THE BUILT ENVIRONMENT AND HEALTH

11 Profiles of Neighborhood Transformation
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Prevention Institute is a nonprofit, national center dedicated to improving community health and well-being by building momentum for effective primary prevention. Primary prevention means taking action to build resilience and to prevent problems before they occur. The Institute’s work is characterized by a strong commitment to community participation and promotion of equitable health outcomes among all social and economic groups. Since its founding in 1997, the organization has focused on injury and violence prevention, traffic safety, health disparities, nutrition and physical activity, and youth development. This, and other Prevention Institute documents, are available at no cost on our website.
In recent years the public health community has become increasingly aware that the design of the built environment can have a major impact on the health of the public. For example, one may expect more physical activity and healthier diets among persons in communities with convenient, safe walking paths and accessible sources of fresh fruits and vegetables. On the other hand, poorer health indicators may be expected among residents of communities with high crime rates, few parks or walking paths, numerous alcohol and tobacco outlets, and little access to fresh food.

In this monograph, the Prevention Institute has profiled eleven projects in predominantly low-income communities where local residents mobilized public and private resources to make changes in their physical environments to improve the health and quality of life for their citizens. Such changes included building a jogging path around a cemetery, transforming vacant lots into community gardens, reducing the prevalence of nuisance liquor stores, and creating attractive murals on walls where graffiti once reigned.

These case studies will help concerned citizens, urban planners, and public officials examine possibilities for local environmental changes that would improve the health of the residents of their communities.

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This is the last town in the world... Before this came to be, there were all the possibilities in the world. There were all the opportunities for starting with small things to create a sweet new history and future. If only we had seen them.

BEN OKRI, A PRAYER FOR THE LIVING

There is growing recognition that the built environment—the physical structures and infrastructure of communities—plays a significant role in shaping our health. To a great extent, the connection between environment and health has centered on the results of human exposure to contaminated air, water, and soil. Decisions about land use, zoning, and community design influence the degree of human exposure to toxins, but also have implications for neighborhood access to healthy foods, and the level of safety and attractiveness of neighborhoods for activities such as walking and biking. The designated use, layout, and design of a community’s physical structures including its housing, businesses, transportation systems, and recreational resources affect patterns of living (behaviors) that, in turn, influence health.

With support from the Centers for Disease Control and Prevention’s National Center for Environmental Health, Prevention Institute crafted 11 profiles about communities across the country that reveal how the built environment can positively influence the health of community residents. These profiles were written to:

1. Describe the important connections between the built environment and health for practitioners in public health, city and regional planning, community economic development, and other related fields;
2. Support public health practitioners in looking beyond the traditional bounds of the healthcare system to address social and environmental determinants of health;
3. Suggest potential expanded roles for practitioners from diverse fields to promote health-enhancing improvements to the built environment;
4. Highlight a range of opportunities to create community-level change to the built environment through multi-sector partnerships with community residents, businesses, community organizations, and local government; and,
5. Provide concrete examples that demonstrate the importance of the built environment in promoting health.

Environmental factors contribute to disproportionately high incidences of negative health outcomes (cancer, asthma, injuries) in low-income communities which are often also beset with structural and institutional inequities. Disenfranchised communities are more likely than wealthy communities to be the sites of hazards and,
BUILT ENVIRONMENT AND HEALTH: OVERVIEW OF PROFILES

The program profiles include: 1) a description of the geographic area and changes that were made; 2) the process required to implement the changes, including leadership and organizational collaboration; 3) any documented impacts, positive and negative; 4) lessons learned, framed as “wisdom from experience;” 5) supporting research that documents the connection between the built environment and health; and 6) next steps for action.

The program profiles tell the following stories:

1. **Evergreen Cemetery Jogging Path:** In the predominantly Latino, urban area of Boyle Heights, California in East Los Angeles, the Latino Urban Forum and neighborhood residents rally community-wide support to create a safe, 1.5 mile walking/jogging path. Community members previously had no access to parks or open space, but can now get physically active, in their own neighborhood.

2. **Partners Through Food:** In the Upper Falls community of Rochester, New York, a dynamic collaborative of community members increases access to healthy food by organizing for over five years to bring a full-service supermarket into a community which lacked a single grocery store.

3. **Boston Lead-Safe Yard Project:** An innovative partnership focusing on Roxbury and Dorchester in Boston, Massachusetts uses affordable techniques to minimize exposure to lead in inner-city yards—a contemporary environmental hazard linked to developmental disabilities and learning delays, particularly among children under six, living in older, urban homes.

4. **Gardens for Growing Healthy Communities:** A community/academic partnership transforms vacant lots into community gardens in urban neighborhoods throughout Denver, Colorado, creating and documenting new opportunities for physical activity, healthy eating and social connections among community residents, survivors of abuse and homeless people.

5. **South Los Angeles Liquor Store Closures:** Working to reduce violence and crime in South Los Angeles, California, this community-driven, grassroots effort organizes community residents to close neighborhood liquor stores that negatively impact community health and safety.

6. **The Paterno Trivium:** Community residents work collaboratively with city government to transform an unsafe traffic intersection into a neighborhood gathering spot and to improve the pedestrian environment on adjacent streets in Hudson Heights, New York City—an ethnically diverse, urban community.

7. **The Fenway Alliance:** A powerful coalition of 20 well-respected arts, culture and academic institutions revitalizes a cultural district by improving walkability through major infrastructure projects in Boston, Massachusetts. Although focused in a commercial district, their efforts demonstrate innovative roles for large-scale institutions in improving the built environment. Their work is focused on attracting African American and Latino pedestrians from nearby schools and communities.

8. **Westside Project:** With an eye toward improving the built environment, a collaborative of local government agencies, including the public health department, work to build community support and trust before building pedestrian amenities for residents in Stamford, Connecticut who had become wary after a history of displacement and gentrification.

9. **The Seattle Department of Transportation:** This citywide department pays special attention to achieving equity across geographic and economic boundaries while working to create an integrated network of pedestrian and bicycle infrastructure that promotes safe physical activity for residents throughout Seattle, Washington.

10. **The Wray Health Initiative:** In the rural town of Wray, Colorado a coalition builds a neighborhood walking path, basketball court and other features to make fitness fun for people of all ages by soliciting community buy-in and creating social support for activity.

11. **Philadelphia Mural Arts Program:** Utilizing a grassroots model, this effort engages community members, including ex-gang members, in the creation and painting of murals that improve aesthetics and transform neighborhoods in urban, economically disenchanted communities throughout Philadelphia, Pennsylvania.
at the same time, often lack the infrastructure to support physical activity and healthy eating. Too many residents live in community environments that promote disease and injury and do not support healthy behaviors that can help them avoid major chronic diseases that result from sedentary lifestyles and poor nutrition (e.g., heart disease and stroke). Many people live in neighborhoods that are over-saturated with alcohol outlets and advertisements, lack grocery stores, have sidewalks in disrepair, have little access to open space, and have dangerously high traffic speeds.

Further, compared to residents of middle-class communities, residents of low-income neighborhoods—struggling with the presence of environmental hazards, crumbling infrastructure, and a lack of economic resources—face even more barriers to overcoming them. They often need to implement change in the face of inadequate transportation, fewer businesses in the neighborhood to support them, institutional barriers to neighborhood investment, and lack of influence within the local government. In addition, people’s previous experiences of housing cost increases and gentrification may create a realistic concern that enhancing the neighborhood could result in unintended strain and disruption to the community.

However, the physical environment can promote health directly through access to clean air and water and can influence people’s behavior by facilitating health-promoting activities, such as walking, biking, and healthy eating. Changes to the built environment can have a positive impact on many health-related issues, from diabetes and asthma to traffic safety and community violence. In many cases, a change to the built environment will simultaneously impact multiple health conditions.

In choosing these 11 profiles, we focus primarily on improvements in communities where the mean resident income is low and where concentrations of African American and Latino residents are high. We highlight how improvements to the built environment can enhance the health and well-being of members of these communities. The examples illustrate how changes to the built environment can be particularly meaningful in communities that have historically lacked important features such as well-maintained pedestrian infrastructure, services and institutions, or public art. Taken more broadly, the profiles demonstrate how improvements to the built environment have the potential to reduce health disparities.

In compiling these profiles, several themes emerged about how communities are able to overcome challenges and succeed.

- Broad, diverse participation is necessary to mobilize the resources and build the will to make community improvements.
- Efforts to create health-promoting environments provide opportunities to build community resilience and marshal community assets, rather than the more typical focus on risk factors.
- Persistence and innovation are common qualities of the organizers and organizing efforts that successfully brought about improvements to the built environment.
- Engaging communities to focus on changing the policies and practices of local organizations and institutions is part of an effective strategy for improving health and leaving behind lasting changes in neighborhoods.
- Focusing on the built environment fits well with other public health approaches that a) recognize that changing individual behavior involves changing social norms and environmental determinants of health and b) concentrate on the community as the unit of analysis and action.
While making built environment changes may be necessary, they are not sufficient. As the profiles of the Wray Health Initiative in Wray, Colorado and the Westside Project in Stamford, Connecticut illustrate, improvements to the physical environment are significant components of a multifaceted strategy for promoting health that includes community education, increasing social capital and enhancing social support.

Over the past decade, more and more communities have emphasized the importance of making design decisions in the context of the overall community. The term “smart growth” refers to a land development strategy aimed at managing the growth of a community, minimizing automobile transportation dependence, and improving the efficiency of infrastructure investments. While “smart growth” initiatives have brought attention to the need to manage new growth and development effectively, Built Environment and Health: 11 Profiles, calls attention to the value of neighborhood-level changes within existing structures. Many low-income urban environments suffering from disinvestments and decay already have the skeleton of a walkable community and possess great potential. Practices as simple and routine as road repavement are opportunities for neighborhood enhancement. One road at a time, more space can be created for bicycles and pedestrians, and routes can be narrowed and altered to promote “traffic calming,” (i.e., decreasing vehicular speed, and increasing safety). These profiles demonstrate that small and incremental changes are opportunities to design solutions that suit unique neighborhood environments and are significant contributions toward improving health and quality of life locally. These changes offer substantial enhancements for the affected residents, and build momentum for further improvements.

In identifying profiles, a key goal was to highlight initiatives that clearly demonstrate linkages between environmental changes and changes in health behaviors and outcomes. However, such projects are few and our selected efforts are not thoroughly evaluated. Documenting the health impact of environmental change efforts remains a challenge for a host of reasons. Communities generally are not collecting the quality and quantity of data needed to demonstrate impact. Some built environment initiatives are not explicitly designed with health outcomes in mind, and therefore health-related information may not be collected. Furthermore, multi-year surveillance of changes in population health status is often beyond the scale or resource capacity of localities. Therefore, to improve the evaluation of future initiatives it may be appropriate for local evaluation to focus on documenting changes in behavior. For example, a community can assess changes in rates of walking among residents in a manner that can be coordinated with national efforts examining changes in the rate of health conditions such as obesity and heart disease.

In cases where documenting behavior change is beyond an initiative’s scope or capacity, evaluation can focus on documenting the environmental change that occurred. With nationally supported evidence demonstrating that a specific environmental change at the community level yields a positive health outcome, communities can focus on implementing and documenting the particular environmental change, rather than attempt to document the expected behavior change. Toward this end, further investment in thorough case studies to evaluate the impact of some interventions, like those profiled in this report, may be warranted.

The powerful influence of the built environment on health suggests that public health practitioners should be involved in planning and policy decisions related to land use, zoning and community design. Health practitioners can serve an essential role in collaborating with other professionals and working alongside neighborhood residents to create and promote healthy communities. Their participation becomes imperative as the conviction grows that addressing the social and
physical environment is an essential element of a strategy to encourage healthy behaviors. Thus, a new role for public health leadership is emerging. In this emerging role, practitioners need to engage in three principal areas of action. The first is to assess the health impact of land use and community design options before decisions are made as well as after improvements are implemented. The second is to catalyze and facilitate inclusive partnerships with membership that stretches far beyond traditional health fields to plan new structures and redesign existing ones. Third, public health practitioners need to participate in policy-making on issues related to the built environment to ensure protection from toxins, access to healthy food outlets, places to walk and recreate, and other health-promoting environments.

While Prevention Institute was successful at documenting compelling profiles, we also found critical needs and unfulfilled opportunities in communities throughout the country where health and quality of life could be improved through changes to the built environment. Our hope is that the profiles that follow will stimulate and inspire practitioners from multiple fields and sectors to partner with community residents, design solutions, and take action to improve the built environment for the health and well-being of all.
At the tip of Manhattan on a hill overlooking the Hudson River, three streets converged to create an unsafe intersection for both motorists and pedestrians. Cars roared by while walkers warily dodged traffic—that is, until a group of residents rallied to convert the dangerous intersection into a “pocket” park. By creating a highly visible fork in the road, the park slows traffic, channeling cars safely through the intersection. Meanwhile, the addition of curb ramps and clearly marked crosswalks have increased pedestrian safety, particularly for children walking to the nearby school. The park—called The Paterno Trivium—is a meeting place for residents to gather, sit, and take in the vista of the Palisades across the Hudson on the Jersey shore. The Paterno Trivium has become a beacon in the neighborhood, signaling walkability, attention to community connections, and concerns for pedestrian safety.

THE PLACE

Hudson Heights, a neighborhood within Washington Heights, is the highest point in Manhattan. Home to a diverse mix of people, many of the neighborhood’s eldest residents are Irish, German, and Jewish immigrants who settled there in the 1920’s and 30’s, while newer residents include Puerto Ricans, Dominicans and a large and growing Russian population that live in the eastern portion of the community. The area is also home to a large Orthodox Jewish population. Because of its proximity to subways and easy access to Manhattan, the area is also very attractive to young singles, artists and musicians.

THE PROJECT

The idea for The Paterno Trivium developed out of community concern over a hazardous intersection and the desire to create a central neighborhood meeting place. The poorly defined markings and lack of pedestrian-friendly infrastructure at the junction of Cabrini Boulevard, Pinehurst Avenue, and West 187th Street worried residents, especially because it was located so close to a public elementary school. On a daily basis, residents would see motorists cut dangerously through the intersection, while elderly pedestrians had no safe place to stop while crossing the busy streets.

Residents had been quite interested in somehow fixing the intersection to make it safer for the community, so when Thomas Navin, a trained architect moved into the neighborhood, residents approached him and asked him to join their efforts. With his formal training and interest in improving his new neighborhood,
he was able to observe how the space was being used and immediately saw the potential for what it could become.

In the summer of 2000, he drew up a design that he presented to the community board for approval. “From the get-go, I felt it should be a clearer crosswalk for pedestrians and a resting point,” Navin explained. “I imagined a place for meeting where people could stop, rest and see the views of the cliffs on the far side of the Hudson and the afterglow of the setting sun.”

The triangle’s central location near a block-long commercial hub makes it an ideal park location and because it also rests atop a steep hill, it provides a resting place as pedestrians crest the peak.

After receiving community board approval for his design, Navin discovered the Department of Transportation and Department of Parks had already begun to draft their own plans for the area. But because the community board had backed Navin’s design, the city agencies accepted it. The agencies also appreciated the plan for its practicality and attention to safety and agreed to pay for sidewalks, curbing and, through New York City’s Greenstreets program, planting or “greening” the area.

Navin had envisioned a design that also had some unique features, like special planters, a radiating sun pattern embossed in the concrete, and a curved bench to improve the look and the utility of this triangular site (26’4” x 41’x34’8”). Therefore he anticipated the need to have additional backing and clout to ensure that the plan was fully implemented. As a result, Navin assembled an advisory group that was both knowledgeable about landscaping and well connected to the park system. The group advocated for a customized bench that has become the park’s signature element. In an attempt to weave the park into the historical fabric of the neighborhood, the advisory group also proposed naming the park in honor of Charles Paterno, a former landowner who had brought a great deal of residential housing to the area. The New York City Park Commissioner ultimately embraced these ideas. The only catch was that the advisory group had to take responsibility for maintaining the area and its distinct elements. This group, which named itself Friends of The Paterno Trivium, was not daunted. They established a maintenance endowment to provide care for the park’s unique features. While the Parks Department would maintain the basic elements of the Trivium, the Friends agreed to raise funds and provide fiscal oversight for the maintenance needed to keep The Trivium in excellent condition.

On August 4th, Charles Paterno’s birthday, over 200 community residents gathered for a ribbon cutting ceremony for The Paterno Trivium. The late Paterno’s
granddaughter attended the event, as did a local city councilman and the New York City Parks Commissioner. Paterno’s granddaughter, who had solicited donations from family members for the Trivium’s signature semi-circular bench, presented the funds to the group. Today, The Paterno Trivium is viewed as an important element in the community and the Friends of The Paterno Trivium have generated significant support from community members and local officials alike. The intersection is perceived as safer for pedestrians, offering them an inviting respite as they cross any of the three busy streets that converge at the triangle. New crosswalks and the visibly marked fork in the road funnel traffic and slow motorists who are now more aware of the pedestrians.

THE PEOPLE

Diverse Partners Collaborate to Build Healthy Environments

Under the leadership of Executive Director Navin, the volunteer advisory group that calls themselves Friends of The Paterno Trivium provides stewardship for the park. They pick up trash, plants bulbs and water the foliage regularly. The group has planted Winter King Hawthorn trees, which are in full bloom around Mother’s Day weekend, and groundcover that blooms in August to commemorate the birth anniversary of the Trivium’s namesake. The Friends toil all year round, shoveling snow in the winter, planting in the spring, and continually maximizing their connections with the landscape industry to get plants and planters at the lowest possible cost. The group also holds fundraisers and serves as liaison with the Parks Department. The circular bench ($7,500); planter ($1,500); low protective fencing ($3,000); and seasonal plantings ($200) are the result of private donations.

New York City Department of Parks and Department of Transportation’s project, Greenstreets, provides for the upkeep of basic elements of the Trivium. In an effort to make “green” traffic intersections throughout New York City, Greenstreets provided initial funds for the curbing, concrete work and first plantings. Neighborhood volunteers of all ages weed, water, and plant bulbs. Local merchants and surrounding buildings provide access to water; a landscaping company has donated plants; and the Paterno family offers ongoing support. Key neighborhood activists and neighborhood organizations, such as Hudson Heights Owners Coalition, a group of apartment owners in the area, donate money, give in-kind support, and announce fundraising events in regular mailings and at monthly meetings.

THE RESULTS

Healthy Change in Local Environments

The Paterno Trivium represents the successful completion of a community-initiated effort to improve the neighborhood. Most of all, The Paterno Trivium serves an important function: to slow automobile traffic, improve pedestrian safety, and create a safe destination for pedestrians. At the same time, its form adds another important dimension to The Paterno Trivium. Attention to detail and awareness that the space could be much more than simply a pedestrian enhancement have resulted in a gathering space where there was none. This park also promotes social connections. Senior citizens and teenagers alike now have a place where they can meet and talk with friends.

Careful use of the triangular space has prompted positive social exchanges. Though early on residents had fears that placing a bench on the site would encourage homeless people to sleep there or promote loitering, Navin says he has been amazed at how the space really works. Different people enjoy the space in different ways. “The curvature of the bench encourages social interaction by creating a comfortable seating arrangement. It allows for eight people to be in one conversation because they are facing inward, but because of the arm rests, it also allows people to sit alone or as

“I imagined a place for meeting where people could stop, rest and see the views of the cliffs on the far side of the Hudson and the afterglow of the setting sun.”
couples. The curve also allows people to walk up to the Trivium, or roll up in a wheelchair and become part of a conversation that is already going on. This is an amazing quality of the semi-circular bench.” Wheelchair users have also benefited from the curb-cuts that were etched into the sidewalks when the park was constructed. This allows them to remain safely on the sidewalk.

The Trivium’s flexible, multipurpose design is used in different ways depending on the time of day. In the morning, dog-walkers and joggers stop with their morning cup of coffee, while later in the morning elderly residents join companions or attendants to rest at the top of the hill after shopping. The curved bench allows visitors to choose between facing or putting their backs to the sun. As school lets out kids gather, and at dusk in warm weather another group of seniors, primarily women, chat until about 15 minutes after sunset. In the evening, people pause on their return home and teenagers meet up.

But the park’s construction has not been struggle-free. Oftentimes with community areas like these, youth can be perceived as “troublemakers,” ruining the atmosphere for other users. Since its inception, teenage skateboarders who use the Trivium have caused stress in the community. While some resident groups have sought police involvement, the Friends have been enlisting skateboarders to help plant and water. Through this alternative approach they have transferred a sense of ownership and pride to the skateboarders, some of whom now act as “protectors” of the park. Recently, community groups have also been asking the skateboarders what features appeal to them, prompting discussion about creating a separate facility for skateboarders to use. This was an innovative solution to a common problem in many communities, and a unique way to engage unlikely volunteers.

Truly a community resource, the Trivium’s features encourage diverse groups of people to use the space in their own ways. And the transition periods bring together groups who might not normally interact. “Something as subtle as the curve creates opportunities to talk,” said Navin. And “each year a holiday tree is donated by one of the local merchants and community members are invited to decorate the tree,” he said. “Throughout the year, lots goes on that brings the community together and that ties in with the four seasons.”

Traffic calming measures, like those initiated at The Paterno Trivium, reduce injuries, slow automobile traffic, increase perceived safety, and are believed to promote walking and biking. In Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation and Environmental Quality, the US Environmental Protection Agency reports that “narrow streets, shade trees, well-maintained sidewalks, and traffic slowed through traffic calming measures also improve the pedestrian envi-
mote walking and increase social connectedness are underway in the Washington Heights area. One block east of the Trivium, community members are working to beautify a stair path to create a “natural gym” and a “natural amphitheater” to promote use of the stairs. These newly inspired activities aimed at behavioral and environmental change illustrate the enduring impact that community building efforts like The Paterno Trivium can have on activity, safety, and local culture.

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ENDNOTES
