



# **Co-Benefits of Active Design: Applications to Healthy Eating Environments and Policies**

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For NOPREN Webinar

September 17, 2018

# Disclosures

- Nike Inc supported literature exploration of co-benefits
- SPARK physical activity programs of School Specialty Inc

# What are the research purposes? Who are the audiences?

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- Hopefully another purpose is to contribute to policy and practice
  - So, practitioners and policy makers are additional audiences
- Scientists are interested in health outcomes
  - What are policy makers interested in?

# Doing “Strategic Science”

- Studies intended to inform or influence the actions of practitioners and policy makers
  - Brownell & Roberto (Lancet, 2015)
- Decision makers value “real world” evidence, such as evaluating natural experiments (Sallis et al., Lancet, 2016)
  - Natural experiments are closely related to decisions they have made or are considering
- Outcomes collected should be relevant to the needs of all users of the research
  - These might be consumers, parents, policy makers in multiple sectors, elected officials.

# Outcomes for Multiple Audiences

- Practitioners want to know about outcomes relevant to their sector (industry, transport, parks, agriculture)
- Elected officials must consider many outcomes, especially economics
- “Additional” outcomes can be thought of as “co-benefits” of health behavior interventions
- Assessing co-benefits can enhance impacts of studies on policy and practice
- Side effects (unintended outcomes) also are important to understand

We conducted a “literature exploration” of potential co-benefits of designing cities to support activity

## Grading the Evidence

SCORE	TYPE OF EVIDENCE
4.5	Peer-reviewed, systematic review paper (including meta-analysis)
4	Peer-reviewed, non-systematic review paper <u>or</u> unpublished review paper (from grey literature)
3.5	Any (singular) peer-reviewed study
3	Any (singular) non peer-reviewed study
2	Non-analytic studies (for example, case reports, case series, simulations) or advocacy report without a clear literature review
1	Expert opinion, formal consensus



# Physical Activity Settings










- These settings must be considered in the design of Active Cities
- A short list of features of each setting related to physical activity was identified for each setting, and co-benefits of those features were searched

# Co-Benefits Results

- 221 sources were identified, yielding 521 relevant findings
  - 418 findings from higher-quality sources contributed to quasi-quantitative scoring
- All findings are summarized in tables and scored for quality
- Summary tables/matrices were developed to summarize the strength of available evidence



# Summary of scores & color codes for each level of evidence

Level of Evidence	Range of Scores	Color Code
Strong evidence of positive effect	15 and above (+)	
Good evidence of positive effect	10-14 (+)	
Moderate evidence of positive effect	4-9 (+)	
Insufficient evidence	3.5 (-) to 3.5 (+)	
Moderate evidence of negative or null effect	4-9 (-)	
Good evidence of negative or null effect	10-14 (-)	
Strong evidence of negative or null effect	15 and above (-)	

# MAKING THE CASE:

## Urban Design Features Scores

	Physical Health	Mental Health	Social Benefits	Environmental Sustainability	Safety/Injury Prevention	Economic Benefits
Feature						
Residential density	19+ 21.5(0) 7.5-		13.5+ 14.5(0)	88+ 21(0) 3.5-	4.5(0) 7.5-	15+ 3.5(0)
Mixed use	28+ 17(0) 4-	4.5+ 4-	33+ 11(0)	95+ 21(0)	4.5(0) 11-	22.5+ 3.5(0) 4-
Street scale design	7.5+		7.5+	7.5+		7+
Greenery	20.5+ 3.5(0)	26.5+	12+	39.5+		12+
Accessibility & Connectivity	30+ 12(0) 7.5-		14.5+ 3.5(0)	35.5+ 3.5(0)	4.5(0)	12.5+ 3.5(0)

# MAKING THE CASE: School Features Scores

	Physical Health	Mental Health	Social Benefits	Environmental Benefits	Safety/Injury Prevention	Economic Benefits
Feature						
School siting	3.5+	4.5+		21.5+	3-	4+
Recreation facilities	16+ 3.5(0)	16.5+	3.5+			3.5+
Shared use agreements			7.5+		4+	7.5+

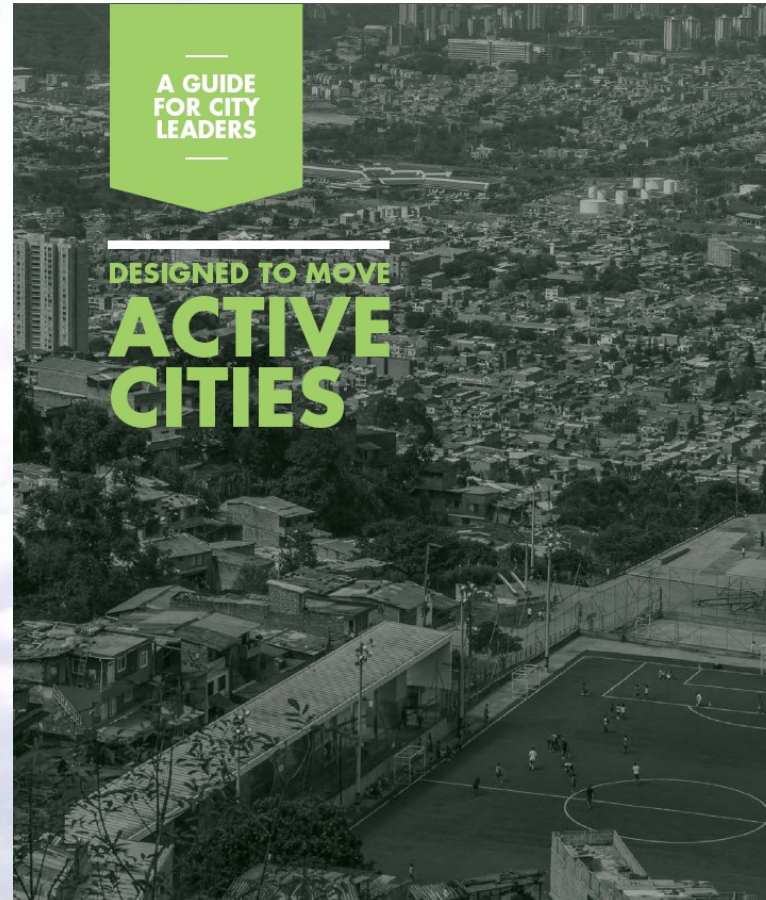
# Co-Benefits of Designing Activity-Friendly Environments

	Physical Health	Mental Health	Social Benefits	Environmental Sustainability	Safety / Injury Prevention	Economic Benefits
<b>Open spaces / Parks / Trails</b>	57.5+ 3.5(0)	93+	42.5+ 4(0)	20+ 4(0)	23+	19+ 4(0)
<b>Urban Design</b>	105+ 54(0) 19-	31+ 4-	80.5+ 29(0)	265.5+ 45.5(0) 3.5-	13.5(0) 18.5-	69+ 10.5(0) 4-
<b>Transport Systems</b>	7+ 3.5-	3+ 3.5(0)	23+	70+ 21(0) 3-	67+ 14(0) 4-	56+ 3.5(0) 4-
<b>Schools</b>	19.5+ 3.5(0)	21+	11+	21.5+	4+ 3-	15+
<b>Workplaces / Buildings</b>	55+ 3.5(0)	18.5+ 4-		20.5+		48+ 3.5(0)

Sallis, J.F., et al. (2015). Co-benefits of designing communities for active living: An exploration of literature. **International Journal of Behavioral Nutrition and Physical Activity**, 12: 30.

# Our review was incorporated into this guidebook

- This report is a useful resource
- Download at <http://www.designedtomove.org/resources>
- Developed by Nike



# Co-Benefit Considerations

- Equity issues can be a co-benefit
  - Health equity, equity of access
  - Not assessed directly in review
  - Equity impacts depend on details of implementation
- Potential negative side-effects should be examined (displacement, higher food prices, stress of change)



# What Co-Benefits May Be Relevant for Healthy Eating Policies?

- Employment in new food stores in low-income areas
- Reduced greenhouse gas emissions related to policies to promote more F&V and less meat intake (double-up bucks)
- Social health impact of farmer's markets and community gardens
- New produce markets may stimulate new small businesses nearby
- Consider affordability of new healthy food sources in low-income communities

# What Other Issues Might You Consider?

- People's acceptance of the policy/environmental change, civic engagement, affordability, economics, food security, environmental sustainability
- Impact on farmers, retailers, low-income residents, children

# Co-Benefit Selection Is An Interdisciplinary Activity

- Engaging partners with a diversity of expertise has advantages
  - Can facilitate communication of results to decision makers in the multiple sectors that have responsibility for making decisions
  - Quality of communication with end-users can affect how lessons from research will affect policy and practice in the future

# Questions to Guide Co-Benefit Measurement Plan

- What co-benefits (and side effects) beyond eating- or obesity-related outcomes can reasonably be expected from this program, policy, or environmental change?
- Which disciplines, sectors, agencies, and organizations have expertise in the co-benefit domains?
- Which government agencies, industries, and professional organizations are involved in practice and policy in each of the targeted domains of co-benefits?

# Are You Confused? LET'S DISCUSS



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