

Health Impact Assessment: A tool to help shape health-promoting policies in transportation and land-use

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“Physical Activity and the Built Environment: What Works?”
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Health Impact Assessment is

"a *multidisciplinary process* within which a *range of evidence* about the health effects of a proposal is considered in a *structured framework* ...based on a *broad model of health* which proposes that economic, political, social, psychological, and environmental factors determine *population health*."

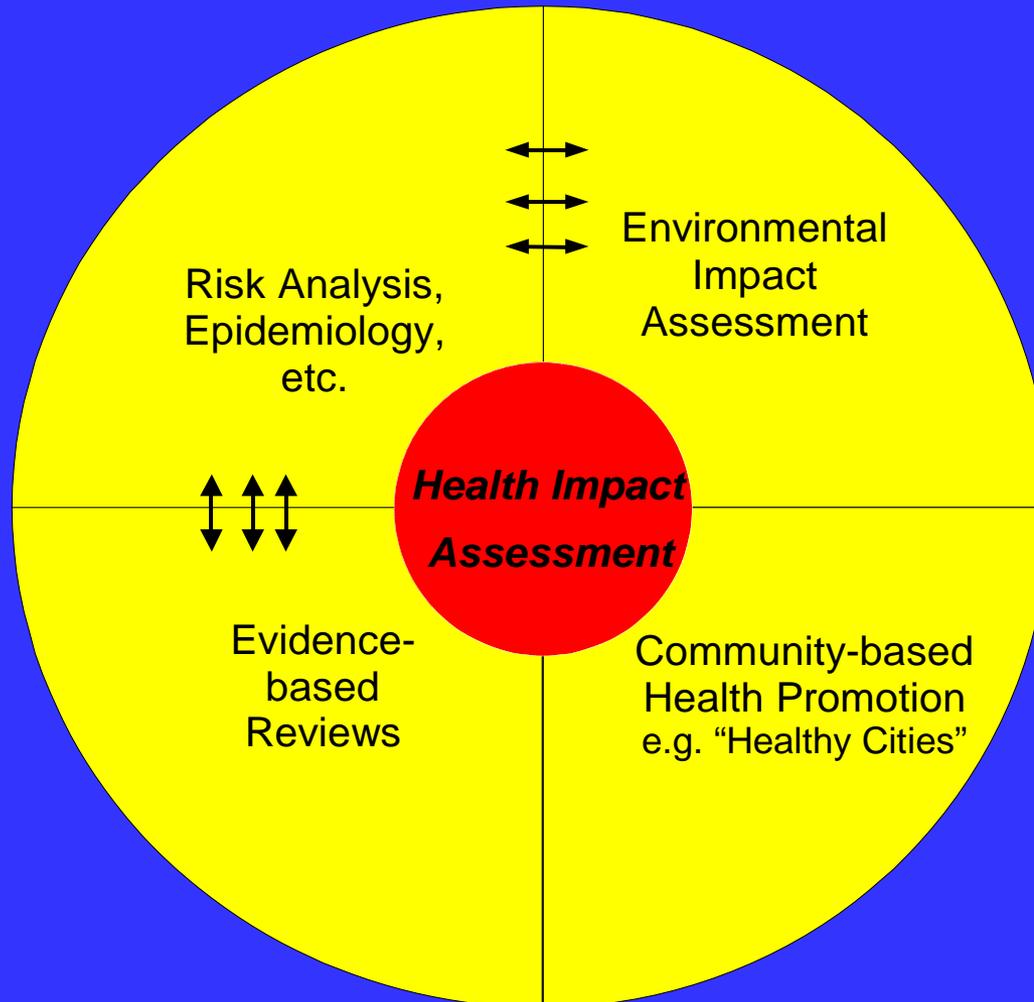
Northern and York Public Health Observatory, 2001



Why use HIA?

- Influence decision-makers;
- Highlight potentially significant health impacts;
- Assess how proposals will affect the most vulnerable;
- Facilitate inter-sectoral working and public participation;
- Promote sustainable development;
- Encourage a greater appreciation of public health in the policy-making process.

Disciplinary foundations of HIA



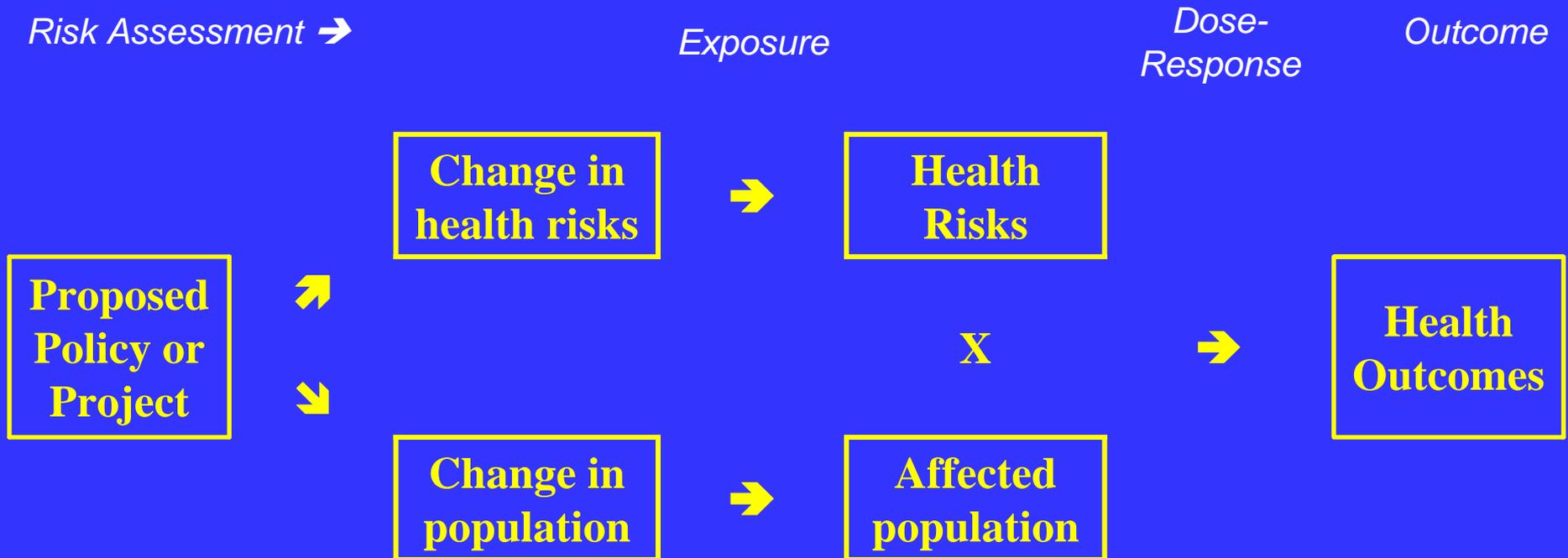
Lessons from Environmental Impact Assessment

- Structured opportunity for public participation,
 - Increased awareness of environmental consequences
- +
- Integration of environmental considerations in planning
-
- Long, complex documents
 - Process is time-consuming and expensive
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- Often litigious process
 - Tends to focus on projects, not policies
 - Tends to stop short of considering health outcomes

Steps in HIA

- Screening
 - Determining if an HIA should occur
- Scoping
 - Determining what to do and how to do it
- Reporting and review
 - Producing a coherent, usable synthesis of findings from the analysis for target audiences (e.g. policy-makers)
- Evaluation and monitoring
 - Determining whether the HIA has influenced the decision making process (and the subsequent proposal)
 - Monitoring the implementation of the proposal to ensure that any recommendations that decision-makers agreed to actually occur

Impact analysis General Paradigm



Causal Factors and Pathways examined in HIA

- Social determinants of health;
- Natural environment and environmental impacts;
- Built environment;
- Health behaviors.

Causal Factors and Pathways: *Social Determinants of Health*

- Changes in household income;
- Community economic conditions;
- Education;
- Neighborhood crime;
- Social capital;.

Causal Factors and Pathways: *Natural/Physical Environment*

- Ambient air quality and air pollutant exposure;
- Water quality (drinking, recreational, aesthetic);
- Communicable diseases and vectors;
- Temperature;
- Food safety.

Causal Factors and Pathways:

Built Environment

- Housing;
- Land-use mix;
- Food access;
- Transportation infrastructure;
- Traffic safety;
- Noise;
- Community walkability;
- Recreational amenities.

Causal Factors and Pathways: *Health Behaviors*

- Physical activity;
- Dietary patterns;
- Social and civic engagement;
- Utilization of preventive health services;

Examples of Causal Factors and Pathways:

Mass Transit Funding

1. Air and water pollution;
2. Household discretionary income;
3. Community economic conditions;
4. Physical activity;
5. Social capital and mental health;
6. Discretionary time;
7. Access to social and health services;
8. Land-use patterns.

Examples of Causal Factors and Pathways: *Stripmall and Street Redevelopment*

1. Physical activity;
2. Traffic-related injury;
3. Community economic conditions;
4. Social capital and mental health;
5. Noise;

Examples of Causal Factors and Pathways: *A Farmers' Market*

1. Consumption of fresh fruits and vegetables;
2. Income for vendors' and farmers;
3. Preservation of agricultural land;
4. Community economic conditions
5. Social capital;
6. Physical activity;
7. Access to social and preventive health services;

Technical Challenges facing HIA



- Complexity of relationship between causal factors and health outcomes.
- Lack of reliable and valid indicators of intermediates.
- Insufficient data on interventions to improve health status.

Complexity of impact pathways

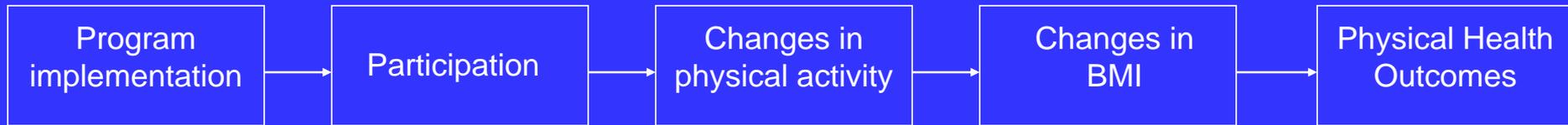
Outline of physical activity pathway For Safe Routes to School HIA

Policy

Proximal Impacts

Intermediate Outcomes

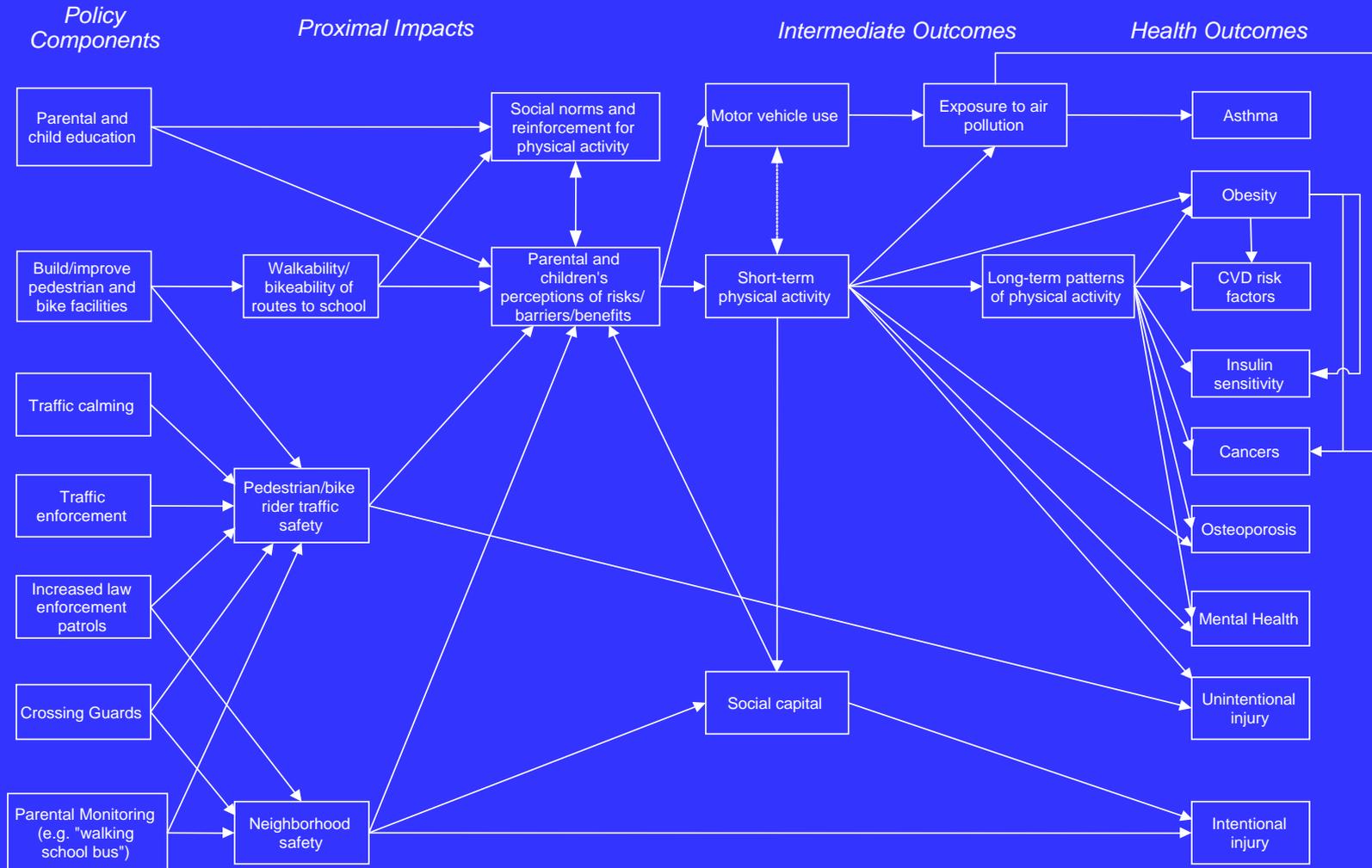
Health Outcomes



Complexity of impact pathways

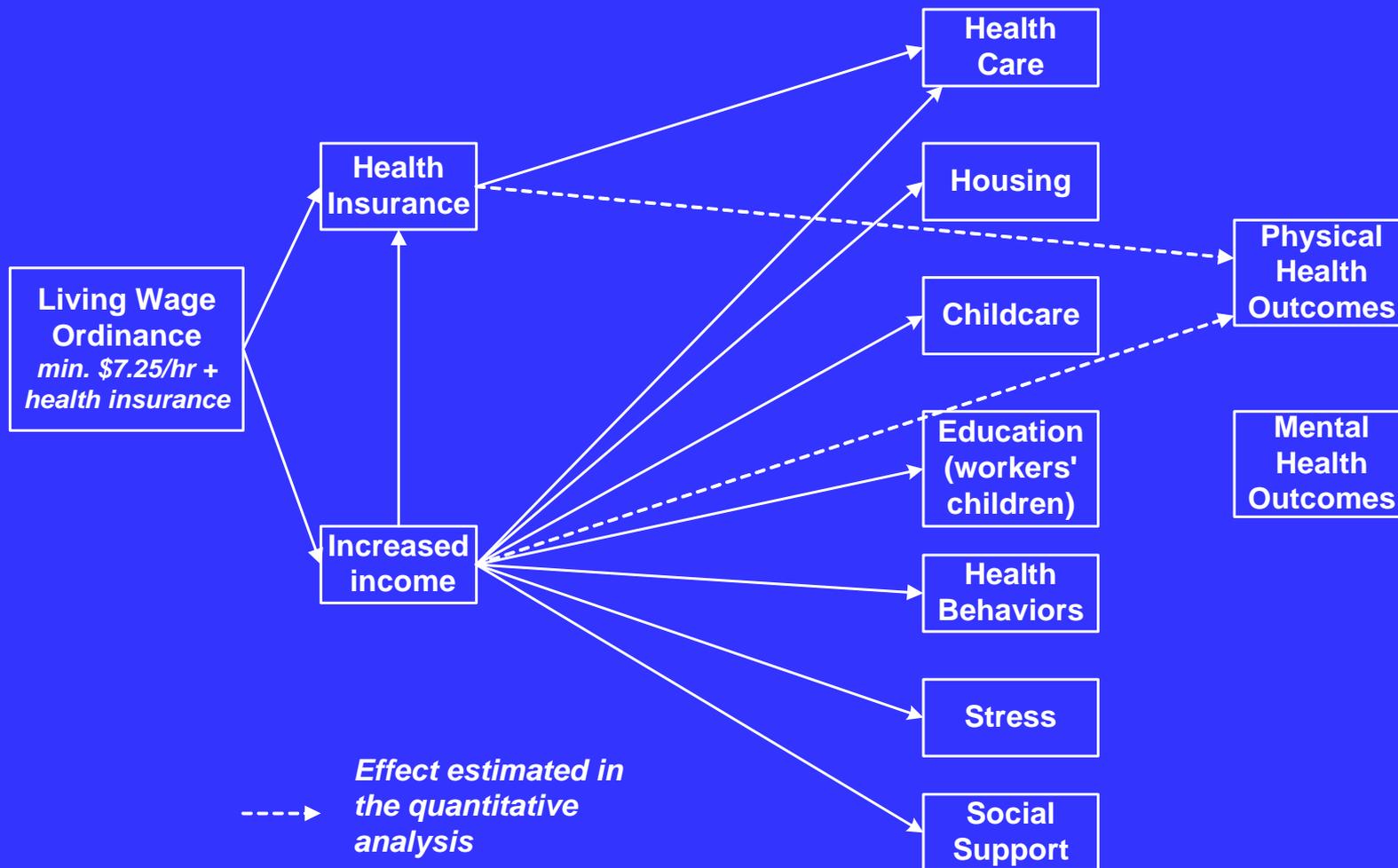
Safe Routes to School

Logic Framework



Logic frameworks should guide and communicate City of Los Angeles Living Wage Ordinance

Policy **Proximal Impacts** **Intermediate Outcomes** **Health Outcomes**



Data gaps:

The inverted iceberg (There's less there than you think)

Example - physical activity

- Many research studies report strength of association, not magnitude of effect;
(e.g. research on walkability and walking)
- Data usually not available for small areas and narrowly defined demographic groups;
(e.g. prevalence of dietary risk factors in a particular neighborhood)
- Baseline data may not be aligned with effect data and impact models;
(e.g. youth physical activity data: days/week meeting recommendations vs. minutes of P.A./week)

Dealing with data gaps

Buford Highway/NE Plaza Redevelopment, Atlanta



Collaborative Analysis with

- Centers for Disease Control
- Georgia Tech, School of Architecture & Planning
- UCLA School of Public Health

Aim: Redevelop a “greyfield” into a vibrant, pedestrian-friendly environment



Project Elements

- Improve pedestrian infrastructure;
- Rebuild shopping center parcel based on Smart Growth principles;
- Increase density, connectivity and land uses in adjacent areas.

Estimating changes in Physical Activity

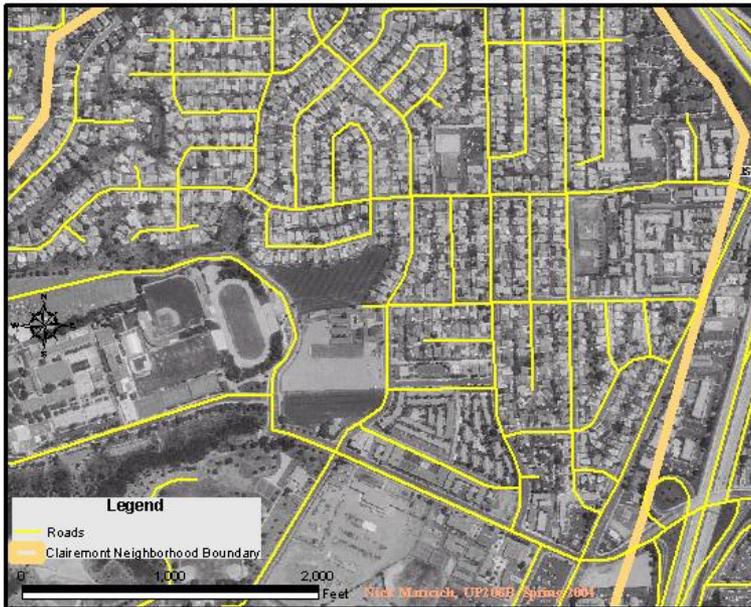
Problems

1. Many studies describe the association between walking and walkability, but little data on the dose-response.
2. Little agreement on how to measure walkability.
3. No data on baseline physical activity specific to the project area.

Solution: Extrapolation and a little data collection

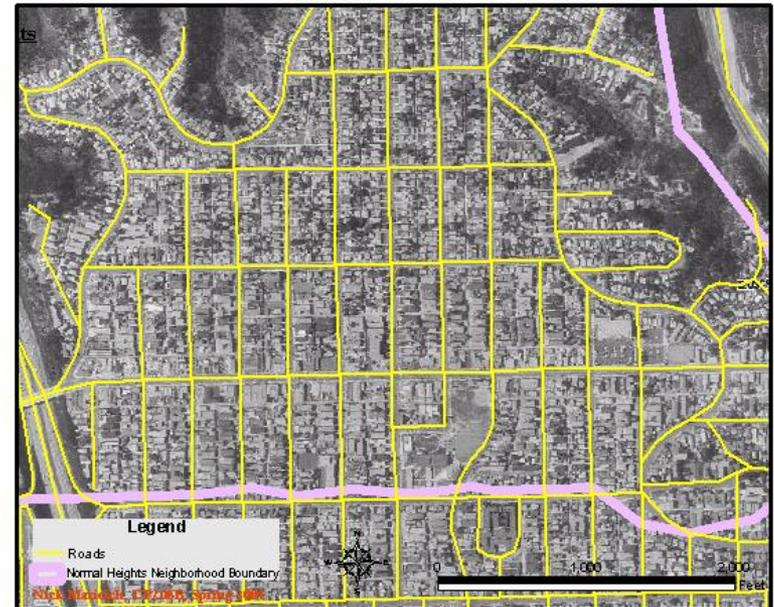
Walkability and Walking in two San Diego neighborhoods

Clairemont Street Pattern



Ped-L.O.S. B (2.0)
Avg min. walked/week 65

Normal Heights Street Pattern



A- (1.4) (data collected by UCLA)
138 (from Saelens et al, 2003)

Virtual Walkability Analysis

Before



After



Average L.O.S. = D (4.1)

Avg min. walked/week = 51 (*avg for Atlanta MSA, NHTS, 2001*)

Estimated L.O.S. = B- (2.4)

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Impact analysis (*Buford Hwy HIA*)

Results of walkability modeling

- Estimated increase of 11-75 minutes of daily walking

So what?

Impact analysis (*Buford Hwy HIA*)

What is the value?

- Prediction of specific estimate?
- Building the case that design influences walkability and walking?
- Providing a model to allow examination of alternative scenarios and broadening understanding of cost/health trade-offs?
- Supporting opportunities for community input?

*Would a simple textual summary
of existing research suffice?*

Does the model strengthen or weaken defensibility?

Strongest Candidates for HIA

- Well-defined policy or project;
- Potential for HIA to make a difference to policy decisions;
- Issues can be defined in such a way that health issues can be defined as important and legitimate concerns;
- HIA can be cast as a resource rather than an imposition;
- Partner agencies interested in collaboration;
- Population-specific baseline health and health-risk information available;
- Sufficient time and financial resources to produce an HIA that meets the above requirements;
- Commitment to on-going agency collaboration (not just a one-shot HIA)

Advancing HIA

Lessons learned from countries outside the U.S.

- Importance of broad political support
- Value of enabling legislation
- Casting HIA as a resource rather than an imposition
- Judicious, purpose-driven, use participation coupled with technical analysis