

**SHAPE UP SOMERVILLE:
BUILDING AND SUSTAINING
A HEALTHY COMMUNITY**

Reflections over 15 years (1998-2013)



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Contents

Introduction and Roadmap to the Report.....	2
Phase 1: Pre Shape Up Somerville – 1998-2002 - How did it all start?	6
Hallmarks of Phase 1: Pre-SUS Period.....	8
Phase 2: Shape Up Somerville Implementation: 2002-2005	9
Hallmarks of Phase 2: Shape Up Somerville Implementation: 2002-2005	12
Phase 3: Sustainability, City Ownership and Evolution Phase- 2006-2009.....	15
Hallmarks of Phase 3: Sustainability and Evolution Phase	18
Phase 4: Modern Era of SUS 2010 – to present.....	20
Hallmarks of Phase 4: Modern Era of SUS.....	22
Summing Up – Why has SUS been so successful?	23
Take Home Messages from the Data Appendices related to healthy eating and physical activity changes among Somerville youth	24
Directions for the Future.....	25
Conclusion.....	26
Appendix A. Shape up Somerville Timeline and Grant Activities	27
Appendix B. Relevant obesity-related health behaviors of Somerville Public Schools Students	28
Peer Reviewed Journal Articles Referenced	33

Shape Up Somerville owes much of its success to the commitment of our partners.

SUS Partners

Active Living By Design	Massachusetts Alliance of Portuguese Speakers
Boston Cyclist Union	Massachusetts Department of Public Health
Boys and Girls Club of Middlesex County	Massachusetts Department of Transportation
Brazilian Woman's Group	Massachusetts Farmers' Markets
Cambridge Health Alliance	Metro Medal Power
Centers for Disease Control and Prevention	National Institutes of Health
City of Somerville	Robert Wood Johnson Foundation
Community Action Agency of Somerville	Somerville Bicycle Committee
CORES – Community Organization for Refugees from El Salvador	Somerville Chamber of Commerce
East Somerville Main Street	Somerville Local First
Elizabeth Peabody House	Somerville Public School
Enterprise Farms	Somerville Police Department
Greater Boston Nepali Organization	Somerville Transportation Equity Partnership
Green City Growers	Somerville WIC
Green Streets Initiative	State Representative Denise Provost
Groundwork Somerville	Tufts University Friedman School of Nutrition Science and Policy
The Growing Center	Union Square Main Street
Haitian Coalition	WalkBoston
Immigrant Service Providers Group	Welcome Project
Institute for Community Health	YMCA
Let's Move	
MassBike	

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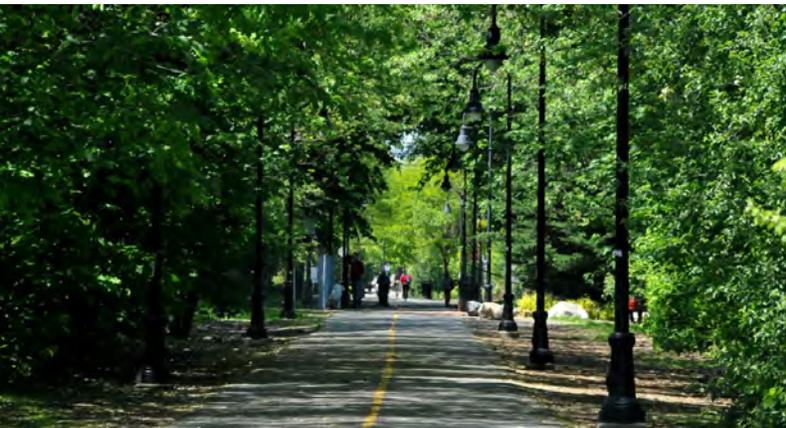
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Somerville Community Health Agenda: p.8, p.20, p.22
Somerville Historic Preservation Commission: p.22 (bike)

Introduction and Roadmap to the Report

The Shape Up Somerville (SUS) initiatives have been nationally recognized as an evidenced based community obesity prevention model.

Given the success of SUS and the sustained local and national attention on Somerville, this report's main goal is to provide reflections on the genesis of SUS initiatives, major activities over the course of the past decade, and areas for future development. There have been several academic journal articles published about the success of SUS (see references 1-5) and general audience articles and editorials. This report pulls from existing documentation of SUS activities and health indicators. It also provides information on the process and evolution of SUS over time through the eyes of key community stakeholders and partners who have sustained and helped support SUS since inception. Our target audiences are other public health organizations, community-based organizations, local public health departments, the informed public, the media and other individuals who are interested in replicating or adapting the SUS model.



The phases of the SUS efforts over the past decade or so loosely align with the major grants received by various SUS stakeholders. Figure 1 in Appendix A catalogs the time frame and dominant focus of the activities from many of the grants received. While secured funding was not the only driver of SUS activities, the grant periods represent concrete phases in time with focused attention to specific activities and behavioral targets. We will briefly discuss the hallmarks of these phases, lessons learned, and summarize critical levers of success that are common within and across SUS phases. The four phases that we will discuss are:

- **Phase 1** - Pre Shape Up Somerville:
~1998-2002
- **Phase 2** - Shape Up Somerville
Implementation: ~2002-2005
- **Phase 3** - Shape Up Somerville
Sustainability and Evolution: ~2006-2009
- **Phase 4** - Modern Era of
Shape Up Somerville: ~2010 to present

As Somerville is a city where data drives policies and programs, Appendix B provides data to supplement the description of the major activities and partnership involvement through the four phases. Although SUS is truly a community-based obesity prevention model – focusing on improving the health and well being of all Somerville residents, the data provided is focused on health indicators of Somerville youth (students in Somerville Public Schools).

Key ingredients for early and sustained success include: funding support, political will, community participation and partnership, and leadership. Without the financial support from various local and federal grants,



the breadth and depth of SUS could not be sustained. Engagement with the community through local organizations, volunteer effort and investment in community needs were important strategies to ensure community ownerships and buy-in to the SUS model. Sustained political and community leadership kept the resources flowing, the partnerships functioning, and facilitated connecting innovations with opportunities. Over the course of the SUS initiatives to date, the residents of Somerville, particularly youth, have had improvements to their health. These approaches bode well for the future of SUS and the residents of Somerville.

The Importance of Multi-Level Community-Based Obesity Prevention Initiatives

Over the past several decades, there has been a slow and consistent rise, with a recent apparent leveling off, in the rates of obesity among Americans, both adults and children, but with marked racial/ethnic and socioeconomic disparities in excess weight (6, 7.) Obesity is correlated with a clustering of chronic diseases, including diabetes, hypertension, cardiovascular disease and cancer (8). Annual medical costs of treating childhood obesity are already \$14.1 billion (9). Since obese children are more likely to be obese adults, prevention of childhood obesity is a local and national priority (10). To most effectively reduce obesity and promote and sustain healthy weight, obesity prevention initiatives must ensure that an individual's environment makes the "healthy choice, the easy choice"(12) and intervene across multiple levels of influence and systems including: individual, family, school, worksites, and community.

Multi-level Obesity Prevention Community-Engaged Initiatives in Somerville, MA

In Somerville, intervention efforts to confront obesity embrace the complexity of the problem through multi-level approaches to promote active living and healthy eating. The past decade has provided opportunities for Somerville to participate in multiple innovative community-based initiatives. We use the term community-based to collectively refer to school, community and municipal initiatives and activities. The participatory, collaborative nature of these efforts has promoted robust partnerships with community stakeholders,

university-based researchers, and government agencies that create synergistic and reinforcing efforts.

Some highlights of SUS influence in the past decade, from regional to individual, to promote active living in Somerville include:

- Advocacy and planning for regional mass transportation (Green Line Extension) and a companion multi-use path;
- Development of bicycle lanes and traffic calming measures, parks and playground enhancements, and safety measures;
- Physical Education and gymnasium equipment improvements in the local schools and physical activity programming in after-school programs;
- Education and self-assessment through Body Mass Index (BMI) and fitness testing in the schools and improved counseling regarding physical activity in health centers.
- Engagement of the Brazilian, Haitian, Hispanic, Nepali and immigrant populations.



Some multi-level community-based initiatives from the past decade to support healthy foods and eating in Somerville include:

- State/regional efforts related to nutrition standards in schools and publicly-owned enterprises;
- Healthy restaurant program, additional farmers' markets and Community Supported Agriculture (CSA) drop-off sites and the use of Electronic Benefit Transfer (EBT) cards/SNAP benefits to purchase fruits and vegetables at farmers' markets;
- School wellness policies, food-service enhancements, farm-to-school purchases, and school-yard gardens;
- Nutrition education in schools and cooking classes during after-school programs;
- Improved nutrition and obesity counseling and electronic medical record keeping in health centers.

Several “guiding principals” have characterized the SUS approach over the past decade.

- First, the SUS community-based initiatives have explicitly targeted multiple sectors of the community.
- Second, SUS initiatives developed as a result of engaging community partners in the planning, implementation, and evaluation of the initiatives. This participatory approach to obesity prevention is a key ingredient to success and sustainability.
- Third, attention to applying theoretical models and evidence-based approaches has been a hallmark of the SUS approach to intervention development and achieving sustainability.



Somerville Demographics

Based on 2010 Census data, the current population of Somerville is approximately 75,750. With a land area of only 4.21 total square miles, the density of persons per square mile is almost 18,000, making it the most densely populated city in New England. In 2010, the ethnic composition of the city was 69% White, 6% Black/African American, 11% Hispanic, 9% Asian, 2% Other, 3% Multi-race. Changes in local, state, US and global economies tend to impact the demographics of the city population, as demonstrated in the Somerville schools. Over the past decade, the composition of the student body became increasingly diverse – more diverse than the city itself or Massachusetts’s public schools as a whole - with the largest growth in Hispanic students from 30% of the student body in 2003/04 to 38% in 2010/11. Likewise, during the same time span, the percent of low income students increased from 61% to 68% (13).

PHASE I:

Pre Shape Up Somerville – 1998-2002 – How did it all start?

Overview:

Early on, Somerville was out front in the obesity epidemic discussion. Before there was substantial financial support from federal grants or national attention on the obesity epidemic, a group of Somerville health professionals and community advocates, listed in the paragraph below, began meeting regularly as the Nutrition and Physical Activity Task Force to discuss the nutrition and physical activity of Somerville residents. Beginning in the summer of 1999, a one-year local Somerville community food assessment grant supported the Task Force, which identified stakeholders, assessed community needs and assets, and catalyzed early discussions and community organizing around healthy eating and active living in Somerville.

Partnerships:

In the Nutrition and Physical Activity Task Force meetings, the beginning of the SUS movement started. Data compiled by Tufts graduate students and local primary care providers on obesity among Somerville youth were beginning to be shared, and partnerships between primary care providers, public health, community-based organizations (CBOs) and academic university research partners were beginning to emerge. There was alignment between the mission of the local health care provider, the Cambridge Health Alliance (CHA), members of the Tufts University Friedman School of Nutrition Science and Policy, an emerging community health research organization, the Institute for Community Health (ICH), and progressive leadership from the Somerville Public Health Department. Other readiness factors were also in place - the food service director for Somerville Public Schools supported changes in the school food system, and the active transportation community and environmental advocates were also meeting, as were environmental activists.



Somerville was out front in the obesity epidemic discussion.

Grants / Activities:

Among the initiatives that emerged during this period were resource guides that included an inventory of healthy food and eating outlets (like meals on wheels, and cooking classes), physical activity opportunities (like swimming pools and martial arts classes), and obesity treatment centers for children that were made available to social service agencies and health care providers. A significant amount of work was dedicated to partnering with school food service to identify opportunities for improvements. Additionally, during this time, data sources across the city were identified and energy was directed to creating a data inventory of various health and wellness measures (Body Mass Index (BMI), fruit and vegetable consumption, physical activity levels, etc.) of Somerville residents to inform future grant writing and obesity prevention initiatives.

“The journey of Shape Up Somerville is an example of a successful community health movement. It is a journey of an ever-widening circle of people who buy-in to a community campaign, work together through valleys and peaks of momentum, who get through periods of “forming, storming and performing”, and celebrate small and big milestones - because the vision of enhancing the quality of life for the whole community is more compelling to them than staying siloed to achieve success for a few. The on-going group cohesion and consistent leadership from individuals is what made the transformation of that city possible. I am honored to have been a part of it.”

— Jessica Collins, Former Project Manager, Shape Up Somerville.



The continued conversations, sharing of data, and partnerships across various city agencies and academic partners generated new ideas and propelled the exploration of various grant opportunities. While the grant opportunities identified were complementary as they all supported healthy eating and active living of Somerville residents, each had their own specific area/population of focus and thus required their own set of partners. Grant proposal teams included community and research or evaluation partners. The major grants applications included 1) Shape Up Somerville (SUS), 2) Growing Healthy, and 3) Active Living by Design. (See full description of the grants in Phase 2).



Hallmarks of Phase I: Pre-SUS Period:

Leadership and advocacy

- Importance of community and research leaders to generate innovative and progressive ideas to encourage collaborations, partnerships and big thinking.
- Identification of multiple national and local grant opportunities to support multi-level efforts to promote healthy eating and active living of Somerville residents.
- Focus on advocacy for health promotion and a vision of a healthy Somerville as a great place to live that combatted a negative perception of Somerville.
- Excitement and collective efficacy that Somerville is a place that local and national organizations are interested in supporting.

Data and needs assessment

- Data infrastructure and amassing information between multiple city agencies and interested stakeholders.
- Resource guide which included an inventory of healthy eating and food outlets, physical activity opportunities and obesity treatment facilities in Somerville.
- Emerging recognition that obesity was an issue in Somerville.

Partnerships development and engagement

- Establishment of grant-organized teams focused on their specific agenda and targets of interest.
- Health department, community-academic research collaborations.

PHASE 2:

Shape Up Somerville Implementation: 2002-2005

Overview:

Phase 2 was characterized by complementary, but generally parallel activities made possible by the funding secured for SUS, Growing Healthy and Active Living by Design.

This period was marked by unprecedented of community engagement and intervention activities that were conceptualized during Phase 1. Each grant had a steering committee that included research/evaluation and implementation partners from the community, and a planning phase that included soliciting input from community members to inform the intervention elements. See boxes for details on the individual programs. In addition to the activities specific to each of the grants, efforts to engage the mayor and city agencies set the stage for policy work in active living and healthy eating.

Partnerships:

In order to sustain and expand the efforts begun through the initial grants, grant leaders, including ICH, Tufts University, the Somerville School department, and community partners such as Groundwork Somerville (an environmental advocacy and community empowerment organization) took advantage of the growing number of grant opportunities, and continued to apply for funding. New grant applications were written to support community partners work in fruit and vegetable promotion

(Somerville Public Schools food service), afterschool programs (such as the YMCA), school physical activity and fitness (Public School Physical Education and Athletics Department), healthy eating (local restaurants and farmer's markets), and city-level policy and active living (bike lanes and walking path support). A movement to coalesce healthy eating and active living initiatives under the SUS umbrella was initiated at the end of this phase, with leadership coming from the Cambridge Health Alliance Community Affairs Department and from the Somerville Department of Public Health. Representatives from the School Department, Tufts, the Institute for Community Health, Groundworks Somerville, elected officials, representatives from the mayor's office and other NGOs began to meet to discuss relevant activities and projects, sustainability, other grant opportunities, and branding issues. This group became known as the SUS Task Force.



SHAPE UP SOMERVILLE (SUS)

GRANT: Funding from Centers for Disease Control 2002-2005

Researchers from Tufts University received CDC funding for a Shape Up Somerville intervention, which included components designed to promote healthy eating and physical activity for children, at home, at school, and in the community. The primary focus of the grant was on students in grades 1-3 in the Somerville Public Schools.

GOAL: to influence every part of an early elementary schoolchild's day – before, during, and after- school to promote healthy eating and physical activity and improve children's weight status.

INTERVENTION INCLUDED (see Economos et al. 2007 for detailed description of intervention):

- Food service enhancements to improve breakfast and lunch and staff professional development, food service infrastructure development, i.e. equipment and facility improvements
- Walk to school activities
- SUS classroom curriculum and professional development
- School wellness policy development
- SUS After-school curriculum and professional development
- Outreach and education to home through materials, forums, events
- "SUS approved" restaurants
- Community outreach and capacity building through policy development, trainings, media placements,



GROWING HEALTHY GRANT:

Funding from Vitamin Company Litigation Settlement Funds 2002-2004

Researchers from the Institute for Community Health received funding for "Growing Healthy" to support school-based vegetable gardens and fruit and vegetable promotion in the school cafeteria.

GOAL: to increase the consumption of fruits and vegetables by school-aged children through experiential learning in the lunchroom and school gardens.

INTERVENTIONS INCLUDED:

- Developed school-yard gardens and vegetable promotion curriculum
- Promoted usual and unusual fruits and vegetables through school food service using taste tests, fruit and vegetable of the month, and campaign materials
- Outreach and education home through newsletters to parents

ACTIVE LIVING BY DESIGN

GRANT: Funding from Robert Wood Johnson Foundation 2003-2008.

Community applicants from Groundworks Somerville received funding to support city planning infrastructure and partnership development to improve walking and biking opportunities in Somerville.

GOALS: to improve the infrastructure and capacity of Somerville to promote physical activity and active living for all residents through partnership development, programming, promotion of physical activity and opportunities for activity, developing policies and physical or “built” environment supportive of physical activity.

INTERVENTIONS INCLUDED:

- Advocacy for bicycle and pedestrian changes to the city
- Supporting SUS partnership activities
- Supporting immigrant community organizations active living activities



Community applicants from Groundworks Somerville received funding to improve walking and biking opportunities in Somerville.



Hallmarks of Phase 2: Shape Up Somerville Implementation: 2002-2005

Implementation of project elements

- Big growth years – big infusion of money, talent and enthusiasm in Somerville led to new innovations to various sectors of the social-ecological model including: built environment, food service, and school based physical education and nutrition.

Capacity building, community engagement for implementation and sustainability

- Curriculum, training and support for school staff: food service staff, physical educators, class room teachers, personal training regarding healthy lifestyles
- Training and support for afterschool organization staff
- Engagement and education of city staff in healthy eating and active living through professional development, meetings, personal training

- Establishment of a city position focused on biking and walking – stemmed from the advocacy of the Active Living by design grant
- Reaching community members through volunteer work, such as, Somerville park cleanups, a Clarendon Hills/North Street Housing cleanup and assistance at “Math Night” at the Arthur D. Healey School
- Initiation of engagement and partnerships with Somerville youth

Leadership and inclusion

- Recognition of the importance of inclusion and participation of the organizations (school department, afterschool centers, city departments, ethnic cultural groups) and people who were charged with implementation in the planning and evaluation of the work
- Recognition of the phases implicit in implementing change – resistance, compliance, ownership – and methods to overcome negativity such as inclusion in decision making and transparency, capacity development, recognizing and rewarding innovation and risk taking among implementers.





“When I started as the nutrition program director for the Somerville Schools in 2002 we faced many challenges to improve the food quality and services provided to the students. Chris Economos and the Shape Up Somerville (SUS) team from Tufts came and spoke to us about the opportunity to participate in a grant to improve the physical activity and nutrition environment in the schools and community. The SUS team visited the schools, spoke to us and observed the food service operation to understand the barriers. They listened to us and tailored the intervention to work in partnership with us so that the goals and program changes were realistic and achievable. As a result we were able to make significant improvements in the food quality, equipment, nutrition education and service to help the students. These improvements created a foundation that we were able to expand and build on after the grant ended. I will be forever grateful to Chris, Jessica Collins and the whole Tufts team that worked tirelessly with us to create an environment to empower children to live happy, healthy, productive and successful lives.”

— *Mary Jo McLarney, Former Director of Food and Nutrition Services, Somerville Public Schools*

National recognition and validation of work

- Funding from prominent organizations (CDC, Robert Wood Johnson Foundation, USDA) provided validation that Somerville was “doing things right” – which helped galvanize collective efficacy and interest from additional community and academic partners and local government.

Engagement of local agriculture and food service reforms

- The “local” agriculture movement influenced the development of school gardens, farm-to-school and local food initiatives, including work directed by the Growing Center, the Institute for Community Health, and Groundworks Somerville.



City leadership and ownership

- Direct personal engagement with the Mayor of Somerville and a number of city officials through participation in a personal training program as well as the development of the worksite wellness initiative, encouraged city leaders to be more active and healthy. This early engagement with the Mayor and city officials created a long-standing relationship and marriage between the City of Somerville and SUS.
- Mayoral leadership and engagement of multiple city agencies (public health, primary care, schools, Cambridge Health Alliance, etc.) streamlined and connected the various SUS initiatives and grants, which helped to keep the talent and energy focused on healthy eating and active living for all sectors of Somerville.

“The Shape Up Somerville initiatives made me realize as a teacher the importance of healthy eating and active living to learning for my students. Using “Cool Moves” in the classroom really helps my students focus and gets them ready to learn”

— *Celia Taylor, Teacher at The Arthur D. Healey School*

PHASE 3:

Sustainability, City Ownership and Evolution Phase: 2006-2009

Overview:

The dedicated interest and data generated from the formidable first set of nationally funded grants to support healthy eating and active living paved the way for continued interest and momentum to seek additional funding and municipal support to help sustain and grow these initiatives. While the original SUS research project was winding down, a formal SUS coordinator position housed at the Somerville public health department was funded by Tufts University and later by the City of Somerville and the Department of Public Health to help sustain the SUS coordination. Fortuitously, the project manager of the Tufts research study took a position at Cambridge Health Alliance as Director of the Somerville Health Agenda and formed and facilitated the SUS Taskforce. This continuation of leadership helped to bridge the various initiatives spearheaded by the separate grants. The SUS Task Force coalesced to increase communication and collaboration across the SUS initiatives and generate new ideas for additional local initiatives. The SUS Task Force had representation from several city agencies as the relationship between SUS and the Mayor of Somerville was strong and there was dedicated interest in prioritizing obesity prevention at the local municipal level.



Partnerships:

While most of the partnerships forged in the early years were maintained, new grants and collaborations expanded attention to older public school students, active transportation and the Green Line subway extension, the built environment, farmer's market efforts such as "Grown in Somerville" with Union Main Street, economic development, and health disparities, as well as data collection, monitoring and surveillance. Some of the new grants acquired during Phase 3 are listed below. The mayor's office implemented a data-driven decision making approach, called SomerStat, which was synergistic with the approaches taken by the research and evaluation teams deployed for the specific grants. Additionally, there was substantial financial, academic personnel support through student interns and research partners from Tufts University.

Grants/Activities:

Positive results from the Phase 2 SUS study were published in the journal *Obesity* in May 2007 (2). *The Wall Street Journal* and other media outlets picked up the story of SUS success in halting the increase of obesity among SUS students. The extensive positive media coverage generated national attention and facilitated extensive commitment from the mayor's office to healthy eating and active living initiatives and highlighted SUS as a national model of community-based obesity prevention. Locally, the pedestrian/bike coordinator position was retained after funding from the Active Living By Design grant was over. Nationally, the mayor and SUS leadership were asked to join the First Lady in her Let's Move initiative. This confidence in the SUS approach facilitated more grant funding – characterized by Robert Wood Johnson Foundation and MA Department of Public Health grant proposals that were designed to address sustainability of SUS initiatives, but also to address gaps and disparities that were being recognized. Grant funding to support farm to school initiatives, improvements to the public school infrastructure and staff capacity to improve physical activity and school food brought substantial financial and talent resources to Somerville during this period. See grant program details in boxes. Hispanic and immigrant families, and communities geographically isolated from access to healthy food (grocery stores, farmer's markets, etc.), and opportunities for active living (safe parks and playgrounds, walkable streets, public transportation) became the focus of the resource development and activities during this period.



GROWING HEALTHY COLLABORATIVE GRANT:

From Farm to School to Home

Funding from US Department of Agriculture Community Foods Project 2005 – 2008 to the Institute for Community Health.

GOAL: to increase student fruit and vegetable consumption, build capacity in the food service, integrate a farm to school program into food service.

INTERVENTION INCLUDED:

- **Food service staff professional development and equipment purchases**
- **School procurement practices and policies that favor local food**
- **Support of school gardens and garden activities**
- **Farmers markets promotion activities with links to home and schools**
- **School menu and recipe development: fruit and vegetable taste tests and menu voting**
- **“Get to know the farmer” through library and cafeteria events**

CAROL S. WHITE PHYSICAL EDUCATION PROGRAM (PEP) GRANT:

Funding from the US Department of Education 2005-2008 to the Somerville Public School Department.

GOAL: to improve student's weight status, fitness, physical activity and healthy eating through improvements to physical education programs, the school food service, and after-school programming.

The focus of the grant activities was on 4th through 8th grade students.

The Institute for Community Health conducted the evaluation of the grant.

INTERVENTION INCLUDED:

- Physical Education equipment and gymnasium improvements, professional development to teachers
- Food Service professional development, food, recipe and menu development
- Fitness testing, BMI screening and monitoring
- In partnership with Somerville after-schools – physical activity and nutrition programming and equipment
- Nutrition instruction during the school day

ROBERT WOOD JOHNSON FOUNDATION FUNDED PROGRAMS DURING PHASE 3 & 4:

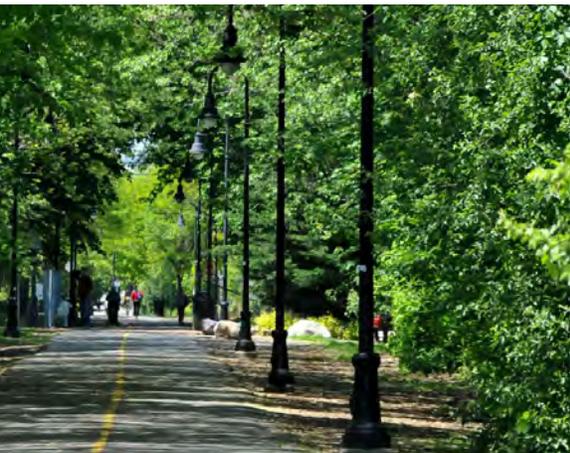
- **Healthy Eating by Design (2005-2007)**
Goal was to improve low income and immigrant families' access to local healthy food at farmers' markets in Somerville.
- **Active Living Research: (2007-2009)**
Goal was to evaluate the impact of the Active Living by Design grant activities on partnerships, programs, policies, planning, and place on promoting active living.
- **Sustainability Grant (2009-2010)**
Goal was to provide staff support to Active Living and Shape Up Somerville efforts as efforts were transitioned to Somerville staff.
- **Healthy Kids Healthy Communities (2007-2012)**
Goal was to implement healthy eating and active living policy- and environmental-change initiatives that support healthier communities for children and families with a focus on children who are at highest risk for obesity.

The Wall Street Journal and the media picked up the story of SUS success in halting the increase of obesity among Somerville students.

Hallmarks of Phase 3: Sustainability and Evolution Phase

Coordination, planning positions sustained in Somerville

- Seeds for sustainability, planted in Phase 2, were being sown in phase 3 with an influx of more diversified grant money, institutionalizing of Shape Up Somerville coordinator in the health department and the walk/bike position in the mayors' office. City departments such as Parks and Playgrounds and Recreation became more integrated into the effort by upgrading parks and playgrounds and engaging in long term planning.
- This period saw personnel changes at the leadership level in the public health department and the Cambridge Health Alliance and the Public Schools – which reflected a transition of leadership to the SUS Task Force as many of the individuals who were indispensable in mobilizing the early SUS movement moved on. However, several key stakeholders with institutional memory helped “bridge” the transition and encourage new approaches and partnerships.
- Greater leadership emerged from the Somerville public health department – an established SUS Director was located at the health department from support provided from Tufts University and the Phase 2 SUS study.
- The SUS Coordinator, and phased in Director position initially through Healthy Kids Healthy Communities, unified the partnerships and collaborations across grants and re-organized the focus of SUS as a comprehensive initiative and not fragmented by grant funding. This organization allowed for additional efforts to grow (such as active transportation) and mature and for outreach for additional partners such as Safe Routes to School, and afterschool programs.
- Leadership and shared vision of a healthy Somerville helped overcome growing pains associated with groups coming together with complementary but not identical missions and strategies. Likewise, issues of organizational identity and branding of all healthy eating and active living efforts in Somerville under the Shape Up Somerville banner needed to be worked through with respect and transparency.



“Through SUS and the PEP grant we were able to make some real changes in the schools and incorporate new practices to the PE program. We started collecting BMI and fitness data, we bought PE equipment and provided professional development to teachers, and we increased our collaboration with community afterschool programs.”

— *Tim O’Keefe, Supervisor of Health and Physical Education for Somerville Public Schools*

Institutionalized data collection and growing recognition of disparities

- Data was key to acquisition of new grants during this phase. However data collection efforts were largely siloed, that is, measures and targets for evaluation were generally directed by the goals and outcomes of each grant.
- Increased focus on school-based data collecting, monitoring particularly in regards to the school based physical fitness and body mass index (BMI) assessment and monitoring with the PEP grant.
- Continued universal approach – focus on all Somerville school children and residents although a growing awareness of the disparities of access to healthy foods and active living resources was emerging.

Concerted focus on infrastructure and policy development, and the built environment

- Sustained attention to active living, school food service and physical activity
- SUS gym reimbursement BeneFIT created for non-union employees
- Somerville school district approves wellness policy
- City of Somerville bicycle lane policy developed and bicycle parking ordinance enacted
- Vending machines at City hall incorporated healthier options.

“When I started as Somerville’s first Bicycle and Pedestrian Coordinator in 2004, the Somerville Bicycle Committee had generated a lot of good ideas, but few had been implemented; the City lacked any plans on how to improve conditions for walking. By the end of the Active Living by Design grant in 2009, Somerville had implemented several of the Bicycle Committee suggestions including bicycle lanes, more bicycle parking and a bicycle parking ordinance, and had restriped every crosswalk in the City and had a city-wide plan to address pedestrian safety issues. Shape-up Somerville provided the link between bicycle advocates and the City to help convert ideas into real projects and provided the resources for the City to undertake pedestrian planning city-wide rather than on a project by project basis. I am glad to see that Somerville has not only sustained the initial efforts to improve bicycling and walking, the City has gone on to implement a comprehensive network of bicycle lanes / routes and complete more pedestrian safety improvements.”

— Steve Winslow, former Bicycle and Pedestrian Co-Coordinator for the City of Somerville

PHASE 4: *Modern Era of SUS 2010 – to present*

Overview:

In contrast to the earlier phases, which were marked by substantial multi-year grant funding, and consistent with the national economic landscape and public health funding, the receipt of a myriad of generally smaller grants to support specific initiatives dominated Phase 4. The SUS modern era has embraced a more targeted focus on intervention efforts to promote the health and well being of Somerville's most vulnerable residents, particularly a focus on health disparities and immigrant populations.

Partnerships:

The SUS initiatives during the modern era have been led by the City of Somerville, as the SUS Director is part of the Somerville Public Health Department. This position was funded through a Robert Wood Johnson Foundation Healthy Kids Healthy Communities grant and then transitioned to the city. Through the city's leadership, the SUS partnerships have been sustained and the SUS Task Force continues to meet. In addition, new partnerships with the Massachusetts Department of Public Health and the State's Mass in Motion initiative and with national organizations, including the Centers for Disease Control and Prevention, continue to develop. The SUS Task Force is transitioning to the SUS Steering Committee, housed within the City of Somerville, with participation by city departments, immigrant-focused organizations, and representatives from regional groups with an interest in

healthy eating and active living (such as Safe Routes to Schools, Walk Boston, and the Shape Up Approved eat well restaurant intervention in collaboration with The Welcome Project's immigrant-run restaurant campaign, YUM!) and historical partners such as the public schools, Tufts University, afterschool programs and community organizations.

Grants/Activities:

The box on the next page on the Live Well grant provides an overview of one of the focused grants received in the modern era of SUS.

Multiple shorter grants in Figure 1 reflect the focus on social justice and increased access for immigrant populations as well as a focus on environmental and policy changes to support all Somerville residents, not just youth. Key partners on this grant include the Community Action Agency of Somerville, the Immigrant Service Providers Group, the Haitian Coalition, The Welcome Project, and the Brazilian Woman's Group.



LIVE WELL RESEARCH PROJECT:

Funded through the National Institute of Health to Tufts University Friedman School of Nutrition from 2009 to 2012.

GOALS: Live Well was a randomized controlled intervention to encourage obesity preventive behaviors, based on community based participatory research (CBPR) strategies to prevent excess weight gain in new immigrant mothers and children from Haiti, Brazil, and Latin America.

INTERVENTIONS INCLUDED:

- Creation of a steering committee with strong community engagement to decide all aspects pertinent to the project
- Development of a seven session curriculum with individualized follow-up to discuss nutrition facts and physical activity. Curriculum was based on popular education and adult education theories. A follow-up phone call from the project coordinator helped identify changes based on motivational interviewing techniques
- Immigrant participants met for seven group sessions and had five individual counseling sessions



“Somerville has a dynamic and diverse population including a mixture of young urban professionals and immigrants from over the past 20 years from Haiti, Brazil, and Central America and more recently Southeast Asia. While the median income in Somerville has increased over the past decade, so have poverty levels among certain groups, widening the gap between the haves and have-nots and increasing the disparities in residents’ access to healthy foods and opportunities for active living. To meet the needs of our vulnerable populations, Shape Up Somerville continues to require new and renewed investments to focus on economically, culturally and linguistically appropriate approaches.”

— Lisa Brukilacchio, Director, Somerville Community Health Agenda, Community Affairs, Cambridge Health Alliance

Hallmarks of Phase 4: Modern Era of SUS.

- Leadership, ownership and identity of SUS very much led by the Mayor of Somerville
- Greater focus on explicitly comprehensive community wide initiatives such as improvements in parks and playgrounds
- Re-emerging interest and focus on equity/health disparities, social justice and immigrant populations in Somerville
- Continued national attention of SUS through Michelle Obama's Let's Move initiative
- Tenets and mission of SUS have been institutionalized and incorporated into other city agencies focused on economic development, housing, the environment etc. – infiltration across city agencies
- Fine tuning of the data system, Somerstat, which is a depository of various Somerville datasources, to help direct, coordinate and monitor the efforts of the city
- Coordination with State and regional efforts such as Hubways bicycle program, Safe Routes to School, and farmer's markets
- Embracing of local food movement and “green” environmental movement on culture and community ethos.



Somerville as a city has been defined by SUS.

Summing Up— Why has SUS been so successful?

Below are a few cross-cutting themes that have contributed not only to the success of SUS but to its sustainability and evolution over time.

Core to its success has been the political will and leadership of the city of Somerville to prioritize childhood obesity prevention and wellness promotion for all Somerville residents.

- Leadership, engagement and support from the Mayor and many city departments/program has been critical to institutionalization of the SUS mission and values – health is a priority in Somerville.
- Balance between program evolution and ongoing maintenance of the core components of SUS initiatives.
- Continued success comes from innovative, new and sustained collaborations
- Diversified funding allowed for multi-level and multi-sector initiatives spanning from the school food service to parks and playgrounds.
- Sustained interest from original SUS developers and connection to new personnel was critical to maintain enthusiasm and seek new funding.
- External credibility from academic published articles as well as national recognition was a key ingredient to sustain interest, promote progressive thinking, assist in acquiring additional funding and encourage city level interest across multiple domains.
- SUS Task Force, Steering Committee, and community partnerships sustained relationships and a shared agenda.
- Consistent branding and use of social marketing techniques to increase visibility and exposure to SUS name, logo and mission statement.
- Strategic placement of questions in community wide surveys; Consistent reporting of data by research groups and the city showing positive change was critical to fostering innovation, identifying gaps/opportunities, and celebrating successes.



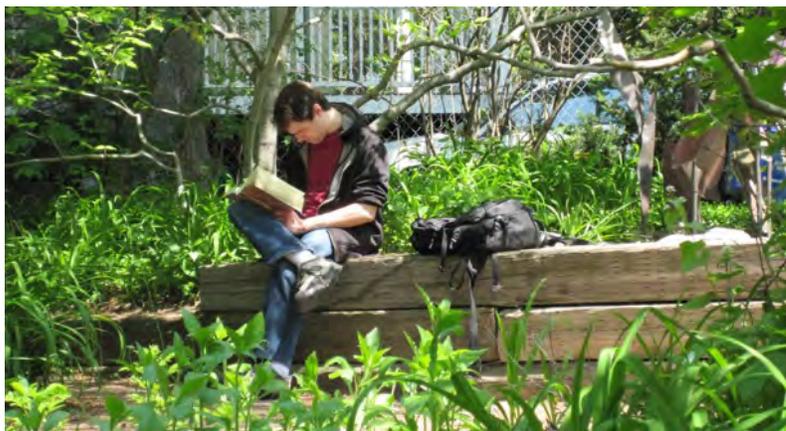
Take Home Messages from the Data Appendices related to healthy eating and physical activity changes among Somerville youth

In Appendix B, several graphs depict changes in healthy eating and physical activity indicators among Somerville public school students. The data for these analyses come from the Somerville Health Survey, which is a biennial survey of middle and high school students. The health indicators included questions from the national Youth Risk Behavior Surveillance Survey as well as questions developed locally for needs assessment and evaluation purposes. Due to a lack of a control group and randomized research design, we cannot make any causal claims related to behavior change that may have resulted from the SUS initiatives over time. However, the data is arranged to show time trends in health and activity behaviors and it is segmented to align with the various Phases of SUS detailed in this document. Below are some key points presented in the data graphs.

- TV watching for Somerville high school students significantly declined from the beginning of Phase II to Phase IV. Nearly half of all high school students (48%) reported watching TV for more than three or more hours a night in 2003 and 37% of high school students reported watching three or more hours of TV a night in 2011.
- Among both middle school and high school students, there were significant declines in students reporting consuming two or more sugar-sweetened beverages on the prior day.
- Among middle school students there were statistically significant declines in consumption of two or more snack and sweets in the prior day from the Phase II until the modern era, Phase IV. In 2003, approximately 55% of middle school students reported consuming two or more snacks and sweets compared to 43% of students reporting consuming two or more snacks and sweets in 2011.
- Among both middle and high school students there were statistically significant increases in the proportion of students meeting moderate physical activity goals set by the US Department of Health and Human Services. For example. In 2003, 18% of middle school students met those requirements compared to 28% of middle school students meeting those requirements in 2011.
- Among middle school students, there were significant increases in the proportion of students reporting that they had received nutrition and fitness instruction at school or at home across the SUS Phases, with approximately 78% of youth reporting that they had received instruction at school in 2011.

Directions for the Future:

- Greater attention to disparities and changes to demographics – use community engagement to increase access in community, schools, government agencies serving low-income, ethnically diverse and immigrant communities
- Renewed attention to Safe Routes to School, school-based wellness policies, and physical activity promotion at Somerville Public Schools
- Integrate data surveillance systems and forecasting for data driven decision-making at the city level
- Continue engaging new partnerships with local and regional organizations, academic institutions and state/federal governments.
- Promotion and marketing of SUS initiatives via social marketing and new technologies
- Promotion, marketing and sustainability of Mobile Farmers Market, worksite wellness initiatives, and Shape Up Approved: Eat Well Restaurant intervention.



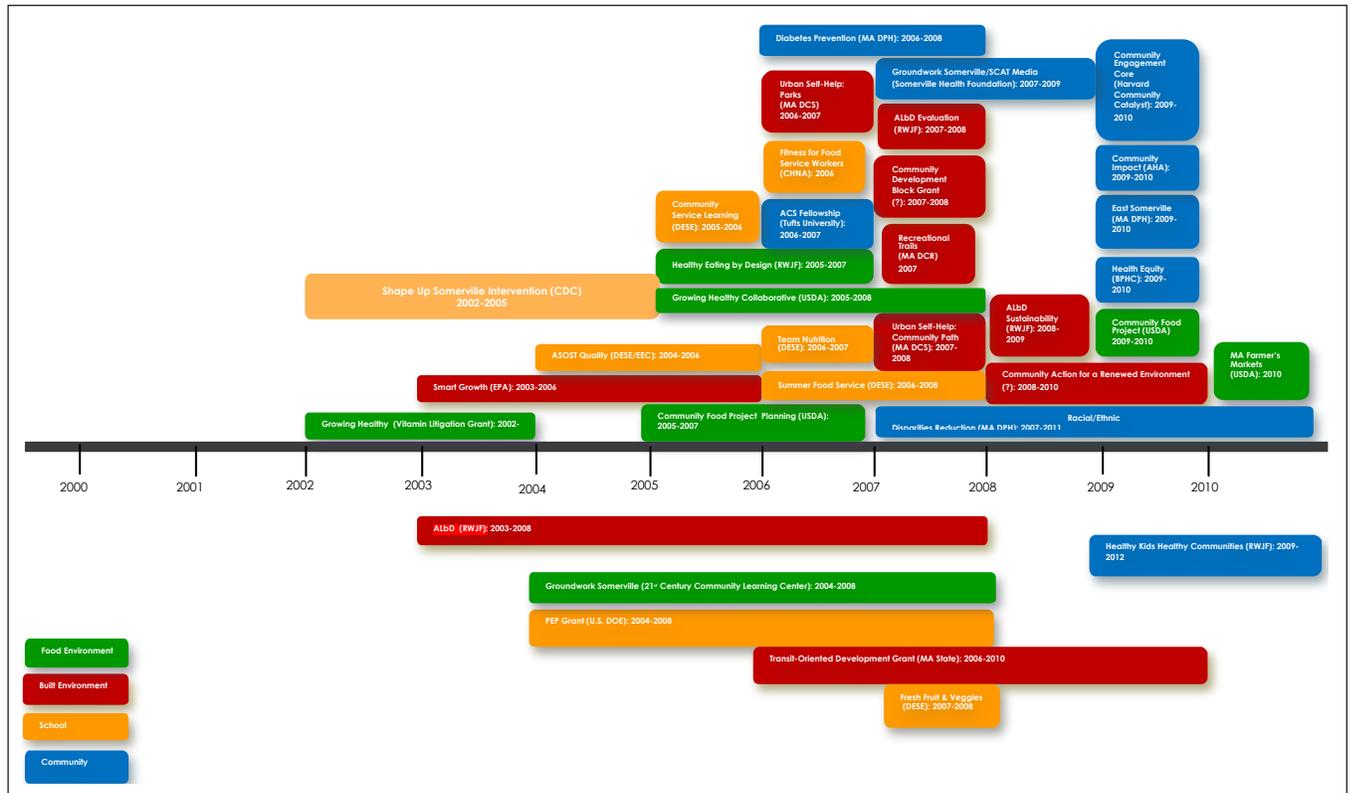
Conclusion

Across the SUS phases key ingredients for success included: funding support, political will and community partnerships.

Directly engaging the Mayor of Somerville and other city officials to improve their own personal health as well as the health of those in their departments was a successful strategy to initiate relationships and build Citywide interest in the SUS mission. The Mayor's leadership supports the SUS Director, the SUS Coordinator, and the bicycle/pedestrian positions at the local level. The financial support from various local and federal grants continues to be crucial to the sustainability of SUS. Engagement with the community through existing organizations, volunteer efforts and investment in community needs were important strategies to ensure community ownerships and buy-in to the SUS model. Appendix A chronicles the impressive array of support and organizations that have been mobilized through SUS to improve healthy eating and physical activity opportunities for the City of Somerville. Appendix B briefly outlines some of the changes in healthy eating and physical activity measures over time. Over the course of the 15 plus years of the SUS initiatives, the residents of Somerville, particularly youth, have had substantial improvements to their health.

Appendix A. Shape up Somerville Timeline and Grant Activities

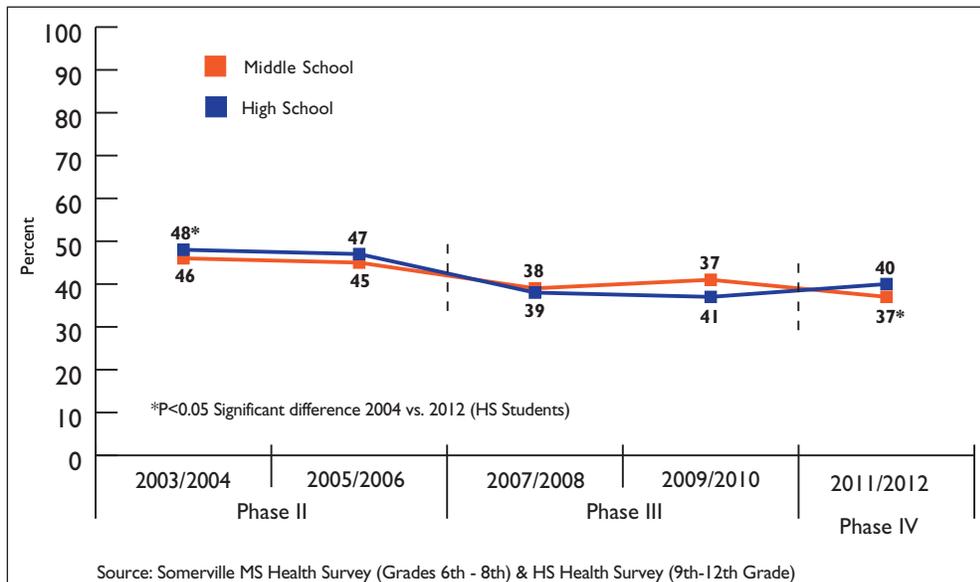
Figure 1



Hennessy E, Collins J, Nahar E, Sweeney LB, Rioles N, Chomitz VR, Economos CD, personal communication, 2013.

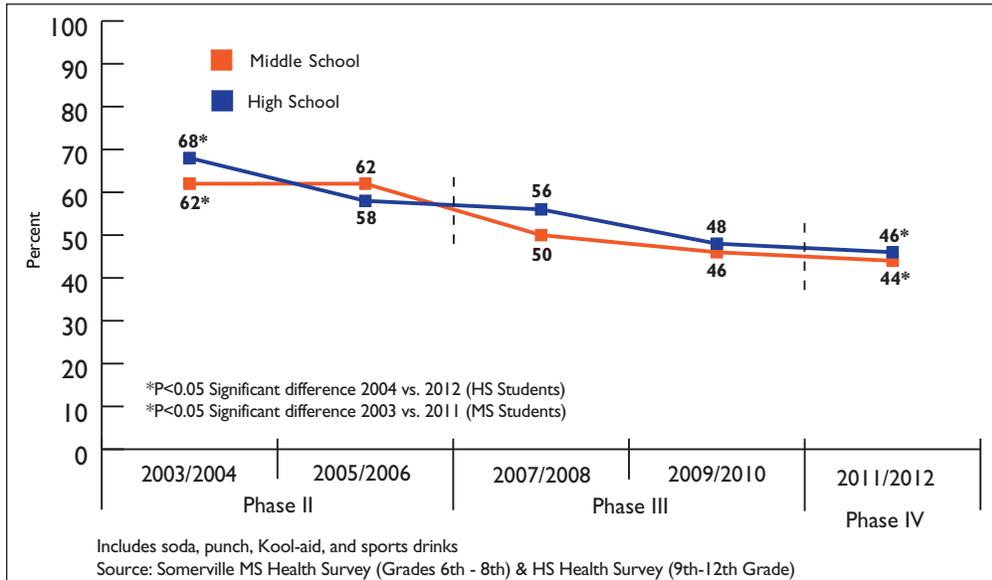
Appendix B. Relevant obesity-related health behaviors of Somerville Public Schools Students

Proportion of Somerville, MA Middle and High School Students watching more than 2 Hours of TV on an Average Week Night; Somerville, MA (2003-2012)



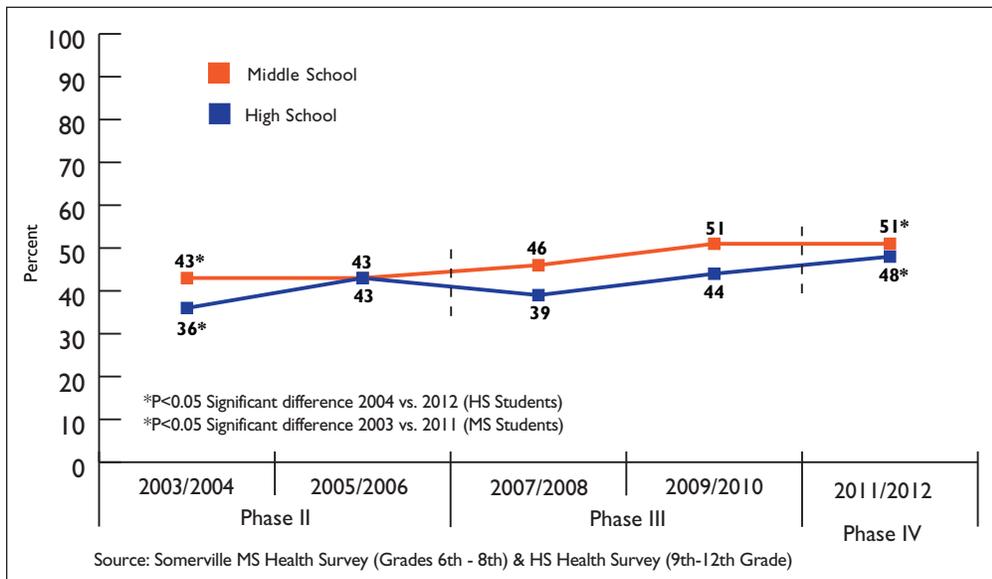
TV watching or “Screen Time” is an indicator of sedentary behavior. At the beginning of Phase II, nearly half of all high school and middle school students were watching TV for 3 or more hours per night. At the end of the decade, the proportion has fallen to 40% of middle school students and 37% of high school students (statistically significant change for high school students).

Proportion of Middle and High School Students Consuming Two or More Sugar Sweetened Beverages in Prior Day; Somerville, MA (2003-2012)



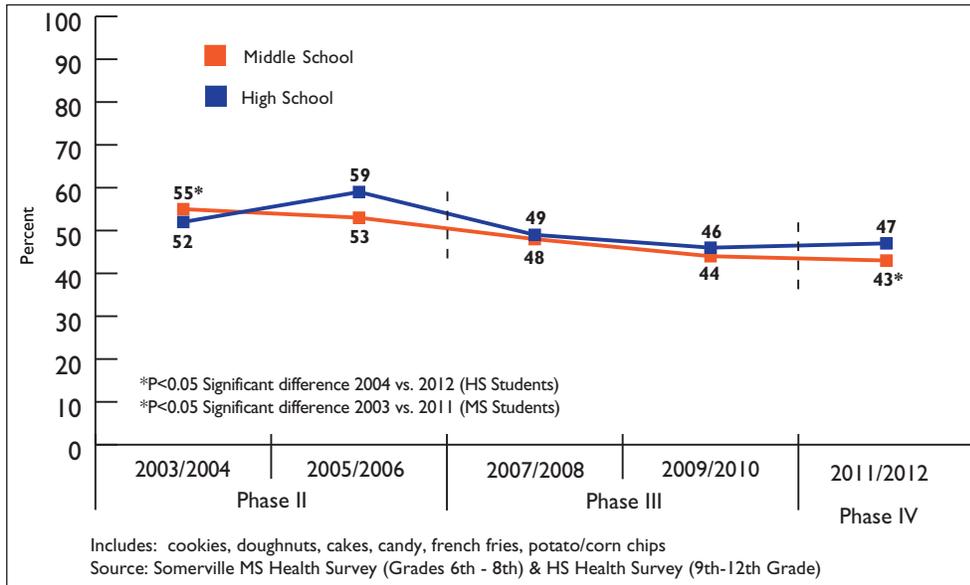
High sugar sweetened beverage consumption (two or more in prior day) has decreased steadily in Somerville over the course of the 2003 to 2012 time period.

Proportion of Middle and High School Students Consuming Two or More Fruit or 100% Fruit Juice in Prior Day; Somerville, MA (2003-2012)



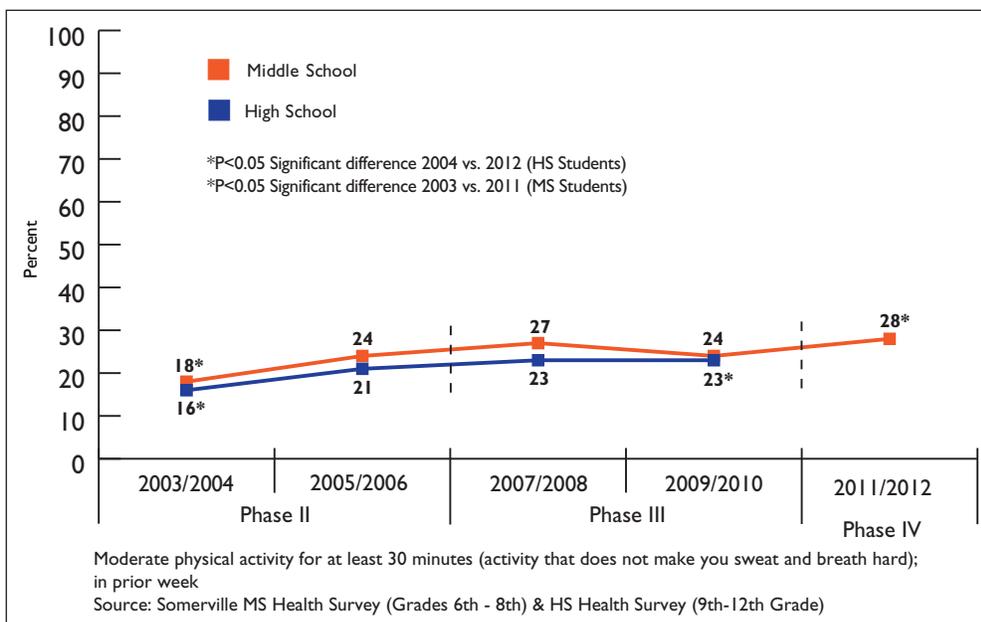
Higher fruit and 100% fruit juice consumption (two or more in prior day) has increased in Somerville over the course of the 2003 to 2012 time period for both Middle and High School students.

Proportion of Middle and High School Students Consuming Two or More Snacks and Sweets in Prior Day; Somerville, MA (2003-2012)



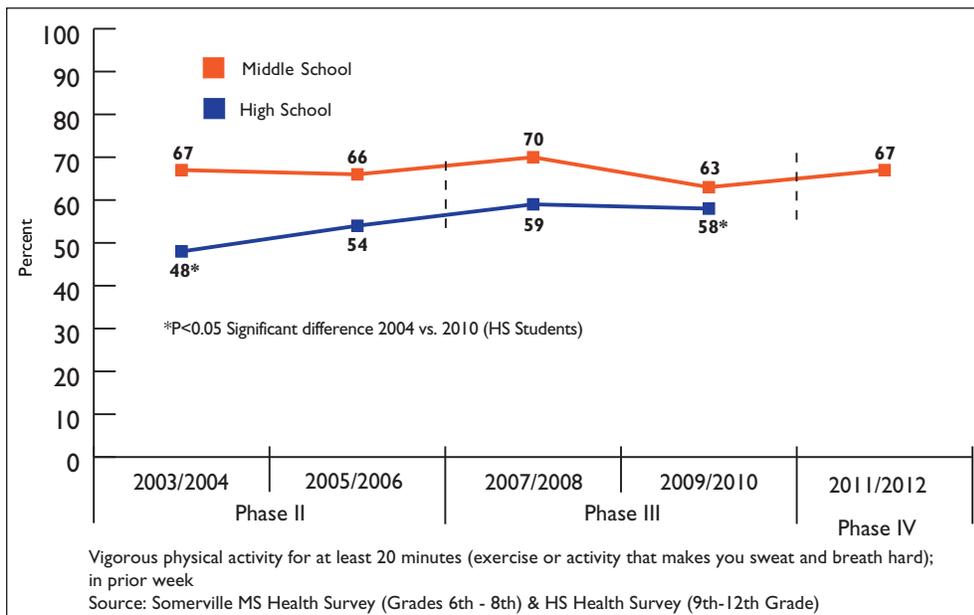
High consumption of sweets and snack foods (two or more in prior day) had declined over the course of the 2003 to 2012 time period for all students, particularly among Middle School students.

Proportion of Middle and High School Students Meeting Moderate Physical Activity Goal; Somerville, MA (2003-2012)



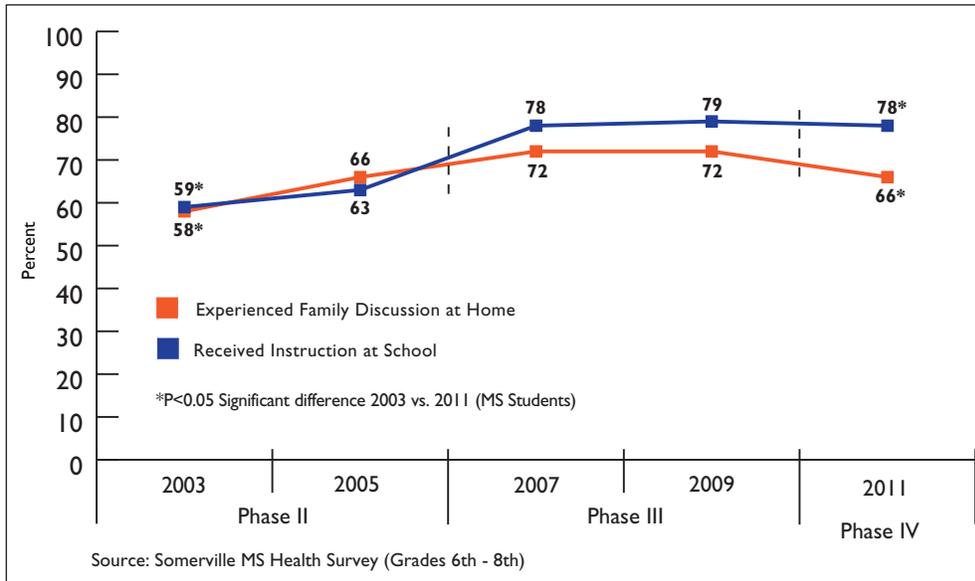
The proportion of Middle School students meeting guidelines for moderate physical activity significantly increased between 2003 and 2012. Similar increases in moderate physical activity were seen among High School students between 2002 and 2010.

Proportion of Middle and High School Students Meeting Vigorous Physical Activity Goal; Somerville, MA (2003-2012)



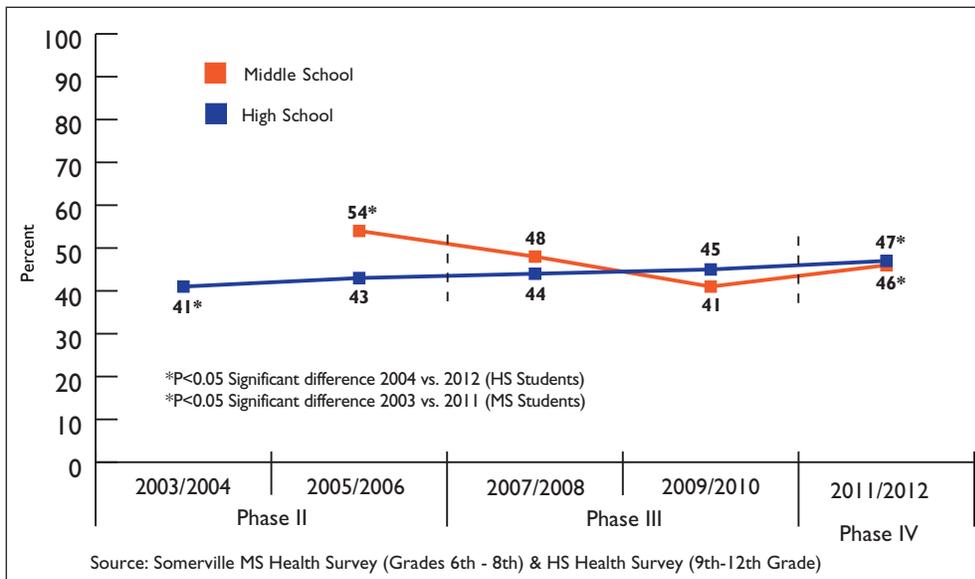
The US Department of Health and Human Services' previous physical activity recommendation for youth included moderate physical activity for of least 30 minutes on at least five days per week and vigorous physical activity for at least 20 minutes on at least three days per week. The 2008 physical activity guidelines for Americans (PAG) included moderate physical activity for 60 minutes everyday of the week and vigorous physical activity at least three days per week for youth. The proportion of students meeting the moderate activity goal increased over the course of the time period (2003 to 2012) for both Middle and High School students. The proportion of students meeting the vigorous activity goal increased over the course of the time period (2003 to 2010) for High School Students while remaining consistent for Middle school students.

Proportion of Middle School Students Reporting they Received Nutrition and Fitness Instruction and/or Discussion; Somerville, MA (2003-2011)



The proportion of Middle School students reporting that they had received instruction related to nutrition or fitness at school increased over the course of the time period (2003 to 2011) as did the proportion reporting they that had experienced family discussions related to nutrition or fitness at home.

Proportion of Middle and High School Students Reporting they Usually Walk to School; Somerville, MA (2004-2012)



The proportion of High School students walking to school increased steadily over the course of the time period (2004 to 2012) while the proportion of Middle School students declined (2005 and 2012).

Peer Reviewed Journal Articles Referenced

1. Frieden TR, Dietz W, Collins J. Reducing childhood obesity through policy change: Acting now to prevent obesity. *Health Affairs*. 2010;29(3):357-63.
2. Economos CD, Hyatt RR, Goldberg JP, Must A, Naumova EN, Collins JJ, et al. A Community Intervention Reduces BMI z-score in Children: Shape Up Somerville First Year Results. *Obesity*. 2007;15(5):1325-36.
3. Economos CD, Folta SC, Goldberg J, Hudson D, Collins J, Baker Z, et al. A community-based restaurant initiative to increase availability of healthy menu options in Somerville, Massachusetts: Shape Up Somerville. *Preventing Chronic Disease*. 2009;6(3):A102.
4. Goldberg JP, Collins JJ, Folta SC, McLarney MJ, Kozower C, Kuder J, et al. Retooling food service for early elementary school students in Somerville, Massachusetts: the Shape Up Somerville experience. *Preventing Chronic Disease*. 2009;6(3):A103.
5. Burke NM, Chomitz VR, Rioles NA, Winslow SP, Brukilacchio LB, Baker JC. The Path to Active Living: Physical Activity Through Community Design in Somerville, Massachusetts. *American Journal of Preventive Medicine*. 2009;37(6):S386-S94.
6. Flegal KM, Carroll MD, Ogden CL, Curtin LR. Prevalence and trends in obesity among US adults, 1999-2008. *Journal of the American Medical Association*. 2010;303(3):235-41.
7. Bell J, Rogers VW, Dietz WH, Ogden CL, Shuler C, Popovic T. CDC grand rounds: childhood obesity in the united states. *Morbidity and Mortality Weekly Report*. 60(2):42-6.
8. Kelly AS, Barlow SE, Rao G, Inge TH, Hayman LL, Steinberger J, Urbina EM, Ewing LJ, Daniels SR. Severe Obesity in Children and Adolescents: Identification, Associated Health Risks, and Treatment Approaches. A Scientific Statement From the American Heart Association. *Circulation*. 2013;128:00-00
9. Trasande L, Chatterjee S. The impact of obesity on health service utilization and costs in childhood. *Obesity*. 2009;17(9):1749-54.
10. Guo SS, Wu W, Chumlea WC, Roche AF. Predicting overweight and obesity in adulthood from body mass index values in childhood and adolescence. *American Journal of Clinical Nutrition*. 2002;76(3):653-8.
11. Koplan J, Liverman CT, Kraak VI. Preventing childhood obesity: health in the balance: National Academy Press; 2005.
12. Kumanyika SK, Obarzanek E, Stettler N, Bell R, Field AE, Fortmann SP, et al. American Heart Association Council on Epidemiology and Prevention, Interdisciplinary Committee for Prevention. Population-based prevention of obesity: the need for comprehensive promotion of healthful eating, physical activity, and energy balance: a scientific statement from American Heart Association Council on Epidemiology and Prevention, Interdisciplinary Committee for Prevention (formerly the expert panel on population and prevention science). *Circulation*. 2008;118(4):428-64.
13. Massachusetts Department of Secondary and Elementary Education. School and District Profiles. Available from: <http://profiles.doe.mass.edu/>.



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