



## Healthy Communities Research Group Surveillance and Management Project

### Recommendations and Warrant from Year One Action Plan Summary for Year Two April 2014



## Table of Contents

<b>I. Executive Summary – Year One Report and Action Plan for Year Two .....</b>	<b>1</b>
<b>II. Introduction.....</b>	<b>3</b>
A. Background of the Healthy Communities Surveillance and Management Project .....	3
B. Summary Overview of Year One Project Methodology and Schedule .....	4
<b>III. Liberty HCRG Priorities for Year Two .....</b>	<b>5</b>
<b>IV. Implementation and Evaluation – The Year Two Action Plan.....</b>	<b>15</b>
<b>V. Summary of February 2014 Site Visit.....</b>	<b>19</b>

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# I. Executive Summary – Year One Report and Action Plan for Year Two

In 2013, **Liberty Parks and Recreation Department (LPRD)** and key strategic partners in the City and community, including the **Clay County Public Health Department, Liberty Public Schools, and Liberty Hospital**, elected to work with GP RED's Healthy Communities Research Group (HCRG) to participate as a **Beta Site** to test the ***Healthy Communities Surveillance and Management Toolkit***. The purpose of this project is to analyze, document, and evaluate five elements related to the repositioning of parks and recreation as a primary community public health provider:

- **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 March 2013 through October 2013, information was collected through a process that included many staff and stakeholder meetings. Templates were created and used to compile digital data. From an analysis of these elements, the project moved to creation of a systems portfolio, development of strategic concepts for improvement, and future modeling for the purposes of articulation, prioritization, management, and surveillance of outcomes over time.

“Findings and Visioning Sessions” were held in October 2013 with staff and stakeholders to review the collected information and key findings from the work in Year One, and to determine priorities for moving forward in Year Two. A common Purpose Statement and Goals later emerged through the creation of the ***Liberty Community Health Action Team (L-CHAT)***:

***The Liberty Community Health Action Team, or L-CHAT, is committed to transforming Liberty today toward a healthy, active, connected community tomorrow!***

***L-CHAT will examine and monitor youth activity providers, policies, funding allocation, assets, and affordances. Through the development of the action plan, L-CHAT will focus on:***

- Improving daily nutritional regimen
- Increasing levels of physical activities
- Increasing tolerance & inclusion of all

***Periodic progress and outcome reports will be made to participants, partners, and citizens of Liberty.***

The Priorities emerged into an **Action Plan** for Year Two under general **Themes** with specific actions, outcomes, responsibilities, timeline, and funding impacts. A **Warrant for Agency Action** will be completed and finalized within the first few months of Year Two.

**The Primary Action Themes for Year Two for L-CHAT are:**

1. Improve the availability of programs and services by partners and other agencies for youth aged 10-14.
2. Develop shared City and School District goals for youth that increase healthy food options and availability and enhance physical education and activities during the day. Collect data to build a strong evidence base.
3. Address walkability and connectivity opportunities to provide safe alternative transportation routes through policy and environmental changes.
4. Advocate for funding to implement upgrades to facilities and enhancements to the parks and trails, including more shade trees and structures, and non-organized, non-competitive activities and programming that appeals to families and youth.
5. Identify strategies to increase healthy food vendors through policies, economic development incentives, mobile food vendor regulations and promotion, and encouragement of farmer's markets and community gardens.
6. Focus on increasing community-based input on this project from families and youth in Liberty.
7. Explore positive policy development within the City of Liberty, the Liberty School District, and through alternative providers in the community.
8. Explore public campaigns to encourage reduced screen time for youth, while encouraging them to get outdoors for physical activity, relaxation, and education.
9. Continue to test, validate, monitor, evaluate, and improve L-CHAT, and the Surveillance and Management Toolkit.

Each of the above themes requires strategies involving the community, project stakeholders, and the media. GP RED will work closely with the L-CHAT to develop detailed implementation strategies and timelines for moving forward in Year Two, and will work collaboratively with the L-CHAT to introduce the themes to the community and stakeholders during our site visits in Liberty.

*Note that this project is a three-year project. Year One is primarily for identifying and convening stakeholders, data collection and research, and initial findings compilation; identifying gaps in available information; and developing initial recommendations, modeling scenarios, and action strategies. Years Two and Three will continue to create and validate additional data collection strategies, provide additional training for staff, test the modeling scenarios, and evaluate the performance from the implemented strategies.*

In Year Two, the HCRG will work with staff and partnering collaborators to determine the following:

- a. Continue to expand and support the L-CHAT and its charter to ensure full engagement across the municipality, along with its sustainability over time.
- b. Assistance in focusing the strategic planning efforts on prioritized efforts versus trying to be all things in a short period of time.
- c. Training on how to use systems thinking and modeling to measure impact, manage in real time, and increase effectiveness and efficiencies.
- d. Utilization of information, including implementing the youth survey and pertinent indicators, to influence policies relevant to children and youth.

The following pages provide an overview of the project, more detail on the priorities, and the **Action Plan**.

## II. Introduction

Childhood obesity is a serious, growing epidemic, cutting across all categories of race, ethnicity, family income, and locale. Obesity rates have tripled in the past 30 years – a trend that means that for the first time in our history, American children may face a shorter expected lifespan than their parents. Additionally, the U.S. spends \$150 billion every year to treat obesity-related conditions, with childhood health care costs rapidly increasing that number.

Researchers have estimated that 17 percent of children and adolescents ages 2 to 9 are obese, and that 31.7 percent are overweight. This translates to more than 12 million children and adolescents who are obese, and more than 23 million who are overweight.

Alarming, the obesity problem is starting at an even earlier age, with researchers estimating that 21.2 percent of children ages 2 to 5 are already obese or overweight, a percentage that has more than doubled during the past three decades. The obesity rate for children ages 6 to 11 has more than quadrupled (from 4.2 to 19.6 percent), and it has tripled for adolescents ages 12 to 19 (from 4.6 to 18.1 percent) over the past four decades.

### A. Background of the Healthy Communities Surveillance and Management Project

Since 2009, the **Healthy Communities Research Group** (GP RED and Indiana University Bloomington, along with Indiana Parks and Recreation Association, the Bloomington Parks and Recreation Department, GreenPlay, Design Concepts, and Beta Site communities) has been working together to develop and test the **Healthy Communities Surveillance and Management Project**. The project targets the community aspects that influence obesity and active living. The initial “alpha project,” in Bloomington, Indiana, was successful, and 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 in the future.

#### What is the Project About?

The Healthy Communities 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 community public health provider:

- **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?

#### 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.

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.

We are pleased to be working with the project team in Liberty, including the Liberty Parks and Recreation Department, Clay County Public Health, Liberty Public Schools, Liberty Hospital, and its partners. For this Beta Site project, we are focusing on youth in the community, **ages 10-14**. The methodology is transferable to all age groups, but we feel that this is the time of life in which we can evoke the greatest level of change, and there was a need to pick a measurable target age group to test the process and Toolkit. This is when youth are just starting to look outside parental guidance to make their own decisions, and are becoming more aware of their environment, options, and choices. If we can create opportunities and an environment that promotes good lifestyle choices and activity, we can contribute to their likelihood of increased movement, and therefore, reduced incidence of obesity.

## B. Summary Overview of Year One Project Methodology and Schedule

Project Tasks & Milestones	Dates
Initial Planning Meetings with Staff and Stakeholders	Mar 12-13, 2013
Data collection and research	March – December, 2013
Staff and Stakeholder initial trainings and information gathering meetings, MAUT exercise	June 23-25, 2013
Presentation of Summary Findings, Trainings, and Visioning Sessions with Staff and Stakeholders	October 15-16, 2013
Drafting of Year One Recommendations, Impact Simulation, and Stella Modeling	November – February 2014
Year One Report of Project to Staff and Stakeholders	April, 2014

Details of each of these steps can be found in the following sections.

The full project is also a continuing test, validation, and refinement of Beta testing of ***The HCRG “Surveillance and Management Toolkit.”***



### III. Liberty HCRG Priorities for Year Two

The following list is a summary of the key findings identified and discussed during the Findings and Visioning Sessions for Year One in October 2013. For more detail, please review the **Findings Report** provided to the Liberty Team. In order to affect positive change, increase active living benefits, and reduce obesity for youth in Liberty, the Liberty Parks and Recreation Department and other stakeholders (now **L-CHAT**) need to work with the community and stakeholders to achieve the following.

#### 1. Improve the availability of programs and services by partners and other agencies for youth aged 10-14

The project team from the City of Liberty, Clay County Public Health Center, Liberty School District, Liberty Hospital, and key stakeholders agreed that there should be an ongoing effort and initiative, and that currently, there is not an “umbrella organization” to lead this effort. One key element is that this is not an initiative only for the LPRD, but one that also includes the many other governmental, private, non-profit, and faith-based organizations within the City working together to fulfill the following purpose and goals for the initiative. Key conclusions from the Assets and Affordances Analysis that further articulate this priority are included later in the report.

- a. Initiate and utilize the Liberty Community Health Action Team’s (L-CHAT) Purpose and Mission:

***The Liberty Community Health Action Team, or L-CHAT, is committed to transforming Liberty today toward a healthy, active, connected community tomorrow!***

***L-CHAT will examine and monitor youth activity providers, policies, funding allocation, assets, and affordances. Through the development of the action plan, L-CHAT will focus on:***

- Improving daily nutritional regimen
- Increasing levels of physical activities
- Increasing tolerance & inclusion of all

***Periodic progress and outcome reports will be made to participants, partners, and citizens of Liberty.***

## **2. Develop shared City and School District goals for youth that increase healthy food options and availability, and enhance physical education and activities during the day, and collect data to build a strong evidence base**

Year One work revealed that there are gaps in available information, especially pertaining to specific information on Liberty youth. In 2014, the Healthy Communities initiative will have the opportunity to study the use of “after school time” over a three-year period. Studying the use of after school time by 10-14 year old youth should provide the community and the GPRED Research Group the opportunity to study how youth use their after school time. Findings from this study in each of the three years will provide important insight to measure factors necessary to address the increasing numbers of youth who default to a sedentary lifestyle, become solitary, and are at risk of becoming overweight, obese, or morbidly obese. In order to determine which programs, services, and facilities would reengage youth, there should be an ongoing collaborative effort among community partners. This effort is anchored in the responsibility for establishing consistent, positive policies, evidence based practices that create and sustain engagement by youth, and surveillance of critical factors that result in lowering dropout rates, increasing retention rates, and creating positive, personal youth experiences.

In order to address these gaps, the youth survey will collect the following information:

- What do they do?
- What do they need? – Most important assets and affordances
- What is their mode of transportation? – How far can they walk/bike alone?
- Why are they not more active now?
- What are the cost/access issues?
- What is their current height/weight/age (baseline BMI data)?
- What is their perception of safety – causes/issues?

A key recommendation also emerged to address stronger school wellness policies to encourage healthy eating and active living. Additional information that the Liberty team should consider in the near future includes the following:

- Set-up financial templates to collect youth program data separately
- Continue to collect full partner/collaborators/other providers lists
- Conduct intercept surveying of youth at various locations within Liberty to estimate usage data

## **3. Address walkability and connectivity opportunities to provide safe alternative transportation routes through policy and environmental changes**

The findings show that walkable access to assets and programs are a challenge in many parts of the City. The assets inventory and analysis concluded that there are many viable trails and open spaces held under the jurisdiction of private homeowners associations throughout Liberty that may serve as valuable connections. Options such as a City-wide Complete Streets policy with supportive procedures to implement new street designs, a revision to the Unified Development Ordinance to articulate goals for increasing walkability and bikeability throughout the City, and other low-hanging fruit will set a new direction and tone for increasing accessibility for youth to the recreational facilities and programs available in Liberty.

#### **4. Advocate for funding to implement upgrades to facilities and enhancements to the parks and trails, including more shade trees and structures, and non-organized, non-competitive activities and programming that appeals to families and youth**

Community and stakeholder input suggests that various assets and affordances within Liberty would benefit from additional funding to facilitate these upgrades. It is recommended that the project team work with the City to examine and prioritize funding within the CIP budget, and investigate other funding sources for these improvements.

#### **5. Identify strategies to increase healthy food vendors through policies, economic development incentives, mobile food vendor regulations and promotion, and encouragement of farmer's markets and community gardens**

Availability of nutritious food options is a key factor for this study. One observation that was repeatedly voiced during the stakeholder meetings is the over-abundance of fast-food chains in Liberty, along with a lack of healthy food options. There is an opportunity for the City and project partners to consider developing guidelines, within their organizations and community-wide, related to food availability, vending machine policies, community gardens, and food brought in for internal events or meetings.

#### **6. Focus on increasing community-based input on this project from families and youth in Liberty**

Obtaining information to make informed and evidence-based decisions – in an age of information explosion, it is essential to secure data that informs and engages managers, service providers, and partners of needs, best practices, outcomes, and impact of the services provided to community residents. There has been a notable lack of community-based input on the project from families and youth in Liberty, and it is recommended that the project team explore new and innovative approaches to bring residents and stakeholders to the table in the coming years of the project.

There are a variety of channels for creating better awareness and communicating. Some of them include:

- a. Get parents involved and educated
- b. Ongoing organized work with partners and collaborators:
  - i. Assign L-CHAT Liaison and Outreach Coordinator
  - ii. Compile and manage master list of all organizations working with this age group
  - iii. Offer to collaborate for purpose – umbrella lead agency
  - iv. Reciprocal listings of programs and missions
  - v. Training of registration/programmers on availability
  - vi. Quarterly public meetings to discuss potential alliances
  - vii. Request specific liaisons from partnering agencies (public health, police, schools, partners)
- c. Utilize national tactics: Let's Move – active families/[www.livewell.org](http://www.livewell.org)/other cities
- d. Change perception of overweight youth – create a realistic view of healthy BMI and utilize and convey healthy youth BMI guidelines
- e. Initiate a "Prescription to Play" program with physicians/hospitals

## 7. Explore positive policy development within the City of Liberty, the Liberty School District and through alternative providers in the community

At the core of planning, management, and decision making are positive policies that create an agency and community climate directed at individual and collective wellness, improved service levels, direct understanding of their impact on personal health, and overall contribution to the “healthy community” as measured by selected indicators. Current policies and practices in many communities across the United States do not focus on creating positive and nurturing environment for youth. Current practices focus on punitive approaches to maintaining order, civility, rules, regulations, and requirements. The examination and reconstruction of current policies is crucial to creating a positive place/environment where youth have positive guest experiences. Since there are no Parks and Recreation Department policies relating to character building, LPRD, Liberty School District, and alternative providers are recommended to explore developing these policies.

## 8. Explore public campaigns to encourage reduced screen time for youth, while encouraging them to get outdoors for physical activity, relaxation, and education

The measure of a healthy community should be directed at outcomes that are aimed at increasing the physical, emotional, intellectual, cultural, and social capacities of the target population. It is recommended that project stakeholders examine methods to address the continuum of options that will support healthy development of youth in Liberty, including increasing media coverage and PR campaigns.

### ***Key Conclusions from the Affordances Analysis***

*The affordances Perspectives suggest two guiding principles to follow in order to enhance service for the target age group in Liberty. First, if transportation is not an issue, adding new locations for the provision of affordances is not necessary. Service coverage is already at 100 percent for the study area. In that case, adding programs at existing locations (if capacity at those locations allows) would be as effective as adding new locations, unless there was a specific localized need to address somewhere in the community. However, if independent access (i.e. walking, biking, public transit, etc.) is a goal, then it is more important to extend service coverage by adding new locations for affordances than it is to just add affordances at existing locations. **Some combination of new locations and new programs is the likely solution, and the analyses detailed in the Year One Findings report can help decide where to add new affordances and locations.***

Some elements that will help create awareness and availability of programs include:

- a. More targeted educational programs for youth
- b. Identification of enhanced programming for youth in walkable or bikeable locations
- c. Working with partners to offer more programs at more locations
- d. Teaching goal setting/identification of healthy weight/healthy nutrition in all youth programs
- e. Incorporating “Activity for Life” concepts
- f. Creating “Active Families” – including more programs and events for families
- g. Partnering with community gardens to educate and distribute produce
- h. Ongoing management of the affordances data set

### **Key Conclusions: Assets**

*A key conclusion from the Asset Perspectives is that proximity and transportation are significant factors in the provision of service, especially for the target population. Within the City of Liberty, the provision of assets is reasonably distributed but is not always within walking distance. This is reasonable if everyone has equitable and adequate access to motorized transportation. However, because more than half of the target population lives outside of the City of Liberty, proximity to recreation opportunities are fewer and more likely provided by alternative providers. Access for these population assets is therefore more difficult and automobile dependent. One way to increase overall LOS is to add assets where there are concentrations of 10-14-year-olds who happen to be outside of the City. However, a more realistic approach is to increase partnerships for service in areas where localized population density is high but service is low. This situation is most likely to occur in the Northwest and West subdivisions, but may occur elsewhere as well. Further analysis along with a review of the information received from surveys, focus groups, and other sources may be needed to help identify these locations.*

### **Going into Year Two, the primary opportunities include:**

- a. Meeting with key stakeholders (planning, bike groups, trail groups, walkers, parents, youth, etc.) to identify known connectivity trouble areas for sidewalks/crossings and trails.
- b. Utilize a higher level of detail within the community to identify where deficiencies exist in specific assets most important to youth that have significant accessibility gaps by walking or biking.
- c. Ongoing management of assets data set.

## **9. Continue to test, validate, monitor, evaluate, and improve L-CHAT, and the Surveillance and Management Toolkit**

LPRD has been incredibly successful engaging other partners, stakeholders, and agencies in a campaign to reduce youth obesity through Year One and the L-CHAT. In this regard, the primary recommendation is to continue ongoing meetings of representative stakeholders from various levels of government, business, and non-governmental agencies. L-CHAT should continue to engage in the process of priority setting using a format that produces metrics that prioritize selected factors and their indicators for increasing physical activity and healthy living among children and youth in Liberty to reduce levels of obesity.

### **Stella® Modeling**

This Beta Site project is being used to create, test, and validate the potential use of systems thinking and management tactics (Stella® 9.1). The software program is employed to provide stakeholders, managers, and other policy makers to simulate the effects of collaborative efforts to strategically increase physical activity, nutritional behaviors, and positive social engagement in Liberty 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 several small modules be simulated and tested in Year Two. These will be developed with the L-CHAT 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.

The City of Liberty should implement strategies to address increasing dropout rates of 10-14-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. These “affordances” offer the opportunity to be physically active and socially engaged and to develop positive habits. The challenges to the parks and recreation agency, and the coalition of agencies interested in creating and sustaining a healthy community are as follows:

1. **Prepare a plan of action** to address core issues underlying the retention of children as they enter the five-year period (10-14 years of age). It is this period in their life where youth drop out, revert to a sedentary lifestyle, or default to electronic devices, potential use and abuse of prohibited substances, or affiliation with gangs.
2. **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 sport 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 turn 10-14 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 forms to occupy their discretionary time.
3. **Triangulating strategies in Liberty.** There appears to be a unique opportunity at the Liberty Beta site to advance a public schools, public health, and parks/recreation initiative of collaboration. Triangulating health data from public health and schools with geocoded Liberty assets and affordances and youth survey data should yield rich data, which can serve to support planning, resource allocation, and collaborative efforts to increase active living among youth.
4. **System analytics.** In order to comprehend which factors are influencing youth dropout rates, the City of Liberty, Liberty Public Schools, and its 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. Further, planning requires data from a variety of sources in order for managers and coalitions to make informed decisions. Systems analytics has 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 10-14 years of age from disengaging, defaulting to obesogenic behaviors, and regularly being reprimanded instead of experiencing positive environments, places, people, and service providers.

#### **Systems modeling for Liberty:**

##### ***Youth retention across multiple public agencies in addressing the obesity dilemma***

The Liberty community is uniquely positioned to meld together three 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 sport options that are often designed to idolize the few and dismiss the masses.

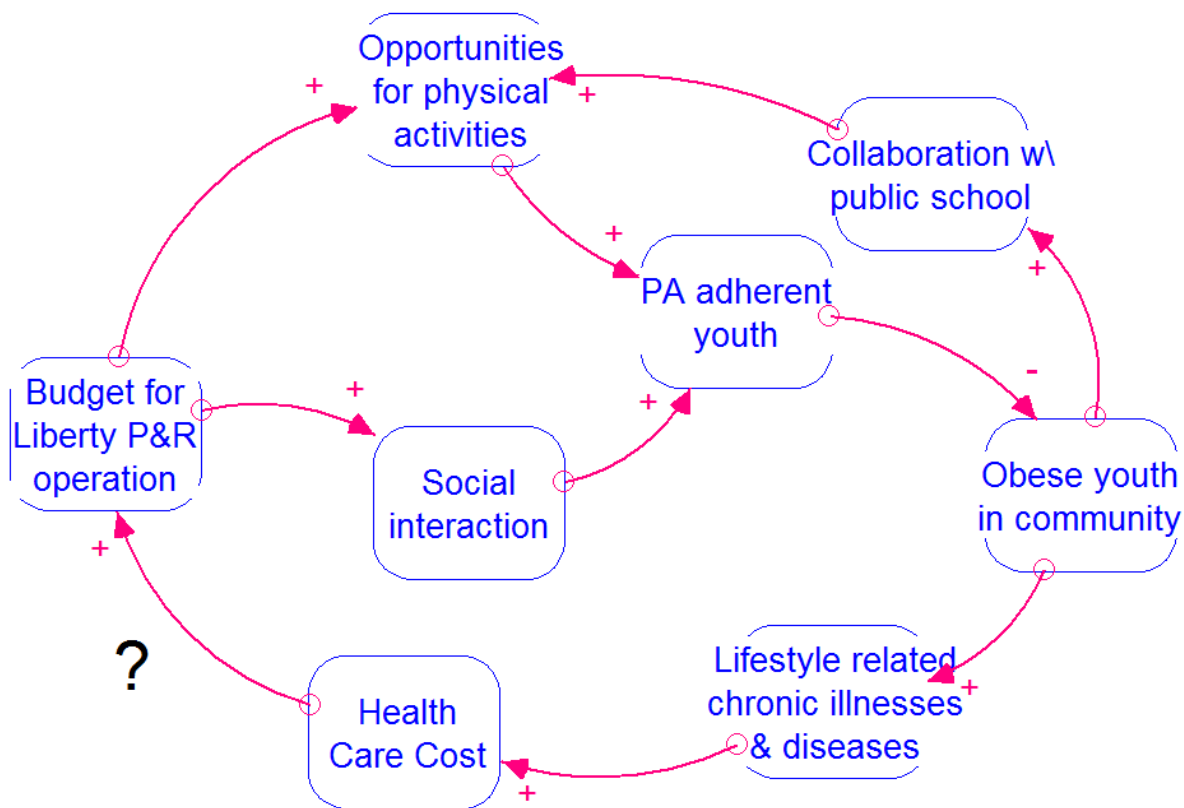
Of particular note is that children who are exposed to youth sports at an early age (3-5 years of age) drop out of competitive sport options by ages 9-10 years for a variety of reason (e.g.) skill set, cost of participating, parental structure, access to specialized facilities, etc. Once out of these “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 Liberty 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). These changes should include the following:

- **An examination of current policies internal to Liberty healthy communities participating agencies.** 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, participant is responsible for displaying positive behavior while engaged in an activity, place, program, or other form of participation.
- **Constructing and adopting positive policies and evidence-based practices** for select public facilities serving youth during after school time and weekends.
- **Training 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.
- **Determining a baseline of current youth participation in current program offerings.** The Liberty Parks and Recreation Department (LPRD) should also determine the number of youth actively involved in current offerings. In addition, the number of potential youth participants in Liberty should be determined and geocoded if possible.
- **Documenting youth participation through a records system** to determine the ebb and flow of weekly participation (e.g.) who, how often, what type of engagement.
- **Exit measurement of the youth’s experience** using a guest rating card or computer.
- **Deciding on what staff resources and financial costs incurred** to support the facility including membership fees, staff costs, etc.
- **Utilizing Liberty Middle School’s GPRED Youth After School Time Survey instrument** at the beginning and end of each season of program offerings (e.g.) fall, winter, spring, summer.



The following system model (See **Figure 1**) illustrates the essential modules to be included for ongoing analysis in Liberty.



**Figure 1. Liberty system model**

**A module is a group of critical factors that sustain causal relationships. The causal loop diagram in Figure 1 illustrates relationships between critical modules that may be included in the Liberty system model. Causal links (arrows) indicating which factor is influencing on another factor while two symbols inform either same (+) or opposite (-) directions of the influence.**

It is expected that opportunities for both physical and social activities among youth ages 10-14 years of age will increase by investing more operating funds of Liberty Parks and Recreation programs and services, which lead to an increase in the number of youth physical and social programs and activities during after school time.

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 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 (LRCD) 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 the trend of greater numbers of youth reaching adulthood and later life will be overweight, obese, or morbidly obese.



Accordingly, the financial burden of those people with LRCD 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.

At the center of this effort should be a *systems approach* to this complex public health issue. Liberty is well positioned to examine factors that are contributing to increasing dropout rates of 10-14-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.

***The Liberty systems model will be comprised of several modules illustrating: 1) Healthy and overweight population in the community, 2) Effect of community collaboration (Liberty schools, public health, coalition partners), 3) Influences of GRASP® scores on the effects of programs and services provided by the Liberty Parks and Recreation Department, and 4) the estimation of health care cost savings.***

***What outcomes will be derived from the system model?***

The system model will 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 by Liberty: 1) staff training in customer experience and retention strategies, and 2) the implementation of positive policies and evidence based practices. Over the course of the next three years, the following would be evident from data collected on 10-14-year-old youth, LPRD registration records, guest experience data from the centers, LPRD staff ratings of policy implementation, public health trends, school health records, etc. Recommendations for specific, targeted outcomes include the following:

1. The percent of youth 10-14 years of age living in the LPRD service area will increase participation in LPRD formal programs (consequential and non-consequential) in each season (Fall, Winter, Spring, and Summer).
2. The percent of youth 10-14 years of age living in the LPRD service area retained in LPRD formal programs (consequential and non-consequential) will increase in each of those offered seasonally by LPRD (Fall, Winter, Spring, and Summer).
3. Staff of selected recreation centers will demonstrate evidence based practices with youth and other guests. These practices will be measured by team member observation, self-analysis, and reporting. Youth and other customers, including parents, will complete exit surveys, intercept surveys, or other means to rate their daily experience.
4. Data from youth reports, guest experience forms, and staff reports will provide an ongoing data base to establish best practices. These data will be compared to participation rates and ratings of youth and other guest experience data.
5. Data from public health, school health, and health care providers with the consent of parents/guardians may be required to track height/weight during the period of study.

As is illustrated in the systems model (**Figure 1**), LPRD 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, LPRD 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 sport 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.

The bottom line is that utilizing a systems approach will afford the LPRD management team to make informed decisions relating to:

- Increasing 10-14-year-old youth participation in LPRD programs.
- Decreasing dropout rates for 10-14 year old youth in LPRD 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 Liberty Middle School's After School Youth Study to revise, create, and adopt interagency strategies that increase youth after school time habits (physical, social, nutritional, etc.).
- Documenting changes in health behavior of youth, their level of social engagement, rates of physical activity, and guest experience/brand loyalty to LPRD.
- Reducing the incidence/prevalence of youth obesity in Liberty.
- Assign metrics to cost savings (e.g.) LPRD agency specific, public health, etc. accrued for engaging and retaining youth in programs, services, and venues.

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 3-Year 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 2014. We ask that the Liberty 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.

## IV. Implementation and Evaluation – The Year Two Action Plan

Recommendations have been created for Year Two, including fully determining the Warrant for Agency Action. One critical and timely development is the launch of the youth survey, and the subsequent data will provide significant insight for progress in Year Two. The HCRG will work with staff and partnering collaborators to determine the following:

- a. Continue to expand and support the L-CHAT and its charter to ensure full engagement across the municipality, along with its sustainability over time.
- b. Assistance in focusing the strategic planning efforts on prioritized efforts versus trying to be all things in a short period of time.
- c. Training on how to use systems thinking and modeling to measure impact, manage in real time, and increase effectiveness and efficiencies.
- d. Utilization of information, including implementing the youth survey and pertinent indicators, to influence policies relevant to children and youth.

The HCRG will assist the L-CHAT in its implementation, surveillance of impact, and measurement of outcome achievement in years Two and Three. This will include ongoing updates the HCRG Surveillance and Management Toolkit with findings and involvement with other Beta Sites.

*As noted, this project is to help Liberty move forward in implementing the L-CHAT for reducing obesity for ages 10-14 in Liberty. It is also a Beta Test Project for the Healthy Communities Surveillance and Management Toolkit. Throughout the process, we are asking team members and staff from the Liberty project team to record thoughts and suggestions related to the process and outcomes, so that we may continue to validate and improve the experience and methods for use with other communities.*

### Action Plan

**As we move forward into Year Two, it is recommended that:**

- This project is a priority for the Liberty project team and that LPRD and collaborating partners move forward with Year Two Recommendations and the L-CHAT.
- L-CHAT works with Liberty Schools to help implement the Youth Survey through the HCRG and East Carolina University.
- The HCRG and L-CHAT complete the **Warrant for Agency Action** for Liberty, determined with L-CHAT input, including desired measurable outcomes, identification of responsibilities, funding impacts as known, and desired timeline.
- The HCRG will facilitate steps as needed, and provide additional reporting, evaluation, modeling, and ongoing assistance with specific tasks.
- The HCRG will incorporate Stella® Modeling scenarios for those steps that can be applicable.
- The HCRG will edit Templates and Toolkit for additional Beta Sites to improve the financial information collection template.

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## L-CHAT – Draft Action Plan for Year Two

*Transforming Liberty today toward a healthy, active, connected community tomorrow – What Actions Will be Initiated*

Sample Action	Measures/Outcomes	Responsibility	Funding	Timeline
Improve the availability of programs and services by partners and other agencies for youth aged 10-14.	Increased youth programs and services in Liberty through LPRD and alternative providers	LPRD, L-CHAT, GP RED	TBD	2-5 Years
Develop shared City and School District goals for youth that increase healthy food options and availability and enhance physical education and activities during the day, and collect data to build a strong evidence base.	Enhanced school wellness policies approved by the Liberty School District, new programs and policies implemented, GP RED updates data base with new information	LPRD, Liberty Schools, L-CHAT, GP RED	TBD	2-3 Years
Address walkability and connectivity opportunities to provide safe alternative transportation routes through policy and environmental changes.	Creation of policies that support walking/biking, changes identified and prioritized	LPRD, City, GP RED	TBD	1-2 Years
Advocate for funding to implement upgrades to facilities and enhancements to the parks and trails, including more shade trees and structures, and non-organized, non-competitive activities and programming that appeals to families and youth.	Creation of CIP funds that prioritize upgrades with specific timelines for implementation	LPRD, L-CHAT, GP RED	TBD	2-3 Years
Identify strategies to increase healthy food vendors through policies, economic development incentives, mobile food vendor regulations and promotion, and encouragement of farmer's markets and community gardens.	Targeted strategies identified, creation of policies, promotion and PR, media timelines targeted and implemented	LPRD, City, L-CHAT, GP RED	TBD	1-2 Years
Focus on increasing community-based input on this project from families and youth in Liberty.	Increased community participation in meetings, increased feedback, new members added to L-CHAT	L-CHAT, GP RED	TBD	1 Year (Continuous)
Explore positive policy development within the City of Liberty, the Liberty School District, and through alternative providers in the community.	Creation of positive policies at the City, School District, and with alternate providers	LPRD, Liberty Schools, L-CHAT, GP RED	TBD	1-2 Years
Explore public campaigns to encourage reduced screen time for youth, while encouraging them to get outdoors for physical activity, relaxation, and education.	Creation of public campaigns, increased media	L-CHAT, GP RED	TBD	2-3 Years
Continue to test, validate, monitor, evaluate, and improve L-CHAT, and the Surveillance and Management Toolkit.	Ongoing data shared through annual HCRG findings reports, annual reports	L-CHAT, GP RED	TBD	1-3 Years (Continuous)

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## V. Summary of February 2014 Site Visit

On February 11, 2014, GP RED staff and the L-CHAT group convened to discuss the Year One Report and the sample of suggested actions to be undertaken in Year Two. It was determined by the group that an effective strategy to prioritize the list would be to rank the actions among the group and choose the highest ranked actions as the first to develop SMART (an acronym for *specific, measurable, attainable, realistic, and timely*) goals with targeted metrics and defined outcomes. The following list was developed based on the ranking activity.

### **Summary from ranking activity: Top 3 Rankings**

#### **1<sup>st</sup> Priority**

- Suggested Action 3 had the most votes for the 1<sup>st</sup> priority.
- Suggested Action 2 had the second most votes for the 1<sup>st</sup> priority.
- Suggested Action 6 had the third most votes for the 1<sup>st</sup> priority.

#### **2<sup>nd</sup> Priority:**

- Suggested Actions 4 and 5 had the most votes for the 2<sup>nd</sup> priority.
- Suggested Action 3 had the second most votes for the 2<sup>nd</sup> priority.
- Suggested Action 2 had the third most votes for the 2<sup>nd</sup> priority.

#### **3<sup>rd</sup> Priority:**

- Suggested Action 6 had the most votes for the 3<sup>rd</sup> priority.
- Suggested Actions 3, 4, 5 had the second most votes for 3<sup>rd</sup> priority.

The L-CHAT group will convene in March to discuss the rankings in context with their goal to focus efforts around the three strategies listed below that were developed during the MAUT process in June, 2013, and determine if they should be integrated into the SMART goals they intend to create:

- Increase levels of physical activity
- Improve daily nutrition regime
- Increase tolerance and inclusion of all