interventions.

These factors include measurement of BMI, along with potential factors of nutrition, activity types, perception of safety, transportation, and social/parental engagement factors. The following ***Figure 5*** identifies the perceived priority importance of these Key Factors by the AHHAA members in Arlington Heights. Note that nutrition, and policy around nutrition, was deemed most important to address, followed by programs and facilities to increase physical activity, addressing social/parental engagement, access and availability of transportation, and finally, the perceptions of safety. This indicates that the representatives feel that overall, Arlington Heights is a relatively safe community for youth, but there is still work to be done on all factors.

Figure 5. Overall Scoring of Key Factors – Arlington Heights



These factors are based on the prior work by GP RED and were ranked in Arlington Heights through the use of the Multi-Attribute Utilities Technique (MAUT) nominal group process analysis in multiple communities (see www.gpred.org and the ***November 2015 Year One Findings Report– MAUT Report for Arlington Heights*** for more information).

Figure 6. Coefficients of MAUT Scoring for Arlington Heights

Indicators	Criteria	Coefficient
Nutrition regimen	Availability of healthy food	6.16
	Information, education and training	6.58
	Healthy food/drink options	5.98
	Collaboration with local restaurants	4.78
	Community gardens	2.61
Social interaction	Efforts to prevent bullying and hazing	3.74
	Non-competitive organized activity options	5.40
	Establish practices of social inclusiveness	4.18
	Positive social environment	4.76
	Relevancy of programs/services	4.84
Transportation services	Accessibility of public transportation	4.62
	Cost of services	2.49
	Convenience	3.51
	Consumer knowledge of public transportation services	2.16
	Utilization rates	1.85
Physical activity	Quality of natural and built assets	3.49
	Varied physical demands of programs/services	5.11
	Availability of assets/programs	5.13
	Application of evidence based practices by staff	3.71
	Marketing and promotion of increased physical capacity	6.74
Safety	Crime rate at or near assets/programs	1.94
	Parent/children perception of safety level	3.01
	Prevention practices of service providers	2.86
	Safety inspection & risk management	1.95
	Staff supervision & surveillance efforts	2.44

D. Analysis of Current Programs

A MS Excel template was provided that allowed collection of data on all programs for this age range, along with characteristics such as:

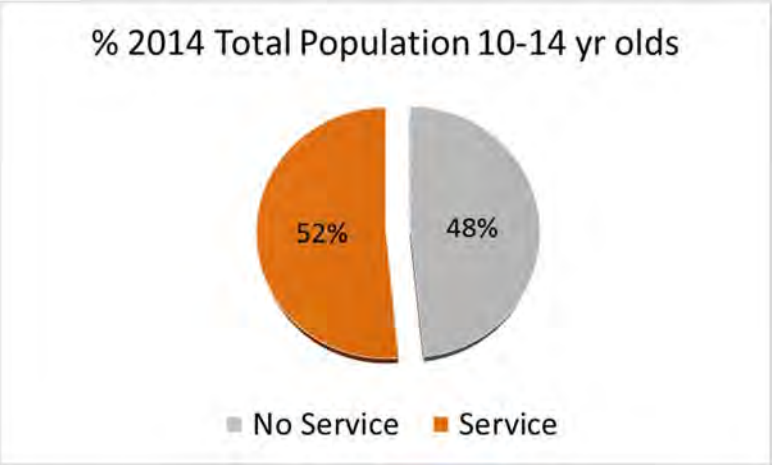
- Geographic Location
- Quartile of Cost
- Frequency and Duration
- Participation and Adherence
- Target Market
- Provider vs. Facilitator Designation
- Benefits (Physical, Mental, Social, Environmental, Consequential, etc.)
- Financial Performance

This template serves as a program management tool for staff to annually review the performance and program mix. This project focuses on ages 10-15, but the template can work for all ages, if desired. All program locations were geo-coded using geographic information systems (GIS) technology to allow for spatial analysis. Full GIS data and analytical maps have been provided to Arlington Heights Park District, and a more detailed account of the GRASP® Inventory and Level of Service Analysis can be found in ***Appendix B***.

A summary of key programmatic findings follow:

- ✓ There is strong distribution of program locations and program mix throughout Arlington Heights.
- ✓ There are some pockets of concentration, especially in walkable access.
- ✓ Some of the gap areas in walkability have existing facilities that could possibly accommodate additional programs.
- ✓ Over half of the target age group can walk to at least one program.

Figure 7: Walkable Access to Programs



Financial Analysis

Overall financial analysis from the AHPD 2015 – 2016 Budget Report indicates that the Recreation and Facilities fund is projected to have total revenue of $12,241,357 after scholarships are removed. Of that, just $3,233,458 comes from property taxes, for a net revenue of $9,000,899. Total expenses for this category are projected at $12,913,769. This indicates that cost recovery from non-tax sources is approximately 70 percent, which is relatively high to national averages.

The collection of financial information was hindered by the previous financial software that was in place. It was not possible to determine the revenue and expenses or cost recovery for this specific target age group, as it has not been tracked this way in the past. In June 2015, through a competitive bid process, the District selected to upgrade the registration software to Active Network. This software should allow for better and more detailed management and financial reporting in the future.

E. Assets and Facilities Inventory and Level of Service Analysis

A detailed inventory of public and semi-public physical assets available for recreational use by the Arlington Heights community was assembled for the Level of Service analysis. This asset inventory was created to serve the District in a number of ways. It can be used for a variety of planning and operations tasks, such as asset management and land acquisition, as well as future strategic and master plans. The assets inventory currently includes public parks, recreation areas, and indoor facilities managed by the District. Additionally, it was recognized that alternative providers such as schools and other agencies, contribute to neighborhood recreation opportunities that can be reached via walking. Due to limitations of time and resources, a selected sampling of alternative providers were included in the full inventory and level of service analysis.

The following is a summary of the inventoried sites:

- 57 Arlington Heights Park District Parks
  - 348 Components
- 15 Arlington Heights Park District Indoor Facilities
  - 14 School Gymnasiums also included
- 3 Alternative Provider Parks
  - 8 Components

Data from an onsite inventory of all facilities, parks, and lands was entered in GIS, and each facility was given a score based on amenities and proximity to homes. All components of the system (ballfields, playgrounds, pools, etc.) were given a score of one, two, or three. Scores were translated into colored areas on the map of Arlington Heights. Each component has a service area. Service areas were indicated as an orange circle encompassing homes and neighborhood parks. The key analysis was to determine, "Which facilities can I walk to within 1/3 mile or 10 minutes of my home?" A detailed explanation of *the GRASP® Component-Based Methodology* and findings are included in ***Appendix C***. A summary of key findings follows.

Walkable Access to Recreation

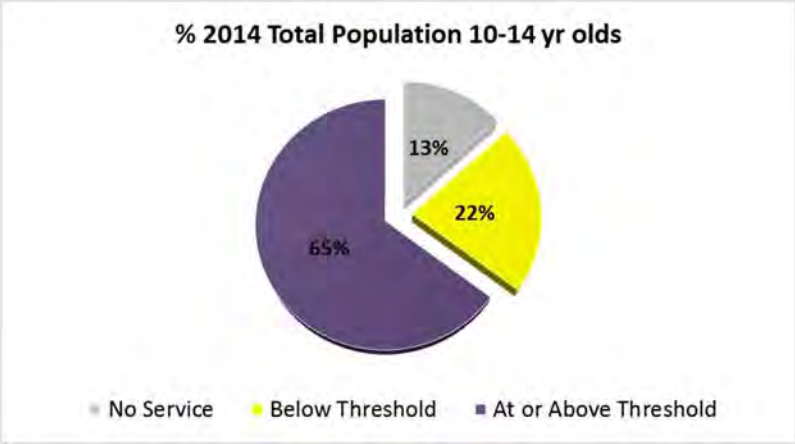
Walkability is a measure of how user-friendly an area is to people travelling on foot. A walkable environment has benefits with regard to public health, the local economy, and quality of life. Many factors influence walkability and include the presence or absence and quality of footpaths, sidewalks or other pedestrian rights-of-way, traffic and road conditions, land use patterns, and safety considerations, among others. Perhaps the most significant factors that affect walkability in a study area are barriers. **Walkability is very important for this project, as people ages 10–15 cannot drive.**

Barriers typically include major streets and highways, waterways, or railroad tracks that restrict pedestrian or bicycle movement and pose a potential risk to public safety. To account for these obstacles as deterrents to active transportation that serve to limit access to recreation, barriers were determined for the District and used to limit walkable service coverage. The Walkable Level of Service perspective models access to recreation using a one-third mile catchment distance exclusively. This represents a convenient distance from a recreation amenity or facility on foot or by bike, which can be achieved by an average person within a ten minute walk. This analysis does not recognize any service across a barrier.

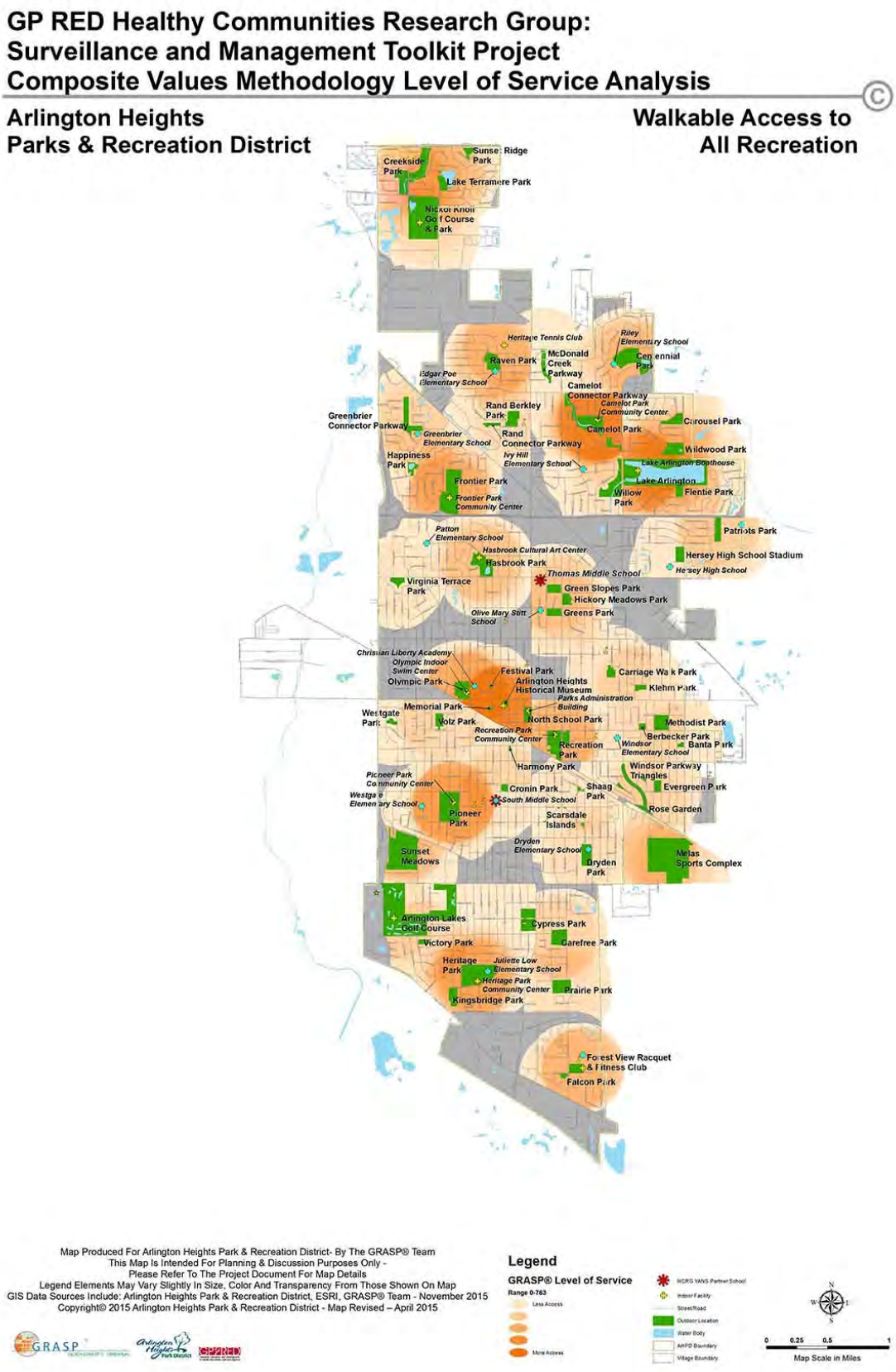
The walkability heat map ***Map C-1*** follows showing access to recreation in Arlington Heights Park District via walking or other non-motorized travel mode. The effect of the barriers is notable in this perspective map. ***Map C-2*** displays GRASP® scoring based on threshold scoring (above – purple, or below - yellow mean, or gray if no service). *Note: Larger maps and all GIS data have been provided to AHPD.*

Key Findings from the Assets Level of Service Analysis

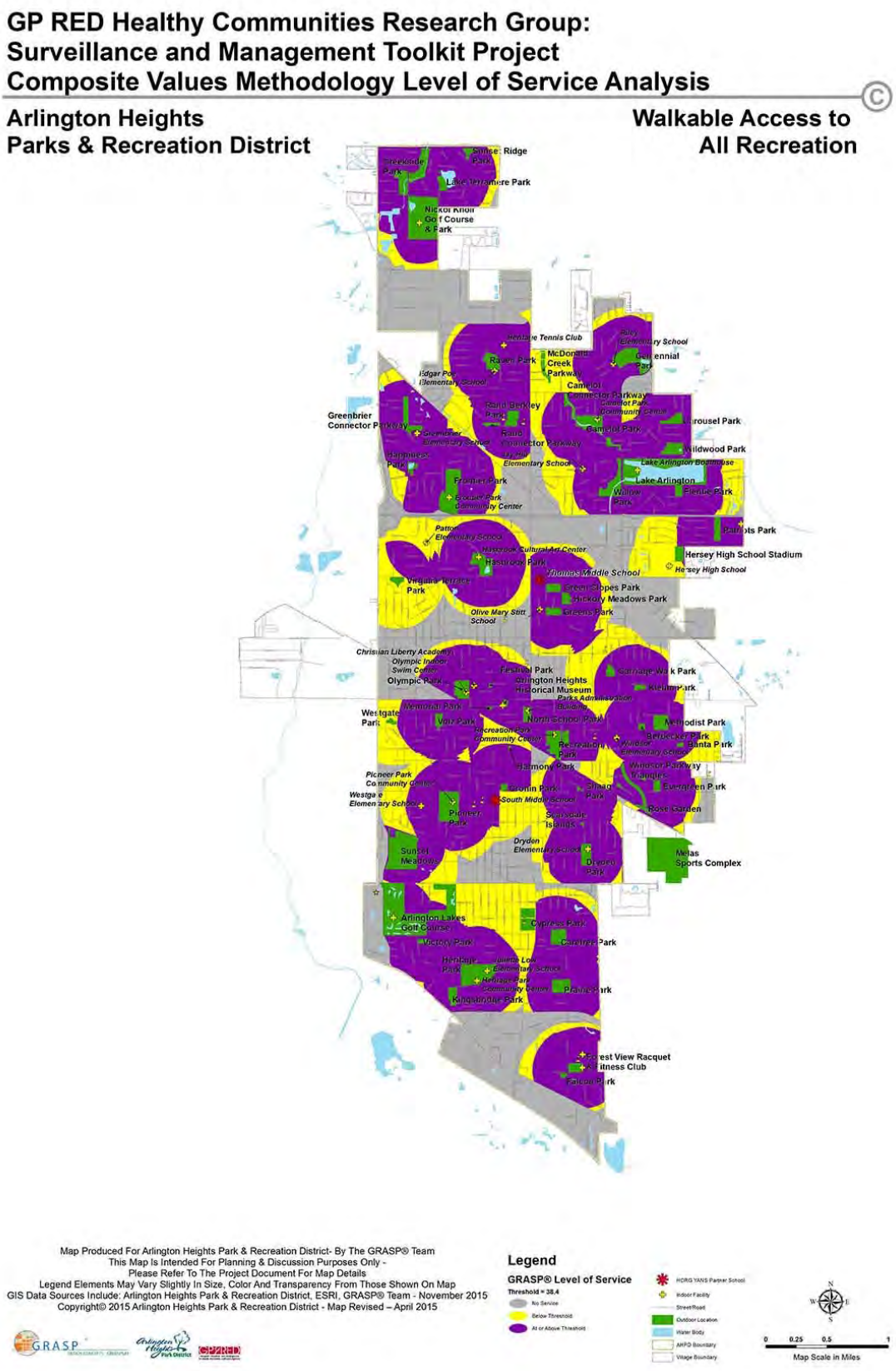
- ✓ *Great distribution of parks and facilities throughout the District*
- ✓ *Some pockets of concentration*
- ✓ *Some pockets of No Access*
- ✓ *Overall, 87 percent of the target age group has walkable access to some recreation opportunity*
- ✓ *Overall, 65 percent of 10-15-year-olds have access to an average neighborhood park within walking distance*



Many teens said they were not allowed to cross Northwest Highway or Arlington Heights Road, and that this can be a barrier for their activities.



Map C-1: Walkable Access to Recreation in the District is displayed here as a heat map.



Map C-2: This threshold map shows Walkable Access to Recreation in the District.

F. Youth Activities and Nutrition Survey (YANS) Summary

Under the leadership of GP RED team members, AHPD, Arlington Heights School District 25, and through the supervision of school personnel, students from Thomas Middle School (2014-15 Enrollment, n = 912) and South Middle School (2014-15 Enrollment n = 869) participated in an online Youth Activities and Nutrition Survey (YANS). **See the full YANS report provided in November 2015 to AHPD staff and the AHHAA for details.**

Note: The GP RED HCRG Research Team is well aware of the potential accuracy challenges of relying upon self-reported data from youth. Given the available resources, and as this information is collected anonymously in an age-appropriate format, this method appears to be the best available method to gather large amounts of community-specific youth data of this type at this time.

This survey has been pilot tested and administered in other GP RED Beta Site Communities. The electronic survey was administered by East Carolina University for the Spring 2015 data collection process. Full raw data, statistical methodology, and coding structure is available from the GP RED team. This survey has been approved by the Internal Review Boards of both East Carolina and North Carolina State Universities for this type of use. The full report and reference information can be found in the November 2015 Arlington Heights YANS Report, available from AHPD.

Note: There are 23 questions on the YANS Survey (some are basic demographics/height and weight). To streamline this report, summary analysis was conducted on the topics that most closely related to the Key Factors and Indicators for AHPD. Further analysis can be conducted on other variables in the future, and will be part of additional overall comparative research for GP RED.

Surveyed BMI Results from Youth in Arlington Heights

The overall descriptive statistics for total BMI for Arlington Heights are shown in ***Figure 8.***

Figure 8: **Descriptive Output – BMI**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BMI Calc.	950	11.83	39.10	18.94	3.29

The overall mean of **18.94** for all students is under the national category upper limit of healthy weight of 22.5 for boys and 22.8 for girls, so **on average, the students are of healthy weight**. However, those above range limits may be overweight or obese. The calculated BMI scores were also examined by gender and age.

Summary of Reported Impact of Factors on BMI

Variance of the BMI score was significantly explained by only one of the factors explored below (whether they typically ate breakfast or not). This means that students who eat breakfast regularly have lower BMI scores (B=.974, <.001) than those who skip breakfast two times or more in a week. However, further analysis of all of the key factors is helpful in determining potential approaches to identifying potential priorities for other health benefits.

1. Nutritional Factors

Breakfast Frequency

Research findings support the importance of promoting regular breakfast consumption among adolescents, as breakfast-eating frequency typically declines through adolescence and has been inversely associated with body weight in cross-sectional studies, (Bruening, Larson, Story, Neumark-Sztainer, and Hannan, 2011). **Approximately, 22.2 percent of students skipped at least one breakfast meal.**

Among those students who skipped at least one breakfast meal, **13.4 percent** (n = 40) skipped all seven (7) breakfast meals for a week. The study examined the correlational relationship between BMI score and the number of meals (breakfast) skipped. There was a significant positive relationship between two variables for male students ($r=.224$, $p<.001$), but not for female students ($r=.036$, $p>.05$). The results indicate that the higher the number of meals skipped for males, the higher the BMI, but this correlation was not significant for females. *Note: This result might not be truly significant since more than half (66.4 percent for female and 66.7 percent for male) of students indicated that they, "do not skip any breakfast."*

Sugar Sweetened Beverage Consumption

Research has indicated a potential correlation between sugar-sweetened beverages and obesity (Cordain, Eaton, Sebastian, Mann, Lindeberg, Watkins, and Brand-Miller, 2005; Ferder, Ferder, and Inserra, 2010).

- Thirty-five-point-six percent (35.6%) of students reported drinking a sugar-sweetened soda on the previous day.
- A total of 27.3 percent of girls and 43 percent of boys drank a sugar soda on the previous day.
- The mean BMI for those who drank soda was higher than for those who didn't.
- Those students who drank soft drinks appear to have slightly higher BMI scores than those who didn't drink it, but the difference between two groups was not statistically significant (Female: Mean difference ($\bar{X}$) =.36, p=.274; Male: mean difference ($\bar{X}$)=.10, p=.759).

2. Out of School Activities Participation

Research indicates that the types of activities youth engage in may be correlated with BMI. Students were asked to indicate any activities in which they participate during their time out of school. A limitation was the understanding that some respondents may have miscategorized other activities which could fit under the previous headings, and some did not check any activities.

Table 5: Number of Study Participants Engaged in Physical Activity per Week

	Organized Physical Activity	Outdoor Activity	Youth Group Activity	Park and Rec Center	Other Activities	Doing More Than One Activity
Total	706 (74.3%)	700 (73.7%)	194 (20.4%)	524 (55.2%)	244 (25.7%)	768 (80.8%)
Female	340 (76.1%)	329 (73.6%)	96 (21.5%)	236 (52.8%)	116 (26%)	363 (81.2%)
Male	366 (72.9%)	371 (73.9%)	98 (19.5%)	287 (57.2%)	128 (25.5%)	405 (80.7%)

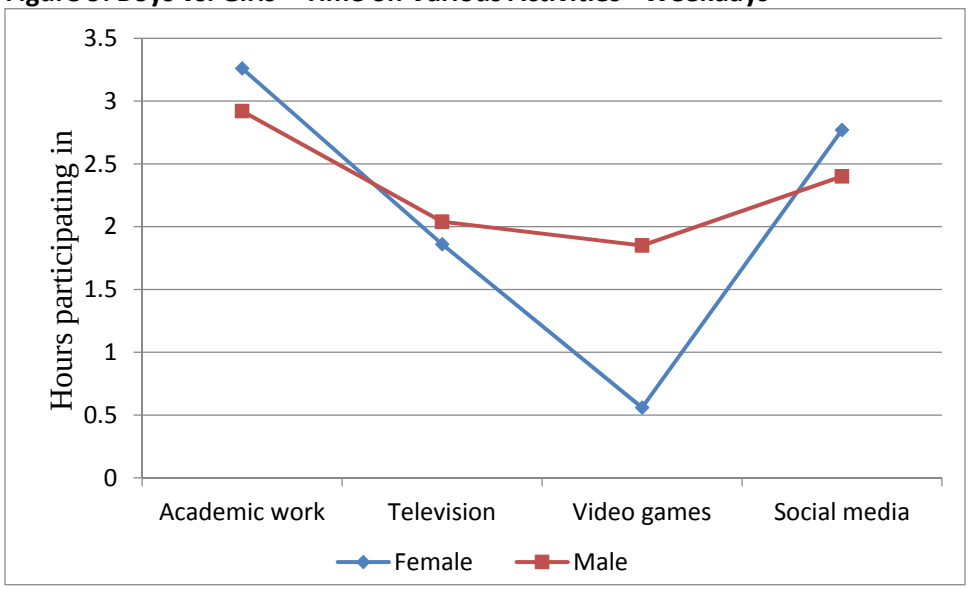
Most students indicated that they participate in more than one activity, with organized activities ranking highest in participation for girls, and outdoor activities ranking highest for boys. **Fifty-five percent** (**55%**) of all students report participating in activities at the recreation center, while **74 percent** participate in organized physical activities, and **74 percent** participate in outdoor activities.

Percentage Time Spent on Various Non-Active Activities

Research indicates that individual entertainment, passive screen time, and social media is increasing, and increased screen time is typically related to increased BMI (Gronsted and Hu, 2011; Stamatakis, Rogers, Ding, Berrigan, Chau, Hamer, and Bauman, 2015). Therefore, the YANS is interested in the amount of time spent on social and entertainment vs. academic activities. It is recognized that social media may be on the computer, but focus is on the type of activity, not the tool. The argument can also be made that video games can be social.

- On average, students spent **22 hours per week** on non-active activities per week**.**
- During week days, for non-active activities, study participants engaged in academic activities most often, at just over three hours, followed by social media, TV, and video games. Total hours per week on average were just under **nine hours** during weekdays.
- Girls spend slightly more time on academics and social media and less time on TV and video games; however, the amount is only significant for video games.

Figure 9: Boys vs. Girls – Time on Various Activities - Weekdays



Proportions of Time Spent

For each activity type, proportions of hours engaged by study participants were calculated by dividing the number of hours for an activity by total number of hours that each participant spent on all four activities.

- In summary, 33 percent of non-active activity time on weekdays was spent on academic tasks, while **the majority (67%)** was spent on watching TV, playing video games, or social networking. Female students (35%) spent more time on academic work than male students (31%). It was notable that female students engaged in social media longer than male students, while they played video games less often than male students.
- The number of hours spent after school connected to social media also increased as the grade level increased (6th graders: 25%; 7th graders: 28%; and 8th graders: 30%) while decreasing the proportion for academic works).
- During weekend days, on average, study participants spent 2 hours, 2.5 hours, 1.75 hours, and 3 hours for each activity in order, for a total of just over 9 hours on the two days. Interestingly, the majority of students were connecting on social media for over 5 hours.
- On weekends, there was also a significant difference in hours spent playing video games between male and female students. Results indicated that male students played video games for over 2.5 hours on average, while female students spent less than 1 hour playing video games on weekends. On the other hand, female students spent more hours connecting to social media than male students.
- Twenty-three percent (23%) of time on weekend days was spent by students on academic tasks, while the majority (77%) was spent on watching TV, playing video games, or social networking. As during the week, female students (25%) spent more time on academic work than male students (21%).

3. Transportation

A variety of studies indicate potential correlations between primarily self-transport or vehicular transport and youth BMI (Friedan, 2010; Glanz and Sallis, 2006; Grow and Saelens, 2008).

- Using an independent samples t-test to examine the mean difference in BMI scores between students using self-transport and vehicular transport, there was no significant difference.

Transportation to Activities - Out of School Time

This study asked students how they USUALLY get to their activities outside of school time.

- The majority students for both genders **(66%)** rely on adults who drive them to a location for extracurricular activities, while just **11 percent** walk.
- Interestingly, a significant number of male students **(27%)** ride a bike to access these activities. Bus usage is minimal for boys and non-existent for girls.

Transportation to School

- **Seventy-five percent (75%)** of students take the bus or get a ride to get to school, while nearly one quarter (**24.9%**) of students go to school by walking or riding a bike.
- There was no noticeable gender difference in modes of transportation to get to school.
- F-statistics were calculated to examine if there was a significant mean difference in BMI scores between students using different transportation modes using an omnibus test. Descriptive statistics indicate that students who ride a bike or walk show slightly lower BMI scores than those students taking bus or vehicle, but the result was not statistically significant ($F=.497$, $df=949$, $p>.05$).

4. Perceptions of Safety

One barrier to activity participation may be the safety or perception of safety around how youth get to the activity location (Carver and Timperio, 2008; Friedan and Dietz, 2010).

- It appears that overall, students in Arlington Heights feel very **(73%)** or at least somewhat **(22%)** safe getting to activities. This coincides with the previous tools that indicate that perception of safety is high in Arlington Heights. This is an area to monitor over time, as it is always a goal to ensure that all youth feel safe getting around their community, and there have been other reports of unsafe alternative transportation barriers.

5. Parental/Guardians Modeling and Support

While peer behavior often becomes more important with age, the role of modeling and support by parents and guardians are still key determinants for behaviors by youth (Haines, 2007; Puhl, 2010).

Questions examined four categories of factors in parents/guardians influencing their children's healthy behaviors, including: 1) physical activity support, 2) parent engagement in physical activities, 3) parent surveillance, and 4) parent dietary habits.

- Results indicated that students believe parents/guardians pay special attention to support their physical activity engagement (X =4.04, SD=.76). However, they also believe that their parents do not fully engage in healthy behaviors (Physical activity engagement: X=3.41, SD=1.10; Parent's dietary: X=3.56, SD=.87).
- There were significant relationships which suggested that those parents/guardians who support their child's involvement in physical activities tended to engage in healthy behaviors.
- Results showed that one of constructs (Support of students' physical activity) was not significantly associated with students' BMI scores, while the other three constructs were related (note: the effect sizes of these results were small). This result indicates that students' BMI scores tend to be lower if their parents/guardians engage in physical activities; maintain their healthy eating habits; and monitor their youth's screen time, eating habits, and physical activity involvement. However, students' BMI scores were not significantly influenced only by support from their parents/guardians (r=-.055, p=.175)

G. Relevant National and Regional Trends

Relevant national and regional trends that may be important related to this target age group and topic were examined. A summary of trends is provided. *Note that a full **Trends Report** was provided as an appendix to the **YANS Findings Report** in November 2015.*

This target group of ages 10 to 15 was born in 2001 – 2006, placing them in the "Generation Z" category. In the NPRA July 2012 Parks and Recreation magazine article titled "Five Trends Shaping Tomorrow Today," author Emilyn Sheffield, Professor of Recreation and Parks Management at the California State University, at Chico, indicated that the proportion of youth is smaller than in the past, but still essential to our future. As of the 2010 Census, the age group "under age 18" forms about a quarter of the U.S. population. Nationwide, nearly half of the youth population is ethnically diverse, and 25 percent is Hispanic. In the Arlington Heights Park District, 23.5 percent of the population is 18 and under; 6.8 percent of the population is in the 10-15 age cohort.

Characteristics cited for Generation Z (the youth of today)[8] include:

- The most obvious characteristic for Generation Z is the pervasive use of technology.[9]
- Generation Z members live their lives online and they love sharing both the intimate and mundane details of life.
- They tend to be acutely aware that they live in a pluralistic society and tend to embrace diversity.
- Generation Zers tend to be independent. They don't wait for their parents to teach them things or tell them how to make decisions.[10]

2013 SFIA Sports Participation Report says participation for youth was highest for:

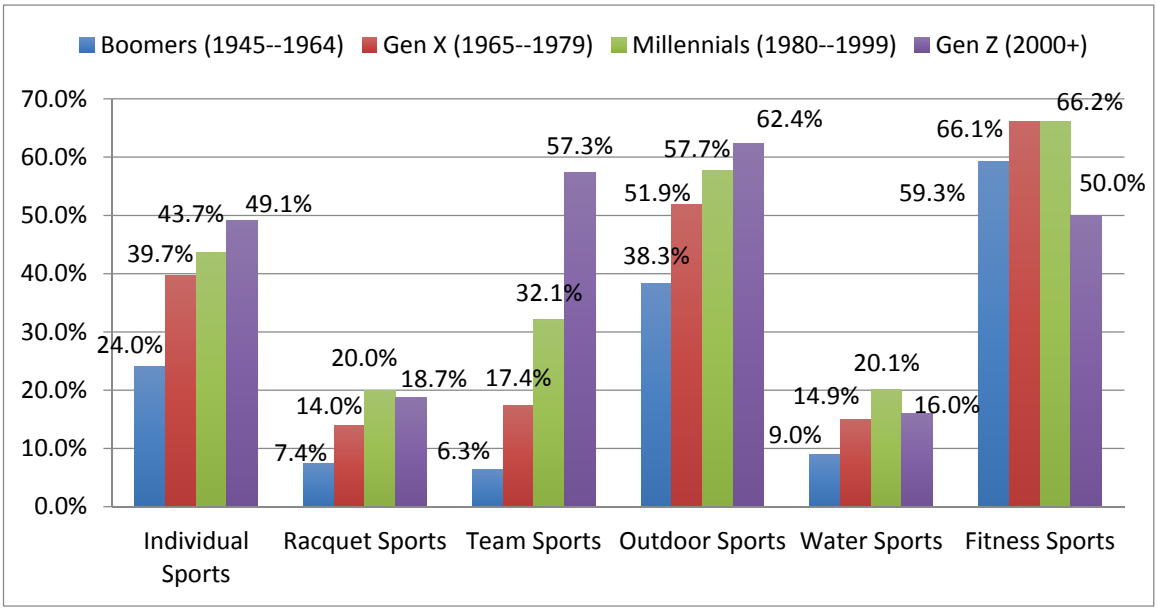
- Outdoor activities (63.1%)
- Team (53.1%)
- Individual sport (49.8%).

With regard to physical activity, a 2013 article published by academics at Georgia Southern University[11] notes that the prevalence of obesity in Generation Z (which they describe as individuals born since the year 2000) is triple that of Generation Xers (born between 1965 and 1981). It suggests that due to increased use of technology, Generation Z spends more time indoors, is less physically active, and more obese than previous generations. The researchers noted that Generation Z is a generation that seeks social support from peers more so than any previous generation. This is the most competent generation from a technological standpoint, but Generation Zers tend to struggle in and fear some basic activities such as physical activity and sports.

According to the 2015 "Participation Report" by the Physical Activity Council,[12] over half of each generation participates in fitness sports. The report indicates that team sports are more of a Generation Z activity, while water and racquet sports are dominated by Millennials. Outdoor and individual sports tend to have younger participants with participation decreasing with age. ***Figure 10*** illustrates participation rates by generation.

[8] Note: There does not appear to be a general consensus about the transition from Millennials to Generation Z. The range sited in various articles puts the transition year anywhere from about 1994 to 2000.
[9] La Monica Everett-Haynes, "Trending Now: Generation Z," Arizona University UA News Blog, http://uanews.org/blog/trending-now-generation-z, accessed July 30, 2015.
[10] Alexander Levit, "Make Way for Generation Z", *The New York Times*, March 28, 2015, http://www.nytimes.com/2015/03/29/jobs/make-way-for-generation-z.html?_r=0.
[11] David D. Biber, Daniel R. Czech, Brandonn S. Harris, and Bridget F. Melton, "Attraction to physical activity of generation Z: A mixed methodological approach," *Open Journal of Preventive Medicine*, Vol.3, No.3., 310 – 319 (2013), http://dx.doi.org/10.4236/ojpm.2013.33042.
[12] 2015 Participation Report", Physical Activity Council, 2015.

Figure 10: A Breakdown of Fitness Sports Participation Rates by Generation



Source: 2015 Participation Report, Physical Activity Council.

Active Transportation – Bicycling and Walking

Bicycle-friendly cities have been emerging over the last 10 years. Cycling has become a popular mode of transportation as people consider the rising cost of fuel, desire for better health, and concern for the environment. Some people also use cycling as a mode of transportation just for the fun of it.

The Alliance for Biking and Walking published its "Bicycling and Walking in the United States: 2014 Benchmarking Report*,"*[13] updating its 2012 Benchmarking Report. The report shows that increasing bicycling and walking are goals that are clearly in the public interest. Where bicycling and walking levels are higher, obesity, high blood pressure, and diabetes levels are lower.

Design of a community's infrastructure is directly linked to physical activity – where environments are built with bicyclists and pedestrians in mind, more people bike and walk. Higher levels of bicycling and walking also coincide with increased bicycle and pedestrian safety and higher levels of physical activity. Increasing bicycling and walking make a big impact on improving public health and life expectancy. The following trends as well as health and economic indicators are pulled from the 2012 and 2014 Benchmarking Reports:

<u>Public health trends related to bicycling and walking include:</u>

- Quantified health benefits of active transportation can outweigh any risks associated with the activities by as much as 77 to 1, and add more years to our lives than are lost from inhaled air pollution and traffic injuries.
- Between 1966 and 2009, the number of children who bicycled or walked to school fell 75 percent, while the percentage of obese children rose 276 percent.
- Bicycling to work significantly reduces absenteeism due to illness. Regular bicyclists took 7.4 sick days per year, while non-bicyclists took 8.7 sick days per year.

[13] *2014 Benchmarking Report*, Alliance for Biking and Walking, http://www.bikewalkalliance.org/download-the-2014-benchmarking-report, accessed January 23, 2015.

The economic benefits of bicycling and walking include:

- Bicycling and walking projects create 8–2 jobs per $1 million spent, compared to just 7 jobs created per $1 million spent on highway projects.
- Cost benefit analyses show that up to $11.80 in benefits can be gained for every $1 invested in bicycling and walking.

National bicycling trends:

- There has been a gradual trend of increasing bicycling and walking to work since 2005.
- Infrastructure to support biking communities is becoming more commonly funded in communities.
- Bike share systems, making bicycles available to the public for low-cost, short-term use, have been sweeping the nation since 2010. Twenty of the most populous U.S. cities have a functional bike share system.

In November 2013, the Institute for Transportation and Development Policy published a "Standard for Transportation Oriented Design," with accessible performance objectives and metrics to help municipalities, developers, and local residents design land use and built environment, "to support, facilitate, and prioritize not only the use of public transport, but the most basic modes of transport, walking and cycling." The TOD Standard, along with its performance objectives and scoring metrics, can be found at www.itdp.org/documents/TOD_v2_FINAL.pdf.[14]

National Healthy Lifestyle Trends

The population of the United States is becoming more diverse. As demographics are experiencing an age and ethnic shift, so too are landscapes, daily lifestyles, and habits changing. The number of adults over the age of 65 has increased, and lifestyle changes have encouraged less physical activity; collectively, these trends have created profound implications for the way local governments conduct business. Below are examples of trends and government responses.

- According to the article "Outdoor Exercise 'Healthier than Gym Workouts,'" published in February 2011,[15] researchers found that going for a run outdoors is better than exercising in the gym, because it has a positive impact on mental as well as physical health. Levels of tension, confusion, anger, and depression were found to be lowered. This aligns with the trend of adult fitness playgrounds that are popping up all over the world.
- While Americans have been notoriously unhealthy, a recent survey found that 58 percent of Americans adults are paying more attention to their personal health than in the past; 57 percent seek to eat a healthier diet, 54 percent seek to achieve a healthy weight, and 45 percent want to reduce stress in their lives.[16]
- The link between health and the built environment continues to grow as a trend for local governments. Residents are increasingly incorporating active living and physical activity into daily routines.

[14] "TOD Standard, Version 2.0," Institute for Transportation and Development Policy, November 2013, http://www.itdp.org/documents/TOD_v2_FINAL.pdf.

[15] "Outdoor Exercise Healthier than Gym Workouts," *Telegraph*, http://www.telegraph.co.uk/earth/outdoors/outdoor-activities/8306979/Outdoor-exercise-healther-than-gym-workouts.html, accessed March 2011.

[16] Sy Mukherjee, "Are Americans Inching Their Way to Healthier Lifestyles?," *Think Progress,* http://thinkprogress.org/health/2013/08/02/2403921/americans-maybe-getting-heathier/, Aug. 2, 2013.

Health and Obesity General Trends

According to the U.S. Centers for Disease Control and Prevention (CDC), obesity continues to be a serious issue in America, growing at an epidemic rate – almost tripling since 1990. Overall, more than one-third (35.7%) of adults and 17 percent of children in the United States are obese.[17] These statistics illustrate the importance of intercepting the epidemic in youth.

As obesity in the United States continues to be a topic of interest for legislators and our government, there continues to be research suggesting that activity levels are stagnant among all age groups. The following are statistics that support this concern.

- Only 25 percent of adults and 27 percent of youth (grades 9-12) engage in recommended levels of physical activity.
- Fifty-nine percent (59%) of American adults are sedentary.
- Children nationally spend 4.5–8 hours daily (30–56 hours per week) in front of a screen (television and/or computer).

Nature Programming

Youth have increased interest in camping, while young adults ages 18–24 are becoming more interested in running/jogging

Noted as early as 2003 in *Recreation Management* magazine, parks agencies have been seeing an increase in interest in environmental-oriented "back to nature" programs. In 2007, the National Recreation and Park Association (NRPA) sent out a survey to member agencies in order to learn more about the programs and facilities that public parks and recreation agencies provide to connect children and their families with nature.[18] A summary of the results follow:

- Sixty-eight percent (68%) of public parks and recreation agencies offer nature-based programming, and 61 percent have nature-based facilities.
- The most common programs include nature hikes, nature-oriented arts and crafts, fishing-related events, and nature-based education in cooperation with local schools.
- When asked to describe the elements that directly contribute to their most successful programs, agencies listed staff training as most important followed by program content and number of staff/staff training.
- When asked what resources would be needed most to expand programming, additional staff was most important followed by funding.
- Of the agencies that do not currently offer nature-based programming, 90 percent indicated that they want to in the future. Additional staff and funding were again the most important resources these agencies would need going forward.
- The most common facilities include: nature parks/preserves, self-guided nature trails, outdoor classrooms, and nature centers.
- When asked to describe the elements that directly contribute to their most successful facilities, agencies listed funding as most important followed by presence of wildlife and community support.

[17] "Obesity and Overweight - Facts," Centers for Disease Control and Prevention, http://www.cdc.gov/obesity/data/facts.html, accessed October 3, 2012.

[18] "NRPA Completes Agency Survey Regarding Children and Nature," National Recreation and Parks Association (NRPA), http://www.narrp.org/assets/Library/Children_in_Nature/nrpa_survey_regarding_children_and_nature_2007.pdf, April 2007.

Figures from the Association for Interpretative Naturalists, a national group of nature professionals, demonstrate that nature-based programs are on the rise. The growth of these programs is thought to come from replacing grandparents as the teacher about the "great outdoors." It is also speculated that a return to natural roots and renewed interest in life's basic elements was spurred as a response to the events of September 11, 2001. [19]

In his book, Last Child in the Woods: Saving Children from Nature Deficit Disorder,[20] Richard Louv introduced the concept of the restorative qualities of being out in nature, for both children and adults. This concept, and research in support of it, has led to a growing movement promoting connections with nature in daily life. One manifestation of this is the development of Nature Explore Classrooms in parks. Nature Explore[21] is a collaborative program of the Arbor Day Foundation and the non-profit organization Dimensions Educational Research Foundation, with a mission of helping children and families develop a profound engagement with the natural world, where nature is an integral, joyful part of children's daily learning. Nature Explore works to support efforts to connect children with nature. More recently, Scott Sampson advanced the cause in a book entitled, How to Raise a Wild Child: The Art and Science of Falling in Love with Nature.[22] Citing research supporting his case that connecting with nature is vital to the healthy development of individuals, communities, and the world, Sampson offers practical and helpful advice to parents, educators, and any other would-be nature mentors to kids.

> *"There's a direct link between a lack of exposure to nature and higher rates of attention-deficit disorder, obesity, and depression. In essence, parks and recreation agencies can and are becoming the 'preferred provider' for offering this preventative healthcare."*
>
> – **Fran P. Mainella**, former director of the National Park Service and Instructor at Clemson University

Administration Trends for Recreation and Parks

Municipal parks and recreation structures and delivery systems have changed, and more alternative methods of delivering services are emerging. Certain services are being contracted out, and cooperative agreements with non-profit groups and other public institutions are being developed. Newer partners include the health system, social services, the justice system, education, the corporate sector, and community service agencies. These partnerships reflect both a broader interpretation of the mandate of parks and recreation agencies and the increased willingness of other sectors to work together to address community issues. The relationship with health agencies is vital in promoting wellness.

The traditional relationship with education and the sharing of facilities through joint-use agreements is evolving into cooperative planning and programming aimed at addressing youth inactivity levels and community needs.

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[19] Margaret Ahrweiler, "Call of the Wild – From Beautiful Blossoms to Bugs and Guts, Nature Programs Are Growing as People Return to Their Roots," *Recreation Management,* http://recmanagement.com/200310fe04.php, October 2003.
[20] Richard Louv, Last Child in the Woods: Saving Children from Nature Deficit Disorder, Algonquin Books of Chapel Hill, North Carolina, 2005.
[21] "What is the Nature Explore Program," http://www.arborday.org/explore/documents/NE_FAQ_002.pdf, accessed August 12, 2012.
[22] Scott D. Simpson, How to Raise a Wild Child: The Art and Science of Falling in Love with Nature, Houghton Mifflin Harcourt, New York, N.Y., 2015.

Role and Response of Local Government

Collectively, these trends have created profound implications for the way in which local governments conduct business. More and more, local governments are accepting the role of providing preventative health care through park and recreation services. The following facts are from an International City/County Management local government survey[23]:

- Eighty-nine percent (89%) of respondents feel that parks and recreation departments should take the lead in developing communities conducive to active living.
- Eighty-four percent (84%) had already implemented recreation programs that encourage active living in their community.
- The highest priority selected for the greatest impact on community health and physical inactivity was a cohesive system of parks and trails and accessible neighborhood parks.

In summary, the United States, its states, and its communities share the enormous task of reducing the health and economic burden of obesity. While numerous programs, policies, and products have been designed to address the problem, there is no magic bullet to make it go away. The role of public parks and recreation as a health promotion and prevention agency has come of age. What matters is refocusing its efforts to ensure the health, well-being, and economic prosperity of communities and citizens.

H. Systems Thinking Approach for Arlington Heights

This HCRG Beta Site project is being used to create, test, and validate the potential use of systems thinking and management tactics, including use of systems modeling (using a variety of templates, methods, and software, such as Stella® 9.1 software). The systems thinking approach is employed to provide stakeholders, staff, and other policy makers to simulate the effects of collaborative efforts to strategically increase physical activity, nutritional behaviors, and positive social engagement in Arlington Heights for youth. This approach represents pioneering management and policy actions that are expected to allow surveillance of the effects of programs, services, campaigns, policies, assets, etc.

It is suggested that additional systems modules be simulated and tested in Year Two. These will be developed with the AHHAA based on prioritized themes and critical factors expected to produce behavioral change, and policy and management efficiency and effectiveness. Specific factors from the Action Plan will be chosen for this modeling, and the potential results shared as part of the recommendations for Year Two and future evaluation.

Youth retention across multiple public agencies in addressing the obesity dilemma

The Arlington Heights community is uniquely positioned to meld together various public agencies who have important roles in shaping youth behavior, lifestyle, and personal capacities. Utilizing one's time in a manner that optimizes children's and youth's ability to learn, play, belong, and balance daily experiences is expected. Unfortunately, many communities fail to optimize relationships between agencies that yield positive behavioral and health outcomes. An example of this is the current rates of youth dropping out of formal sports options that are often designed to idolize the few and dismiss the masses.

[23] "Active Living Approached by Local Government: Survey," International City/County Management Association, http://bookstore.icma.org/freedocs/Active%20Living%20and%20Social%20Equity.pdf, 2004.

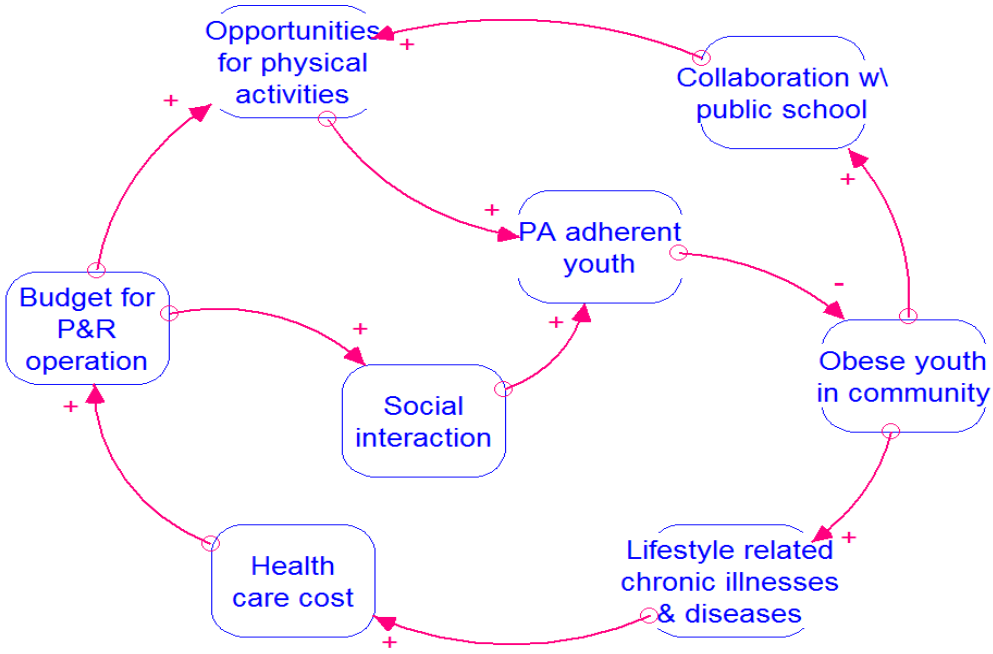
Of particular note is that children who are exposed to youth sports at an early age (3-5 years of age) drop out of competitive sports options by ages 9-10 years for a variety of reasons (e.g.) skill set, cost of participating, parental structure, access to specialized facilities, etc. Once out of these "consequential" opportunities to be physically active, socially engaged, and reduce the risk of being sedentary, these children become "dropouts." Their retention in formal programs, services, groups, lessons, etc. is of critical importance in addressing the obesity issue in the nation. More specifically, there is an opportunity for Arlington Heights to lead the nation in creating public policy that drives a turnaround in dropout rates among youth.

There is compelling evidence that our youth today are sedentary, often isolated from positive social structures, and consuming far more calories than they are expending. Building a systems model for planning, managing, and appraising the impact of change across multiple public agencies is the best method for documenting retention rates, behavioral change over time, and the cost savings accrued over time (2-3 years).

At the center of this effort should be a *systems approach* to this complex public health issue. With new registration software and focus on these topics, AHPD is well positioned to examine factors that are contributing to increasing dropout rates of 10-15-year-old youth from programs, services, lessons, and groups. These services offer critically important amenities to build and sustain active living (e.g.) physical exertion, social engagement, balanced nutrition habits, emotional control, and citizenship. Of critical importance is the allocation of, or redirection of, human resources (staff, volunteers, etc.), physical and natural assets (safe places to play, exercise, etc.), and fiscal resources to ensure that children's and youth's intention, and actual engagement, during after school time is spent positively, sustained over time, and leads to reduced risk of lifestyle related chronic illnesses and diseases.

A module is a group of critical factors that sustain causal relationships. The causal loop diagram in the figure illustrates relationships between critical elements that may be included in the Arlington Heights system model. Causal links (arrows) indicate which factor is influencing another factor, while two symbols inform either same (+) or opposite (-) directions of the influence. The following system model (See ***Figure 11***) illustrates the essential modules that may be included for ongoing analysis in AHPD.

Figure 11: Arlington Heights Systems Model



It is expected that opportunities for both physical and social activities among youth ages 10-15 will increase by investing more funds into relevant recreation programs and services, or into the access of transportation to get them there. These lead to an increase in the number of physical and social programs and activities for youth during time after school, along with an increase in participation.

It is anticipated that an increase in active youth will result in reduction of the number of obese youth in the community. On the other hand, there will continue to be a significant demand for a collaborative effort across public agencies to provide community youth with more opportunities for physical activities, as sedentary and solitary activity is replaced by sustained engagement in physical and social activities, programs, and services. The prevalence of lifestyle related chronic illnesses/diseases has increased significantly over the past three decades. If children and youth are not provided opportunities to build and retain their physical, social, intellectual, and emotional capacities in the community, it appears that the trend of greater numbers of youth reaching adulthood and later life will likely be overweight, obese, or morbidly obese.

Accordingly, the financial burden of those people with these diseases will be exponentially increased. The proposed systems model is anchored in the premise that the resources of public agencies, and those of community coalition members, should be directed at prevention strategies to avoid long term costs that will occur as a result of the projected rise in obesogenic behaviors and the emergence of long term chronic illnesses and diseases over the next 2-3 decades.

The Arlington Heights systems model may show effects on several modules: 1) Healthy and overweight population in the community, 2) Effect of community collaboration (schools, public health, coalition partners), 3) Influences of GRASP® scores (availability, proximity, walkability, etc. to programs and assets) on the participation in programs and services provided by the AHPD, and 4) the estimation of health care cost savings.

What outcomes can be derived from the system model?

The system model can be designed to produce data for managers, and their coalition of agencies, to use in planning and daily operations. These data include, but are not limited to, evidence derived from two specific actions in Arlington Heights:

1. Staff training in customer experience and retention strategies.
2. The implementation of positive policies and evidence-based practices.
3. The continued collection of data and analysis on participation, program mix, and access to programs and facilities.

Over the course of the next few years, the following would be evident from data collected on 10-15-year-old youth, AHPD registration records, guest experience data from the centers, AHPD staff ratings of policy implementation, public health trends, school health records, etc.

I. Noted Outcomes – Year One

This Year One Healthy Communities work was designed primarily to convene key stakeholders and champions, and to collect community specific data from Arlington Heights that can be used to move forward in Year Two. Great strides were achieved. As can be seen from this report, a very large amount of pertinent information has been collected, compiled, and shared. The following list highlights some of the positive outcomes already achieved from this project:

1. Strong increased partnerships for AHPD with the Library, Hospital, Schools, Village, and Chamber Wellness Committee.
2. APHD came to an agreement with the newly formed Arlington Heights Health Action Alliance (AHHAA) to concentrate actions on changing policy and bringing stakeholders together.
3. The HCRG project helped to “create a buzz” among the partners for Year One findings and to work toward those findings moving into Year Two, including work on the committee’s brand identity and tag line.
4. A complete inventory and level of service analysis was conducted for all facilities, parks, trails, and programs.
5. The Arlington Heights Youth Focus Group was formed and met twice, which will help in making ongoing activity recommendations.
6. Relevant trends, demographics, financial, and key management aspects were compiled.

7. Multiple program and participation enhancements were achieved:
    a. AHPD developed sponsorships with Northwest Community Healthcare beyond this project for Community Events and the Youth Soccer Program.
    b. The Youth Nutrition program was put in front of approximately 900 middle school students to help to start the conversation toward better nutritional habits.
    c. A Fit Kids series of classes was started, specifically geared toward kids between the ages of 4 and 12.
    d. The AHPD incorporated healthy snacks into its preschool program, including the removal of juice as a beverage.
    e. The AHPD incorporated pickle ball lines into the gym floor at Pioneer Park, allowing for all ages to play of this game.
8. The AHPD is working to establish more drop in and outdoor recreational programs including a camp out.

IV. Recommendations

From review of all of the data, it must be stated that overall, Arlington Heights is doing pretty well in terms of addressing these issues. Community partners have rallied to create the AHHAA. While there is room for improvement, there are no glaring gaps in program or asset availability, walkable access is fairly available, and the youth feel fairly safe. It appears that the largest focus needs to be on continued increases in participation and retention, education of the needs, positive policy adjustments, marketing and branding around these efforts, funds to do so, and continued assessment to monitor results.

It is anticipated that the June 2016 presentations and meetings will result in an Action Plan for Year Two. Based on the full compilation of the data, the following recommendations for specific, targeted outcomes could include the following goals:

Goal 1. Continued tracking of key variables and data to make improvements
A large amount of data was collected in Year One, but to track changes and outcome over time, this information needs to be regularly collected. The AHPD has recently upgraded to a better software system that can help enhance program and drop-in participation data collection, along with a deeper examination of the percentages of financial revenues, expenses, and cost recovery for this target age group. In addition, the physical inventory and geo-coding of program locations in GIS can be updated.

Data from youth reports, guest experience forms, and staff reports can provide an ongoing database to establish best practices. These data can be compared to participation rates and ratings of youth and other guest experience data.

To track the data, AHPD would need to allocate a certain portion of its budget for staff training (full-time as well as part-time or volunteers) at the designated centers serving youth. Signage and other amenities such as a formal registration procedure, membership card, etc. may be required to track youth utilization and retention data. In addition, AHPD may need to augment its program offerings to balance the number and type of programs, services, lessons, etc. to ensure that youth who do not choose to participate in, or are not selected for, competitive sports teams are provided social, physical, and leisure opportunities. Time from management, support staff, and discretionary accounts may be needed to support the overall effort to increase youth participation and their retention over the study period.

There have been advances in the methods for GRASP® Level of Service analysis in the last year, through work from Design Concepts staff and research at North Carolina State University. There are have been additional functionality and health metrics for measuring physical activity per component in the system. This could be added as an update element for Year Two, in addition to close analysis of program locations.

Utilizing a systems approach and yearly data collection will allow the AHPD and AHHAA teams to make informed decisions relating to:

- Increasing 10-15-year-old youth participation in AHPD programs.
- Decreasing dropout rates for 10-15-year-old youth in AHPD programs.
- Creating, adopting, and implementing positive policies and practices that effect youth and parent/guardian confidence in LPRD staff, programs, services, and venues.
- Using data derived from the YANS study to revise, create, and adopt interagency strategies that increase youth after school time habits (physical, social, nutritional, etc.).
- Documenting changes in healthy behavior of youth, their level of social engagement, rates of physical activity, and guest experience/brand loyalty to AHPD.
- Reducing the incidence/prevalence of youth obesity in Arlington Heights.
- Assigning metrics to cost savings for agency specific, public health outcomes, accrued for engaging and retaining youth in programs, services, and venues.

The AHPD and AHHAA can implement strategies to address increasing dropout rates of 10-15-year-old youth from formal program offerings. Of paramount importance is the need to increase the retention of children (5-9 years of age) in programs, services lessons, and groups as they age into middle school. These "affordances" offer the opportunity to be physically active and socially engaged and to develop positive habits. The challenges and opportunities related to retention are as follows:

- **Need to prepare a plan of action** to address core issues underlying the retention of youth as they enter the five-year period (10-15 years of age). This is this period in their life where youth may likely drop out; revert to a sedentary lifestyle; or default to electronic devices, potential use and abuse of prohibited substances, or affiliation with gangs.
- **Consequential/non-consequential program offerings**. There should be a careful examination of types of program/services offered to youth. Many are not included in competitive sports offerings around age nine for various reasons (e.g.) level of skills, cost of participation, parental structure, etc. *Consequential* sports are a primary reason children become "dropouts" as they reach 10-15 years of age. There are few formal organized *non-consequential* program options for youth. Current policies support a system of offerings that results in high percentages of youth dropping out and seeking other ways to occupy their discretionary time.

Objectives could include:

a. The percentage of youth 10-15 years of age living in the AHPD service area will increase participation in AHPD formal programs (consequential and non-consequential) in each season.
b. The percentage of youth 10-15 years of age living in the AHPD service area retained in formal programs (consequential and non-consequential) will increase in each of those offered seasonally.
c. Staff of selected recreation centers will demonstrate evidence based positive practices with youth and other guests. These practices can be measured by team member observation, self-analysis, and reporting. Youth and other customers, including parents, can complete exit surveys, intercept surveys, or other means to rate their daily experience.
d. Staff will work with the HCRG team to identify priority locations for additional programs, along with adding a physical activity component analysis through evidence based metrics and geo-coding of components.
e. The HCRG will work with the AHHAA to get buy-in for additional YANS testing through a re-test of District 25, and adding the other middle schools located in Arlington Heights.
f. AHPD Staff will collect detailed program analysis by age group and program areas.

g. AHPD Staff will collect more detailed program financial information, including revenues and expenses by age categories. This will allow for more detailed cost recovery analyses over time. There is no "right or wrong" cost recovery percentage, but tracking it over time allows analysis of the program mix relative to demographics and District Goals.
h. AHHAA will continue meeting quarterly, adjusting agendas and focus as appropriate. Year Two will include focus to:
    - Identify policy changes.
    - Create Branding.
    - Identify funding opportunities.
i. AHPD and Library staff will continue the facilitation of the Youth Focus Group twice per Year (Spring/Fall).
j. AHPD and AHHAA will continue the monitoring of Perception of Safety. Perception of safety is high in Arlington Heights. This is an area to monitor over time, as it is always a goal to ensure that youth feel safe accessing all areas in their community.

Goal 2. Construct and Adopt Positive Policies and Coordination

An examination of current policies internal to participating agencies in this project and through AHHAA has been conducted. In this process, the intent is to focus on modifying existing policies, signage, etc. to create a climate that is positive versus punitive. This does not mean replacing established law, ordinance, statutes, etc. It does mean creating agency-specific (and recreation facility specific) positive policies. These policies are nested in the fundamental tenant that each patron, guest, and/or participant is responsible for displaying positive behavior while engaged in an activity, place, program, or other form of participation.

Triangulating strategies. There appears to be a unique opportunity in Arlington Heights to advance an initiative of collaboration between public schools, public health, and parks/recreation. Triangulating health data from public health and schools with geocoded assets and affordances within Arlington Heights, along with youth survey data should yield rich data, which can serve to support planning, resource allocation, and collaborative efforts to increase active living among youth.

Objectives for this Goal could include:

a. AHHAA and AHPD will continue to identify and address any written policies related to the five factors (nutrition, program and facility availability, transportation, etc.) that may be hindering positive outcomes.

b. AHPD will continue to train staff (full and part-time) in the requirements of practicing positive interaction with youth and other guests. This includes, but is not limited to, the following: 1) A "Welcome" with a genuine and positive tone; 2) name recognition; 3) affirmation of compliant behavior; and 4) responsibility for fair, enjoyable guest experiences each and every time they are in the facility.

c. The AHHAA and AHPD will use system analytics. In order to comprehend which factors are influencing youth dropout rates, the AHPD, Public Schools, and community partners should consider employing a systems approach to determine impact, progress, and outcomes. Of paramount importance is the compelling fact that changing youth behavior is a complex and multi-factorial issue. Systems analytics have been used by the largest corporations for years. In the past decade, medicine, public health, schools, and service industries have employed systems analytics to monitor in real time what factors are influencing output. In our case, the "output" is preventing youth ages 10-15 years of age from disengaging, defaulting to obesogenic behaviors, and regularly being reprimanded instead of experiencing positive environments, places, people, and service providers.

GP RED continues to move forward with national testing and dissemination of the *Surveillance and Management Toolkit™.* RED's HCRG Director, Teresa Penbrooke, has embarked on a related PhD program at North Carolina State University, with further evidence-based research and publication of this Toolkit as a primary focus. In addition, RED will add additional Beta Sites in the future. We ask that the Arlington Heights Project Team continue to be available for assistance for presentations (i.e. at NRPA or other conferences, if selected), articles, and continued interaction and representation as a nationally selected GP RED HCRG Beta Site.

Draft Action Plan for Year Two

The following chart represents a summary of the Goals and Objectives in the Recommendations, along with potential responsibility, timing, and financial implications for Year Two. Note that no capital expense items are currently recommended. The Year Two Visioning Sessions can help prioritize and make these objectives SMART (specific, measurable, action oriented, relevant, and time-focused) and place into an Action Plan.

Arlington Heights Healthy Communities SMT DRAFT Goals and Objectives for Year Two	Responsibility	Timing	Financial Implications
Goal One: Continued tracking of key variables and data to make improvements			
1.a: Increase participation in AHPD programs in this age group.	AHPD Staff	Annually	AHPD Staff Time
1.b: Increase retention in AHPD programs for this age group.	AHPD Staff	Annually	AHPD Staff Time
1.c: Demonstrate positive policy practices in centers and programs.	AHPD Staff	Annually	AHPD Staff Time
1.d: Identify priority locations for additional programs and add physical activity component basis in GIS.	APHD Staff/HCRG	Annually	AHPD Staff Time
1.e: Retest YANS in District 25 and add 23.	HCRG/Schools	Annually	AHPD Staff Time
1.f: Re-collect detailed program mix analysis.	AHPD Staff/HCRG	Annually	AHPD Staff Time
1.g: Re-collect detailed financial analysis for this group.	AHPD Staff/HCRG	Annually	AHPD Staff Time
1.h: AHHAA will meet quarterly - Identify priority policy changes - Create Branding - Identify funding opportunities	AHPD Staff/AHHAA Members	Quarterly	AHPD Staff Time
1.i: Continue facilitation of the Youth Focus Groups	AHPD/Library Staff	Semi-Annually	AHPD Staff Time
1.j: Continue monitoring the perception of safety	AHPD Staff/HCRG	Annually	AHPD Staff Time
Goal Two: Construct and Adopt Positive Policies and Coordination			
2.a: Identify and address any policies related to the five factors	AHPD/AHHAA	Quarterly	AHPD Staff Time
2.b: Trail staff around positive policy	AHPD	Annually	AHPD Staff Time
2.c: Use system analytics to monitor and track	AHPD/HCRG	Annually	AHPD Staff Time

It is anticipated that these Goals and Objectives will be further vetted with AHPD staff and AHHAA members to outline detail for the year in June 2016.

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Appendix A – Youth Focus Group Results

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Arlington Heights Middle School Healthy Living Focus Group

Location: Arlington Heights Library
6/3/2015 4 to 6 pm

Session site - Arlington Heights, IL Library
Staff: David M. Compton, GP RED; Teresa Penbrooke, GP RED; Brian Meyer; other APHD staff

Protocol: Students were introduced and fed snacks, then asked questions and reponded on Post-Its and put on sheet, then discussed.
Student participants - Note that no names have been identified to maintain complete anonymity; Students gender and grade level were identified by school staff to allow more precise qualitative analysis of the data. Below are the respondents by their number x gender x grade level.

#	Gender	Grade Level
1	male	5th
2	female	7th
3	male	6th
4	female	7th
5	male	7th
6	female	8th
7	female	? 6-8th

Question #1 Describe a "Healthy" and "Unhealthy Middle School student		
	Healthy	Unhealthy
Youth #	*Responses*	Responses
1	exercises; eats fruits or vegetables; doesn't look overweight	Eats bad food; overweight; does not exercise
2	athletic; skinny; clean; fit	no physical acticity; unclean; rude; unfit
3	well; fit; handsome	will die faster; plump; not physical
4	fit; athletic; confident	failing in school; mean; distracted
5	exercises; drinks water; looks happy	obese; depressed; eating unhealthy foods; drinking unhealthy drinks; not physically active
6	kibd; athletic	mean; depressed; anti-social; anti-spiritual
7	clean; organized; fresh; dressed nicely; brushed teeth	unorganized; selfish; bad hygiene; negative
8	active; energetic; more personable	tires easily; less social; spends most of their time at home

Question #2 What challenges does a Middle School student face who is not of healthy weight?			
	Personal	Social	Health
Youth #		*Youth #*	Youth #
1	not able to participate in gym; made fun of	not able to participate in youth sport teams	made fun of by others
2	not able to participate in PE	made fun of by others	
3	say you are fat and can't play with us	made fun of by others	can't keep up in the gym
4	they are bullied	can't sit at packed lunch table	
5	not able to participate in gym class	can't go for a bike ride or walk; can't really do activities with friends	
6	bullied	different from others and not included	possible suicide; mental issues
7	bullying victim	viewed in a different way by others;	hard time in the gym classes & school
8	sometimes made fun of by others	less friends	

Question #3 Watching TV & doing video games? How can this time be used in a more active and productive manner?			
	My own ideas	Some influence	Other ideas
Youth #			
1	limit the amount of time you can watch	Mom doesn't like us playing video games during the week	limit TV & video games to 2 hours per day
2	they are good leisure activities; limit time	don't play until you have completed homework	finish homework first & do somethiong outside
3	we play way too much and watch too much		
4	keep it to a minimum; finish homwework first	season of the year has influence	if you watch TV make it educational
5	go outside and play	my parents set limits for both TV & video games	parents want me to go outside and play
6	TV rots your brain	these games are fun;	do not play video games so much' leave me alone!
7	OK to watch but not a lot of it; appropriate shows	video games are okay in moderation	type of video games needs monitoring
8	We watch movies after dinner	didn't really play video games	

Question #4 Who most influences Middle School student nutrition habits?																
			Most influence				Some influence							No influence		
Youth #						*Youth #*						*Youth #*				
1	Mom					*1*	Dad					*1*				
2	Mom					*2*	Grandma					*2*				
3	God					*3*						*3*				
4	Mom					*4*	Dad					*4*				
5	Mom					*5*	Teacher; my health					*5*				
6	Mom					6	Dad					6				
7	Family					7	Health teacher					7				
8	Mom			75%	say mom	8	Sister					8				

Question #5A Many of you have participated in youth sports. Who decided you should be on the team?																
Youth #			Parents/Guardians				Me, myself & I			Friends			Others			
1						*Youth #*			*Youth #*			*Youth #*				
2						*1*	Me		*1*			*1*				
3			Parents			*2*	Me		*2*			*2*				
4						*3*			*3*			*3*		Coach		
5			Parents			*4*	Me		*4*			*4*		Coach		
6			Parents			*5*	Me		*5*	Friends influence me		*5*				
7			Mom			6	Me		6			6		Dad (Hardly ever!)		
8						7	Me		7			7		Coach		

Question #5B Which would most influence a decision for you to continue in youth sports?																
Youth #		Parents/Guardians			My skill level		Money		Friends			Other				
1																
2												(1) Me; (2) my Mom				
3		(1) Parents			(2) Me							(3) my coach; my teammates				
4		My Dad														
5		(1) Parents			(3) Me				(2) friends			(4) coaches				
6		(1) Parents			(1) Me											
7		Mom					"bribes"					coach				
8		(1) Parents			(1) Me											
									Friends			God				

Question #6 Share with us how adults in your life can have a direct impact on your overall well-being for now and in the future?																
Youth #			Now						Future							
1			Tell me that I need to do that thing & list the reasons why						*1*	Teach you how to do things						
2			Can be role models						*2*							
3			Make me do stuff; bribe me to do it						*3*							
4			Tell me if I can or cannot do it						*4*	Convince me to try to do something; force me to do stuff						
5			Cheer me on; support me; give good advice						*5*	Say good things that will keep me coming out to do the activity						
6			They help me with problems						6							
7			They have more experience & know what can help me						7	They are lookinbg out for me so you trust trheir decisions						
8			My siblings always joking about how many activities I have						8							

A1- Why are youth not more physically active?	
Youth #	
1	Mom controls me; friends influence; school requirements
2	video games; TV; weather; being tired after school
3	TV, video games; friends influence; chores; library groups
4	homework; other activities; friends influence; transportation (Can't bike because of highway)
5	homework; indoor activities
6	Other hobbies; homework; stress
7	Not enough time; if you are not on the team you don't play! Outside conditions (weather)
8	time; the amount of people in activities; other activities

A2- What replaces TV & video games in the future?	
Youth #	
1	playing outside; play in a sport; play mental games
2	go to a friend's house; play outside; help parents with chores
3	make an invisible TV
4	hanging out with friends; biking; read a book; exercise during commercials
5	best replacement is having yourself busy with activities so you don't have the time to think about it
6	go outside or do homework
7	play games outside; read a book; play board games (Scrabble, etc.); communicate with people not a screen
8	play games outside; red books; play sports

A3- What is missing in Arlington Heights that might make you more active?	
Youth #	
1	A bus for kids only to go to the park, library, etc.
2	More team sport opportunities; more parks; encouraging kids to do things with their friends
3	Built in trampoline in parks; more batting cages; more walls for hitting tennis balls; more sport supplies for those who can't buy them
4	More centers on the North side of town; an indoor pool
5	Horse riding; more appealing activities; wider variety
6	Trampolines in parks; more pool hours; plot of land to teach golf
7	Field trips to fun places like Extreme Trampoline; Orbit, skating; mix academics with athletics (i.e.) book club & then go swimming
8	Fun activities to get more people to make new friends; new activities

A4- What other comments do you have about Arlington Heights PRD?	
Youth #	
1	More activity options; don't offer just once a year
2	Lots of parks and pools; a lot of events at the parks; a wide variety of things to do
3	Exercise; have fun; and visit the library
4	Great coaches; good equipment and facilities
5	Very connected to the kids
6	So much fun…exercise; meet new kids
7	Fun things to do with your friends; good exercise; meet new friends & try new sport
8	Make new friends; seeing people you have not seen in a long time

Additional Open Discussion Comments: Socially isolated if unhealthy / depressed.
Hours of TV – too unhealthy. Need boundaries. Not more than an hour. Only one has a TV in bedroom
Pets can also be a friend. Keep self busy so you won't want to watch TV.
Why not just do it?: Want pleasure now. Have to do chores. TV or video games don't won't they require energy. Practice driving in back seat while driving with a video camera.
Who most influences? Mom first, then coaches and dad.
Need to eat healthy: Need better role models – need better available foods, need better foods at schools, don't use community gardens, some go to farmer's markets
All have participated in youth sports.
6 out of 8 said they chose to do their youth sports. The other two said coach.
All had seen the AHPD summer brochure.
Adults can be role models. Parents can "make me do it" at the beginning but the intrigue of the game may bring me back.
Gets really cold so don't want to go outside – need more winter activities.

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Appendix B – GRASP® Inventory and Level of Service Analysis

Inventory and Assessment

The purpose of this Level of Service (LOS) analysis is to evaluate how parks and facilities in the Arlington Heights Park District (AHPD) serve the community. This study also evaluates how affordances (programs and services) in AHPD are provided for the specific age group (ages 10-15). This analysis may be used as a tool to benchmark current level of service and to direct future planning efforts. Combined with other findings, including survey results and focus group and stakeholder feedback, it also indicates the level of service anticipated by the community.

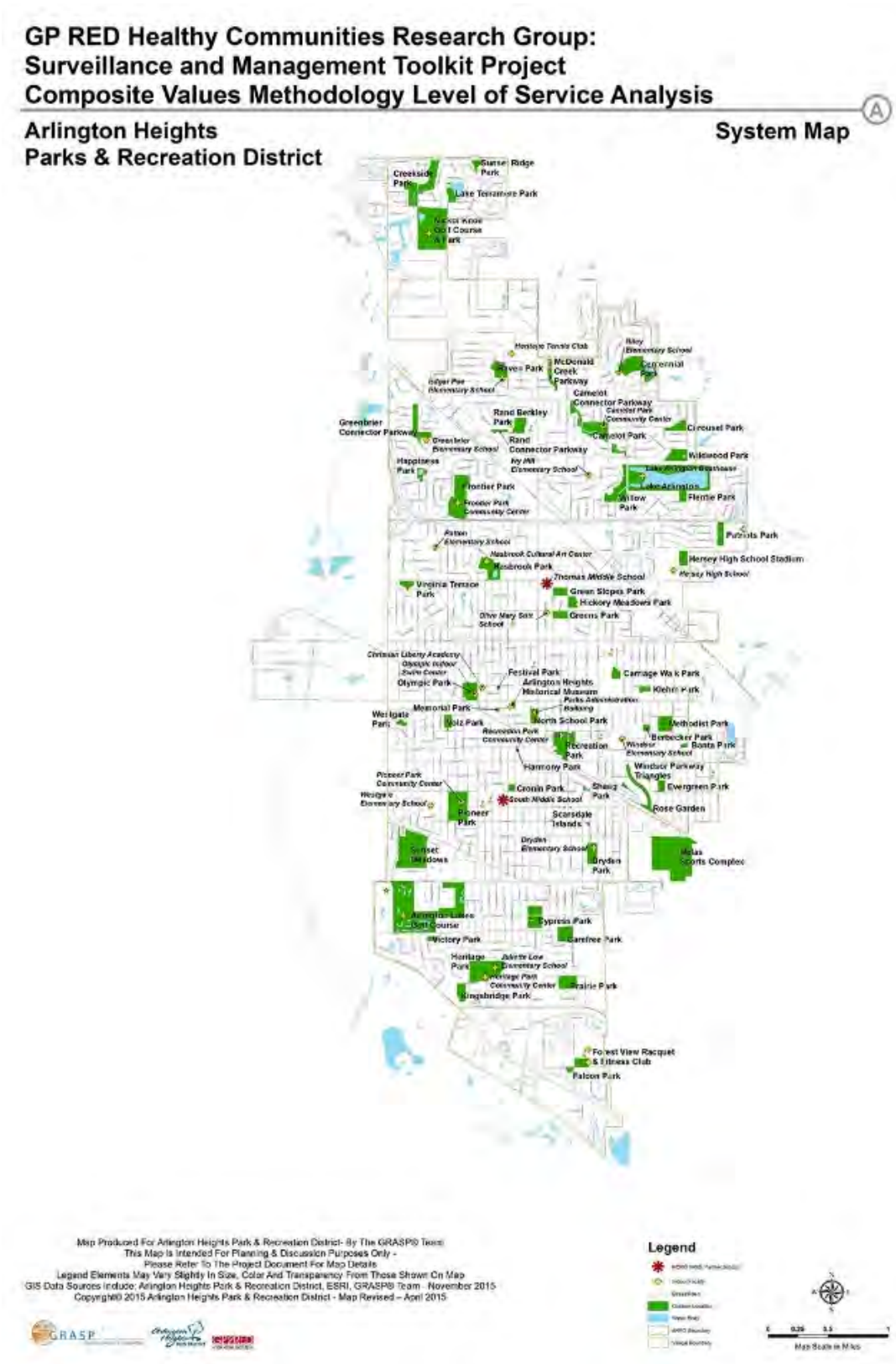
Asset Inventory

A detailed inventory of public and semi-public physical assets available for recreational use by the AHPD community was assembled for the Level of Service analysis. This asset inventory was created to serve the District in a number of ways. It can be used for a variety of planning and operations tasks, such as asset management and land acquisition, as well as future strategic and master plans. The assets inventory currently includes public parks, recreation areas, and indoor facilities managed by the District. Additionally, it was recognized that alternative providers such as schools and other agencies, contribute to neighborhood recreation opportunities that can be accessed by walking. Due to limitations of time and resources, a selected sampling of alternative providers were included in the full inventory and level of service analysis. The following is a summary of the overall inventoried sites.

Visited and Assessed

- 57 Arlington Heights Park District Parks
    - 348 Components
- 15 Arlington Heights Park District Indoor Facilities
    - 14 School Gymnasiums also included
- 3 Alternative Provider Parks
    - 8 Components

The following map shows the study area and key locations of properties. Larger Maps have been provided to the AHPD.



Map A: City of Arlington Heights Park District system map showing all inventory included for GRASP® analysis.

GRASP® Methodology

Level of Service for a parks and recreation system is indicative of the ability of people to pursue active lifestyles. It can have implications regarding health and wellness, the local economy, and quality of life and tends to reflect community values. It is emblematic of the manner and extent to which people are connected to their communities.

The GRASP® Methodology involves mapping, scoring, demographics, and interpretation of the resulting perspectives to yield a picture of recreational service in a study area. The various efforts undertaken for this study are described below with general findings summarized in the following section.

Asset Scoring

In planning for the delivery of parks and recreation services, it is useful to think of parks, trails, indoor facilities, and other public spaces as parts of an infrastructure. This infrastructure allows people to exercise, socialize, and maintain a healthy physical, mental, and social wellbeing. The infrastructure is made up of components that support this goal. Components include amenities such as playgrounds, picnic shelters, courts, fields, indoor facilities, and other elements that allow the system to meet recreational needs of a community. A ***component*** is a feature that people go to a park or recreation center to use, such as a tennis court to play a game of tennis, which gives users reason to visit and serve as an intended destination. A standardized list of GRASP® components is used to classify each asset in the system.

An analytical technique known as **GRASP® (Geo-Referenced Amenities Standard Process)** was used to analyze Level of Service (LOS) provided by assets in Arlington Heights Park District. This proprietary process, used exclusively by GreenPlay and Design Concepts, yields analytical maps and data that may be used to examine access to recreation across the study area.

In the inventory of assets, the following information is collected:

- Component type and location
- Evaluation of component functionality
- Evaluation of associated comfort and convenience features at a location
- Evaluation of general design and ambience at a location
- Site photos
- General comments

All components are scored based on condition, size, site capacity, and overall quality as they reflect the expected quality of recreational features as compared with typical facilities across the District. A three tier rating system is used to evaluate these:

1 = Below Expectations
2 = Meets Expectations
3 = Exceeds Expectations

GRASP® level of service analysis also takes into account important aspects of user experience traditionally overlooked in recreational planning. Not all parks are created equal. For example, the GRASP® system acknowledges the important differences between these identical playground structures:

As the immediate surroundings of a component affect how well it functions, each park site or indoor facility is also given a set of scores to rate its comfort, convenience, and ambient qualities. This includes traits such as the availability of restrooms, drinking water, shade, scenery, etc. Called ***modifiers***, these values are then attributed to any component at a given location and serve to enhance component and location scores.

A final AHPD Inventory Atlas is provided as a separate document. This atlas includes maps and site data including scoring and comments for all outdoor locations. Indoor data and scoring is also included. Below is an example of Heritage Park's map and data page from that document.

GRASP® Atlas

Initial Inventory Date: 3/6/2015 — **Heritage Park**

Updated:

84 Total Neighborhood GRASP® Score — 113 Total Community GRASP® Score

Owner: Arlington Heights Park District

Modifiers with Scores

Drinking Fountains	2	Shade	2	**Design and Ambiance**
Seating	2	Trail Connection	2	**2**
BBQ Grills	0	Park Access	2	
Picnic Tables	2	Parking	2	
Security Lighting	2	Seasonal Plantings	0	
Bike Parking	2	Ornamental Plantings	2	
Restrooms	0			

General Comments

Components with Score

MAPID	Component	Quantity	Lights	Neighborhood Score	Community Score	Comments
C560	Basketball	2		2	2	
C704	Loop Walk	1		2	2	
C715	Hockey, Ice	1		2	2	
C554	Playground, Local	1		2	2	
C356	Open Turf	1		2	2	
C358	Ballfield	1		2	2	
C557	Ballfield	1		2	2	
C703	Volleyball	1		2	2	Sand volleyball court in summer. Shared location with hockey rink.
C559	Tennis	3	Y	2	2	
C511	Trail, Multi-use	1		2	2	
C561	Hockey, Ice	1		2	2	
C562	Aqua Feat. Pool	3		2	2	
C363	Aqua Feat. Spray	1		2	2	
C364	Aqua Feat. Complex	1		2	2	
L102	PARCEL	1		2	2	
C510	Sledding Hill	1		2	2	
C358	Ballfield	1		2	2	

This final dataset can be used to run a variety of reports and queries. For example, summary tables can be produced. The following summary tables show each AHPD park and indoor facility in the inventory and the quantity of each identified recreation component available on site.

Outdoor Location	Owner	Approximate GIS acres	Aquatic Feature, Complex	Aquatic Feature, Pool	Aqua Feat, Spray	Backstop, Practice	Ballfield	Basketball	Bocce Ball	Complex, Ballfield	Complex, Tennis	Concessions	Dog Park	Driving Range	Educational Experience	Event Space	Garden, Community	Garden, Display	Golf	Hockey, Ice	Hockey, In-line	Loop Walk	MP Field, All Sizes	Natural Area	Open Turf	Open Water	Other-Active	Passive Node	Playground, All Sizes	Public Art	Shelter, All Sizes	Skate Park	Sledding Hill	Tennis	Trail, Multi-use	Volleyball	Water Access, Developed	Water Access, General	Water Feature
Arlington Lakes Golf Course	AHPD	92																	1																				
Banta Park	AHPD	1						0.5																				1											
Berbecker Park	AHPD	2					1	0.5																				1											
Camelot Connector Parkway	AHPD	4																						1		1													
Camelot Park	AHPD	17	1	3	1		1	1												1				1	1	2			1		1			3	2	1			
Carefree Park	AHPD	10					1	2													1		1		1				1					2					
Carousel Park	AHPD	6						1																	1				1										
Carriage Walk Park	AHPD	3																							1				1						1				
Centennial Park	AHPD	21					3	1																1	1	1			1		2			4	1		1		
Creekside Park	AHPD	22						0.5																1	2	1			1					2	1	1			
Cronin Park	AHPD	2																							1				1										
Cypress Park	AHPD	12					1										1																						
Dryden Park	AHPD	9					1																						2					4					
Evergreen Park	AHPD	3					1	1																					1										
Falcon Park	AHPD	1						0.5																					1										
Festival Park	AHPD	0																											1		1								
Flentie Park	AHPD	3					1	1																	1				1						1	1			
Forest View Racquet & Fitness	AHPD	5									1																				1			6					
Frontier Park	AHPD	28	1	3	1		2	2									1					1		1	2				1		1			2	1				
Green Slopes Park	AHPD	4																				1			1								1	4					
Greenbrier Connector Parkway	AHPD	10					2														1				1				1						1	1			
Greens Park	AHPD	4						1																	1				1										
Happiness Park	AHPD	3																							1				1										
Harmony Park	Village	0																							1			1											1
Hasbrook Park	AHPD	14					2	2														1			1	1			1					2	1				
Heritage Park	AHPD	26	1	3	1		3	2												2		1			1				1				1	3	1	1			
Hersey High School Stadium	School District 214	5																					1																
Hickory Meadows Park	AHPD	4																		2					1						1								
Historical Museum	AHPD	1														1		1							1														
Kingsbridge Park	AHPD	6																1																					
Klehm Park	AHPD	2						1																	1				1										
Lake Arlington	AHPD	92										1										1		1	1	1			2		2				3		2		
Lake Terramere Park	AHPD	11																				1			1	1			1									1	
McDonald Creek Parkway	AHPD	4																						1															
Melas Park	Mt. Prospect PD	35										1											1		1			1											
Melas Sports Complex	AHPD	32					4			1		1	1									1	2					1		1					2			
Memorial Park	AHPD	0													1												1			1								
Methodist Park	AHPD	9					4																																
Nickol Knoll Park	AHPD	52					1												1														1		1				
North School Park	AHPD	4														1									1			2	1										1
Olympic Park	AHPD	10				2		1							1								2						1			1		2					
Patriots Park	AHPD	6					2	2															3						1		1				1				
Pioneer Park	AHPD	23	1	3	1		4	1												1		1							1					4					
Prairie Park	AHPD	10					1	1															1						1										

Outdoor Inventory summary table.

Rand Berkley Park	AHPD	7					3																	1						1												
Rand Connector Parkway	AHPD	2																																									
Raven Park	AHPD	8					2	1															1			1				1							3	1					
Recreation Park	AHPD	17		1	1		2	1												1		1	1		1				1							3						
Rose Garden	AHPD	2																									1															
Scarsdale Islands	AHPD	0																																									
Shaag Park	AHPD	0						0.5															1						1												
Sunset Meadows	AHPD	42							1			1		1						2		1	1				2		1			1		1							
Sunset Ridge Park	AHPD	3						1															1						1												
Victory Park	AHPD	2																					1						1							1						
Virginia Terrace Park	AHPD	3					1	1																					1												
Volz Park	AHPD	4					1	0.5														1				1		2		1						1						
Westgate Park	AHPD	2																											1												
Wildwood Park	AHPD	9						1														1	1						1							3	1					
Willow Park	AHPD	15																						1	1				1								1					
Windsor Parkway Triangles	AHPD	7																							2																	
Totals:		732	4	13	5	2	44	28	1	1	1	4	1	1	2	2	2	2	2	9	2	13	15	8	34	8	4	6	43	1	12	1	4	50	18	6	3	1	2

Outdoor Inventory summary table continued

LOCATION	Arts and Crafts	Childcare/Preschool	Fitness/Dance	Food -Café/Concessions	Gallery	Gymnasium	Kitchen -Kitchenette	Lobby/Entryway	Multi-purpose	Patio/outdoor seating	Pool, Lap	Pool, Leisure	Racquetball	Retail/Pro-shop	Sauna/steam	Specialty Training	Tennis, Indoor	Track - Indoor	Weight/Cardio Equipment
Arlington Heights Historical Museum					4		1		2					1					
Arlington Lakes Golf Club House				1						1				1					
Camelot Park Community Center		1		1		1			2							1		1	
Forest View Racquet and Fitness Club		1							1				6	1			6		1
Frontier Park Community Center				1		1			1										
Hasbrook Cultural Art Center	1		1																
Heritage Park Community Center				1					1										
Heritage Tennis Club							1		1					1	1		8		
Lake Arlington Boathouse				1			1		1										
Nickol Knoll Golf Club House				1										1					
Olympic Indoor Swim Center									2		1	2			1				
Parks Administration Building			1						1										
Pioneer Park Community Center	1	1	1	1		1		1	1										
Recreation Park Community Center		1				1		1	3										
Christian Liberty Academy						1													
Dryden Elementary School						1													
Edgar Poe Elementary School						1													
Greenbrier Elementary School						1													
Hersey High School						1													
Ivy Hill Elementary School						1													
Juliette Low Elementary School						1													
Olive Mary Stitt School						1													
Patton Elementary School						1													
Riley Elementary School						1													
South Middle School						1													
Westgate Elementary School						1													
Windsor Elementary School						1													
Totals:	2	4	3	7	4	17	3	2	16	1	1	2	6	5	2	1	14	1	1

Indoor Inventory summary table

Affordances Inventory

Component Based Methodology for LOS for Affordances is a relatively new process in the industry, and there are not yet industry standards. GreenPlay and Design Concepts have completed this type of inventory and analyisis for other communities, typically as part of an overall Service Assessment, including the Alpha Site of Bloomington, Indiana, and Beta Sites of South Bend, Indiana, and Liberty, Missouri.

To start, the team met to identify which Affordances to inventory how Arlington Heights Park District staff would gather information, and which characteristics would be needed. The **Affordance Inventory Collection Template** (in MS Excel) has been updated and provided for this project to include additional characteristics that the Project Team deemed potentially important for this target age group and project type. It is worthwhile to note that the characteristics desired by the Healthy Communities team are not always completely aligned with the definitions and characteristics that can be analyzed using GIS-based component based LOS. This will later be discussed in detail. In addition, the information desired for this type of analysis is not always the type of information typically collected by a District Parks and Recreation Department as part of its ongoing daily (or even annual) work reporting. AHPD is a high-functioning agency, with progressive staff who understand the value of good management and planning practices. That being said, the study of affordances is in its infancy in this industry, and even computerized registration software packages are not collecting the information needed to comprehensively analyze data regarding affordances for a specific target age group. The staff and the project team worked diligently to gather information and define characteristics that are relevant for Healthy Community Contributors from public parks and recreation.

An MS Excel Spreadsheet with a list of programs and services offered by the Parks and Recreation Department was created. The list was organized by program areas (similar to components used in the assets analysis) used by the target age group, and include the following general areas of programming:

Acting/Theatre
Aquatics (Various)
Archery
Arts & Crafts (Various)
Babysitting
Baseball
Basketball
Bowling
Camps (Various)
C.A.P./J.A.Z.
Cheer
Computers
Dance (Various)
Dog Obedience
Field Hockey
Fishing
Fitness
Football
Golf
Gymnastics
Karate
Lacrosse
Magic
Museum Programs
Music (Various)
Nutrition/Cooking
Sailing
Ski/Snowboard
Soccer
Softball
Storytime
Tennis
Track & Field
Triathlon
Volleyball
Water Polo
Weaponry
Yoga

This inventory is designed to be dynamic for the agency, so it may be used to analyze other affordances for other project warrants and age groups if desired in the future. In addition, the inventory and analysis can be expanded to include additional affordance program/service areas such as alternative providers of services (YMCA, Faith Based Groups, Boys and Girls Clubs, etc.) and other Healthy Living Contributors (availability of healthy foods, transportation options, medical and mental health locations, etc.), if desired.

In addition to the list of groups, affordances were also identified by pre-defined criteria. Some of these characteristics are helpful from a mapping/location standpoint, some are more administrative information, and many are qualifiers that help determine if this is a primary or secondary healthy community contributor for the target age group.

The following table shows the definitions for affordance characteristics. Green areas indicate those characteristics that are locational for mapping. Pink cells indicate administrative, financial, participation, and/or multiple categories. Yellow cells represent more detailed analysis for reasoning behind motivation for participation beyond financial or availability criteria.

Affordance Characteristics Definitions	
Characteristic	Definitions
Map ID	# = Location in GRASP® dataset; For those with multiple sites, use additional rows; C = community wide availability
Catchment	Target service area - 1 = neighborhood (1/3 mile), 2 = local (1 miles) 3 = District-wide (3 miles), 4 = Regional (5 miles)
Target Age Group 10-15-year-olds	0 = all, 1 = < 10, 2 = 10-15, 3 = 16-24, 4 = 25-55, 5 = >55
Season	Seasons offered: 0 = all, 1 - Winter, 2 - Summer, 3 = Fall, 4=Spring
Frequency/Year	Number of times offered per year, for multiple separate seasons, use additional rows, or YR for year-round
Duration	Length of session per offering in hours or weeks (e.g.: 2 hours 8 weeks, etc.); format = # plus (H=hours: W=weeks)
Participation units	number of participant units (individual contact points) per year
Con/Non-Con	C = Consequential = a win/lose, competitive activity; N = Non-Consequential = non-competitive
% adherence	% of repeat participants (retention rates)
cancellation rate	% of cancelled sessions offered
Waiting list	Y = this offering typically has a wait list; N = this offering typically does not have a wait list
Social	Y = program or service provides a social benefit
Physical	Y = program or service provides a physical benefit
Cognitive	Y= program or service provides a cognitive benefit
Environmental	Y = program or service provides a benefit to the community environment (conservation, preservation, or other)
Indirect Economic	Y = program or service provides a substantial indirect economic benefit to the community (may or may not for the direct agency)
Healthy Living Contributor	Y = program or service provides a contribution to Healthy Living for target market
fee per unit	Fee charged to user per unit of offering
unit fee quartile	quartile of fee ranking relative to agency offerings per unit; 0 - free, 1 - 1-25%, 2 = 26-50%, 3 = 51-75%, 4 = 76=100%
% on scholarship	% of participants participating through use of scholarship funds
cost per unit	Direct cost to agency to provide a unit of service
Agency Provided	Y = this program or service is programmed and offered by the project agency
Partnered / Facilitated	Y = this program or service is offered by a partner, and facilitated by the agency through a formal partnership or agreement
Rental	Y = this program or service is offered by another entity, merely renting or utilizing agency land or facilities

Affordance Characteristic Definitions

Catchment Areas

People use a variety of transit modes to reach a recreation destination: on foot, on a bike, in a car, via public transportation, or utilizing any combination of these or other alternatives. The mode is often determined, at least in part, by the distance to be travelled. The GRASP® system accounts for this by applying more than one ***catchment area*** distance to examine access to assets.

A catchment area on a map, also called a buffer, is a circle drawn around each component at a specific distance. Any point within this distance reflects the score of that component. This is called a ***service area***. These buffers are overlapped and used to calculate a total GRASP® Level of Service score for any given point within the study area that reflects service from all nearby assets. This process yields the data used to create all perspective maps and analytical charts.

The GRASP® methodology typically applies two different catchment area distances to calculate scoring totals, yielding two distinct perspectives used to examine a recreation system:

1. Neighborhood Access to Recreation
2. Walkable Access to Recreation

General Access analysis applies a primary catchment distance of one mile. This is considered a suitable distance for a bike ride or a short drive in a car. This one-mile catchment is intended to capture recreational users travelling from home or elsewhere to a park or facility by way of bike, bus, or automobile.

Walkable Access analysis uses a smaller catchment distance to capture users within walking distance of recreation facilities. This distance can range from as short as 1/4 mile to as long as 1/2 mile depending on the study area. For AHPD, a 1/3 mile catchment buffer was used. This catchment distance used in GRASP® studies represents a ten-minute walk for most users.

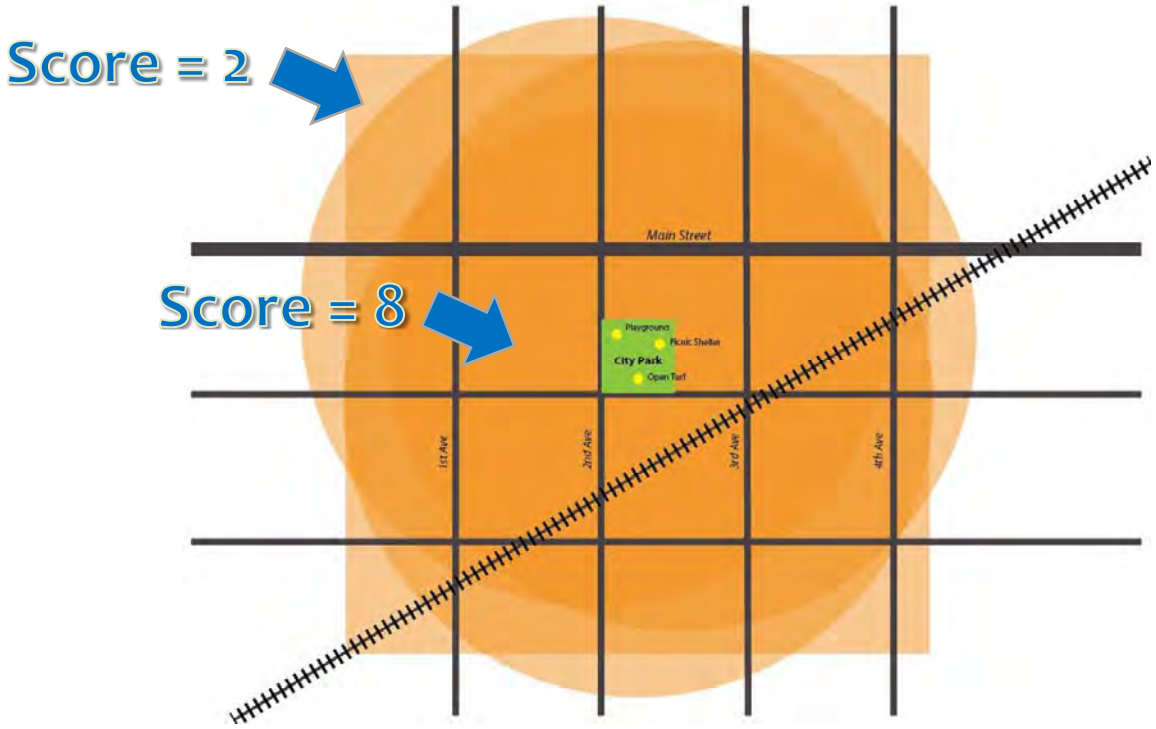
Assumptions

1. Proximity equates to access. This means that the presence of a recreational facility within a specific distance indicates that facility is accessible from a location. “Accessibility” in this analysis does not refer specifically to ADA accessibility.
2. General access equates to proximity of 1 mile, a reasonable distance for a drive in a car.
3. Walkable access equates to proximity of 1/3 mile, a reasonable distance attainable in a 10-minute walk at a leisurely pace.

Level of Service Analysis

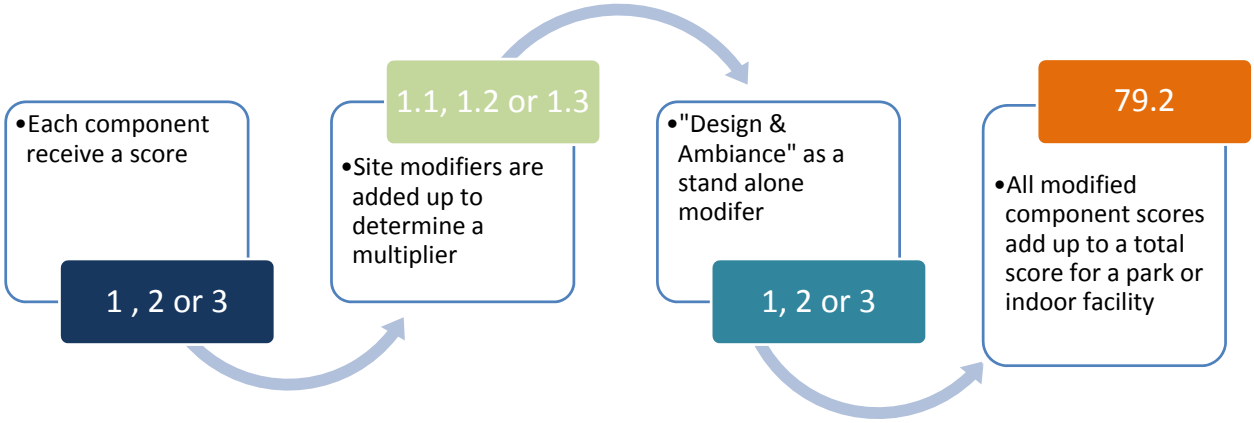
Maps and data quantifications produced using the GRASP® methodology are known as ***perspectives***. Each perspective is a model of how service is being provided across the study area. The model can be further analyzed to derive statistical information about service in a variety of ways. Maps are utilized along with tables and charts to provide benchmarks a community may use to determine its success in providing services.

As discussed, the score of any component is reflected at any point within a catchment area that surrounds it. These service areas are overlapped and used to calculate a total GRASP® Level of Service score for any given point within the study area, in this case the District. When service areas for multiple components are plotted on a map, a picture emerges that represents the cumulative level of service provided by that set of components in a geographic area. The graphic below illustrates the process assuming all three components and the park boundary itself, and thus all catchments, are scored a “2.”



GRASP® catchment and scoring example

A basic algorithm is used to calculate scoring totals for every park and indoor facility in the inventory and is illustrated below.

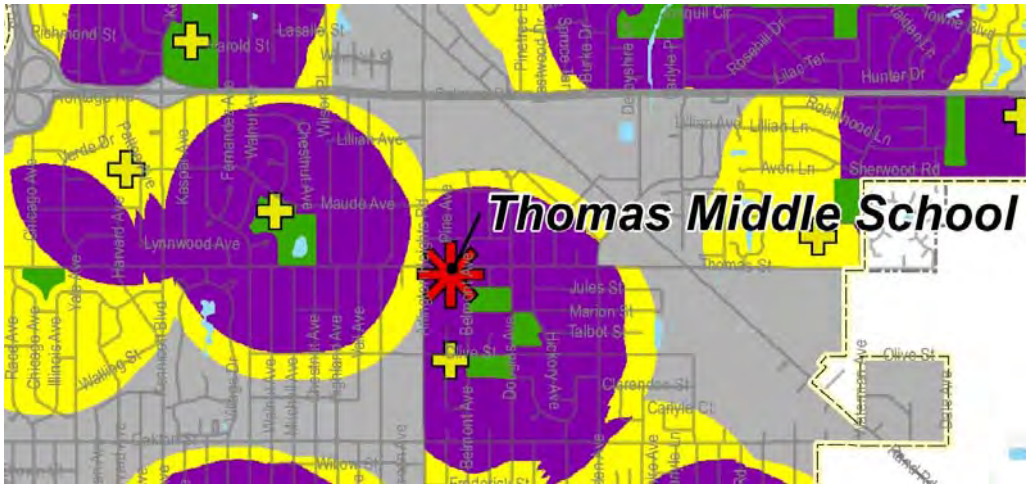


GRASP® scoring calculation.

Perspective maps and charts are produced based on scoring calculations determined by applying this GRASP® scoring process to the District inventory. Shown on a ***heat map***, cumulative GRASP® scoring is represented by darker or lighter shades.

Every agency is unique and should be measured on its own standards. This same data can also be used to portray areas that meet or do not meet a minimum standard, represented by different colors. A ***threshold map*** displays the same data related to a minimum standard GRASP® score called a ***threshold***. A threshold score is normally set by the score of a typical "neighborhood" park within a recreation system but may also be set using a median score, average score, or some other statistical indicator. In AHPD the threshold used equates to access to Evergreen Park, Carousel Park, Victory Park or the Historical Museum.

Darker and lighter orange shades on a heat map show areas with higher or lower level of service respectively. Also shown are outdoor locations, indoor locations, and other infrastructure.



Purple, yellow, and grey shades on a threshold map show areas that meet the minimum standard, fall below the minimum standard, or have no level of service respectively.

The graphics above illustrate two common types of perspective maps, the heat map and the threshold map. On a heat map, a darker orange shade results from the overlap of more service areas or areas served by higher quality components. All shades have GRASP® scoring values associated with them so that for any given spot on a perspective map there is a GRASP® Level of Service score that reflects cumulative scoring for nearby assets.

The following sections will discuss the inventory, analysis, and findings from the AHPD GRASP® Level of Service Analysis.

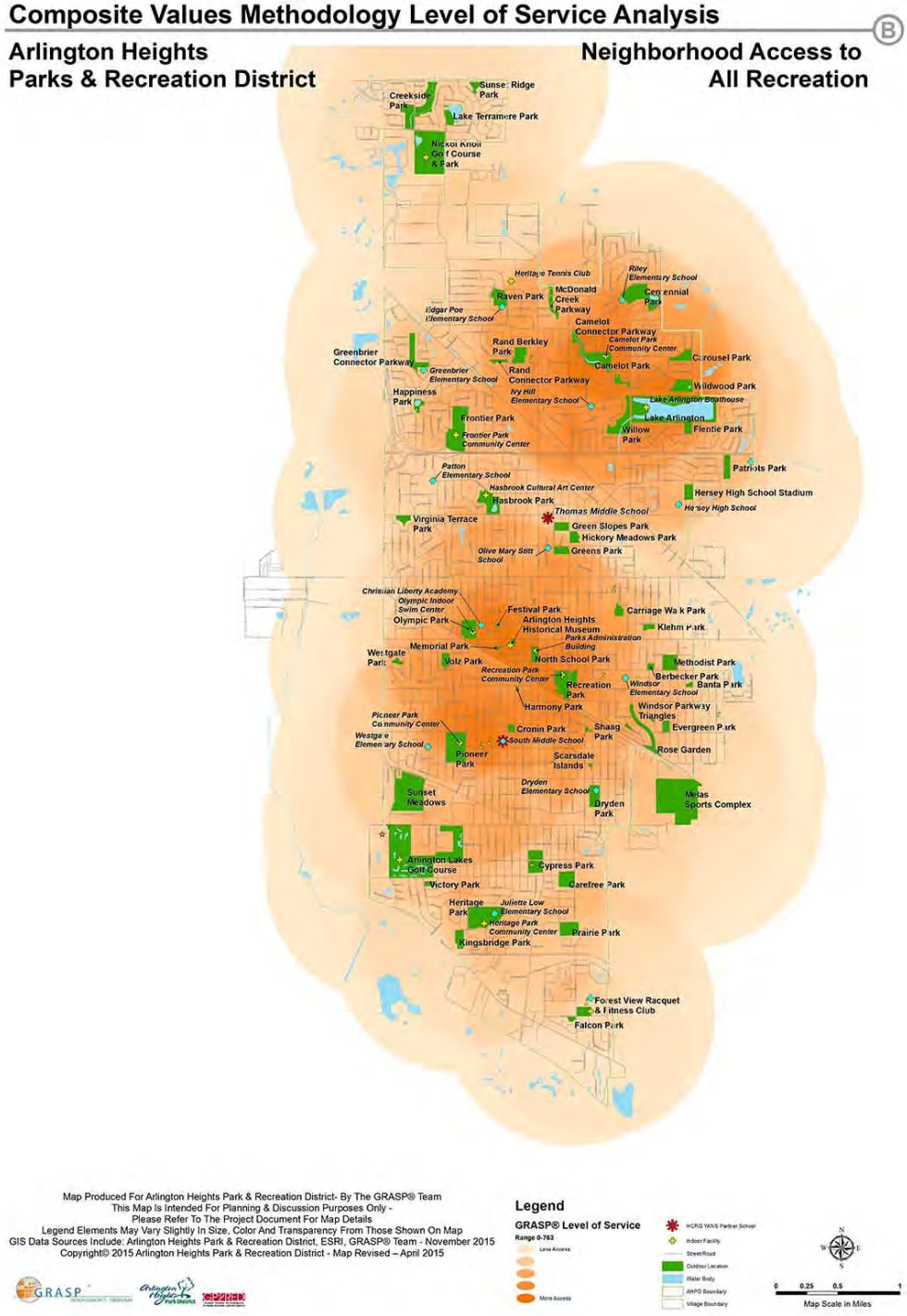
GRASP® Analysis

The GRASP® Methodology involves the overlap of mapping, scoring, demographics, and interpretation of the resulting perspectives to yield a picture of recreational service in a study area. Efforts undertaken for the Arlington Heights Park District analysis are described in full detail below. Findings and recommendations are summarized in the following section.

Neighborhood Access to All Recreation

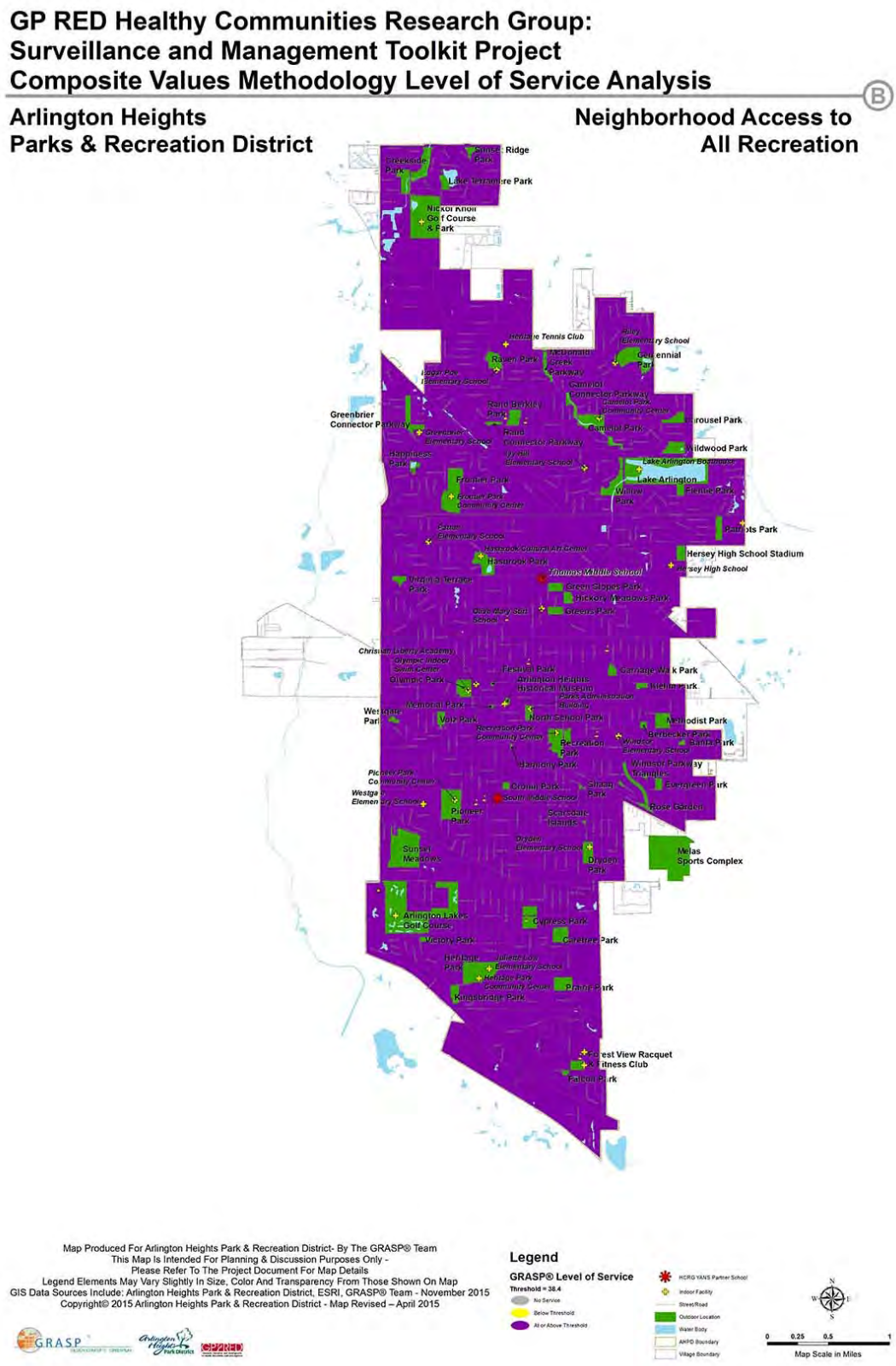
The Level of Service perspective indicates neighborhood access to recreation in the District by any means of transportation within a one-mile radius with a premium for one-third mile walkability and is represented in the Map Series B.

The heat map, shown in ***Map B-1*** suggests that the study area has excellent distribution of facilities and access to parks and recreation facilities. There are high level of service concentrations in the Camelot and Lake Arlington area as well as more centralized, around Olympic Park and Recreation Park.



Map B-1: Neighborhood Access to All Recreation in the District is displayed here as a heat map.

The threshold map, shown in ***Map B-2***, displays GRASP® scoring based on the minimum standard or ***threshold*** discussed earlier. In ***Map B-2***, the entire District appears purple, which would represent complete coverage (access to the typical neighborhood park) within one mile of all residents.



Map B-2: This threshold map shows Neighborhood Access to recreation in District. All access is shown relative to a GRASP® score of 38.4, either above or below, equating to the LOS provided by a typical neighborhood park.

Key Neighborhood Access to Recreation Findings:

- ❑ Great distribution of parks and facilities throughout the District
- ❑ Some pockets of concentration
- ❑ Very high level of service if transportation is readily available
- ❑ All residents have access to a typical neighborhood park within one mile
- ❑ Average LOS across all acres = 353

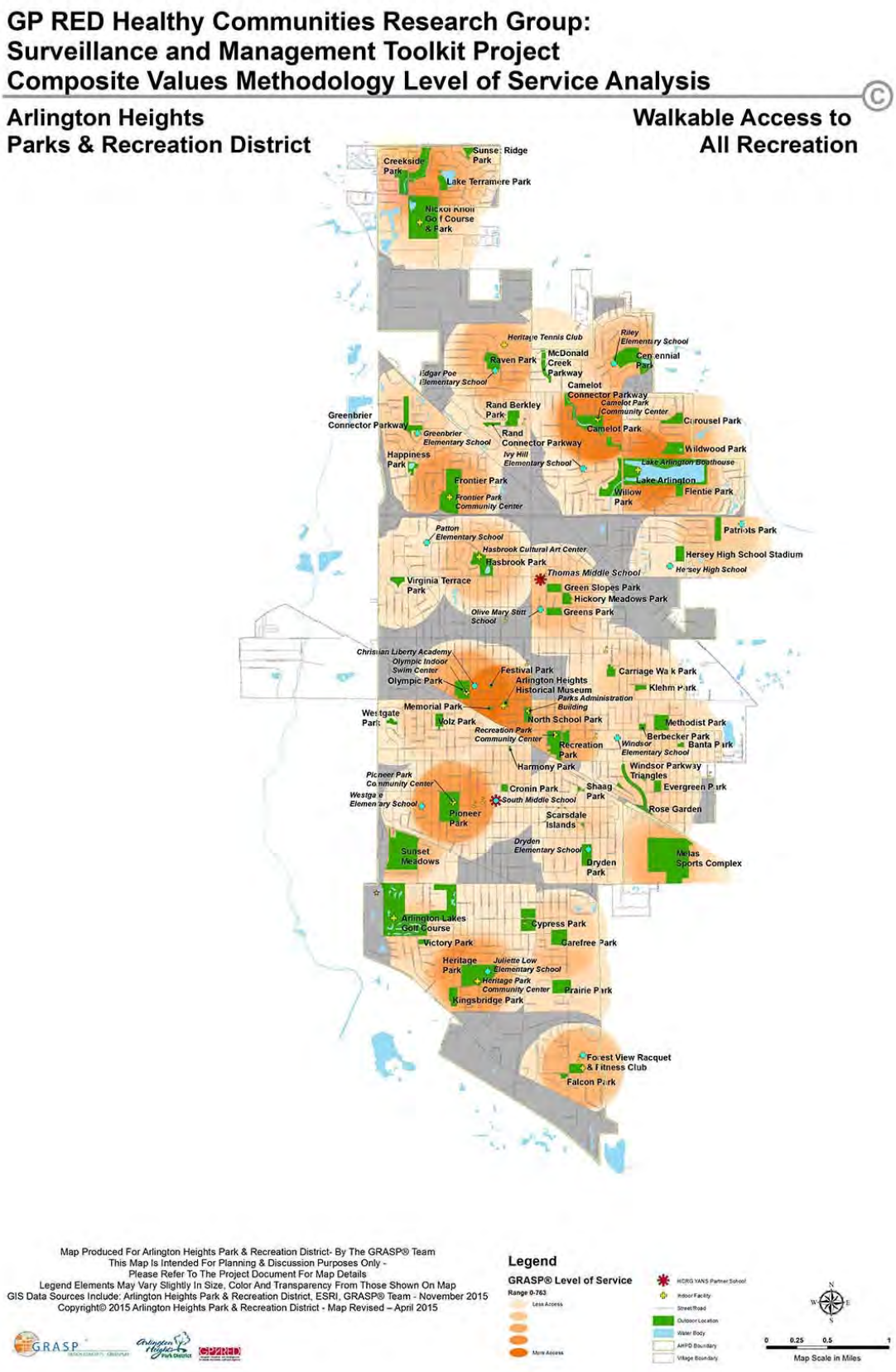
Walkable Access to Recreation

Walkability is a measure of how user-friendly an area is to people travelling on foot. A walkable environment has benefits regarding public health, the local economy, and quality of life. Many factors influence walkability and include the presence or absence and quality of footpaths, sidewalks or other pedestrian rights-of-way, traffic and road conditions, land use patterns, and safety considerations among others. Perhaps the most significant factors that affect walkability in a study area are barriers.

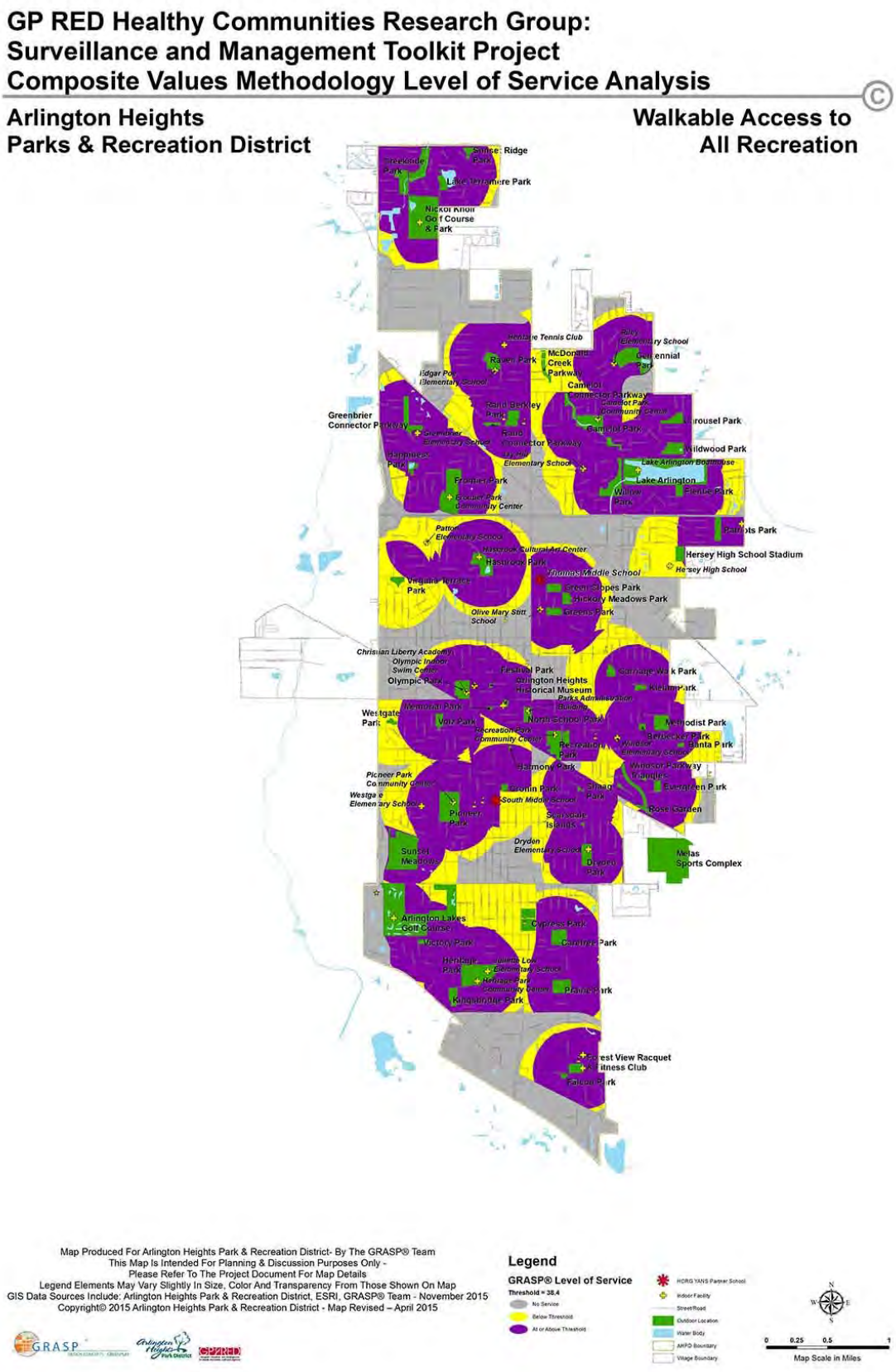
Barriers are typically major streets and highways, waterways, or railroad tracks that restrict pedestrian or bicycle movement and pose a potential risk to public safety. To account for these obstacles as deterrents to active transportation that serve to limit access to recreation, barriers were determined for the District and used to limit walkable service coverage.

The Walkable Level of Service perspective models access to recreation using a one-third mile catchment distance exclusively. This represents a convenient distance to access recreation on foot or by bike and can be achieved by an average person within a ten-minute walk. This analysis does not recognize any service across a barrier.

The walkability heat map in ***Map C-1*** shows access to recreation in Arlington Heights Park District if walking or other non-motorized travel mode. The effect of the barriers is notable in this perspective map. ***Map C-2*** displays GRASP® scoring based on the same threshold used in Map Series B.



Map C-1: Walkable Access to Recreation in the District is displayed here as a heat map.

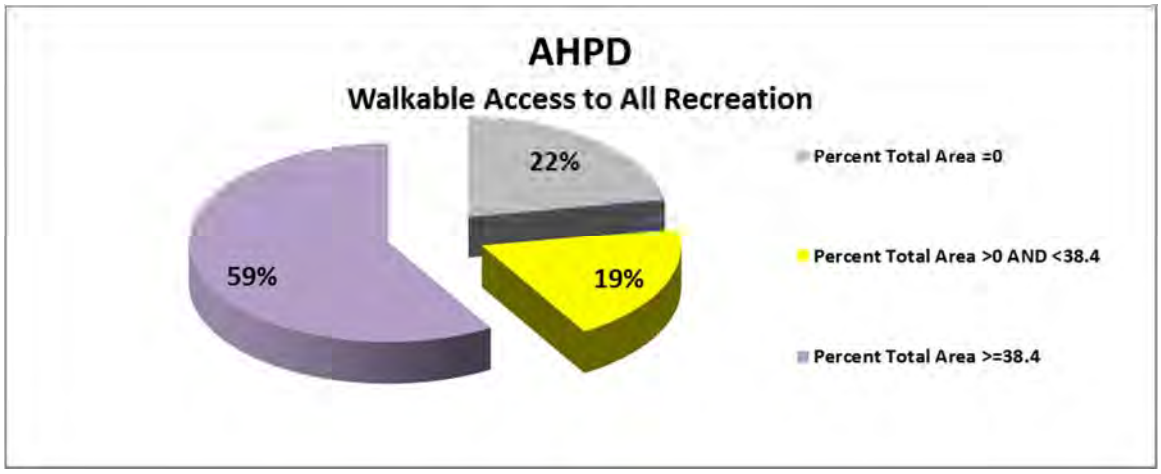


Map C-2: This threshold map shows Walkable Access to Recreation in the District.

As in the Map Series B maps, purple areas in ***Map C-2*** have adequate level of service based on the threshold. Yellow areas indicate that the District is providing below threshold level of service. Gray areas do not have walkable access to recreation.

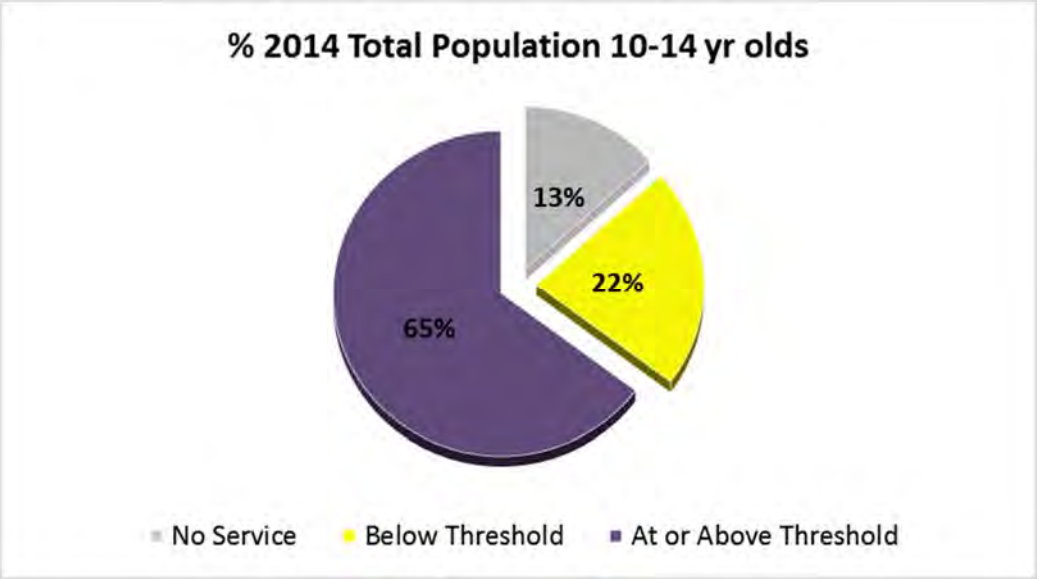
This analysis indicates that although not all of the District has walkable access to recreation, there are neighborhoods that are very walkable. It is important to note that not all underserved or unserved areas are priorities for service. For example, it may be acceptable that industrial or heavily commercial areas have less access to recreation or no access at all. Further investigation may be needed to determine these needs.

The following chart shows statistics for walkable access to recreation (as shown in ***Map C-2***) applying a threshold, based on land area. While 78 percent of the District has walkable access, almost 60 percent is at or above threshold and 19 percent does not meet the threshold value. Twenty-two percent (22%) of the District is without walkable service within one-third mile.



Walkability of District of Arlington Heights Park District by land area

While the chart above refers to the percentage of the District within walking distance of service, it does not tell the whole story. When discussing walkability, it is very important to understand the proximity of parks to population centers. Using the Esri population database, the percentage of the actual AHPD population can also be determined within the three service levels: at or above threshold, below threshold and no service. The results of this further analysis are shown in the following graphic, which indicates that 87 percent of the 10-15-year-old population has walkable access to recreation with nearly 2/3 of the population at or above threshold. This would indicate that parks are generally well placed in relation to population areas.



Walkability of District by Population

Key Walkable Access to Recreation Findings:

- ❑ Great distribution of parks and facilities throughout the District
- ❑ Some pockets of concentration
- ❑ Some pockets of No Access
- ❑ Overall 87% of 10-15 age group has walkable access to some recreation opportunity
- ❑ Overall 65% of 10-15-year-olds have access to an average neighborhood park within walking distance
- ❑ Average LOS across all acres = 93

Access to Affordances

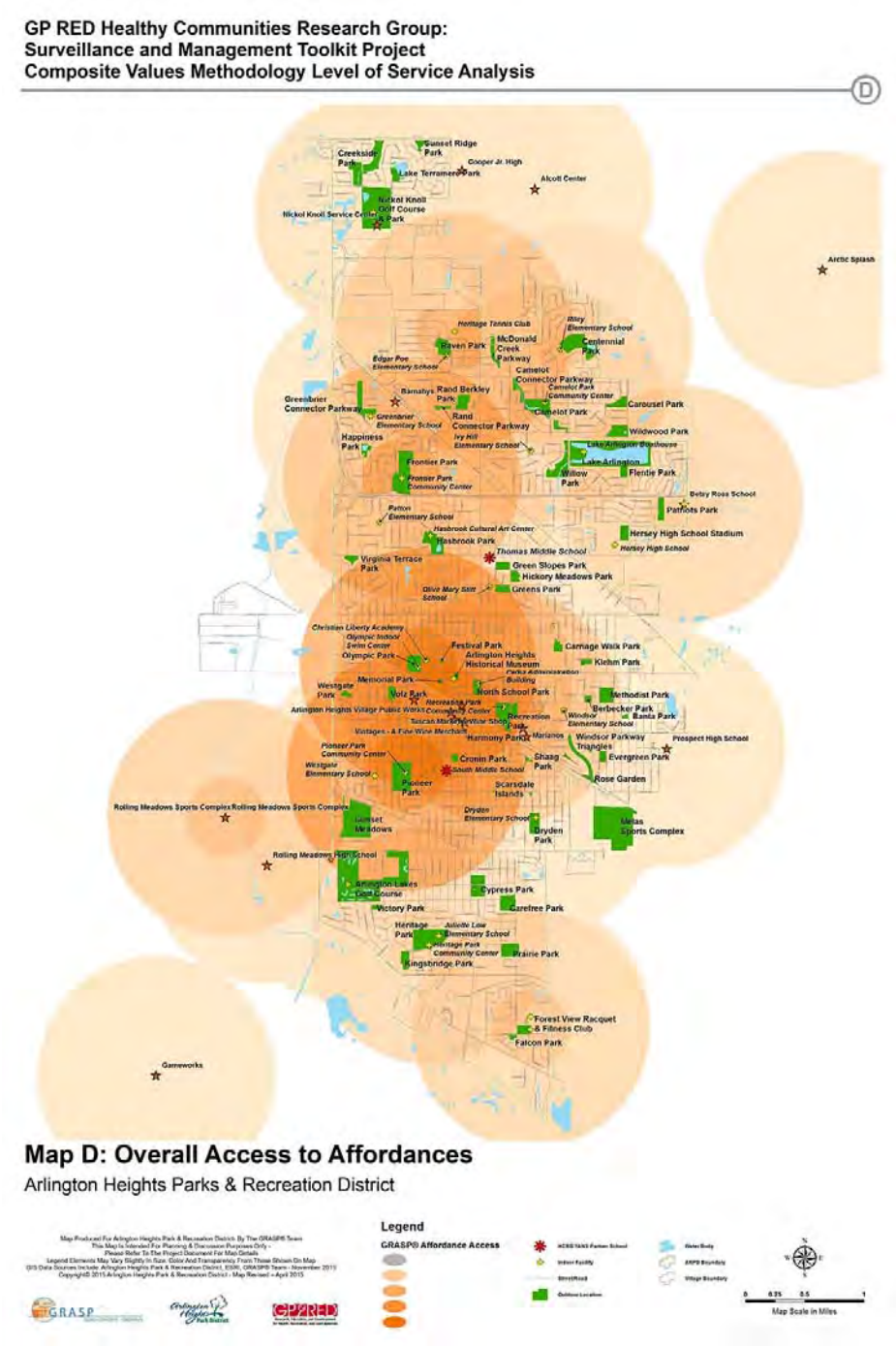
As discussed, once the affordance inventory is compiled and validated, a variety of perspectives that can be produced to examine key issues. Three (3) perspectives were chosen to show to highlight affordance level of service in different ways. All perspectives apply to the 10-15 age group specifically.

1. **Neighborhood Access to Affordances** – This includes all affordances inventoried with a one-mile buffer and a premium for one-third mile access. Similar to the Neighborhood Access to Recreation Asset perspective, ***Map B-1***.
2. **Walkable Access to Affordances** – This includes all affordances within a one-third mile buffer and accounts for barriers. This shows a realistic representation of what areas have service from affordances within a ten minute walk – a key qualifier for this non-driving age group. Similar to the Walkable Access the Recreation Asset perspective, ***Map C-1***.
3. **Walkable Access to Non-Consequential Affordances –** This perspective includes all affordances deemed to have non-consequential characteristics (as distinct from those programs with a win/lose aspect or some other specific consequence from participation)

These perspectives highlight those areas with higher and lower levels of affordance service for the 10-15 age group for use in future planning efforts.

Neighborhood Access to All Affordances

Map D shows that neighborhood access to affordances is highest in areas near Olympic Swim Center, Recreation Park Community Center, and Pioneer Community Center. Areas of lowest access to affordances tend to be at the edge of the District. It is important to note that while the Camelot Community Center is included in the analysis, the affordances for that site do not reflect the improved facilities included a the recent remodel. As a full year of programming numbers based on the updated assets was not yet available, the numbers for 2014 were substituted.

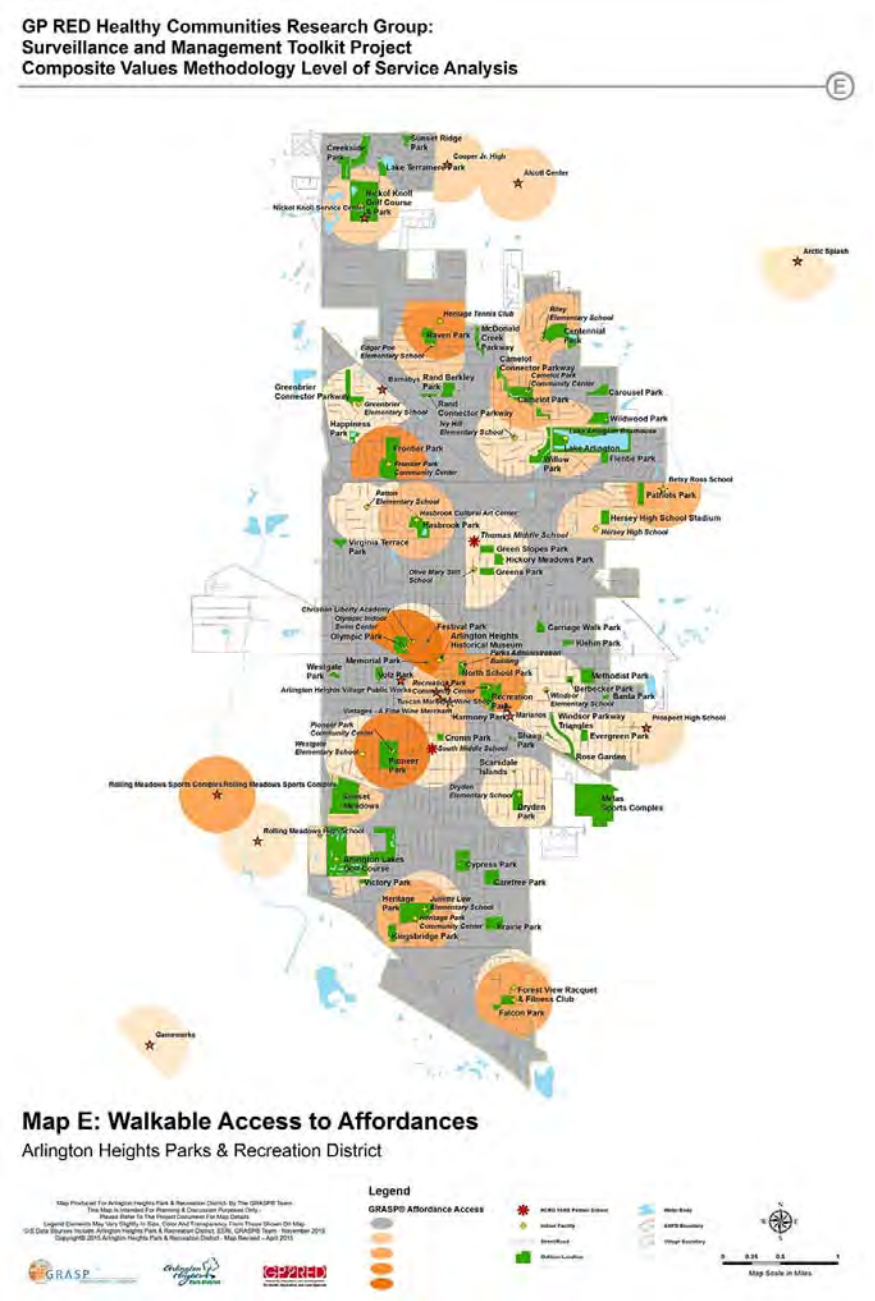


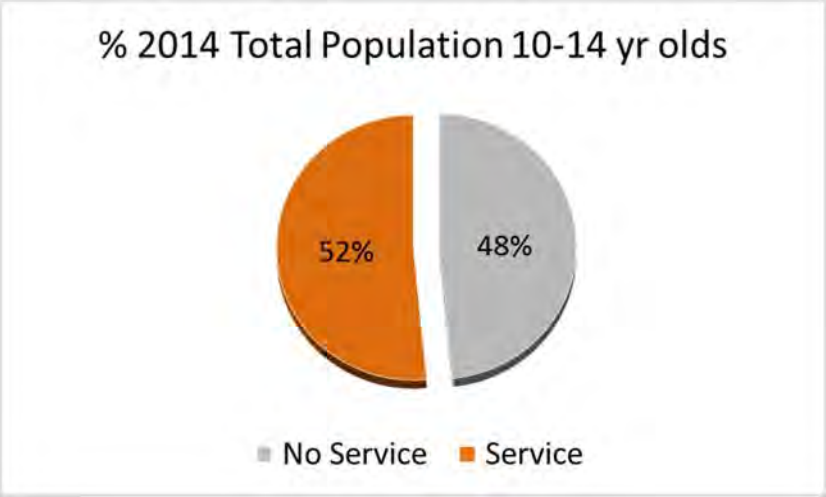
Key Neighborhood Access to Affordance Findings:

- ❑ Great distribution of affordances throughout the District
- ❑ Some pockets of concentration
- ❑ Very high level of service
- ❑ All 10-15-year-olds have access to at least one affordance within one mile

Walkable Access to All Affordances

Map E shows that walkable access to affordances is limited but still well distributed. Using the ESRI population database it was determined that more than half of the 10-15-year-old population lives within a 10 minute walk of at least one affordance.

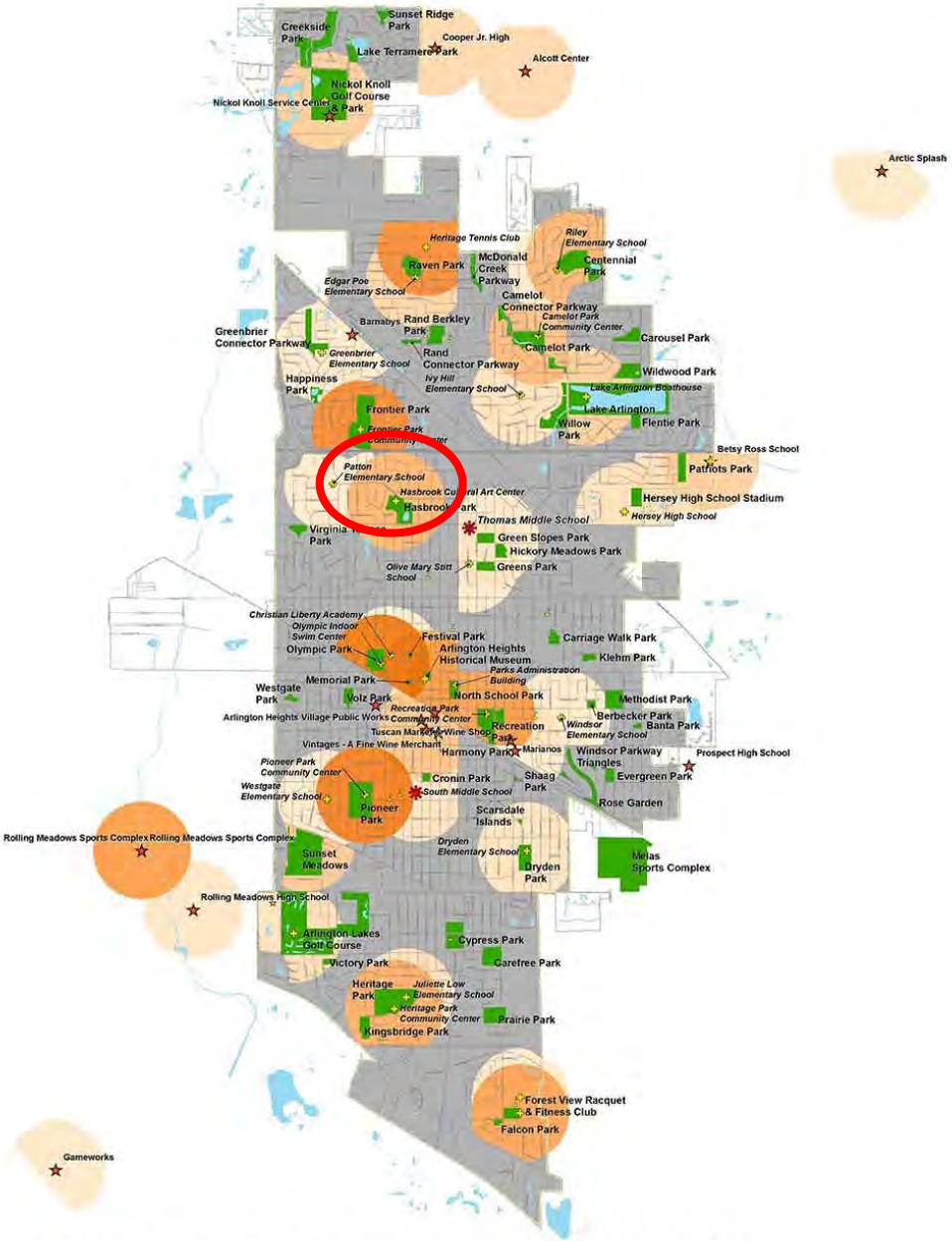




Youth walkable access to affordances

Access to Non-Consequential Affordances

Map F portrays the service provided by non-competitive affordances. This analysis shows little variations from the walkable access to all affordances in Map E. The area outlined in red highlights one area of the District that differs between the two analyses, and implies that non-consequential offerings may be missing for youth ages 10-15 in the Evergreen Park/Prospect High School areas.



Map F: Walkable Access to Non-Consequential Affordances

Arlington Heights Parks & Recreation District

Map Produced For Arlington Heights Park & Recreation District- By The GRASP® Team
This Map Is Intended For Planning & Discussion Purposes Only -
Please Refer To The Project Document For Map Details
Legend Elements May Vary Slightly In Size, Color And Transparency From Those Shown On Map
GIS Data Sources Include: Arlington Heights Park & Recreation District, ESRI, GRASP® Team - November 2015
Copyright© 2015 Arlington Heights Park & Recreation District - Map Revised – April 2015

GRASP

Arlington Heights Park District

GP2RED

Legend

GRASP® Affordance Access

HCRG YANS Partner School
Indoor Facility
Street/Road
Outdoor Location
Water Body
AHPD Boundary
Village Boundary

0 0.25 0.5 1
Map Scale in Miles

A Note on Utilizing GRASP®

GRASP® perspectives provide a snapshot to benchmark future planning efforts, but it should be noted that these analyses need to be considered alongside other indicators. Used in conjunction with other needs assessment tools (such as needs surveys and a public process), GRASP® perspectives can help to determine if current levels of service are appropriate for any given part of the District. It is not necessarily beneficial for all parts of the community to score equally in the analyses. The desired level of service for any particular location will depend on the type of service being analyzed, land use, or demographic characteristics. Commercial, institutional, and industrial areas might reasonably be expected to have lower levels of recreation service than residential areas, for example. All such factors must be accounted for in order to make well informed management decisions.

Access to Trails

Trails are recognized by AHPD staff as valuable and desirable components of a recreation system. While many District parks do have loop walks or trail segments, there are few trails outside of park boundaries and some parts of the District have limited public sidewalks. This lack of recreational connectivity greatly limits parks and recreation access, especially for the target 10-15 age group.

A ***trail system*** is a group of trails that serves a community. A ***trail network*** is a part of a trail system within which major barrier crossings have been added and all trails are connected. Signaled crosswalks, pedestrian underpasses, and bridges can be used to help users navigate barriers. Trail networks within a trail system are typically separated from each other by barriers or by missing trail connections. New crossings or trail segments may be added to link trail networks and improve overall connectivity. Most communities have several trail networks that connect users to common destinations such as schools, shops, restaurants, and civic and religious institutions in addition to parks and recreation facilities. The more integrated these networks, the more connected the community. A complete discussion of "Recreational Connectivity can be found later in this document.

GRASP® Comparative Data

The GRASP® Index, or the overall GRASP® value per capita, for Arlington Heights Park District is 29. Because every community is unique, there are no standard or "correct" numbers for these. However, it is useful to note that the GRASP® Index for the District is second among communities with an overall population between 50,000 and 100,000. The table below provides comparative data from other GRASP® communities. For reference, statistics have been included for other communities of similar size in addition to smaller and larger communities across the country.

It is also notable that AHPD is significantly smaller in overall study area size while being the highest in comparable population density. The district is also one of the few in the table to offer 100 percent coverage in terms of access to recreation.

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STATE	CITY	YEAR	POPULATION	STUDY AREA SIZE (Acres)	# OF SITES (Parks, Facilties, etc.)	TOTAL # OF COMPONENTS	AVG. # COMPONENTS per SITE	TOTAL GRASP® VALUE (Entire System)	GRASP® INDEX	AVG. SCORE/SITE	% of TOTAL AREA w/LOS >0	AVG. LOS PER ACRE SERVED	NUMBER OF COMPONENTS PER POPULATION	AVERAGE LOS/POP DEN PER ACRE	pop den (per acre)
VT	Essex	2011	28,858	25,230	47	153	3.3	895	31	19.0	72%	11.0	5	10	1.1
ID	Post Falls	2011	*29,062*	*24,928*	35	271	7.7	1005	35	28.7	71%	169	9	145	1.2
OR	Oregon City	2006	29,540	5,944	51	215	4.2	NA	NA	NA	86%	45	7	9	5.0
CO	Commerce City	2006	36,049	26,270	90	357	4.0	1047	29.0	11.6	73%	113	10	82	1.4
CA	La Quinta	2006	39,614	22,829	27	143	5.3	611	15	22.6	79%	*78.0*	4	45	1.7
UT	South Jordan	2006	44,276	14,081	48	172	3.6	1578	36	32.9	44%	29.8	4	9	3.1
CA	Palm Springs	2013	44,468	60,442	16	162	10.1	1149	26	71.8	69%	*164.9*	4	223	0.7
NM	Farmington	2014	46,815	*21,179*	98	354	3.6	2204	48	22.5	97%	223	8	101	2.2
OR	Corvallis	2011	*54,462*	*18,006*	54	309	5.7	2217	41	41.1	93%	289	6	96	3.0
MO	Liberty	2013	56,041	*53,161*	39	298	7.6	607	11	15.6	57%	107	5	102	1.1
MA	Brookline	2009	60,000	NA	74	128	1.7	551	9	7.4	NA	NA	2	NA	NA
IL	**AHPD**	**2015**	**72,465**	***9,883***	**57***	**348***	**6.1***	**2078**	**29**	**36.5**	**100%**	**353**	**5**	**48.1**	**7.3**
ID	Meridian	2015	94,289	*18,159*	21*	207*	9.9*	1947	18	52.1	98%	196	2	37.8	5.2
FL	Winter Haven		100,000	42,191	31	230	7.4	328	3	10.6	37%	175	2	73.8	2.4
TX	Pearland	2015	101,900	*30,468*	21	164	7.8	1556	15	74.1	85%	162	2	55.4	2.9
OR	North Clackamas	2012	115,924	*23,040*	93	295	3.2	2207	19	23.7	97	183	3	36.4	5.0
CO	Fort Collins		130,681	33,388	45	619	13.8	2675	20	59.4	83%	217	5	55.4	3.9
NC	Cary	2011	139,382	*35,578*	43	562	13.1	2843	20	66.1	97%	221	4	56.4	3.9
IA	Cedar Rapids		143,788	45,987	98	759	7.7	2467	17	25.2	86%	300	5	95.8	3.1
CO	Lakewood		144,369	27,494	105	738	7.0	6476	45	61.7	100	NA	5	NA	5.3
IN	South Bend	2011	164,396	*65,387*	64	339	5.3	2417	15	37.8	72%	130	2	51.7	2.5
FL	Ft Lauderdal		181,095	23,230	91	483	5.3	2662	15	29.3	98	221	3	28.4	7.8
VA	Arlington		190,000	NA	225	494	2.2	NA	NA	NA	NA	NA	3	NA	
WA	Tacoma		203,984	34,133	104	488	4.7	NA	NA	NA	NA	NA	2	NA	6.0
OR	THPRD	2012	224,627	29,097	253	1211	5	6843	30	27	100%	489	5	63	7.7
*Includes AHPD assets and facilitys only															

GRASP® Comparative Data

Other Types of Analysis

Capacities Analysis

A traditional tool for evaluating service for parks and recreation is a capacity analysis. This compares the total acres and quantity of assets to population. The following chart shows the current capacities for park land and selected components in Arlington Heights Park District. Based on the fact that the total population of the District is not expected to grow significantly in the next five years, there appears to be no need for additional components to be added to the system, and only six total acres of park land require to meet projected growth.

This table should be used in conjunction with input from focus groups, staff, and the general public to determine if the current ratio of components to population are adequate for specific components. For example, if this process determined that the current ratio of one rectangle field per every 5,574 residents should be one field per 5,000, the need would arise for at least one new rectangle field.

Arlington Heights	Draft: June 2015													
		2013 GIS Acres #	Aquatic Feature, Pool	Aquatic Feature, Spray	Ballfield	Basketball	Hockey, Ice	Hockey, In-line	MP Field, all sizes	Open Turf	Playground, all sizes	Shelters, All Sizes	Tennis	Volleyball
INVENTORY														
Total		**691.4**	**13**	**5**	**44**	**28**	**9**	**2**	**13**	**32**	**43**	**12**	**50**	**6**
CURRENT RATIO PER POPULATION														
CURRENT POPULATION 2015	**72,465**													
Current Ratio per 1000 Population		9.54	0.18	0.07	0.61	0.39	0.12	0.03	0.18	0.44	0.59	0.17	0.69	0.08
Population per component		105	5,574	14,493	1,647	2,588	8,052	36,233	5,574	2,265	1,685	6,039	1,449	12,078
PROJECTED POPULATION - 2020	**73,132**													
Total # needed to maintain current ratio of all existing facilities at projected population		**698**	**13**	**5**	**44**	**28**	**9**	**2**	**13**	**32**	**43**	**12**	**50**	**6**
Number that should be added to achieve current ratio at projected population		*6*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*

Capacities LOS for Community Components

GRASP® Index for Specific Components

A capacities analysis is based purely on the quantity of assets without regard to quality or functionality. Higher LOS is achieved only by adding assets, regardless of the condition or quality of those assets. In theory, service provided by assets should be based on their quality as well as their quantity. An example will help illustrate.

In the case of Arlington Heights Park District, outdoor tennis courts currently score at 268.8 and have a GRASP® Index of 3.7. Based on population projections, by the year 2020, Arlington Heights Park District would need to provide an additional 2.5 points worth of GRASP® scoring through tennis courts to maintain the current level of service per capita. Increases in GRASP® score can occur through upgrades to current components, addition of new components, or a combination of upgrades and additions. For reference, a typical component located in a typical park with typical comfort and convenience modifiers equates to a GRASP® score of 4.8 points.

The authors of this report have developed a tool that incorporates both quantity and quality for any given set of assets into a single indicator called the GRASP® Index. This index is a per capita ratio of the functional score per population in thousands.

The GRASP® Index can move up or down over time as either quantity or quality changes. For example, if all of the playgrounds in a community are allowed to deteriorate over time, but none are added or taken away, the LOS provided by the playgrounds is decreasing.

Similarly, if all of the playgrounds are replaced with new and better ones, but no additional playgrounds are added, the LOS increases even though the per-capita quantity of playgrounds did not change.

GRASP® score for any component is also directly impacted by the Design & Ambiance score as well as comfort and convenience modifiers of any given park. Improvements or upgrades to these park features will also impact the scoring.

This is especially useful in communities where the sustainability of the parks and recreation system over time is important. In the past, the focus was on maintaining adequate capacity as population growth occurred. Today, many communities are reaching build-out, while others have seen population growth slow. The focus in such communities has shifted to maintaining current levels of service as components age or become obsolete, or as needs change. The GRASP® Index may be used to track service levels over time.

The following table shows the GRASP® Indices for the various components based on the 2015 population.

Projected Community Components GRASP® Index 2020					
	Current Population 2015*	72,465		Projected Population 2020*	73,132
	Total GRASP® Community Score per component type	GRASP® score per 1000 population (GRASP® Index)		Total GRASP® score needed at projected population	Additional GRASP® score needed
Ballfield	235.8	3.3		238.0	2.2
Basketball	149.7	2.1		151.1	1.4
Loop Walk	67.0	0.9		67.6	0.6
MP Field, all sizes	151.3	2.1		152.6	1.4
MP Field Complex	79.0	1.1		79.7	0.7
Open Turf	159.6	2.2		161.1	1.5
Playground, all sizes	202.2	2.8		204.1	1.9
Shelter, all sizes	58.8	0.8		59.3	0.5
Tennis	268.8	3.7		271.3	2.5
Trail, Multi-use	92.4	1.3		93.3	0.9
Volleyball	26.4	0.36		27	0.2
* Population data source: ESRI ARCGIS Online					

GRASP® Community Component Index

Summary of Findings

Several general findings were revealed by the District of Arlington Heights Park District GRASP® Analysis. These may be summarized as follows:

For Neighborhood Access to Recreation, Arlington Heights Park District offers:

- ❑ Access to recreation opportunities to all residents within one mile.
- ❑ A wide variety of well distributed recreational opportunities.
- ❑ "Pockets" of very high level of service and an overall average high level of service value across the District.

For Walkable Access to Recreation:

- ❑ There is good distribution of parks and facilities with a variety of recreation opportunities.
- ❑ Several areas of very high level of service exist while there are other areas with no access within reasonable walking distance.
- ❑ Eighty-seven percent (87%) of the target age group has walkable access to some recreation opportunity.
- ❑ Nearly 2/3 of all youth ages 10-15 have access to an average neighborhood park within walking distance.
- ❑ Further analysis may be needed to determine prioritization of areas with no current access opportunities.

For Trails and Trail Access:

- ❑ Trails access is primarily limited to loop walks and trails within park boundaries.
- ❑ Major pedestrian barriers and lack of public sidewalks limit walkable access to recreation opportunities.

For Affordance Access:

- ❑ Affordance opportunities are well distributed across the district.
- ❑ All residents and 10-15-year-olds have access to at least one affordance within one mile.
- ❑ Heavy concentrations of affordance opportunities around Olympic Swim Center, Recreation Park Community Center, and Pioneer Community Center.
- ❑ Affordance data supplied by the District for 2014 did not include recent Camelot Community Center programming.

For Walkable Affordance Access:

- ❑ Concentrations of affordance opportunities around Olympic Swim Center, Recreation Park Community Center, and Pioneer Community Center.
- ❑ Some gaps in walkable affordances may be due to limitations in data some locations that can be addressed in Year Two analysis.
- ❑ Opportunities may exist to add affordances at existing District facilities or further analysis may be needed to determine prioritization of areas with no current affordance opportunities.

For Walkable Non-Consequential Affordance Access:

- ❑ A mix of Consequential and Non-consequential affordances are offered at most locations and therefore the results of analysis are similar.
- ❑ Non-consequential offerings may be missing for youth ages 10-15 in the Evergreen Park/Prospect High School areas, an area with walkable access to affordances otherwise.

GRASP® History and Methodology

GRASP® Glossary

Assets: Public facilities and lands that are available for healthy recreation and/or active use by the target age group. Assets are also referred to as components in this study.

Affordances: An affordance is an action that an individual can potentially perform in his or her environment. For this project, we have included activities, programs, and services that are publicly available for action by a member of the target age group. By common definition, assets can also be considered one additional form of affordances, but we have purposefully kept the physical assets (parks, playgrounds, trails, etc.) separate from the available programs and services so they can be managed and analyzed separately.

Buffer: see catchment area

Catchment area: a circular map overlay that radiates outward in all directions from an asset and represents a reasonable travel distance from the edge of the circle to the asset. Used to indicate access to an asset in a level of service assessment

Characteristics: Each asset and affordance has a set of characteristics which provide additional information. The characteristics used for the assets and affordances in this project are further described and discussed in following sections.

Component: an amenity such as a playground, picnic shelter, basketball court, or athletic field that allows people to exercise, socialize, and maintain a healthy physical, mental, and social wellbeing

Composite-Values Level of Service (LOS) Analysis: This is the process used to inventory and analyze the assets and affordances, including quantity, location, and various qualities of each. The process utilizes MS Excel, MS Access, and common GIS software. The composite-values based LOS analysis process used by GreenPlay and Design Concepts is proprietary, and known as "**GRASP®"** (Geo-referenced Amenities Standards Process). It has been somewhat automated through creation of additional software code and template design for efficiency in data collection and analysis. The usage of the GRASP® methodology has been licensed to GP RED for this project.

Geo-Referenced Amenities Standards Process® (GRASP®): a proprietary composite-values methodology that takes quality and functionality of assets and amenities into account in a level of service assessment

Level of service (LOS): the extent to which a recreation system provides a community access to recreational assets and amenities

Low-score component: a component given a GRASP® score of "1" or "0" as it fails to meet expectations

Low-service area: an area of a Town that has some GRASP® level of service but falls below the minimum standard threshold for overall level of service

Modifier: a basic site amenity that supports users during a visit to a park or recreation site, to include elements such as restrooms, shade, parking, drinking fountains, seating, BBQ grills, security lighting, and bicycle racks among others

No-service area: an area of a Town with no GRASP® level of service

Perspective: a map or data quantification, such as a table or chart, produced using the GRASP® methodology that helps illustrate how well a community is served by a given set of recreational assets

Radius: see catchment area

Recreational connectivity: the extent to which community recreational resources are transitionally linked to allow for easy and enjoyable travel between them.

Recreational trail: a soft or hard surface trail intended mostly for leisure and enjoyment of resources. Typically passes through park lands or natural areas and usually falls to parks and recreation professionals for planning and management.

Service area: all or part of a catchment area ascribed a particular GRASP® score that reflects level of service provided by a particular recreational asset, a set of assets, or an entire recreation system

Threshold: a minimum level of service standard typically determined based on community expectations

Trail: any off-street or on-street connection dedicated to pedestrian, bicycle, or other non-motorized users

Trail network: a part of a greater trail system within which major barrier crossings have been addressed and all trails are functionally connected by such things as crosswalks, pedestrian underpasses, and/or bridges. Typically separated from other trail networks by missing trail connections or by such barriers as roadways, rivers, or railroad tracks.

Trail system: all trails in a community that serve pedestrian, bicycle, and alternative transportation users for purposes of both recreation and transportation

Transportation trail: a hard surface trail, such as a Town sidewalk, intended mostly for utility in traveling from one place to another in a community or region. Typically runs outside of park lands and is managed by Public Works or other Town utility department.

GRASP® Components and Definitions

Indoor Components	
Design Concepts	
Component	**COMPONENT, DEFINITION, AND TYPICAL ARCHITECTURAL ELEMENTS**
Arts and Crafts	Arts and Crafts - non-carpeted floor with built-in storage and a sink, often adjacent to a kiln room
Auditorium/Theater	Auditorium/Theater - designed specifically for a performance/ lecture space; built-in stage, seating, and can accommodate stage lighting and sound
Childcare/Preschool	built in secure entry and cabinets, room with small toilet, designated outdoor play area, etc.
Climbing Wall	Climbing Wall - special design for climbing, includes harness and safety flooring system
Fitness/Dance	Fitness/Dance - resilient flooring, mirrors
Food- Café/Concessions	Staffed food service with commercial kitchen - informal (no dining room or waiter services)
Food - Full Service	Staffed food service with commercial kitchen and dining room/waiter services
Food - Vending	Non-staffed area with vending machines and/or self-service
Gallery	Gallery - adequate lighting, open wall space with room for circulation
Gymnasium	Gymnasium - large space that can accommodate basketball, volleyball, or other indoor court sports
Indoor Ice	Ice arena used for hockey or other ice sports
Tennis, Indoor	Indoor Tennis Courts
Track - Indoor	Indoor Track - course with painted lanes, banked corners, resilient surface, and marked distances
Kitchen - Kitchenette	Area for preparing food, warming, or serving
Kitchen - Commercial	Kitchen that meets local codes for commercial preparation and service of food
Lobby/Entryway	Waiting and sitting area at the entry
Multi-purpose	Multi-purpose - any room that can host a variety of activities including: classroom, meeting room, banquet room etc. maybe be dividable - see list below for common uses
Patio/outdoor seating	Outdoor space or seating area that is designed to be used exclusively in conjunction with an indoor space and has primary access through an indoor space.
Pool, Lap	Pool, Lap - pool appropriate for swimming laps
Pool, Leisure	Pool, Leisure - designed for leisure water activities, may include zero-depth entry, slides and spray features
Pool, Therapy	Pool, Therapy - warm water pool used for rehabilitation and therapy
Retail/Pro-shop	Area for retail sales of sporting equipment, gifts, etc. Usually had with direct access to outside and can be locked separatly from the rest of the facility
Racquetball	Racquetball - regulation courts
Sauna/steam	Sauna/steam - built-in seating and heat source, may be steam or dry heat
Specialty Services	Specialty Services - for example - visiting nurse
Specialty Training	Specialty Training - for example - circuit training, gymnastics
Weight/Cardio Equipment	Weight/Cardio Equipment - resilient or anti-bacterial flooring, adequate ventilation and ceiling heights appropriate for weight and cardio equipment
Woodshop	Woodshop - contains adequate power supply and ventilation for wood-working equipment
Typical Multi-purpose room USES	
Classes, events, etc.	
First aid room	
Game Room	
Library	
Lounge	
Lounge, Senior	
Lounge, Youth	
Massage room	

Outdoor Component List

Design Concepts

Component	COMPONENT AND DEFINITION
Amusement Ride	Amusement Ride - Train, go carts, etc.
Aqua Feat, Pool	Aquatic feature, Pool (Outdoor Pool) – Consists of a single lap pool. has restricted access and lifeguards.
Aqua Feat, Spray	Aquatic feature, Spray (Destination Sprayground) – Consists of many and varied spray features. Does not have standing water, but is large and varied enough to attract users from outside the immediate neighborhood.
Aqua Feat, Complex	Aquatic feature, Complex (Aquatic Park) – A facility that has at least one lap pool and one separate spray ground or feature.
Archery Range	Archery Range – A designated area for practice and/or competitive archery activities. Meets safety requirements and has appropriate targets and shelters.
Backstop, Practice	Backstop, Practice – Describes any size of grassy area with a practice backstop, used for practice or pee-wee games.
Ballfield	Ballfield – Describes softball and baseball fields of all kinds. Not specific to size or age-appropriateness.
Ballfield, Complex	Ballfield, Complex - 4 or more ballfields of similar size in used for tournaments.
Basketball	Basketball – Describes a stand-alone full sized outdoor court with two goals. Half courts scored as (.5). Not counted if included in Multiuse Court.
Batting Cage	Batting Cage – A stand-alone facility that has pitching machines and restricted entry.
Blueway	Blueway – River, Stream or canal, that is used for aquatic recreation.
BMX Course	BMX Course – A designated area for non-motorized Bicycle Motocross. Can be constructed of concrete or compacted earth.
Bocce Ball	Bocce Ball - Outdoor courts designed for bocce ball. Counted per court.
Concessions	Concessions - A separate structure used for the selling of concessions at ballfields, pools, etc.
Concessions with Restroom	Concessions with Restroom - A separate structure used for the selling of concessions at ballfields, pools, etc. with restroom faciilty included.
Disk Golf	Disk Golf – Describes a designated area that is used for disk golf. Includes permanent basket goals and tees. Scored per 18 holes.
Dog Park	Dog Park – Also known as “a park for people with dogs” or “canine off-leash area”. An area designed specifically as an off-leash area for dogs and their guardians.
Driving Range	Driving Range - An area designated for golf practice or lessons.
Educational Experience	Educational Experience - Signs, structures or historic features that provide an educational, cultural or historic experience.
Equestrian Facilities	Equestrian Facilities - designed area for equestrian use.
Event Space	Event Space - A designated area or facility for outdoor performances, classrooms or special events, including amphitheaters, band shell, stages, etc.
Fitness Course	Fitness course – Consists of an outdoor path that contains stations that provide instructions and basic equipment for strength training.
Garden, Community	Garden, Community (vegetable) – Describes any garden area that provides community members a place to have personal vegetable/flower gardens.
Garden, Display	Garden, Display – Describes any garden area that is designed and maintained to provide a focal point in a park. Examples include: rose garden, fern garden, native plant garden, wildlife garden, arboretum, etc.
Golf	Golf – Counted per 18 holes. (18 hole course = 1 and 9 hole course = .5)
Handball	Handball – Outdoor courts designed for handball.
Hockey, Inline	Hockey, In-line - Regulation size outdoor rink built specifically for league in-line hockey games and practice.
Hockey, Ice	Hockey, Ice – Regulation size outdoor rink built specifically for league ice hockey games and practice.
Horseshoes	Horseshoes – A designated area for the game of horseshoes. Including permanent pits of regulation length. Counted per court.
Horseshoes, Complex	Horseshoes, Complex - Several regulation courts in single location used for tournaments.
Loop Walk	Loop Walk – Any sidewalk or path that is configured to make a complete loop around a park or feature and that is sizeable enough to use as a exercise route (min. ¼ mile - 1320 ft.- in length)
Miniature Golf	Miniature Golf - Outdoor miniature golf course.
MP Field, Small	Multi-purpose field, Small – Describes a specific field large enough to host at least one youth field sport game. Minimum field size is 45’ x 90’ (15 x 30 yards). Possible sports may include, but are not limited to: soccer, football, lacrosse, rugby, and field 1 hockey. Field may have goals and lining specific to a certain sport that may change with permitted use. Neighborhood or community component
MP Field, Medium	Multi-purpose field, Medium - Describes a specific field large enough to host at least one youth/adult field sport game. Minimum field size is 90’ x 180’ (30 x 60 yards). Possible sports may include, but are not limited to: soccer, football, lacrosse, rugby, and field 1 hockey. Field may have goals and lining specific to a certain sport that may change with permitted use. Used with MP Field Complex component only.
MP Field, Large	Multi-purpose field, Large – Describes a specific field large enough to host at least one adult field sport game. Minimum field size is 180’ x 300’ (60 x 100 yards). Possible sports may include, but are not limited to: soccer, football, lacrosse, rugby, and field hockey. Field may have goals and lining specific to a certain sport that may change with permitted use. Neighborhood or community component
MP Field, Multiple	Multi-purpose field, Multiple – Describes an area large enough to host a minimum of one adult game and one youth game simultaneously. This category describes a large open grassy area that can be arranged in any manner of configurations for any number of field sports. Minimum field size is 224’ x 468’ (75 x 156 yards). Possible sports may include, but are not limited to: soccer, football, lacrosse, rugby, and field hockey. Field may have goals and lining specific to a certain sport that may change with permitted use. Neighborhood or community component
MP Field, Complex	MP Field, Complex - Several fields in single location used for tournaments

Multiuse Court	Multiuse Court - A paved area that is painted with games such as hopscotch, 4 square, basketball, etc. Often found in school yards. Note the quantity of basketball hoops in comment section.
Natural Area	Natural area – Describes an area in a park that contains plants and landforms that are remnants of or replicate undisturbed native areas of the local ecology. Can include grasslands, woodlands and wetlands.
Nordic/Ski Area	Designated area specifically for skiiing, cross-country, or other winter sports.
Open Turf	Open Turf – A grassy area that is not suitable for programmed field sports due to size, slope, location or physical obstructions. Primary uses include walking, picnicking, Frisbee, and other informal play and uses that require an open grassy area.
Open Water	Open Water – A body of water such as a pond, stream, river, wetland with open water, lake, or reservoir.
Other-Active	Active component that does not fall under any other component definition. If passive, consider passive node.
Passive Node	Passive Node - A place that is designed to create a pause or special focus within a park, includes seating areas, passive areas, plazas, overlooks, etc.
Picnic Grounds	Picnic Grounds - A designated area with several, separate picnic tables.
Playground, Destination	Playground - Destination – Playground that serves as a destination for families from the entire community, has restrooms and parking on-site. May include special features like a climbing wall, spray feature, or adventure play.
Playground, Local	Playground - local–Playground that is intended to serve the needs of the surrounding neighborhood. Generally doesn't have restrooms or on-site parking.
Public Art	Public Art – Any art installation on public property.
Racquetball	Racquetball – Outdoor courts designed for racquetball.
Restroom	Restroom - A separate structure that may or may not have plumbing. Does not receive a neighborhood or community score. This is scored in the Comfort and Convenience section.
Ropes Course	Ropes Course - An area designed for rope climbing, swinging, etc.
Shelter, Group	Shelter – Large/Group– A shade shelter with picnic tables, large enough to accommodate a group picnic or other event for at least 25 persons with seating for a minimum of 12.
Shelter, Shade	Shelter – Shade– A shade shelter with seating but without picnic tables. Seating up to 4 people.
Shelter	Shelter – Small/Individual– A shade shelter with picnic tables, large enough to accommodate a family picnic or other event for approximately 4-12 persons with seating for a minimum of 4 .
Shooting Range	Shooting Range– A designated area for practice and competitive firearms shooting activities. Meets safety requirements and has appropriate targets and shelters.
Shuffleboard	Shuffleboard - Outdoor courts designed for shuffleboard.
Skate Feature	Skate Feature – A stand-alone feature in a park. May be associated with a playground but is not considered a part of it.
Skate Park	Skate park – An area set aside specifically for skateboarding, in-line skating, or free-style biking. May be specific to one user group or allow for several user types. Can accommodate multiple users of varying abilities. Usually has a variety of concrete features and has a community draw.
Sledding Hill	Sledding Hill - An area designated for sledding use that is free from obstacles or street encroachment.
Structure	Structure - A separate structure used for maintenance, storage, etc. Does not receive a Neighborhood or Community score.
Tennis	Tennis courts –One regulation court that is fenced and has nets.
Tennis Complex	Tennis Complex –Regulation courts that are fenced and have nets. Placed in a group of 8 or more courts.
Track, Competition	Track, competition – A multi-lane, regulation sized track appropriate for competitive track and field events and available for public use. Community component.
Trails, Primitive	Trails - primitive– Trails, unpaved, that is located within a park or natural area. That provides recreational opportunities or connections to users. Measured per each if quantity available.
Trails, Multi-use	Trails-multi-use– Trails, paved or unpaved, that are separated from the road and provide recreational opportunities or connections to walkers, bikers, roller bladers and equestrian users. Located within a dedicated ROW. May run though a park or parks but is not wholly contained within a single park. Can be a component of a park if it goes beyond the park boundaries, or can be its own park type. Measured in miles.
Trailhead	Marker, post, sign or map indicating location, intersection, beginning or end of trail.
Volleyball	Volleyball court - One full-sized court. Surface may be grass, sand, or asphalt. May have permanent or portable posts and nets.
Water Feature	Water feature – A passive water-based amenity that provides a visual focal point. Includes fountains, and waterfalls
Water Access, Developed	Water Access - Developed - Includes docks, piers, boat ramps, fishing facilities, etc. Receives quantity for each pier, dock, etc.
Water Access, General	Water Access - General - Measures a pedestrian's general ability to have contact or an experience with the water. Usually receives quantity of one for each park.

Composite-Values Level of Service Analysis Methodology

Analysis of the existing parks, open space, trails, and recreation systems are often conducted in order to try and determine how the systems are serving the public. A Level of Service (LOS) has been typically defined in parks and recreation master plans as the capaTown of the various components and facilities that make up the system to meet the needs of the public. This is often expressed in terms of the size or quantity of a given facility per unit of population.

Brief History of Level of Service Analysis

In order to help standardize parks and recreation planning, universities, agencies and parks and recreation professionals have long been looking for ways to benchmark and provide "national standards" for how much acreage, how many ballfields, pools, playgrounds, etc., a community *should* have. In 1906, the fledgling "Playground Association of America" called for playground space equal to 30 square feet per child. In the 1970's and early 1980s, the first detailed published works on these topics began emerging (Gold, 1973, Lancaster, 1983). In time "rule of thumb" ratios emerged with 10 acres of parklands per thousand population becoming the most widely accepted norm. Other normative guides also have been cited as "traditional standards," but have been less widely accepted. In 1983, Roger Lancaster compiled a book called, "Recreation, Park and Open Space Standards and Guidelines," that was published by the National Park and Recreation Association (NRPA). In this publication, Mr. Lancaster centered on a recommendation "that a park system, at minimum, be composed of a core system of parklands, with a total of 6.25 to 10.5 acres of developed open space per 1,000 population (Lancaster, 1983, p. 56). The guidelines went further to make recommendations regarding an appropriate mix of park types, sizes, service areas, and acreages, and standards regarding the number of available recreational facilities per thousand population. While the book was published by NRPA and the table of standards became widely known as "the NRPA standards," these standards were never formally adopted for use by NRPA.

Since that time, various publications have updated and expanded upon possible "standards," several of which have been published by NRPA. Many of these publications did benchmarking and other normative research to try and determine what an "average LOS" should be. It is important to note that NRPA and the prestigious American Academy for Park and Recreation Administration, as organizations, have focused in recent years on accreditation standards for agencies, which are less directed towards outputs, outcomes and performance, and more on planning, organizational structure, and management processes. In essence, the popularly referred to "NRPA standards" for LOS, as such, do not exist. The following table gives some of the more commonly used capaTown "standards" today.

Commonly Referenced LOS Capacity "Standards"

Activity/ Facility	Recommended Space Requirements	Service Radius and Location Notes	Number of Units per Population
Baseball Official Little League	3.0 to 3.85 acre minimum 1.2 acre minimum	¼ to ½ mile Unlighted part of neighborhood complex; lighted fields part of community complex	1 per 5,000; lighted 1 per 30,000
Basketball Youth High school	2,400 – 3,036 vs. 5,040 – 7,280 s.f.	¼ to ½ mile Usually in school, recreation center or church facility; safe walking or bike access; outdoor courts in neighborhood and community parks, plus active recreation areas in other park settings	1 per 5,000
Football	Minimum 1.5 acres	15 – 30 minute travel time Usually part of sports complex in community park or adjacent to school	1 per 20,000
Soccer	1.7 to 2.1 acres	1 to 2 miles Youth soccer on smaller fields adjacent to larger soccer fields or neighborhood parks	1 per 10,000
Softball	1.5 to 2.0 acres	¼ to ½ mile May also be used for youth baseball	1 per 5,000 (if also used for youth baseball)
Swimming Pools	Varies on size of pool & amenities; usually ½ to 2-acre site	15 – 30 minutes travel time Pools for general community use should be planned for teaching, competitive & recreational purposes with enough depth (3.4m) to accommodate 1m to 3m diving boards; located in community park or school site	1 per 20,000 (pools should accommodate 3% to 5% of total population at a time)
Tennis	Minimum of 7,200 s.f. single court area (2 acres per complex	¼ to ½ mile Best in groups of 2 to 4 courts; located in neighborhood community park or near school site	1 court per 2,000
Volleyball	Minimum 4,000 s.f.	½ to 1 mile Usually in school, recreation center or church facility; safe walking or bike access; outdoor courts in neighborhood and community parks, plus active recreation areas in other park settings	1 court per 5,000
Total land Acreage		Various types of parks - mini, neighborhood, community, regional, conservation, etc.	10 acres per 1,000

Sources:

David N. Ammons, Municipal Benchmarks - Assessing Local Performance and Establishing Community Standards, 2nd Ed., 2002

Roger A. Lancaster (Ed.), *Recreation, Park and Open Space Standards and Guidelines* (Alexandria, VA: National Recreation and Park Association, 1983), pp. 56-57.

James D. Mertes and James R. Hall, *Park, Recreation, Open Space and Greenways* Guidelines, (Alexandria, VA: National Recreation and Park Association, 1996), pp. 94-103.

In conducting planning work, it is key to realize that the above standards can be valuable when referenced as "norms" for capacity, but not necessarily as the target standards for which a community should strive. Each community is different and there are many varying factors which are not addressed by the standards above. For example:

- Does "developed acreage" include golf courses? What about indoor and passive facilities?
- What are the standards for skateparks? Ice Arenas? Public Art? Etc.?
- What if it's an urban land-locked community? What if it's a small town surrounded by open Federal lands?
- What about quality and condition? What if there's a bunch of ballfields, but they haven't been maintained in the last ten years?
- And many other questions….

GRASP® (Geo-Referenced Amenities Standards Program)

In order to address these and other relevant questions, a new methodology for determining Level of Service was developed. It is called a **composite-values methodology** and has been applied in communities across the nation in recent years to provide a better way of measuring and portraying the service provided by parks and recreation systems. Primary research and development on this methodology was funded jointly by GreenPlay, LLC, a management consulting firm for parks, open space and related agencies, Design Concepts, a landscape architecture and planning firm, and Geowest, a spatial information management firm. The trademarked name for the composite-values methodology process that these three firms use is called **GRASP® (Geo-Referenced Amenities Standards Program).** For this methodology, capacity is only part of the LOS equation. Other factors are brought into consideration, including *quality*, *condition*, *location*, *comfort*, *convenience*, and *ambience*.

To do this, parks, trails, recreation, and open space are looked at as part of an overall infrastructure for a community made up of various components, such as playgrounds, multi-purpose fields, passive areas, etc. The ways in which the characteristics listed above affect the amount of service provided by the components of the system are explained in the following text.

Quality – The service provided by anything, whether it is a playground, soccer field, or swimming pool is determined in part by its quality. A playground with a variety of features, such as climbers, slides, and swings provides a higher degree of service than one with nothing but an old teeter-totter and some "monkey-bars."

Condition – The condition of a component within the park system also affects the amount of service it provides. A playground in disrepair with unsafe equipment does not offer the same service as one in good condition. Similarly, a soccer field with a smooth surface of well-maintained grass certainly offers a higher degree of service than one that is full of weeds, ruts, and other hazards.

Location – To be served by something, you need to be able to get to it. The typical park playground is of more service to people who live within easy reach of it than it is to someone living all the way across town. Therefore, service is dependent upon proximity and access.

Comfort – The service provided by a component, such as a playground, is increased by having amenities such as shade, seating, and a restroom nearby. Comfort enhances the experience of using a component.

Convenience – Convenience encourages people to use a component, which increased the amount of service that it offers. Easy access and the availability of trash receptacles, bike rack, or nearby parking are examples of conveniences that enhance the service provided by a component.

Ambience – Simple observation will prove that people are drawn to places that "feel" good. This includes a sense of safety and security, as well as pleasant surroundings, attractive views, and a sense of place. A well-designed park is preferable to a poorly-designed one, and this enhances the degree of service provided by the components within it.

In this methodology, the geographic location of the component is also recorded. Capacity is still part of the LOS analysis (described below) and the quantity of each component is recorded as well.

The methodology uses comfort, convenience, and ambience as characteristics that are part of the context and setting of a component. They are not characteristics of the component itself, but when they exist in proximity to a component they enhance the value of the component.

By combining and analyzing the composite values of each component, it is possible to measure the service provided by a parks and recreation system from a variety of perspectives and for any given location. Typically this begins with a decision on **"relevant components**" for the analysis, collection of an accurate inventory of those components, analysis and then the results are presented in a series of maps and tables that make up the **GRASP®** analysis of the study area.

Making Justifiable Decisions

All of the data generated from the GRASP® evaluation is compiled into an electronic database that is then available and owned by the agency for use in a variety of ways. The database can help keep track of facilities and programs, and can be used to schedule services, maintenance, and the replacement of components. In addition to determining LOS, it can be used to project long-term capital and life-cycle costing needs. All portions of the information are in standard available software and can be produced in a variety of ways for future planning or sharing with the public.

It is important to note that the GRASP® methodology provides not only accurate LOS and facility inventory information, but also works with and integrates with other tools to help agencies make decisions. It is relatively easy to maintain, updatable, and creates easily understood graphic depictions of issues. Combined with a needs assessment, public and staff involvement, program and financial assessment, GRASP® allows an agency to defensibly make recommendations on priorities for ongoing resource allocations along with capital and operational funding.

GRASP® Inventory Compilation and Scoring Process

Adjusted Modifier Score

Ultimately, modifier scores are normalized to create one score to represent the overall effect of the comfort and convenience features on the site. Similar to the component scoring system the scale for the adjusted modifiers is 1.1 (BE), 1.2 (ME), 1.3 (EE), and at a site with no modifiers the value of the components is neither increased nor decreased. To determine the range that defines high, medium, and low, the total of all modifier scores is calculated. The range of totals in the community is then divided into three groups and given an adjusted score based on where it falls in the range of scores, thus scores of 1 to 7 = 1.1, 8 to 14 = 1.2, and 15 to 21 = 1.3.

Composite GRASP® Score

Finally, the final Composite GRASP® score for each component is determined by using the following formula:

(total component score) * (adjusted modifier score) * (design and ambiance score) * (ownership modifier) =
Composite GRASP® score

GRASP® Threshold Calculation

GRASP® perspectives show the cumulative level of service available to a resident at any given location in the City. It is a blended value based on the number and quality of opportunities to enjoy a recreation experience that exist in a reasonable proximity to the given location. A reasonable goal would be to offer a selection of active and passive recreation opportunities to every residence, along with access to a recreational trail.

Computed Base Score

Based on the wide variety of parks provided by AHPD using the calculated average GRASP® score of all parks determined the threshold score for the system. Four facilities representative of this variety were identified as “typical level of service” across the system. The following table shows this calculation and the four facilities highlighted with overall GRASP® score of ***19.2.***

LOCATION	Raw Score	Walkable Premium	GRASP® Score
Lake Arlington	118.8	2	237.6
Camelot Park	98.4	2	196.8
Heritage Park	84	2	168
Frontier Park	76.8	2	153.6
Centennial Park	67.2	2	134.4
Pioneer Park	64.8	2	129.6
Recreation Park	63.6	2	127.2
Sunset Meadows	62.4	2	124.8
Hasbrook Park	52.8	2	105.6
Melas Sports Complex	51.6	2	103.2
Creekside Park	48	2	96
Olympic Park	48	2	96
Raven Park	45.6	2	91.2
Patriots Park	40.8	2	81.6
Lake Terramere Park	39.6	2	79.2
Carefree Park	36	2	72
Greenbrier Connector Parkway	35.2	2	70.4
North School Park	33.6	2	67.2
Flentie Park	31.2	2	62.4
Wildwood Park	28.8	2	57.6
Volz Park	28.6	2	57.2
Rand Berkley Park	26.4	2	52.8
Prairie Park	24	2	48
Melas Park	24	2	48
Nickol Knoll Park	24	2	48
Willow Park	22	2	44
Dryden Park	22	2	44
Klehm Park	22	2	44
Green Slopes Park	22	2	44
Forest View Racquet & Fitness	19.8	2	39.6
Evergreen Park	19.2	2	38.4
Carousel Park	19.2	2	38.4
Historical Museum	19.2	2	38.4
Victory Park	19.2	2	38.4
Berbecker Park	17.6	2	35.2
Greens Park	17.6	2	35.2
Shaag Park	17.6	2	35.2
Harmony Park	17.6	2	35.2
Carriage Walk Park	17.6	2	35.2
Memorial Park	17.6	2	35.2
Hickory Meadows Park	17.6	2	35.2
Virginia Terrace Park	17.6	2	35.2
Sunset Ridge Park	15.4	2	30.8
Cronin Park	14.4	2	28.8
Windsor Parkway Triangles	13.2	2	26.4
Happiness Park	13.2	2	26.4
Falcon Park	13.2	2	26.4
Camelot Connector Parkway	13.2	2	26.4
Banta Park	13.2	2	26.4
Festival Park	13.2	2	26.4
Arlington Lakes Golf Course	9.6	2	19.2
McDonald Creek Parkway	8.8	2	17.6
Methodist Park	8.8	2	17.6
Westgate Park	8.8	2	17.6
Rose Garden	8.8	2	17.6
Hersey High School Stadium	8.25	2	16.5
Cypress Park	6.6	2	13.2
Kingsbridge Park	4.4	2	8.8
Scarsdale Islands	4.4	2	8.8
Rand Connector Parkway	2.2	2	4.4
Average of All Park Scores			39

Because the ability to walk to components makes them more available, and is a desirable condition, GRASP® places a premium on their scores for the area within walking distance. On each Perspective, the Base Score is doubled within an approximate 15-minute walk. Barriers that restrict walking have also been taken into account, by cutting off the double-score value around the component at the barrier.) When the score is doubled, the desired GRASP® score is therefore **38.4** for any given residential location, assuming that the basic set of components and other conditions described above have been met. This is the threshold score for access to all components offered by the park infrastructure.

GRASP® Level of Service and Determining Community Expectations

When preparing GRASP® perspectives or summary tables using the GRASP® scores, the actual scores are grouped according to whether the scores are below the threshold minimum score or above the threshold minimum score. GRASP® score breaks are determined based upon what type of components are represented in each perspective and show how areas meet expectations.

Neighborhood & Walkability

It is assumed that there is a point at which the number or quality of recreation components falls below threshold minimum score. Likewise, when a resident receives service from a certain number or quality of components, that level of service exceeds the threshold minimum score of the community.

The threshold score is determined as when a resident has a score which represents access to the **equivalent** of a park and a trail receiving the **base scores (see above explanations)** within 1/2 miles of their home (*Walkability Factor*). The score that equates to this condition is **38.4.**

Score translation
Threshold score = 38.4

Step1:
Typical "Neighborhood Park" or facility= Base Score ***(19.2)***

Step2:
*Base Score (**19.2**) x Walkability Factor (**2**) = **38.4***

Composite and walkability perspectives and summary tables use the following breaks:
>0 but <38.4 = below threshold minimum score
38.4 or greater = meets threshold minimum score