

Innovative Local Strategies for Creating Healthier Living Environments

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Its not just Obesity: Health Benefits of Physical Activity

- Reduces risk of dying- all cause, CVD, Stroke
- Risk of CVD, Colon Cancer by 0%
- Risk of Type II Diabetes by 50%
- Risk of Hypertension, Osteoporosis (hip fracture in women 50%);low back pain
- Promotes psychological well being, reduces stress, anxiety and depression and loneliness
- Helps prevent or control risk behaviors (esp. kids)
 - Alcohol, tobacco substance abuse, violence poor diet
- Helps control weight and reduce risk of becoming obese by 50%

GUIDE TO

COMMUNITY

Preventive Services ←

● SYSTEMATIC REVIEWS AND EVIDENCE BASED RECOMMENDATIONS



Guide to Community Preventive Services

- Community wide campaigns
- “Point of decision” prompts
- School based physical education
- Non-family social support
- Individually adapted health behavior change
- Creation and/or enhanced access to places for PA combined with information outreach activities

Guide to Community Preventive Services

- Community-scale design and land use policies and practices
 - Zoning, building codes, connectivity, street design
- Street-scale urban design and land use policies and practices
 - Street lighting, ped. infrastructure- crossings, traffic calming, aesthetics

Questions for the Audience

- What are effective environmental strategies and accomplishments to reduce overweight and obesity?
- What are the challenges and/ or obstacles?
- How can successful interventions be generalized/ applied more broadly?
- What are the unanswered questions or needed research ?

Policy Conceptualization

- Formal Written Codes
 - Formal written codes or regulations bearing legal authority
- Written Standards that guide choices
 - Implementation is usually accompanied by a written statement, explanation or decision that guides choices

Policy Conceptualization

- Unwritten social norms
 - Social and cultural norms that influence behavior
 - Much of public health interest in increasing physical activity is focused on identifying social and cultural norms and encouraging the development of written policies to increase physical activity access and availability

Policy Definition

- Organizing structure and guidance
- Legislative or regulatory action
- Formal and informal rules
- Explicit or implicit

Policy Definition

- Formal written codes
- Written standards that guide choices
- Unwritten social norms

Policy Research

- Identifying relevant policies
- Determinants of establishing policy
- Process of developing and implementing policy
- Outcomes of implementation of policy

**In policy research either the dependent or independent variable will be a policy or policies

Policy Research

POLICY DETERMINANTS



POLICY



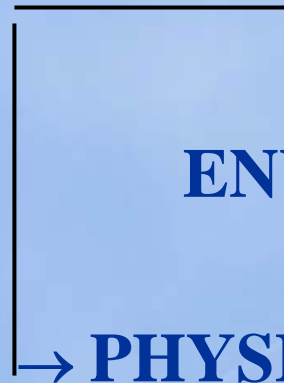
ENVIRONMENT



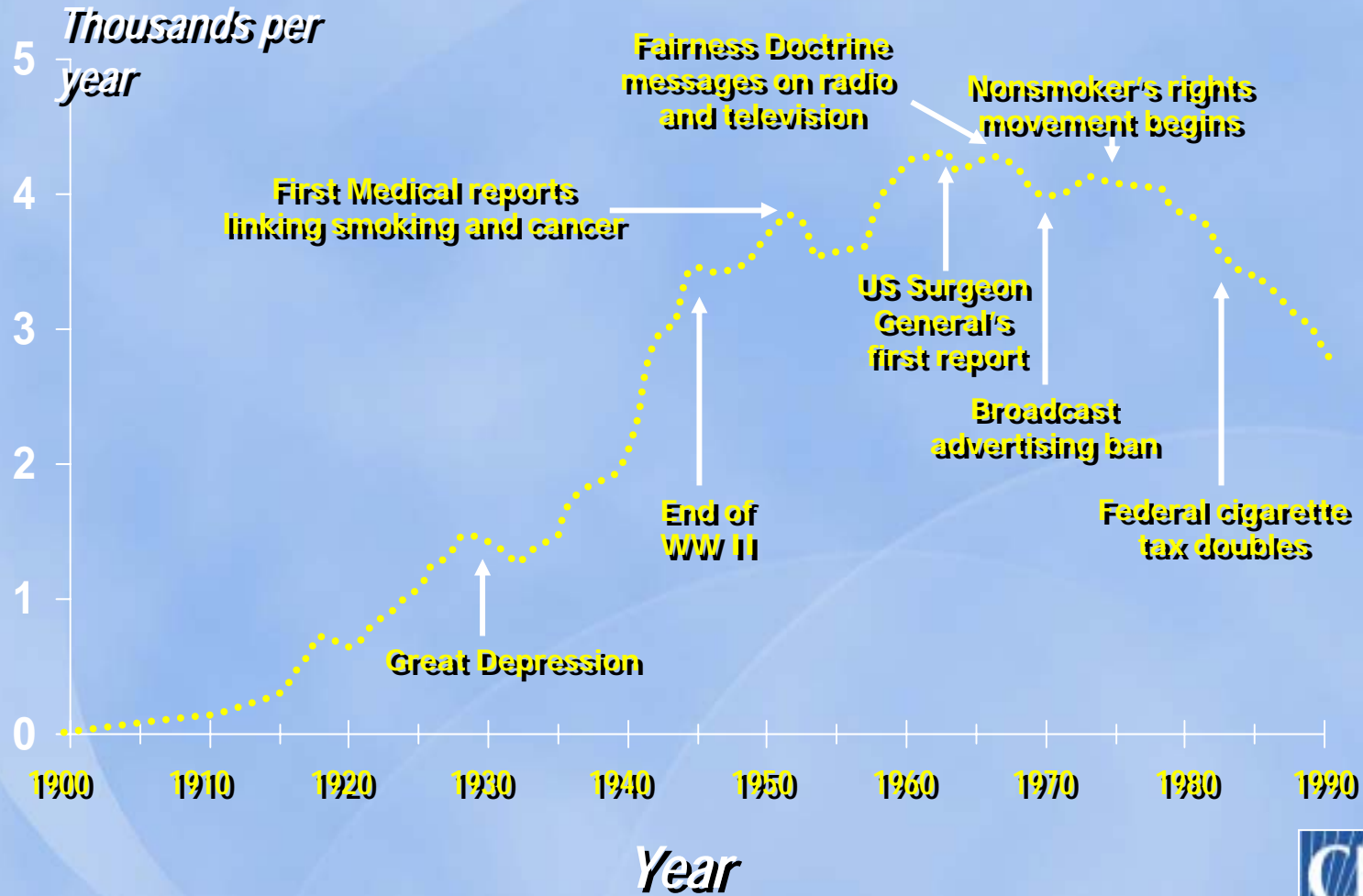
→ PHYSICAL ACTIVITY



HEALTH



Adult per Capita Cigarette Consumption and Major Environmental and Policy Changes in the US 1900-1990



Physical Activity Policy Framework



Physical Activity Policy

- Definition
- Rationale
- Conceptual framework
- **Research priorities**

Physical Activity Policy Research Agenda

- Schools
- Walk to School
- Worksite
- Active Commute to Work
- Recreation, parks and trails
- Health
- Public spaces
- Safety and crime
- Economics
- Neighborhood walkability
- Connectivity, land use and community design

Local Ordinances that Promote Physical Activity: A Survey of Municipal Policies

- Physical Activity policies can be monitored across municipalities
 - E.g. sidewalks, bike lanes, worksites, recreation facilities
 - Results can be useful for guiding program resources
 - DOH used results to select communities for ACES consultations
- Librett, Yore and Schmid, AJP, 2003

National Surveillance of Physical Activity Policy

B. Kohl

- Collaborate with other federal agencies to design a system for tracking at the national levels, policies that directly or indirectly effect physical activity
 - Identify sources
 - Operationalize PA related policies
 - Track policies
 - Implementation/ enforcement effects



PEP BOYS

HALF PRICE

Physical Activity Policy Research Network-- PAPRN

- **I. Mission Statement**
- The mission of the Physical Activity Policy Research Network is to conduct trans-disciplinary policy research by:
 - identifying physical activity policies
 - identifying the determinants of the policies
 - describing the process of implementing policies
 - determining the outcomes of physical activity policies
 - Disseminating finding.

Physical Activity Policy Research Network-- PAPRN

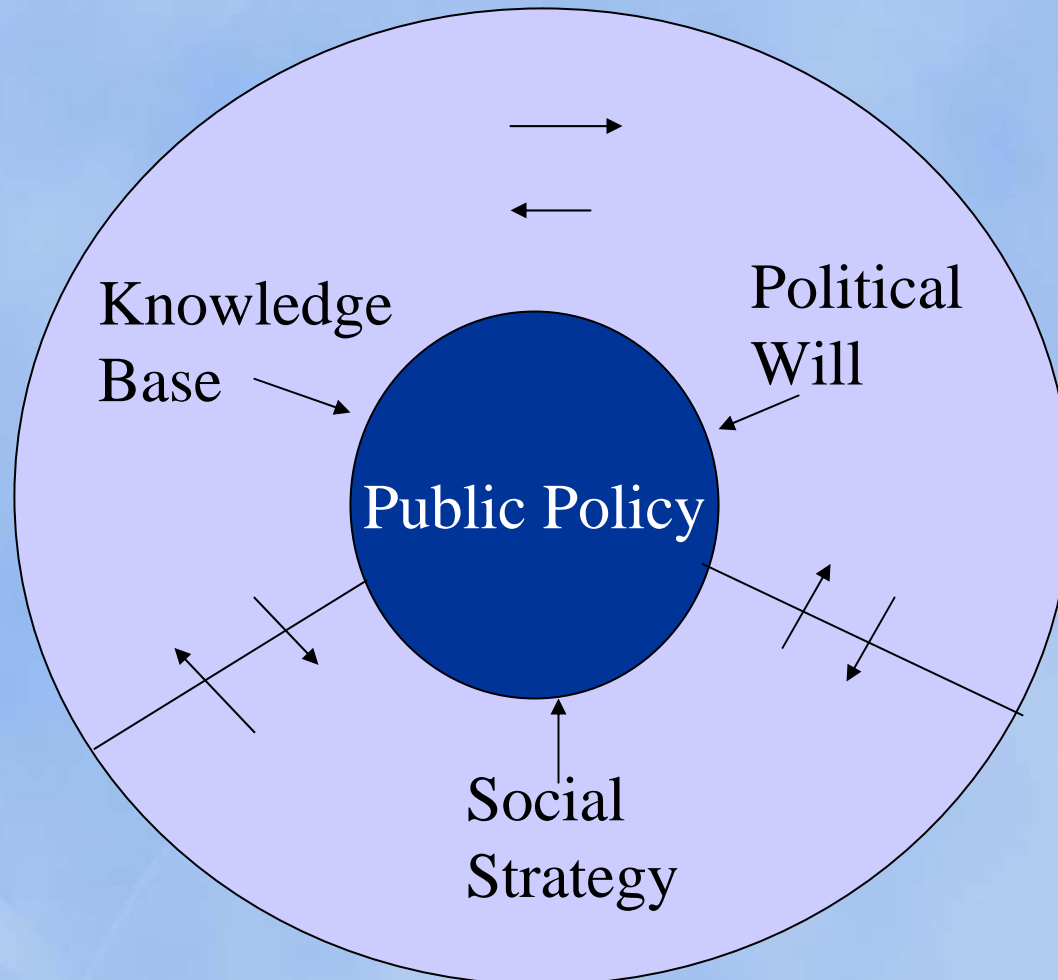
Current Projects

**Identify policies that influence Physical
Activity of Students and Community Members
in and around Schools**

**Develop Comparitive Case Study of Walking/
Cycling Trails in five states**

Three Part Health Policy Model

Richmond & Kotelchuck 1983





It's always comforting

*Health Impact Assessment of a
Walk-to-School Program:
Lessons for Planners, Educators and Public
Health Advocates*

Brian L. Cole, Dr.P.H.

Research Questions

1. Will the walk-to-school program have a significant impact on children's obesity rates?
2. Are there any other potentially significant positive or negative health impacts?
3. How can the program be modified to maximize positive health impacts and minimize negative impacts?

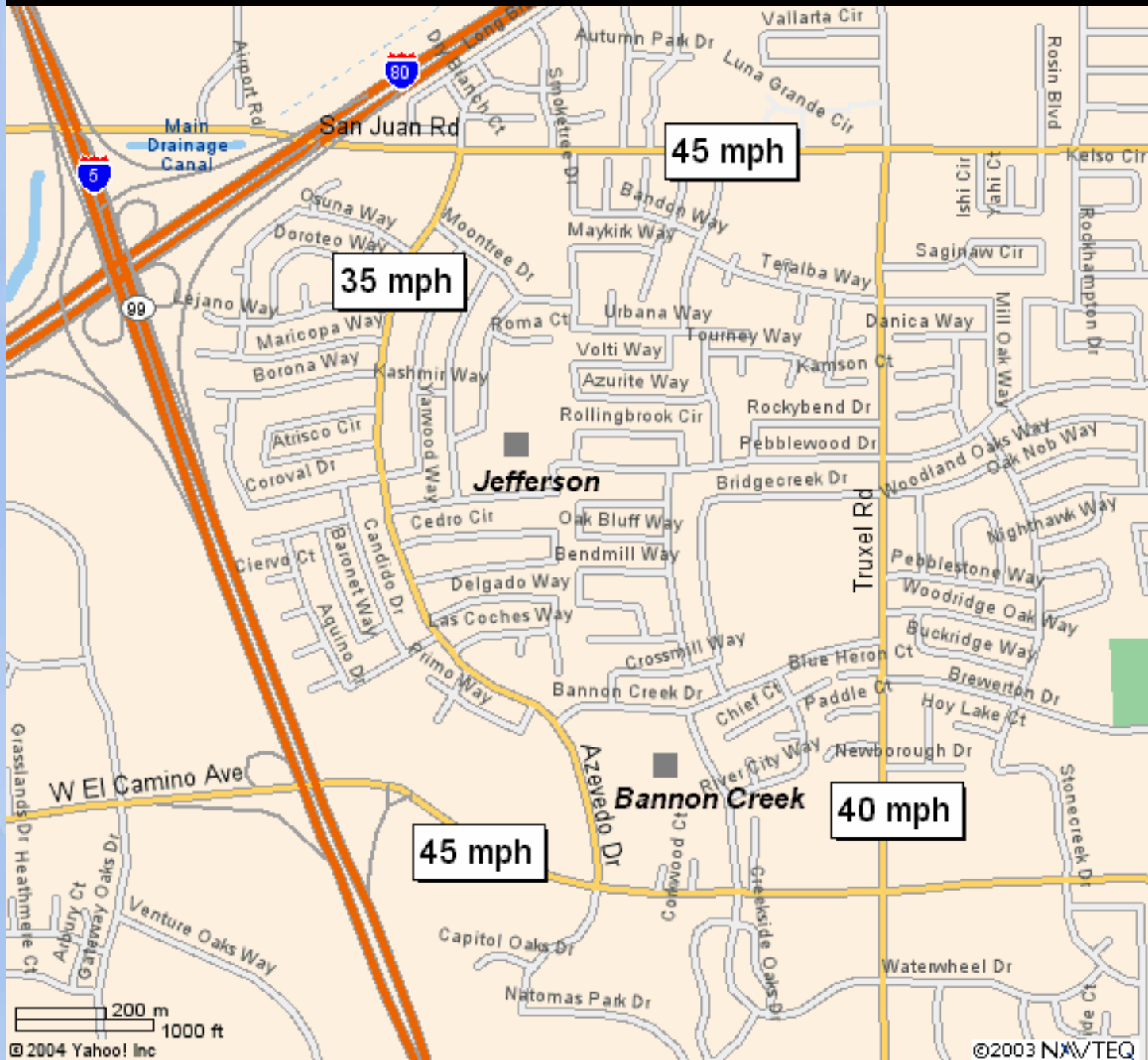
Growing interest in promoting Walking/Biking to School

- Federal, state funding and local funding for “Safe Routes” to school infrastructure;
- National and International Walk-to-school days

(see www.walktoschool.org)

Rising rates of childhood obesity

- 15% of children and adolescents obese, up from 4-5% in the 1960s
- 10-fold increase in incidence of type II diabetes from 1982 to 1994
- Long-term consequences for adult health:
 - 30% of adult population is obese
 - \$93 billion/yr in obesity-related health care costs
 - Loss of 39.2 million workdays/yr due to obesity-related disease

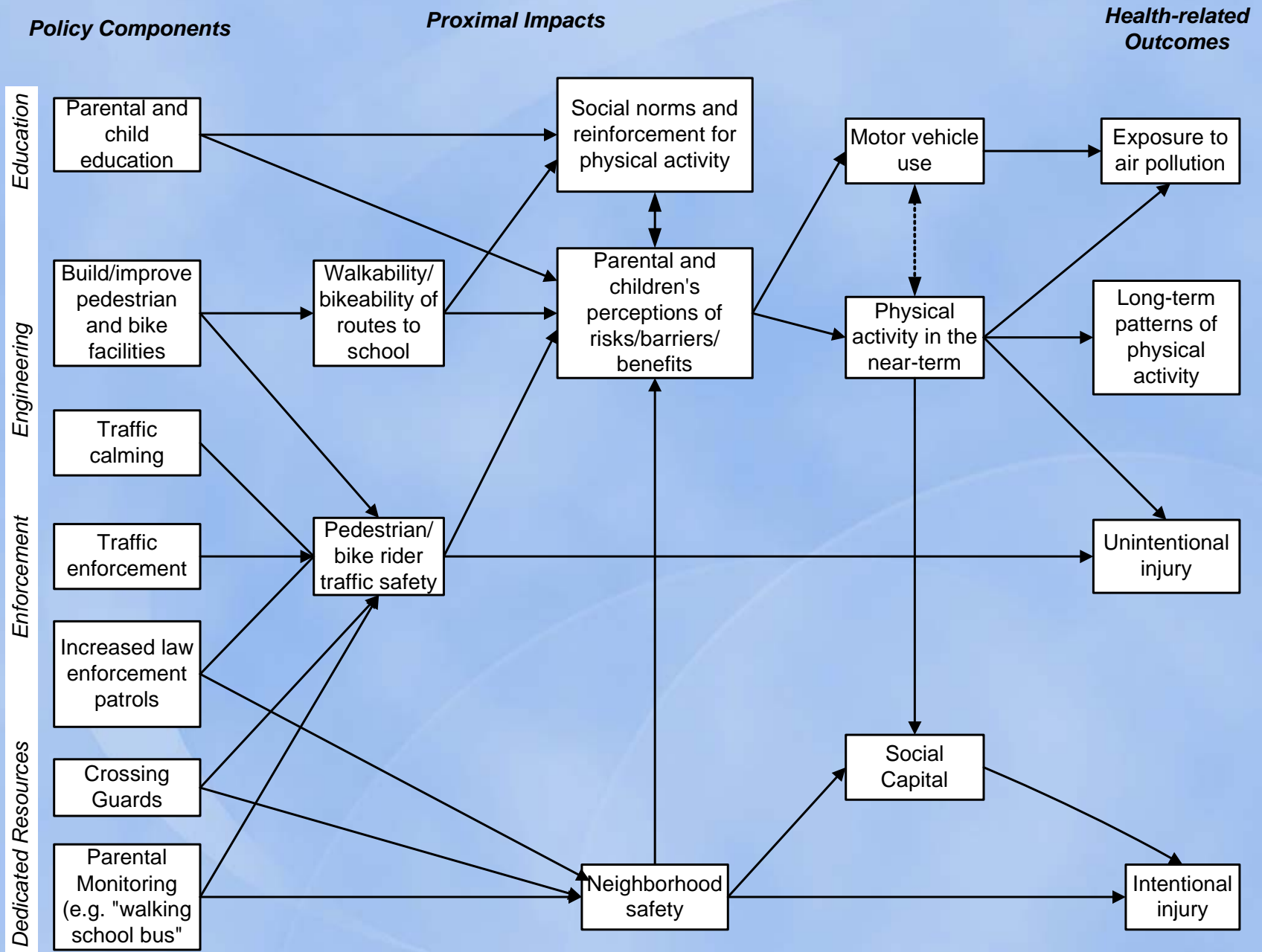


200 m
1000 ft

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Logic Framework: Linkages from program to outcomes




Increased physical activity

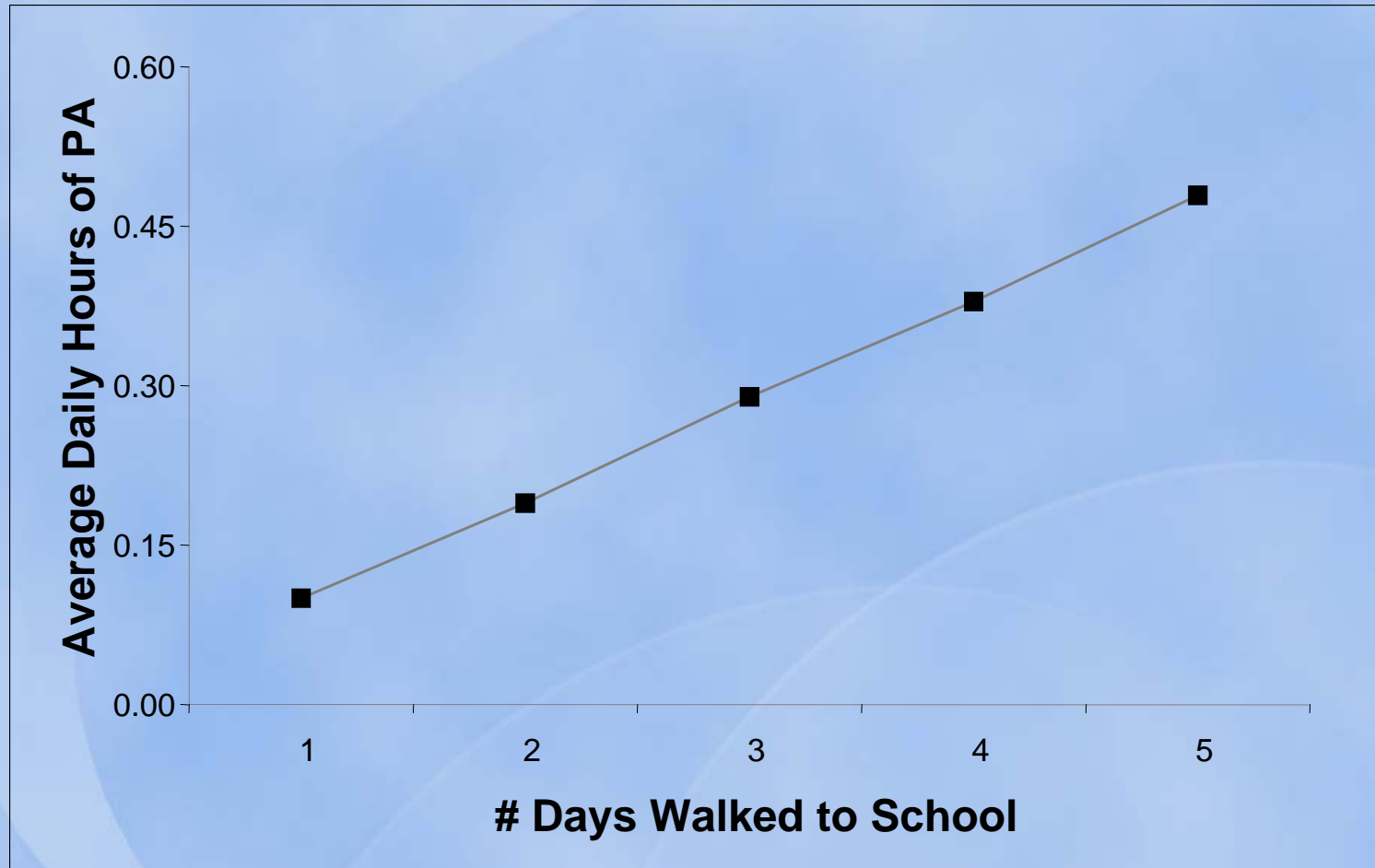
Assumed conditions

- Avg. 0.6 miles from home to school
- Walk to school avg. 3 days/wk
- 32% have excess BMI
- Program results in 64% increase in walking to school

Estimated changes

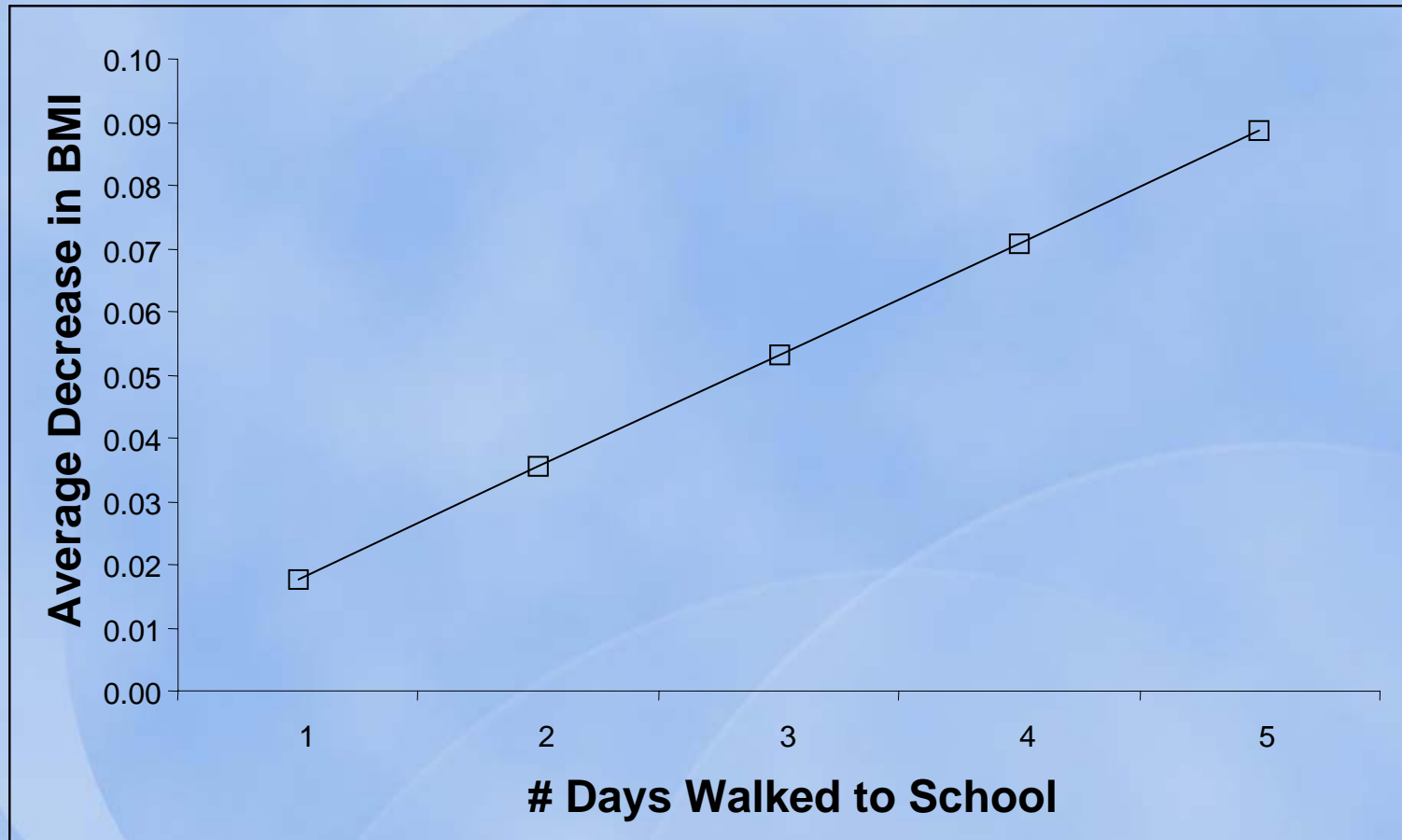
- Avg. of 15 min./day additional walking
-  7% increase in percent of kids active at least 30 min/day
- .05 unit decrease in BMI among obese after 1 year

Average Increase in Daily Hours of PA



Assuming 24% baseline walking, 0.6 miles one-way & 64% increase in walking due to intervention

Average Decrease in BMI *(among obese participants)*



Assuming 24% baseline walking, 0.6 miles one-way & 64% increase in walking due to intervention



Traffic-related injury

- District policy requires school bus pick up for any students whose residences are separated from the school by any highway;
- Walk-to-school programs can actually decrease pedestrian injury rates:
 - No injuries reported in first two years of Marin County program;
 - Orange County program reported a decrease in injury rates;
- Estimating changes pedestrian injury rates not feasible for small numbers/small areas.

Air pollution: Background Facts

- **Sacramento County has 7th worst ozone-pollution and 8th worst short-term particulate pollution in the country;**
- **Carbon monoxide & benzene levels 2-5x higher inside cars than outside (Van Wijnen & Van der Zee);**
- **Due to idling buses, fine particulate matter concentrations up to 3x higher around schools than in adjacent community (Wargo, 2002);**
- **Exposure to fine particulates and other pollutants 50-400x times higher inside diesel school buses than outside (Sabin, Behrentz, Winer et al., 2003)**

Air pollution: Expected Impacts

1. Walk-to-school programs may increase or decrease exposure to air pollution and subsequent risk of asthma, lung cancer and other chronic disease depending on
 - o Current mode and duration of travel;
 - o Traffic density and types of vehicles traveling along walking routes;
 - o Time and season.
2. Marginal increase or decrease is probably small relative to PA-related impacts.

Violence and Crime Prevention

- Natomas is not a high crime area, but nationally parents cite child safety, including “stranger abduction” as the leading reason they don’t want their children to walk to school;
- Walk-to-school programs have the potential to increase neighborhood safety and reduce violence through increased civic participation, parental involvement and “eyes on the street.”

Implications:

- Local needs vary, but generally need concerted, multi-faceted intervention;
- Need on-going efforts (not just 1 day/year);
- Walk-to-school programs are important, but only part of the solution;
- School siting and another decisions affect walkability with attendant health consequences