APPENDIX E
THE CITY OF NEW HAVEN
INITATIAVE BRIEFS

Wellness Policy Directives

Table of CDC MAPPS Recommendations and Alignment of Interventions

Intervention Details

a. 0-1. Community Media and Social Marketing Campaign / Wellness Portal
b. 0-2. Elm City Resident Card
c. 1-1. Promote High Nutritional Value Foods w/Nutrition Guidance
d. 1-2. School Food Initiative
e. 2-1. Safe Routes to School and Street Smarts Kids
f. 2-2. Safe Routes to Neighborhood Destinations
g. 2-3. New Haven Moving: Community Physical Activity

References Consulted

Appendix E. New Haven Department of Health Initiative Briefs

Appendix E-1. Wellness Policy Directives

Appendix E-2. Table of CDC MAPPS Recommendations and Alignment of Interventions

Appendix E-3. Intervention Details

- 0-1. Community Media and Social Marketing Campaign / Wellness Portal
- 0-2. Elm City Resident Card
- 1-1. Promote High Nutritional Value Foods w/Nutrition Guidance
- 1-2. School Food Initiative
- 2-1. Safe Routes to School and Street Smarts Kids
- 2-2. Safe Routes to Neighborhood Destinations
- 2-3. New Haven Moving: Community Physical Activity

Appendix E-4. References Consulted

Appendix E-1. New Haven Citywide Wellness Policy Objectives

The City of New Haven will prioritize these Citywide Wellness Policy Objectives over the next two years. Accomplished through the completion of CPPW Interventions proposed here as well as other citywide efforts, their realization will directly contribute to the achievement of CDC Long Term Goals related to Nutrition and Physical Activity.

Healthy Food

1A) Point of purchase labeling will be present at all school food distribution sites and community food outlets representing 25% of sales volume by 2012.

1B) Increase Farmer Market sales and Farm-to-School food sourcing in schools by 20% by 2012.

1C) Student BMIs in PAW intervention schools do not increase.

Active City

2A) Triple citywide bicycling routes by adding 20 miles to system by 2012.

2B) Increase citywide biking and walking trips by 20% by 2012.

2C) The number of children walking to school increases by 20% by 2012.

Appendix E-2: Table of MAPPS Recommendations

Correlation to New Haven Citywide Wellness Policy (CWP) Directives and CPPW Interventions

		Suggested MAPPS Interventions (CDC)	Common to Both		CWP-1: Healthy Food		CWP-2: Active City		
			0-1. Comm.-Wide Media Campaign/ Wellness Portal	0-2. Elm City Resident Card	1-1. Promote High Nutritional Value Foods w/Nutrition Guidance	1-2. School Food Initiative	2-1. Safe Routes to School and Street Smarts Kids	2-2. Safe Routes To Neighborhood Destinations	2-3. New Haven Moving: Community Physical Activity
Nutrition	Media	**n1: Media restrictions consistent with law**							
	Media	**n2: Promote healthy food/drink**	●	◑	●	●			
	Media	**n3: Counter-advertising for unhealthy food**	◑						
	Access	**n4: Healthy food/drink availability and incentives to retailers**	●	◑	◑	●			
	Access	**n5: Limit unhealthy food/drink availability**				◑			
	Access	**n6: Reduce density of fast food establishments**							
	Access	**n7: Eliminate trans fats with purchasing/labeling**				◑			
	Access	**n8: Reduce sodium with purchasing/labeling**				◑			
	Access	**n9: Procurement policies for healthy foods**				●			
	Access	**n10: Farm to institution/school**	◑			●			
	PP/P	**n11: Signage for healthy/unhealthy items**	●		●				
	PP/P	**n12: Product placement/attractiveness**				◑			
	PP/P	**n13: Menu labeling**	◑		●	●			
	Price	**n14: Changing relative prices of healthy/unhealthy food**		●	●				
	SS/S	**n15: Support breastfeeding through policy change**							
	SS/S	***n16: [Not Suggested] Comprehensive Support for Citizens through Access and Incentive Programs tied to Resident Card***	◑	●	◑				◑
Physical Activity	Media	**a1: Promote increased physical activity**	●				●	◑	◑
	Media	**a2: Promote use of public transit**	●					◑	
	Media	**a3: Promote active transportation (bicycling and walking)**	●				●	◑	
	Media	**a4: Counter-advertise screen time**	◑						
	Access	**a5: Safe, attractive, accessible places for activity**					●	●	◑
	Access	**a6; Urban design/transportation planning**					●	●	
	Access	**a7: Require daily quality PE in schools**	◑						◑
	Access	**a8: Require daily activity in after school/childcare**	◑						◑
	Access	**a9: Restrict screen time (all settings)**							
	PP/P	**a10: Signage for neighborhood destinations in walkable areas**	◑				◑	●	
	PP/P	**a11: Signage for public transit, bike lanes/boulevards**	◑				◑	●	
	Price	**a12: Reduced price for park and school facility use**	◑	●					●
	Price	**a13: Incentives for active transit**	◑	●			◑	●	◑
	Price	**a14: Subsidized membership for recreational sites**	◑	●					●
	SS/S	**a15: Safe Routes to Schools program**	◑				●	●	
	SS/S	**a16: Workplace, faith and neighborhood activity groups**	◑	◑				◑	●

● ◑ = Primary focus of intervention; Limited focus of intervention

Appendix E-3: Intervention Details
Intervention 0-1: Media and Social Marketing Campaign and Wellness Portal

Risk Factors Addressed: Poor diet and lack of physical activity leading to overweight/obesity.

Brief Description of Intervention
The City of New Haven and coalition partners will develop and launch a community-wide branding and media campaign to promote healthy eating and increased physical activity generally, and the multiple interventions in this plan specifically. Paid and earned media provided through numerous committed partners will supplement a coordinated social marketing effort delivered by trusted community messengers through multiple community engagement processes.

Alignment with MAPPS
This program relates primarily to the MAPPS recommendations related to Media (referenced within the CDC literature provided in the FOA (see Table)). Inasmuch as the Campaign will promote and support all the other interventions, it will by design contribute materially to our interventions addressing all other four MAPPS categories across both nutrition and physical activity. For example, the Campaign and the Wellness Portal will promote healthy food and drink and increased physical activity, include counter-advertising against unhealthy foods, and promote active transportation (bicycling, walking) in conjunction with the planned transportation improvements. The Campaign will also have the effect of increasing availability of healthy food and drink through promotion of already well-established city farmer's markets.

Measures of Success
The media and social marketing campaign and wellness portal have three critical benchmarks:

1. Media campaign is developed and launched, achieving 3 million impressions by February 2011 and 10 million by February 2012
2. Wellness portal established by January 2011
3. School Health Campaigns launched in 27 K-8 Schools

See Community Action Plan for additional detail.

Environmental and Policy Context
The New Haven Health Department, in partnership with the CT Department of Public Health, has launched numerous media campaigns aimed at informing residents about health-related behavior, most recently related to the H1N1 pandemic. The Health Department also recently received two years of grant support to launch the Health Equity Alliance (HEA) initiative that involves both extensive messaging and media components. This initiative employs an on-the-ground community engagement campaign using one-on-one conversations, meetings with existing groups and coalitions, and community conversations to engage residents to develop community action plans that address health inequities.

As the HEA initiative advances, the allied **Community Interventions for Health** (CIH) process sponsored by CARE has also engendered extensive community engagement through discussions with Community Management Teams (established in 1992 initially to support Community Policing, but later helping to implement the Empowerment Zone and City "Livable Cities" strategies) and the press on CIH activities. CIH has used a baseline survey process to (a) measure resident health

issues, behaviors, and attitudes with respect to the risk factors of poor nutrition, lack of exercise, and tobacco use and (b) systematically assess the community environment in six neighborhoods for assets. Similarly to the HEA initiative, the resulting data will be disseminated to residents to achieve maximum impact in engaging residents in the process of intervention design and planning. Health messages are also delivered in this process.

Intervention Detail

The CPPW Media and Social Marketing Strategy will build on and reinforce these existing efforts to promote messages of healthy living. Educating and engaging city residents, especially those in targeted neighborhoods, to improve their intake of healthy foods, reduce intake of unhealthy foods, and increase their frequency of physical activity will be the primary objective of this effort.

The New Haven CPPW Project Team will work with an innovative local marketing firm with experience in cause and social marketing to develop a multi-faceted media campaign which develops a "brand" for the work of the new Health Equity and Wellness Commission and wider Health Equity Alliance that feeds into and supports its work on policy and environmental change.

The components of this campaign will include:

- **Establish a brand and associated messages for promoting healthier living** and the various interventions and policies proposed in the CPPW application. This brand and associated messages will draw on extensive community discussion to date and existing evidence-based best models to create a uniquely New Haven campaign.

  The messages will be both overall and specific to promoting awareness and participation in Action Plan components such as NuVal nutritional guidance, Elm City Resident Card incentives, School Food Initiative, Safe Routes to Schools, New Haven Moving and all subcomponents.

- **Identify trusted messengers in the community and vehicles to publicize health messages and mobilize our extensive coalition in support of the brand and associated messaging**.

  These will include community stakeholders and traditional and non-traditional media outlets as well as social marketing techniques built on extensive local resources and experience. New Haven benefits from a wide range of partners that serve or have regular access to populations our initiatives are intended to reach. These include the New Haven Public Schools (20,000 students), our health centers (60% of births are to women receiving Medicaid and most are at our two hospitals), our Public Library with its four neighborhood branches, our Elm City Resident Card program (10,000 members), our Early Childhood Council with access to over 2,800 preschool children and their families, and other networks and coalitions connected to the Health Equity Alliance.

  We also benefit from a burgeoning array of neighborhood level civic engagement and improvement efforts grounded in our Community Management Teams and formal and informal neighborhood associations. The Community Foundation for Greater New Haven has provided over $4 million in mini-grants since the inception of their program to several hundred neighborhood groups working on improvement and engagement projects from community festivals to gardens, to youth development programs.

Several partners have in recent years cultivated a network of "Community Messengers" recruited and deployed to reach residents through social marketing techniques. These residents who are ready to be cross-trained in delivering health messages include:

- Faith-based Community Health Advisors trained through the Yale-Griffin Prevention Research Center's PREDICT intervention;
- HEA Community Health Advisors, recruited and trained based on the PREDICT experience, to engage residents in the Alliance process;
- "Community Messengers" operating over the last six years to engage families in the Parents and Communities for Kids (PACK) initiative;
- "Baby Buddies," where public housing residents recruited by the federal Healthy Start initiative reach out to women in public housing to engage them in prenatal and interconceptional care; and
- Community Leaders that participate in formal or informal community associations and represent a growing store of "social capital" supported by the City and local philanthropy.

In addition, local clergy and front line partner agency staff will be recruited and trained as messengers for the campaign. We will also connect to the on-going City Employee Wellness program carried out by the Hospital of Saint Raphael as well as Yale University's employee wellness efforts.

- **Develop and implement a media plan including both paid and earned media with our mainstream and local media partners.**

  The paid media strategies will build on extensive local experience and the expertise of a marketing professional as well as the literature on what works to reach inner city audiences, including racial and ethnic minorities and recent immigrants, with positive health messages.

  In earned media, our team has close relationships with local media outlets that will yield extensive news coverage of the activities as well as opportunities for op-eds and columns. Our partner Dr. David Katz (Prevention Research Center Director and Leadership Team member) writes a weekly column for the New Haven *Register* and a regular weekend segment on WTNH Channel 8 Television through which he has agreed to cover project activities and cultivate further relationships with those outlets.

  Examples of targeted media include:

  - **Bus Posters** – New Haven has an extensive bus system covering all central neighborhoods which has proved to be a very effective means to deliver health and other social messages.
  - **Billboards** – Both highway based and neighborhood billboards will be rented at strategic times to reinforce the other means of getting the message out.
  - **Radio** targeted to neighborhood audiences (e.g. WYBC, Spanish speaking stations).
  - **Television** – Local ABC affiliate WTNH-Channel 8 will be engaged to work with the Health Department on a community campaign mixing some paid spots with PSAs and community features (modeled on similar community efforts).

- **Print** – Features, special sections and services will complement paid advertising in both the main daily, the New Haven Register, and the alternative newsweeklies The New Haven Advocate and La Voz Hispanics (reaching the growing Latino and immigrant community).
- **Web** – The growing New Haven Independent (NHI) with 70,000 visitors per month has established itself as a nationally-recognized example of hyper-local web-based news outlet. The NHI will partner with us across their various tools and features.
- **Social Networking** – We will use social-networking sites (e.g., Facebook, Twitter) to connect with residents providing inexpensive, daily opportunities for community building and reinforcement of concepts in nutrition and physical activity.
- **Collateral Materials** – Use of flyers, cards, magnets, and give-away items that have proved successful in other campaigns.

- **Partner with CitySeed to specifically promote and expand access to city farmers' markets by SNAP recipients through expanded signage at bus stops and neighborhood gathering points and through the media campaign.**
- **Partner with the New Haven Public Schools Office of Information, District Wellness Committee and School Health Teams to reach 20,000 students, their parents and school staff.**

  School-linked marketing will support policy changes already in effect or proposed in this grant around access to healthier foods. This will include posters, cafeteria table tents, student newspaper articles, messages on the school web site and proposed school radio station, and connecting with student clubs and organizations. The school staff hired by this grant will support this work within the schools and reinforce their efforts to revamp menus, increase use of local produce in school meals, and mobilize school health campaigns through the School Wellness Teams.

We will continually assess the effectiveness of the media and social marketing campaign through surveys asking participants where they heard about programs and events, our community surveys, data on indicators of viewership, and through community feedback.

Wellness Portal. Connected with the Media Campaign, the Health Department with the assistance of its partners and affiliates of the Prevention Research Center will develop a "Wellness Portal" on the web using branding developed from the media and social marketing campaign. The portal will use innovative web mapping, data visualization, and interactive programs to provide residents with timely information on (a) the benefits of improved diet and more exercise, (b) attractive opportunities to get involved in programs and events to improve diet and increase exercise, (c) incentive to participate in programs, contests, and other processes designed to reinforce improved behavior, and (d) tools to assist residents in their personal quest for improved health (calculators, planning frameworks, etc). Rick Weiss, President of Viocare, Inc. and developer of the successful Princeton Living Well wellness portal will provide technical assistance to the project in the design and implementation of the portal and techniques for securing and managing incentives provided by local businesses.

This site will draw from the best available applications already available on the web as well as new tools and features designed locally to address local needs, traditions, and conditions. We

will work to integrate the portal with partner sites promoting common goals including but not limited to Yale-New Haven Hospital, CitySeed/ CTgrown, DataHaven, the City Parks and Recreation and Transportation sites, bicycle coalitions, NewHavenYouthMap.net, parks groups, and others.

The portal will work in concert with the DataHaven Community Knowledge Center web site which will offer (a) the latest community data on local conditions in relation to state and national trends and to local and national goals and (b) documentation of all grant-funded and related community efforts aimed at improved community and health outcomes to facilitation collaboration and planning.

Anticipated Policy Outcomes

The short term intended effect of the Media Campaign and Wellness Portal are increased access to both information on the importance of improved diet and increased exercise and to resources and programming to support personal choices to improve diet and physical exercise regimens.

Both the media and social marketing strategies and the Wellness Portal will serve to elevate the recognition of the issues of diet and physical activity among policy makers at the federal, state, and local levels and contribute to support for policy and environmental changes that will be required to address the root causes of rising obesity and chronic disease. Working with and through the Health Equity and Wellness Commission and the broader, affiliated Health Equity Alliance, the CPPW effort will underscore the need for policy and environmental change and focus leadership and grassroots attention on securing it.

Sustainability Strategy

The media campaign will be continued based on its success through recruitment of local health funders and providers who see the benefit to their business and community relations purposes. The social marketing components grounded in an organized and active grassroots network will be sustained through continued recruitment and successful campaign results combined with philanthropic investments.

Appendix E-3: Intervention Details
Intervention 0-2: Elm City CHOICE: Using New Haven's Municipal ID Card as a Strategy to Improve Access to and Use of Healthier Options in Low-Income Neighborhoods

Risk Factors Addressed
Poor diet, sedentary lifestyle

Brief Description of Intervention
CHOICE uses New Haven's nationally recognized, innovative municipal identification card, **the Elm City Resident Card**, to (a) deliver and reinforce messages of the benefits of healthy eating and exercise to 10,000 cardholders and (b) create retail and consumer incentives that will increase low-income residents' access to healthy options in their neighborhoods.

Alignment with MAPPS
This program relates to all five MAPPS recommendations; all referenced within the CDC literature provided in the FOA (see Table). Media: CHOICE will be prominently featured in the Media Campaign, including in press advisories, advertisements, and social marketing activities. Access: CHOICE will increase access to healthy foods in retail outlets through application of incentives. Price: Through application of incentives, CHOICE will change the relative price for healthy food options and physical activity resources. Social Support: The Elm City Resident Card creates provides comprehensive support for citizens through access and incentive programs tied to the Card, reinforcing a sense of community and positive perceptions of healthy eating and physical activity.

Measures of Success
CHOICE has three critical benchmarks:
1. CHOICE enlists 40 retailers to provide incentives through the Card
2. CHOICE integrated with EBT card
3. 2,000 card holders participate in incentive program

Environmental and Policy Context
New Haven experiences significant socioeconomic and health disparities compared to its wealthier suburbs and Connecticut as a whole. Although the poverty rate in Connecticut is low at 7.9% when compared to other U.S. states, 21% of people (including 37% of female-headed households with children) in New Haven live below poverty and median household income is $36,428.[i] Health disparities in New Haven also are well-documented. New Haven's population is 39% Black/African American and 23% Hispanic/Latino. Obesity is more than 20% higher in New Haven compared to the state and greater still among minorities and children. In one health center, 50% of young patients ages 2-19 are obese.[ii]

The CHOICE program builds on the City and CARE's partnership and engagement with key, non-traditional community and health advocates throughout the city, especially within at-risk communities. This includes the Mayor's Office and the Community Service Administration; community health centers and care provider networks; neighborhood associations; local small business groups; community based service and outreach organizations; and youth leadership development programs. Close partnership between our multidisciplinary team and these

community advocates will be instrumental to reaching traditionally underserved at-risk communities to promote health and well-being.

CARE, a core partner in the Health Equity Alliance, will engage community resident and health worker participation in evaluation of the program's impact, through household surveys and neighborhood asset mapping. Moreover, objective information on CHOICE will be collected via electronic records generated with use of the card (e.g., number of purchases, types of products/services, amount spent/amount saved). Engaging Community representatives and leaders in all aspects of CHOICE will enhance and provide new sustainable skills for community members, and imbue ownership over process and outcomes of the program.

Intervention Detail

The City of New Haven will work with the Community Alliance for Research and Engagement (CARE) at Yale to address underlying socioeconomic mechanisms contributing to health disparities via implementation of the **Choosing Healthier Options by Influencing Card Enrollees (CHOICE)** program. CHOICE uses our nationally recognized, innovative municipal identification card, New Haven's Elm City Resident Card, to both deliver messages of the benefits of healthy eating and exercise, and to create retail and consumer incentives that will increase low income residents' access to healthy options in their neighborhoods. The Elm City Resident Card (The Card) was established in July 2007 to address the pressing public safety and civic engagement needs of New Haven's growing immigrant community. The Card was first of its kind in the nation and thus is a model for resident cards throughout the U.S., including the recently implemented SF City Card in San Francisco.[iii] Currently 10,000 residents, including many high school students, have enrolled in the Card program. CHOICE will build on current card expansion efforts by the Mayor, Community Services Administration, and other city leadership, such as the City of New Haven's prescription discount that provides Card users with up to 20% savings on prescriptions. With the planned media campaign, card enrollment is expected to increase dramatically to over 20,000 residents.

The City proposes an innovative intervention to influence healthy behaviors by utilizing the electronic capabilities of The Card and strengthening relationships with local retailers to offer incentives, rewards, and promotions of healthy options and programs *tied to* and *tracked by* The Card. These retailer efforts will be reinforced by the proposed citywide media and community engagement campaign and neighborhood-based social marketing.

The short term intended effect of the CHOICE program is to impact chronic disease risk factors in New Haven's socioeconomically disadvantaged neighborhoods in New Haven by influencing residents' purchasing behavior related to healthier foods, exercise programs, and tobacco use cessation programs and products. In addition, this innovative technology could have immediate economic benefits for the 124,700 residents of the City of New Haven, with additional impact on the retail environment if it stimulates spending as we expect. The long term intended effect is to reduce chronic disease and promote community health in New Haven.

Anticipated Policy Outcomes

CHOICE will provide an additional platform for the City and CARE, working in concert with the City's Health Equity and Wellness Commission, to implement ecologically-based social and

economic interventions, with the aims of offering greater neighborhood-level availability and affordability of healthy lifestyle options and influencing subsequent individual-level health behaviors. We hypothesize that CHOICE will result in more effective behavioral change by contextualizing health behavior choices *within* the communities where people live.

Sustainability Strategy

The City's efforts to tie the Card to healthy behaviors are occurring as a part of *Community Interventions for Health* (CIH), a multi-sectoral, city-wide chronic disease prevention intervention launched through CARE and funded primarily by The Donaghue Foundation. The purpose of CIH is to reduce severe chronic disease disparities by implementing policy, environmental, and programmatic strategies to improve diet, exercise, and smoking risk factors. The City and CARE will work with the wider CPPW Team to obtain and dedicate funds to sustain the CHOICE program, especially in our most at-risk communities.

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[i] U.S. Census Bureau. American Community Survey, 2006.

ii Fair Haven Community Health Center Pilot Program, CARE Research Partnership Program, 2007.

[iii] Knight H, Hundreds wait for hours to buy San Francisco ID card. *San Francisco Chronicle.* January 16, 2009.

Appendix E-3: Intervention Details
Intervention 1-1: Promote High Nutritional Value Foods with Nutrition Guidance

Risk Factors Addressed
Poor diet

Brief Description of Intervention
The provision of state-of-the-art, point-of-purchase, at-a-glance nutrition guidance in both retail venues and schools in New Haven can assist residents of the New Haven community to adopt a more healthful diet by helping them to easily identify more nutritious food choices.[i] Messages will be reinforced through community-based social marketing.

Alignment with MAPPS
This intervention aligns well with MAPPS interventions relating to promoting healthy food/drink, signage for healthy/unhealthy items, menu labeling, and changing the relative price of healthy and unhealthy food (see Table at E.2).

This program relates to all five MAPPS recommendations; all referenced within the CDC literature provided in the FOA (see Table). Media: NuVal will be prominently featured in the Media Campaign, including in press advisories, advertisements, and school communications. Access: NuVal will increase access to healthy foods in retail outlets serving SNAP recipients as well as in school cafeterias. Price: SNAP Incentive pilot will reduce the price for healthier foods in relation to unhealthy food choices. Point of Purchase/Decision: Signage on the grocery shelf and in school cafeterias will promote healthier foods through the NuVal scoring system and increased awareness of its meaning. Social Support: Through tie-in with Elm City Resident Card, creates positive perceptions about healthy food choices and labeling strategy. Cooking demonstrations reinforce social cohesion.

Measures of Success
The Nutrition Guidance intervention has three critical benchmarks:

1. 100% of school lunch menus and products sold at participating grocery stores receive NuVal scores by January 2011.
2. 300 SNAP participants enroll in SNAP NuVal incentive program.
3. Community Cookbook food tastings reach 2,000 students and residents by December 2010.

Environmental and Policy Context
There is no universal standard for simplified nutrition guidance, and no point-of-purchase, at-a-glance nutrition guidance system available in New Haven at present. The NuVal food scoring system (www.nuval.com) to be implemented in this project was designed as a potential universal standard in point-of-purchase nutrition guidance, and thus brings a unique and privileged resource to the New Haven community. It fills a gap where nothing specific currently exists; there is no standard nutrition guidance in either the retailers or schools that will participate in this effort. The New Haven community suffers a heavy burden of chronic disease directly related to dietary pattern, and thus stands to benefit enormously from strategies that facilitate improved

dietary intake. Nutrition guidance is incorporated into this initiative as one of several complementary strategies to achieve that goal.

Financially Incentivized Nutrition Guidance: Food stamp use is rapidly expanding in the U.S.[ii] This is both a sad testimony to financial difficulty, and an enormous opportunity to test the benefits of financially incentivizing the selection of more nutritious foods.

This RFP calls specifically for testing the effects of financial incentives for the selection of more nutritious foods. To date, however, such efforts have generally been limited to incentives for fruits and vegetables simply because these were the only foods that are of 'self evident' high nutritional quality. The typical American diet, however, incorporates innumerable processed foods and animal products, and efforts to encourage fruit and vegetable consumption, per se, have had very limited effects on dietary intake.[iii] There is far greater potential to improve food selection, diet quality, and related health outcomes if financial incentives for better nutrition could be applied across the full expanse of food products. This, however, requires a universally applicable metric for nutritional quality, previously unavailable.

Intervention Detail

The New Haven team has unique access to a nutrition guidance system developed by an international team of experts and currently gaining traction nationwide. The NuVal food scoring system is based on the Overall Nutritional Quality Index (ONQI),[iv] an algorithm designed to generate a single, summative score for the "overall nutritional quality" of a food based on its micronutrient and macronutrient composition (30-plus nutrients and nutrition factors) and several other of its nutritional properties (e.g., energy density). The ONQI is further designed to stratify foods into a rank order of relative nutritious-ness both universally (i.e., across all food categories) and within specific food categories (e.g., breads, cereals, frozen desserts, etc.). The ONQI generates an overall nutritional quality score between 1 and 100 for any food or recipe; the higher the number, the more nutritious the item. The Nutrition Guidance initiative will provide this guidance community-wide in New Haven, and assess effects on dietary pattern, and diet quality, and generate related projections for health outcomes.

Financially Incentivized Nutrition Guidance: Beneficiaries of food assistance are apt to have diets of poor quality overall, and foods of low nutrition quality often provide the most calories per dollar – thus posing challenges for those on limited budgets to make nutritious choices.[v] Remediating this by incentivizing the selection of more nutritious foods requires a metric to identify more nutritious food. As described in the project narrative, the New Haven coalition has unique access to such a metric in the NuVal food scoring system, which will be used for this purpose in a sample of SNAP (food stamp) recipients. During year 1, the PRC project team will use the 1-100 NuVal scale to place foods, by category, into quartiles of nutritional quality. The system will be designed to work so that the value of a food voucher will be increased from our incentive pool based on nutritional quality (i.e. NuVal score). For example, a $1 food voucher will be worth one dollar for items in the lowest category-specific quartile of nutrition quality; purchasing power of that $1 voucher will increase to $1.25 in the next quartile, $1.50 in the next, and $2 in the top quartile of nutritional quality. It is projected that this incentive program will shift 1/3 of all purchases one quartile, and 1/3 of all purchases by more than one quartile; this will translate to a one quartile change in the Alternative Healthy Eating Index (AHEI/*see*

evaluation) and will demonstrate the influence on dietary pattern and related health outcomes of direct financial incentives for more nutritious choices among residents most in need.

New Haven Cooks. As an additional intervention providing nutritional guidance through hands-on experiential learning, CitySeed will be offering food tastings and cooking demonstrations in city schools and community locations based on its soon-to-be published community cookbook, *New Haven Cooks.* The cookbook project, funded by CT DPH, has involved collecting a range of healthy recipes from New Haven's many ethnic groups to demonstrate ways to use fresh food from the CitySeed Farmers' Markets.

Anticipated Policy Outcomes

The short term intended effect of the nutritional guidance system is to impact purchasing behavior and improve the dietary pattern of those exposed to the nutrition guidance program. The long term intended effect is to improve the health status of those exposed to the nutrition guidance system by reducing rates of overweight and obesity.

Changing the physical environment – providing nutrition scores at the point of purchase (in the grocery stores and school cafeterias) – is a simple way to provide much needed nutrition guidance to the consumer, and to influence food purchasing behaviors. This strategy changes the information available at point of purchase/point of decision, and thus alters the environmental cues or inputs upon which decisions are based. This is enhanced by a strategy that provides a direct financial incentive to choose the more nutritious foods. The proposed program will assess the independent and combined effects of these two intervention components.

Sustainability Strategy

This initiative will demonstrate the impact of providing such guidance to various sectors in the community (general population, SNAP recipients, and school children) and its ability to influence participants to improve their dietary patterns, and in turn, their health. Further, by designing a system to incentivize more nutritious foods for SNAP recipients, this initiative has the potential to dramatically improve the health of low-income populations while reducing costs to other state and federally funded programs, such as Medicaid.

School-based implementation of NuVal is a philanthropic commitment of NuVal LLC and is sustainable with minimal effort and cost once initiated; thus, long-term sustainability of this element is simply a matter of will. For retailers, NuVal functions on a licensing model, and the New Haven retailers could thus choose to maintain the program if it proves advantageous to them to do so. Alternatively, local government could potentially underwrite most of the costs of maintaining the program in the local retailers.

As for the SNAP incentive program, the same governmental elements that underwrite food assistance are ultimately responsible for the health care costs of this same population. Modest improvements in diet pattern and health could readily result in savings far greater than the cost of providing food incentives based on nutritional quality. Thus, the sustainability of this program depends on a demonstration that the costs involved in the provision of these incentives will be more than covered by savings related to health care expenditures.

[i] Kolodinsky J, Harvey-Berino JR, Berlin L, Johnson RK, Reynolds TW. Knowledge of current dietary guidelines and food choice by college students: better eaters have higher knowledge of dietary guidance. *J Am Diet Assoc*. 2007 Aug;107(8):1409-13)

[ii] DeParle, Jason " Food Stamp Use Soars, and Stigma Fades." NY *Times*, November 28, 2009 (http://www.nytimes.com/2009/11/29/us/29foodstamps.html?hp).

[iii] Katz DL. Plant foods in the American diet? As we sow... *Medscape J Med*.2009;11(1):25

[iv] Katz DL, Yanchou Njike V, Faridi Z, Rhee L, Reeves R, Jenkins D, Ayoob K. The stratification of foods on the basis of overall nutritional quality: The Overall Nutritional Quality Index (ONQI). *American Journal of Health Promotion*.2009 Nov-Dec;24(2):133-43

[v] Kristen Wiig Dammann, Chery Smith, Factors Affecting Low-income Women's Food Choices and the Perceived Impact of Dietary Intake and Socioeconomic Status on Their Health and Weight, *Journal of Nutrition Education and Behavior*, Volume 41, Issue 4, July-August 2009, Pages 242-253; Fulp RS, McManus KD, Johnson PA. Barriers to purchasing foods for a high-quality, healthy diet in a low-income African American community. *Fam Community Health*. 2009 Jul-Sep;32(3):206-17

Appendix E-3: Intervention Details
Intervention 1-2: School Food Initiative

Risk Factors Addressed
Poor diet and lack of access to nutritional food items leading to overweight/obesity.

Brief Description of Intervention
Build on recognized progress in New Haven Public Schools (NHPS) School Food Services to (a) reformulate menus to emphasize fresh food and incorporate NuVal nutritional guidance scoring, (b) increase purchasing of local farm products by the school system, (c) offer field trips to local educational farms for 6,000 students, and (d) implement Nutrition Detectives curriculum across all 5th grade classrooms.

Alignment with MAPPS
This program relates to three of the five MAPPS areas within nutrition; all referenced within the CDC literature provided in the FOA (see Table). Media: Healthy food and drink will be promoted through numerous channels. Access: The Farm-to-School program as well as the work of the Registered Dietician in reformulating menus will increase access to healthy foods across all school cafeterias in the NHPS through revised procurement policies and conscious links to local farms. Point of Purchase./Promotion: Revised menu labeling, incorporating the NuVal scoring system, will provide additional information and promotion at the point of purchase by students and staff.

Measures of Success
The School Food Initiative has 5 critical benchmarks:

1. Menu and food labeling transformed in cafeterias serving 21,000 students and staff
2. Local fresh food purchases expanded by 20% from the 2009 base
3. 6,000 students take field trips to educational farms with defined curriculum
4. 750 PreK-Grade 1 students and their teachers experience Farm Market Tour embedded in literacy curriculum
5. Additional 1,350 5th graders across 9 schools added to Nutrition Detective program

Environmental and Policy Context
New Haven Public Schools (NHPS) is a state and national leader in progressive policies to improve school food. Over the past two years, the district has assumed internal management of food services, banned all "junk food" from vending machines, and hired Chef Tim Cipriano, a nationally renowned nutrition advocate to spearhead our healthy food efforts.

The mission of the Food Service Department is to ensure that delicious, healthy meals are available to all New Haven students. We strive to serve high quality meals utilizing ingredients from many local producers and actively participate in the Connecticut Farm to School & Farm to Chef Programs. The over 200 employees of our Food Service Department work in our 48 cafeterias, on our delivery trucks and in our central kitchen offices to serve over 16,000 lunches and 11,000 breakfasts daily to the students of New Haven.

In 2008-09, under Chef Tim Cipriano's leadership, the Food Service Department has:

- Improved our menus to feature fresh farm-grown vegetables, roots and whole grain breads and daily offerings of fresh salads. We have substituted turkey products for some of our beef and eliminated processed foods such as chicken nuggets. Vegetarian offerings have increased to include vegetable lasagna and eggplant parmagiana. Moreover, to ensure focus on reimbursable meals, a la carte meal offerings and snacks were eliminated from K-8 schools.
- Diverted $50,000 in commodity money to the Department of Defense produce program to increase access to fresh fruits and vegetables, many from local farms.
- Secured a large produce vendor with competitive prices who specializes in local farms.
- Partnered with The Sound School, a regional vocational agriculture program, to feed New Haven students produce grown by New Haven students, and to develop an Aquaponics growing program.
- Met with School Foodservice Directors and Chefs from around the country with Kevin Concannon, Under Secretary, USDA Food and Nutrition Service and Dr. Janey Thornton, Deputy Under Secretary, USDA Food and Nutrition Service to discuss improving foods that children eat at school.
- Partnered with the national organizations Share our Strength and the RUDD Center to enhance the focus and attention of the critical health issues of child obesity and nutrition and hunger.

Intervention Detail

Grant funding will dramatically expand our efforts and leverage sustainable changes in school food. The four key intervention components include:

1. **Menu reformulation and expanded promotion, incorporating the NuVal nutrition scoring system.** The funded Registered Dietician will work with the Food Service Department to accelerate our efforts to reformulate and redesign all menus over time to expand tasty choices and move all meals to use the healthiest ingredients possible. S/he will also lead efforts to market the new choices to students through innovative, low cost tactics like tastings, contests, and social networking. This work will be assisted through the communitywide media campaign, the School Wellness Team Health Campaigns and informed and guided by information from the NuVal scoring system. (See Intervention Details, 0-1 and 1-1).
2. **Purchase/production of local produce.** We will continue to expand the purchase of local food, including expanding on our pilots of school-raised ingredients and pursuit of a NHPS-run farm (see below). The Farm-to-School Coordinator will assist Chef Tim in reaching out to more local producers for targeted products.

   The District is committed to developing a farm and has initiated discussions with the non-profit owner of a 40-acre farm in a nearby town. Chef Tim Cipriano visited the Great Kids Farm in Baltimore to view their student farming model operated by Chef Tony Geraci of the Baltimore City School Food Service. We are developing a plan to start a similar venture for NHPS students in conjunction with The Sound School,

CitySeed, Common Ground High School, Yale Sustainable Food Project, and the non-profit farm owners mentioned above.

3. **Field trips to area farms.** We will expand field trips to area farms for students in grades 4 and 5. With grant funding, 6,000 students will visit local farms and learn about agriculture, healthy foods and nutrition. With a strong, hands-on experiential curriculum, these educational trips can create lifelong changes in attitudes and understanding of food, health and nutrition.
4. ***Growing Healthy Eaters and Readers.*** CitySeed and the Children's Museum of Connecticut plan to expand and refine a successful pilot intervention that exposes young learners in PreK to Grade 1 to fresh local food and local farmers at the CitySeed Farmer's Markets. Each teacher receives a curriculum box with food themes for use in his/her classroom and each child receives a book to keep, a pass to the Children's Museum, a $5 coupon to spend at the Market on the field trip and a $5 coupon to bring to their parents for a return trip. In its initial implementation, the reaction from children, parents and teachers was extremely positive. Teachers reported a significant impact on children's knowledge of food and on their motivation to engage in the literacy exercises. Grant funding will support participation by an additional 750 children and 50 teachers which will contribute to efforts to institutionalize the program.
5. **Nutrition Detectives program.** We will offer this 90-minute evidence-based program to all 5th graders to teach how and why food choices matter. The program shows students what to look for (e.g., the first five ingredients), as well as what not to look for (e.g., misleading labels about "all-natural" products) when selecting food (see Intervention Details). The exposure to this information and the corresponding empowerment of the students to consider healthy choices and to become better food consumers / purchasers establishes a lifetime of good food choices for students (see Addendum below for detail)

Anticipated Policy Outcomes

The short term intended effect of the School Food initiative is to improve the dietary pattern of New Haven Public Schools students and increase student knowledge of nutrition and healthy food choices. The long term intended effect is to improve the health status of students by reducing rates of overweight and obesity.

The School Food initiative is designed to impact the environment for students, providing healthy food choices and greater exposure to information about healthy food and nutrition. NHPS will also work to impact the food policy as it relates to schools in Connecticut and nationally. We are well-positioned to have a real impact:

- Chef Tim along with End Hunger CT! and the School Nutrition Association of CT (SNACT) were instrumental in working with the state legislature in keeping the healthy food certification funding from being reduced.
- Chef Tim has been chosen to represent Connecticut on the Regional Steering Committee of the National Farm to School Network and the Con-Agra School Advisory Board this year to assist a national food company move to a less processed mix of products.
- Chef Tim was invited to participate in a discussion regarding school marketing at the National Food Service Management Institute, Applied Research Division. He was one of

seven food service directors in the country invited to speak because of the success of the NHPS School Food Program.

- NHPS School Food has been featured on the CT Style Show on WTNH Ch. 8 and the Better Connecticut Show on WFSB Ch. 3, the New York Times and Chef Tim has spoken on National Public Radio's "Tell Me More" about removing junk food from school meals.

Sustainability Strategy
The initiative is designed to be sustained primarily through existing funding streams, with targeted fundraising for special projects and to expand successful efforts. To improve economies of scale, we are moving closer to the Central Kitchen model for all K-8 schools. We can obtain better quality food and draw more competitive prices when purchasing in bulk. This will allow us to keep our costs stable and serve better meals to our students.

We developed a 30,000 sq. ft. Central Kitchen facility in 2004 and have state-of-the art cafeteria equipment in the 31 schools that have undergone new construction or substantial renovation under the School Construction Program over the last 10 years.

The School Food Service will incorporate the yield from the school farm and other local sources into their inventory and menu plans with our computerized system such that it will be part of the annual budgeting, purchasing and menu expectations. With better tracking and targeting, NHPS will be able to make this a planned part of our Food Program.

NHPS also works with the schools and students to increase excitement about this program (as we have done at Sound School with their yield, Columbus School with the success of the Salad Bar offering, and at Fair Haven, Martinez and Columbus Schools with the Fresh Fruits and Vegetables DOD grant). By engaging workers and customers as partners we have seen great expansion of the healthy choices in the Food Program.

The efforts of the NHPS with regards to nutrition and health are being recognized nationally. The National Dairy Council/General Mills Child Nutrition and Fitness Initiative Breakfast Grant was awarded to John S Martinez School, one of only two schools in New England and 25 across the country that won this $2,500 award. We were the only Connecticut District to be awarded a Hidden Valley Ranch grant for a salad bar and related offerings at Columbus Family Academy. We have been cited by the State of Connecticut for our efforts to expand healthy breakfast, to expand fresh fruit and vegetable offerings and for our transition to whole grain breads in our menus. We regularly host visitors from the State and Federal levels as well as other Food Service colleagues are interested in viewing our practices and efforts in order to replicate them. In a very short time with a team approach, creative proactive thinking and strong leadership support from the Superintendent, the Board COO and the Wellness Committee, New Haven truly has become a national model for Food Service.

Addendum
***Nutrition Detectives*™** *(www.nutritiondetectives.com)* is an exciting nutrition education program for elementary school children that teaches kids to make healthy choices. Nutrition Detectives was developed by David Katz, MD, MPH, FACPM, FACP, Director of the Yale-Griffin PRC

and Catherine Katz, PhD. Through this program, children learn how to read food labels, detect marketing deceptions while simultaneously learning to identify and subsequently choose healthy foods.[i]

The 90-minute program can be taught either as a PowerPoint slide show or as a video presentation on DVD. Its goals are to: (1) teach children to make healthful food choices and detect marketing deceptions; (2) give them the opportunity to practice what they have learned; and (3) empower them to share their "detective skills" with their family members. It uses colorful cartoons and images to convey the concept of healthful eating and teach 5 clues to make healthful food choices based on "Nutrition Facts" panels and ingredient lists on food packages. The children learn to look for key ingredients such as partially hydrogenated oils, high-fructose corn syrup, and fiber. They are then assigned to teams for a hands-on activity where each team searches through a grocery bag filled with "clued-in" (healthful) and "clueless" (less healthful) food products, and decides which foods fit into each category.

The program also includes the "Nutrition Detectives Family Edition" booklet which expands upon the program's messages and provided additional nutrition information for the children's parents/guardian. Additional materials – available in English and Spanish – including a "5 Clues" handout, a "5 Clues" wallet card, and magnetized shopping pad, were developed to reinforce the nutrition information.

Finally, a cost assessment was recently completed of over 120 supermarket items selected using Nutrition Detectives clues. Comparing "clueless" to "clued in" choices in eight different food categories, there was no net difference in cost (p=0.76).[ii] The difference in nutritional quality between the two food sets was independently validated using the Overall Nutritional Quality Index.[iii] This confirmed that "clued in" choices of Nutrition Detectives were indeed, uniformly more nutritious. This important real-world test shows that with adequate "skill power" to identify and choose more nutritious foods in diverse categories, there is no need to spend more money. The notion that more nutritious foods "always" cost more is to some extent an urban legend.

The full-scale integration of a program into the curriculum will increase nutrition knowledge in children and adults. An increase in nutrition knowledge enables children and adults to make *better for you* food choices based on nutrition content.

Anticipated Policy Outcomes

Nutrition guidance through increased food label literacy is one tool needed to prevent obesity in the population. By teaching young people and their parents 5 simple clues to interpreting nutrition panels, an improvement in nutrition knowledge will lead to smarter food choices. These better informed choices are important steps to creating a healthier population.

Sustainability Strategy

The Nutrition Detectives™ program is available for use at no cost and requires 90 minutes of teaching time. The program has been shown to be easily implemented in classrooms by teachers with a high level of satisfaction.

[i] Katz DL, Michael J, Treu J, Reynolds J, Njike V, Walker J, Smith E, Katz C. Teaching Healthful Food Choices to Elementary School Students and Their Parents. The Nutrition Detectives™ Program. *Journal of School Health*. UNDER REVIEW.

[ii] Katz DL, Doughty K, Njike V, Treu JA, Reynolds J, Walker J, Smith E, Katz C. A Cost Comparison of More and Less Nutritious Food Choices at a Representative U.S. Supermarkets. *Journal of Nutrition Education and Behavior*. UNDER REVIEW

[iii] Katz DL, Yanchou Njike V, Faridi Z, Rhee L, Reeves R, Jenkins D, Ayoob K. The stratification of foods on the basis of overall nutritional quality: The Overall Nutritional Quality Index (ONQI). *American Journal of Health Promotion*.2009 Nov-Dec;24(2):133-43

Appendix E-3: Intervention Details
Intervention 2-1: Safe Routes to Schools (SRTS) and Street Smarts "Kids"

Risk Factors Addressed
Lack of Physical Activity.

Description of Intervention
The City of New Haven will implement a citywide strategy to increase the level of physical activity and, in turn, dramatically reduce the obesity rate at New Haven Public Schools. This program blends core elements of the highly-acclaimed New Haven Street Smarts traffic safety campaign and the national Safe Routes to School Program to (1) increase the rate of walk- and bike-to-school students; (2) develop systems to increase walk and bike activity outside of the school setting; and (3) encourage safe walk and bike practices on busy streets. CDC funding will be used to introduce the "Street Smarts" campaign at every New Haven Public School; design progressive bike- and ped-access improvements at five (5) schools as determined by the Leadership Team; and deploy a sustained Street Smarts campaign at each of these five schools in order to imbed a cultural shift in favor of walk / bike activities.

Alignment with MAPPS Recommendations
This program relates to all five MAPPS recommendations, all referenced within the CDC literature provided in the FOA (see Table). Media: Street Smarts program literature will be distributed to a citywide market of students and parents. These materials are leveraged by the broader application of Street Smarts, which generated four million media impressions within the community in its first year (2008 to 2009). The Citywide Media Campaign, Transportation Department and DataHaven will highlight SRTS interventions as a core strategy for encouraging more walking and bicycling trips. Access: Through a renewed focus on asset mapping, data evaluation and safe-routes-to-school planning, the program enhances physical access to walk- and bike activities citywide. Price: Physical improvements facilitate lower transportation household expenses. Point of Purchase/Decision: Signage in the areas near schools will promote additional walking trips. Social Support: CDC lists the Safe Routes to School program as an evidence practice promoting social support for active transportation and physical activity.

Measures of Success
SRTS and Street Smarts Kids have five critical benchmarks:

1. Reach 20,000 school children initially with Street Smarts Kids, with approximately 2,500 at five schools involved in an intensive year-round campaign; Enlist 2,000 "smart driver" parents.
2. Reduce the citywide incidence of pediatric pedestrian injury from 223 to <200 per 100,000.
3. Based on system data and citywide Complete Streets policy, invest at least $200,000 in targeted physical improvements to enhance safe-routes-to-school.
4. Document the % decline in obesity levels and % increase in walk- / bike- activity based on metrics developed for each of the five selected schools.

Environmental and Policy Context

The City of New Haven has taken a leadership role statewide in creating a safe and sustainable transportation system for all of its residents (see Complete Streets Steering Committee and other details in this application). Unlike any other community in Connecticut, New Haven streets are community spaces. Of the 10 largest cities in New England, New Haven has the highest percentage of residents who walk to work. New Haven is a "top 10" transportation city[i] as determined by the National Resources Defense Council, and on any given day, thousands of people walk through our neighborhoods. Likewise, a bicycle has firmly replaced the car for many residents and cyclists are on city streets for work and recreational activities; New Haven has one of the highest bicycle mode shares of any mid-sized or large city in the United States. Unfortunately, public schools are heavily reliant on bus transportation. Of the 23,000 New Haven public school students, approximately 17,000 take a bus to school. This sedentary practice contributes to high obesity rates and is dramatically at variance with a movement in the broader community toward transit-oriented development. It is, however, understandable from the parents' perspective. Even when children reside within the traditional ¼ - ½ mile walking distance of school, many parents choose to drop off students.

New Haven streets are heavily congested spaces and the number and severity of crashes has raised important public policy and public health concerns. The per capita rate of pediatric pedestrian injury in New Haven is over twice the national average (New Haven – 223 per 100,000 children).[ii] For the three years, 2006 - 2008, the City has averaged 3,910 motor vehicle-related crashes per year. During the same period, 28 persons lost their lives in motor vehicle crashes.[iii] In 2008, two pedestrian fatalities galvanized the community through the New Haven Safe Streets Coalition. The coalition is comprised residents, civic leaders, city officials and organizations to improve traffic safety in the City.

Intervention Detail

Street Smarts: Award Winning, Wide-Reaching Community Campaign. In response to the alarming number of pedestrian fatalities, the City of New Haven launched a unique traffic safety campaign in October, 2008.[iv] The campaign was developed as a partnership with Yale University, Yale-New Haven Hospital, Elm City Cycling, New Haven Safe Streets Coalition and other community groups. Unlike more traditional "rule-based" campaigns, Street Smarts is an award winning approach[v] which calls for our attentiveness at all times; patience with others; and a willingness to share the road with all users. With over four million media impressions and 1,300 "smart driver pledges" in just the first year, Street Smarts has exceeded all of its original program goals. Now in its second year, the campaign has reached into New Haven's public schools. Volunteers have participated in the Mayor's citywide kick-off event, the Edgewood School Walk-to-School Day Challenge and the Fair Haven Middle School Safe Routes to School Master Plan. These early efforts are strategically branded with Street Smarts and in every effort we strive to create a culture of safety with embedded messaging and materials.

Safe Routes to School: New Haven Implementation as National Model. The City's first venture in the nationwide Safe-Routes-to-School (SRTS) program is underway at Fair Haven Middle School, following City approval of a grant from the State Department of Transportation. This effort is a model for Communities Putting Prevention to Work and national Safe Routes to Schools efforts in that physical improvements, school-based physical activity and Street Smarts

are blended in a coordinated, strategic approach. The Fair Haven Middle School Master Plan includes recommendations for new sidewalks, bike safety and traffic calming measures as well as education programs. Analytical work included a review of crash histories and a comprehensive infrastructure assessment within the ¼ mile walking radius of the school. The SRTS Committee reviewed existing walk- and bus-to-school patterns and targeted improvements to reach the highest concentration of drive-to-school students. A target market was identified north of the school, where 65% of the students live but have great difficulty crossing Grand Avenue due to road geometry, crash rates and the general lack of pedestrian infrastructure.[vi] The master plan champion at Fair Haven is also the physical education instructor. This application contemplates a similar approach so that all students practice Street Smarts and make walk and/or bike activities part of the daily routine.

Coordination with Safe Routes to Neighborhood Destinations and School Interventions. Signs, wayfinding, signage/security lighting and other physical improvements may be coordinated with this intervention. In addition to the work identified here, the Department of Transportation's Street Smarts team will be on-site each month to work with the school captain and monitor progress. The Safe Routes to School and Street Smarts intervention activities will be coordinated with the School Health Campaigns, proposed within this grant, through work with the District Wellness Coordinator.

Leverage: The grant leverages over $250,000 in local match funding, including "complete streets" physical improvements to be implemented within 6-18 months of the grant award.

Anticipated Policy Outcomes

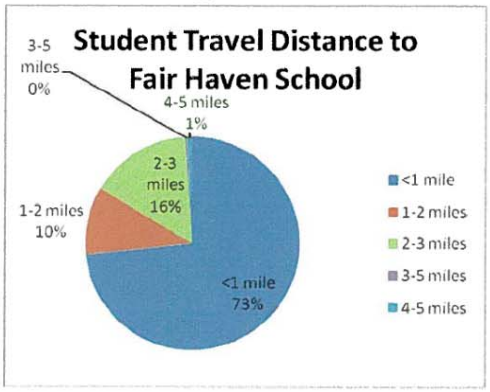
All New Haven schools are closely integrated within the extremely dense, mixed-use historic urban fabric of New Haven, most of which dates from the era before the automobile. Therefore, improvements made to public infrastructure, such as crosswalks, will have a major impact on the surrounding communities as a whole. Bike/walk infrastructure has a significant impact on safety and user comfort[vii], and can significantly increase mode share. Additionally, schools themselves are used year-round as community spaces, holding regular meetings and athletic events. This program will increase access to school facilities. Rapid completion of this intervention in five schools will provide a mobilized base of support for replication of the program at all schools and support the long-term work of the City's Complete Streets Steering Committee.

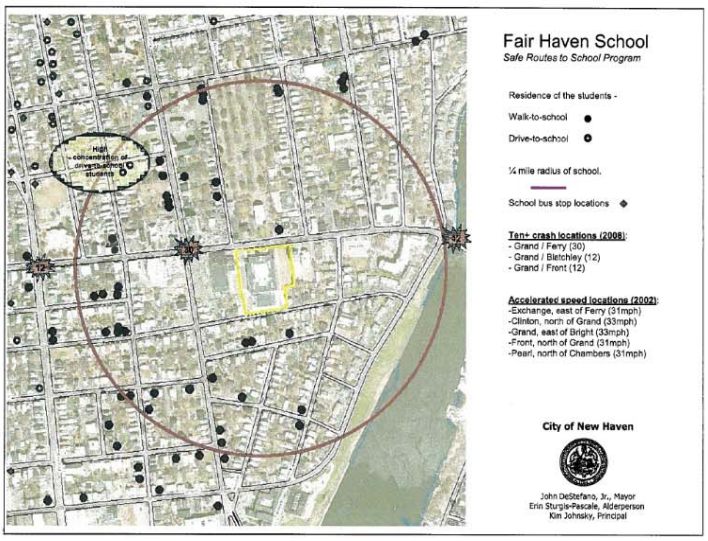
Sustainability Strategy

Successful completion of major SRTS interventions in five schools will set a precedent for attracting resources and support for the program at a citywide level. The New Haven Board of Aldermen has already expressed its strong support for the program.[viii] New Haven will be the first urban community in the State of Connecticut to conduct SRTS interventions at this level and we will dedicate significant in-kind time to assisting the program in its replication throughout the state, with support from CT DPH and the Connecticut Department of Transportation.

Figure 2: Fair Haven Middle School SRTS

Distance lived from School





Crosswalk at Grand Avenue and Bright Street-west view

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[i] Smarter Cities, A project of the National Resources Defense Council. http://smartercities.nrdc.org/rankings/scoring-criteria#transportation. Transportation category ranks cities that provide a range of less-polluting public transport options.
[ii] Gielen, A. C., S. DeFrancesco, et al. (2004). Child pedestrians: the role of parental beliefs and practices in promoting safe walking in urban neighborhoods. Journal of Urban Health-Bulletin Of The New York Academy Of Medicine, 81(4): 545-555.
[iii] MV crash records, courtesy New Haven Police Department.
iv Kral, Georgia. "In Wake of Two Deaths, Making Streets Safer," New York Times, October 3, 2008.
v The campaign recently was awarded 2009 "Best in Show" by the Southern Connecticut, Westchester / Fairfield and Connecticut Valley chapters of the Public Relations Society of America and cited by the judges as "an exceptional job" where "the thoroughness of the research was exceeded by the thoroughness of the planning. The plan was well executed, which the results clearly show."
[vi] Fair Haven Middle School (2009). Safe Routes to School Master Plan.
[vii] Winters, Meghan et al. The impact of transportation infrastructure on bicycling injuries and crashes: a review of the literature. Environmental Health 2009, 8:47.
[viii] New Haven Board of Aldermen Minutes, October 15, 2009: Unanimous approval of SRTS funding by BOA Committee.

Appendix E-3: Intervention Details
Intervention 2-2: Safe Routes to Neighborhood Destinations

Risk Factors Addressed
Lack of Physical Activity; Lack of Access to Healthy Food.

Description of Intervention
The City of New Haven, working with a broad-base of engaged community coalitions including numerous neighborhood associations, Elm City Cycling, New Haven Safe Streets Coalition and the New Haven Health Equity Alliance, will implement a three-part strategy to catalyze long-term policy and systems change that substantially increases the level of physical activity throughout the city. This work will be based on the work of the Complete Streets Steering Committee (see Appendix B). Measured through traffic counts and data on walk-to-school trips, the intervention will help meet the city's policy objective of increasing walking and bicycling trips by 20% by 2012. Please refer to the Community Action Plan for additional details.

Alignment with MAPPS Recommendations
This program relates to all five MAPPS areas referenced within the FOA (see Table). Media: Signage will promote walking, bicycling and transit use throughout neighborhoods across the city. Street closings will be media events. Access: The program will create extensive bicycling and walking infrastructure in residential and business districts. Complete Streets and new zoning policies will improve the safety and accessibility of the street network over the long term. Price: Physical improvements will facilitate lower transportation household expenses.[i] Point of Purchase/Point of Decision Making Information: Signage will provide navigational support to direct potential users to neighborhood destinations and improve the perception of distance and pedestrian safety for those within neighborhoods. Sidewalk and traffic signage, on-road markings and lighting interventions will highlight public transportation and bicycle networks. Social Support: Urban design will support access to services. Street closings will create opportunities for communities to build social networks and help reduce social reduce barriers or negative perceptions about physical activity.

Measures of Success
Tripling of the citywide bicycling network from 10 miles to 30 miles through creation of 20 miles of more walkable and bikeable routes to neighborhood and activity destinations; 20% increase in bike/walk counts and 20% increase in walking to school. Please refer to SMART Objectives in Community Action Plan for detail.

Environmental and Policy Context
Among Northeast cities, New Haven a leader in promoting multi-modal transportation access, and has among the highest bicycling and walking mode share of any medium-sized or large city in the United States. New Haven recognizes that increasing the relative proportion of bicycling, transit and walking trips is a city strategy with many positive impacts on public health, economic development, household transportation costs, urban community and quality of life. The current Mayor of New Haven was the first municipal chief executive in Connecticut to join the Transportation for America Campaign[ii], a progressive national coalition of public health, transportation policy and environmental organizations. In 2008, New Haven became the first

Connecticut municipality to receive an Honorable Mention from the League of American Bicyclists for its work towards becoming a Bicycle Friendly Community and received a $10,000 grant from Bikes Belong to further the planning of an access route from Downtown to Union Station. In 2009, the City conducted a $25,000 Bicycle and Pedestrian Gap Analysis Study to determine specific ways to improve access within the heavily-populated Downtown district. Using a combination of City funding and Federal Transit Administration funding, the City will be constructing many of these recommended improvements over the coming 12 months. 2009 also witnessed the City's completion of Phase III of the Farmington Canal Greenway, a multi-million dollar project that now provides an uninterrupted linear bicycling and walking path along a historic canal corridor between Downtown New Haven and neighborhoods 15 miles to the north. Phase IV of the Greenway, which will extend the route in the other direction from Downtown south to the city's waterfront, is funded and nearing design completion. In addition to passing its own municipal Complete Streets Order in 2008, the City strongly supported State Legislation SB735, *An Act Improving Bicycle and Pedestrian Access*[iii], which was signed into law by the Connecticut Governor in 2009. Although the City of New Haven has recently implemented significant improvements throughout the city, including small-scale traffic calming projects in every neighborhood, it now faces the monumental logistical task of customizing its policy directives to specific intersections and implementing them on over 240 miles of streets. Please see additional description and city data under Intervention 2-1: Safe Routes to School, and under the Complete Streets Steering Committee (Appendix B).

Physical and Population/Language Barriers to Access. With less than 5% of the city's road network currently designated and marked as a bicycle route, most neighborhood residents still generally perceive a lack of bicycle access to citywide destinations. Ongoing traffic injuries and fatalities, and an inherited system of roadways expanded during the 1950s and 1960s create major access barriers particularly for elderly, young and disabled pedestrians. Many New Haven residents have limited incomes relative to the State average, or are unable to obtain driver licenses for various reasons (including age or immigration status), and therefore spend a disproportionate share of their household expenses on transportation. A comprehensive wayfinding system has not yet been developed or implemented. This intervention will begin to address these barriers. As with the proposed Safe Routes to Schools intervention, which specifically addresses the public school population, we will target this program to those neighborhoods most impacted by wide health disparities. For example, New Haven has previously provided Spanish translators at public meetings (such as the Downtown bicycle and pedestrian circulation study referenced above), and the Transportation, Engineering and City Plan department staff spend many evening hours actively engaging with neighborhood groups as plans are developed.

Intervention Detail

Part 1: Twenty Miles of Safe Routes to Neighborhood Destinations. Using a combination of CDC funding and leveraged resources, the City of New Haven will create 20 miles of new signed routes to schools, parks and neighborhood mixed-use retail centers. We will create a citywide umbrella system of multi-modal wayfinding signs, and signage lighting, designed to provide information and point-of-decision-making support to pedestrians, cyclists and transit users. The citywide system of bicycling routes will be tripled from approximately 10 miles to 30 miles using on-road signage and traffic safety improvements along the routes. The City will

deploy the signage lighting interventions to address specific personal safety and traffic safety issues along the designated routes, and utilize city police resources where necessary. We will collect data on bicycling and walking trips and crime rates along the routes. This multi-faceted system will provide safer and more attractive access routes to key destinations, such as parks and Farmer Markets (see map below), helping to establish a citywide standard for Complete Streets.

Part 2: Street Closures. Using City in-kind resources, New Haven will create street closure events, modeled after New York City Summer Streets[iv] and combined with local community festivals. These street closures will create social support systems, access improvements and media opportunities surrounding healthy and active lifestyles. The City will also continue to provide safety crossing guards at Farmer Markets and other events in order to serve community access.

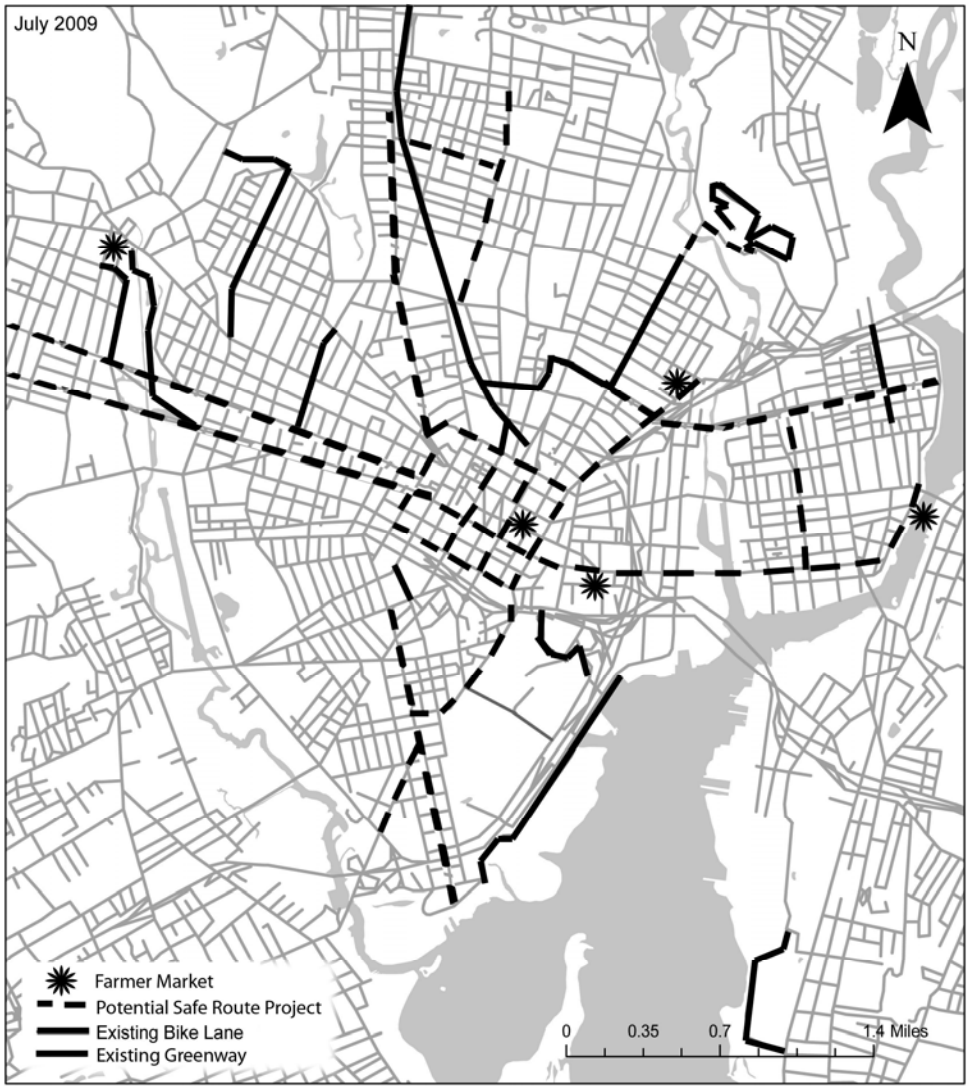
Part 3: Extension of Complete Streets Policy. Using CDC funding, New Haven will build on the highly-progressive existing policy and planning momentum of the Complete Streets Steering Committee (CSSC), extending their work to include areas such as neighborhood district zoning that promotes walkability[v]. As shown in the Team Appendix, the CSSC is a high-level commission created by the New Haven Board of Aldermen's 2008 Complete Streets Order. Additional City Plan Department zoning studies and traffic engineering design templates will leverage direct construction improvements to neighborhood mobility, while helping to extend city Complete Streets policy beyond the current design templates.

Leverage. The grant request leverages local match funding, including "complete streets" physical improvement, matching funds for signage and equipment, and funding for street closures. Funding for media for street closures is included within the citywide media campaign. Additional funding will be sought from local sources.

Anticipated Policy Outcomes

Accomplishing a critical mass of Complete Streets interventions by 2012, coupled with an associated increase in bicycling and walking trips citywide, will help sustain and expand internal and external support for the city's highly-progressive Complete Streets Policy. Successful implementation of this intervention will make New Haven a role model for urban communities throughout the Northeast and help attract additional resources for physical activity interventions. The leveraged physical improvements, signage and planning processes will have a major long-term impact on a very large population living within the impacted neighborhoods. Bicycle and pedestrian infrastructure has a significant impact on safety and user comfort[vi], and has been shown to significantly increase mode share in numerous studies[vii].

Illustration (Below). Primary Bicycle Lane and Greenway Linear Trail Facilities in New Haven, as of 2009, are shown as solid black lines. Dashed lines illustrate the potential 20 miles of intervention sites, which would establish new transit, bicycling and walking corridors to major neighborhood destinations, Farmer Markets and parks. Some of the dashed line routes already have been approved for certain treatments, e.g., on-road signage. The Safe Routes to Neighborhood Destinations intervention would enable them to be tied together under a citywide umbrella system of comprehensive wayfinding signage promoting active transportation and mass transit, as well as lighting and other improvements.



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[vii] For example, a rigorous study of over 11,500 adults found that adequate sidewalks resulted in a 15-50% increase in physical activity. See Neighborhood Environments and Physical Activity Among Adults in 11 Countries, Sallis, J.F. et al. (2009). *American Journal of Preventive Medicine* 36 (6), 484-490. City reports of bicycle count results before and after installation of new bicycle infrastructure in Philadelphia and New York City in 2009 showed immediate 30-80% increases in bicycle trips along streets where infrastructure was installed.

Appendix E-3: Intervention Details
Intervention 2-3: New Haven Moving: Multi-level Community Physical Activity Initiative

Risk Factors Addressed
Lack of Physical Activity.

Description of Intervention
As described in our narrative, CPPW funding will be used to support expanded school-linked and community physical activity programming including:

1. **Open Schools:** With the support of the New Haven Public Schools (NHPS), we will continue and expand the **Open Schools** program to provide increased space and time for physical activity programming from community providers to an additional 1,000 residents, with a link to the Elm City Resident Card (Intervention 0-2) and New Haven Moving programs (see below) to track activity for earning of incentives.
2. **New Haven Moving:** We will provide funding and in-kind support for expanded programming, known as New Haven Moving, modeled on the successful WeWiN (We Walk in New Haven) developed by an earlier community coalition and the New Haven Family Alliance. Incidentally, the social support aspects of the WeWiN program also showed an impact on nutritional habits. This program includes funding for grassroots neighborhood groups to support physical activity programs in targeted neighborhoods where the prevalence of obesity and chronic illness are elevated and will be linked both to Open Schools and the Elm City Resident Card.
3. **Expanded Youth-friendly Aerobic Exercise:** We will support the NHPS Physical Education Department to expand their successful use of youth-friendly, super aerobic "Exer-gaming" equipment (e.g. Dance Revolution) in six additional middle school sports programs.
4. **ABC for Fitness:** With the support of the School Wellness Teams, we will institutionalize ABC for Fitness across all 27 K-8 schools.

Alignment with MAPPS Recommendations
The Community Physical Activity Initiative addresses several of the evidence-based MAPPS recommendations referenced within the FOA. Media: Interventions will be linked to the citywide wellness campaign (Intervention 0-1) to promote activity. Access: Open School and parks programs will help facilitate community activity. ABC for Fitness program within schools will introduce recommended daily amount of physical activity and physical education to school children through a program that is integrated within daily teaching activities in the classroom. Price: Programs will reduce the price to access recreational facilities, including school gymnasiums. Social Support: Intervention components will build, strengthen and maintain social networks by creating activity groups for companionship while being physically active (see below for previous evaluation of the WeWiN program).

Measures of Success

1. Expansion of Open Schools will provide access to physical activity programming for an additional 1,000 residents.
2. Combining program grants with increased access to local facilities, New Haven Moving program will result in the creation several dozen active community fitness groups within disadvantaged neighborhoods, creating increased daily activity among at least 400 residents.

3. Exer-gaming equipment will be utilized within an additional six middle school sports programs, with popular youth-friendly activities reaching at least 2,000 students.
4. ABC for Fitness has been shown to result in a reduction in the *standardized Body Mass Index* (zBMI) score (i.e. BMI standardized by using age- and gender-normative data from the CDC), as well as improvement in academic performance and classroom behavior.[i] We anticipate similar effects as the program is expanded to all 27 K-8 schools through this intervention, impacting at least 2,250 students.

Intervention Details

Open Schools. The City will work to expand access to schools for physical activity, building on its highly successful School Construction Program under which 31 schools have been renovated or constructed, with state-of-the-art gymnasiums and some with pools to promote physical activity in neighborhoods and across demographics. With a growing corps of engaged leaders and activists, we will be improving pedestrian and bicycle access to these schools dramatically with new transportation and urban design policy interventions (see Interventions 2-1 and 2-2).

Since Summer 2007, the City has operated Open Schools, a collaborative effort between the City and Board of Education to provide young people a safe place for recreation. This program was developed with the charge of keeping public schools open in the evenings [Monday thru Thursday, 4:00 PM - 8:00 PM] during the summer and school year for activities. Each school is located in neighborhoods with large populations of disengaged youth and serves as a drop-in community center. Staffed by adults and youth from the community, Open Schools are well-attended, safe spaces for youth to engage with one another. Participants need not be students of that particular school or enrolled in school. The City has successfully expanded this program from the original three schools to as many as nine [during summers] and five [during school year] and diversified the available activities to include martial arts, dance, music and crafts. Currently, approximately 50 children attend the Open Schools each evening and approximately 2,000 have participated in this initiative thus far. These programs will be expanded and sustained using city resources and promoted via the Elm City Resident Card, which can be used to track and promote community use.

New Haven Youth Map. www.newhavenyouthmap.net. This City initiative, implemented in collaboration with Digital Ecologies and DataHaven (our regional community indicators and knowledge center) provides a web portal through which all youth serving agencies offer their program information within a searchable, filterable database linked to an interactive map. This platform will be expanded as a feature of the Wellness Portal to provide easy access to all physical activity and nutrition-related offerings.

City Parks and Recreation. This City department operates substantial youth and adult programming across the City's extensive park system.

New Haven Moving: Overview. These interventions build upon a recent program operated for several years by the New Haven Family Alliance, WeWiN, and will offer community-driven fitness activities to disadvantaged populations in central city neighborhoods with a high rate of obesity and a lack of activities. Walking; line dancing; salsa dancing; warm water aerobics (including water walking); aerobic karate; low and high-impact aerobics; and yoga have been

identified by New Haven Family Alliance's outreach as being of high interest to community residents in the City of New Haven. Program sites will include convenient, publicly and ADA accessible sites and other natural "gathering" places (e.g., churches, schools, senior centers, and parks). The CPPW Coalition will work with all partners to implement the CPPW Community Action Plan sections detailing the New Haven Moving interventions and objectives, secure additional funding to sustain these efforts, and address any other policy and/or resource issues related to achieving the goal.

New Haven Moving: Program Design. Physical activity will also be a core message of the proposed media campaign which will use a blend of traditional and innovative methods. Our program design draws upon proven models that are culturally relative as well as age-appropriate. Simple and powerful constructs frame the program design: a) locate program activities within neighborhood-based resources frequented by residents; b) use qualified health team leaders and fitness instructors that reflect the participants in appearance; c) extend trusted professional relationships with CPPW and other City staff to include health-related conversations and educational opportunities; d) allow residents input into developing a wide range of fitness-related activities; e) provide regular health-related feedback opportunities (starting prior to the first formal involvement) and ongoing professional support; and f) link program participants to other health-related resources – from supporting relationships with primary care physicians to taking advantage of (free) breast cancer screening opportunities. New Haven Moving**,** like WeWiN, draws upon proven models and research literature to address important factors such as: a) the use of psychological and spiritual approaches; b) the role of family influences and societal influences; c) the role of African-American subculture; d) method affordability; and e) racial difference in weight loss methods.[ii] We will incorporate proven practices for engaging residents and delivering program activities. Our community-based participatory approach operates at three distinct levels: a) the CPPW Community Coalition (the Health Equity Alliance); b) resident input to inform fitness programming; and c) individual participant choice in the nature and frequency of fitness activities.

New Haven Moving: Evidence Basis. Evaluation findings from the WeWiN pilot provide the compelling evidence that this approach will produce positive outcomes**.** Of 228 program participants in WeWiN, reductions occurred in the following biometric measures: systolic and diastolic blood pressure (43%); glucose (44%); weight (47%); body fat percentage (45%); and BMI (49%). In addition, of 54 participants who completed a wellness profile, 13.5% reported improved nutritional habits over their course of participation.[iii]

ABC for Fitness. The *ABC for Fitness*™ program[iv] is a classroom-based physical activity program for elementary schools developed by Dr. David Katz and colleagues at the Yale-Griffin Prevention Research Center. Schools have difficulty providing the recommended 30 minutes of daily physical activity to children due to competing demands on their time. The widely disseminated, and successfully evaluated ABC for Fitness was designed to show schools how to restructure physical activity into multiple, brief episodes of activity into classrooms throughout the day without taking away valuable time for classroom instruction. Its goals are to: (1) promote health and fitness; (2) enhance concentration and behavior; and (3) help optimize academic performance. The program guides classroom teachers to offer structured brief bursts of physical activity spread over the school day, ideally adding up to 30 minutes of daily activity.

Teachers can choose from a menu of options: (1) basic activity bursts to provide a break and help students channel their energy; (2) advanced activity bursts that combine sets of movements; (3) activity "bursts of imagination" that use creativity to move in the classroom; and (4) activity bursts to facilitate learning in language arts, social studies, music, math, science, and health classes. ABC for Fitness can ensure that children obtain the level of physical activity that is essential for good health and well being. Because the program offers activity bursts tailored to grade level and subject matter, the program may even lead to increased daily teaching time. Effects on habitual activity levels, fitness, academic performance, and health measures in children have previously been evaluated. Results show an average increase in activity of 70 minutes per week.

Anticipated Policy Outcomes

The widespread implementation of these programs will provide a crucial opportunity for community members and school children to perform the recommended daily amount of physical activity. Successful implementation of the programs at these levels will serve as a basis for their broader expansion across the school district and within the community.

Sustainability Strategy

This initiative is designed to be sustained primarily through existing funding streams, with targeted fundraising for special projects and to expand successful efforts. For example, community fitness programs are widely available in areas where facilities are more readily available. Similarly, the ABC for Fitness™ curriculum is available for use at no cost. The ABC for Fitness program has been shown to be easily implemented in classrooms by teachers with a high level of satisfaction and with proven outcomes of success. Building familiarity with these projects through active participation and media campaigns, and through the guidance of the Health Equity and Wellness Commission and the Leadership Team will ensure that community members support the opening of additional public facilities for community recreational use.

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