



Fit-City 2:

Promoting Physical Activity through Design

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Introductions

Design has been key to eliminating many public health hazards in the past, and people in public health have long known that design changes are better than changes in education alone. Housing helped prevent the spread of tuberculosis, and that worked much better than trying to teach millions of people to cover their mouths when they cough. Fluoride in the water works better than telling everybody to use fluoride drops. If you've ever tried telling a 1-year-old not to teethe, you will know that lead-free paint works much better. Clean air is better than having millions of people walk around wearing masks, and clean water is better than telling everyone to boil.

- Lynn Silver, MD, MPH,
New York City Department of Health and Mental Hygiene

I'm pleased to introduce the second Fit-City report, born out of a collaboration between the American Institute of Architects, New York Chapter, and the New York City Department of Health and Mental Hygiene. Together, we have now organized two successful conferences that bring together architects, landscape architects, urban planners, and public health professionals to discuss ways to encourage physical activity in the built environment. We're proud of this success; the mission of the American Institute of Architects includes advancement of an improved physical environment, directly impacting the quality of life of those who use buildings and related open space.

The 2007 conference addressed interventions at several scales: citywide policies like LEED standards for public and private buildings; urban design features that encourage biking, walking, and other healthy activities; and ways to incorporate physical activity in striking interior design. This report showcases highlights from the conference, reporting on architectural case studies and expert views on public health and design.

Fit-City intends to help set the agenda for joint efforts to build enhanced connections between design and public health, and to form voluntary, policy, and regulatory initiatives reflecting this connection. We hope those reading will join us in these efforts

Sincerely,

Fredric Bell, FAIA
Executive Director, AIA NY Chapter

As a follow-up to the broad policy discussions and specific case studies presented at the first Fit City conference, the AIA New York Chapter drafted twelve recommendations for influencing public policy relative to the urban environment and its impact on physical activity, obesity, and chronic disease prevention.

WALKABILITY AND SAFETY: Planners and designers have the power to create places that promote pedestrian circulation and movement. Safe public access can be influenced by design features such as lighting, and policy/resource issues such as policing.

THE BUILDING CODE, STAIRWELLS AND OTHER AMENITIES: Revise building code to improve stairwell design, access and visibility. Encourage architects and interior designers to think three-dimensionally - not just horizontally in plan - thereby promoting the desire to move through space without resorting to elevators unless required. Include exercise and shower facilities in all buildings designed for work.

ZONING RESOLUTION, STAIRWELLS AND OTHER AMENITIES: Revise zoning resolution to encourage environmental and health benefits, qualitative and quantitative.

DIVERSITY OF RECREATIONAL ACTIVITY: Create venues for different types of recreation and a diversity of experiences in open spaces.

ACCESSIBILITY: Encourage exercise and physical activity for people with different and particular needs by following the tenets of Universal Design, thereby encouraging equality of movement.

INFRASTRUCTURE GUIDELINES: Implement infrastructure guidelines that support walkability and accessibility of physical activity-promoting spaces in the public domain by the quality of design and construction, including uses of space, material durability, amenity and maintenance.

HOUSING: Incorporate more conditions and spaces for physical activity into housing design, including safe stairwells, play areas and exercise facilities.

SCHOOL USE: Keep public school buildings and schoolyards open before and after classroom hours to encourage community use and recreation activities. Create relationships between schools and neighborhood parks.

BICYCLES: Encourage bicycle use by promoting workday bicycle storage within office buildings, and by increasing number and safety of bike lanes.

PUBLIC TRANSIT: Promote use of public transit, and the avoidance of door-to-door private transit, by subsidy, toll and other strategies. Factor health into the decision-making processes about transportation modes promoted on the street.

MIXED USE ZONING: Encourage walkable mixed-use neighborhoods where people are more likely to walk from one location to another.

PARTNERSHIP: Develop mechanisms for the AIA, DOHMH, and allies to partner with other governmental agencies and non-governmental organizations to improve the built environment to increase physical activity in parks, playgrounds, schools, housing, workplaces and streets.

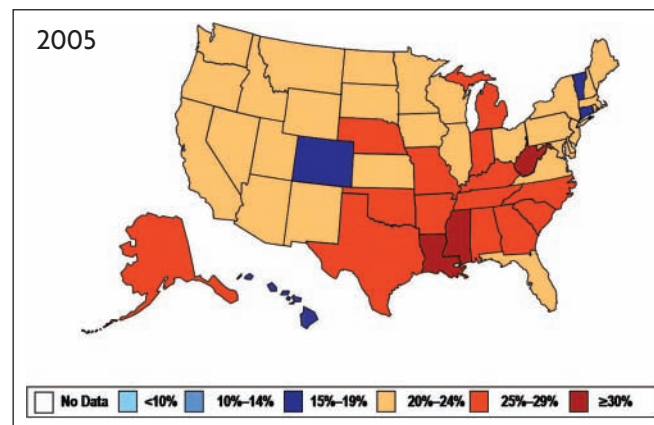
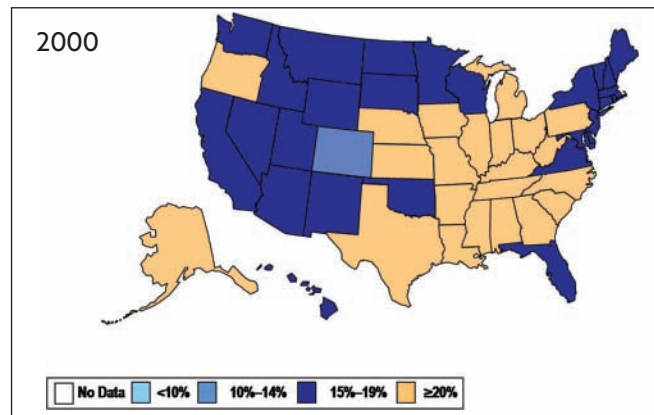
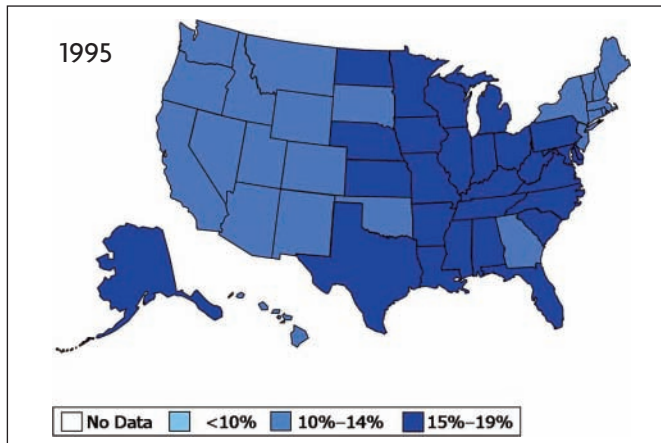
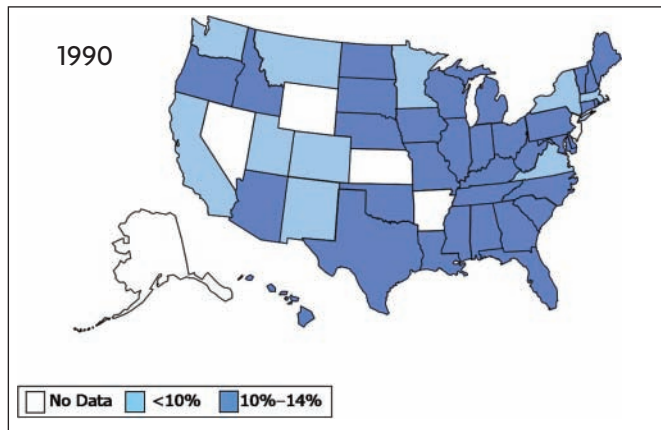
**OPENING REMARKS: MARY BASSETT, MD, MPH,
DEPUTY COMMISSIONER OF NYC
DEPARTMENT OF HEALTH AND MENTAL HYGIENE**

When we look at adults in New York City, the prevalence of obesity is actually lower than the national scale. If we were a state, we'd rank fourth as the slimmest state. But that's not saying much. One in 5 New York City adults are still obese (extremely overweight) and another 1/3 are overweight. Here in our city we also see variation in the distribution of overweight residents. Manhattan, particularly Lower Manhattan, is relatively thin. However, Central Brooklyn and East Harlem have a greater than 30 percent prevalence of adult obesity. Obesity begins very young. Unlike adults, it's actually worse in New York City children than in kids in the rest of the country. In Kindergarten, only half of kids are at a healthy weight, and it's driving an epidemic of diabetes in this country.

Diabetes is going in completely the wrong direction. In the last couple of decades we've had real advances in reducing the prevalence of heart disease, but diabetes is threatening to overturn many of our improvements in terms of controlling chronic disease. It leads to dire predictions for the future: that a third of children born in 2000 will have diabetes in their lifetime. For the Latino population, that number stands at 50 percent. For the first time, we're projecting lower life expectancy for children because of the epidemics of obesity and diabetes. Obesity is not just an aesthetic matter. It's associated with a whole bunch of diseases, not only diabetes. It's associated with asthma, heart disease, and cancer, and is generally a health risk.

Relevant to today's discussion, lack of regular physical activity is an important driver of obesity. We all know that we get overweight because we exercise too little and we eat too much. But that doesn't really help us from a public health point of view in tackling the epidemic. Invoking the "exercise more and eat less" really is only part of the solution. That's what we mean by saying there's no quick fix. Of course we need to promote healthier choices among individuals. But changing the environment, which has constructed that incredible wave of obesity across this nation, is going to be a key part of changing the trajectory of the epidemic.

THE OBESITY EPIDEMIC IN THE UNITED STATES, 1990-2005



Obesity is defined as a BMI over 30, or approximately 30 lbs overweight for a 5'4" woman. Source: U.S. Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System.

**KEYNOTE REMARKS: CRAIG ZIMRING, PhD,
PROFESSOR OF ARCHITECTURE AND PSYCHOLOGY
AT GEORGIA INSTITUTE OF TECHNOLOGY**

I'm here today because we have a terrible problem. We have a growing obesity epidemic that is going to overwhelm our public health system, our hospitals and our health care costs. The good news is that those of us who deal with the built environment can do something about that.

I'm going to spend the next few minutes talking about some of the solutions, but I'm also going to advocate evidence-based design. As you probably know, evidence-based design comes from the practice of evidence-based medicine. Evidence-based medicine is the simple idea that when you go to your physician, you would like her to know the best evidence about the outcome of the medicine or the course of treatment that she's going to prescribe for you. There is a mechanism in place such that the research goes on, the research is evaluated, and the implications for practice are established and communicated to the practitioner. Evidence-based design is a parallel idea, saying that when a client goes to an architect, the architect knows the implications of the design decisions that he or she is making for you. What I'm advocating today is that we address this very difficult health care problem from the perspective of evidence-based design.

My public health friends say this is one of the very few times when a lifestyle is looking like an epidemic. One of the very worst parts of this is that kids are becoming affected. For the first time, we're seeing what used to be called adult-onset diabetes, type 2 diabetes, affecting children in the United States. The irony is that we know that there's a pretty simple approach to this: better eating habits and more exercise.

We know that, as important as the calorie balance is, physical activity itself has a prophylactic effect that can help improve a lot of health indicators. So we've got an opportunity with the built environment. People engage in physical activity for three kinds of reasons.

1. People engage in physical activity for recreation or they want to get some physical activity benefit.
2. People engage in physical activity as part of everyday living. For example, people in New York get more physical activity when they are walking to work or walking to the store.
3. People engage in physical activity by choice, but for some instrumental purpose. You could choose to take the stairs, for example, instead of taking the elevator. You still get where you're going, but you also get some physical activity benefit.

The issue for us is how to deal with all three of these ways of promoting physical activity for people. Urban design changes slowly. But if we deal with sites and if we deal with buildings, I think we have the opportunity to change things more quickly. Buildings can change over months or years, where cities change over years or decades.

So what kind of things do people do? They walk through sites, they bike and stair-climb and run and use indoor exercise facilities and so on. It's this combination of intentional, hybrid and incidental physical activity accumulated over lots of small activities that can give us the kind of benefit that we want to achieve.

We can encourage physical activity through pull strategies. We can make staircases more beautiful and we can pull people to doing more physical activity. Or we can have push strategies to make sedentary activities less appealing.

The framework we use is, as Jim Sallis has coined it at San Diego State University, a social ecological model. What this means is that we don't assume that simply by changing the physical environment, we're going to somehow magically increase physical activity. We think about how improved environmental factors work with things like organizational and cultural factors, your personal sense of efficacy, and how these factors fit together to increase physical activity. The physical environment has to feel good, it has to be comfortable, it has to be safe, and it has to be available to you. As we deal with this growing social problem, we have to deal with it at a range of scales.

We'll hear today about importance of interior design elements as we deal with physical activity. Just a few small facts to put this in context: an interesting study of a large number of Harvard alumni showed that men who reported climbing at least 20 floors a week had a lower overall death rate of 20 percent, controlling for other factors. Jim Sallis and others found that if people would only walk up stairs two minutes a day, all of that change in color that we saw on the CDC chart would stop. All of that change would stop because we'd burn enough calories. These small incremental changes really matter.

There is also the wonderful study by the CDC in Atlanta, who had a traditional fire stair located right next to the elevator. It wasn't bad to begin with. But they put a counter on the staircase, they measured baseline use, and progressively they added paint and art and music and signs. What they found was that over for a total investment of \$16,000, they were able to persistently raise stair use to the point where this was a cost-effective intervention

for them. This kind of change is now mandated for CDC facilities worldwide. Compared to what it takes to encourage people to increase physical activity in other ways, simple modifications to the physical environment can be a very cost-effective intervention. Part of evidence-based design is building the business case. We all believe in health and apple pie and motherhood but if we can begin to build the business case, we can win this.

Gayle Nicoll, a student of mine at Georgia Tech who just finished her dissertation last spring—and now a professor of architecture at the University of Texas at San Antonio—made an interesting observation: there is tremendous variability between settings in how much people use stairs in buildings, even if they have open access to the staircases. So she did a brilliant, simple study where she took 10 buildings – five at Ryerson University and five in Atlanta – all occupied by students, all with pretty equal motivation to take the stairs, and she looked at 40 staircases and asked how much people use the stairs. She found that the stair use varied between 18 percent of all vertical trips in some of these buildings to 85 percent in others. She then asked the question of why is there so much variability with similar populations and similar motivation.

She did a fairly simple analysis. She looked at light and color and aesthetics and so on. But she also looked at layout: how often you have to turn to get to a staircase, and what you see when you walk in the building or on the main circulation. And she found that it was the layout of the building that dictated stair use. There were some relatively simple principles that came across very strongly –did you have to go by the elevator to get to the stairs, did you have to turn to get to the stairs, and could you see the stairs from the entry or from the main circulation? Those three principles seemed to dictate a large amount of the variability.

So what can we do? We've heard a lot about stairs. Certainly we've heard about the importance of aesthetics, that stairs are visible and pleasant. We've heard about point of decision prompts. We've heard about the role of building layout in dictating stair use and that relatively small changes in building layout, maybe even renovations that allow somebody to see the stairs when they walk in the building, could have a dramatic impact on stair use. We've heard about some code issues regarding hold-opens and the importance of making stairways visible by using glass.

We've heard already today about the importance of access to recreational facilities, for affordable housing as well as for higher income housing. We want to add pulls for walking. Obviously people walk where there's reason to walk,

where they have incentive to walk; and there's good science to show that if there are benches and other amenities along the way, people are more likely to walk on sites. There's also good science to suggest that diminished lighting and fear of crime are real disincentives to walking and in reverse, good lighting certainly encourages walking.

So I think we have an historic opportunity here. On one hand, we are facing a terrible epidemic. On the other hand, we have a growing set of realizations on the topic, and opportunities to change the situation. I must say after listening today and interacting with people in preparation for this conference, I think that you can really start something important in New York City.

**REMARKS: LAURIE KERR, RA, NYC MAYOR'S OFFICE,
AND KAREN LEE, MD, MHSC, FRCPC,
NYC DEPARTMENT OF HEALTH AND MENTAL HYGIENE**

LAURIE KERR:

The 19th century was an era where infectious diseases dominated. 19th century codes, planning and infrastructure were employed to battle contagious diseases and these strategies were very effective. They shaped the city and became an integral part of the fabric. What's the current situation? We've gone from infectious disease to chronic disease, and, fundamentally, these chronic diseases are diseases of energy. The emerging design solutions for these, then, parallel sustainable design solutions because those also often revolve around issues of energy. Finally, design solutions will have to be invisible, pervasive and an inevitable part of life in order to be effective.

What was the situation in New York in the 19th century? There was tremendous overcrowding, combined with inadequate systems for sewer, garbage, and water, and pervasive filth and polluted water supplies. As a result, we had tuberculosis, numerous epidemics of cholera and yellow fever, airborne, waterborne and vector-borne – vector-borne meaning and animal- and insect-borne.

The design and environmental responses really made the difference: the establishment of our water system in 1842, the building of Central Park in 1857 (which was hailed as the working man's lungs), the establishment of the Department of Street Sweeping in 1881, and the Tenement House Act banning the construction of dark, airless buildings in 1901. The construction of the first subway, also, we can see as a public health measure. The subway system was conceived as a way of getting people out of the densely overcrowded situation of Lower Manhattan. Finally, the Zoning Resolution of 1916, which requires setbacks on buildings, was really created to allow light and air into the streets. In seeing how the city was shaped in response to the infectious epidemics of the past, we can sense how current design can help address the chronic, energy-related diseases of the present.

KAREN LEE:

By the 1940s these infrastructure strategies had helped to conquer many of the infectious diseases that were so prevalent in the 19th century and the early 20th century. Whereas infectious diseases in 1880 were the major causes of death, by 1940 they accounted for only 11 percent of deaths. Many of the infectious diseases were conquered not by advances in medication or medical technology but by environmental and societal strategies. : Tuberculosis (TB) dropped 75 percent between 1880 and 1940, however, antibiotics for TB were not discovered until the late 1940s. The BCG vaccine, which is used to prevent serious TB disease, was not discovered until the 1950s. Even today, many diarrheal diseases do not have good treatments and do not have good vaccines. We rely on environmental strategies to contain them. Environmental design and infrastructure measures are critical to controlling major public health issues.

Today, chronic diseases have replaced infectious diseases as the predominant cause of death. In New York City, chronic diseases— heart disease and stroke, cancers, diabetes— are responsible for 75 percent of deaths. They're also major drivers of health care costs. If we look at the risk factors that are responsible for the majority of premature deaths by chronic disease, the main ones are tobacco and obesity (and the obesity-related risk factors of poor diets and physical inactivity).

We need to address obesity by addressing these main issues, and these are issues related to energy. We consume excessive calories (energy) through poor diet, and then insufficient energy is expended because of our lack of physical activity. We are therefore overusing external energy sources to compensate for that. So instead of walking or biking, we rely on cars. Instead of using the stairs, we rely on elevators. Instead of engaging in active recreational activity, we've increased the amount of time spent in front of the television. So there are these links between energy and activity where we can find common solutions.



Fit-City 2: Promoting Physical Activity through Design

► INTRODUCTION: SUSTAINABILITY AND HEALTH

One key idea that has come out of our Fit City conferences has been the need to integrate the idea of “human sustainability”—fitness, health, and life safety—into the general understanding of sustainable design. What’s good for the environment is good for people, and vice versa. The following case studies illustrate how health and physical activity can be incorporated into “green” design and planning.

Leadership in Energy and Environmental Design (LEED) standards rate buildings on the basis of sustainability through evaluating five areas: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. There are also “Innovation Credits” that can be obtained for innovative green and healthy designs that may not be explicitly covered by other areas of the guidelines. As the standard bearer for green building, LEED has become the way for architects, developers, and building owners to demonstrate their commitment to the environment and health.

Russell Unger, now the Executive Director of the New York Chapter of the United States Green Building Council, spoke about LEED applications to human health. “Most of the time when people consider green buildings, I think they probably have in mind the environmental side,” he observed. “You think of a building that hopefully is energy efficient, doesn't use a lot of water, maybe has recycled materials. That's typically what's talked of and the stuff that's easier to grasp. But there are big parts of LEED, either indirectly or directly, that are about health.”

Fit City innovations:

- ▀ Points for bicycle storage and shower facilities
- ▀ Points for proximity to public transit
- ▀ Points for indoor environmental air quality—no smoking within 25 foot radius of building, adequate ventilation before and after construction, materials with reduced volatile organic compounds
- ▀ Points for community connectivity and walkability

As the idea of human sustainability evolves and becomes more integrated with green design standards, it seems fair to assume that LEED standards will evolve in this direction as well. If granted, for example, the green- and health-promoting innovation credits applied for by the New York City Department of Health and Mental Hygiene for the renovation of their Riverside Health Center could well become standard points on the LEED checklist. This type of exposure and acceptance will go a long way towards building a fit city.

VIA VERDE: SUSTAINABLE AFFORDABLE HOUSING IN THE SOUTH BRONX

*Phipps Houses, Jonathan Rose Companies,
Dattner Architects and Grimshaw Architects*

Via Verde (“Green Way”) is an innovative, green, affordable housing development designed for a site in the South Bronx. The design is a result of the New Housing New York Legacy design competition, a groundbreaking collaboration between the AIA NY Chapter and the City’s Department of Housing Preservation and Development. The winning entry was submitted by the developers, Phipps Houses and Jonathan Rose Companies, and the architects, Dattner Architects and Grimshaw Architects. William Stein, FAIA of Dattner Architects, said that “this project will be a small step, literally and figuratively, in the right direction of helping people in the South Bronx lead more healthy lives.”

Fit City innovations:

- Proximity to public transit
- Bike storage
- Health and Fitness Center
- Proximity to open space, including adjacent ball fields
- Green roofs, courtyards, outdoor spaces for recreation and gardening
- Naturally lit, attractive stairs

The project is seeking LEED Gold certification, and its green and healthy features are central. The connecting levels of green roofs, which encourage people to spend time walking and physically experiencing the buildings and the environment, are truly a centerpiece of the design and building program. The south roof also features a gardening area for residents. Landscape architect Lee Weintraub, FASLA is designing the roofs to accommodate recreational uses as well as quiet strolling and contemplation.

Health also factors into the retail planned for the ground floor. The planners hope to house an organic food coop in this space, adjacent to the Montefiore Hospital Health Center, where residents can go for healthcare as well as health education about issues of physical activity and nutrition. The project will also will serve community uses, including a fitness center and homework center for young students.

“I think one of the challenges that designers face, particularly in housing and especially in affordable housing, is the stereotype of hallways and stairs as dangerous and forbidding places. I think it is a real challenge, both perceptually as well as operationally, to turn that around,” said Stein. The designs call for exterior (but walled) staircases that are flooded with natural light during the day, attracting residents from their hallways. “The stairs themselves become social spaces and people can be seen and see others as they go up and down the stairs to their apartments.”

The challenge of putting “green” in affordable housing? “Budget, budget and budget.” But part of the competition’s aim was to put together a “toolkit” for sustainable affordable housing, and it is their hope that they have made replicable innovations with the Via Verde project.



Rendering of Via Verde's roof system. Source: Dattner/Grimshaw Architects

RIVERSIDE HEALTH CENTER: A HEALTHY PUBLIC BUILDING ON THE UPPER WEST SIDE

*1100 Architect with New York City Department of Health and Mental Hygiene
and New York City Department of Design and Construction*

Riverside Health Center on the Upper West Side is an example of how government and private partnerships can produce healthy buildings in all senses of the word. The health center is a building owned by the Department of Health and Mental Hygiene and being renovated by the Department of Design and Construction together with 1100 Architect. The building will contain extensive clinical spaces (including a STD clinic), educational facilities, a physical exercise room, and administrative offices. The programming of the space encourages healthy living; but beyond that, the team of architects, Department of Health staff, and DDC staff, decided to bring this focus to the renovation of the building itself.

Fit City innovations:

- Accessibility
- Bicycle storage and shower facilities
- Onsite exercise facilities
- Stairs designed to promote stair use

Designer Ellen Martin from 1100 Architect spoke about the team's desire to maintain an active, beautiful, safe, and walkable streetscape surrounding the building. The site location on the Upper West Side is convenient to bicycle paths, public transit, and outdoor recreation. Bicycle racks and shower facilities will be included in the building, as well as exercise facilities for staff. For the most part, users of the building will approach on foot or by bike, and will be welcomed by these building elements.

The stairwells are also a focus of the design; wide from the start, they are being enhanced with widened windows, improved ventilation, and increased lighting. "This is a Percent for Art project, which means that one percent of the construction costs will be dedicated to a public artwork," said Martin, and they are "encouraging the artist to look at the stairs as a possible location for the artwork." Other ideas have included a music system or plants within the stairwells. The stair prompts that are currently there are working: Martin admitted that she uses the stairs on site visits because they make her feel guilty.

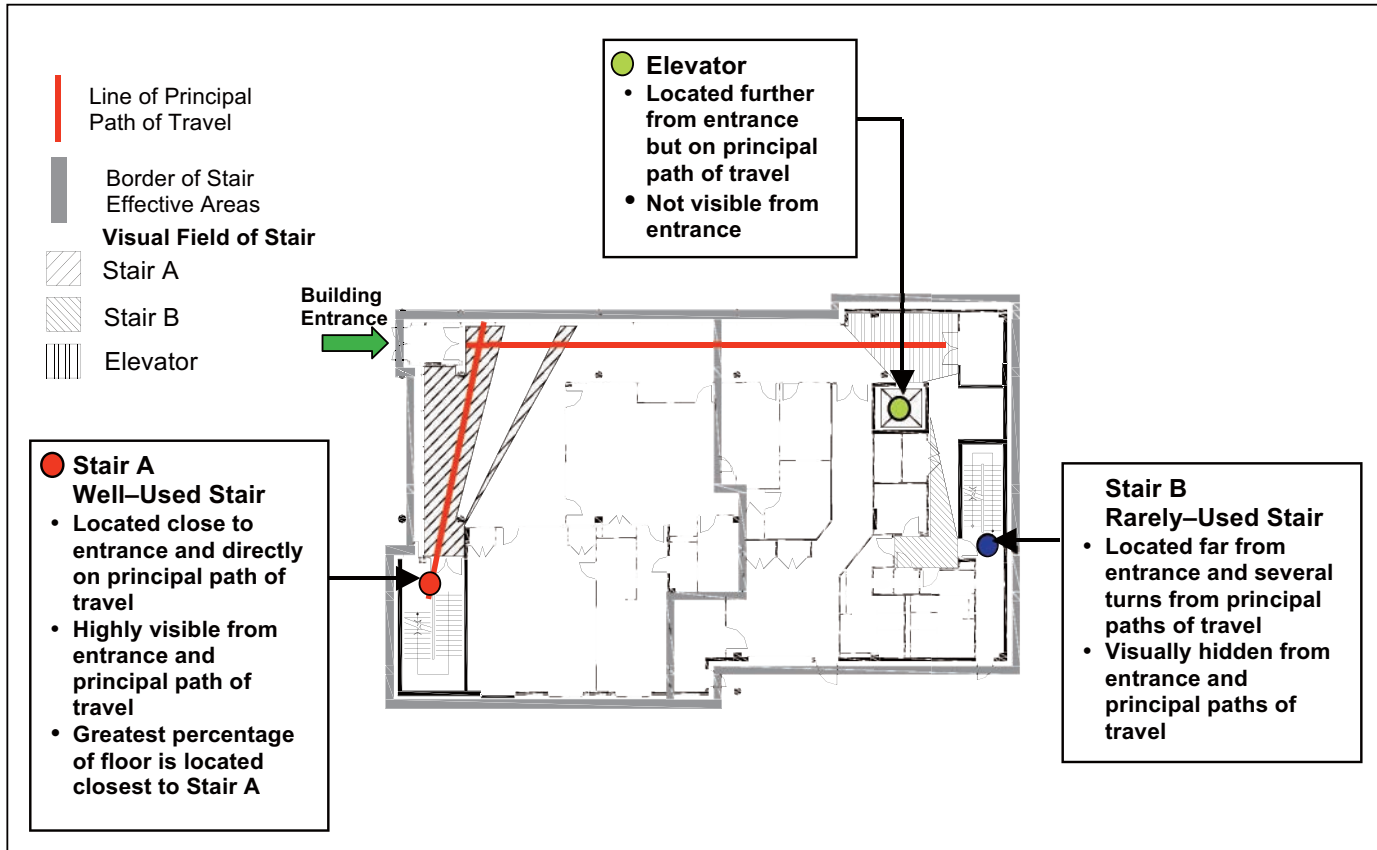
The Riverside Health Center Team is applying for LEED innovation credits, which reward "comprehensive strategies which demonstrate quantifiable environmental benefits." As Martin explained, they plan to "outline the different problems that obesity has for the public, the different ways that help improve it, and the ways that our building is going to address these issues." If granted, this innovation credit could be used for other buildings in the future and, perhaps eventually, be incorporated into standard LEED guidelines.



Rendering of Riverside Health Center's north façade as seen from 100th Street. Source: 1100 Architect.

AIA NY Chapter President Joan Blumenfeld, FAIA, IIDA who introduced the second panel on interiors, noted that “as designers, the easiest place for us to make change quickly is in how we design the insides of buildings. That fact relates very strongly to our 2007 theme at the AIA New York Chapter’s Center for Architecture, ‘Architecture: Inside/Out.’ The theme is intended to emphasize the importance of how interior design affects the way we live and work in terms of sustainability, health, productivity, and overall quality of life.

Two architects presented projects that incorporated innovative elements to encourage physical activity. Bruce Fowle, FAIA of FXFowle Architects spoke of the stairs, level changes, and sustainability features of the 2007 New York Times building. Dan Wood, AIA of Work Architecture Company spoke about a new headquarters for fashion designer Diane VonFurstenberg in Chelsea’s meatpacking district, where a staircase takes center stage.



People are more likely to use stairs that are visible and convenient along their principal paths of travel. Source: Nicoll 2006

NEW YORK TIMES BUILDING: PROGRAMMING PHYSICAL ACTIVITY AND HEALTH IN MIDTOWN

FX Fowle Architects with Renzo Piano Workshop and Gensler Architects

The recently completed New York Times Building at 620 Eighth Avenue has made headlines for its environmental innovations. Bruce Fowle, FAIA of FXFowle, who collaborated on the building with Renzo Piano Workshop and Gensler Architects, spoke of the deliberate design tactics in the interior spaces that were used to encourage physical activity and health. Stairs, for example, were placed to promote intercommunication between the editorial staff and various NYT departments housed on 26 floors of the building. This also provided flexibility and connectivity for departments that had partial overlaps onto other floors.

Fit City Innovations:

- Stairs for short trips minimize need for escalators and reduce inefficient use of elevators
- Easy access between floors and departments running along the glass wall of the exterior create invigorating experience – a nice break to the working routine
- Underfloor displacement air system provide healthier interior quality, individual control, and energy efficiency

Stairs were placed at building corners and featured prominently in the lower levels “not only to encourage people to circulate by stair but also to animate the space and to animate the exterior of the building as well,” explained Fowle. In addition to beautiful, functional stairs linking all levels and building programs, the designers incorporated human motion into the considerations guiding building form. The cafeteria was placed on the 14th floor, above the function’s natural placement, to force “interdepartmental experiences” high above the ground. An open air garden with native plants (birch trees and mosses) is incorporated into the lobby, and lets daylight into the office spaces. The air quality of the building is managed with an innovative underfloor air system, New York City’s first major project of this type. The air that flows through the interior spaces is introduced via vents in the floor that can be moved or angled on an individual basis. After circulating from floor to ceiling, the “spoiled” air is vented out through the ceiling and is either refiltered or ejected from the building in nice weather.

In terms of moving forward on encouraging physical activity through the building code, Fowle targeted fire stair regulations. The contrast of a regulation, white, fire stair with the NYT’s striking, vital red versions is stark; Fowle observed that the current regulations “go against the whole notion of making fire stairs attractive and something out of which we could get dual use.” He sounded a positive note about the Department of Buildings, who helped the Times Building architects approve a fairly unconventional solution to fire spread regulations: alternate-floor fire shutters for the building’s continuous stair.



New York Times Building. Source: Laura Manville.

DIANE VON FURSTENBERG HEADQUARTERS: STAIRS AS A DESIGN ELEMENT IN CHELSEA

Work Architecture Company

Work Architecture Company's new headquarters for fashion designer Diane Von Furstenberg demonstrates how one element—a central staircase—could be both show stopping and encourage physical activity. “We ended up with a healthy project because it eventually all became about a stair,” explained Dan Wood, AIA of Work Architecture Company. The design features a precast concrete stair case running from the roof down diagonally through the building, envisioned as a glowing “shaft of light.” The designers and the client began calling it the “stairdelier.”

Fit City Innovations:

- Recreational space for yoga
- Extreme stair

The pull of this stair for the building users has been radical: as Wood explained, “everyone is using the stairs, and we are engaged in a study to transform one of the elevators into a mail room because nobody's using the elevators” if they don't need to. The designers used innovative materials—Swarovski crystals and airplane cable—to cocoon the staircase, so that there was no need for a typical handrail. The stair itself is “super steep” in order to fit it diagonally within the building. “It's definitely steeper than 7/11, which doesn't seem to affect anyone,” said Wood.

Located in the meatpacking district, the building designers had the added challenges of working within a landmarked district. The facades of the building were kept intact, and the space at the top is accessible only by stair, to minimize rooftop apparatuses. There is also a small glass extension on the top where the client has a yoga studio and private space, made all the more private by lack of elevator. The stair has influenced both the appearance of the interior spaces, the program of the building, and the action of those who inhabit it. As a project, it shows how incorporating creative physical activity can positively impact design.



Diane Von Furstenberg Headquarters Interior stair. Source: ©Elizabeth Felicella 2007.

CLOSING REMARKS: DAVID BURNEY, FAIA, COMMISSIONER OF THE NYC DEPARTMENT OF DESIGN AND CONSTRUCTION

There is clearly no debate about the crisis in obesity. It's out there, we saw the statistics, and it is a closed issue. There seems to be little debate that exercise is one of the most important countermeasures that one can do to attack that problem. So I guess our question has been what to do about it, both as architects, and, in my particular case, as a city.

We heard about walking. Walking seems to be the single most effective measure. Pretty much everybody can do it, so it is a terrific place to start. We heard some astonishing statistics about staircases. Two minutes of stair-climbing a day equals 5,800 kilocalories a year. We talked about bicycles. There's been a campaign in the City for some time now to increase the number of bike lanes and provide more bicycle racks. Shower facilities have been a little later in coming.

I also notice an increasing number of enlightened corporations that provide exercise facilities in their buildings. If you work for Google, or if you work for Apple, there are exercise facilities when you go to work; not so much because they're concerned about obesity but because they want to retain the best staff. They're in a highly competitive business. One wonders why, programmatically, we don't think more about that. For years, IBM in their data processing centers consciously put coffee stations way at the other end of the building so you have to get up from your computer and walk over there. For them, it was more a question of stimulating interaction between the designers, a kind of intellectual thing, but it had physical mobility benefits as well.

We heard about site design, putting cars a bit further away from the buildings. You don't have to drive right up and park right next to where you're going. I actually go to a place in Naples, Florida, which is a bath and tennis club that my relatives own. There's a big shopping mall right next door that I can see from the condominium. But there's a fence between the buildings for security reasons, and there's a road outside which is a fairly major highway, and there is no sidewalk. So to get to this shopping mall, which I can see from my condominium, I have to get in the car, drive out, sit in the traffic for two blocks, drive into the mall, pick up my milk and then fight the traffic all way back. I can see the place from my condominium! Some of these things, just simple things in site design, a little path or a sidewalk, wouldn't have cost any money and make a big difference.

We talked about funding. I think I've heard a statistic: \$99.2 billion attributable to obesity. So there's money in this issue. It's always the old question, though—how do you get that money saved to put into the places where it'll lead to prevention? That's always seemed an impossible accounting problem. As advanced a species as we think ourselves to be, we ought to try to solve this.

So there are many solutions. And as architects, we can stimulate solutions both in the work that we're doing directly and when we're working with our clients. As a city, there's also a lot we can do. There is a major initiative through the City's Health Commissioner to tackle this issue. Commissioner Frieden, having stopped us all from smoking, has now declared war on obesity. There's a major effort through the city's health commissioner to tackle that issue. There are many programs that the City's involved with, both on the nutritional side and talking about physical activity. I mentioned bike lanes: the Department of Transportation now has a commissioner who cycles to work.

The Department of Transportation has also actively tried to introduce congestion pricing. People think of that as an air quality issue, but it's also a mobility issue. People who travel by urban transit walk more. They walk to the subway, they walk from the subway to their office, and they run to catch the bus. There will be definite benefits for mobility when we reduce the numbers of cars on our streets. The idea here is to get them young – if we can get kids who have got a park within ten minutes' walk, they will go to that park, will use that park. Childhood obesity apparently is where it starts, which is a tragedy. We can't let that happen. We have to make sure that there are recreational facilities available for everybody.

Lastly, those of you that work with the Department of Design and Construction know that our agency has published over the last 10 years a number of guidelines to do with energy, with sustainability, and with universal design. We don't yet have a guideline for active design. I will commit to you today that this is something we're going to do. I'm going to be on the phone to Dr. Zimring right after this meeting and we are going to work on that. We can get that into the consciousness of the city. I think the city has to take a leadership role on this; if all of the libraries and museums and firehouses and so on that we do can incorporate these principles, then I think we'll be off to a good start.

NEW YORK CITY RESOURCES

PlaNYC 2030, Mayor Michael Bloomberg's plan for the next 22 years of the City, "allows for the growth and sustenance of New York's industry, population, environment, and infrastructure."
www.nyc.gov/2030

EpiQuery: NYC Interactive Health Data provides statistics from data sets such as the Community Health Survey (CHS) and the Youth Risk Behavior Survey (YRBS). The CHS and YRBS are conducted regularly and provide robust data on the health of New Yorkers, including both neighborhood and citywide estimates on a broad range of chronic diseases and behavioral risk factors, including rates of obesity and frequency of physical activity.
<http://query1.health.nycnet/query/>

The 2008 Green Carts Legislation was designed to increase the availability of fresh fruits and vegetables in poor and minority neighborhoods through a sharp increase in vending carts, part of efforts to combat the city's obesity epidemic.
<http://tinyurl.com/2pwg2w>
<http://cityroom.blogs.nytimes.com/tag/green-cart-legislation/>

Passed in 2005, **Local Law 86** requires many of New York City's public projects to achieve a LEED rating of Certified or Silver and to use energy and water more efficiently than current codes require.
<http://www.nyc.gov/html/ddc/html/ddcgreen/ll86.html>

Million Trees NYC is a public-private initiative to plant and care for one million new trees across the City's five boroughs over the next decade
<http://www.milliontreesnyc.org/>

New York City Food and Fitness Partnership, funded by the W. K. Kellogg Foundation, works towards equal access to healthy foods and opportunities for physical activity throughout New York City.
<http://tinyurl.com/2d55gu>

The Office of Sustainable Design at the Department of Design and Construction (DDC) was founded "for the purposes of identifying and implementing cost-effective ways to promote greater environmental responsibility in building design."
<http://www.nyc.gov/html/ddc/html/ddcgreen/>

Population projections for the City of New York.
<http://www.nyc.gov/html/dcp/html/census/popproj.shtml>

New York City Community Health Data **Vital Signs Reports** provide analyses of community health survey data, such as detailed reports on obesity and childhood obesity:
<http://www.nyc.gov/html/doh/downloads/pdf/survey/survey-2006childobesity.pdf>.

The New York City Office of Vital Statistics is responsible for reporting, processing, and analyzing all vital events (births, deaths, and spontaneous and induced terminations of pregnancy) in New York City.
<http://www.nyc.gov/html/doh/html/vs/vs.shtml>

GENERAL RESOURCES

Active Design

Sport England, a sports advocacy organization in the UK, has released “an innovative set of design guidelines to promote opportunities for sport and physical activity in the design and layout of development.”

http://www.sportengland.org/planning_active_design.htm

“**Active Living by Design** is a national program of The Robert Wood Johnson Foundation designed to establish and evaluate innovative approaches that support active living.”

<http://www.activelivingbydesign.org/>

“**Active Living Research** is a national program of the Robert Wood Johnson Foundation. We support research to identify environmental factors and policies that influence physical activity.”

www.activelivingresearch.org

American Institute of Architects:

Public Health and the Built Environment Talking Points

http://www.aia.org/liv_TP_health

American Planning Association website detailing the work they are doing on “**Planning and Designing the Physically Active Community**” funded by a grant from the Robert Wood Johnson Foundation.

www.planning.org/physicallyactive/index.htm

American Public Health Association Obesity Resources

<http://www.apha.org/programs/resources/obesity/>

Defensible Space

Oscar Newman’s famous design approach to crime prevention, which espouses safe, walkable streets. The book is available online at the below website.

<http://www.defensiblespace.com/>

Centers for Disease Control’s website on “Designing and Building Healthy Places”

<http://www.cdc.gov/healthyplaces/>

Fit City Challenge

A North Carolina team-based initiative “to encourage and empower program participants to increase their level of physical activity and fruit and vegetable consumption.”

www.fitcitychallenge.org

GENERAL RESOURCES

The Guide to Community Preventive Services provides CDC evidence-based recommendations for interventions for prevention of diseases in community settings to promote population health.

<http://www.thecommunityguide.org/index.html>.

See especially :

Creating or Improving Access to Places for Physical Activity is Recommended to Increase Physical Activity

<http://www.thecommunityguide.org/pa/pa-int-create-access.pdf>

Street-Scale Urban Design and Land Use Policies and Practices are Recommended to Increase Physical Activity

<http://www.thecommunityguide.org/pa/pa-int-policy-street-scale.pdf>

Community-Scale Urban Design and Land Use Policies and Practices are Recommended to Increase Physical Activity

<http://www.thecommunityguide.org/pa/pa-int-policy-community-scale.pdf>

Point-of-Decision Prompts that Encourage People to Use the Stairs are Recommended to Promote Physical Activity

<http://www.thecommunityguide.org/pa/pa-int-decision-prompts.pdf>

Health and Community Design:

The Impact of the Built Environment on Physical Activity

A 2003 book by Lawrence D. Frank, Peter O. Engelke, and Thomas L. Schmid.

<http://tinyurl.com/26d8m4>

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Healthy Weight, Healthy Lives: A Cross Government Strategy for England

Report by the UK Department of Health, whose “ambition is to be the first major nation to reverse the rising tide of obesity....”

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082378

Louv, Richard. *Last Child in the Woods*. New York: Workman Publishing, 2005.

Today's kids are increasingly disconnected from the natural world and play, argues this author.

Measuring Sprawl and Its Impact:

The Character & Consequences of Metropolitan Expansion

A report by Reid Ewing of Rutgers University and Rolf Pendall of Cornell University that is a comprehensive effort to define, measure and evaluate metropolitan sprawl and its impacts.

www.smartgrowthamerica.org/sprawindex.html

Newswise “**Public Housing Conditions Can Contribute to Obesity**”, 2006.

<http://www.newswise.com/articles/view/518351/?sc=lwtn>

Walkinginfo.org.

A website with resources to help make your community walkable.

www.walkinginfo.org

GREEN RESOURCES

“Beyond LEED: From Low Environmental Impact to Restorative Environmental Design.”

Stephen R. Kellert of Yale University argues that ‘sustainable design’ must include a “beneficial human experience.”

<http://www.greenroofs.org/resources/kellert-2004.pdf>

As referenced by Craig Zimring, the **Center for Disease Control** has shown innovation in planning their offices and campus in Atlanta.

“Master Plan and Laboratory Safety Helps CDC Keep Pace with Expanding Public Health Challenges.”

http://www.cdc.gov/news/2007/06/campus_masterplan.html

United States Green Building Council’s “LEED Rating Systems” allow architects, developers, and tenants to evaluate the sustainability of buildings.

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=222>

INTERIOR RESOURCES

“Is Your House Making You Fat?”

<http://arieff.blogs.nytimes.com/2008/02/18/is-your-house-making-you-look-fat/index.html>

StairWELL to Better Health is a CDC guide to designing stairways to promote stair use which is a quick, inexpensive, and easy way to increase physical activity.

<http://www.cdc.gov/nccdphp/dnpa/stairwell/index.htm>

“Taking the stairs: Environmental features that explain why people use stairs in 3 to 4 story academic workplace buildings.”

Dr. Gayle Nicoll showed how stair case design and layout influenced the physical activity choices of building users in her Georgia Institute of Technology dissertation.

<http://smartech.gatech.edu/handle/1853/11481>

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