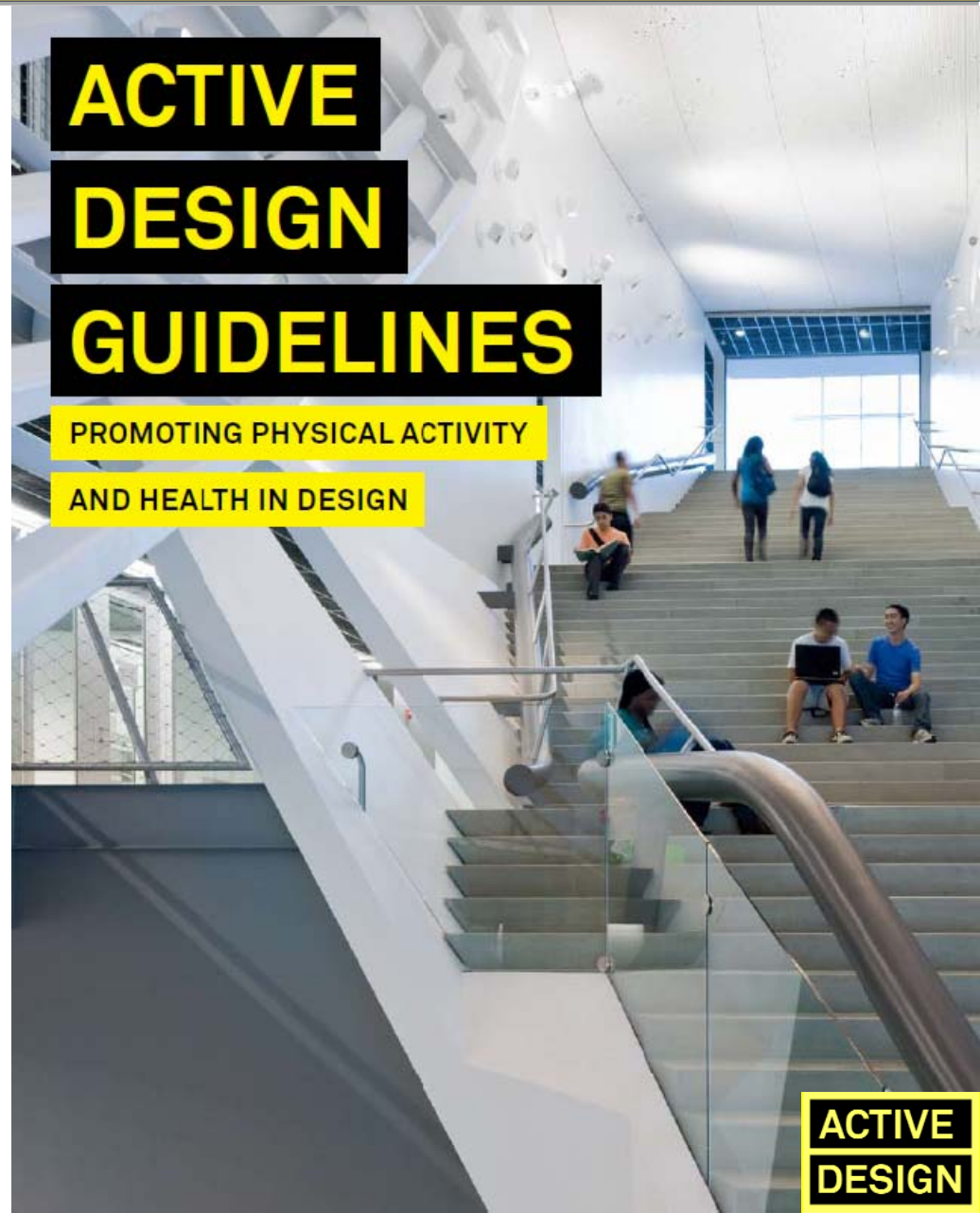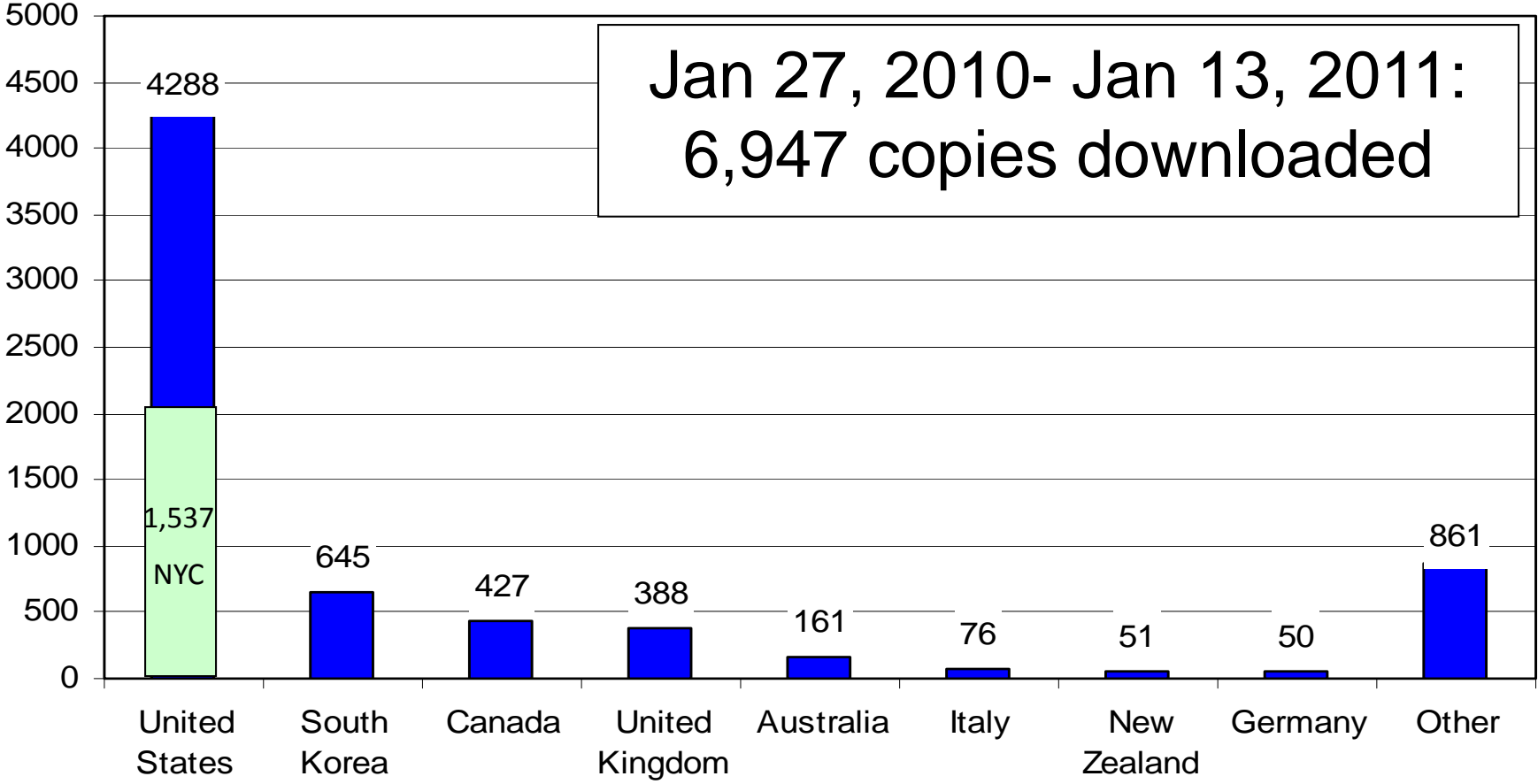# Evaluating the Active Design Guidelines

Karen K. Lee, MD, MHSc, FRCPC
Director, Built Environment
NYC Dept of Health and Mental Hygiene

Gayle Nicoll, PhD
Chair, Dept of Architecture
University of Texas at San Antonio

# Downloads of the Active Design Guidelines by Country

## Number of Downloads by Country

Jan 27, 2010- Jan 13, 2011: 6,947 copies downloaded

United States: 4288 (1,537 NYC)
South Korea: 645
Canada: 427
United Kingdom: 388
Australia: 161
Italy: 76
New Zealand: 51
Germany: 50
Other: 861

ACTIVE DESIGN

# Downloads of the Active Design Guidelines by Profession

**Profession**



- Other, 16%
- Researcher, 6%
- Student, 17%
- Landscape Architect, 6%
- Planner, 17%
- Health Professional, 7%
- Educator, 4%
- Architect, 27%

ACTIVE DESIGN
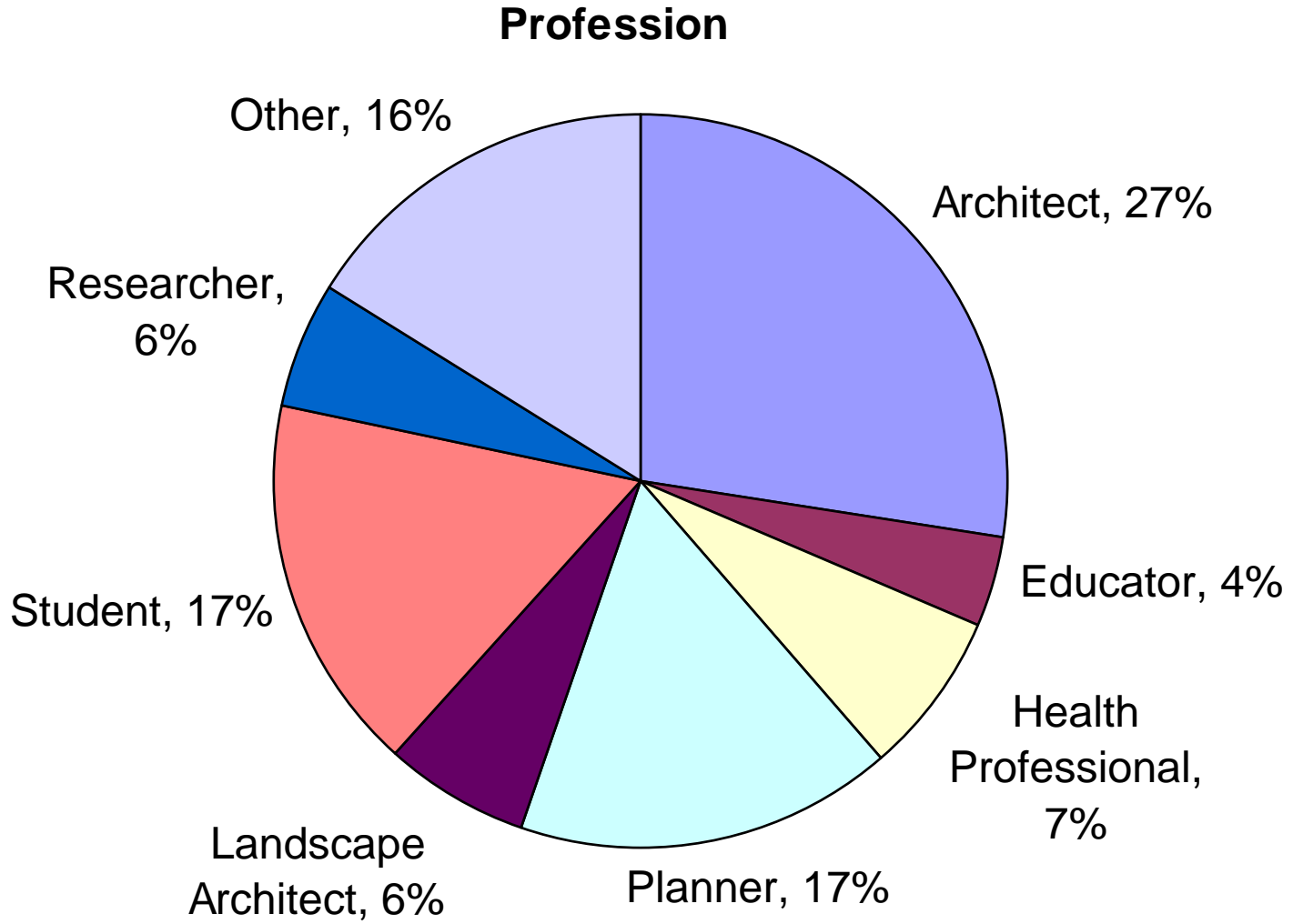
## Three Evaluation Components

- Surveys of >500 professionals pre-ADG and >500 post-ADG

- Baseline audits of 32 NYC Dept of Design and Construction (DDC) Building Projects

- Case studies of design teams on 4 DDC projects

ACTIVE DESIGN

# Surveys

- Architect survey pre- and post- (5 months) ADG release
- Evaluation assessed potential change in four domains
  - <u>Knowledge</u> of evidence linking the built environment and health
  - <u>Confidence</u> to implement ADG strategies
  - Implementation of ADG strategies (i.e., <u>self-reported practice</u>)
  - Perceptions of <u>clients' attitudes</u> toward active design
- Web survey sent to architects at AIANY and DDC
  - Wave 1: $N$ = 561
  - Wave 2: $N$ = 504
  - Response rate: 20% at both waves
- Demographics
  - Male: Pre: 79%; Post: 75%  (AIANY = 79%)
  - White, non-Hispanic: 78%; 81% (AIANY = 82%)
  - Age: 49.9; 51.2
  - Years licensed: 18.1; 19.6
  - AIA members: 93%; 94%

ACTIVE DESIGN

# Surveys

- Source of New Information:
  - Continuing Education Seminars – Pre: 86%; Post: 89%
  - Architecture Industry Magazines – 83%; 80%
  - Websites – 73%; 68%
  - **Guidelines – 56%; 54%**
  - Research Journals – 32%; 27%
- Design Factors Clients are "Somewhat" or "Very" Interested In:
  - Energy Efficiency – 91%; 93%
  - Universal Accessibility – 82%; 82%
  - Indoor Air Quality – 88%; 87%
  - Other Aspects of Healthy Environment, incl. PA promotion – 63%; 64%
- Architects' Intentions in Design:
  - Universal Design – 95%; 96%
  - Improve Air Quality – 84%; 84%
  - **Increase PA – 45%; 56%**

ACTIVE DESIGN

# Surveys

- Post-ADG: **19% reported using ADGs**

- Pre- to Post-ADG:
  - **Knowledge** of evidence linking the built environment and health
    - Strategies to increase stair use (correct knowledge **increased** from 27% to 32%, *p<.05*)
  - **Confidence** to address physical inactivity, obesity, chronic diseases
    - Addressing risk behaviors and conditions such as physical inactivity and obesity ("somewhat confident" or greater **increased** from 48% to 52%, *p<.05*)
    - Addressing chronic diseases such as heart disease and diabetes ("somewhat confident" or greater **increased** from 27% to 32%, *p<.05*)
  - **Self-reported practices**
    - Consciously incorporating design elements to increase physical activity (**increased** from 45% to 56%, *p<.01*)

**ACTIVE DESIGN**

# Surveys

Regression analyses examined whether exposure to Active Design Guidelines or Conferences (Fit City or ADG Launch) predicted higher scores on:

- **Confidence** to address physical inactivity or obesity
  - Participants who read the ADGs and who attended ADG-related conferences scored one point **higher** (on a scale of 1 to 5) compared to those who were not exposed to either ("somewhat confident" compared to "a little confident").
  - Conferences had twice the impact as the ADGs.

- **Self-reported advocacy** of active design to clients
  - Participants who read the ADGs and who attended ADG-related conferences rated client interest one-half point **higher** (on a scale of 1 to 5) compared to those who were not exposed to either.
  - Conferences had triple the impact as the ADGs.

ACTIVE
DESIGN

# Surveys

Regression analyses examined whether exposure to Active Design Guidelines or Conferences (Fit City or ADG Launch) predicted higher scores on:

- **Client interest** in design strategies that promote physical activity
  - Participants who read the ADGs and who attended ADG-related conferences rated client interest one-half point **higher** (on a scale of 1 to 5) compared to those who were not exposed to either.
  - <u>Conferences and ADGs</u> had similar impact

- **Self-reported implementation** of design strategies that increase physical activity
  - Participants who read the ADGs and who attended ADG-related conferences rated client interest one-third point **higher** (on a scale of 1 to 5) compared to those who were not exposed to either.
  - <u>ADGs</u> had more than double the impact compared to conferences.

- Exposure to other types of active design documents (Fit City conference reports) did not significantly predict key outcomes.

**ACTIVE DESIGN**

# Pre-ADG Building Audits

- 32 (of 78) DDC public sector building projects over 3 years
- Active Design strategies were not well-represented in public sector project designs completed prior to the release of the ADG
- Strategies related to accessible stair use showed higher prevalence compared with other strategies:
  - 68% had placement of stairs closer to the entrance than the elevators
  - 58% had grand stairs or open stairs
- 38% had stairs with windows
- One building implemented stair prompt signage
- 29% had dedicated spaces for recreational exercise
- 13% (4 buildings) had bicycle storage units

## Comparison of Stairs & Elevators in Existing and New Buildings

| | Pre-1970 buildings (n = 19) | New Buildings (2006-2008) (n = 13) |
|---|---|---|
| **Average Number of Stairs per Multi-level Building** | 3.3 stairs | 3.6 stairs |
| **Average Number of Elevators per Multi-level Building** | 1.5 elevators | .9 elevators |
| **Stair Positioned Before Elevator** | 63% (10 of 16 buildings of more than one story) | 43% (3 of 7 buildings of more than one story ) |
| **Grand or Open Stairs** | 69% (11 in the 16 buildings of more than one story) | 57% (4 in the 7 buildings of more than one story) |
| **Average Number of Stairs with Windows per Multi-level Building** | 1.4 stairs with windows per multi-level building | .9 stairs with windows per multi-level building |
| **Exercise Rooms** | 21% (4 of 19) | 38% (5 of 13) |

ACTIVE DESIGN

# Post-ADG Design Team Case Studies

- Design teams were generally positive about the ADGs and use them as a road map from which to proceed with their designs from the outset as well as a tool against which they can check their design proposals.

- Occupant culture, building function, and the design beliefs of a designer shape the successful incorporation of active design strategies.

- Designers would like a "face" to the ADGs that they can turn to for guidance or help, and there is some desire for there to be an interactive and savable digital format for the ADG.

- While the ADGs are generally well received as an idea, designers and their clients have not yet reached a consensus on their potential dollar cost impacts.

ACTIVE
DESIGN

# Limitations

- Response rate of 20% (though much higher than previous AIANY surveys and sample appeared representative on limited number of demographic factors available from AIANY membership).

- Anonymous survey – therefore samples were 2 cross-sectional samples rather than longitudinal samples from pre to post.

- Short time frame between release of ADGs and post survey - may not have been enough time to show more or larger impacts.

# Conclusions

- From surveys, the majority of architects say they acquire new knowledge from continuing education conferences, architecture industry magazines, websites and guidelines; only a minority use research journals.

- Architects and their clients are most interested currently in issues of energy efficiency and universal accessibility; therefore, addressing synergies with these issues is likely helpful.

- Although completed only 5 months after the release of the ADGs, the post-ADG surveys showed small but significant increases in:
  - architects' knowledge of evidence-based stair strategies;
  - confidence in addressing physical inactivity, obesity and chronic diseases;
  - intention to incorporate physical activity promoting design elements.

ACTIVE
DESIGN

# Conclusions

- Exposure to Active Design through reading the ADGs and/or attendance at ADG-related conferences are associated with increased confidence, self-reported advocacy on active design to clients, client interest in active design and self-reported implementation of active design strategies.

- Baseline audits suggest that there is room for improvement in public sector building designs for physical activity promotion.

- Case studies suggest that design teams lack consensus on potential cost impacts of implementing active design strategies into projects.

ACTIVE
DESIGN