



Active Living Research

Building the Evidence to Prevent Childhood Obesity and Support Active Communities

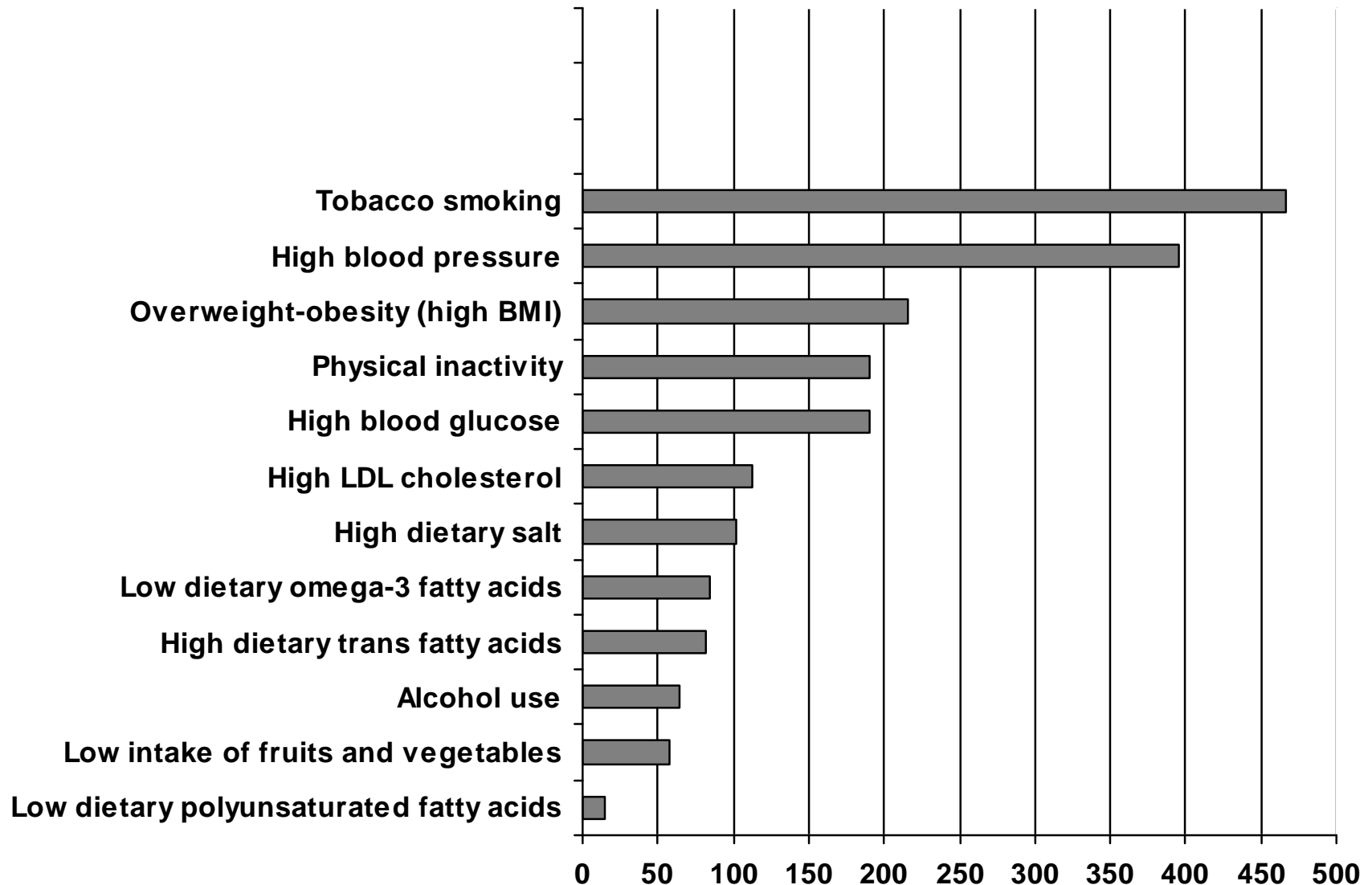
Welcome to Active Living Research 101

James F. Sallis, Ph.D., Active Living Research, UCSD
Anne Vernez Moudon, Dr es Sc, U of Washington

Goals of ALR 101

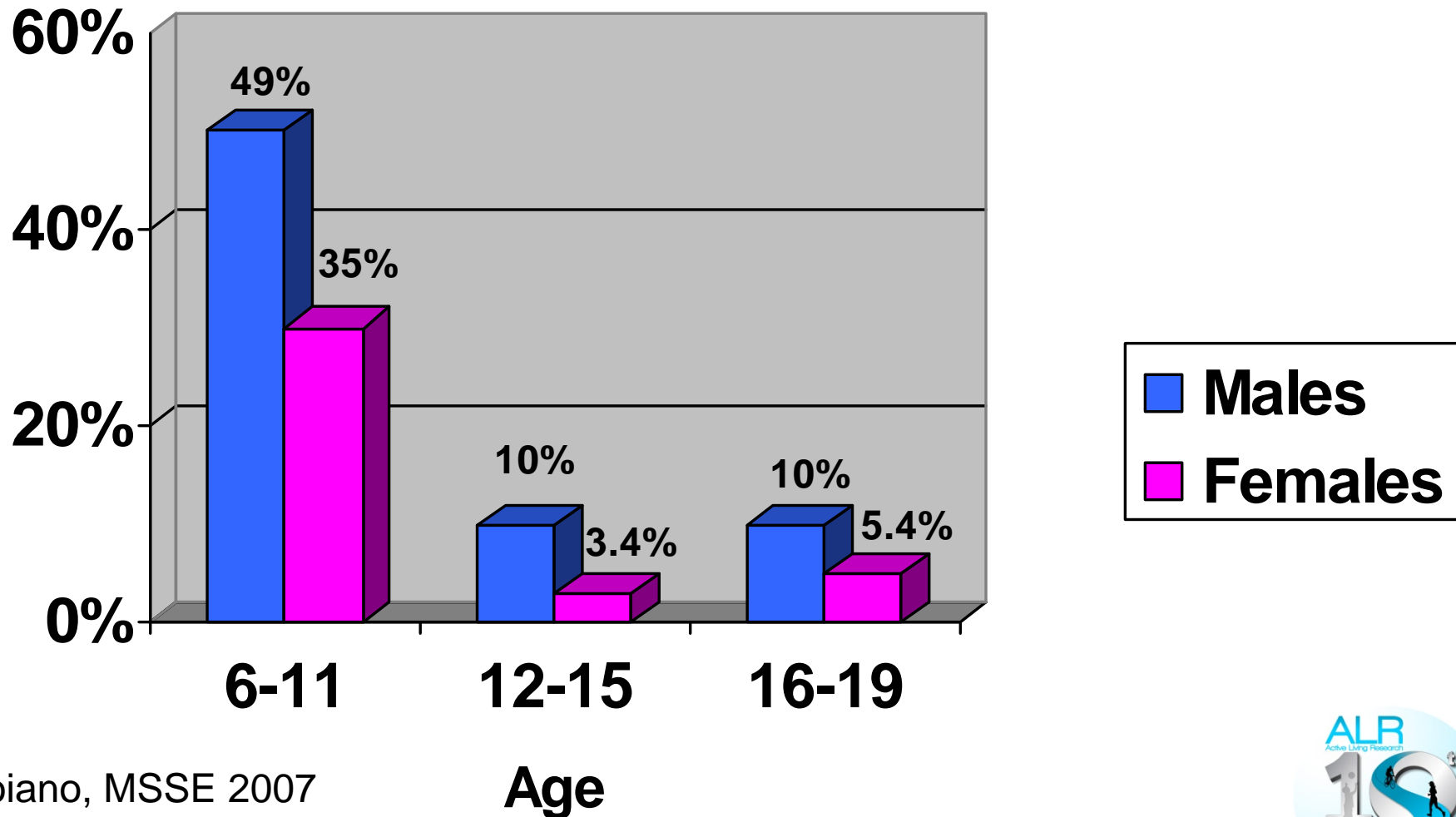
- Why focus on active living?
- Why focus on environments & policies?
- Goals of ALR
- What ALR does
- Who is involved in ALR
- What ALR has accomplished
- Current activities
- How can you participate in ALR?

Deaths (thousands) attributable to individual risk factors in both sexes



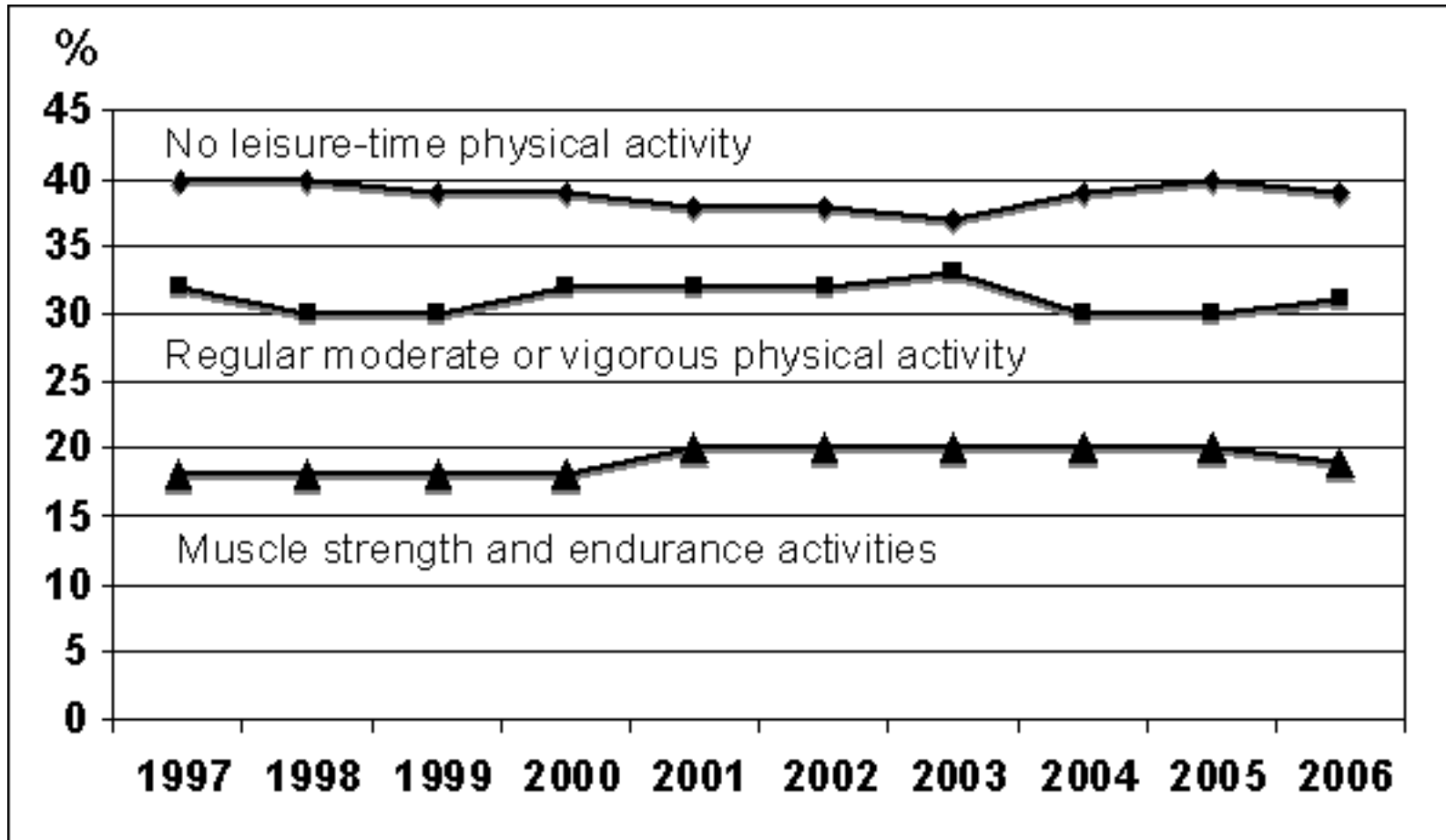
**Percentage of youth ages 6-19 meeting 60 min/day
physical activity guidelines.**

Based on accelerometers. NHANES 2003-4



Troiano, MSSE 2007

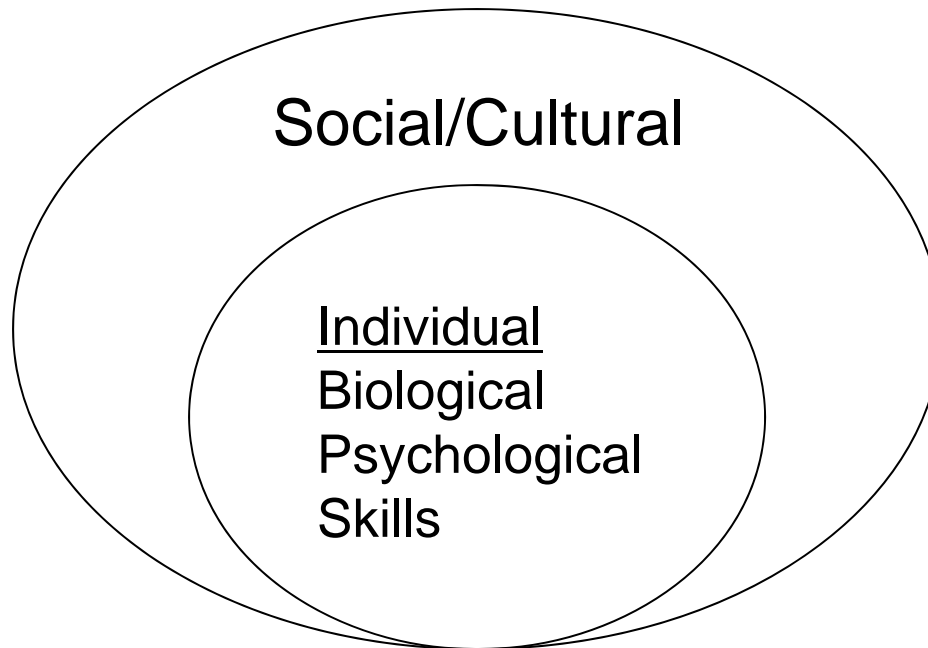
How are we doing in promoting PA?



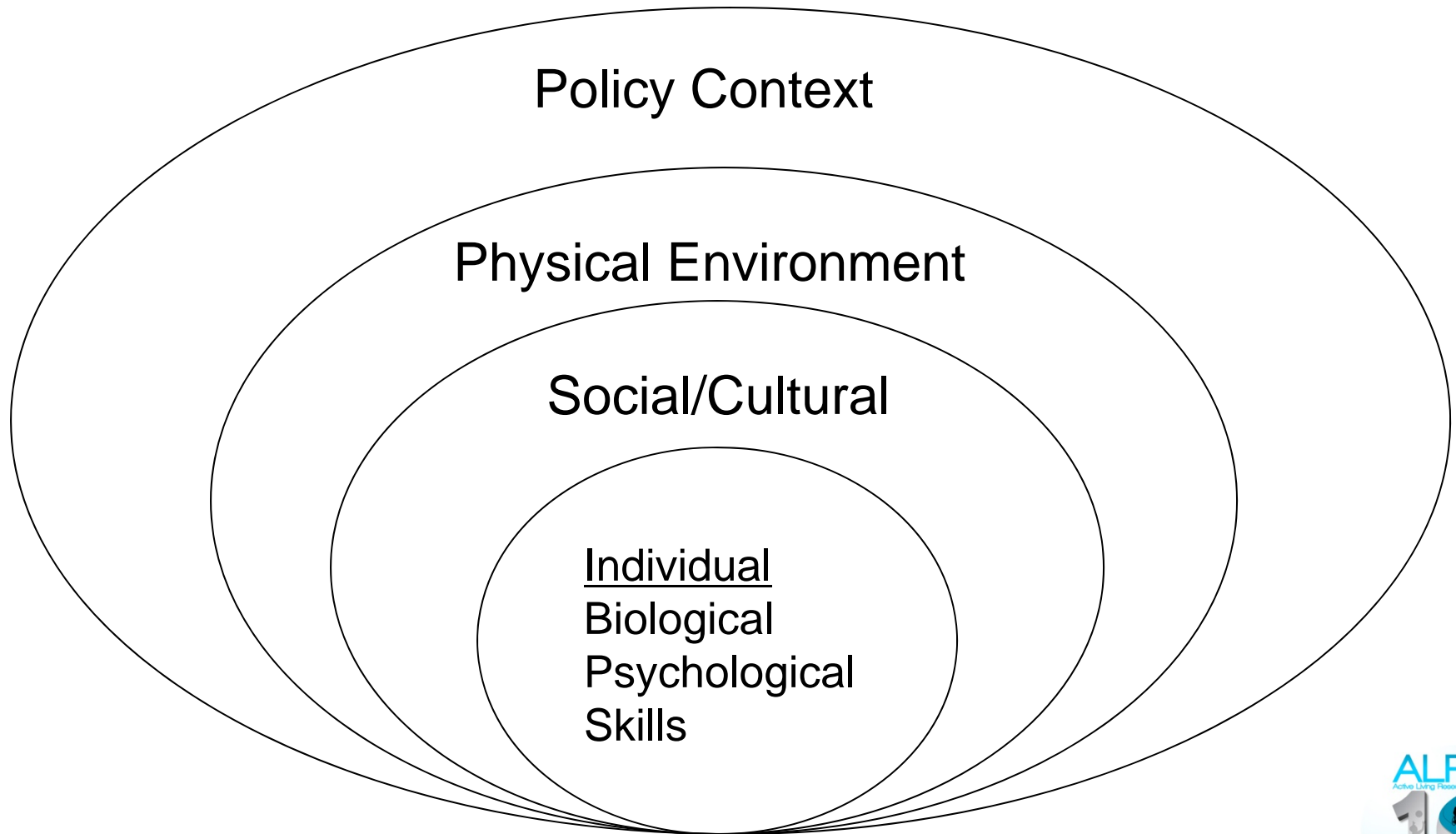
Reported Physical Activity by Adults in the USA: 1997-2006 The Healthy People 2010 Database

Healthy People 2010 Database (DATA2010) for men and women combined

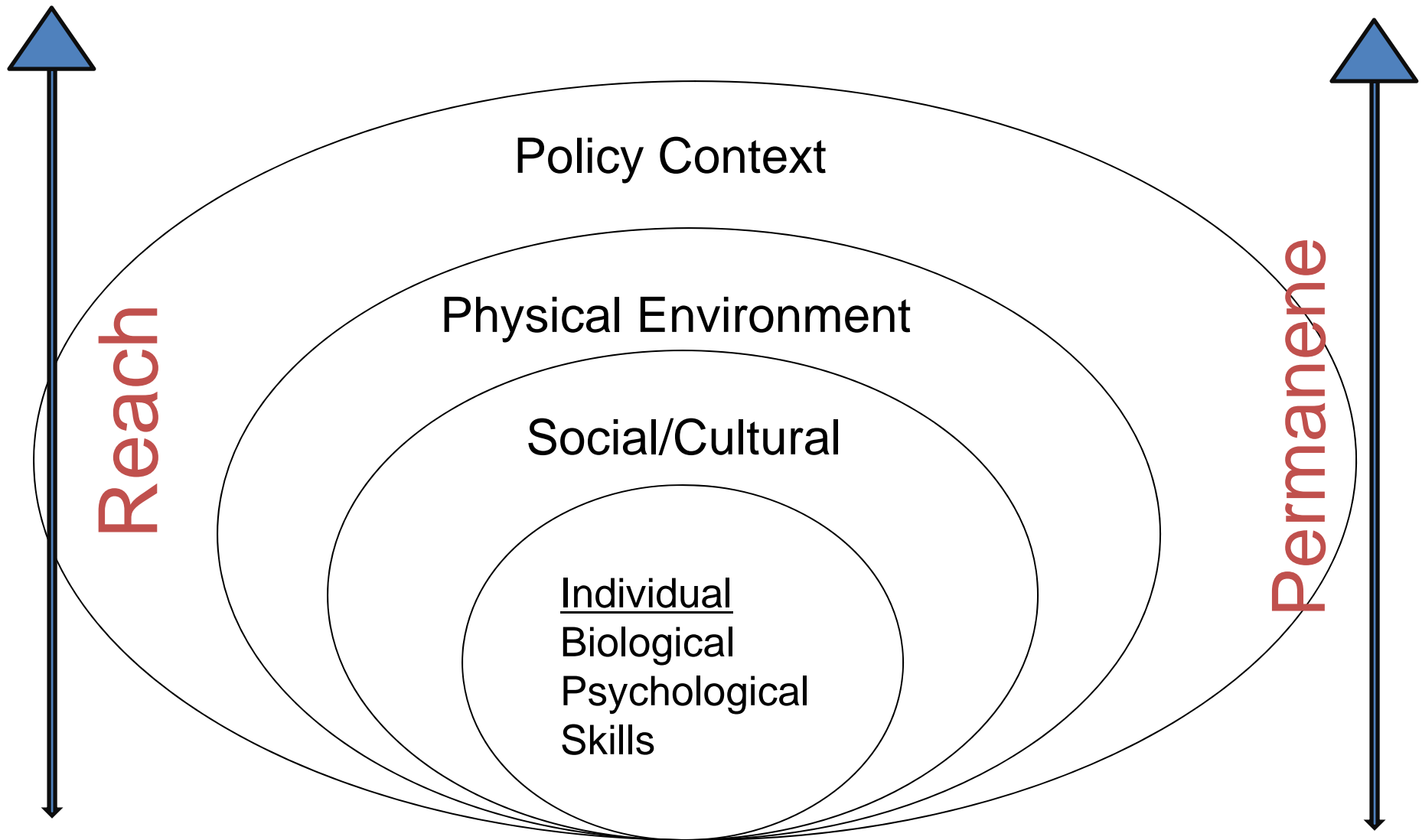
Most Models of Health Behavior



An Ecological Model of Health Behavior



An Ecological Model of Health Behavior



Practical Policy Rationale for PA Environment & Policy Research

- IOM, CDC, Surgeon General, AHA, WHO, National PA Plan, and many other groups recommend policy changes as essential for improving PA, diet, and obesity.
- Policy initiatives with the intent to change PA and obesity are occurring in governments, school districts, and industry.
- Evidence is needed as a basis for this work

Elements of An Active Living Community

**Comm Design
Destinations**



Transportation System

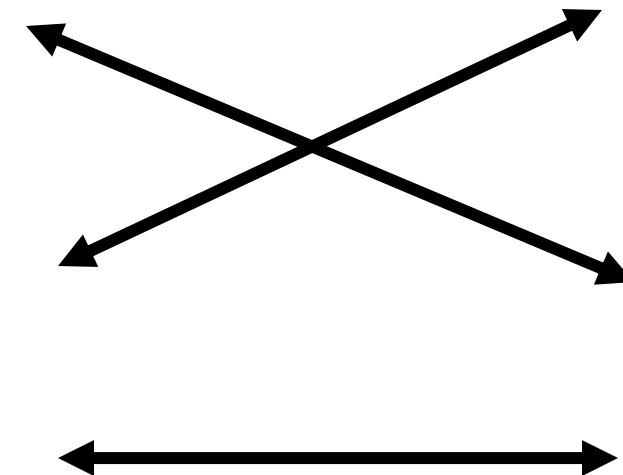
Home



School & Preschool



Park & Rec



Active Living Research

Goals: 2001-2015

- Establish a strong research base
 - Administer a \$28 million research budget
 - Contribute to reversing childhood obesity
 - Focus on ethnic, racial, & income groups at highest risk of obesity
- Build a transdisciplinary & diverse field of researchers
- Stimulate & inform policy change
 - Primary goal for 2012-2015

Phases of ALR

- **1: 2001-2007.** Part of RWJF's active living initiative. Focus on whole population
- **2: 2008-2012.** Part of RWJF's childhood obesity initiative. Focus on youth, especially groups at highest risk
- **3: 2013-2015.** Focus is on translating new knowledge to changes in policy and practice

Building Evidence

- Calls for proposals 1-10 & Rapid Response
 - Funding rates, 8%-25%. Higher for dissertations
 - 220 grants funded. Almost 400 papers published
- Conference
 - Only venue for all relevant disciplines to come together
 - Highly competitive abstract selection
 - Best papers in journal supplement with wide distribution
- Website
 - Free access to journals & conference slides
 - Measurement resources
 - Literature searches; article database

Progression of Research

- Begin with measurement development
- Correlational studies, because randomized trials are rarely possible
- Understanding environmental disparities
- Rapid response grants to evaluate policy & environment changes
- Economic studies because \$ drives decisions

Evaluation of Active Living Research 2001-2011 (mostly since 2007)

Marjorie Gutman, PhD
Dianne Barker, MHS

“ALR has probably done more to move this whole field of active living forward than anything before or anything that has come since.”

Number of Competitive Grants by Topic Area

Note: Grants could be coded in multiple categories.

	ALR I (n=91)	ALR II (n=117)
Built Environment	65	46
Health, Economics, Policy Process	4	29
Recreation	24	26
Schools	18	65
Social Environment, including crime, disorder	11	31

- In the 2006 evaluation, 26% of grantees were people of color.
- In the 2011 evaluation, that increased to 34%
- ALR supported 12 New Connections grantees 2007-2011

2011 Grantee Survey Respondents by Race/Ethnicity

Grantee Race/ethnicity	%
American Indian/Alaska Native	2
African American	9
Asian	10
Latino/Hispanic	9
Multiple race/ethnicity	3
White	66

Field Building: Cultivating New Relationships

- Architecture
- Environment & Behavior
- Geography
- Landscape Architecture
- Parks & Recreation
- Planning
- Transportation
- Criminology
- Economics/Law/Policy
- Advocates/Polycymakers



Building a Transdisciplinary Field

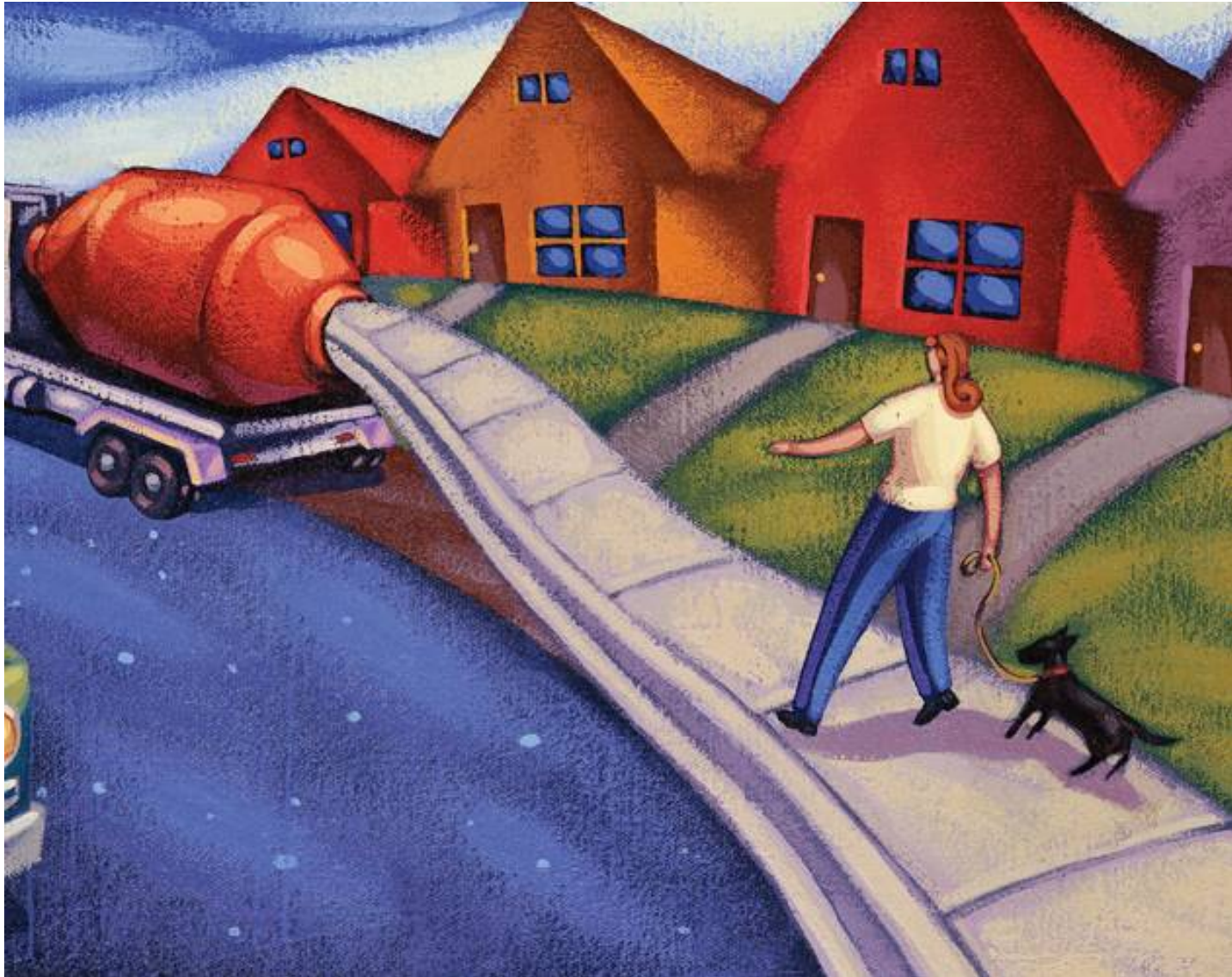
- Multidisciplinary advisory committee
- Recruiting non-traditional partners through talks at conferences
- Broad distribution of Calls for Proposals
- Seminar Program with many organizations to bring speakers from other fields
- Principal Investigators from 25+ fields

ALR Conference Evaluations:

75-95% rated 4 or 5 across years

Conference Goals
Stimulated ideas likely to lead to changes in my research
Learned new concepts from another discipline likely to enhance my work
New contacts might lead to collaboration
Builds capacity to conduct transdisciplinary studies

Research is not easy to put into practice



Communicating Results: Getting the word out

- Website: about 12,000 visits per month
 - Research briefs are widely downloaded
 - Participate in MOVE blog
- Webinar series: www.dialogue4health.org
- ALR Newsletter: sign up
- Facebook, Twitter, Youtube

Translating Research into Policy

- Regular input from policy makers on research priorities & communication strategies
 - DO policy-relevant research
- Research briefs for policymakers & advocates
- Sessions at ALR Conference with policymakers
- Research Translation Grants to communicate results from ALR grants
- Lay summaries of ALR journal articles & grants

2013 Conference Breaks New Ground

- Presentations & workshops invited from practitioners & researchers
- Practice/policy and research presentations integrated in same sessions
- Dual keynotes: from Policy & Research worlds
- Goals
 - Practitioners & policy makers generate new research ideas
 - Researchers communicate useful findings

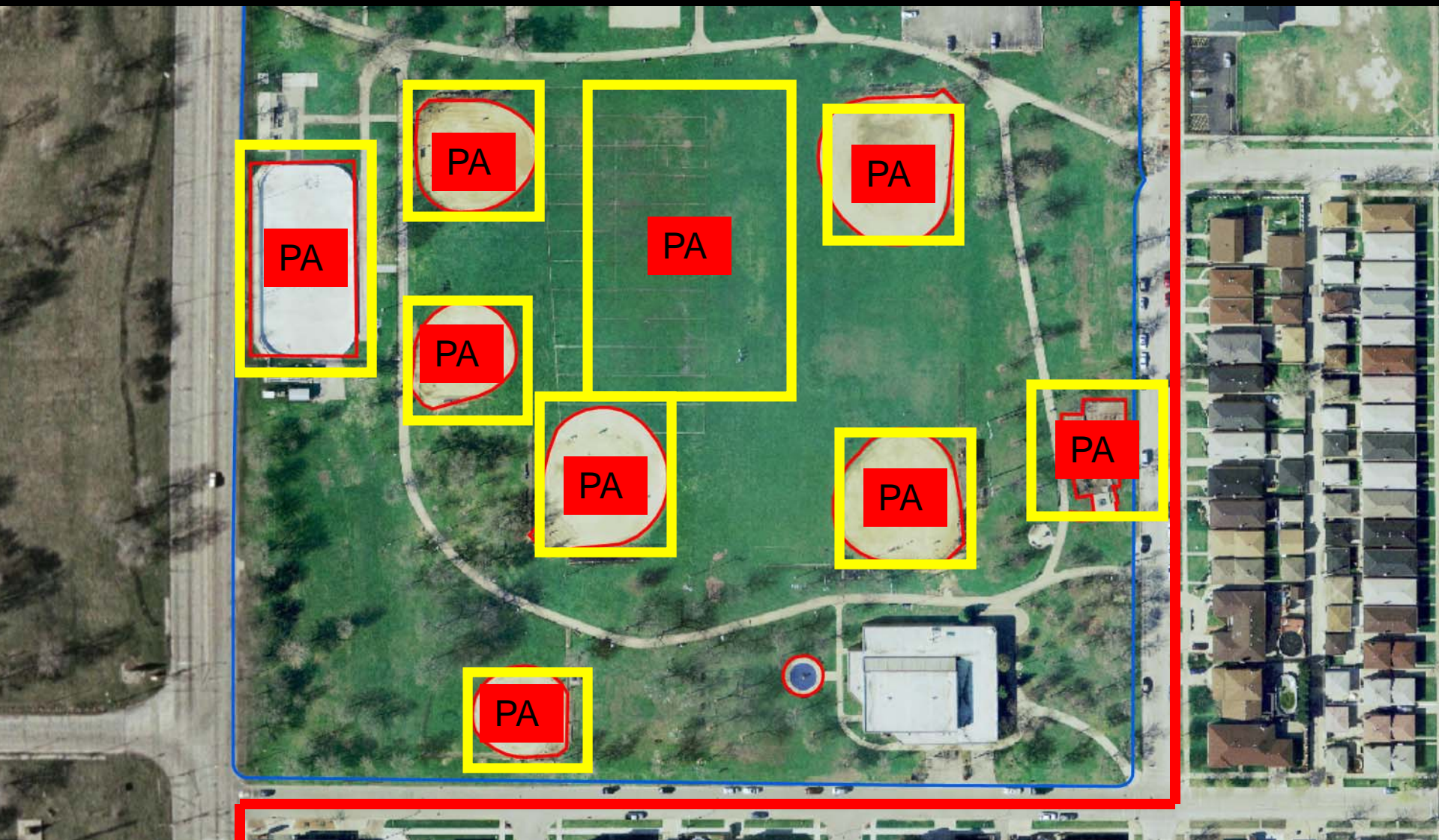
Examples of ALR Studies and Impact

How can parks be
designed to
optimize active



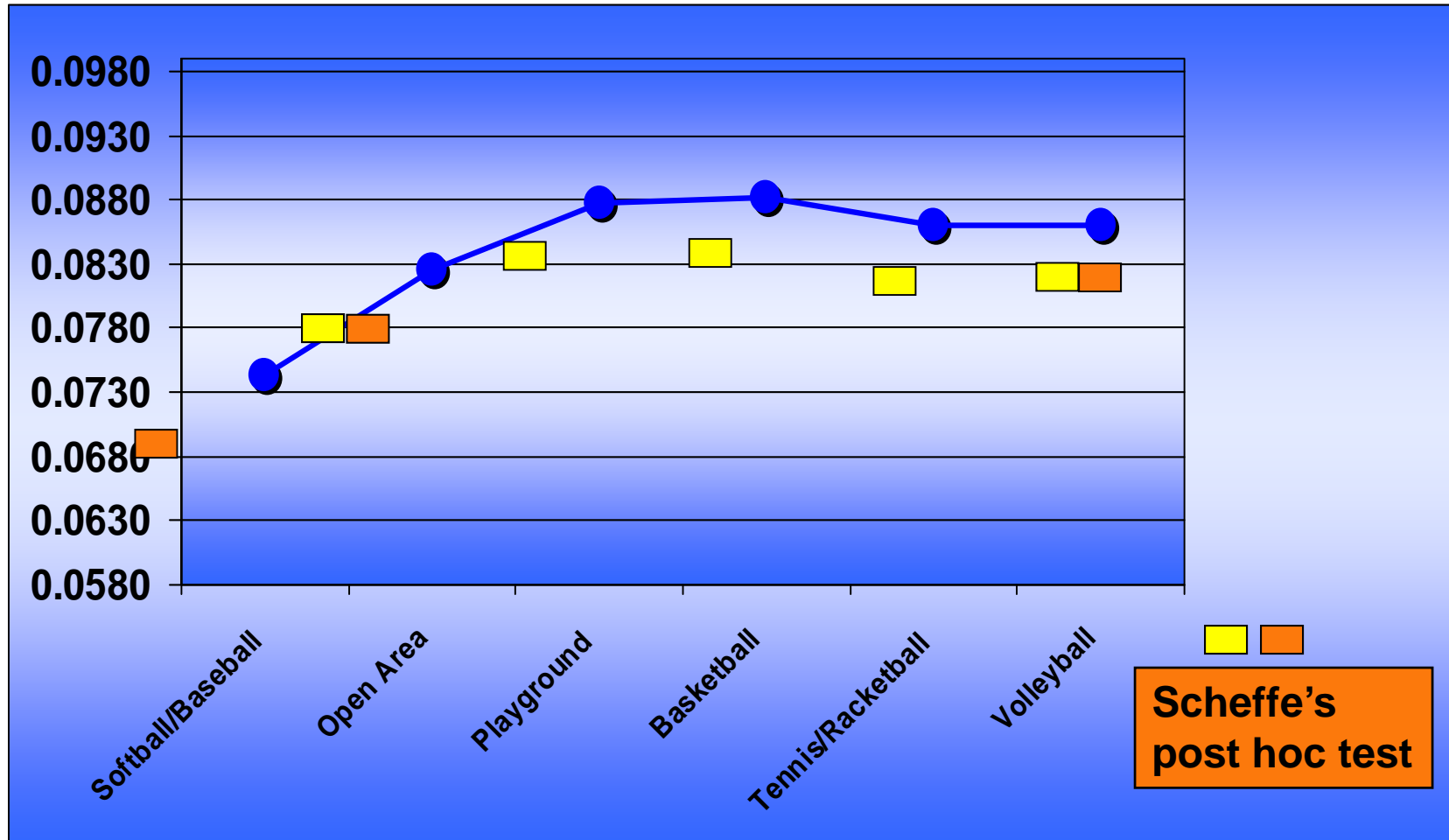
Myron Floyd. NC State U

Type of activity zones in parks
Are related to PA



Mean Energy Expenditure by Park Activity Zones

Energy Expenditure
(Kkcal/kg/min)



Chicago, $F = 10.20, p < .001$

ALR research is making a difference in communities


- Study of environmental factors related to active living in rural youth helped obtain Safe Routes to School Funding in Mississippi communities
- Evaluation of family fitness zones in parks led to Trust for Public Land support for 40 more installations in LA County
- Study finding poor pedestrian access to parks in DeKalb County, GA, led parks director to build sidewalks and realize “access is as important as acres”


What we know through ALR-funded research on built environment

Baltimore

- Interviews with African American high school students
- Key environmental barriers to PA
 - Lack of places for PA
 - Crime, violence, drugs
 - Unsafe places for PA

ADOLESCENT MATTERS
Issues Focus



SPRING 2008

CENTER for
ADOLESCENT
HEALTH

**BALTIMORE CITY'S PARKS AND RECREATION CENTERS:
AN UNDERUTILIZED RESOURCE FOR URBAN TEENS**

Baltimore City's system of more than 300 city parks and 45 recreation centers offers urban youth 6,000 acres of green space and plentiful ways to exercise their bodies and minds.

The opportunities for physical activity found at parks and recreation centers are more important than ever for Baltimore's youth. Obesity rates in the city are rising, especially among adolescents. Eighteen percent are overweight, according to the 2007 Youth Risk Behavior Surveillance Survey. Moreover, green spaces may help young people think more clearly and

cope more effectively with life's stresses.

Baltimore City youth are not using indoor and outdoor public spaces for physical activity as much as they could. Only 35 percent of adolescent girls in the BALTS study report they frequent recreation centers, as opposed to 52 percent of boys. Park usage is 54 percent for the girls and 66 percent for the boys surveyed.

The BALTS study of 350 high school students in Baltimore documented what draws teens to Baltimore's parks and recreation centers and what drives them away.

ABOUT THIS STUDY


Material for this Issues Focus comes from a survey of 350 youth ages 14 to 18 from two Baltimore City public high schools, 48 in-depth interviews with these youth, and observations of recreational facilities. The study, conducted by Amy Vastine Ries, was part of the Baltimore Active Living Teens Study (BALTS), led by Carolyn Voorhees of the University of Maryland.

{ "There's a lot of glass. There's trash and needles and things. You have to have somebody clean up and walk the entire field before you can do anything. It's really more trouble than it's worth." —Young man, 15 }

TEENS SAY PARKS ARE NOT SAFE, PRETTY, OR CLEAN

	% agree
Parks are not safe.*	38
There are unsafe people at parks.	49
Parks are not pretty.*	38
Parks are not clean.*	50
Parks have the facilities that I like to use.	45
Parks are poorly maintained.	45
Parks get a lot of use*	44

*Item has been reversed



ALMOST HALF OF TEENS HAVE USED PUBLIC RECREATION CENTERS

	% agree
I use recreation centers for physical activity.	42
Recreation centers are open when I want to use them.	40
It is too expensive to use recreation centers.	15
Recreation centers have facilities I like to use.	60

ACKNOWLEDGEMENTS

The Center for Adolescent Health is a member of the Prevention Research Centers Program, supported by the Centers for Disease Control and Prevention

cooperative agreement number 1-U48-DP-000040. Additional funding for this project is provided by The Charles Crane Family Foundation, The Sigmund and Barbara K. Shapiro Fund, the Robert Wood

Johnson Foundation Active Living Research Program (Grant # 55761 and Grant # 52338).

Authors:
Jayne Blanchard, Amy Vastine Ries, PhD

What we know through ALR-funded research on built environment

Rural Mississippi, Kentucky, South Carolina and California

- Input from children & parents
- Barriers to activity
 - no shoulders on roads
 - heavy truck traffic
 - no access to school grounds
 - lack of parks
 - lack of safety, crime and wild animals





What PE is—
too often

What PE should be



What we know through ALR-funded research on PA/PE in schools

Mississippi and Tennessee:

- Wellness policies are actively resisted because of schools' exclusive focus on academic achievement
- Physical Education (PE) is marginalized by all actors in education
- High school PE teachers are much more concerned about varsity sports than PE

What we know through ALR-funded research on PA/PE in schools

Texas

Evaluation of State Law on PA and Coordinated School Health Policy

- 97% of principals & district officials are aware of physical activity requirements
- 179 average minutes of structured student physical activity per week
 - Exceeding the 135 minutes required by the bill
- Strong implementation of policy was due to support from local community organizations

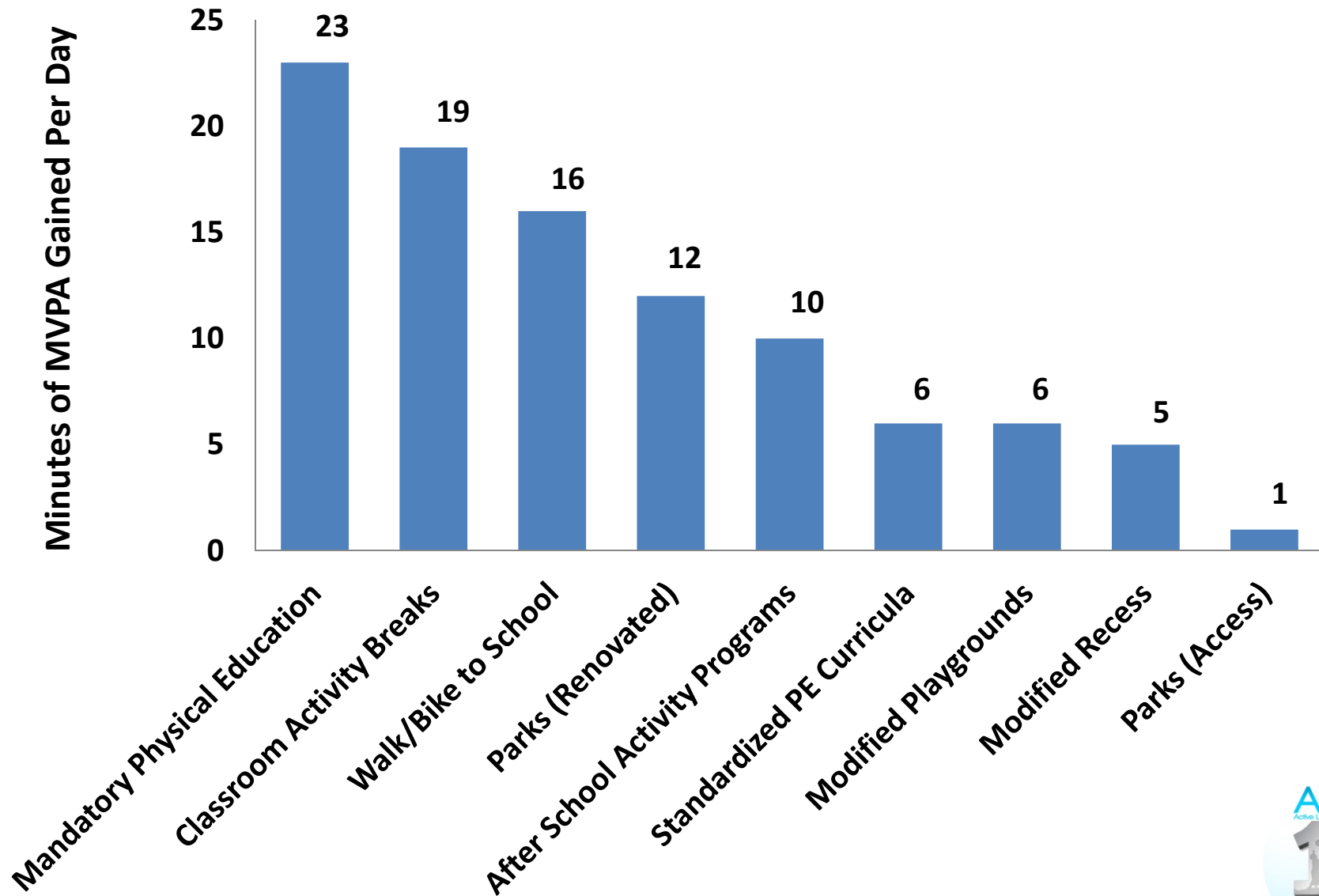
Estimated Energy Expenditures for School-Based Policies and Active Living

David R. Bassett, PhD, Eugene C. Fitzhugh, PhD, Gregory W. Heath, DHSc, MPH,
Paul C. Erwin, MD, DrPH, Ginny M. Frederick, MS, Dana L. Wolff, MS,
Whitney A. Welch, MS, Aaron B. Stout, MS

(Am J Prev Med 2013;44(2):108–113)

- ALR Commissioned Analysis
- Substantial media coverage
- Lay summary on ALR website

Bassett et al. Am J Prev Med. 2013



ALR research is making a difference in schools

- Evaluation of converting schoolyards to community parks in low-income Denver neighborhoods helped achieve passage of a \$48M bond issue to convert all schoolyards in Denver
- Study of School Wellness Policies on physical activity in rural Colorado Schools led to a \$1.8M grant from CO Health Foundation to improve PE in 14 schools in San Luis Valley
- Presentation of an evaluation of MA policy requiring 60 minutes of physical activity in preschools led to NC legislature passing a similar law. Grantee got CDC contract to develop a guide for states on how to develop similar policies

Research Briefs & Syntheses

- Parks
- Economic benefits of open space & walkable communities
- Transportation policies
- Active travel to school
- Power of Trails
- Active education
- After school programs
- School PA policies
- Playgrounds
- Environmental disparities
- Recess
- **New:**
 - Counting bikes & peds
 - Classroom activity breaks
- Bicycle interventions (coming soon)

Examples of ALR Policy Input

- Supported ALR grantees to testify at Congressional hearing on transportation
- Participated in House staff briefing on physical activity, PE, & academic achievement
- Additional briefings with Congressional & DOE staff on reauthorization of education & transportation bills
- ALR is considered a “co-author” of New York City’s Active Design Guidelines
- ALR brief was sent to all members of transportation committees

ALR Seminars to Policy & Practice Groups

- Indian Health Service
- American Educational Research Association
- State of Environmental Justice in America
- American Society of Criminology
- Urban Affairs Association
- Society for Research on Child Development
- Community Indicators Consortium
- New Partners for Smart Growth
- National Planning Conference
- National Initiative for Children's Healthcare Quality
- National Medical Association
- National Hispanic Medical Association
- ProWalk/ProBike
- National Council of La Raza
- Education Commission of the States
- National Society for Physical Activity Practitioners in Public Health

Our research is being used

- Let's Move
- CDC: Communities Putting Prevention to Work (\$200M)
- CDC: Community Transformation Grants (\$100M)
- Health Dept capacity
- Foundation projects
- NIKE Designed to Move

9, 2010

line

Sports Life

By Shilpa Kambhampati, AP

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call of 200,000

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USA TODAY interview

First lady says: 'Let's move' on child obesity



By Alex Brancaccio, AP

Getting the program rolling: Michelle Obama helps students from Washington's Bancroft Elementary School harvest sweet potatoes from the White House garden Oct. 29.

Obama's mission: End problem in a generation

Today, the self-described "mom in chief" is launching Let's Move, a campaign to help other parents deal with a national health problem that describes in epic terms.

The goal: to eliminate childhood obesity in a

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By Thomas Fratz

USA TODAY

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How can I participate in ALR?

- Stay informed and interact through social media, MOVE blog, webinars, newsletter
- Meet 20 new people during the conference & be open for new collaborations
- If practitioner, learn about and use evidence in your work
- If researcher, get study ideas from practitioners
- If researcher, do policy relevant research, and communicate your findings to lay audiences

**From the City Planning and
Transportation fields:**

**CONCEPTS AND PRACTICES
THAT CONTRIBUTE TO ACTIVE LIVING**

SMART GROWTH PRINCIPLES

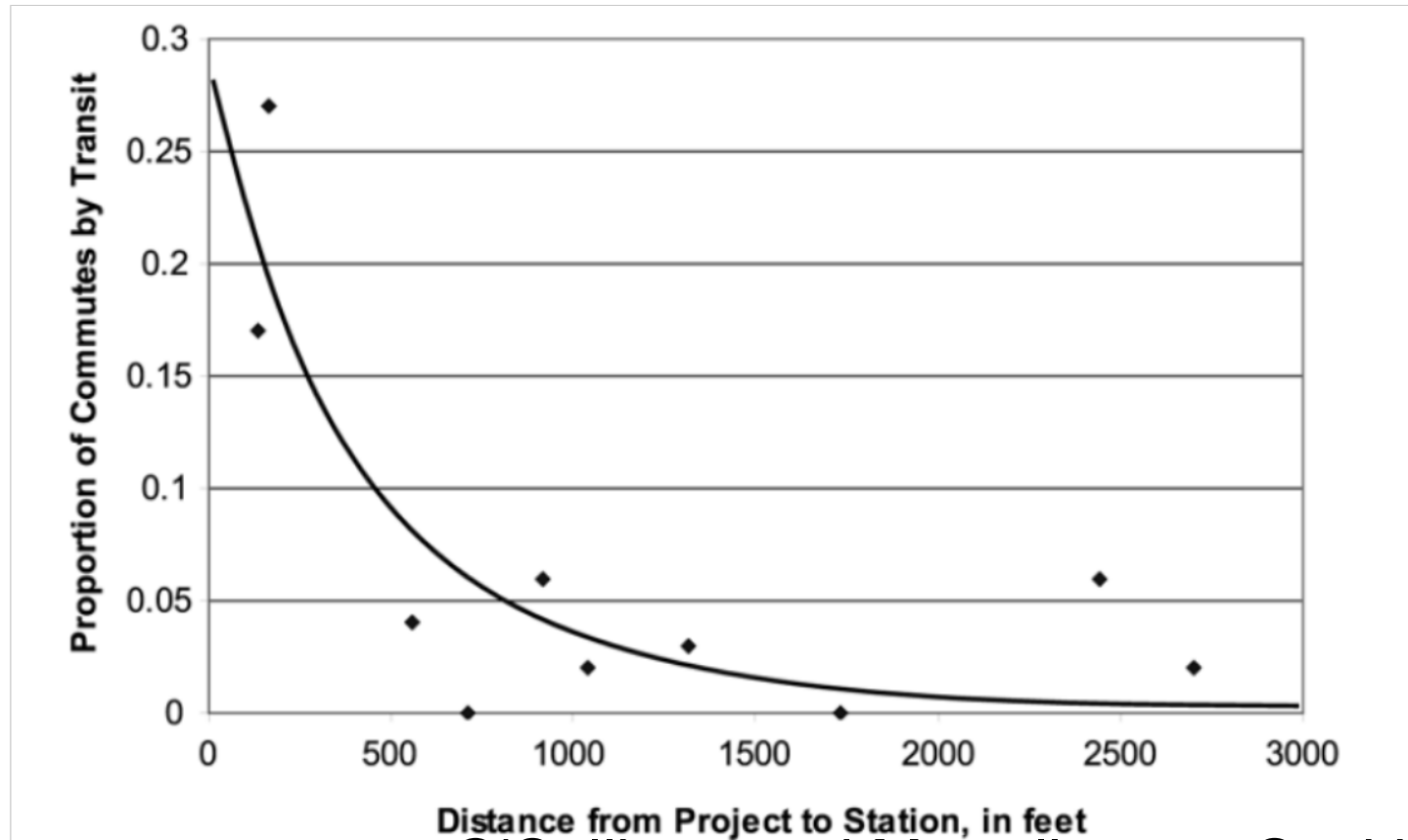
- Encourage active travel
- Create walkable environments

Provide appropriate residential and employment **densities** to support **walking** to a **mix** of activities and to **transit**

URBAN PLANNING AND TRANSPORTATION FOR ACTIVE LIVING

DISTANCE DECAY FOR WALKING TO TRANSIT

(from 10 California office projects)



(Cervero 1994, 2006; O'Sullivan and Morrall 1996; Seskin, Cervero et al. 1996; Dill 2006; Brown and Werner 2009;

URBAN PLANNING AND TRANSPORTATION FOR ACTIVE LIVING

DENSITY METRICS FOR WALKABLE NEIGHBORHOODS

NEIGHBORHOOD TYPE	DENSITY	NUMBER OF PEOPLE WITHIN 1/4 MILE RADIUS
	Person / acre	130 acre...about 10 football fields
Urban residential	Medium	2,100 residents
	High	3,000 residents
Suburban residential	12	1,600 residents
Urban downtown	233	30,300 employees
Suburban downtown	Major	7,800 employees
	Minor	3,250 employees

URBAN PLANNING AND TRANSPORTATION FOR ACTIVE LIVING

EXPERIENCING THE ENVIRONMENT

- A pedestrian is willing to walk 2.9 min longer if the path is through a **PARK** [Boston Common], but 3.5 min shorter if it is through Beacon **HILL**, all else being equal.
- Zhan Guo Trans Res D 2009

ECONOMICS OF WALKABILITY

Compared to PLACES with fair walkability and holding household income levels constant,
PLACES with higher walkability

- ***Perform better commercially*** : command \$8.88/sq. ft. per year more in office rents and \$6.92/sq. ft. per year higher retail rents, and generate 80 percent more in retail sales.
- ***Have higher housing values***: command \$301.76 per month more in residential rents and have for-sale higher residential property values of \$81.54/sq. ft.

FOUR STRATEGIES

- I. Concentrated development in mixed use urban and suburban “hubs”
- II. Changing single family areas: Accessory Dwelling Units
- III. Joint use of school grounds: 24/7 environments
- IV. Complete Streets

I. CONCENTRATED DEVELOPMENT IN MIXED USE URBAN AND SUBURBAN “HUBS”

I. CONCENTRATED DEVELOPMENT IN MIXED USE URBAN AND
SUBURBAN “HUBS”

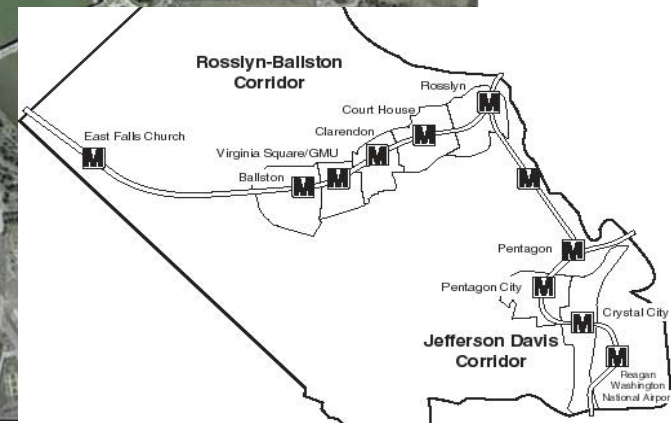
ARLINGTON COUNTY, VA ROSSLYN – BALLSTON METRO CORRIDOR



Image © 2008 Sanborn

Pointer 38°54'01.57" N 77°04'32.81" W

Streaming ||||| 100%



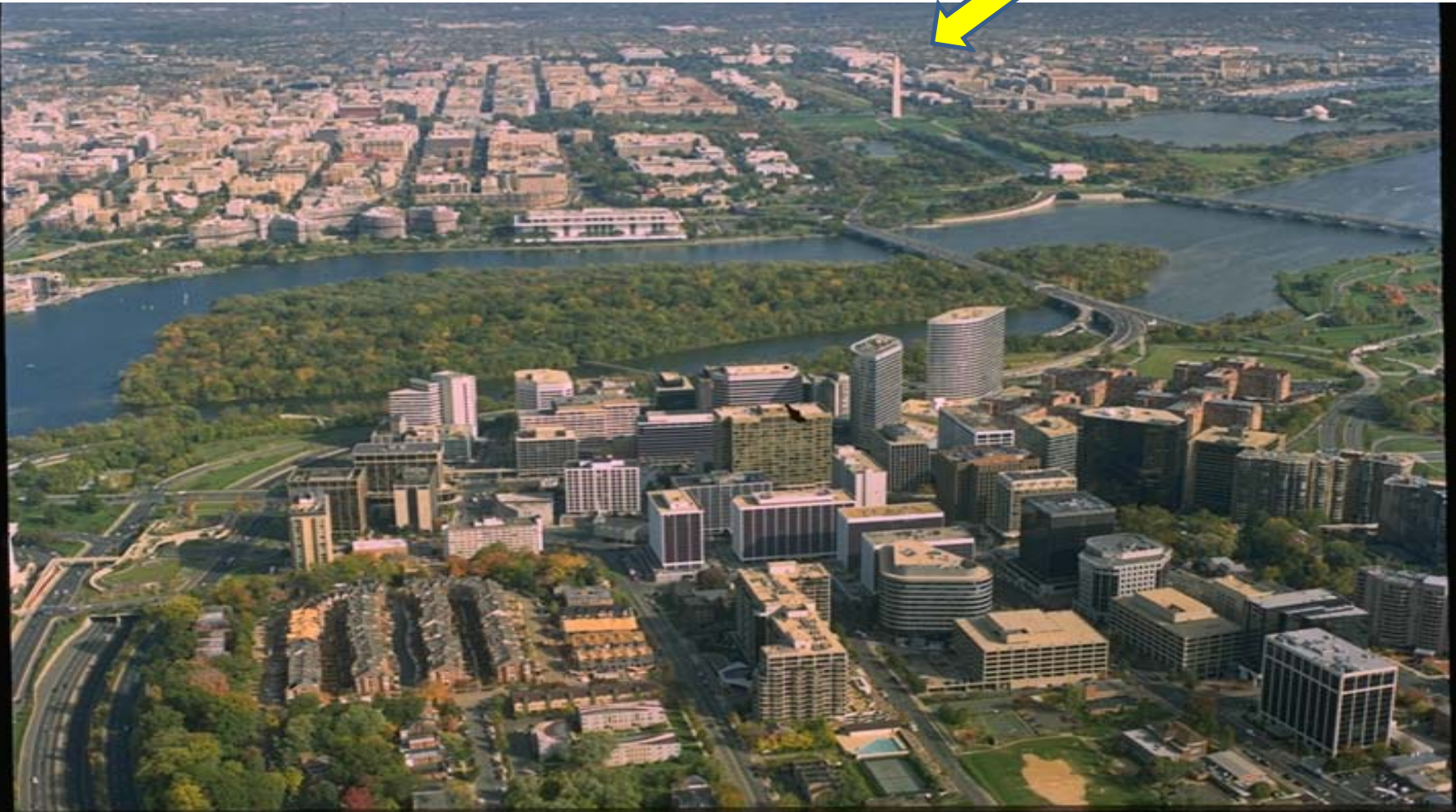
I. CONCENTRATED DEVELOPMENT IN MIXED USE “HUBS”

ROSSLYN - 60s



I. CONCENTRATED DEVELOPMENT IN MIXED USE “HUBS”

ROSSLYN TODAY



I. CONCENTRATED DEVELOPMENT IN MIXED USE “HUBS”

BALLSTON TODAY



I. CONCENTRATED DEVELOPMENT IN MIXED USE “HUBS”

BALLSTON TOWNHOUSE TRANSITION



I. CONCENTRATED DEVELOPMENT IN MIXED USE “HUBS”

ROSSLYN – BALLSTON CORRIDOR

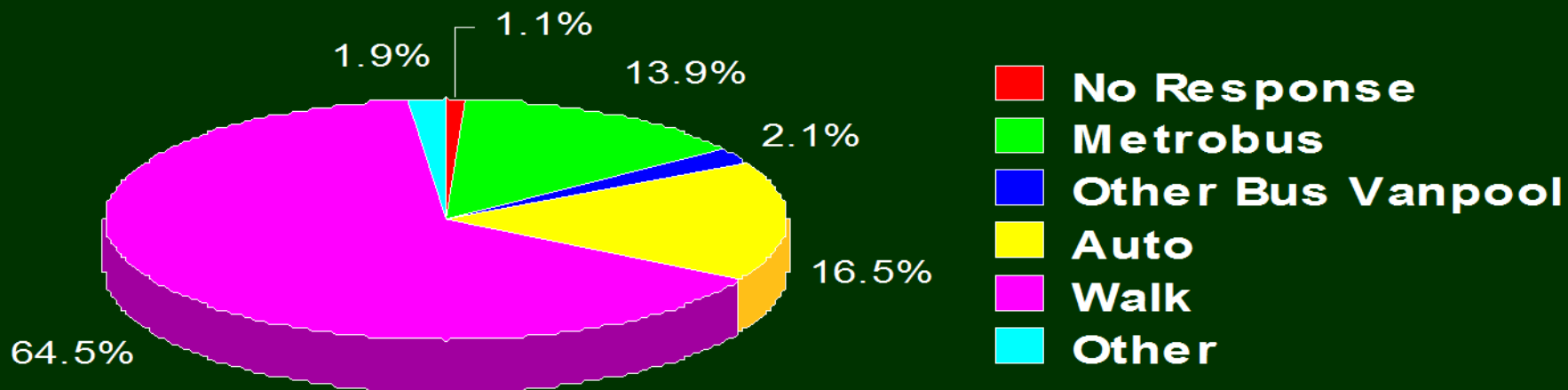
METRO RIDERSHIP			R-B CORRIDOR DEVELOPMENT		
	Average daily entries and exits				
	1991	2000		1970	2001
Rosslyn	13,637	30,115	Office (sq. ft.)	4,168,033	19,793,263
Court House	5,561	14,676	Residential	6,036	21,813
Clarendon	2,964	5,663	(units)		
Ballston	9,482	21,892	% Residential/office	36%	43%

I. CONCENTRATED DEVELOPMENT IN MIXED USE “HUBS”

PEDESTRIAN ACCESS

64% WALK TO STATION

Ballston Metrorail Station Mode of Access and Egress



II. CHANGING SINGLE FAMILY AREAS **ACCESSORY DWELLING UNITS (ADUs)**



ADU within house

A104 A & B Carver Street

<http://townhall.townofchapelhill.org/archives/agendas/ca020624/13%20-%20attach%201-15%20-Northside%20attachs%20MC%206%2024%2002.htm>



Source: codepublishing.com/wa/mukilteo

**ADU above detached
garage**



II. CHANGING SINGLE FAMILY AREAS

ADUS: LAND CONSUMPTION

309 McDade Street

Table 1 Single Family Zones in Seattle⁴

Zoning Type	Net Acreage
Single Family Residential Areas	56.7%
Industrial Areas	11.6%
Multifamily Residential Areas	10.6%
City-Owned/Public Open Space	9.1%
Commercial/Mixed Use Areas	8.4%
Major Institutions	2.1%
Downtown Areas	1.5%

48% res
units

52% res
units

⁴ (City of Seattle - Department of Planning and Development 2003) p.5

III. JOINT USE FACILITIES

- School districts and local governments can help prevent childhood obesity by increasing opportunities for children to be physically active in their communities.
- **Providing recreation opportunities by opening school buildings and facilities to public use after school hours.**
- **School officials are concerned about liability in the event of injuries.**
- <http://changelabsolutions.org/publications/liability-schools-50-states>

III. JOINT USE FACILITIES USING SCHOOL RECREATIONAL FACILITIES AS COMMUNITY FACILITIES

Joint use agreement resources from NPLAN

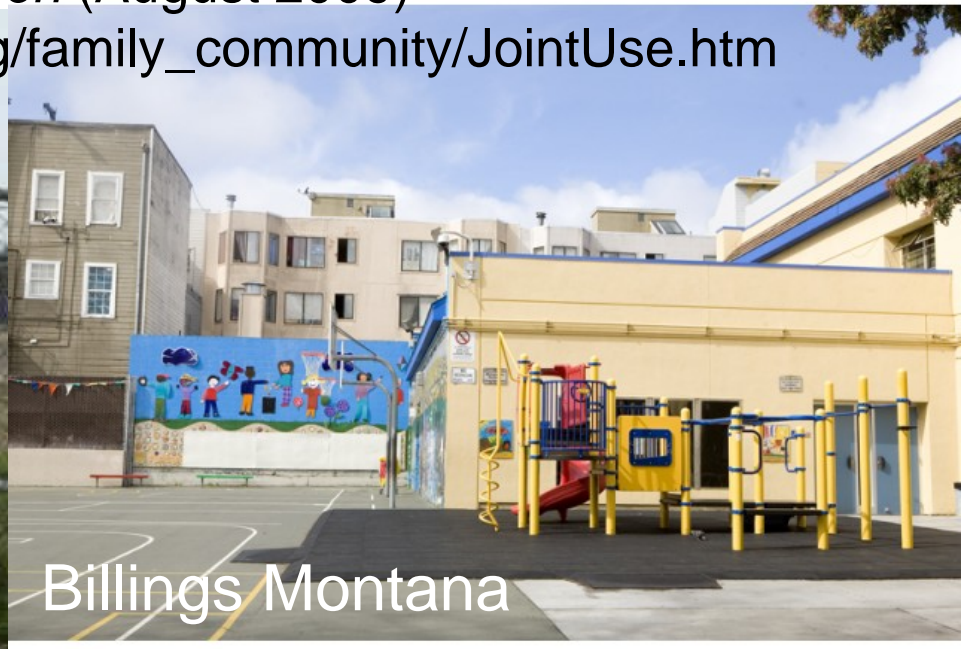
National Policy & Legal Analysis Network to Prevent
Childhood Obesity

Parks & Recreation (August 2009)

http://www.healthyschoolsms.org/family_community/JointUse.htm



Earlimart, California



Billings Montana

III. JOINT USE FACILITIES

MODEL JOINT USE AGREEMENTS

California; Mississippi; New York;
Washington



**New joint-use
park space
opening next
month at
Jefferson
Elementary in**



[City of La
Habra,
California:
Recreationwww
lahabra.city.ca](#)



[McKinley
Elementary
joint-use field
moves forward
| San Diego](#)

IV. COMPLETE STREETS

TO CHANGE PRACTICE

integrating the needs of **all** road users into **everyday** transportation planning and design



IV. COMPLETE STREETS

STREETS FOR EVERYONE

no matter **who** they are or **how** they travel

Safe, Comfortable, Convenient

Smart Growth America

- As of 2011, complete streets ordinances adopted by:
- 28 States; 33 MPOs; 31 Counties; and 268 Cities
- **Total: 359 jurisdictions**

See Complete Streets: Changing Policy (.pptx, 9.8 MB)

IV. COMPLETE STREETS NYC TIMES SQUARE



BEFORE



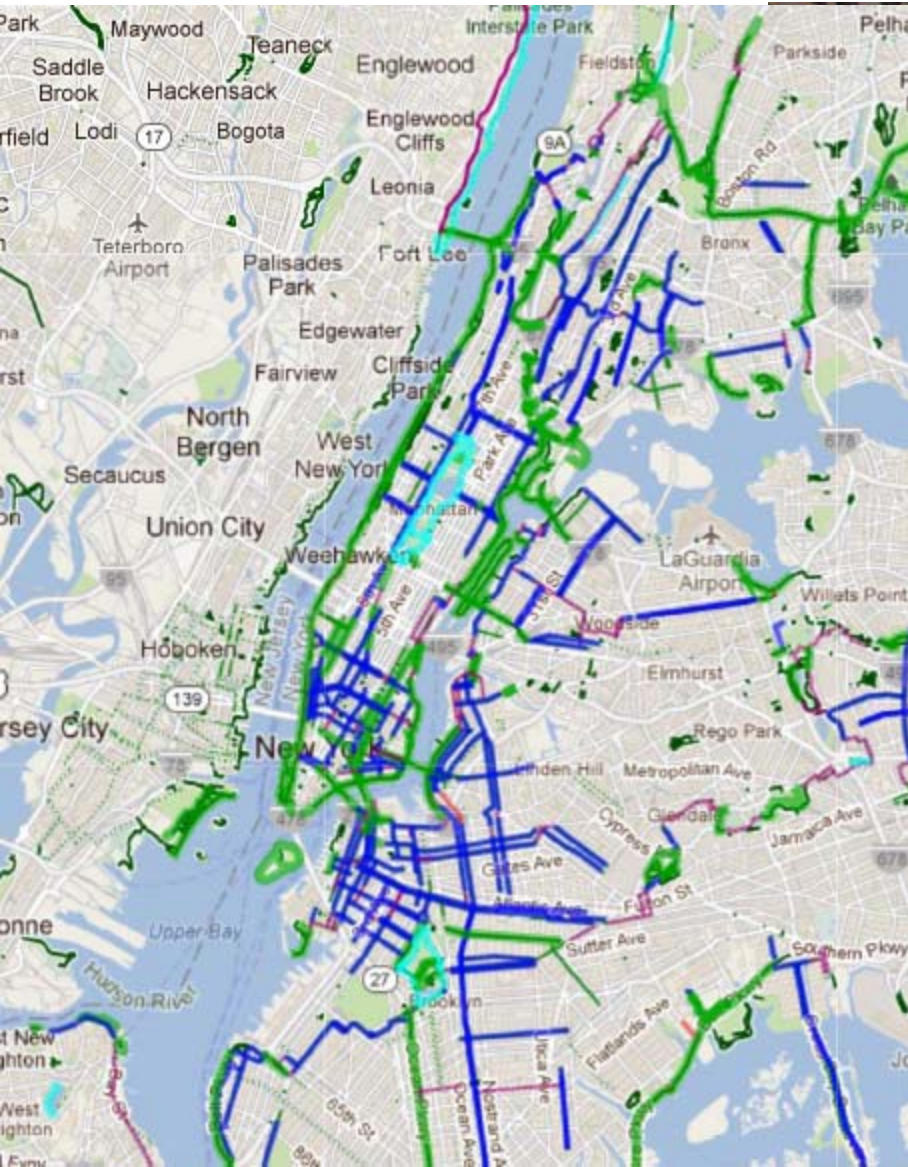
AFTER

IV. COMPLETE STREETS NYC TIME SQUARE



IV. COMPLETE STREETS

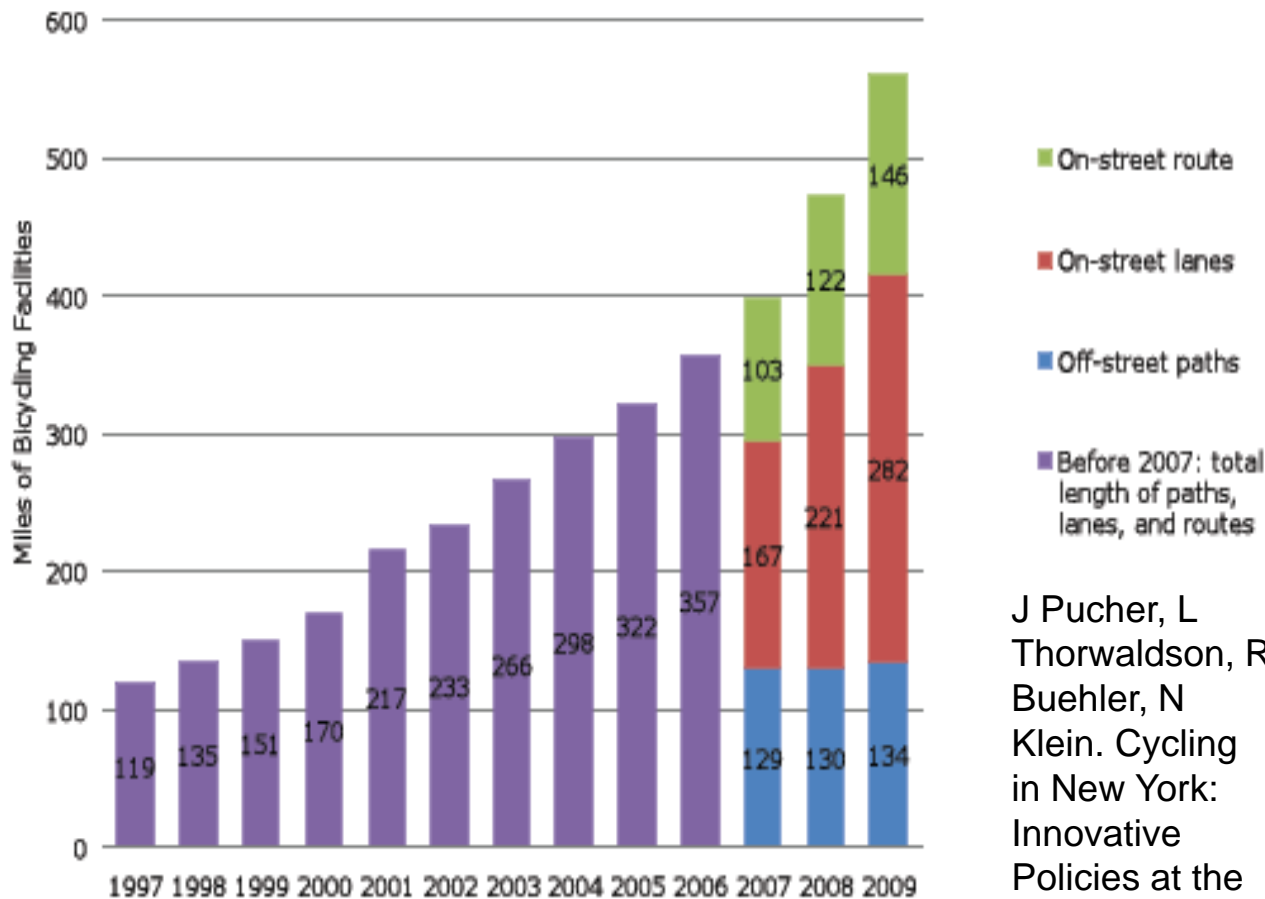
NYC BIKEWAYS



IV. COMPLETE STREETS

NYC BIKEWAYS

Figure 9: Trend in Extent of Bike Paths, Lanes, and Routes in NYC, 1997-2009 (in miles)



J Pucher, L Thorwaldson, R Buehler, N Klein. Cycling in New York: Innovative Policies at the Urban Frontier. World Transport



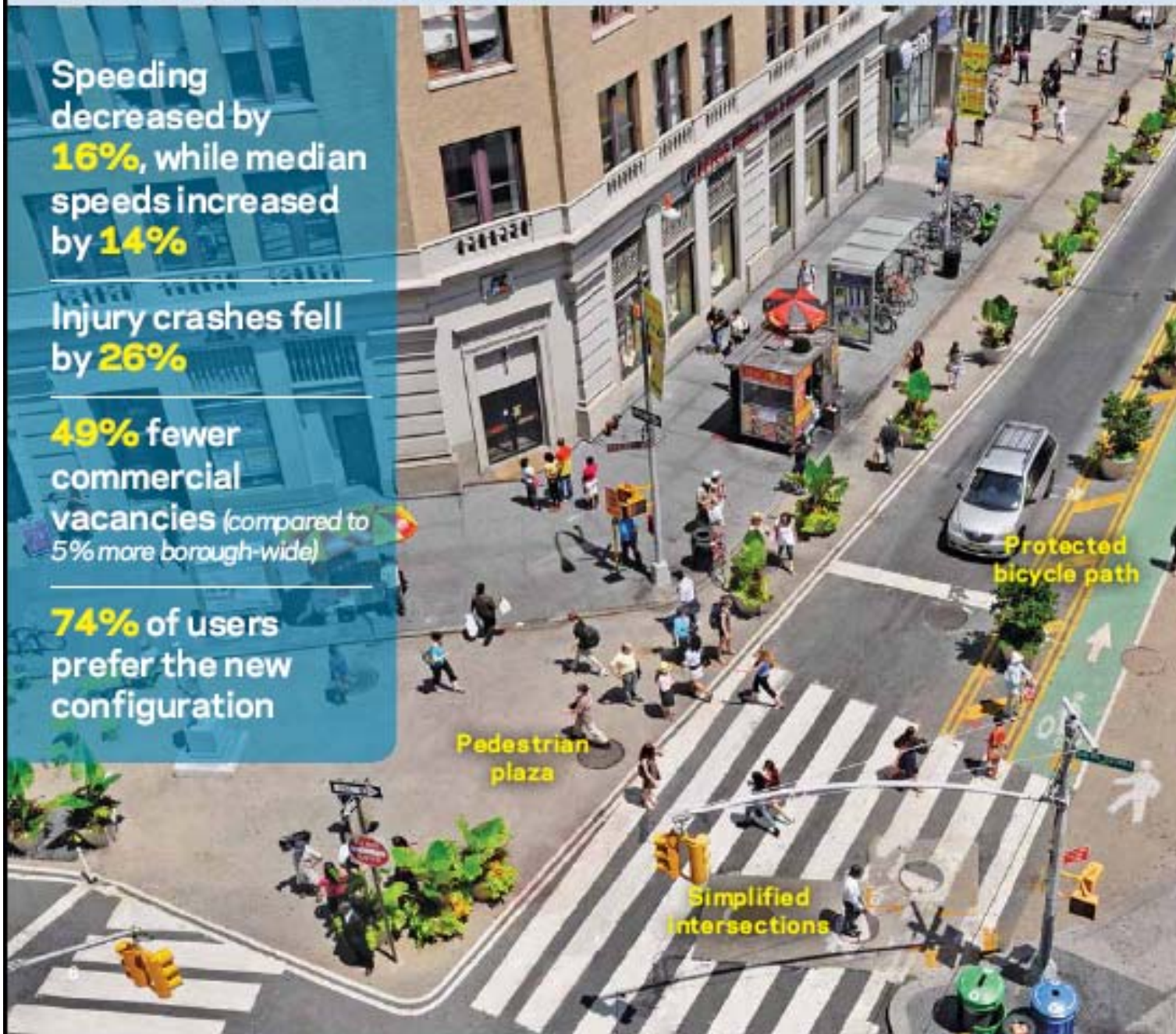
Source: Calculated by the authors from data in NYCDOT (2010e)

Speeding decreased by **16%**, while median speeds increased by **14%**

Injury crashes fell by **26%**

49% fewer commercial vacancies (compared to 5% more borough-wide)

74% of users prefer the new configuration



Measuring
the street
NYC DOT
2012

Neighborhood traffic calming:
East 180th Street (Bronx)

IV. COMPLETE STREETS

67% decrease in
pedestrian crashes

29% decrease
in eastbound
speeding

32% decrease
in westbound
speeding



Measuring
the street
NYC DOT
2012