

## New York City's Active Design Guidelines: *Translating Research into Policy and Practice*

Karen K. Lee, MD, MHS, FRCPC

Deputy Director, Bureau of Chronic Disease Prevention and Control,  
NYC Dept of Health and Mental Hygiene



# OBJECTIVES



- 1) To share the NYC strategic approach for initiating changes in the built environment to promote physical activity.
- 2) To share lessons learned about the process of developing the NYC Active Design Guidelines.
- 3) To give an overview of the Guidelines.
- 4) To share plans for dissemination and implementation of Guidelines.

# ENVIRONMENTAL DESIGN HELPED CURE NYC'S 19<sup>TH</sup> C. EPIDEMICS AND IT WILL HELP SOLVE THE 21<sup>ST</sup> C. EPIDEMICS



## THE 19th CENTURY:

Infectious disease

19th Century codes, planning and infrastructure as weapons in the battle against contagious disease.

These strategies were built into the city fabric, and they were effective.

## THE 21st CENTURY:

Chronic Diseases, many of which are “Diseases of Energy”

The emerging design solutions for health parallel sustainable design solutions.

Effective designs will have to be an invisible, pervasive, and inevitable part of life.

# URBAN CONDITIONS WERE A BREEDING GROUND FOR 19<sup>TH</sup> CENTURY EPIDEMICS



J. SEIBERT'S REVISIONARY  
[Signed, Photo Photograph by Arthur J.]

## **Over-crowding:**

By 1910, the average density in lower Manhattan was 114,000 people/ sq. mi; two wards reached densities > 400,000. (Today's density: 67,000/ sq. mi.)

+

**Inadequate systems** for garbage, water, and sewer, leading to pervasive filth and polluted water supplies.

## **Major epidemics:**

Air/droplet-borne diseases:  
**TB**

Water-borne diseases:  
**Cholera**

Vector-borne diseases:  
**Yellow-fever**

# NYC'S 19<sup>TH</sup> & EARLY 20<sup>TH</sup> CENTURY URBAN DESIGN AS A RESPONSE TO THE ENVIRONMENTAL ASPECTS OF EPIDEMICS



1842 New York's **water system** established – an aqueduct brings fresh water from Westchester.

1857 NYC creates **Central Park**, hailed as “ventilation for the working man’s lungs”, continuing construction through the height of the Civil War

1881 Dept. of Street-sweeping created, which eventually becomes the **Department of Sanitation**

1901 **New York State Tenement House Act** banned the construction of dark, airless tenement buildings

1904 First section of **Subway** opens, allowing population to expand into Northern Manhattan and the Bronx

1916 **Zoning Ordinance** requires stepped building setbacks to allow light and air into the streets



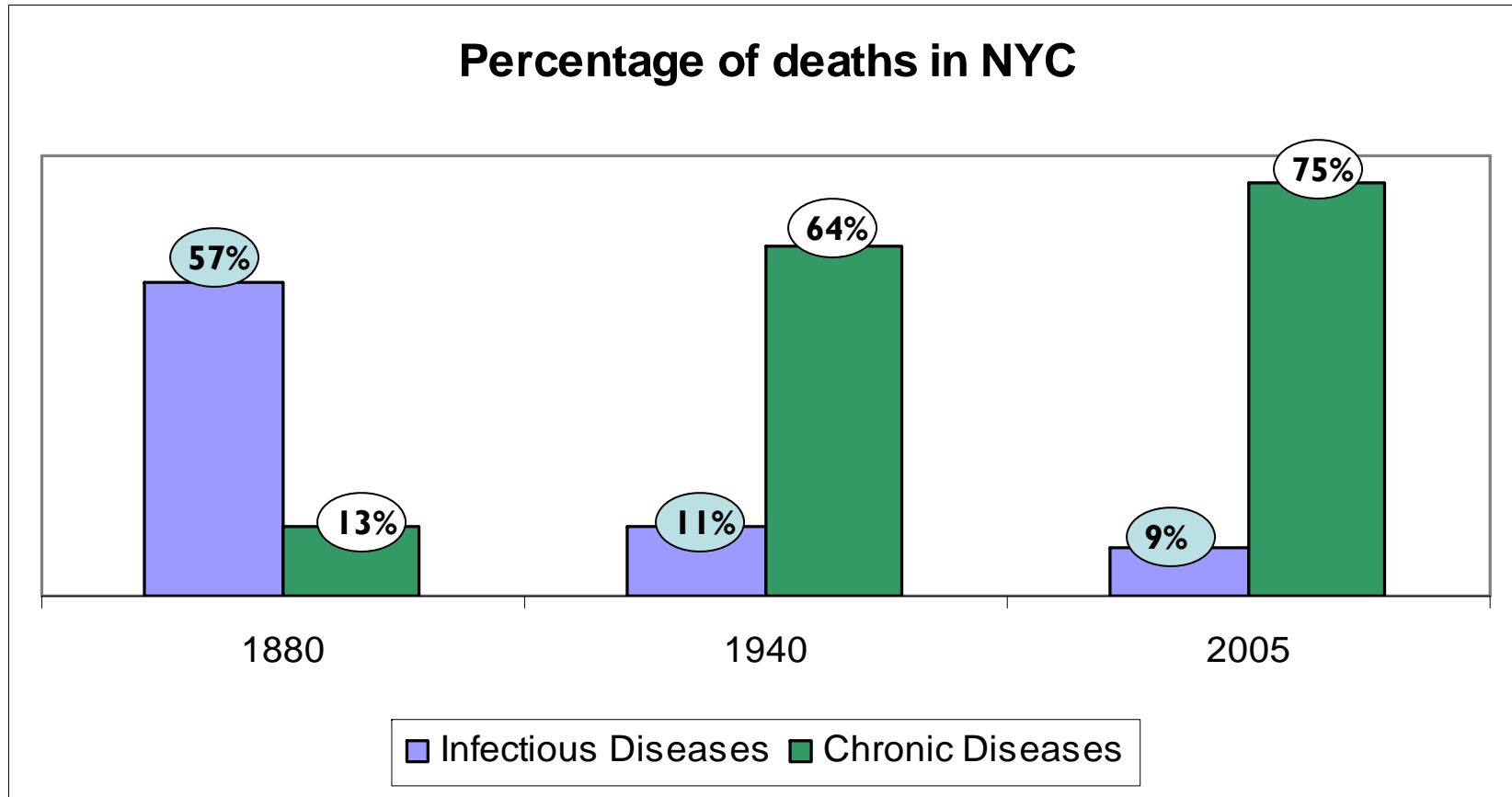
BY THE 1940'S THESE STRATEGIES COMBINED WITH MEDICINE HAD "CONQUERED" INFECTIOUS DISEASE IN NYC.



<b>Deaths</b>	<b>1880</b>	<b>1940</b>
<b>Infectious Diseases</b>	<b>57.1%</b>	<b>11.3%</b>
- Contagion	12.5%	0.2%
- Diarrhea	9.6%	0.5%
- Tuberculosis (TB)	20.8%	5.0%
- Pneumonia	13.2%	5.6%
- Typhoid	1.0%	0.003%

Today, ~9% of deaths in NYC are due to infectious diseases.

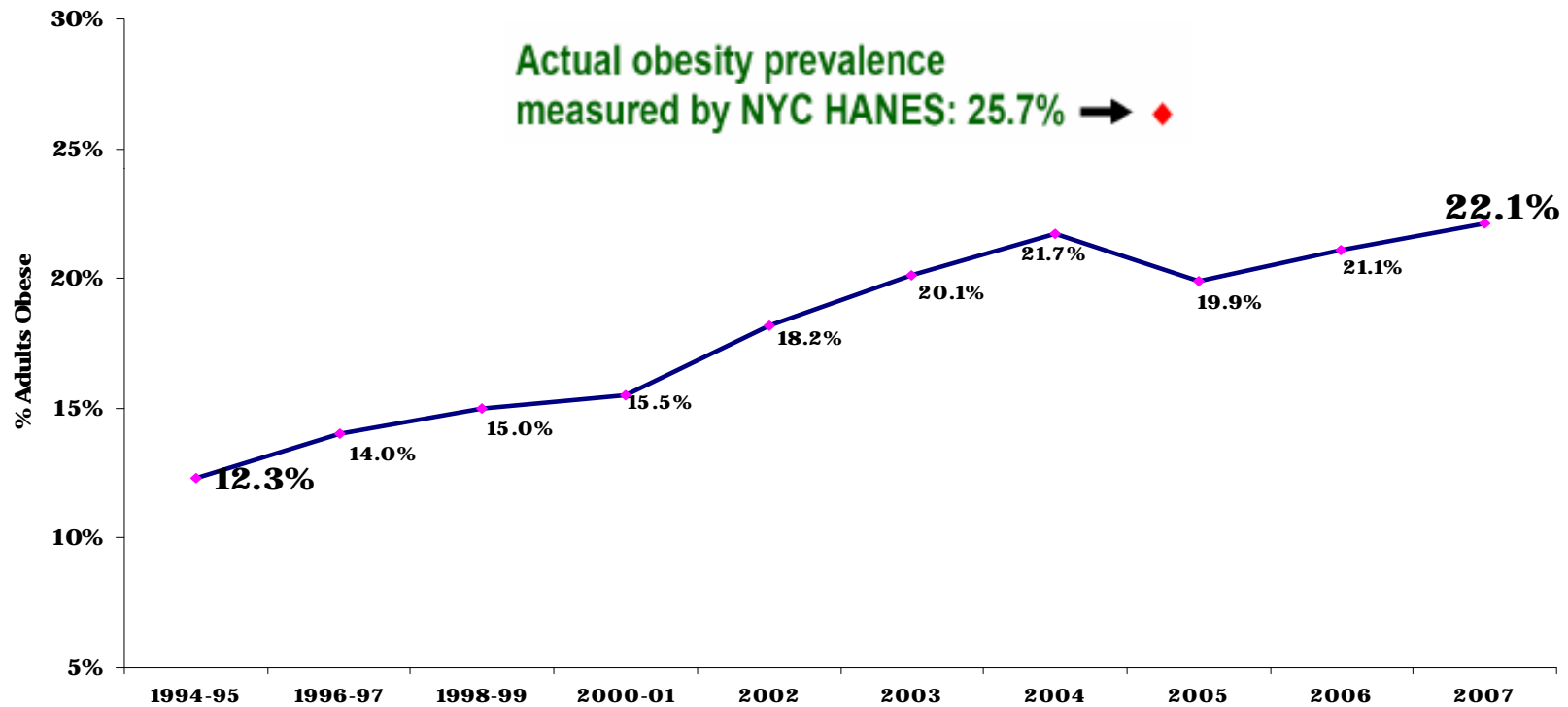
# CHRONIC DISEASES OF HAVE NOW REPLACED INFECTIOUS DISEASES AS THE PREDOMINANT CAUSE OF DEATH IN NYC



**Physical inactivity and unhealthy diets** are second only to **tobacco** as risk factors for premature death in the U.S.

# EPIDEMIC OF OBESITY IN NYC

## Adults with Self Reported Obesity, 1994-2007

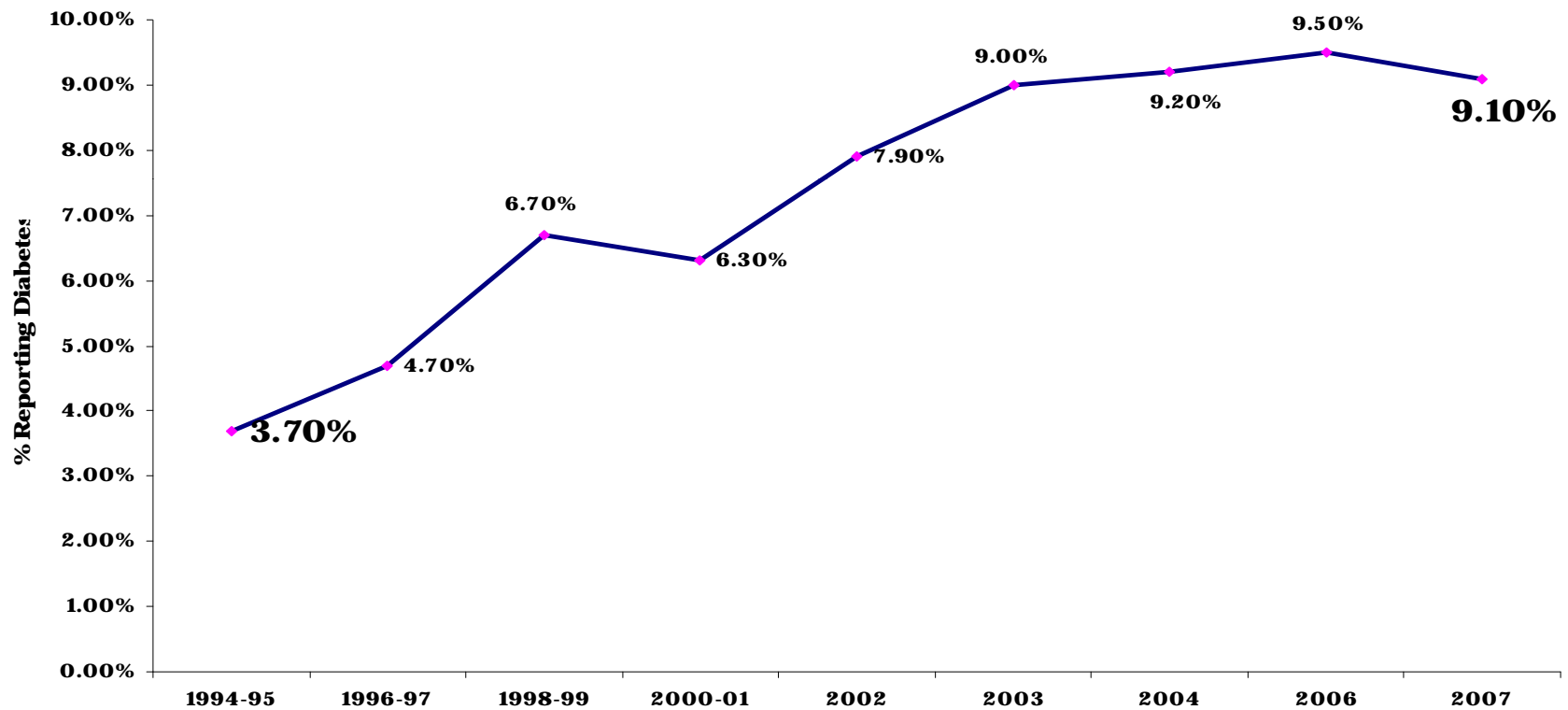


Sources: Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention, 1994-2001; NYC Community Health Survey, New York City Department of Health and Mental Hygiene, 2002-2004; NYC Health and Nutrition Examination Survey, New York City Department of Health and Mental Hygiene, 2004

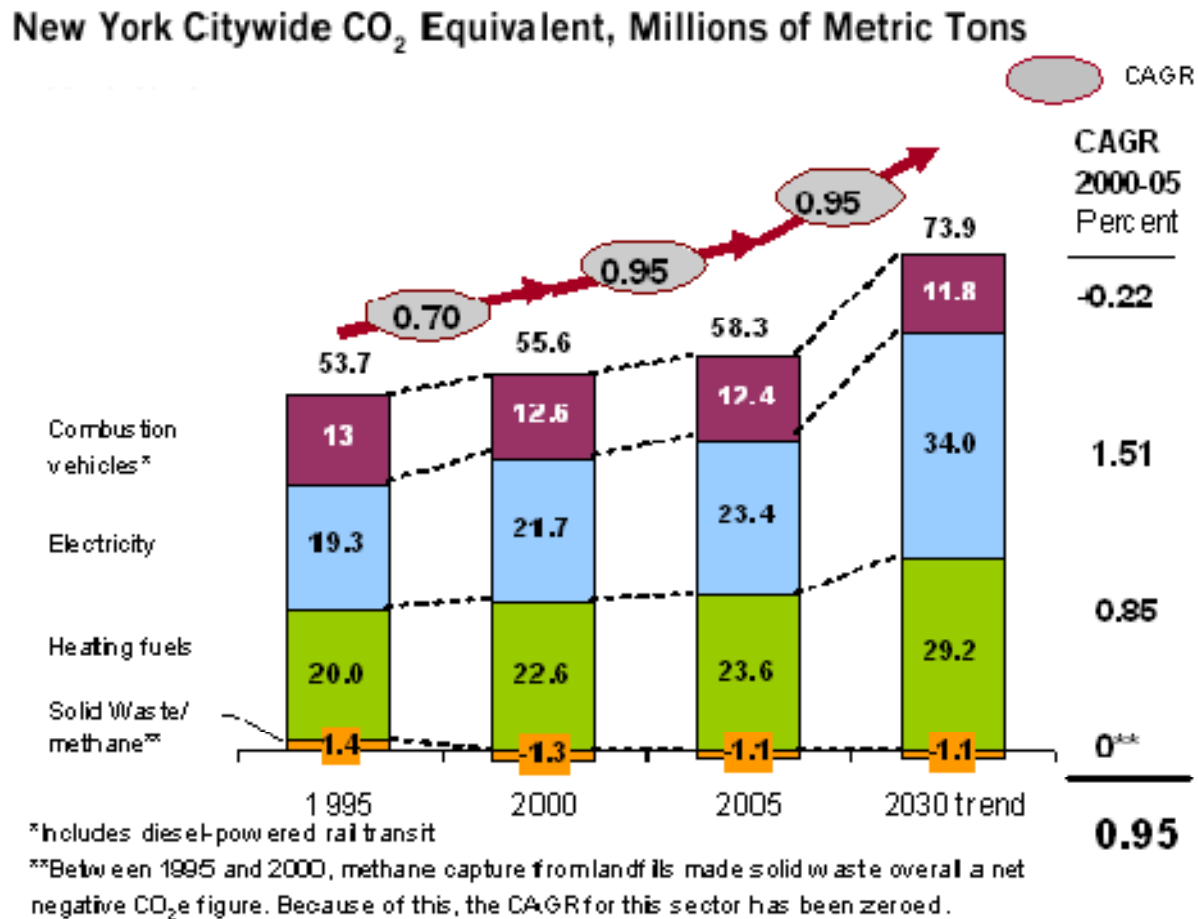


# EPIDEMIC OF DIABETES IN NYC

## *Adults with Self Reported Diabetes, 1994-2007*



# Carbon emissions have increased over the same time period



Source: PlaNYC 2030,

[http://nyc.gov/html/planyc2030/html/emissions/emissions\\_ourdata.shtml#citywide](http://nyc.gov/html/planyc2030/html/emissions/emissions_ourdata.shtml#citywide)



# HEALTH AND ENVIRONMENTAL SUSTAINABILITY ARE LINKED



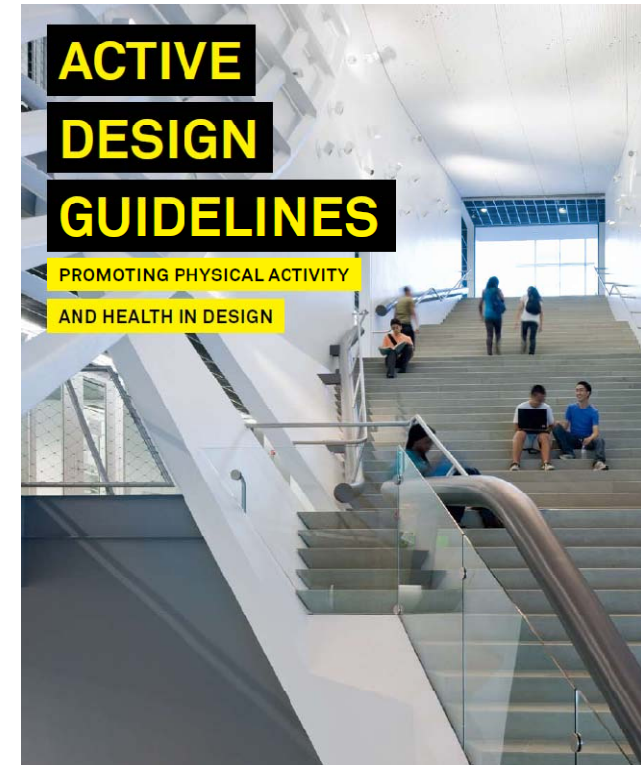
	Fuel / Electricity Use +/- Waste Generation	Obesity/Diabetes
Using automotive transport rather than biking or walking	√	√
Taking elevators and escalators rather than stairs	√	√
Watching television rather than engaging in physical activity	√	√
Drinking bottled and canned beverages rather than tap water	√	√
Eating highly processed/packaged foods rather than fresh local produce	√	√

# NYC ACTIVE DESIGN GUIDELINES



[www.nyc.gov/adg](http://www.nyc.gov/adg)

- Guidelines for physical activity promoting design
  - 4 Chapters:
    - 1) Lessons from PH History
    - 2) Urban Design Strategies for Streets and Neighborhoods
    - 3) Building Design Strategies
    - 4) Synergies with Environmental Sustainability and Universal Design
- NYC DOHMH working with DDC, DOT, DCP, AIANY, academics
- Draft of Guidelines feasibility-tested among architectural and planning practitioners in a workshop January 2009
- Launch January 27, 2010
- Implementation:
  - 1) Theme of Fit City 5 Conference (May 18, 2010);
  - 2) Trainings;
  - 3) City Policy Efforts



# The Use of Research:

## 1) Distinguishing Strength of the Evidence

### Evidence-Based

- Design strategies supported by a pattern of evidence from at least 2 longitudinal or 5 cross-sectional studies.

### Emerging Evidence

- Design strategies supported by an emerging pattern of research. Existing studies give reason to believe that the suggested environmental intervention will likely lead to increased physical activity.

---

### Best Practice

- Design strategies without a formal evidence base. However, theory, common understanding of behavior within the environment, and experience from existing practice indicate that these measures will likely increase physical activity.

# The Use of Research:

## 2) To Inform Implementation

### Baseline Survey of Architects (n=457)

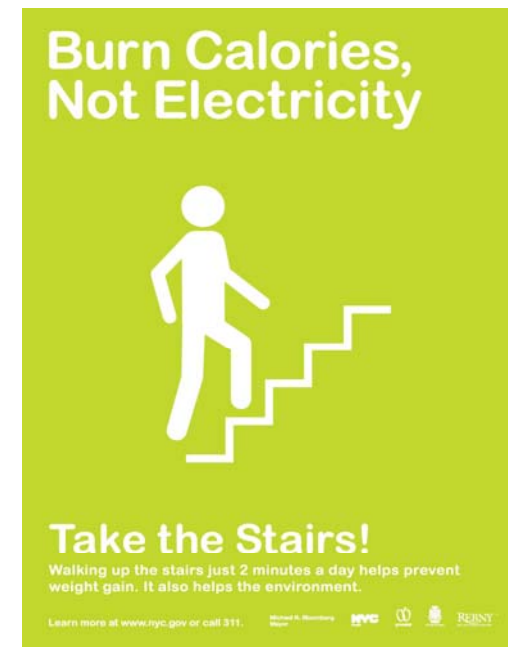
- **Source of New Information:**
  - Continuing Education Seminars – 86%
  - Architecture Industry Magazines – 84%
  - Websites – 73%
  - Guidelines – 56%
  - Research Journals – 32%
- **Design Factors Clients are “Somewhat” or “Very” Interested In:**
  - Energy Efficiency – 91%
  - Universal Accessibility – 83%
  - Indoor Air Quality – 78%
  - Other Aspects of Healthy Environment, incl. PA promotion – 64%
- **Architects’ Intentions in Design:**
  - Universal Design – 95%
  - Improve Air Quality – 84%
  - Increase PA – 45%

# ADDITIONAL BUILT ENVIRONMENT INITIATIVES IN NYC SUPPORT THE ACTIVE DESIGN GUIDELINES



- Annual Fit-City Conferences with AIANY, since 2006
- LEED Innovation Credit for Physical Activity for Green Building Certification – approved 2009
- “Burn Calories, Not Electricity” Stair Prompt Campaign
  - Launched May 2008
  - Free stair signs available by calling 311
  - >13,000 signs distributed to >300 entities
  - Evaluation: increased stair use at 9 months
- Further Implementation Activities for ADGs:
  - 1) CE Trainings for Architects and Planners
  - 2) Integration with City Policy Efforts
    - Use of Guidelines by City Agencies
    - Incentive Creation  
E.g. Zoning Incentives
    - Incorporation into Greening the City Construction Codes Report

<http://www.urbangreencouncil.org/greencodes/>



# Active Design Guidelines CHARRETTE

Center for Architecture January 2009

