

“Health is the New Wealth” could be a saying, but it can also be a guiding principle as well as a mode of operation. In communities that choose to take action on this theory, positive results could emerge quickly. In a country that is still experiencing high unemployment and rising healthcare costs, health and well-being is charting a new course in wealth accumulation and economic growth. Public health’s underlying ties with sustainability and smart growth came from the days when Americans had clean water and created reservoirs. With chronic diseases afflicting many Americans today, “green health” or human health is again at the forefront of sustainability planning and community design. The City of Grand Rapids has a long tradition of innovation in sustainability. Mayor George Heartwell was most recently awarded the Climate Protection Award by the U.S. Conference of Mayors in June, 2012. Through his leadership, the city is showing that health of the planet and health of its citizens can go hand-in-hand.



Grand Rapids, Michigan, is creating an urban laboratory that is environmentally friendly, resilient, forward looking while engaging a vibrant and growing health community. It is a midsized city in western Michigan boasting two cancer centers, a heart center, a musculoskeletal center, a medical school, research institutes and a children’s hospital. Its architecture is tradition-rich, while downtown development is drawing from best practices among its national and international counterparts.

In order to foster healthy, sustainable, and livable communities, Green Grand Rapids¹ was published in 2010. Prior to its publication, extensive community consultation was conducted in 2007-2009. Over 1,800 people from different sectors participated in charrette workshops on Riverwalk, Kayak course, Taylor, Perkins and Pleasant parks and Butterworth landfill. A researcher from the University of California, Irvine, followed the entire public engagement process to document the qualitative results in addition to the participation data. Among Green Grand Rapids’ goals to improve health include: 40% tree canopy leading to better air quality, four-fold increase in lane miles of on-street bike facilities, 14 miles of new urban mountain bike trails to increase physical activity, changes in zoning to increase community gardens by right, and to allow farmers’ market locations for access to healthy food.

Grand Rapids’ pioneering work in sustainability started almost a decade ago when its art museum downtown strived to be the first LEED museum in the world. In 2007, the city was the first in the U.S. to be designated by the United Nations University as a Regional Centre for Excellence in Education for Sustainability. This spring, Grand Rapids public school students had the enriching experience of going on Skype exchange with their counterparts in the Netherlands about water resources and water quality issues.

Together with Green Grand Rapids, the city’s Sustainability Plan FY 2011-2015² has become a springboard for action. Under “Healthy Lifestyles and Healthy Environments”, the Plan states: In 1948, the Constitution of the World Health Organization (WHO) defined health as “a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity.” Fortunately, these broad definitions over half a century ago have enabled city leaders to craft built environment solutions that are synergistic with economic growth and sustainability. As these municipal plans are public and in need of periodic updates, smart growth practitioners and community organizations are well positioned to bring their expertise and actively engage in the process.

This paper will highlight the transformation in three areas: Fulton Street farmers’ market, Grand River activation, Urban agriculture and physical activities in schools.

Fulton Street Farmers' Market: Fresh food and Accessibility



Originally established in 1922, this market is overseen by the Grand Rapids Parks and Recreation Department. It is part of a neighborhood revitalization plan and is currently under major plans for upgrade, with the first \$3 million renovation completed in the spring. Many vendors have been with the market for generations. The market is open from May until after mid-December. Once a month in June, July, and August, the Uptown Business District runs a free trolley for residents in the vicinity. Access and reducing barriers to healthy food is key to increasing nutritional values in diets.

To ensure that the market serves the entire Grand Rapids population with locally grown, fresh produce, targeted program outreach is critical. There are several avenues to maximize access. They target children, pregnant and breast-feeding mothers, and the elderly. The Bridge Card, a food assistance program benefit, is accepted at the market; there is a Senior Farmer's Market Nutrition Program; the WIC Project focuses on providing women and children up to the age of five to ensure healthy early childhood development.³

The recent market renovation brings greater convenience for both vendors and patrons. Many of the eight feet by eight feet vending booths are equipped with electricity and running water. The vending shed covers a wide, paved walkway through the booths. Parking outside the vending area has been rerouted to improve traffic flow. The Fulton Market also has ample accessible routes, for strollers and wheelchairs alike, so that everyone is served by over 200 regular vendors. More planned structural improvements include a water-retention system and a new retaining wall. On market days, the crowds enjoy shopping for food with low carbon footprint and with no packaging.

"The City of Grand Rapids has embraced sustainability, incorporating very specific targets and goals to create a more equitable and livable community. City is committed to addressing climate change related issues through adaptation and mitigation strategy, focusing on greenhouse gas emission, energy efficiency, renewable energy, low impact development, recycling, waste to energy, and other environmentally friendly and economically feasible strategies. System wide approach using all the elements of sustainability is critical in sustaining quality of life needed for urban development," said the Director of the Office of Energy and Sustainability, Haris Alibašić.

Grand River Activation: Whitewater course and Riverfront walk

The Grand River is one of Grand Rapids' greatest natural assets, running directly through the city. After its industrial past, the river is seeing a new life as visionary social entrepreneurs are working to restore a two mile stretch of the river to attract whitewater enthusiasts. Engineering studies have been completed to determine where the rapids naturally begin, and the location of the whitewater course.⁴ This movement is bringing together organizations, foundations, city departments and citizens who wish to create a major urban whitewater course suitable for recreation and Olympic practice, and this group is fundraising about \$20 million to transform the Grand Rapids' section of Michigan's longest river. The plan includes another potential \$20 million in public river walks and parks. Removal of the Fourth Street dam and several smaller low head dams, strategic placements of boulders in the river, demolition of floodwalls and creation of new walkways are proposed.



The Center for Disease Control and Prevention (CDC) has recommended 75 minutes of vigorous exercise or 150 minutes of moderate exercise a week for adults.⁵ Paddle sport such as kayaking is gaining popularity as an American recreation. The 2009 Outdoor Industry Foundation report concluded that about 17.8 million Americans ages 6 and older participated in kayaking, canoeing, and rafting.⁶

The active design plan calls for additional amenities to foster competitive and collegiate rowing in the calmer northern section of the river. In addition to attracting paddlers engaged in vigorous physical activity, anglers should see improved sport and catch when the river is brought to a more natural state. Modeling on the successful riverfronts in urban Europe, a walkable environment with expanding bicycle paths and bridges lit up at night is envisioned.

As part of the riverfront redevelopment, natural habitats will be restored in sections of the river. A fish ladder has been installed for fish to naturally migrate and circumvent the dam in order to enhance survival rates. Along the banks, reintroducing natural wildlife and public access in the area is also in the plans. An urban waterfront doubling up as a nature center will be a magnet for children and adults alike.

“The Grand River really serves as the spine of our city. Connecting urban neighborhoods to this significant resource, as well as regional trail systems, begins to completely re-frame how our community relates to the natural environment and the value of quality of life investments. Grand Rapidians have become increasingly aware of new comprehensive approaches to plan for future generations spanning across topics such as water quality, tree canopy, and local food,” said City Planning Director, Suzanne Schulz.

K-12 Schools Innovation: Urban agriculture and Physical activity

Grand Rapids still retains the honor of having the most green certified buildings per capita. In 2010, Mayor George Heartwell signed a resolution with other mayors in the country to support the greening of school districts.⁷ Burton Elementary, remodeled in 2007, is an early school receiving LEED certification. It also houses a health clinic with caseworkers on site to help families remove barriers to education. After the renovation, the well commissioned heating and cooling system, augmented by lighting controls, substantially increased indoor environmental comfort and energy efficiency. Greening public schools and community facilities are perhaps the single most critical step towards attaining social equity goals.



The C.A. Frost Science Academy is a school of 500 students where staff, parents, and the community work together to develop lifelong learners who positively impact the environment and are contributing members of a global society. Their greenhouse curriculum is based on deep water culture hydroponic growing. Seventh and eighth graders grow lettuce, chards, herbs such as cilantro and basil. As the students head this urban agriculture operation, they also learn the culture of farming, the unpredictability of Mother Nature and the need to assign irrigation responsibilities when school is out. In the course of becoming entrepreneurs, these students write business plans and invoices,

handling business writing, math questions and accounting. They are fortunate to have the support of teachers and parents who assist in the sales of their produce to local restaurants. By tasting the chef's creations, they have a special appreciation for the farm to table experience.

Through C.A. Frost's sustainability curriculum, students witness first-hand the benefit of chemical free farming, the opportunity to reduce food miles traveled while increasing nutritional values in their daily meals. The urban greenhouse structure in schools is a timely development because Let's Move⁸ has spurred interest nationwide in school based farming as a pedagogical tool. In Michigan, similar to other Great Lakes, Midwestern states and East Coast cities, the cold temperature during most of the school year makes the growing season short. A greenhouse structure, while protecting a growing medium, is also a pleasant, daylight instructional space ready to be integrated into most school buildings.

At the Blandford Environmental School, sixth grade students run a chicken coop business of 99 chickens and collect eggs regularly on the school grounds. In addition to finance and marketing, students learn about reproductive science, preventative health and infectious diseases, such as salmonella. Community service is a requirement at the school and weekend feeding is counted towards fulfilling these requirements.

The CDC recommends physical activity level for children to be a minimum of 60 minutes a day.⁹ Farming and gardening contribute to physical activity as students move through vegetation, water plants and feed livestock. The “manual labor” aspect is precisely the activity level that sedentary video games discourage. In addition to physical activity, urban farming provides experiential learning of water resources and efficiency during different seasons. Connecting students directly to the natural environment could well inspire them to become stewards in their own community.



The Zoo School is a theme school that places students in the John Ball Zoo grounds. Through learning to feed the animals, students study food science, calories, water intake and seasonal health. It is also a place where they observe animal behavior, investigate rainforest ecology and species evolution at the same time. This school is a prime example of joint use facility in sustainable planning. The zoo is populated with students during the school term but they vacate the premise during the summer. Resource efficiency increases multifold when the same instructional facilities are used in summer camps that become a revenue generator for the zoo.

At the Center for Economicology, students are trained in system thinking. Projects include marketing an apple orchard on site. In order to keep up with the yield, the students are currently working on designing a gravity feed rainwater capture system to maintain production while reducing potable water consumption. The partnership with the school district’s ground and maintenance department proves particularly fruitful because as foodscape and community gardens are created, need for school lawn maintenance decreases.

“GRPS is proud to be a leader in environmental education and sustainable school design. Our Grand Rapids community has fully embraced and greatly values the triple bottom line approach to measuring success. You can see it in our neighborhoods, businesses, and in our schools,” said Teresa Weatherall Neal, Superintendent of Schools.

In neighboring Kentwood in greater Grand Rapids, five schools are in the sixth year of competing in the Steps Up program.¹⁰ It is a pedometer based challenge, totaling at least 10,000 steps a day, for third and fourth graders. Students keep track of the steps taken over a three-week period and create physical activity awareness among classmates, relatives and family members. They monitor steps and climb stairs between classes, exercise regularly, and forgo bus trips to school. These walking trips to school by students and accompanying parents also foster their advocacy for more safe-route-to-school projects where sidewalks are expanded and repaired to improve roadway safety, and where adequate traffic signals are strategically placed to reduce accidents.

Growing up in a car culture, children having the Steps Up opportunity at a young age are more likely to form lifelong positive impressions of health and well-being through walking. Nationally, the percentage of overweight children in the U.S. is growing at an alarming rate, with one out of three kids now considered overweight or obese.¹¹ The projected obesity related healthcare costs for U.S. population is rising to a staggering \$190 billion.¹² Recent research has identified physical inactivity and unhealthy diets as second only to tobacco as the leading causes of premature death in the U.S. And research linking environmental design and increased physical activity is mounting.¹³ Built environment solutions, once invested, can become permanent prescriptions as citizens embrace more active lifestyles.

Grand Rapids has been endowed with a business community that is actively engaged in civic leadership. An ingredient of success here is the ability to closely examine community assets such as the Grand River, urban heritage such as the Fulton Street market, and natural resources such as fertile school grounds. This critical analysis is coupled with the spirit to experiment and innovate. "Green health" will open up new avenues of collaboration between business, non-profits and government in the future planning of the city. The growing medical community is indeed an asset to Grand Rapids.

Communities engaging in "green health" will enjoy multiple co-benefits, including energy savings, lower chemical exposure and reduced prevalence of diseases. Expanding from the earlier focus on energy and water resources, planners, architects and engineers can partner with health professionals and scientists to promote a broader discussion and an understanding of design tradeoffs. The precedent of achieving better air quality has already fostered close collaboration between disciplines; other "green health" areas, such as nutrition, physical activity, ergonomics, material ingredients and toxicity, will benefit from sharing of data and expertise. Health of the planet and health of its citizens can go hand-in-hand.

Citations

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Photo Sources:

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