

RICK BELL: ...Let's get started. My name is Rick Bell, if everybody could take their seats and turn their cell phones off and make sure they have enough coffee for the next few minutes. It's my pleasure, as Executive Director of the American Institute of Architects, to welcome you all here to the Center for Architecture for our Fit-City Conference.

In our 2006 winter issue of the *Journal of American Planning Association, JAPA*, an article entitled "Interdisciplinary planning for healthier communities: Findings from the Harlem's Children Zone Asthma Initiative" starts with a declarative statement that partly explains why we are here today in this crowded sub-basement of a 19th-century former sweatshop building.

Next, please. There we go. I don't know if I did that or the magicians upstairs. That statement said, "Crowded, unsanitary, and polluted living conditions in industrialized cities of Europe and the United States in the middle of the 19th century led to infectious disease outbreaks, social unrest, and class conflict. These conditions also gave rise to the modern professions of urban planning and public health." I'd like to also add architecture to that list, since the AIA was founded in lower Manhattan in 1857.

All three professions, you might say, have historically attempted to ameliorate the urban environment, social and population health problems as well. Understanding how physical structures and social factors contribute to disparate environmental exposures and health inequalities could be a bridge reconnecting the fields.

This actually works. Sorry, I've never used this. Today, we will be hearing of case studies and research in both architecture, planning, and public health that make the connection of the importance of design, architectural design, park design, and neighborhood design in encouraging physical activity. This conference, perhaps, is part of the bridge, as is the evolution of this space - now called the Center for Architecture.

The introduction to the same *JAPA* issue stated that the "obesity and physical inactivity issues, while related, may have distinct impacts on health," leading to a debate on whether public health efforts should focus on fitness or fatness, while noting that, "a common treatment for both obesity and inactivity is increased physical activity," which sounds kind of tautological.

We have a few 15 minute breaks worked into this morning's sessions, and I encourage people during these breaks not only to get some coffee but to walk up and down our wonderful stairs, designed by Andrew Berman and Irina Verona. And check out on the Mezzanine level upstairs the only accessible

geothermal installation in the city of New York. Our air-conditioning is all environmentally correct, guilt-free, [end]-free. And also, maybe have a chance to thank some of our collaborators. I would like to now.

From the New York City Department of Health and Mental Hygiene - particularly, Dr. Lynn Silver, who's sitting here in the front row, who initiated this conference and a related public policy workshop along with Dr.'s Delia Easton and Karen Lee. At the AIA New York Chapter, Annie Kurtin, who's our communications and policy coordinator, made this possible along with Tina Erickson and Elizabeth Case, who among many other tasks, compiled the bibliography that you'll see here today.

Reading some of these articles, one finds some startling statements. Public health needs to discover the importance of place in [an article by Howard Frumpkin]. Future advances in research into the social determinacy of obesity in African American women will require prospective study designs and high quality information on both personal and neighborhood-level resources known or suspected to influence dietary practices and physical activity through the life-course, Sherman James.

"Start off ..." in *Women's World*, Dr. Rosette, "Start off with a comfort walk each day. Add five minutes every day for 3 or 4 days, you want to aim for at least an hour a day. That can help you lose an extra 40 pounds a year. Evidently, that's the cure that *Women's World* says for obesity.

The conference was initiated through something we did here last year, which was an exhibition upstairs on the mezzanine called Value Meal, organized by Laticia Wolf and Aric Chen. Their premise was that nutrition and issues of design relating to nutrition, packaging of food, how we're coerced to eat things that aren't healthy for us was an obvious direct link to chronic diseases, obesity in particular. At that time, we started the AI and the Health Department to talk together about doing a panel discussion that would address design, other than graphic design, while the exhibition was up. Exhibition wasn't up long enough, and if we kept it for a year perhaps it would've still been here while this takes place.

But what replaced it, among other things, was an exhibition called Fashion of Architecture, Architecture of Fashion. That's the one - stays there - in the window, we had a piece by Lucy Orta, a body suit for 12 people. And while the garments that were hanging throughout these galleries were remarkable and talked about, issues cross-disciplinary, of design in fashion, architectonic form - what was fascinating about the exhibition, at least for me, was the video that's sort of just off the screen, that showed people walking down the street together - some street in Strasbourg, I think, in unison.

Doesn't have to be in unison, but the importance of walking or giving out pedometers that have the AI logo today, is certainly very palpable. And the last slide in this - frankly, this filibuster was going to start in case the commissioner wasn't here and he is- was taken downtown not all that long ago. I was

astounded to see on the side of a phone booth the comment, "It's time to make New York a better place to drive." And I'm sure all the DOH vehicles are now very environmentally correct, but there was one just south of Lorenzo [Case]'s wonderful sculpture in Foley Square, Thomas Paine Park, and the health department in the background, and I'd like to think maybe someone who's not working for the Health Department off to the right.

But the Health Department has really made this city a much, much healthier place to live in all sorts of ways. So it's at this point that I get to do the most fun part of what I'll be doing today, which is to introduce the commissioner of the Department of Health and Mental Hygiene, and that is Thomas R. Frieden, MD, MPH, who's been commissioner of the department since the winter of 2002, shortly after September 11.

Previously, he served at the Department of Health as the assistant commissioner in charge of tuberculosis control, during which time a resurgence in tuberculosis epidemic was brought back under control. Subsequently, he worked in India, also on TB control. And as commissioner here in New York, he's taken on some of the most difficult public health challenges using data to tackle chronic diseases. This led most noticeably to the Smoke Free Air Act, an important policy that had a big impact on public health, as we all know. So without further adieu, I'd like to introduce Commissioner Frieden.

[APPLAUSE]

THOMAS R. FRIEDEN: Well, two things to clarify right away. First is that I don't have any slides so I won't have that problem you had with the slides, and second is that car was actually our Radiation Safety Van. I got here in a Prius this morning, just for the record. I want to welcome you to I think what is potentially a very important meeting, and thank guests from around the city and around the country who are here.

Also, we're focusing attention on the intersection between health and how communities are designed. I'd also like to thank the American Institute of Architecture, New York City Chapter and Rick Bell for their role organizing the conference and working with us, as well as our sister agencies who are participating.

Obesity is an epidemic. We don't often think of non-communicable diseases as epidemics, but they are. And an epidemic, for those of you not in public health, means basically a big increase in disease among people. And by any scope and any definition, obesity and with it diabetes, is epidemic. The proportion of Americans who are obese has doubled in the past 20-30 years, and the rate of diabetes has more than doubled, almost tripled in the last decade in New York City.

Now, in public health, what we try to do is get to what I call the sweet spot of public policy. We could have built character by encouraging all people in this country to boil their water and put fluoride drops in it every morning. That might've built people's character, but we didn't do that. We made the default value clean water, which is fluoridated. And that's the better way to get people to change behavior - by changing the default value.

That is what we've done most effectively in public health, and that's what's had the greatest benefit - clean water, fluoridated water, smoke-free work places. It's one thing to tell someone to hold their breath while they're at work, it's another to take cigarette smoke out of the work place.

The challenge with obesity and diabetes is several-fold. First, people still see obesity as a personal failing. And it is widely recognized, the concept is, "Well, if people just had more self-control, or if they weren't so gluttonous or lazy, they wouldn't be overweight." Well, the fact is, our genetic makeup hasn't changed in the last 2 or 3 decades. We haven't suddenly got a whole lot more gluttonous in the last 2 or 3 decades. What's changed is the structure of our society, in two different ways.

The first is that lousy food has gotten cheaper. And the second is that society has gotten more convenient. People don't do their own dishes anymore, they don't mow their own lawns, they don't walk to school or work, they don't ride bikes much. If I had had one slide to show here, it would've been a slide that Jim Marx shows of someone walking their dog by holding a leash out the SUV. They're probably drinking a super-size soda inside the SUV. And that kind of epitomizes what's happened to physical activity in our society.

In New York City, more than 1 in 5 adults is obese. Nationally, it's about 1 in 3. And that continues to increase, and it starts age. 24 percent of 2 year olds participating in head-start programs were obese and 29 percent of 4 year olds. We're seeing really a change in our society that has devastating implications. Obesity brings with it many health problems, for those of you not in the health field. It's not just diabetes; it also increases a wide range of cancers, large number of metabolic and other diseases, musculo-skeletal diseases. It is a very serious health problem.

And although we believe that it's the food side of the calorie equation that's had a bigger impact on obesity, the activity side has also. Our living environment contributes to more people spending more time sedentary, in front of the TV, in front of the computer, often eating while they're doing that. And the challenge really is to change that environment so the default value becomes getting more physical activity, and eating healthier food. In terms of the physical activity part of that equation, that means, for example, buildings that make it very hard to find the elevator. I'm glad you took that example in this

building, well done, well planned-out. But realistically, you want the stairs to become the default value - at least for a couple of flights.

If everyone took a couple of flights, you can work out the math, if everyone took a couple flights up, a couple flights down a day, it's enough calories to begin tipping a balance back. You want the environment to be built such that public places are more pleasant to walk in, so that people will get off the subway or the bus stop early. That's not just how wide the sidewalk is, that's what there is in between the place they get off the bus or subway and where they're going. It's parks that are appealing and that are used to a great extent. We have a wonderful network of parks in New York City, but it's not used to the extent it could be.

If you think about what's happened in the US - in 1978, there were 26 million people who met the definition of obesity. With the same definition of obesity in 2001, there were 66 million. An increase of 40 million people in the number of people who are obese.

If we think, again, about the "Sweet spot" of public health, what would really make a difference - on the nutrition side, it would be the kinds of things that cut smoking in half in the US in the last couple of decades. Changes in price incentives and structure, making healthy foods cheaper and lousy foods more expensive. Whether that's through taxes or other structures, that's the single most effective intervention. National food policies to promote a healthier nutrition, whether it's looking at our agricultural subsidies - we're still subsidizing unhealthy food. Looking at food stamps, which can be used to buy Coke and Cheetos. Our WIC program, which doesn't really promote healthy nutrition among kids. Looking at food advertising to kids.

The average, according to a review by the Kaiser Family Foundation - the average American kid sees about 20,000 food ads a year. Kids under the age of 8 really can't tell the difference between a news show, Sesame Street, and an ad. They don't differentiate what's fact and what's fantasy, and this leads to what is actually called in the marketing industry "the whine factor." Getting kids to whine for those Coco Crisps or the food that's right there at the checkout counter.

Better availability of fruit and vegetables, and a better understanding of nutrition and obesity. Because really, there's a lot we don't understand about both nutrition and obesity. The little bit we do understand we're not doing much about, but there's still a lot we don't understand. And I think that contributes to a societal unwillingness to take vigorous action to what is really a public health crisis.

What could we do to change the physical context? Well, I think that's a lot of what you'll be discussing today. Some ideas that have been floated are engineering the built environment to promote physical

activity, through zoning changes and financial incentives, to promote use of stairs, walking, bike paths, parks mass transit, vehicle-free areas. Also, thinking about kids' access to TV and videogames, and how to encourage physical activity programs, in workplaces, in schools, and in society generally - whether that's taking the stairs or walking. Very important to remember that although both food and physical activity are key parts of the obesity equation, and although it may be the case that food has had the greater role in increasing obesity, physical activity can have dramatic benefits, even without reducing weight.

It's a very important concept for people to have, that even if somebody regularly exercises and doesn't lost any weight, their risk of diabetes, their risk of a whole host of health problems, falls dramatically. So even if we can't reverse the obesity epidemic, if we can increase physical activity, we can significantly improve health in society. I'm looking forward to hearing about your day to day, and all the great ideas that are implemental that you come up with that we can then make reality in New York City over the coming years. Thank you all very much, have a very successful conference.

[APPLAUSE]

RICK BELL: Thank you Commissioner. With that, I'd like to invite Dr. Silver to invite the panelists up.

LYNN SILVER (MODERATOR): Very pleased to be here this morning. We have a wonderful panel coming. I was just going to show a little of the data that Tom just mentioned as an introduction and introduce our panel. Could our panelists come up? Linda Pollack, Ronnette Riley, Mindy Fullilove, Hilary Brown, and I'll give a little more detailed introduction in a minute.

Could I have the next slide, please? So I just wanted to reinforce a couple of basic issues about this symposium today, and the first question was, "Why did the city of New York organize it together with AIA?" Next, please. As Dr. Freidan was citing, we've seen an absolutely incredible increase from 25 to 66 million people in the United States who are obese over the last few years. Next? I'm going to be very brief here. For those of you who haven't seen these maps, there's a 20-map sequence that's absolutely incredible that I won't show. Maybe Dr. Rundle will be showing it. But this is the United States in 1985; this is the United States in 2003.

In 1985, you see there were only a few states with above 10 percent obesity rates. By 2003, the nation had turned red, with greater than 20 percent. Next?

As Dr. Frieden was mentioning, our schoolchildren - 53 percent of them only are normal weight. We have 4 in 10 who are overweight here in New York City. Next.

And this is starting very, very young. So the effects of this environment are reaching our children at an extremely young age. These are Head Start children, age 2, 3, and 4. And 24, 27, and 29 percent were found to be obese in studies that we just carried out on 16,000 head start children.

Next please? So as Dr. Frieden mentioned, obesity is very bad for you. Next. We can keep going, Dr. Frieden just talked about the many, many effects of obesity on human health - next please. And it's leading to a tremendous epidemic in our city of diabetes. How many of you have family members with diabetes? Can you raise your hands? That's all? You're a healthy bunch. Usually I do this and 3/4 of the audience raises their hands. It would've been half those number of hands 10 or 20 years ago. And we're just seeing a tremendous increase.

This is in our city, where diabetes went up from 3.7 to 9 percent of New York City adults over the last decade. This started in 1994, ends in 2003. So this change took place over a mere decade. That's what Dr. Frieden was calling a "true epidemic" in his talk. Next.

This has similarly led to tremendous increases in mortality and deaths from diabetes, and we see that it defects our poorest communities most heavily. The blue line on the top is deaths in our black population, for example.

Next. So basically, we're looking at 3 main strategies to change this situation. Changing our built environment, changing our food environment, and last but not least, the boiling the water and adding the fluoride option, which is getting individual people to change their behavior. But what we're trying to focus this seminar on today is this first option, which is changing our default, changing our built environment here in New York City. Next please. And we hope that all of our participants here today can, A, learn about successful experiences from other places, and second, come up with concrete alternatives for policy and practice in New York City that we can implement in our city.

Next? And basically, the question I'm putting to our panel this morning and to the seminar is how can we build or organize our city to increase physical activity to address the physical activity side of this epidemic? So finishing up, next please, this is our panel this morning, we're really delighted to have with us an incredible group of speakers. We have an hour and a half, so I'd like you to speak for approximately 20 minutes, and then we'll have some time for discussion.

LYNN SILVER (MODERATOR): Or less, it can be less, 10-15. Our first speaker is Linda Pollack from Marpillero Pollak Associates; I'm not sure what the proper pronunciation is. She's an architect, landscape designer, and educator, and has worked with communities and clients to address practical problems for

design that focuses on architecture's relationship to the social and environmental conditions. She's won a number of awards for architecture and urban landscaping, and has some very well-known publications. Some of her projects include the Elmhurst Library Renovation, Queens Plaza Public Spaces, and New Stapleton Waterton Park.

LINDA POLLACK: Let me see, can you hear? And how do I do this? Can someone show me before I do it wrong?

MAN: It seems to be the right button.

LINDA POLLACK: Okay. Well, I'm thrilled to be here today to participate. And already, just listening to people speaking from different points of view and different disciplines has sparked a lot of thinking for me, as did putting this presentation together last night and in the middle of the night.

I think that Thomas started, and he talked about intersections. This is what I was thinking about with intersections. Our practices - I'm an architect, and I have a background also in landscape architecture. My partner, Sandra Marpillero, is an architect who's also an urban designer. We primarily work as architects, but I think we understand how not only to take the considerations of the urban and the natural systems into account when you're making architecture, but also to take into consideration the intersections between them.

And I think as much as anything I could say to promote physical activity in the city, it's about connecting the social and the natural in design, and not thinking of city as one thing and nature as another. And understanding that we are part of those living systems. That's an overarching point that I'm going to try to make in a few different ways, about thinking of those together in design and connecting them for people in their environment. Recognizing that isn't the way our thinking has been necessarily historically, that parks have been thought of as something fabulous, but also something other than city.

In any case, the key to the fit city for me is looking at the social and the natural together. I'm going to say it in like 10 different ways. This is some pictures of the Kimball Museum by Louis Kahn, a very famous American architect, and just to think about how architects often mention this building and they think about the building, about being a wonderful accomplishment of architecture, and they talk about the barrel and how it lets in the light in the middle. Pretty much you never see these pictures, which are just pictures I happened to take, but they're about the approach to the building and the edges of the building, and how the building is situated in the landscape, and entered through a grove of trees, and bordered by water.

And how actually the light structure in the middle that's so famous is a kind of reprise of many other situations that are happening as you're entering towards the museum. And I think so much of our framework for thinking about architecture and design is about thinking about disciplines and practices separately. And as much as that's changing now, we have huge histories of things to look at that could teach us more. Let's see.

This is a book that I wrote with a landscape architect, Anita Berrizbeitia, and it's about frameworks for looking at architecture and landscape together, and city, and looking at them in things called operations, which is so that you don't say, "Oh, architecture's one kind of practice, landscape's another." But recognizing that they are and not wanting to change that, still suggesting ways you can think of them in terms of reciprocity or materiality or thresholds, to find commonalities, to be able to talk about things like the Kimball Museum, which is in Thresholds, or other projects such as this house in France by Rem Koolhaas, a very famous contemporary architect, that talk about them in ways that recognize their accomplishment in terms of their relationships with the physical environment and living systems.

This is our loft in lower Manhattan, and it's a ground-floor and basement space in an industrial building. And we cut out the - and when Rick invited me to be on the architecture panel, I said "I want to be on the landscape panel," that's what I thought I'd talk about, because of how parks can promote circulation and so on. And he said, "Well, I remember your loft," and to me it really speaks of, well, there's great things about stairs, and whatever.

Anyway, I'll start with the loft and make a few points about it. this is what it looked like to begin with, and this is on the lower part the basement, on the upper part, it is what it is - which is a section through this base to open up at the back, the street's on the left side, Duane Street, and open up at the back to make a garden and to cut off the rear yard extension, a portion of it, to make a bigger garden and let in more light. Because light, air, water, and earth - the elements, are really - if we think of them all together in terms of thinking about the environment, it really makes a huge difference.

This is looking down to the grade, and you can see the beams that were cut off on the left, to make a hole to the basement. The beam out there is where the wall used to be that we cut away, looking down to the garden from the bedroom, from inside. And then I wanted to talk about a couple of projects in New York City that we've worked on. Most of our projects are in areas that used to be swamps. Now they're called wetlands. But most of the poorer or more underserved areas of a city tend to be in the less buildable areas of the city. In New York, areas that are on fill areas that are on wetlands and so on.

And that's no accident. That's geography in relation to economics. And I think it's - I've understood much more about that working with my partner, who understands much larger urban forces. In any case, I'm

just going to - is this also a pointer? It is. This is a classroom at Ives Pond Park, and this is a classroom at [NAME] Wilkins Park, in Queens. This is Queens Plaza, where we're working with a landscape architect, Marty Ruddock. This is Jacob [NAME] houses in the community center, where we're working on a community center that's kind of stuck in the pipeline - all designed and ready to go to bid in a year now.

And this is Robin Hood library in PS1 in Brooklyn. This is a classroom at Ives Pond Park. It's actually not there anymore, it was built by volunteers. We designed it and developed it with the park's council, it's built with AmeriCorps. Parks Department took it down because it wasn't built in Park standard. It doesn't matter for this discussion whether they're building something else there, or they've already built it. But for the points I want to make I'd say one of the things you can do as a designer is design wonderful environments. Another thing you can do is bring attention to and help situation people in wonderful environments, like wetlands, that once upon a time weren't understood as wonderful environments.

And for that reason, sometimes the places they still exist are places that don't have anything else. So this is Ives Pond Park, and it's completely surrounded by bad planning. You can't walk from here to here, or from here to here. Here's the Staten Island Railway, built in 1860's, you can't walk across it anywhere. Staten Island Expressway, built in the 1960's, very difficult to walk across.

A big swamp, wetland, but that was treated as a dump and was impassable. This is a fenced kind of no-man's-land between a little fancier housing and a little less fancy housing. A road that's not a road. Anyway, this is the park, it was cut here - this big beautiful pond - it was cut to build this housing in the 60's. So this edge, which is quite a disturbed edge, is where we're working on a project now.

The classroom is right here, and I think this is a very beautiful pond and park, but it is surrounded by housing. When I first started working on this project, people said, "Oh, you should screen the housing." Actually, the housing is part of the environment, you can't really screen it, and you kind of have to come up with ways of thinking about it together. The same ways you have to think about the edges of the park and the urban systems together with the landscape. And to understand how this park, which you can see here was all the ponds that used to be in this area, now these are the only ones left because the others have all been filled and built on. How it was formed as part of the retreat of the Wisconsin Glacier, what a wetland is, what it can do, how it changes our understanding of nature, or is in line with the changed understanding of nature, where it isn't about one system coming to a harmonious rest, but more about different systems disturbing each other.

The kind of resonance that can have for thinking about urban things too, these are diagrams of how the wetlands were formed from the Kettle Ponds on Staten Island. This is showing the edge of the classroom

that was built. Here down at the bottom, the guys that built it got married on the day that it opened. Not there, but they came to the party after they did.

But the idea of changing boundaries, unstable things being actually part of something that could be affirmed rather than being a disturbing thing, a swamp that could be out of control. To start taking different attitudes towards that kind of understanding of nature, but to make some installations in this park, including a little bridge, including a classroom, including pathways, and including a project we worked on with the Design Trust and [Tom Polo] of the Parks Department of this southern edge, called Ives Pond Park Threshold.

This is the bridge, and it's situated between two ponds. It allows you to be somewhere you couldn't be before in this whole park, which is really beautiful, even though it had a lot of tires in it - although it doesn't anymore. But the idea that the benches - it's about the social and the natural, this bridge. Because you can face two different ponds, and also you can be situated in a way that allows you to be with other people. But to be with people and nature at the same time, and to be positioned in a beautiful environment.

I think that's what the classroom is about also. And here's PS1 - I mean, PS57 behind it outside of the park - that idea that the classroom is a platform for environmental experience and environmental education at different schedules, that it provides a destination for people to walk to within a park for people who hadn't been in that piece of land for 50 years but who came in that day because they saw something in there. And who had memories about the place they could share, and oral histories, so on like that.

The classroom gives to its environment in different ways, and opens and traces its environment in a way by where the wetland starts becoming a transparent floor so that - using recycled plastic lumber to make you aware of the magic of the wetlands zone. So to position you in a place, with a peer that moves and a peer that doesn't, because this is floating and this is fixed, so you see the water changing.

The water table, and I'll show you what that is, in this kind of area for kids and environmental education. But also it's a place you can just hang out and have a picnic. So giving people choices, I guess.

The water table with given people at the school, the science teachers, rubber made containers that if you lose them you can get more, because loose parks are obviously a big issue. But making a way that you can just get the water. Because I think if you can engage with the environment, you'll have a lot more fun with it. And also, breaking down the line between fun and education I think is really important. This is showing how we position the classroom, and where the new thing will be that Parks is building at the

same place, within a five-minute walk from the school, because that's' what the teacher said was important, because otherwise they wouldn't be able to get there in the space of one class period.

Then also the relationship in the classroom between other scales of living systems, and migrating birds, positioning it next to that birch tree, and then making these birdhouses on the wall. The birdhouses got beat up and taken down, but the idea of it was still exciting for kids at a certain moment, and this shows it in relation to the birch tree.

The building of the classroom, and the making projects, and how that can engage people. We're making a garden in a library in east New York now with the horticultural society. And the building of it is as much an engagement process for people and their neighborhoods as the thing itself will be. Other classrooms from the same program using the same materials, recycled plastic lumber, and redwood from a sustainable forest, working with the Parks Council. Again, this was in 2001. And making something that engages its forest site - a tiny little forest, but engages the forest site literally in different ways on different sides.

I was going to show how it engaged the tree here, how the path turns into a ramp, that there's' an area for gathering but areas for different kinds of work. It opens the forest; it brings you up high into the trees here. It makes - a little building can make different kinds of spaces by all of its edges being activated and understanding that you can also activate the ground by connecting with trees. This is looking from the top of the balcony back down in this kind of work area. Sort of topography of the ground.

This is a threshold project that we do with the design trust that parks will take forward. It's a site at the end of the park, and it's so embrocated with stuff that you can't walk anywhere through here. And the idea of understanding that urban edges can be thought of in similar terms as land/water edges, and they can be valued as places in their own rite, the way wetlands are valued as places in their own rite. And not only as a container for a park, or as a sign for a park, that they can be places where things happen.

We made, as part of an advocacy effort, a brochure that situated the park in space - on one side of a brochure, showing how to get there, what's there, what a wetland is, and a letter from a community leader who has actually, unfortunately, very important leader - Patty Smith, Reverend Patty Smith Davis, who died last year. Then the other side, situating it in time; in geological time, but also in the time of individuals and different volunteers putting in their time to make it. So that you don't pretend - once it's beautiful, you don't say "Okay, it's beautiful, let's forget about what it was," but that the reclamation of it is part of its idea.

When it's time to make a perimeter control for the park, instead of thinking of a fence, you begin to think of perimeter control through a filter of ecological restoration. And in relation to concerns of maintenance, AKA sustainability, circulation, and program. So that an edge, which because it's so disturbed is full of invasive plants and you can't see through, and is part of a reason for lack of safety in the park in this relatively underserved area, because these parking lots built in the 60's are draining salts and contaminants into the water.

By looking at the thing more holistically, you realize that by making a new edge you can really shift the sense of what it is to be not only in the park but along the edge of the park, and it can become a place that connects paths that are dead-ending, so seniors and other people can walk around the pond. It can be a place that can connect dead-end streets and sidewalks. It can be a place that connects this street over to this street over here. So you can really think of an edge as having - street ends that don't have any cars on them can become playgrounds or water-run-off gardens, so the same water that's polluting the pond now can be treated as a way of focusing on environmental education, street-end playground, the boardwalk along the edge, and the garden.

This is the last slide, so looking from the street end at the storm water runoff garden towards the outdoor classroom - this is a project that we took to schematic design, and then Parks is going to look for funding. You take it on in whichever way.

[APPLAUSE]

LYNN SILVER (MODERATOR): Thank you very much. I'd like to introduce our next speaker, Ronnette Riley from Ronnette Riley Architects. When we were trying to find these panels, one of the questions we were asking was there was a lot of literature about things like urban sprawl versus suburban structures and the sort of mega-determinacy of physical activity. And we said, one of the problems is New York is already a very highly built city. What can we do in a place like this?

And Rick said, "You know, there's this architect who built this incredible stairwell." Among her many other virtues, Ronnette Riley, of Ronnette Riley Architects, I think as she puts it, "Continually strives to surpass the usual in material, lighting and palette and deliver clarity of form and modern grace," amongst other characteristics. I'll let her speak for herself, and try and present some of her work and views on how we can change our building spaces in New York.

RONNETTE RILEY: Hi, thank you for inviting me. I don't get to do many outies; most of my work is innies. And I live in a city that I think is already fit, in terms of where I've come from. California, although

it's got a lot of nature and things, everybody drives to everyplace you go. And although I'm from northern California, I went to a gym in southern California, and I was surprised they had valet parking.

When you think about fitness, and as you so eloquently put it, it's about food and place and exercise - all these elements. So it was hard for me to think about how to present our work here. So I just thought I would go through some ideas that I have and things that we've done, and we'll see where it goes.

So for those of you - I see friends and colleagues in the audience - my office is on the top floor of the empire state building. And although - probably walking up to the office every day would be very healthy, I have had to walk down a couple of times. That was quite an experience, takes about 45 minutes, and you don't want to do it in August in a blackout.

But I look around New York and think, "What a fabulous place?" There's a park within a half mile everywhere you go, and it's wonderful. I'm showing this because I think one of the things in my own office that we keep fit by doing is we're part of SLAM, which is Softball League Moderne, and I show this team photo, who we lost miserably to last night, of consolidation of SOM, Swanky, and Cooper, by saying that one of the things that's built in New York is this incredible ability to get out of your office or get out of your home and have physical activity within walking distance.

And I've been playing in this softball league, okay, since 1982, and I refuse to retire until we win. But I think one of the things my objection's to is why don't we have more physical spaces? And driving here this morning, you pass Chelsea Peers, and there's all this wonderful opportunity. Personally, I don't go to a gym unless there's a trainer standing there, because I don't know, that's just me.

But is how that this city has all these activities around fitness. One of these things is the Empire State Run-up every year, and since I'm on the top floor I see them, and I don't envy them at all, but it's sort of fun. You think about physical fitness, and one of the first projects I was involved in New York when I was at Phillip Johnson's was the lipstick building. We built the building, and then about two years later, the client came to me when I had my own firm and said, "Can you put a gym in this building?" And we put it in the basement with not the right heights, and cramming something in, and it wasn't very nice - although it's still in existence.

But it was my first opportunity to say "Isn't that great? To have a gym in your own building." And currently we're converting this building up on 101 Street, even though Central Park is directly across the street, we've incorporated a gym into this building, which I think is nice. But more importantly, we've created a large, walk-in refrigerator, so that people can have Fresh Direct delivered to the building, or

their little - I had my little tote from my Meals on Wheels, which is delivered every day, which is better than going to a fast food restaurant.

But there are the little things in my practice that I view about physicality and fitness and health. And in addition to - I know Hilary's here and she'll probably talk about this - one of the things we're very interested in is sustainability, and I know that doesn't have to do with physical fitness per se, but if you eat healthy, you can sort of feel healthy. That's the gym, and that was the view in February of last year from those apartments.

I think bicycling is a very interesting thing. When I lived in California, I always had a bicycle at the end of my hand. I rode a bicycle everywhere. You don't dare in New York, although they tried the bike paths. But that's a way that we could design better situations for biking. We do have a lot of biking, and as a driver, I always view it as sort of a game. I almost hit someone once, and he's yelling at me and I'm yelling at him, and I realized it was my client. So I don't think one should do that.

Last year I was part of the committee on design, we went and had a 10 day conference in the Netherlands. And I was absolutely struck by this 4-story bicycle parking garage. In fact, one of my old employees took me to his frat, which was sort of interesting to me, and in the front of the frat were 300 bicycles. And I was sort of thinking, wow, it's a different way of equating activity here and there.

But I'm signing a new lease in the Empire State Building, and one of the new terms is I cannot have a bike in the building. What a shame. You can't bring a bike into the building, why not? Through the truck dock, up the freight elevator - why isn't there bike storage or parking so you can do that?

The other aspect of staying fit, not for me because I don't swim, but my hero - the person whose work I most admire is Julia Morgan who's a California architect you don't know. She made a name for herself designing swimming pools, the last of which - or the most famous - was the Hearst Castle swimming pool.

And you think about New York and all the swimming pools - not nearly as in other places I've lived, but just this week there's an article about all the buildings that are incorporating swimming pools into the design. And I've had that fortune, this is on the 260 Park Avenue South, and my client wanted a swimming pool. This is just the whirlpool being raised, but we raised a [48?] swimming pool, which was kind of exciting, to the top of this building. There it is, it's not quite done yet. But I think that's pretty exciting.

Unfortunately, it's only one person, or one family, that's going to be able to use that pool. And it's too bad that the developer hadn't thought in advance to make an amenity for the whole building. And I think that's

where design falls down, is they bring in architects after they've run the financials, after they've consulted with lousy contractors - I mean contractors. And then they expect us to shoehorn things into buildings, and you have to fight like there's no tomorrow to try to make little moments, or little items in a building that are really going to drastically change people's lives.

I can't tell you how many buildings we go in and we insert a playroom in the basement, or we insert a gym, or any of these tiny things in these massive apartment buildings. And those things could easily have been accommodated from the beginning, or built up on the roofs. I think the other thing I was looking at in Linda's project, I thought, "I wonder if her project's being torn down because the handrails didn't meet handicapped." Bureaucracy's impeded some of the things we do. I think there should be a little risk on some of the things that we do and place we go, and I think sometimes we've over designed the rules and regulations to actually impede people from spaces. Ramps can only be a certain dimension now. I think the ADA handicapped codes are just horrible for architects. They're prescriptive, not performance. And the codes are all dependent upon the proportions of someone, "It's not my size."

So I think if architects are given the lea-way to create beautiful spaces, it doesn't matter if there isn't a handrail exactly 3 feet 6 inches on either side of you, that a wide and expansive stairwell is a beautiful thing and people will use it, or a narrow street that's unimpeded by Jersey barriers.

I'm absolutely appalled, I was walking down 76th Street on the West Aide, and there's a community center there surrounded by Jersey barriers, impeding my ability to walk on the sidewalk. It's like, if they knew that this Jewish center was going to be a target, why didn't they think about that in the design of the building instead of throwing these barriers?

And then I was walking in Brooklyn by the Marriott Hotel, and there we are, Jersey barriers in the middle of the sidewalk. Those are sort of the little things I think about in design, that why couldn't we have thought about these things and actually designed them instead of these stop-gap things that happen.

I think about New York and I think it's the most fit city in the country - especially when I go visit my mother in Arizona who has to drive 30 minutes to get anything, which is very frightening thought - a lot of old people in cars driving long distances. And I think New York - the beauty of the transportation system and the parks and the walk ability - everybody knows it's one minute a block to walk, 4 minutes an avenue. It's really a wonderful sort of sense of that.

I think dogs are an amazing ability to keep fit, and especially for the smokers in my office, they all want a dog so they can walk it and smoke, or the new smoking laws which say you have to get off your barstool and go outside and smoke.

I just threw in this - this is my first freestanding building, it's a doghouse. I call it Bill Bowwow. But I really think that when you're designing things, and once again, I'm negotiating this lease with the Empire State Building, and I can't bring a dog to my office unless it's a seeing eye dog, and I think, "Why are they legislating all these things which would make your environment - make you have to go out and walk, make you do these things to be healthier." It's really an unfortunate situation, I think.

I did a lot of coffee bars. I've probably done 60 coffee bars in 4 countries, and this was New World Coffee. When we did the first 28 of them in New York, we did this survey, and it said no one will walk more than 2 blocks for a cup of coffee, which I thought was very interesting, and it's why there's one on every corner it seems now. But I think, I don't know what Starbucks puts into their coffee, but clearly it's addictive, and everyone in my office is walking 2 blocks to get coffee 2 or 3 times a day, so at least they're doing their part.

This is a running store we did in New Jersey. I just threw it in because I thought it was fun to think about running shoes. I don't run, a lot of people do - I was in the park last night, it's just wonderful to see the use of that. But for me, the only really physically fit item that I get to think about in my projects are stairs. I love stairs, and I think about stairs a lot. The first stair I got to do was this stair in a very tiny apartment, 12 feet wide, and it was 3 levels with 1 window - cellar, basement and a mezzanine. And the people had 20,000 to spend and I said you could have one stair. It's levered off the wall, it makes use of a tiny space, and it's a very old project for me, but it's the first time I got to actually think about stair.

This is one block below the Flatiron Building, that Restoration Hardware. This is a 1968 building. The beams were resting on the columns and not attached, and my client wanted to use retail space on the basement floor. So after we structurally stabilized the entire building for the \$245 million, we added the stair. And I do a lot of retail work, and I think one of the things that are very interesting is when I started doing retail work; no one did second floor or basement retailing. And big box retailing came into New York, and all the sudden we're now populating 1, 2, 3 floors at Abercrombie & Fitch - they're just going up and up.

Yet we've also done work in Japan, and there's no problem there, having 6 floors of walk-up for retail. I think it's a different attitude, and as space gets more precious, and 600 square foot rents continue to increase, that people will be looking for those upper and lower floors for populating.

Once again, it's - what have we got? Oh, I like this stair because - this is down in SoHo at what's now the Apple Store. This is the first stair we put into the building, and we cut open this opening, we made it very

large. We had to do the design according to their standards, Restoration Hardware. But that's the view from the top of the stair, looking up.

And then we got hired to work on the Apple Store. So the same space, same opening, different client. And what was really great was we now had to fill in the hole a little bit, make it a little tighter, put in a different stare. Although I prefer more modern things, Restoration Hardware was more traditional, I think it was very interesting how one could alter a space with just the design element. And what I really liked about working on this project - not the 38 versions of the stair that we drew, but the fact that the client was very aware that the stair was going to make the store. He kept saying, "This stair has to make people use the stair. The design has to compel people to go to the second floor."

And the elevator in this building is tucked around to the side on the left, and we have a handicapped lift at the entry so that everyone can be accommodated, but those who don't need the elevator, they all use a stair. And they don't use it just to get from one place to another, the landing is just perfect to eye everything that's going on upstairs and everything that's going on downstairs. The stair in itself is an object of interest.

I laugh at this photo, I was at the store last week, and there were 40 people standing in line at one cash register alone. You could hardly walk anywhere; there were so many people in the store. When you do architecture right, or you get a client that really understands where they're going with their interior space or their exterior space, whatever, you really make it a place.

One of the wonderful things about it is *Time Out* calls it the number one pick-up place in New York. It's not because of the iPod, although I think it has a little to do with it, it has to do with the space. And if people are running up and down and using this building - I just think then it's a successful project.

And then you go to architecture on the microscopic scale, or the individual scale. I couldn't figure out a word, so the "Sitting" part of architecture. And once again, there's our modular man, which has nothing to do with the modular woman. But I throw that in there to say we have all these dimensions and things that make our spaces more comfortable, and then the computers hit. And everybody everywhere has bad posture. I can't tell you how many repetitive stress syndrome people are out there.

And I look at even my own office, people come in and say, "This isn't right, that isn't right," and you buy the comfortable chair and get the retractable trays, and you do all these things and you still have the guy slumping over and not being very physically fit, which is why you have to have that dog, so they walk it.

One of my architect friends decided that the way she could solve that - she had two repetitive stress syndrome cases in her office - was to get foosball. And she actually requires them to get up every couple of hours and play foosball. I really don't have much to say in terms of the great intellectual stimulation on physical fitness, except it's the tiny moves that make the difference. That's it, thank you.

[APPLAUSE]

LYNN SILVER (MODERATOR): Thank you very much. I think you raised several of the issues that we wanted to address - the tiny moves, how can we make people who are building buildings or renovating them think about this issue early on in their design and not when it's too late to act on it or make major changes, so thank you very much.

Our next speaker is Hilary Brown, whose principal of New Civic Works, which helps public and institutional clients green their facility capital programs. She's a former founder of the Office of Sustainable Design with New York City's Department of Design and Construction, and has a number of other qualifications. She teaches Sustainable Design at Princeton, in Columbia University's School of Architecture, and was a former fellow at Harvard Graduate School of Design and at the American Academy of Berlin.

And one of the things that I really liked about her CV was something that when we first started looking at this issue in our own people working with environmental issues at the health department, pulled out the Green Buildings model as something we should be looking at to try to figure out, what would be the parallel to Green Buildings for physical activity? How can we systematically create standards and incentives for physical activity?

And Ms. Brown, one of her qualifications is that she served on the national and local boards of the US Green Building Council. And we would ask, amongst other questions, how can we learn from that experience and draw parallels to our concerns around physical activity in buildings. Ms. Brown?

HILLARY BROWN: Thanks so much. I'm delighted to join the fellow panelists here and talk about some of these issues. And as is suggested, I'm going to try to build a bridge between the movements that we call sustainable design, energy and resource efficiency, healthy and high performance buildings, and the whole concept of physical fitness through design. So that's what I hope to accomplish. I'm hoping somebody can run the slides for me so I don't stumble over this; next, please.

Hopefully you can read this. So let's talk a few minutes about what sort of trends are discouraging physical activity inside our buildings. I think for decades, we've been systematically designing out human

exertion as part of our build experience. If we think about the automatic opening doors, the non-operable windows, over-dependence on elevators, self-flushing toilets, automatic sunshades, swivel chairs, things like this - these are the world equivalent of valet parking in our buildings.

There's been a kind of atrophy of our kinetic senses, and I think we put our limbs to sleep. We really need to re-exert ourselves. We also need to make movement in buildings, which has become less of a public transition, with the grand public stairs that Ronnette was showing, wide corridors, into a much more hermetic one. We sort of pop into a little box, and stand there motionlessly, as we're transported from floor to floor. It's a very hermetic, insulated experience.

Another factor I guess is electronic mediation, already mentioned, as more and more social transactions take place electronically versus face to face. We have our personal desktop equipment, which has virtually eliminated the trip to the copier or the trip to the Xerox machine, which is the moment that we would actually get to stretch our legs, and those have been rendered obsolete. So I think there's a combination of inertia and dependence on email that seems to really trump our best intentions to move around while at work or home.

Additionally, we've traditionally programmed our designs for adjacency. And I thus like the concept meaning you want this function to be nearer this function, so that communication can take place and there can be greater productivity between these functions. Maybe we should postulate making them more remote as a way of getting people to move around the building, so we can reconsider that practice.

Next please. So one of the hallmarks of the green building movement - for those of you not familiar with that term, it's an umbrella of best practices related to resource efficiency, energy efficiency, with a particular emphasis on optimizing occupant health. I'm not going to talk about a lot of the significant progress that has been made in terms of reengineering building systems for better indoor air quality. That's well on its way to becoming standard practice.

I think I will talk for a moment about the local effort here in New York City, part of the Department of Design and Construction, which I was involved in the beginning of - developing guidelines. And one of the things that we early-on talked about was in allocating spatial layouts and general interior design to provide inviting staircases, to discourage public use of elevators. That was something that was in early on - not in the lead rating system, from what I understand. So we wanted to make the case for building physical fitness in by reference to some of these projects, as well as some well known exemplar projects.

Next please. So the three major types of activity that we need to reinvent or find ways to re-induce in order, as suggested, increasing our calorie expenditures moving vertically. We've already talked a little

bit about it. But that's the act of lifting our body weight, overcoming the resistance of gravity. And there are different means of accomplishing this. Also, moving around the floor, encouraging indirect or circuitous routes, just to lengthen the travel time and stretch our legs. And encouragement to move about our places of work, to interact with or adjust the features of the building or the space, to vary our conditions according to comfort or physiological or psychological needs. Let's talk about these.

Next please. The act of climbing. Of course, stairs do offer, in some instances - this is the familiar staircase in the DVC Atrium, which is one of my favorite stairs, which offers both a vertical and a horizontal experience - you really get to travel the full length of the atrium as you move, and it's a kind of public place. On the right are two examples of something that goes towards integrating stairs into high-rise buildings, which is the skip-stop elevator. And you can see that every third floor or fourth floor, I'm not sure, in the GSA's administration building in San Francisco, or in a residential high-rise in China, just the ability to take people to a certain point in the building and then disburse them up or down to their destinations.

Here's a project - I believe Ronnette is actually working on this and completing it as we speak. But it's one of the early examples of the pilot program of green buildings for the city of New York, by Raphael Vinoly, who pioneered a number of Green Building features. And importantly, this building was about transparency. But what he's done here is he's created some wonderful series of stairs that parallel the corridors that make very dramatic - and I don't know whether these have been totally value-engineered out at this point or not, but you can see, the movement, the fluidity, the negotiation of floor to floor was very much part of the design intent here.

Next, please. So the other opportunity, and we can talk a lot more about this, in addition to staircases, are ramps. They're, I think, important opportunities to negotiate levels in a dynamic and a slightly seductive way. I think we enjoy the kinesthetic experience of moving past building walls and of climbing in it. And it sort of reduces the psychological effort of really negotiating a lot of vertical space. So integrating these is a very important facet. Next, please.

Here's an example locally, again, under construction, of a wonderful ramp that was choreographed by the design team in an effort to move people from the ground level to the second floor of the building, number one. And they very cleverly introduced this ramp; it's a seamless extension of the Queens Botanical Garden Landscape via a green roof to an upper-level platform from which you can have vantage point over the garden, orient yourself, watch the water feature, and so on. But it's a wonderful synergy between creating almost unintended circulation that I'm really looking forward to seeing.

Next please. Perhaps the most dramatic public example I could think of is the Reichstag in Berlin, the reconstruction of the dome, which took as its premise the notion of elevating the public into a view - giving them the perspective of a rebuilt Berlin, but placing them over the heads of their governmental representatives who sit in the parliamentary chamber here. It's a lovely symbolic gesture. The ramp actually lures you along this long procession to the view at the top, and you're circulating around this extraordinary feature, which turns out to have two purposes. First of all, it provides daylight because its' a mirror surface, it brings in horizontal daylight and projects it down into the chamber. And secondly, it's also ventilating foam if you will.

So there's this notion of the building, which is now building on passive features, not using mechanical systems, depending on nature to do the work. And introducing that public movement without depending on mechanical systems to do your work for you, so there's a lovely synergy there. Next please.

I think another thing to talk about is just how do we get out and stretch our legs? And as we're designing buildings that have narrower corridors or fewer of them or just pathways among cubicles, I think that there are a few features that work as well as introducing, say, an atrium, which creates the aspect of distance. It creates the physical aspect of distance, but it creates allure - you can sort of see across and waive to your friend, but you've got to circumnavigate, go the long distance. And it's a tremendous device that is again, this sort of combination of building wellness -the emphasis of bringing daylight into a building [fore plate] and using stack ventilation, which is another passive feature. But primarily, you think of the idea - really circumnavigating the floor, and getting your exercise as you go.

Next, please. Another example of DDC High Performance Project, again, its simple introduction of the stair tower, next please, and an atrium inside the building, from where you can introduce seductive vantage points, and you really can lure people up into the building, is a very important notion. Again, coincident with the notion of bringing light into the building. Next, please.

Another project - I believe this one isn't built. But here is this notion - the site had the luxury of having additional square footage, so the designers actually captured external space and put it inside, and creating this long corridor that circumnavigates the outside space. And it had the advantage of creating an external play space that was very supervised and controlled for young people in terms of passive play. Next please.

And that's this feature here. And the classrooms, the daycare rooms, arranged around that, so that children had an opportunity in days of inclement weather to run around the corridor. You gave them that extra opportunity. And then of course the outdoor space.

So I think - again, the feature of creating this wonderful atrium or courtyard if you will brings in internal daylight and provides cross-ventilation. So you get those double-functioning features. Next please.

Just back to this project for a second. The courthouse. And I bring this up because I think here, the architect who was really in love with the idea of the transparency of the building created a wonderfully seductive way to get people to circulate. This building is about circulation. And he's very unembarrassed about long corridors. And he provides them on both sides. This is the public side, the large public circulation outside the central courtrooms. This is the private circulation of judges and juries and defendants and so on. But the building is about circulation and making the workings of justice transparent.

So he's very unembarrassed about these long corridors. And he really gives primacy of light air and views to the people in transition, but also has very cleverly integrated daylight into the internal courtyard, so he's actually flipped the traditional courtroom design, where you might have the circulation corridor on the inside and the courtyard on the outside.

Next please. Now I wanted to talk a little bit about the notion of how we need to interact with our buildings. In effect, it's the human tendency to - I think vary - introduce variety into the regimen of the day by seeking different kinds of physical conditions. Just taking a break, or actually going someplace to cool down or warm up - creating these different climate conditions, and seeking external contact. I want to go back to some of Linda's points about the importance of creating opportunities to affiliate with nature and natural systems.

Next please. Particularly in school design, but we all know that a component of really good design is to provide a range of experiences, from what we call refuge to prospect, and all those in between. Refuge is that sort of secure, private space where you can do your work and concentrate. It's really solitude activity. To a series of increasingly socialized spaces, where informal activity can take place. And then of course to large, public places. And these are all the natural elements of good design, but making more and more opportunity for these to take place, and to create that movement, and to encourage movement among those spaces.

Next please. And this is something we're doing in school design more and more. Again, creating inviting transitional spaces. Corridors. Lounges in the sunny spots. Eating places where kids in a school kind of tear in and tear out. It's a transition between one environment and another. And it exposes us to different kinds of thermal conditions and different sensibilities.

Next please. One of the buildings that do this so elegantly in three dimensions is the Commerce Bank headquarters in Frankfurt, which postulates - which actually exemplifies the German emphasis on public health, which has been encoded in building design in terms of access to light and air. And in this particular building, they wanted to put in an asset that would provide informal gathering space and transitioning spaces for employees, which are these lovely winter gardens that literally spiral around the building so that you can access them I think every two or three floors, so you circulate either directly or you take the stairs to the courtyard, and they're all planted in different modes of climatic assemblies of plant material. They're wonderful places to literally have views [UNINTEL].

Next please. Another building that personifies the notion of interaction or adjustment is this, also another lesson from Germany, a headquarters building for - I think it's a housing company - that encourages, or demands, I should say, the occupant actually physically get up, make adjustments, and keep tuning their environment according to where the sun is. Here's this long building which faces west so that during the day you'll have to have different modes of screening or filtering or dark shading.

Next please. In addition to which, the regime is that you have the opportunity of using this double skin out here, which heats up from the heat of the sun during the day, and you can either in the winter open that and get fresh warmer air, or you can open it in the summer and evacuate the hot air, so that you have to participate in the regimen of the building. That's a very important thing to get you interacting with, you have to lift, push, and pull, and so on. Next please.

And I think as Linda very evocatively suggested, we need this kind of affiliation with nature. The access to natural processes - the word is biophilia, which is the term of art being applied by social ecologists. But environmental ecologists, social ecologists, clinical epidemiologist, are all looking at this whole, huge under-researched aspect of the primacy of our relationship with nature, and how much well being, how much proof-cognitive functioning, our affect changes in relation to natural phenomenon.

And I think that creating that access through [light near ?] and views and so on does put people more in the mental mindset of wanting to participate and be outdoors. So I think it's a very important and under researched feature.

But we also know - studies have been done in prisons, in housing authorities, and more importantly in health and hospitals, about the healing affects of nature. There is this physiological ability to reduce stress, blood pressure, and so on and so forth, and improve - and reduce healing times, so on and so forth.

Next please. But obviously, and Ronnette alluded to this earlier, that one of the major connects between green buildings and healthy buildings is providing bicycle friendly facilities. This is a German parking garage for bicycles, which is great. This is what we need in our buildings, really compact spaces to accommodate lots of bikes. And, as suggested by Ronnette, the idea of having on premises various kinds of health facilities, as a corporate amenity - not just an amenity; I had a project with Sarah Lee that was going to design a whole physical fitness regimen internal to the building and external to the landscape that was very much part of the work day.

Next please. So I think in terms of our reengineering efforts, I recognize that we need to reintroduce all these action verbs into building design. And we've talked a lot about walking and climbing, but in the ergonomics of our working environment, how do we design for reach, for stretch, for bend, all of these musculoskeletal movements that we need to introduce into our daily activities. We sit inert at a computer, and how can we re-stimulate those activities? Right now we open a window on a computer, that's about as much as we exert ourselves, as opposed to reaching over and opening a file-drawer or getting up and reaching for a reference manual.

So how do we get push, drag, pull, lift press - all of these verbs which have been taken out of our design vocabulary back in. And that's a challenge to the interior designers. Next please. And just by one way of suggesting, and don't take this too literally, any of you - but I love the idea of the climbing wall as a place you can sort of transform into an athlete by interacting with the building. Wouldn't it be wonderful if we could think of the moral equivalent of this in the workplace, even in the office? I don't know what form that might take, but that's the challenge I throw out to you, and I thank you.

[APPLAUSE]

LYNN SILVER (MODERATOR): Thank you so much for that wonderful discussion. Is Dr. Fullilove here? Hi. Could you come up and join us, please? Mindy Fullilove has a very interesting background. She's a community psychiatrist who worked in the past with AIDS prevention. She co-founded New York City Recoverers, which is an alliance of organization concerned with the social and emotional recovery of New York City after 9/11, and wrote the book "Root Shock: How Tearing Up New York City Neighborhoods Hurts America and What We Can Do About It." She's received awards for her work for the National Academy of Sciences and Best Doctors in New York. Dr. Fullilove, can you join us on this theme?

MINDY FULLILOVE: I just want to take us on a completely different direction on this concept of buildings, and I want to talk about marginalized neighborhoods that have been abandoned by public policies, and the destruction of buildings, and what happens when you destroy habitat to all kinds of social functions including exercise. This is kind of our theme picture; it was taken by one of my colleagues during a

random drive around Washington Heights at the height of the violence epidemic. You can see the drug bust going on in the street, and a young girl walking through the scene eating a banana. Obviously, her focus is on the banana, and we just want to put this forward as the real source of the obesity and diabetes epidemic.

In fact, Dick Jackson, who's here today and who's, doing the keynote speech, when he was at the National Center for Children's Environmental Health funded our work in central Harlem. We were looking at a project by Harlem Congregations for Community Improvement, which was beginning to rebuild Central Harlem. Harlem, between 1960 and 1990 lost 30 percent of its buildings, and that was a modest loss. Neighborhoods like east New York and South Bronx lost up to 80 percent of their buildings. It was a catastrophe for the human habitat.

And this is what many of the streets in central Harlem looked at that time, a mere 11 years ago. Though they are quite different now, we are still living with having gone through this catastrophic history of really, urban abandonment of marginalized minority neighborhoods.

My colleague Leslie Greene and I, as part of that project, drive through every street in central Harlem. And there were only two blocks outside of the blocks with housing projects that were intact in all of their buildings. As a psychiatrist, one of the questions I asked is, "What is it doing to people, how are they feeling to be in such a space?" This is kind of the opposite in a way of biophilia, this is, "What if you put people in the midst of catastrophe, and they see ruin around them everyday; what's happening to their spirits and their wellbeing?"

This obviously takes us into the area of the psychology of place, and I promise you this is a catastrophe for human mental well being in every way. But among other things, because nature abhors a vacuum, into these spaces come undesirable, frightening behaviors. So danger of many kinds takes over the streets.

To the extent that we have controlled danger, through beginning to rebuild, beginning to reinvest, and through policy activity and other kinds of interventions - the recession of the crack epidemic among others. Some of the real danger has left, but these streets are quite haunted for people. What this does for activity is to introduce a kind of paralysis. People have very deliberate but very constricted strategies for moving in these environments. In fact, people will call each other up to say, "I'm coming home, look out the window to make sure I get there safely."

At the height of the violence epidemic, which you may remember, there were gunshots in the streets. Mothers would push filing cabinets in front of the windows to make sure the windows didn't come in and

kill their children. And of course, all of us remember that not all mothers took such strategies, and children were indeed killed inside their own apartments.

So even being able to sit inside a window and look outside on the street was a restricted behavior. Because the drug epidemic introduces distrust into so many relationships, even talking to one's neighbor, circumnavigating one's apartment building, became impossible. And certainly, taking the stairs was out of the question. Stairs became a completely dangerous place.

In fact, what got me into studying the crack epidemic in relationship to the AIDS epidemic, in 1986 was a report from an anthropologist who said people are having sex in the stairways of public housing. This was such a shocking piece of news that we began our studies of the crack epidemics and what it was doing to communities. Tearing them apart, twisting life, and destroying people's ability to move and their wish to move - people lived haunted with the souvenir of this.

This is Jackie Robinson Park, today a much more beautiful park, but how it looked in 1995. The parks were also abandoned as part of the destruction of neighborhoods, the introduction of fear and terror, and people's inability to move. The parks were taken over by people who had need for these abandoned spaces, so they became venues for many kinds of activities that go on in parks but should not be the only activities going on in parks.

Now we all know, and as Dr. Frieden talked about and I'm sure Dr. Jackson will return to, many prestigious bodies have said that you need to get people moving. The question that we have raised is how do you get people moving in a haunted environment? Especially an environment that's really been abandoned and allowed to crumble into ruins.

We work at the Columbia University Medical Center, which is at 168th street. And along the eastern edge, the top of the escarpment, are a long series of parks which we realized one day in a moment of inspiration nearly touched, and could make, a long hiking trail. And that in these parks was this completely abandoned area, abandoned for general use that had been taken over for homeless people and drug sales and sex in the parks. And it had many beautiful, beautiful moments, such as these stairs, which were donated by the New York Giants to the city of New York. Hauntingly beautiful stairs lying in ruins waiting for a design team to come and bring them back to life. They are at a lovely point between the old polo grounds and the top of Washington Heights.

So this is the view from High Bridge Park, and from this picture, is Lane Lord, who is in the book *View from the Outside*. I met her one day walking her dog, and having come back from prison, really enjoying this moment of freedom. These parks at the top of the escarpment really celebrate freedom. They have

miraculous views, they have long distances, they have historic moments, and they do need a pond. They're amazing places. But you cannot go into them because of the abandonment.

Also, because our vision is to [length] of parks, and specifically we're talking about Morningside Park, St. Nicholas Park, Jackie Robinson Park, and High Bridge Park. So going from 110th Street at Central Park up to Swindler's Cove at 207th Street, ultimately when we get our trail built, you also have to cross a number of dangerous intersections, of which the most dangerous but in some ways presents the most lovely design challenge is this crossing at 155th Street. We can see a historic fountain over here. Looking in the other direction, you can see the very historic High Bridge Tower, which is part of the Croton Aqueduct, which brought the first clean water to the United States - a momentous public health moment, so to speak; bringing in clean water, and yet the injustice of how we share resources within the city has left this an abandoned spot.

So these are our parks. We face, obviously, a lot of design challenges. We're not a design team, we're a public health team, and so we're hoping to work in partnership with many designers. Marshall Brown, who's an urban designer now at the University of Cincinnati, helped this get started and gave our project the name CLIMB - City Life is Moving Bodies. So as I mentioned, this is High Bridge, Jackie Robinson, St. Nicholas, Morningside, and Central Park. First design challenge is making linkages. Now, what I would like to argue is profound about this is it's not simply saying to people, "Go to the park," but it's breaking the law of neighborhoods. And the law of neighborhoods, which is a law of segregation, means you don't go into the neighborhood of somebody who is classed differently from how you are classed.

So this section, which is Washington Heights, is now predominantly Dominican, this is still largely African American, this is a no-go zone. Down here, it's Morningside Park - when you look at the maps, it's wealthy and white on this side of the park. This was a terribly poor area, it's now being gentrified, but this too was a no-go zone. So there are no-go zones throughout this, and the real public health message in this is that yes, we can actually go visit each other's neighborhoods.

I'm always astounded when students say to me, "Is it all right to go to somebody else's neighborhoods?" Actually in America, a free country, we'd really like people to think it's okay to go anywhere. And I think that's something to really fight for. So in addition to the "no go" zones that go north and south, we have no go zones that go east and west, which are part of the design challenge.

One of the things that we did as our very first launch event in conjunction with a good number of research teams and community organizations, Columbia Center for Children's Environmental Health and West Harlem Environmental Action in particular partnered with us, to do this party called Hike the Heights, which took people hiking in High Bridge Park. It was a beautiful day in the park. They opened up the

tower for people to walk up and down. It was a really wonderful day, and this is one of the prizewinners for our art contest about people thinking about city life as moving bodies.

CLIMB Connections in our view has many layers. We are interested in this reclamation of the abandoned physical space. In High Bridge Park there is an actual forest, and it's a wonderful haunted forest. So the reclamation of this forest for general use is at the heart of our thinking about what we're doing in the physical environment, but also people have talked about edges and borders. These parks are really shut off from the city at their edges, they're very difficult boundaries, and the boundaries between the parks are also difficult.

So enormously interesting but difficult design questions and how do these parks become linked to the city. But that's not all that happens. In neighborhoods where people have stopped moving around or minimized moving around, getting people to go to the park just begins to increase action. As you get people moving around, the opportunity to increase economic activity of all kinds goes up. And so there are all sorts of - for example, small stores and bakeries - at 158 & Edgecombe you can visit the OC Bakery, which really has quite a fine croissant; I spent a lot of time in Paris, I highly recommend the OC Bakery. But it's a little place you wouldn't discover if you hadn't gone out hiking in the neighborhood.

Obviously, these are issues of environmental justice because the neighborhoods that are marginalized in our city are neighborhoods that are poor and inhabited by people of color, and they've taken a brutal beating over 50 years of civic neglect. But because of the brutal beating, also involves the real destruction of social connections and social capital that these are ways to rebuild the cultural, political, and social capital in these neighborhoods.

Of course, we're fighting an uphill battle against gentrification, which is poised to drive all of the poor people who have lived through hard times out of these areas so that they can be transformed not the next thing in Manhattan. We are very much against driving all the poor people out of Manhattan and are part of [NAME] Development Corporation and other organizations, part of the fight to keep New York a mixed-income city to the extent that's still possible.

We make the road by walking; we take hikes every week with our partners in different parks and invite people to go with us. It's always an interesting group of people. We had a really fantastic walk a couple weeks ago led by a young man who goes exploring in the tunnels and has actually been through the Croton Aqueduct. So we walked over the Croton Aqueduct and he showed us slides of what was under our feet. It was a wonderfully amazing thing.

These are some of our many supporters and partners. We invite people to get involved. The next big activity that we're doing is Hike the Heights 2, and it's - although I've worked on many epidemics; the crack epidemic, the AIDS epidemic, the asthma epidemic, the multi-drug-resistant tuberculosis - a lot of epidemics. And the interesting thing about epidemics is like some neighborhoods, some epidemics are redlined - that is, they don't get any resources.

The obesity epidemic and the diabetes epidemic are not going to be in those categories. Although it's going to be a stiff fight against the food industry and developers, the enthusiasm that people have for getting back out and walking is really remarkable, and the idea of people coming together - the way in which people have just been showing up spontaneously, "I love to hike, I want to be part of this," has really taken my breath away.

So as an old-timer, I say there's going to be an enormous social movement, is my prediction around physical activity, and you should jump on the bandwagon early. Don't wait to be the last one.

Of course, one of the great historic features of this is the High Bridge, and so not only would we like to have a trail in New York but to extend the trail on into the Bronx and on up all the way to the Croton Aqueduct. This is a vision of the future from our poster contest winner of everybody out being active. Little concerned about traffic, so she put this fence here to keep the kids protected from the cars.

One of our thoughts is - we love this photo, which was taken by one of our urbanism students - let me just go back. Speaks for a huge [potential] call now. But I'd just like to end with this thought. Hike the Heights 2 family play date, what we're going to have are interactive things for families to do, kite-making, soccer, softball, all kinds of things, jewelry-making that'll be going on. Many partners will be coming to just hang out in the park and do things. I think Literacy Bingo. The list is long and growing. But we'd just like to say "The Giraffe's are coming to High Bridge Park. Are you coming too?" Thank you.

[APPLAUSE]

LYNN SILVER (MODERATOR): Thank you very much Dr. Fullilove. I should probably move my seat here. Well - we have a few minutes to take questions from the audience for our panel. I think we've had an incredible range of discussion from our elegant buildings in SoHo to our rooftop swimming pools to the situations in our poorest neighborhoods in New York City. As I mentioned in the beginning, our obesity and diabetes epidemics are affecting our poorest most dramatically, whereas centuries ago the rich were fat and the poor were skinny, today in New York City it's exactly the opposite. In River Dale, we have 7 percent obesity; in the south Bronx, 27 percent. It is indeed our poorest communities in New York City that are most heavily affected by this epidemic. And we need to, in thinking through this problem of

promoting physical activity, what strategies can we develop, what incentives can we put in place, to change our physical environment, not only in the buildings for the wealthy but also throughout our housing stock, our commercial buildings throughout this vast and incredibly diverse city, and in the communities that most need it.

With that note, let me open up to questions from the audience for our speakers. Gentleman in the back?

MAN: [OFF MIKE/UNINTEL]

WOMAN: Can you turn the sound up? Not yet? You had a great strong voice when you first started.

MAN: [OFF MIKE] Thank you very much. My question is on the [UNINTEL PHRASE] other than high rise [UNINTEL], so one, what do you have to say about the [UNINTEL]? And second, Ms. Brown [UNINTEL PHRASE].

HILLARY BROWN: Maybe I'll respond to the second question first, about the application of high performance principles to housing. What I would say is that, as a general rule, all of the performance oriented improvements to buildings around air quality, around physical activity, around energy use, and so on really have to go across the boards and buildings. The initial focus has been capturing the public sector buildings, but today there's a proliferation of guidelines and handbooks and funding incentives that are out there for greening affordable housing. I can give you some of the resources.

And they very much emphasize all of the principals that we've talked about - connecting to the outdoors, the quality of play spaces, the physical landscaping for safety for encouraging movement, and so on and so forth. And I think, although the examples you've seen tend to be the commercial or institutional and not the residential sector, the thrust of the movement is really now taking a much more introspective look at housing. We're not there yet, we're beginning to see some evidence, but tools are there.

LINDA POLLACK: I could also speak to that question. I think we're not - we don't have the privilege right now of working on any housing in New York City, including low income housing or other income. But I think that housing - that the principals of working in terms of relationships to city and to the landscape, such that when you do housing you're not thinking of - I mean, you're thinking of quantities and quantitatively, but also in terms of understanding the unit, not only in terms of the different things that can be in the unit, but the relationship of the unit to the aggregation, to the site, to the city, so that all of these places can be understood in design terms at different scales and in germs of their quality as spaces, whether - I think safety's always a huge issue in housing.

And I think that there are various kinds of principals to address that alongside the issue of physical activity. But I think one of the things that was coming out in all the talks is to understand circulation spaces not somehow as a support for use program spaces, but to understand them, whether they're inside or outside, whether they're individuals in the apartments or in the corridors or lobbies, to understand those as being spaces that should have design attention paid to them, so that they should be full of light and air and be pleasurable places to be, even if they're very simple, so that those spaces are part of - so that a building throughout and a site are understood in terms of the experiences they can offer to its inhabitants. Not only in terms of a more narrow definition of use. That the aspect of experiencing the city at different scales, including in your own home, is part of the program of housing.

LYNN SILVER (MODERATOR): I think one of the challenges we face as well is what can we do in our existing housing in poor communities that doesn't involve such extensive renovations that it inevitably leads to gentrification, but that can benefit the people who are living there today in having better quality housing that can also promote this type of challenges that the speakers were addressing.

Other questions? The gentleman with the mustache?

MAN: [OFF MIKE]

LYNN SILVER (MODERATOR): Can we take maybe two questions at a time?

MAN: [OVERLAPPING]...organization of neighborhoods, which you think so a social/economic thing, but it's really a political thing. I live in Westchester, [UNINTEL] it's the richest community in the world, and they're going against the idea of an overarching [UNINTEL PHRASE] and it just so happens that [UNINTEL], the FDR, the [UNINTEL PHRASE] it won't be discussed, without making [UNINTEL] to the city. So I think [UNINTEL PHRASE] it really is more political, the patronage system, the representational system. It's really not the social animal that human beings living in these places [NOISE OBSCURES].

MINDY FULLILOVE: I think you're absolutely right, but since the health consequences are absolutely catastrophic and cause enormous excess mortality and health disparities, and play out in the futures of the children who live in the marginalized neighborhoods, we have to fight it. And one of the ways to help fight it is to get people walking through each other's neighborhood. It's amazing how much differently you feel about a neighborhood once you've walked through it.

LYNN SILVER (MODERATOR): Why don't we take two more questions and then the speakers will respond together. The person whose hand I can see there? And -

MAN: Yes, this is mostly to Ms. Pollack and Dr. Fullilove. [you sort of hint] that the presence of community based [UNINTEL], I heard one argument today that, for example, [UNINTEL PHRASE] or other places in the city - [UNINTEL] South Bronx, [UNINTEL PHRASE]. How do these groups react to [educators and advocates] [UNINTEL] having to relate to people in design and health?

LYNN SILVER (MODERATOR): Let me just take one more question and let the panel respond together. The gentleman in the back?

MAN: My question relates to comments about ADA, and I feel really [like playgrounds] and public amenities, [UNINTEL PHRASE] and I wonder if you can speak to how we negotiate this accessibility of amenities that [UNINTEL PHRASE].

MINDY FULLILOVE: You saw the long list of partners, and we have an even longer list of partners as we start to do hike the Heights 2, and everybody gets involved in a different way. And around CLIMB, our idea is to build a massive coalition. And NYC Recover, a project we did after 9/11, we thought that every organization in the metropolitan area should be involved in the recovery from the World Trade Center Disaster. And if you think about how many organizations that is, it's probably in the millions or billions. Literally, every organization, every supermarket, every superstore, everybody.

And when you have a big epidemic like this diabetes/obesity epidemic, you need everybody. And how's to say how Gristedes is going to help us out? I don't know that yet. But I am really touched by how frightened people are, and particularly of the Diabetes epidemic. They're coming forward from their hearts to do this. And the same is true on the design side, that this is something where Americans are disturbed, and there's a - it's just interesting to watch, and I didn't see it in the AIDS epidemic.

MAN: [OFF MIKE/UNINTEL]

MINDY FULLILOVE: All kinds of ways. We speak, or people come up to us, or we invite people to come hiking and they come hiking. Every kind of way you can imagine. We stop people in the streets, they come to our party.

MAN: Can you announce how to get the June 17 Hike the Heights.

MINDY FULLILOVE: You can hike.

[LAUGHTER]

MAN: Where does it start?

MINDY FULLILOVE: Well, the hiking - all of you are very fit people, so you probably like to hike. You can start at the Jackie Robinson [bench] which is at 145th and Bradhurst, or you can start at Dyckman, at the top of High Bridge at Dyckman. Or you can come directly to the High Bridge Terrace, which is where the party will be. The hiking will start at 11, High Bridge Terrace events will start at noon, and that's where lunch will be. The bands and partying and all kinds of stuff. High Bridge Terrace is located at Amsterdam and 175th.

MAN: [UNINTEL]

MINDY FULLILOVE: Not yet. It's our dream. We have a beautiful logo designed by Marshall Brown, so we have a logo, and we have a map.

LYNN SILVER (MODERATOR): You can post it on our physical activity program if you'd like, for the health department. Ms. Pollack, did you want to respond? Then we'll have to be wrapping up.

LINDA POLLACK: I appreciate your question, and I would say it's impossible to overestimate the importance in local investment, or investment in a site at different scales. I think when we came in to Ice Pond, we were working with Parks Council, with the Green Neighborhoods Program. Parks Council has shifted to become The New Yorker for Parks - a lot of things have shifted. But the idea for a Green Neighborhoods Program, which was about engaging local constituencies, whether that was the school and the principal, whether it was people of the housing, whether it was Pine Woods at one point - different groups. I have to say, as an architect, I appreciate so much when working with a nonprofit or a public client, when the effort is taken to bring together the different stakeholders.

I think architecture or design is capable of a layering in an unlimited number of needs and concerns into a project. Doesn't have to be polarized. It's harder to layer in everybody's' desires. Sometimes, you know, you have arguments and fights and stuff, but having people involved, having people invested, having those things clear and on the table, understanding as a designer how to strategically help people feel invested through workshops - those are really part of design of public spaces or any kind of spaces, and again, just to repeat, getting people engaged in their environment, understanding it's their environment, is a way of helping them feel that they want to move through it.

Positioning people in their environment both in a process and through what you design, such that they have a hand-hold, is a way of making people excited about their environment, invested in it, and wanting to be a part of it.

RONNETTE RILEY: I just wanted to address the ADA question. I have problems right now in baby proofing houses and baby proofing playgrounds. And basically, we're raising generations of wimps who've never had a bruised head. And I think it leads to all these other things, these sedentary children. I get so inspired - I just came back from Italy, and I was in Mexico a few months ago. There are no rules and regulations, and it gets to the point now that we can, as architects, only have one kind of handrail with one dimension attached to the wall in one way, and the playgrounds have taken all the fun out of it.

I took my nieces and nephews to various playgrounds as they were growing up, and the boys were not at all engaged in the playgrounds in the way they're designed now. There's no risk, and no ability to be dexterous or boisterous. I personally think that children should be exposed to some level of maneuverability in their environment. They are all the things that Hilary recommended. That doesn't mean that they shouldn't be accessible, but not every piece of equipment in the playground needs to be accessible, and not every place in every building needs to be accessible. The majority of it should be, and we should strive for that, but we also shouldn't - codes and all these things are the lowest common denominator. Everyone always says "Oh, it meets the code," like it's some big thing. The code just means the largest group of people could decide on the least aggravating set of rules. I don't know.

But anyway, I'm really an advocate in creating a little bit of urban Darwinism in our environments.

[APPLAUSE]

LYNN SILVER (MODERATOR): I'd like to thank all the members of the panel, I think you've raised many of the issues that are going to guide our discussion for the day. I lived with many of these moving here from Europe two years ago, where my kids played in unfettered playgrounds, I bicycled to work, and walked up the central staircases. I walked into the building - the change in the environment in New York City is quite striking.

But I think the guiding question for the rest of the day is of these concepts that you've raised around key issues for promoting physical activity - both the physical and architectural issues, and the social issues that Dr. Fullilove raised, that surround this discussion - what is it that we can do as a city to promote these changes? What is it that each of you as architects, as other professionals, can do to promote these changes in our city and address this tremendous epidemic. So thank you, and we'll continue at 10:45, correct? 15 minutes break. Walk, go outside, get some sun, and eat modestly.

[LAUGHTER/OVERLAPPING VOICES]

RICK BELL: Too much during the day. So instruct the bartenders to turn off the coffee. Or instruct the coffee tenders to turn off the bar. And I'll ask, beg, plead, cajole and coax people to please take your seats; we're going to start the second panel in 1.5 minutes.

[OVERLAPPING VOICES]

RICK BELL: 45 seconds before we start again. Anybody needing one last coffee or one last snippet of conversation or grabbing a business card, please do it now - we're about to start the second panel. Thank you. Please take your seats. As you do so, please turn off your cell phones. I said that before, but no one took me seriously. Please turn off your cell phones, or put them on vibrate.

I'm going to start singling people out. [Nutian], take your seat, please! Embarrass people to sit down! I guess when you have a conference about physical activity it's kind of oxymoronic to say, "Please do the opposite of what you're here to do." We thought about not having any chairs at all, we thought about doing it outside, we thought about doing it without PowerPoints. But we didn't think enough about how to make that work.

The great thing about meeting in a basement or a subbasement is you're obligated to think about how you get here, as you got here. And now that you're all here, it's my great pleasure to introduce Rob Lane. I'm not going to read all the bios that are printed in the program, and as Rob introduces successively each of the speakers on his panel, some of that will be repeated, perhaps augmented. But since Rob and I have been working together on many, many things over the last few years, it's sort of nice to go off script a little bit and just say that, but for an accident of the Health Department's request for proposals, Rob would be standing here now and I'd be sitting in the back of the room.

Because the RPA has done, through Rob's efforts, incredible research that I hope will come out in his presentation on just these issues - the connection between public health and the built environment, starting with asthma in schools, but continuing through many, many areas of research that transcend also the limitations of Manhattan and the five boroughs.

So without much more to say than that, we've got everybody's attention, Rob, it's your mike.

ROB LANE (MODERATOR): You'll be disappointed; I'm not actually going to present RPA work. I'm actually going to give a very different kind of presentation I think, and try to make it brief. I just want a quick show of hands - how many of the people here are architects, designers, or somewhere in the design field? Most of you? How many of you are here because you need continuing education credits?

The power of incentives - that's lesson number one. And how many of you are in the health fields, one way or another?

Okay, so this is kind of a flip of the experience I'm going to tell you about. We've been at this for a while at RPA. I'm an architect and urban designer who was brought into it. We have a cooperative relationship with the CDC and with Robert Johnson. And I'm just going to offer a very brief personal perspective on this that I think is a good segue between the two panels, and maybe in some ways helps set the stage for this afternoon.

First of all, I want to talk about two kinds of asymmetry. Not the kind of asymmetry designers like to talk about. Formal asymmetry, but a different kind of asymmetry that I discovered in this. The first one is money. This effort has been funded almost entirely, no surprise to the poor architects in the room, from the health side. They've very much set the tenure of the discussion.

And I'll tell you, I got a real banjo lesson in what it is to get something peer-reviewed. My idea of peer review is try to get your client or your reviewers at your final presentation at school to say that they like what they're doing. A peer review means something very different to the scientists in the audience, and there's a different level of proof that they're looking for. I'll say in a way - the good news is it sort of kept us honest, in away. Sort of things that we just take as received truths, I think they challenged us on it and I think that's a good thing.

And I think they also recognize that if you want to influence policymakers, they want some proof. They want to see - how do you know that people are really going to walk more if I pay for you to build this sidewalk?

The other thing is a kind of asymmetry of process. It's one thing to kind of deconstruct something; to look at a beautiful building and analyze it down to the smallest factor. Or a street, or a park, and explain why it is that people walk there. Another thing to take that to try to reassemble it, and make a nice street based on that cookbook. As any frustrated designer like myself knows, having analyzed great buildings and tried to do the same things and had them look terrible.

So I think that there's a kind of an anecdote that I want to give about this. It has to do with some research that I was involved in, in trying to assess the walk ability of different kinds of environments. And there's an interesting coincidence I'm going to talk about form-based codes. So very quickly, if you go to the next slide - or should I do that? And I just want to say that there is this issue of trying to - subjectivity and objectivity, in terms of how much you can really figure out why it is people walk or don't walk, and how you apply that from a policy point of view.

And also, to accept the fact - when we get ready to implement this, the local context in which we work - both in a health perspective and from a land-use law and limitation perspective - really is what's going to drive things. We throw our hat in with everybody else in terms of looking at how do you assess walk ability, and we found a range.

There are things like this that are meant to be very user-friendly. This is by Walkable America. Basically, you take your kid and go out on the street and say, "Do you like walking there or not?" This, however, does not meet any kind of scientific standard for anything. What you can do instead, as I found, that there were quite a few researchers that - this is actually a set of simultaneous equations that if you apply them will tell you whether your street is walkable or not.

I'm sure most of the planners and urban designers in the room know that there's not a chance in the world that if you apply this from one place to another you would actually be able to correlate it with how much people walk. That does not mean that I think this is a bad exercise. I think this is a great exercise, because it creates a kind of checklist at least of things that you should be thinking about. But at the end of the day, I'm still kind of convinced that as worthwhile as this is, you're sort of trying to measure the immeasurable.

And then there are things that are sort of in between, where you get to do a lighter-scale thing; 1-5, do you like it or not like it? It's still mathematical, it still tries to be quantitative, but in some ways it's user friendly. And then you can sort of add it up at the end. That's a little simpler math than the statistics class that none of you took, or you skipped or tried to cheat on.

And so meanwhile, what - I was involved in a wonderful project by Reed Ewing, trying to measure urban design qualities that support walkability. And what he did was he had a series of movie clips, he walked down the street, and he actually tried to quantify things like imagability, enclosure, human scale, transparency, complexity. And I think, again, it's a wonderful attempt. I was part of this exercise, and I think it's great. And there are some things, as all of you know, from the land use law side, and from doing design guidelines, there are some things that are very measurable and that you can do.

But there are also many things, like tidiness or human scale that are almost impossible to quantify. And there's no amount, from the design side, for the designers in the room, you all know that you cannot write enough land-use regulation or design guidelines to come up with a good building, or a walkable street. Again, do I think that means that that's a bad thing? I don't, because I think if you look at the instrument that Reed and I were working on developing, at the end he really sort of gives away the game, which is at

the end, does it really matter if you come up with the exact number, if you did the math right? No, it doesn't.

What matters, number one, is that you got off your ass and walked around the street with a bunch of people. And number two, that if it's reasonably internally consistent at the local level, then you've done something.

Now similarly, at the same time that scientists are trying to quantify walkability, we have a sort of acknowledgement on the regulations side doing form-based zoning, saying you can't write enough regulations, you're better off taking a series of pictures, and just kind of describing in qualitative terms - what is it about this place that works or doesn't work? What is it that people like or don't like about it?

And these things are supported in lawsuits, when the developer sues you because he thinks you've been capricious. These kinds of fairly soft regulations have been held up in the courts, because they recognize that to some extent, it's enough to explain intent, to give examples, to do a somewhat softer analysis than trying to measure things that ultimately are immeasurable.

And of course, there are places that have very, very detailed design guidelines, and I'm not going to spend time going through that. but I think the point that I would make is just as the local context, the ability of different communities to handle complexity and land-use design guidelines, I'd say the same thing applies to this assessment issue. And ironically, I think that some of the most complex and scientific tools are in some ways the ones that are least user friendly for the populations that are most at-risk. And I think that as a policy thing is something we have to continue to wrestle with.

And I don't know how many of you have read the tipping point - did any of you read *The Tipping Point* by Malcolm Gladwell? It's interesting, because he talks about epidemics, but he's talking about epidemics of policy change; how do you make those things happen? And he has these kinds of three rules -the law of the few; he talks about mavens, about connectors, about salesmen - different kinds of people it takes to get policy-change to take place. He talks about the stickiness factor, the effectiveness of different kinds of messages.

But in the end, as far as I'm concerned as an urban designer, the whole thing is trumped by the power of context, which is his last factor, which says you really have to look at the overall political, social, and economic climate of the place, to figure out whether or not particular messages get across.

And so I guess my kind of perspective here is that, while I think it's important for us to continue to work to quantify things and make this as scientific as we can, I think we have to acknowledge that at the end of

the day there's always going to be this soft place. It doesn't mean we shouldn't try to manage it and describe it as carefully as we can, but there's going to be a limit to how much we can do.

And just to give you one other anecdote on the subject that was at a Robert Johnson conference a year and a half ago or two years ago. And to their credit, they had - one scientist after another partnered with an architect or urban designer, so far an asymmetrical partnership, explaining how they were, for instance, doing a study where they were going to look at parks, and I know we're about to get a park presentation; break it down into every component - how many drinking fountains, how many bathrooms - a whole variety of technical factors, and see if you could correlate that with park usage.

And again, I think that's important to do, that's a worthwhile exercise. But the notion you would get all the science right, then apply it, then measure the results afterwards, is a model which may take too long. And actually, there was one guy, and to Robert John's credit, they had somebody who said, "Listen, we can't afford to do this completely linear scientific process, and I have a different idea. Let's do a kind of applied science thing. Instead of worrying whether or not we have proof that taking snapping shades out of high schools is going to help people's health, let's do a different kind of experiment. Let's take them out of all of half the high schools, leave them in the other half, and see what happens."

So at least you're sort of testing through action the applicability of the things you think might work and not work. And at the very least, you've done something. So I kind of offer this, as we go from architectural presentations that we've just had to the more scientific presentations we're about to have, I think for me, that is the kind of framework we need to start thinking about as we try to take this science and figure out how architects and urban designers are going to apply it.

Now with that, I'll do my next job as a moderator, which is to butcher the biographies of people that I'm supposed to know but don't. And the first speaker, as a kind of segue to the morning, is Menaka Mohan, who works for Sustainable South Bronx, coordinates activities surrounding both the Southern Bronx River Watershed Alliance and the South Bronx Greenway. She previously worked at the Tristate Transportation Campaign, Alternatives for Community and Environment in Roxbury, Massachusetts, as well as the Washington DC Department of Environmental Health, Office of Enforcement, Compliance, and Environmental Justice.

By the way, we're about to have a real-world experience in the difference between designers and scientists. Everybody was supposed to talk for 10 minutes. The designers spoke between 20 and 25. We're going to figure out if scientists are any better at sticking to their timeframes than designers and planners.

[LAUGHTER]

MENAKA MOHAN: Hi, my name is Menaka, I work at Sustainable South Bronx. Oh, there it is. So here are some basic demographics of the South Bronx. We're a low-income community of color, 70 percent Latino, 30 percent African American, and 40 percent of the residents live below the poverty line. As of February 2006, the Bronx County Unemployment Rate was 7.3 percent, compared to New York State unemployment of 5.2 percent.

This is a picture from the 1970's of a burned-out block in the South Bronx. This is the New York Organic Fertilizer Company; it's the only pallet producing company in the South Bronx, or in New York State I believe, and that's what it looks like. It creates these awful smells in the summer if you're walking by.

This is the Department of Environmental Protection, Sewer, Waste, & Water Treatment Facility that is next to the New York Organic Fertilizer Company.

This is the picture of the waste treatment facility, this is where some of the garbage comes from, and it's an up-close picture of that. And this is our neighborhood. This is tracks coming to the market. We managed to get a person in there; there are people who walk on these sidewalks right there.

These are our highways, Cross-Bronx, Major Deegan, the Bruckner, and the Sheridan, and this is where Sustainable South Bronx is. So these are some basic health stats, you've all heard them today, but 27 percent of adults in the South Bronx are obese, and that's the highest rate in the city. The study found that there's a clear correlation between weight and income, with lower income people more likely to be obese. People in the south Bronx eat fewer vegetables and get less physical activity than the rest of New Yorkers.

There's a higher incidence of diabetes in the neighborhood, and 10 percent of South Bronx residents report emotional problems, which we heard from our psychiatrist. And our famous asthma statistic, 1 in 4 children in the South Bronx have asthma.

Barriers to living in a healthy South Bronx. There's bad air quality, truck traffic, poor sidewalk conditions, dangerous intersections. I bike a lot, and when I bike to work, it's quite an experience. There's a lack of dedicated open space, and it's very difficult to access the waterfront in Hunt's Point. A lot of people actually don't know that they're on a peninsula and can see the Bronx River and the East River. And the lack of physical activity, and very poor healthy food choices.

So who are we? We're Sustainable South Bronx, we were founded in 2001 by Majora Carter, who recently won a MacArthur Genius Award. We work to create more sustainable projects in the south Bronx. We have a greenroof on our building; we're working on a greenway. We combat solid waste in our neighborhood, and that's sort of some of the work we do.

So in collaboration with others, we've created more access to the Bronx River, created more open space in the South Bronx, and developed the South Bronx greenway, which is a four-mile pedestrian network throughout Hunt's Point and Port Morris Waterfront.

So A Tale of Two Rivers. This is the Bronx River in the north, and this is the Bronx River in the South Bronx. And that is a car. And this is one of the first projects that Sustainable South Bronx started with, it's our River Heroes program, now known as the best program. It's an ecological workforce training program, so we were founded on taking local residents and training them in ecological restoration work. And this is our first year working on the Bronx River.

New York City Department of Planning recommends 2.5 acres per thousand people for parkland. Currently, in the South Bronx, we have .5 acres for 1000 people. But that's going to change. There are two new parks opening this summer in Hunt's Point. And as you can see, there's Hunt's Point Riverside Park, and [Verado?] Point Park. We're very, very excited about them, both of them are waterfront parks.

Hunt's Point and Riverside Park was founded by Majorca's dog, who was taking her for a walk one day, and they came upon this pier and looked over, and she saw the Bronx River - she had no idea that the Bronx River was that close to her neighborhood. So she worked to get a [seed] grant. And this is them working on the first Hunt's Point Riverside Park, and that's when it opened in 2004, with a \$10,000 seed grant. It's undergoing a \$3 million renovation right now, and will open this summer. That's the groundbreaking. And that's the schematic that will open the center. It'll have a floating pier, there's a boathouse - there'll be lots of different activities.

And this is [Greta?] Point Park, which is also a New York City park. It's 5 acres. It is right next to the New York Organic Fertilizer Company, and also next to the sewage treatment plant, but there is great access to the waterfront, you can see [North Brother] Island from [Rutter?] Point Park. And it's right next to the fishing pier, there's basketball, handball courts. And I've walked by it a few times already and it looks almost done.

This is the concrete plant park, which is a 7 acre park undergoing construction right now. Hopefully it'll be open in 2007; the first phase will be done. This was a work among a lot of different organizations in the

Bronx. The Bronx River Alliance, Youth Ministries for Peace and Justice, The Point CDC, and Sustainable South Bronx. This is people working on it.

The Greenway. As you know, there's a big Greenway movement going on in our nation and in our city. Greenways are, for those of you who don't know, bike and pedestrian networks. There's a plan actually to make an east coast greenway that hopefully would connect in the south Bronx that would start in Maine and end in Florida.

The South Bronx Greenway was spearheaded by the Point CDC and Sustainable South Bronx. They obtained a federal [C-Mac] grant of \$1.98 million to develop the South Bronx Greenway. And it's a 4 mile bike and pedestrian network that runs through Hunt's Point and Port Morris.

Two community groups, Sustainable South Bronx and The Point, are spearheading the planning process, and they work in partnership with the New York City Economic Development Corporation. Matthew Nielson, Landscape Architects, and the Pratt Center for Community Development.

And this is the proposed route. As you can see, there are the two parks, there's Veranda Point Park, Hunts Point Riverside Park. Sustainable South Bronx is located right there. And so - this is the food market. And ideally it would go all the way around there.

There was two community cures held last year to decide what the first phase of the Greenway should be. There was planning done, and 4 first-phase projects were identified. Hunt's Point Landing, a connection to Randall's Island, Lafayette Ave, and Hunt's Point Ave. So when we held the charrettes, the focus really became on doing the residential areas first, and then focusing later on the industrial area.

So this is Hunt's Point Landing. This is what it looks like right now. It's actually right next to the new fish market. And people fish there already, so there are a lot of people down there already, and this is the proposed plan. And there'll be a dock as well.

This is Lafayette Avenue. Right now, this is where our offices are. And this is proposed. This is Hunt's Point Avenue, the main thoroughfare of Hunt's Point, and that's proposed. And this is the Randall's Island Connection at Port Morris, underneath the Hell's Gate Bridge. And that's proposed.

So what are we doing now? We received the Act of Living by Design Grant from the Robert Wood Johnson Foundation. We're one of 25 communities to receive that grant. It's a 5 year grant, and we're working on trying to get people active now, because the greenway isn't coming for a while and there still are not enough places to walk safely. We have a Community in Action team, which is our community

outreach team. And they identified an intersection in Hunt's Point that was very dangerous, with the Bruckner Boulevard and Hunt's Point Avenue. And they worked on getting a petition signed, and they gained 8 seconds. And then we also have a walking club that we do.

So when we took our community down, we took them down to the West Side Highway, where the Hudson River Greenway is, just so they could see the difference of something like that versus what's in their neighborhood. And they were really shocked at how much time there was to cross. A lot of people in our community group are seniors, and they aren't able to cross a lot of the streets in a safe time. And also, a lot of people in our community are young mothers with several children - it's really hard to cross with strollers and children when you don't have enough time. But they did get 300 people to sign the signature, and we are getting 8 seconds added in the next few months to that intersection.

So the history of Hunt's Point Walking Club is targeted to local residents. It meets at the Park's & Recreation Center at Hunt's Point. And we meet once a month on a Saturday and go through the different areas of Hunt's Point - sort of talk about the history, what's there now, and what's coming in the future. These are our walking club members. That's Jamie. And that's walking. They're on Lafayette Avenue right there, next to the park. Oops sorry.

That was it, sorry, I don't know what happened. Thank you. I don't know -

[APPLAUSE]

ROB LANE (MODERATOR): My panel is winning the timing competition. The next person in that relay - actually, the logic here is that Candice Rutt is going to present some information that relates to some of her research, and then Andrew is going to sort of talk about some applied research that he has done, so we thought that would be the order. Candice Rutt's research interests include cross cultural health and measurement, Women's & Children's Health, body image, physical activity, and obesity. Her dissertation examined the environmental influences on physical activity and obesity among US - along the US and Mexico borders. She's completing two health impact assessments during her Post Doctorate at the Center for Disease Control and Prevention. So with that, Candice.

CANDICE RUTT: Hello. I'm going to try not to bore you too much, I'm here to give the scientific talk, so please bear with me. I actually do work with lots of architects and planners and transportation professionals, so I'll try not to get too technical with all the public health stuff.

Today I'm here to talk to you about what we know based on the science. So basically, when you want to know if an intervention or a series of interventions or different things work, there's a couple of things. You

want to make sure it's evidence-based. It's science-based. It's been peer-reviewed, which basically means you have a bunch of scientists looking at your work and they tear it apart, and then you've got to re-do everything and try to get it published.

You want it to be a systematic review, so you don't want - you have scientists for this - the second one we're talking about today, they use a formula, and they abstract each article. And it's a very, once again, boring scientific process, but it's very sound when you get to the results at the end of the day. It's not biased and individual opinion is kind of taken out of the equation, so it's more of an objective way to do it.

Once again, we've got lots of people doing this, trying to get in all their perspectives from different scientific fields. And when you're doing public health research, you don't just want to look at clinical studies. "Take a pill and how much does your blood pressure go down?" because that doesn't always work. They don't have a pill for obesity, so you want to see what doesn't work just in the doctor's office, but what actually works out in real-world communities?

And so we have this group called the Task Force on Community Preventative Services, which is a group of scientists from a variety of fields that looks over all the stuff that's been published in the peer-review literature, and they try to determine if different types of interventions for various health outcomes actually work or not. They do everything from tobacco control to physical activity, and they go through these and they go through all the different types of interventions that have been done to prevent and control diseases, and they say, "Okay, this is effective, this is not."

Or sometimes we get a recommendation called "Insufficient Evidence." And what this means is either we don't have enough studies yet to make a recommendation, or there's inconsistent findings. One study finds that sidewalks are effective; another one finds that they're ineffective. And when they go through these articles, they're rated on several different things, and one of those is the quality of the study. and if you find that all of the "well done" Studies say, "Sidewalks are good," and all the studies that weren't as well designed find that, well, we're - either no effect or a small effect, then you're more inclined to say, okay, they did a better study, higher quality evidence, we do think sidewalks matter and get people more active.

So we've got 8 recommendations. We've got 3 new ones that I'm going to be spending most of the time talking about that just were published last month. These were the 8 that were published several years ago, and these are things that the taskforce has determined have sufficient evidence; you do these things; you're likely to increase physical activity. One of these is school-based physical education. This is programs, they're called Catch and Spark.

It's basically, you train your PE professionals to get the kids more active, where everyone's not standing in a line, waiting to throw a basketball, going to the back of the line, where they're basically just standing the entire PE class. You get them out, you get them active, all the kids are moving, which means it's not traditional PE, it's what they'd call Enhanced Physical Education. So you get the kids more active in the time that they're in their PE classes.

The next is social support. Having that buddy to come over and say, "Let's go for the walk." Dragging my mother out when she doesn't want to go walking - my dog is my best social support, because if he doesn't get walked I lose furniture. You also have individually adapted behavior change, and this is also what you would call stages of change. It's like, "are you not thinking about quitting smoking? Are you thinking about it? Are you taking steps towards smoking? Have you tried quitting?" And the intervention is based on where you're at along that continuum.

Community-wide campaigns, this is when you basically throw the book at an entire community; you have grassroots efforts, you have media components, you're encouraging physical activity, you've got walking groups, you've basically got lots of different things going on all at one time.

Point of decision prompts, this is a lovely demonstration. We have these in our office, where it's like, "Don't take the elevators, take the stairs." Because unfortunately, you saw some gorgeous staircases today, I love the architects and the way they conceptualize is a little bit different than us geeky scientist. But most buildings, the way they're designed, you can't find the stairs, and if you do find them they're just ugly and awful and you don't even want to be in them. And in most buildings, the elevators are much more prominent. So this is like, "Hey, the stairs are over here, try taking them."

Enhanced access. This covers a variety of different things, and it's basically giving people opportunities and places to be active. Having the YMCA where you can walk to it or drive in a short amount of time; having the parks, having those greenways. And not only having them, but telling people, "Hey, these exist and you need to use them." On the science, when you ask people "What's in your neighborhood," people really don't know. It's shocking.

Because people get in their car and drive to work and then drive home. So when we do objective measures of the built environment and then we ask people, "What's there?" Their correlations are moderate for most of the variables we try to look at. And street scale urban design and community scale urban design are two of the new ones and I'm going to go into that a little bit further into the talk.

Now, the point of design prompts, these are just motivational signs that tell people, "Hey, take the stairs." Not terribly - a hard intervention, but we've had problems trying to get these put in buildings. Everybody's

afraid of, "Oh, liability! What if someone trips? What if someone falls? What if the stairs aren't safe?" So you have a lot of issues like that in trying to get a program like this implemented. We did this in El Paso, Texas, and my advisor basically had to sign her life away so we could put these signs up in various buildings across the city. Liability's a big concern with this type of intervention.

And they found that this is effective. You put these signs up, people will take the stairs. They've used it in different ethnic groups, they've used it in obese, non-obese. And you can tailor it for the various groups. In El Paso we had it in Spanish and English. They've tried different logos, different mascots, in the various places they've used these point of decision prompts.

And I've tried to leave out as many numbers as possible, but I have to how you a few or I wouldn't be a scientist. And they find, on average, 54 percent increase in stair use. And this was considered - this is good, this is recommended on the basis of sufficient evidence. So we're recommending that people put these on their stairwells.

Now this is the enhanced access. And that's everything from creating parks to - you know various things. But once again, you don't only have to have the places, you have to tell the people they exist and encourage them to use them. Having that great park doesn't mean people are going to use it, because if people are afraid, and they're afraid to leave their house, they're not going to know it's there and they're not going to know it's safe. So it's really encouraging the use of these spaces that we have.

Once again, trails, parks, reducing barriers, making the parks safer. They've shown that having cops around sometimes makes people feel safer. They'll start using facilities that went unused for long amounts of time. Affordability is a key issue, and that also gets back to that access. A lot of employers will give reduced fees for gyms, like your employer will say, "We'll pay for 25 percent of your health membership," and where I work is fabulous. I'm in the division of Physical Activity and Nutrition, and we've got fabulous stairwell, and music and pictures. We've got a gym downstairs. Once again, that's something employers do. Sprint has done a fabulous job of this - they have the parking in one spot and the building in another, where everyone has to walk from the parking to the building. They have a gym onsite, and they're really encouraging their employees to be active.

What they find is a return on investment. For every dollar they spend in these health promotion programs, they're actually saving money, because healthcare is so expensive, and the biggest burden of disease is the chronic diseases like heart disease and obesity, and all of these things that really can be prevented a lot of it through lifestyle. Of course there is the genetic component. But we can do a lot to prevent these diseases.

And the site specific programs; work-sites, you can discount gyms. Schools - opening up the school grounds so the community can use it. Once again, the school is worried about liability. Is there something we can do to protect the schools legally so if someone trips and falls on the track they won't get sued? We get a lot of problems about that in implementing opening up school grounds to communities. You have neighborhood schools all over the place, and you see signs up. "Unless it's an authorized activity, you can't be here."

I have wonderful playgrounds and parks where I live, but they lock up the ball field so that only the Little Leagues can use them who pay to be part of those leagues. So you see this at all levels of community where people tend to be very protective and, "No, we don't want you using our space," and finding ways to as a community get over those barriers.

Once again, and this was recommended based on sufficient evidence, you can see numbers, depending on how they measured it you see different effects. Basically this works - enhancing access is a good thing to do. Now this street scale/land use, that's kind of how you design, aesthetics, amenities, of a few small blocks. We're talking within a five to ten minute walk from your house, so it's a much smaller scale. And once again, there's things you can do to increase physical activity like making it safer, improving the lighting.

Anything - like sidewalk characteristics, do you have a buffer between you and the traffic where you feel safer? Aesthetic qualities like that building setback, you know, more of an architectural thing. People like it when the buildings are closer to the sidewalk as opposed to being on the back of this giant, vast parking lot, which is how we built suburbia. You have a big old parking lot and the building's in the back, and it doesn't really encourage pedestrian movement.

And once again, here are some pictures of some nice places you'd want to be. I love the idea of the pedestrian mall. I've been in a couple, unfortunately not in Atlanta - in Atlanta, we love our cars and we drive everywhere. Our sidewalks and bike lanes are almost nonexistent. I love the idea of a pedestrian mall. And in Bogotá, Columbia, they shut the streets down - a lot of the major roads - on Sundays so everyone can go out, bike, roller-blade, and walk. It's a fabulous idea to have these streets dedicated solely to pedestrians.

And once again, what we find is these small designs - trying to put the science on the architects and what you guys do - if this works, this increases physical activity so the way you design those small characteristics does have an impact on individuals' behavior - not surprising to those of you who do work in this area.

Now this is the community scale. This is how we design our communities. These include things such as population density, which you have - it's very high here in Manhattan. In places like Atlanta, you have these sprawling developments, where people live on big lots out in the middle of green fields where they're building, so people can have giant lot slices and send their kids to the "good" suburban schools. It also includes things such as land-use. Can you walk to a store? Can you walk to various places?

Again, Manhattan is the example I always give of a place with great land-use mix, you can walk to all sorts of different places, non-residential. But when you live in Suburbia, it would take you sometimes an hour to get to the closest grocery store or anything. You can't walk to a destination living in a lot of suburban communities.

It also includes things like connectivity. Once again, you guys have that wonderful grid pattern. I heard someone say a block a minute - that would be great to know that. But once again, in suburbia, you have these circuitous routes that really don't go anywhere, and lots of cul de sacs which really prevent pedestrian traffic.

So these are just - when you look at intervention characteristics, and I was really trying to think how could we apply this to New York? Because you guys have the land-use mix, you have the density, you have the connectivity, and how would this apply to you guys? And first of all, which was just mentioned, redevelop those round fields, making them into parks, and making them into places that people want to be and be active. Stairwell codes - making sure those stairs are safe when you put your prompts up.

Highway improvements. What they do, there are lots of codes that are passed in several cities where if you go in to redo any part of a highway, you've got to put in a sidewalk, and you've got to put in a bike lane. This was a really good idea in Atlanta, but what we have is sidewalks, no sidewalks, sidewalks, no sidewalks. Bike lanes that start in the middle of a road end in the middle of the same road, aren't connected to any other bike-ways, and don't go anywhere. This is on the street that I live on, I wish I had a really good aerial photo to show you how silly it is, and it's all of a quarter mile long, because you just bike back and forth on the street. Very strange.

Good idea, but they should've at least continued it on to the end of the street. But you know, I don't work at DOT, I'm at CDC.

And here are just some pictures of - look at all that space dedicated to highways. That's just amazing. And you see - there are probably several of those in Atlanta with all of our highways intersecting. I love the fact that here you can get on the subway and it goes somewhere, because our system doesn't work well at all. You can get to the airport, and that's probably about it.

And once again, we found that the way you design the communities on a bigger scale does have an impact on physical activity.

Now finally I'm going to talk about the last thing I looked at, and this is transportation policy - what policies are enforced, and transportation policy specifically - how much money do you dedicate to transit versus automobiles, do you put bike racks on the buses, what are you mandating, what are you mandating out?

Just some other things that they've done - looking at parking cash-outs, they've done that in California, where you give up your parking space and they pay you to give it up. They've done congesting charging in London. This is just a variety of different things they've tried.

Unfortunately with this one, they finished the lit review in 1998. These recommendations came out last month. If you have any doubts about the grinding wheels of bureaucracy and how long it takes to get recommendations approved, peer reviewed and accepted, this gives you a good indication - it takes a long time to get these types of recommendations - present the evidence to the panel, have them review it. Because each individual study goes through a long process. It just takes a lot of time to do this type of thing. So unfortunately, since they've just been published, we know a lot more than we did 8 years ago. There's been a lot of research with the Robert Wood Johnson Foundation funding the Active Living Research.

There's so much more we know today than we did back when these lit reviews were finished. So unfortunately there were only four studies in this category, but there has been a lot of really great stuff that's come out since then, and I'm just going to call these "promising practices." Things they've done in the US and around the world that look like they have the ability to increase physical activity. Congestion charge in London - they put a big circle around London and were like, "If you want to enter the city, it's going to cost you \$16."

You know what? Biking went up, walking went up, transit ridership went up, and car single-occupant vehicles went down by like 30 percent. It was a huge impact. Toll-roads charging people to drive. Depending on how much you're charging, that can have an impact. It's got to be significant enough to make people change their behavior. And also taking into account the income thing. Maybe have it graded based on individuals' income.

Costs for parking - parking cash-out, this was effective in California - you pay people to give up their parking spots. In Atlanta we have a group called the Clean Air Campaign, and they'll pay you \$3 a day for 3 months to find an alternate route to work.

Pay as you drive insurance - there've been a couple of pilot projects across the US, but they were all done by private insurance companies, so I wasn't able to find any data if this was effective or not because private companies don't always like to share their data with the scientists.

Designs of trails and parks - once again, we don't know as much about this yet, we've got lots of studies going on. We do know some things, like you want to have it open; you don't want to have a lot of over brush. But it's like, the way you design; do people feel safe when they're in the space? Do you have eyes looking out into the park, or is it a kind of isolate, unease area where you're the only person in the park? But there's ways you can design parks and trails to make them safer, and where people want to be there.

Interior building design. You've seen some people talk about this already today. I love the idea of the alternating elevator that doesn't stop at every floor, or hiding the elevator and making these beautiful stairways where people want to walk up them. Reducing - availability and placement of the elevators is huge in encouraging people to use the stairs, and it's funny because looking at all the wonderful stair designs this morning, you want to walk up them, you don't need a sign saying, "Hey, take the stairs." You encourage their use simply by the way they're designed. I think that's just fantastic.

So I'm just going to show you the stairs in my building. This is the before, this is the famous CDC stair study, and this is what they look like now. It's great. We've got carpeting, we've got music that changes every day, every once in a while they change the artwork, but they're very inviting. We have stair prompts in the bathrooms, next to the stairs, next to the elevators. Our entire building is just covered in stair prompts like this one.

I hope I didn't bore you too much with the science, thank you very much.

[APPLAUSE]

ROB LANE (MODERATOR): That was great, it reminded me of Physics for Poets, which I took. Thank you for cooking the science down into something that was understandable. Based on our timing now, it proves that scientists and architects have more in common than we might've hoped from a timing point of view. With that, I'm going to introduce Andrew Rundle, Assistant Professor of Clinical Epidemiology at the Mailman School of Public Health. His research is focused on the apparent protective role of physical activity on the etiology of lung and breast cancer. This work includes questionnaire based approaches to assessing activity levels and cancer risk and the use of biomarkers to investigate possible mechanisms through which physical activity may exert its effects.

With that, I'm going to introduce him and see if he can get our team back on time.

ANDREW RUNDLE: I guess I'll promise to speak fast, and we'll pay catch up. I'm not actually going to talk about lung cancer or breast cancer; I'm going to talk about obesity in New York City. And sine we're all telling peer review stories, we sent out a publication where we looked at urban design and built environment in New York City, and the peer reviewer came back and said, "New York City? It's a grid. There's no variation in New York City, it's dense, it's grid, there's no variation, and how can you do science there?"

And I think this individual had been watching too much *CSI* or *Law and Order* and just knew downtown Manhattan. So I'd like to remind people that you can surf in New York City. New York City is at the extremes, and there is variation around the extremes. So you can play golf in New York City, you can surf, you can do all kinds of physical activities, it's not just a grid.

So we've been studying how the built environment in New York City will prompt physical activity and dietary change, and we've been looking at BMI, or Body Mass Index as our outcome, which is essentially how heavy or fat you are adjusted for how tall you are. So I'm going to use BMI, but keep in mind it's just how fat you are adjusted for how tall you are.

So we've been studying this in what's called the New York Cancer Cohort, which was a study of 18,000 people in and around New York City. And it was initiated in 2000 to 2002, and the goal was to set up a study of 18,000 people in New York City and follow them through time. So they recruited people from all over the city, so we have people from Staten Island, Queens, Bronx, Manhattan, everywhere. And the subjects completed a questionnaire, so we know lots of information about the demographics.

And then we had - their height and weight was measured, so we actually have objective measures of height and weight. And we're going to do the first follow-up of this in 2006. I don't know how their health has changed, so all the analyses are based on the baseline data in 2000. And we've been essentially mapping where these people live in New York City.

And it turns out of these 18,000 people, 13,000 of them actually live in New York City. The rest are from the suburbs around New York City. So my geographer has been mapping where all these people live in New York City, and it's all over. And we have coverage of 91 percent of the residential census tracts in New York City, sot here's something like 2000-odd census tracts in New York City, and we in our study have people who live in 91 percent of them.

The demographics are pretty similar to the city. It's 12 percent Asian, 14 percent black or African American, 5 percent who claim that they are black but from the Caribbean Basin. 47 percent Caucasian, 20 percent Hispanic, and 2 percent other. 64 percent of the study subjects are female, women ages 46, 37 percent of them are overweight and 28 percent of them are obese.

So much like America, it's a pretty hefty population who are in this study. People think of New York as being a skinnier city, but...

WOMAN: [OFF MIKE/UNINTEL]

ANDREW RUNDLE: Of the total population, 37 percent are overweight, so they have a BMI between 25 and 30, and then of the total population, 28 percent are actually obese, they have a very, very high BMI. Another way to think of it is less than 50 percent of the population is less than normal weight, or healthy weight.

So we've been looking at how New York City is organized or built, and how this influences are associated with body mass index of our study subjects. We've been looking at land-use mix as one of our variables, and this is sort of built on the new urbanist ideal, one of the ideas of having commercial and residential land-uses close together. So if you want a quart of milk, you can get off the couch, walk to the store, and buy a quart of milk rather than getting in your car and driving to do that.

Because I am a reductionist scientist, we've taken this idea and distilled it down to a formula that gives us a scale that goes from 0-1. So we've ranked every single census tract on this scale of mixed land use that is a balance between commercial and residential land-use. So if your census tract has a 1 that means you have an almost perfect mix of residential and commercial land use. If you're on a 0, it means you either live in a completely residential neighborhood or a completely commercial neighborhood.

We've been looking at access to public transit, so we've been looking at the density of subways and bus stops in the city. Having access to public transit frees you up from having to have a private automobile and then driving everywhere. If you think about the subways in New York City, my estimate is you have to at least climb 4 flights of stairs per subway ride, generally 2 down, 2 up. So at the very least you're doing 4 flights of stairs instead of stepping into your car.

Relative to population density - Jane Jacobs talked about needing to have high density, and how high density was good for neighborhoods. New York City is very, very dense, so there's variation around this. So the highest density tract in New York City is about 88,000 people per kilometer squared. Which is an insane number of people. But there's variation in the city if you think about Queens and Staten Island.

And population density is really about how we've organized our buildings. Are they tall and skinny and allow lots of people to live in a very compact space, or do we have lots of low, flat houses that allow only a fewer number of people to live in a given amount of space?

So these are some statistical results, and I hear almost the eyes glazing over, and I'll try to break it down for you. When we look at land-use mix to see if land-use mix predicts BMI, what we see is there's a significant effect. So as you get more mixed neighborhoods, BMI is going down. So if you consider sort of the high versus the low census tracks, this translates into a difference of about a half BMI unit for the individuals in those tracks.

You look at buses and subways - as the density of bus and subway stops increases, you see that the BMI is lower in the neighborhoods with more access to public transit. And again, if you look at the extremes and compare the extremes, that translates into about a third of a BMI unit.

And we looked at the population density, and as neighborhoods get denser, you see significantly lower body mass in these neighborhoods. And it translates into about .86 BMI units across the range of the data in New York City.

So here are the results when you throw all the variables together, and you see population density controlling for subways, subways controlling for land-use mix, and you see that there are independent effects of land-use mix, subways, and population density, suggesting that you can have these different components together and get more of a bang for your buck. All of these results control for age, gender, race, and education. They also control for the census track demographics.

So we've controlled for a lot of the extraneous variables that predict BMI and sort of filtered that out of the analysis. But you know what? .5 BMI units is relatively modest. .5 is a small number. What we see is there are significant effects of the built environment on BMI, but they sound somewhat modest. But if you subtracted .5 BMI units from everybody in my study population, what that means is 10 percent of the overweight participants move into the normal weight category, and 10 percent of the obese participants move into the overweight. So you actually see a significant shift of the distribution, it moves the whole distribution to a lighter side. And when you think about moving 10 percent of overweight people into the normal category for weight, that can actually translate into real dollars when you think about the cost of diabetes, the cost of obesity and overweight.

There's a problem with this analysis, though. As I said it's based on census tracks. Census tracks in New York City are absolutely tiny. This is my neighborhood, and I'm at 100 Overlook Terrace in Northern

Manhattan, and that's my apartment building. This is my census track. It's absolutely tiny, just a couple of blocks. 605 Washington Avenue, that's my drycleaner, every two weeks I lug 5 pounds of clothing to the drycleaner and get it done. It's not in my census track. So when we do the statistics, my census track doesn't get credited with that.

106 West 187th Street, that's my local pub, I like to go there for a pint or two. That's a commercial destination that I walk to. It might not help my body size, but I walk to it. Again, it's not in my census track, it doesn't get credited to me.

Here's my subway stop. Not in my census track. My census track has got no subway stops, yet I take the subway every day. So this whole census track model for defining a neighborhood doesn't work very well because I'm not getting any point for subway stops in my statistical model.

So one of our challenges is to figure out how you describe a neighborhood, how you operationalize a neighborhood for 13,000 study subjects that are going to be stuck in a computer model. How do you tell my computer what is a neighborhood in this way?

So another way to do it is to slap a circle around my house that's a half mile. And this half mile circle includes the amenities of my neighborhood that I understand to be part of my neighborhood. The trouble is, it makes it look like I could hang out in the river. I don't actually swimming the river. I like to walk by the river, so it is an amenity, but it makes it look like I'm swimming in the river or something. I almost never go over here or up there.

So another alternative is to conceptualize your neighborhood as the distance you could walk on your streets that takes you a half mile from your house. So this is my neighborhood in this area here where I could walk to in a half mile. And as you can see, it's here sort of in a polygon, because we have some not particularly connected streets up and around here. So we're using this model for a neighborhood. We're saying, "How far could each of our study subjects walk a half mile?" And we'll call that their neighborhood.

The weird thing about this is it makes it look like I stop midway through this block, like, "Whoops, I'm at the middle of the block, half mile, not going any further." So now what we're doing is we're taking the building footprints of every single building that touches the edge of this barrier, and we're going to call that the neighborhood. So it's how far I could walk, plus the buildings I could feasibly get into. We're going to call that the neighborhood.

So my geographer is doing that for 13,000 individuals in New York City. He's got 1,000 of them in Brooklyn and it took the computer 3 days to get through them all, so it's really labor intensive. But we think this is conceptually a better model of what a neighborhood is rather than a census tract. My census tract contains nothing that I think of as my neighborhood in terms of amenities that get me off the couch to do stuff.

So our ongoing work - we're assessing a lot of other variables about the built environment. We're looking at the food environment; we're trying to get the addresses of all the fast food establishments in New York City. We're looking at farmer's markets, there's lots of farmer's markets in New York City? Where are the farmer's markets vis-à-vis our fat or skinny people? We're looking at convenient stores, fast food restaurants. We want to look at the recreational environment; we're looking at the location and quality of all the parks in New York City, the locations of gyms, health clubs, dance studios, ball fields, and recreation centers.

We're looking at walkability, including pedestrian safety, street trees, sidewalk width, and urban design. Rob was telling you about that program that Reed Ewing has set up to measure urban design; we're actually doing that in New York City for every block.

The other thing we're looking at is children. We've been measuring the physical activity of 500 children in New York City, and we know where they live. So we're assessing associations between the built environment factors and physical activity and body size in children enrolled in Head Start in New York City. So we're not just looking at adults, we're looking at what the little kids are up to, what the amenities in their neighborhoods are that make them active or not active.

I want to thank all my colleagues - we've got urban planners, geographers, sociologists, social workers, epidemiologists, which is what I am. We have funding from the National Institute of Environmental Health, Robert Wood Johnson. Robert Wood Johnson is very active in this area, so we have a couple grants from Robert Wood Johnson. So that concludes it. I hope I wasn't too science. How was my time?

ROB LANE (MODERATOR): That was amazing, and you're going to put a lot of pressure on the design community again now. And finally, a bio I don't have to read Michael Van Valkenburgh Associates are one of the premiere landscape architectural offices in the region, I'm sure all the designers here know them, and Matt Urbanski is one of their lead designers. Valkenburgh and Assoc. have done Battery & Brooklyn Bridge Park, segments of the New York Hudson River Park and Pier C in Hoboken. So with that, Matt.

MATTHEW URBANSKI: Hi. Thanks for having me. I think one way of thinking about our firm and the work we do is creating venues for alternative recreation. I just read a review of Robert Campbell's comment about recently completed park we did called Teardrop Park, and I can't quote it exactly but he said something like, "It's a wonderful environment and he can't believe it was made." And in terms of our conversation regarding access and safety and liability and challenge, the physical and mental challenge of an environment, I think we did push the extreme a little bit in that park. And that's - Amy's laughing. It's down in Battery Park City in an extraordinary set of circumstances which is called Battery Park City where they can really take care of something like that. I'm not going to talk about that today, but it might be interesting to go down and take a look at Tear Drop.

I'm going to speak only about a new project we're working on - well, we've been working on it for three years, but it's big, so it takes a long time. It's Brooklyn Bridge Park. And I have a few themes I'd like to cover regarding recreation and park design, specifically related to Brooklyn Bridge Park.

First is diversity, second is flexibility, and the third I tried to come up with a single word for so I called it "normalcy." What I mean by that is one of our great challenges I think in all of our public space design is finding ways to integrate recreation into the everyday, not as a special activity. One of my pet peeves, which I'm sure I won't be able to resist, talking about, is the strange phenomenon in New York where it's okay to sweat as long as you're spending a lot of money.

We all laugh because first of all you know what I mean, and second of all, you're all in that category of people that find that acceptable. Unfortunately, when the cool set only think it's cool to sweat when you're spending a lot of money, then people that don't have a lot of money think it's never cool to sweat. We'll try to get to that subject a little more.

So for diversity, one of the things that we all know is that we live in a city surrounded by water. That's the site of Brooklyn Bridge Park right there, and that's not a picture of the whole city but it's the furthest out I could find quickly. We have water everywhere, and as the point was made several times, Hunt's Point and other places, people don't even know about it and they're also terrified of it - uniformly terrified of the water.

We laugh, but it's a major, major issue, and it's not always been this way. In some of the research we've done, I've found that within the New York City Metropolitan Area, including going over to New Jersey, there were hundreds of boating clubs in the New York metropolitan area. They were rowboat clubs, very populous, where you can join and go out and compete with other clubs, go out on camping expeditions, do all of that kind of thing. Anybody remember *On the Waterfront*? Remember the fight seen on the little cabin that's actually filmed in Hoboken, it's supposed to be in Brooklyn? That was a rundown remnant of

one of those clubs that that fight scene takes place in, and there were literally hundreds - I've learned this through a lot of talking with one of my favorite people I've met in New York, Mike Davis, who runs a group called Floating the Apple.

He's really opened up my mind to the whole idea of opening up the water to the general public, not just to kind of the Patagonia wearing set, but the whole general - everyone. And everyone that's afraid of it. And breaking down that barrier again, and getting us back to that state where people don't feel afraid of the water in New York. Of course, one of the problems is the actual accessibility to the water is quite difficult in a lot of places, and so in Brooklyn Bridge Park design, we've taken some radical steps to diversify the types of recreation that the park allows, including a big category - big scary, hopefully not litigious category, called water recreation.

So the park will be from - let's see, this is Pier 1, Pier 2, Pier 3, Pier 4, Pier 5, Pier 6 - this is Atlantic Avenue. It will go from Atlantic Avenue - it's 85 acres; it'll go from Atlantic Avenue, if I measure along the streets, 1.3 miles all the way up to Jay Street here. This is the Brooklyn Bridge, this is the Manhattan Bridge.

One of the first interesting things I could tell you about this site - that's not the design, don't study that too carefully - one of the first interesting facts I can tell you about this site is I told you the length along the street, 1.3 miles. The length along the existing shoreline is 2.4 miles. So we already have the opportunity to get quite a bit of circulation in a pretty dense, pretty small area. It's 1/10th of the size of Central Park, for instance. It's a big park, but it's small compared to some of our really big parks.

One of the things that is very surprising, or could be surprising to people not involved in trying to create more accessibility to the water is the weird way that the path of I guess unintended consequences - the fact that environmental regulations can actually prevent - reduce severely the amount of choice on the waterfront in terms of design. What do I mean by that? Well, our feeling is one of the most inherent qualities of a public space and a public landscape is there is a democracy of choice in terms of how you move through that space.

This is a fantastic site that we're talking about here, but it was designed to unload boats. There isn't a lot of democracy of movement on this site here, because you basically have a bulk-head, you have piers. Now they're fantastic 5-acre each piers, that's the size of Bryant Park, each one. And unique in the kind of New York area, those piers in the Hudson River Park are a third that size, just to give you a scale comparison.

Fortunately for all of us, the Port Authority modernized these piers in the late 50's, consolidating them into these 300-350 foot wide slabs over the river. Unfortunately, well, but actually fortunately, it debunked immediately in terms of a shipping terminal, out of pride or availability of excess toll money or something, they kept this place in basically a time-warp since 1957. so the condition of these piers is good, and we have these 5-acre areas out over the water, they're not actually used for shipping, but fortunately now they're going to be used to make a public space so that's going to be a great asset for all of us.

This just gives you an idea of some of the drama of the site. Above the site, it's one of the few public landscapes that's looked I think down on by another public landscape, the fantastic Brooklyn Heights Promenade here. A view of the southern section of the site again, you can see some of the qualities that the site has.

From our perspective, park making - this does not look like typical parkland, right? This is not the kind of disused farmland that we found in Prospect Park, it's not the kind of squatter village in rocky, poorly drained areas that they found to make Central Park. It's got a different set of assets and liabilities, I guess you could say.

And one of the attitudes that we bring towards making public space is that it's less about bringing ideas to a site and it's more about discovering the latent capacity of the site as it exists. Why? Because this is a very expensive site to change, and to bring - to find its latent capacity, you need to work with what is there. It sounds almost too common-sensual to even tell a group like this, but there's a lot of interest often in bringing ideas to a site and then forcing a site to somehow support them.

What do I mean by that? As you can see, I talked a bit about these piers. We have about 12,000 wooden piles holding up about 20 acres of structure over the water, and then we have a lot of acreage that's actually landfill, or dirt basically. It's behind the wall and not on structures. So there's two different types of land here, we have the structured and flat planes, and then we have the so-called uplands.

To us, that kind of starts to sort out what kind of recreational capacity the site can have. Because what is the one thing that we really all don't have hardly any of in New York? It's large, flat, open spaces, and this site has got a great amount of them. So using those planes, those piers, for the large open thin landscapes, and using the upland areas for the thick, hilly, convoluted landscapes is a planning principle that came out from the beginning.

Of course, you have to start to try to match the capacity of the site with the need, okay? And this is a daunting picture I think in a way, to see the amount of density. We may have more parks in Hunt's Point I think, but still not that many, when you look at Ft. Green Park being the biggest park here, the

promenade, which is very important but very thin and planned. Cadman Plaza, which has got a lot of controversy over it. There's not a lot of green space, not a lot of recreation space, in the vicinity of Brooklyn Bridge Park, and we've got a lot of people.

When we start to measure - draw down the circles - back from some of the main entrances of the park and look at a half mile circle back, you can see the areas that are within kind of a reasonable walking distance of the park, and there's a couple things that become clear here. One is the light green is park space, but it doesn't have active recreation in it of any form. And it's a pretty low threshold in this analysis. If it has a playground, it has active recreation, okay?

So you can see that we have - we do have some green patches, but we don't have a lot of recreation space within the nearby neighborhood. So despite the fact that we're working with a water front park, and I'll get back to water uses, there's a great opportunity with these five-acre piers to make active players. So this is an analysis we did, went out and looked and counted everything in the whole neighborhood to make sure we were right.

The other thing that we - I've been talking a little bit about conventional recreational facilities in a way, and they're easy, right? Because they're rule-bound, and you need to follow the rules, and so they're kind of easy to design. What we're trying to do with Brooklyn Bridge Park is really break down some of those normal categories of recreation and add a whole bunch of programmatic range to the park. So we have - what we're talking about is about - we're adding about 40 acres of active recreation to the park, which is summarized in this map here. And talking about diversity of experience in terms of different kinds of seasons, getting people out in other times that they might think of, this is a potential space under the Brooklyn Bridge; this is a hill that we're creating in one of the upland areas.

The capacity of the piers to become these recreational surfaces here, this is the - we're working with Maryanne Thompson who's an architect to reuse some of the pier structures, to make the recreational pavilion, you can see this is those piers as they are now. This is the space as it is now.

The flexibility of use is one thing that New York City Parks Department has done a great job in exploring new ways in getting a lot of flexibility of use out of fields. You don't stripe a field for only one kind of use, but you do a - you make it so it can be used many different ways, many different seasons for many different kinds of people.

Another way of diversifying the recreational capacity is to make places that can be used in the winter and at night. One of our extra ideas that we'd like to add to the project is an indoor athletic facility that is being conceptualized by Jamie Carpenter on Pier 5.

To get back to water access, we needed a strategy, and it needed to go all the way back to planning to a macro idea, how can we get around these environmental constraints, and increase the amount of choice in terms of walkways and increase access to the water? What we came up with was an idea called the shade swap, where we actually remove some structure, which is shown in the red area here, and build new structures, thereby making a whole new series of ways of getting out over the water and moving, having the diversity of movement paths through this former marine terminal.

So we go from a site that has 2.4 miles of perimeter to a site that has 4.1 miles of perimeter, just by that simple action. And that's not even talking about the 12 acres of recreational surface that was added between the piers by the construction of these walkways. There's a whole new series of edges and walkways that are part of that idea that give a diversity of experience to keep it interesting to go different ways and give different choices, adding new opportunities for New Yorkers that are very rare or don't exist, like public floating walkways, natural edges, etc.

So this is a view of the beach that we're proposing to make that would also be a boat-launching area, it's one of the new walkways that goes out to create the calm water zone, some of the hills that are created to both muffle the sound of the BQE and to create visual prospects out to the river a la Riverside Park.

And then I'll just say one more thing. This is a quick diagram of the bikeway that we've incorporated into the park, and I just need to tell a little story about moving to New York six years ago. I rode my bike here; I ride my bike to work every day. I ride a nerdy 3-speed bike, which is very rare in New York, going back to my comment about being rich in order to sweat.

One of the things I just find very striking is when I tried to go buy parts for my bike in Brooklyn. I'm not talking about in the Upper West Side or something. All the bikes in all the shops are \$2,000+ Italian Racing Bikes. It's really amazing that the 3-speed bike that has fenders and a chain guard and I can ride in a suit to work every day, I could make it an ordinary experience, is a rarity. And hard to get fixed. Fortunately I'm handy and can do it myself.

But the exotic is very cool, and the common is less so. It goes for recreation too. Often times it's felt like it needs to be an event in order to be something that is worth doing. And a lot of what this park is trying to accomplish is to bring activity, diversity of experience, and movement into everyone's everyday life. So this bike way will be part of a larger plan for the Brooklyn Greenway that we've been working on with the regional plan authority to make this experience - part of the park an ordinary experience, a commuting experience, and I'll guess I'll end with that. Thank you.

[APPLAUSE]

ROB LANE (MODERATOR): Can I ask the panelists to come up here? We're going to try to - we're about 9 minutes behind, but I want to take a few questions from the audience, and then we'll [NOISE OBSCURES] before I take questions, I have two quick things that really stuck out for me, is what it took to get 8 seconds of timing change on a light single, and getting bicycle parts in Brooklyn. And I think to me, it speaks again to my own personal notion that somehow the local context of these things is perhaps the most significant factor. So with that, questions. Yes?

MAN: [OFF MIKE/UNINTEL]

ROB LANE (MODERATOR): Did everyone hear the question?

MAN: [OFF MIKE/UNINTEL]

MATTHEW URBANSKI: I think we're about a mile and a half from that area. It's about a mile or a mile and a half. And certainly with more people living there and having more recreational possibilities for them, we hope we'll be serving that new community also.

MAN: [OFF MIKE/UNINTEL]

MATTHEW URBANSKI: We're not involved, I can't answer that, but I really don't think so. I think these projects are exiting pretty much in parallel, although the environmental impact statements and so on for these projects look at the resources at a fairly large scale. But in terms of the real, direct interaction - I don't believe so.

ROB LANE (MODERATOR): Next question?

MAN: [OFF MIKE/UNINTEL]

MATTHEW URBANSKI: Honestly, I think we were a little afraid that the Brooklyn Bridge Park Site would become interesting to the New York Olympic Bid Committee; because we were afraid it would become a more of a specialized recreational facility that way, and not go towards that diversity of experience we're trying to get there. We were glad that we slipped by them, honestly.

MAN: Other questions? Yes, back there.

WOMAN: [OFF MIKE/UNINTEL]

MAN: [OFF MIKE/UNINTEL]

ROB LANE (MODERATOR): I'm not the one to answer that question, obviously. Matt, you are, in terms of transit.

MATTHEW URBANSKI: I can answer the second one first. There's going to be a transit study, a whole connection study, that's just about to gear up relative to connecting the near neighborhood to Brooklyn Bridge Park, because it was a former waterfront, so it's not actually super well connected. You can't take a train to the corner, the way you can in Prospect or Central park. So they're going to study that, including that subway connection. What was - the Clark Street subway? They're going to study those.

ROB LANE (MODERATOR): I would like to solicit a question. Since this is a design audience and the questions are directed at the designer at the table, I'd like somebody from the design community to suggest a question to one of our scientists about the science that was presented here, and the extent to which they are convinced or not convinced...? Yes, Rick.

RICK: [OFF MIKE] I really like to see the renderings of [UNINTEL PHRASE] the continuous walkways, and one of the reasons. But what I was hoping to see and hear about and what I'd like to ask maybe a few of the scientists on the panel - how do you measure the impact of your firm's design in Pittsburgh, the [UNINTEL] project along the river front. It's undoubtedly, dramatically increased the numbers of people that have access to the waterfront and [UNINTEL]. How is that measurable from a scientific perspective? Is it just head count? Are people [UNINTEL PHRASE]? How do you [UNINTEL]?

ROB LANE (MODERATOR): I think, Candace, that would be -

CANDICE RUTT: Yeah, there's actually several ways. Ideally, you would've surveyed the population that lives around the park before the park was put in, and then once again measure it after the park was put in. That's the ideal study design, that's what we call longitudinal. And at that point, you could say, "Yes, the park did or did not increase the physical activity of those people who live near the park."

The problem now is the park's already there, so it's harder to do that longitudinal type of study unless you were to look at people's behavior who might've been moving from one neighborhood possibly closer to the park, or living close to the park, and then away from the park.

What you could do is find the folks who are using the park at this point and ask them, "Well, did this increase your physical activity? Are you getting more activity because the park is here?" One of the problems we have with the science is, number one, the recall bias - I can't remember what I did last week, let alone before the park was there. We're very bad as human beings to remember what we ate, what we did last week, let alone what we did last year.

The second problem with that is, you know, once again, the recall bias, and you're asking them - it's the substitution question. "Would they have been active in a gym as opposed to going to the park?" And that's something we wrestle with in the physical activities. So you provide all these wonderful parks and trails, but is it really increasing the physical activity of that population? Would these people be working out in stair climbers in their home or would they be walking around their neighborhood if that trail wasn't there?

And that's something we're still wrestling with the science, because we can't randomly assign people to neighborhoods, and it's very expensive to follow people over time. Those longitudinal studies are very hard to get funded, they're millions of dollars, and tracking people over time - it's very difficult and very expensive. This is actually kind of a new area of research, so we don't know everything yet, but we do have some things that we're able to say, these are effective, and enhanced access has been shown to increase physical activity. We're pretty sure that having that park there does increase people's physical activity, but once again, we do need more research. That's how you'd go about doing it in some of the limitations with the study design.

ROB LANE (MODERATOR): And with that, I think, Rick, I should let you introduce - I hate to cut it off, you tell me. Should we introduce Dick Jackson at this point? Is that something you want to do? Unless there's time for one last question?

RICK BELL: [UNINTEL PHRASE] I'd say maybe take two more questions.

ROB LANE (MODERATOR): Great. And I'd say I have a prejudice, if we can get some people from the design community to challenge the scientists a little bit.

WOMAN: [OFF MIKE/UNINTEL] I was wondering how [UNINTEL PHRASE] are more helpful, will save more money in the long run, [UNINTEL PHRASE] how do we make it work for us so developers like [UNINTEL]?

CANDICE RUTT: You can email me.

ANDREW RUNDLE: I was going to say, Robert Wood Johnson has put a lot of effort into amassing information about how active living and active living through design, and the empirical evidence - their website has got a lot of the information just downloadable, and so Robert Wood Johnson has put a lot of effort into warehousing and stacking up and making this information readily available. That's a huge resource, if you want to make that argument to that end.

CANDICE RUTT: The community guide also has all of the recommendations online, except the three new ones, we're still in the process of getting those on the website. But I believe it's thecommunityguide.org, or you can always just Google it, that's usually the way I find the site. Also the Active Living website is fabulous, and they've got quick little cute fact sheets and things that are very user friendly.

CANDICE RUTT: They have more intense stuff if you want to count the number of people who use a recreational trail, they have documentation and scales and questionnaires and forms to download that you can actually use at that end, or you can have very short bullet point fact sheets that has a whole range of how deep you get into the information product on their website.

ROB LANE (MODERATOR): Also, just by way of an advertisement, if you go to www.rpa.org which is our website, there's a section called "Smart Growth and Healthy Communities," and that also has a link to a very extensive bibliography of documents, many of which we keep in our office and can help make accessible. In fact I'm not sure, Rick, is this bibliography largely the one that's from our website? The one that's been sort of handed out? Do you know?

RICK BELL: Partly, but I'll ask [UNINTEL PHRASE].

WOMAN: [OFF MIKE] It's just a lot of the research that I've done, [UNINTEL PHRASE]. There are probably 30 percent [UNINTEL]?

CANDICE RUTT: Yeah, also the CDC has a healthy community website. It's part physical activity, I think it's housed out of the National Center for Environmental Health. Our website always has good information on healthy communities and how to design healthy communities. That's just another place to go look for information.

ROB LANE (MODERATOR): And this is one of the great opportunities, to actually leverage the interest in health now, in doing a lot of the things that we as designers are interested in doing anyway. Other questions? I know you had your hand up.

WOMAN: [OFF MIKE/UNINTEL]

CANDICE RUTT: Yeah, and actually I'm working with people who are in charge of the new healthy places goals, at CDC, and that's something we've talked about. This wouldn't happen for a long time, but if you buy a house near a transit station in certain town, you get the location efficient mortgage, where you're allowed to buy a bigger home. We're going to be hopefully in the net several years approaching that mortgage company or a similar company where the developer, if you make a healthier home, maybe get a lower rate that you're paying, or offer incentives like the lead program, the star program, the energy efficiency, where you do get those breaks.

Ideally we do that for homes and communities, but unfortunately it's a long way off. But people are starting to talk about that now.

ROB LANE (MODERATOR): I was going to say the Lead thing is a really great model in that sense. Maybe that's a good partnership, for the deign community and the health community and sort of explain how that system works and why it's been effective and so on, because that's really what you want - a lead program, but not just around energy and environmental issues but around health and activity issues. That would be the kind of gold standard for this kind of program. Another question?

WOMAN: [OFF MIKE] I have question for Andrew in terms of your criteria [UNINTEL PHRASE]. I was curious in terms of making your [UNINTEL PHRASE] probability of the large scale transportation infrastructure, and also I was wondering how you determine a half a mile, since I notice that all of your [stores] sound more like within a quarter mile?

ANDREW RUNDLE: Right. The highway that cuts across that neighborhood is actually - you walk right under it, it doesn't actually block my progress in any means at all.

WOMAN: So you don't go to anything [UNINTEL]?

ANDREW RUNDLE: I physically do. Sometimes I walk to work. But I would say the 90th percentile of my activity falls within that polygon. On a really nice day I often walk to work, which is about a mile away from where I live.

In essence, we actually sat around a table and said, "How far do you walk before you start thinking about taking a subway?" Or how far do you walk before you say, "You know, I'm going to take a bus." And we sort of came to a half mile, and we looked at the literature, and the half mile is sort of one of the standard measures people seem to use. So we felt relatively comfortable with it, but it's arbitrary. We just hired a

geo-spatial analyst who's going to create a surface model that is density weighted in some manner. So things that are closer to you weigh more and things that are further away from you weigh less, so we're going to run a parallel analysis that we weight on distance.

I'm not sure if that will produce any meaningfully more information about how much subways predict BMI, but we're going to put it on the hopper and run parallel models against each other and see which one seems to be most informative.

Having explained that, it's very hard to make a slide that depicts a distant-weighted model of one neighborhood, let alone 13,000 of them.

ROB LANE (MODERATOR): I was going to say, I was sort of impressed with the sort of heroic attempt of trying to define what a neighborhood is, and again, I think in some ways it's measuring the immeasurable, in that even after you're done looking at all the physical characteristics - whether you can walk underneath a highway or not may have to do with people's perceptions of safety in addition to whatever the physical reality is. So how do you measure that?

And also, to what extent do we want to skew the research towards those things we know we can control. Since it's going to be difficult to add new subway stops but not as difficult to put lighting under an overpass. Skew the research to things we think a local group will implement.

ANDREW RUNDLE: Yeah, I'm not actually under the impression that I'm going down to City Hall and say, "Drop in some more subways for me, please." But I would like to see in the cost/benefit analysis in deciding to extend a subway line; I would like to see health factored into that analysis. I'm not under the illusion that I'm so powerful I'll get subway lines built in the city, but I'd like to see the argument pushed so that health becomes a tangible metric that goes into decision-making processes about how we put transportation on the street.

ROB LANE (MODERATOR): One last, and then I think we really need to introduce Dick Jackson.

MAN: [OFF MIKE] I think one of the things that concerns [UNINTEL PHRASE]. The car is so convenient. New York City is a [UNINTEL] place where people walk a lot because [UNINTEL]. I was out in San Diego last month, and I was out there looking at property, and the realtor picked me up at the hotel, drove me over to the first condo, it was like two blocks away. Showed it to me, and then said, "Okay, we'll go to the next one," he says, "Okay, get in my car." Drove round the block. I said to him, "Why are we driving around the block? Why can't we just walk?" and he looked at me dumbfounded like, "Why would you walk?"

So I said, "Well, I'm from New York City, and I like to see a place, and the only way to see it is by walking." This is a unique problem - or not a unique problem, because I think New York City is [UNINTEL PHRASE] once you leave New York City, Middle America, and even the west coast - California, except for maybe San Francisco is the only other city I can think of where there are lots of people walking. And it's psychological I think, because people just are so used to their cars.

And whether you're bringing them to the shopping mall or you need them to walk around the corner the only way you're going to do that is to change their mindset.

ROB LANE (MODERATOR): Well, [UNINTEL] is going to help us out. Would you just join me in thanking our panelists?

[APPLAUSE]

RICK BELL: We're not going to take another break. In the interest in having as much time as possible to hear Dr. Jackson's keynote speech, I would like to ask Dr. Jackson to come up to the podium. This conference would not have existed but for a talk I heard Dick give at an AI event somewhere across the country. And if I recall, a displaced New Yorker then living in Atlanta on the way to California, or just having moved to California, he presented images which maybe we'll see again, that were devastatingly negative about how people can't walk, as we've just heard, except in New York.

And so at the first opportunity, which is now two years later, he would be happy to come to New York, reprise that speech in a different context, and talk a little bit on the connection between public health and physical design, which is what his career has evolved, as it's gone from CDC to the state health department in California and now on to teaching public health issues in the architecture school in Berkeley.

So with all the credentials I might've listed and those still to come, Dick Jackson.

RICHARD JACKSON: Actually, I teach in the Public Health school. The bad news and good news is that obesity is not the most important reason why you as designers and architects and planners hugely influence the health of the people in this country and the health of the people around the world. As a medical student, I did a rotation up at Mt. Sinai, I was taken on the ward, and there were about 25 little kids running around, hyperactive as could be.

And I said to the attending, "Why are they here? They look fine." And he said, "Oh, they're being [UNINTEL] for lead poisoning." These children were having chemicals put in their blood to pull lead out of their bodies - their blood-leads were about 60. He took me to a back room and there was a 2 year old in there, blind, comatose, who died over the next couple days of lead poisoning. Probably had a blood lead of about 150 or so.

Every year we're losing 10 kids a year to lead poisoning in each of our major cities. The problem was insurmountable. And what I'm going to be talking about is going to feel insurmountable, but look what happened.

My blood lead back then was about 22, and it was normal for an American in 1970 to have a blood lead of 22. We thought the lowest feasible level on the face of the earth was a blood lead of 3. The average blood lead in the United States today, because we got rid of lead in our paint, lead in our solder, lead in our food, lead in our water, and lead in our gasoline, the average blood lead in the United States is now less than 2.

Miraculous, unbelievable improvement in the population. And because I was at CDC, and for ten years I had to go in front of OMB all the time and argue, "These are the cost benefits of the things we've done," believe it or not, the park service was being demanded by OMB to show the cost benefit of the national parks. That's the kind of pressure we were under in these quasi-political positions.

I figured out, let's do a test of - since your blood - if your blood lead goes down, your IQ goes up. What would be the value of all those improved IQ's of our children, because our kids are now about 5-6 points smarter than we were in my generation because their brains are not clogged up with lead.

IQ is a very good predictor for how long you stay in school, and a single IQ point is worth roughly \$15,000 in lifetime income. So every kid's been given 5, 6, 7 IQ points in addition because of the removal of lead, so every year's worth of kids is given a gift of a quarter of a trillion dollars in lifetime income because of the removal of lead. So here's a social benefit, a health benefit, but also an enormous economic benefit to our society.

I tell this story because some of the rest of the stuff I'm going to talk about is pretty depressing in some ways, but I think it's surmountable in the way the lead problem is surmountable. And I think very much we're going to have to focus on our kids in profound ways. It took us a generation to get where we are now, and this'll be a generation of really working. Yeah, we can make some differences in people my age, but the big changes are going to be in our kids, so I'll focus more on kids as we go forward.

Saw the maps earlier, these are stunning, but let me at least emphasize this. This is a report that just came out last week. I actually laughed when I saw it because I thought, "Why didn't I think of doing this?" Harvard scientists went back and said, "Gee, when we interview people, they tell us what their height and weight is and we figure out those charts." Then he said, we'll actually measure how tall and how much they weigh, and there's a brand new curve for their body mass index that's quite a bit fatter than we thought they were, because people weren't exactly telling the truth. And ladies, you fibbed a little bit more than the guys did, but the guys did fib a lot, too.

We're kind of at a tipping point, we use that term earlier about the shift in consciousness in our population. I think we've seen a real shift in the consciousness, first about food and obesity, but I think also we're beginning to see it around the built environment and its effects as well. Business people get this, and when your businessperson says, "Gee, I don't want to spend the money on the stairway," every business is having to retool it's furniture, the hospitals are - 15 years from now, every hospital will be built with an overhead hoist, because they're losing nurses right and left to back injuries. It's the major reason for nurses leaving the profession, and the major cost for keeping hospitals going right now is the recruitment and retention of nurses.

That's partly related to the obesity epidemic. These new gurneys are about \$1000 versus \$300 for the old gurneys, and they have to have them because the patients have become so heavy.

We have major environmental impacts by the fact that we've all gained, on average, 10 pounds a piece in the United States of America, adjusted for age and everything else. Those 10 pounds calculates out to \$1 billion worth of jet fuel every year, just to fly our fat behinds around the American landscape. And Jay Leno - the only study I've ever done that Jay Leno ever commented on, he said, "Now I know why they don't feed us on airplanes anymore."

Now, the medical system's response to this is the typical medical system response. We talk about scientists being reductionisms, "Oh, we'll just do surgery and we'll fix this with surgery." It's non-trivial surgery, \$20-50,000 a pop, it does have complications. We estimate in California that if we offered this surgery to everyone - and by the way, now the insurance will pay for it - if we offered it to everyone who had a body mass index over 35, we would have 1.7 million people standing in line. Imagine the cost. That's at least \$52 billion, just for stomach stapling in the state.

These are staggering costs. And the insurance companies - your employer who's worried about, "Can I spend the money?" You have two or three employees that have to have this surgery; your insurance costs go right through the roof. This is just blue cross in California just over the course of 3 years, their stomach stapling surgery - you can imagine if you're a CEO looking at that kind of money drain, you're

going, "Oh, my god, that's huge." You don't need an epidemiologist to tell you, anything that's going up threefold in three years is like a house on fire.

We talked about the diabetes complication; as you become more obese your risk of becoming diabetic goes up. Actually if you have a body mass index well over 35, you have 100 times the risk of becoming diabetic as a thin and lean person. And we saw the maps for diabetes earlier, but these are really shocking changes. And to think about walking down the street in Florida and one person in eight, having a disease that will cost them their eyes and their kidneys and their feet and their hearts - that's staggering.

If you become diabetic, you cost \$10,000 more per year than before you were diabetic. It is very expensive, and every single adult in this room has lost a friend to this disease. It's a serious and very prevalent and common disease.

I did this presentation for Governor Schwarzenegger when I was state health officer, and he and Maria Shriver were stunned when they saw this slide, they have 4 young kids, and young children in America today - if we continue the track that we are on, 1/3 of our kids will be diabetic in our lifetime with an average reduction of 15 years. We're looking at the first generation in American history to live less long than their parents if they continue the track that we're on.

Many causes for this, and I'll talk about reversing it. And thinking of the medical industrial complex, with its ability to spend money, is going to fix this - it's not going to happen. For a couple of reasons. One is when I was talking about the young doc, it was only 7 percent of all the dollars in America that went to medical care. It's now 15-16 percent of all the dollars in America going to medical care. And if it's going to go up with an aging population, and all this high the medicine and diabetes and obesity, we're talking 25 percent. They ought to make those hospital rooms - they're going to need more than hoist, they're going to need at least two extra beds in there because the family members are going to have to be taking care of everybody in there because we're not going to have people enough to take care of what we're looking at in the future.

Now, when I said obesity wasn't the most important thing, I'm saying it in part because of this study. Some of you may have had friends who were nurses who were captured in a study of 100,000 nurses back in 1975. It was done out of Harvard, and every year they filled out a questionnaire about their height, weight, health, all that. It was followed for 25 years. The nurses who stayed thin and stayed in good shape had a standardized death rate, this is all deaths. The nurses who became obese had a 90 percent increase in death, and these are people just like you and me, working people, start out in their life, 90 percent higher increase in death if you became obese over the course of 25 years.

What happened if you were out of shape? I'm sorry, if you became inactive but were still thin? A 60 percent increase in death. So suddenly this fitness thing is not a side show, this is really important. It's almost as large an effect as the obesity effect. And if you became inactive and obese, two and a half times the death rate, all cause mortality. This is stuff we really care about, how many people die.

So this is really important, to build that exercise, as Candace says, going up and down those stairs, and all the rest during the day. Now, you know that Americans don't want to exercise, and as the gentleman said from San Diego, we love our cars, and we'll go down and drive a block to buy a carton of milk in our car. This poor dog is trying to get this guy to exercise and isn't having much success.

The other gentleman was talking about the only good sweat is the kind you pay for, and I like that quote and I'm going to steal it shamelessly because I think that's right. You know he's getting on a step machine when he gets in there.

Now we're going to have to turn down - to conquer the lead poisoning program, we had to turn down all the dials. And I guarantee, the pain industry said, "Oh, it's not us, it's gasoline," everybody pointed to somebody else. We've got to turn down all the dials. And this is the first one we've got to turn down. If you've got a loved one in your family who's overweight, this stuff - can you imagine 17 teaspoons of sugar? If your daughter puts 3 teaspoons of sugar on her cereal you're grabbing her hand, right? 17 teaspoons in a 20 ounce soda. 250 calories that, for me is 25 minutes of rowing hard on my rowing machine. But casual bicycling it's a bit longer.

Now why would I put hamburgers in? Partly because I think this is a disgrace to sell this kind of product to anyone, but it's a smart, short-term economic decision. This is one of the reasons our poor people are fat and our wealthy people are thin, is that you get a lot of calories for a couple bucks here. So it's a smart, short-term decision. It's not a smart long-term decision. And if you're poor and if you're black in America, 2.5 times as many fast food joints per square mile than wealthy folks in white, upper-class neighborhoods. I'm sure the same is true for liquor stores, by the way.

This is California data, but I guarantee you, New York is probably not a lot different. I bet there are 60 year olds in this room who can run/walk a 12 minute mile. This is the fitness-gram test, and only a quarter of the kids in California can run/walk a 12 minute mile. And it's great we had No Child Left Behind, it's great we're worried about math and verbal and all this stuff, but it's nonsense to not include something like a fitness-gram. And I live in a state where people drive up in \$40,000 SUV's and drop off their kids and the school is trying to decide whether to give their kids art, music, or PE, and they're throwing out one two or all three of them. I don't know what kind of priorities we have in our society, to force that kind of decision on a school principal.

Now, New York is in many ways, and my cousin is First Lady of Jersey City right now, another highly dense town. We're losing 1,000 acres a day of prime farmland. This is happening in many parts of the country as we put mansions up everywhere. And New York is the model for quality, high density, and people can be healthy in it. One reason to just fill in all the stuff that's in town now, the brown fields and all the rest, is god help us, we don't want to be losing that green space. We've now paved over 60,000 square miles of the United States of America - an area equal to the entire area of the state of Georgia. Think of how many trees we've lost - photosynthesis is our friend and yet we've removed that much tree cover. And by the way, that impervious surface runs off every time it rains.

The two - and Rob, you correct me, but it was at RPA that I learned that the two fastest growing counties in the New York area were out in the Pekinese, and that people were commuting - this is the article from the Times a couple years ago - that many of these people are commuting hours in and out. They're dropping off the kids in pitch dark. The point of the story wasn't how stressed the mom was, it was the rabbis and the ministers and the priests and the police officers who were very worried about what was happening to these kids in these isolated, suburban, big-box sprawling neighborhoods they're putting out in those beautiful woods of the Pekinese as they're creating places like this.

Dr. Rundle said this more elegantly, but here's the simple version - about 6 pounds body mass difference between people in highly walkable areas and highly sprawling areas. We've gained more than that, and that's my point. It's about more than just obesity, but we'd all be a lot better off, or a lot of us, without 6 pounds. Candace referenced this report, but I'll tell you, I and Chris [Katinsky?] did the first article on sprawl and the built environment in health, 14 - this was about 2000 - 14 members of Congress wrote to the head of CDC and requested that I be fired.

So I feel very validated by having a hard-nosed bunch of scientist grind through every study that's ever been done and said, "Oh, no, this is real. How you build things really does make a difference." I simplify the other slides, there's the bottom line - strong evidence that the creation of places for physical activity and then telling people to do that activity, very strong evidence, and sufficient evidence about community and street scale changes.

Just going to focus on what I think is the biggest environmental health threat facing the United States and the planet for a couple minutes, because we cannot ignore this issue. If I get in the best Prius I can buy and drive 1 mile, I put 450 grams of carbon into the atmosphere. If I bicycle one mile, I put one gram of carbon into the atmosphere. The United States is now - look at this, my brother Jim was born in 1949. 276 million metric tons of carbon went into the atmosphere. Anybody who said, "Oh, it's really not going up by that much," look at the data from 2004. Four or five times as much. We're not doing a very good

job getting control if it, and close to 45 percent of it is due to transportation, and a lot of that's due to the fact that we not' build with quality density.

These numbers are shocking; I was listening to Elizabeth Colbert, the woman who did the article in the New Yorker, and her book around climate change. It's truly scary what's going on. And the stair step increase, and the CO2 readings, it's the readings from the top, but here's Jim Hansen, the wonderful scientist up at Columbia who I hope wins the Nobel Prize not just for physics, but he deserves the peace prize, despite the fact that some political crank was trying to get him fired for saying the truth at the international Geophysical meetings in San Francisco in December.

Five of the hottest years in the history of recorded weather readings have been in an 8-year old's lifetime. This is the summer mount in Greenland in 1992 and 2002, and to see that kind of change - this did not happen just a few years ago. And on the top of Greenland, these rivers of 60,000 year old water are pouring off the top of that ice cap, and they are dropping at half all the water that LA would need, is now pouring off the top of Greenland, that wasn't coming off even 10 years ago, and it's dropping straight through the crevices into the base of the glacier, it's now moving 6 times faster. In fact, he says if we love the Greenland glacier in the eastern shelf of Antarctica, which is what's going on right now, we're looking at an 80 foot sea level rise. Think about the implications of that for built environment and design and the rest.

And within the lifetime of my little niece, Mary Camille, hopefully she'll live to be 68 years old. The sad news is there will be no polar ice cap in the summertime, and it may well be that that is not reversible. So anything we can do to get people out of their cars, to get them energy efficient, to climb the stairs and burn one gram of carbon from the fat that we're eating instead of burning off electrical fuel to run the elevator system or something else, will be to the good.

Walking - and Candace, what we need to do is come up with a correlate for how many grams of carbon for walking a mile versus some of the others, because I think one could begin to develop economic costs. If you walk 1 mile a day, that saves \$2000 in healthcare costs, because that's going to be the argument that your employer's going to be looking for as we go forward. You've got pedometers today, 10,000 steps really does work. This is a study that was done -Jim Marx was the lead on this, or at least co-worked on it.

There were three different drugs they were trying in this diabetes study to turn around people that were becoming obesity-related diabetic. Drug 1, drug 2, drug 3, and then they said, "Oh, we'll try exercise," and they tried exercise. Guess which intervention had the fewest complications and was far and away

the most effective of anything they did? It was 10,000 steps a day. 60 percent reduction in the risk of diabetes. 5-8 percent loss of body weight. Nothing works as well for this disease.

So here's exercise. It's good for your heart, it's good for your blood pressure, it improves your sex appeal, it reduces your cancer and colon risk and all the rest, and if Pfizer could make it they'd sell it for \$10 a day, I guarantee you.

Here's the US and Canada. The Canadians walk and bike twice as much as we do, because they have that wonderful weather up in Calgary and these places. But then go to Europe and get off the plane and look around. These people look great. In fact, I even think this coming to New York when I was living in Atlanta, these people look great compared to living in Atlanta, so congratulations.

This is a dream that we could have if we had the right set of - and RPA, I want to just say this out loud, and the regional plan has made such an important contribution to the well-being of the people of this city. I hope new Yorkers realize the long-term benefits of this, and with the right plan, with everybody being able to at least safely walk and bike, because none of us want to do it if it's dangerous, would be the right thing. Can you put up with 4 more minutes?

Real quick. That's St. Andrew and Hudson, but now it's been purchased by the Culinary Institute. And the guy who was doing the study with the nurses, the 100,000 nurses, has been working with the CIA who do 10,000 trainings for chefs a year, and he's trying to get the American diet changed from a northern European farmer's diet, which is what we call the American diet, to more of a south eastern, where oils and south eastern Asia, oils and meat are used as condiments rather than main food, and it's really been successful in terms of producing chefs that can produce high-quality food.

We have absolutely got to change the stuff we're loading into our kids, both into their minds, just some of the young people in this room, twice as many ads on TV. Your little niece, if she watches cartoons for 4 hours on a Saturday morning sees 200 food advertisements doing those 4 hours. And I guarantee you, very few of them are for California Raisins.

This is the food pyramid, right, most of us were taught - well, guess what television tells your kids to eat. This is the television food pyramid. You see no green and no blue, no vegetables and no fruit. It's just stuff that any parent would worry very much about.

Our state and I think New York City, you've moved on junk food in the schools, and soft drinks? If not, you've got to do it, because the first thing the obesity doc says is you've got to get rid of the junk food and soft drinks. Governor went forward with that. We had a campaign to really substitute good quality food

into the schools and the cafeterias and the rest, partly because the state makes a lot of this stuff. And to begin to demonize DOOF. Doof is Food spelled backwards, and if you eat a lot of doof, you know what you end up being.

And this demonization works. It absolutely worked with tobacco. Demonizing the tobacco companies really worked. It made me unpopular when I was in Sacramento, but it nevertheless worked. This is the giant in the closet on a lot of this stuff. You did not eat high fructose corn sugar in 1970. This was scarcely in our diets. The average per capita consumption is now 63 pounds. That's how we've gone from 3000 calories in our diet to close to 4000 calories per day in our diet.

I was in a meeting where the soft drink industry was saying, "Oh, if you exercise enough you can burn off all that additional high fructose corn sugar," so I Blackberried the governor's office while they were talking, and I said, "You can put a treadmill in your office and walk 477 out of your 2000 work hours a year, and you can burn off all that high fructose corn sugar." Clearly, we have to turn down the dial on high fructose corn sugar.

So you as planners share in our public health ambition to create and assure conditions where people can be healthy. We're not going to order them to be healthy, but we're at least going to give them the conditions where they can be healthy. One thing I want to push - we've got \$1.50 a pack cigarette tax on our November ballot, but on the next ballot, I want a penny a teaspoon tax on high fructose corn sugar. In my state alone, it would generate \$2 billion a year. And I don't want one damn nickel of that going to stomach stapling surgery. Seriously, I want it to go for safe routes to schools, school lunches, school gardens, community gardens, support farmer's markets, support mom & pop stores; they've got more than just beer in the refrigerator. Let's figure out ways we can create and invest in prevention, and let's get up at the front-end of the pipeline on this whole thing.

I think this'll get through, by the way. So all of this has been depressing - here's the optimistic story. With a change in tobacco taxes and tobacco education in our state, we went from 130 packs a year to 44 packs a year. Can you imagine that? Look at this slide. If someone had said to me, "Dick, you'll see a 20 percent decrease in lung cancer in just the first five years of this century," I would've said, "That's impossible. We wouldn't see the benefits that fast."

Everyone in this room has lost a friend to lung cancer. A 20 percent decrease, just by taxing it, educating, and demonizing.

Candace is the lead on this website, it's an excellent one, the cdc.gov, healthy places, and you can connect to a lot of those as well. I'm doing this talk at a big meeting in LA, but it's co-sponsored by the

Department of Transportation, Housing, Education and the rest. Riverside County - a lot of our big counties have gone back and they're redoing the general plan. The general plan is the plan for the entire county or sometimes the region to include walkability. Riverside's now hired 3 fulltime public health staff to do nothing but bird-dog the planning agencies and beat them up about walkability and human health. It is absolutely a real investment because you can't just dip in and out once in a while, you've got to be there and really arguing these issues. I'd love to have every cardiologist who takes care of a mayor, or even a urologist who takes care of a supervisor, while they've got their total attention, to begin to insist on highly walkable, healthful communities. But we're very much at the tipping point in our state.

Here's my last slide. I've been teaching a course on the built environment in health, and one of the sessions was on places of the heart. Latino students said, he was doing a presentation, he goes, and "A place of the heart is a place that is full of life. It ought to have food and music, people of many different ages, and they ought to be able to walk around." We always had a place we could go off and smooch, and I liked that too.

And then a young woman said, "When I moved to San Francisco I had a broken heart," and she said, "I was there with all that vibrancy, and I was walking along the Embarcadero with people rollerblading and holding hands, and it healed my broken heart." She said, "Everybody gets broken hearts during their lives, and I think if you create places of the heart, you can treat broken hearts." I think that would be a nice place to stop with this talk. Thank you very much.

[APPLAUSE]

RICK BELL: We have as a special gift, Dick, for you coming all this way, something called Place Notes which is produced at the University of Texas in Austin, and talks about all the wonderful places you could walk to. It has a picture of a big, spiral ramp that wasn't in the slides before, somewhere on 5th avenue in a building by Frank Lloyd Wright; we have one of these for each of our speakers. But I wanted to thank you especially; you've come the furthest and spoken the longest. I wish it could even be longer.

What I was going to do now I will not do, which was with all the notes I've been taking, summarize everything everybody's said and essentially repeat it. that would be unfair, both to Dick in trying to follow a presentation that cogent, so instead of doing that I'm just going to thank all the speakers, thank you all for coming, and just reprise what Commissioner Frieden said for those of you who were not here when he delivered his opening remarks. And that was the importance of understanding the devastating implications of societal change.

As Dr. Jackson spoke about the time we spend in front of the computer, the time we spend in front of a TV, and the need to engineer the built environment - I like the word "engineer," but I wish he'd said "plan" or "architect" it, to promote physical activity, that physical activity can have dramatic effects.

Lynn Silver, in kicking off the first panel, challenged the panelists and in fact all of us to answer the question, how can we build and organize our city to increase physical activity. I think in different ways each of the panelists did that, I won't reprise what they said, but we will in some ways put all these presentations on our website or make them accessible in some manner, so these are not just for those few, those fortunate, those of you who have taken the time away from the workday to be here. And for that I thank you a lot.

[APPLAUSE]

Lastly, the speakers are invited to stay on, we don't have lunch for everybody, because we're not eating a lot I guess [LAUGHS]. But the speakers are invited to lunch upstairs in the library, as well as some of the agency folks who have joined us just now. Thank you.

[END OF TAPE]