Understanding Local Governments’ School-related Policies and Plans That May Affect Active Living Among School Students and Community Members

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Presentation Overview

• Background and purpose
• Study methods
• Describe local government active living-oriented policy and plan provisions
• Examine the socio-demographic characteristics associated with such policy/plan provisions
• Policy and research opportunities
• Conclusions and policy implications
• Resources/contacts
Background

• More than one-third of children ages 10-17 in the U.S. are overweight or obese.¹
• Rates of walking and bicycling to school have declined from 50% to 13% between 1969 and 2009 for children aged 5-14 years old.²
• According to the CDC 2010 State Indicator Report on Physical Activity only 65% of adults are physically active while only 17% of students in grades 9-12 are active.³
Background (cont.)

- The Task Force on Community Preventive Services recommends community and street-scale urban design and land use policies as a strategy to promote physical activity.\(^4\)
- Laws that require crossing guards around schools appear to be effective at reducing barriers to walking/biking to school.\(^5\)
- Shared/joint use of school and community recreation facilities can be a cost-effective way to promote physical activity. Children who have access to school recreation facilities after hours are more likely to be active.\(^6\)

Source: http://icsw.nhtsa.gov/nhtsa/ImageLibrary/display.cfm
Purpose

• Describe the prevalence of local government school-related provisions in policies and plans addressing:
  • School Siting
  • Pedestrian safety
  • Joint/shared use of school facilities for recreational purposes
• Describe the sociodemographic characteristics associated with such policy/plan provisions.
Study Methods
Methods

Policy Collection and Coding

• Policies and plans were collected in 2010 from local governments surrounding 154 secondary schools nationwide (aka, “secondary school catchments”).

• Items collected included:
  - Zoning Ordinances
  - Subdivision Regulations
  - General Ordinances
  - Joint use agreements
  - Master/Comprehensive/General Plans
Community Demographics

- Southern Region
- Northeast Region
- Midwest Region
- Western Region
- Rural Area
- Suburban Area
- Urban Area
- ≥ 50% Med. HH Income
- White (>66%)
- Black (>50%)
- Hispanic (>50%)
- Other

- Communities with Plans
- Communities with Zoning Regs.

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### Policy/Plan Coding Instrument

Policies/plans were reviewed by researchers using a coding instrument to evaluate the extent to which they specifically address walking/biking and recreation around schools.

#### A. CODE/ORDINANCE-Related ITEMS

<table>
<thead>
<tr>
<th>A. Item</th>
<th>Citation</th>
<th>A1. Addressed</th>
<th>A2. Strength of Requirement</th>
<th>A3. Min. Distance (Specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. School siting</td>
<td></td>
<td>YES NO REQ ENCR NO NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Co-location of future/existing schools with parks/athletic fields</td>
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<td></td>
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<tr>
<td>fields/open space</td>
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<tr>
<td>2. Schools located within walking distance of primary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>residential areas served</td>
<td></td>
<td></td>
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<tr>
<td>b. Sidewalk/sidewalk networks around or within a certain</td>
<td></td>
<td></td>
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<tr>
<td>distance of schools</td>
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<tr>
<td>c. Crosswalks around or within a certain distance of schools</td>
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<tr>
<td>d. Crossing guards located within a certain distance of schools</td>
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</tr>
<tr>
<td>1. Crossing guards located within a certain distance of ES</td>
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<tr>
<td>2. Crossing guards located within a certain distance of MS</td>
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<tr>
<td>3. Crossing guards located within a certain distance of HS</td>
<td></td>
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</tr>
<tr>
<td>e. Joint-use/Shared-use of school facilities for PA/ recreational</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>purposes</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1. Joint/shared use by park district</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Joint/shared use by park/recreation department</td>
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<td></td>
<td></td>
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<tr>
<td>3. Joint/shared use by community recreational</td>
<td></td>
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<tr>
<td>league/group (e.g., Little League, Neighborhood Athletic Association)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Joint/shared use by before/after school programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Joint/shared use by YMCA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Other Specify</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Analytic Methods

- **Descriptive statistics** were computed, clustered to account for the sample design, and weighted proportional to the population of the local jurisdictions to account for the relative weight of the policies/plans from multiple jurisdictions inside the same school catchment.

- **Multivariate logistic regression** models examined the factors influencing whether the policy/plan addressed the topic of interest adjusting for:
  - >66% White population, low median household income, urbanicity (rural/township ref.) region (South ref.)
  - Sociodemographic data were compiled using the American Community Survey, 2010 Census data, and Census Tiger files.

- To ease interpretation, the **adjusted prevalence** of each policy/plan provision was generated after controlling for all covariates.
  - Significant predictors (after adjustment) are presented if statistically related at the p<.05 level.

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School-Related Policy and Plan Provisions
Prevalence of School-related Policies in Zoning and Other Related Policies

- School Siting
- Co-location schools with parks
- Schools walking distance of res. areas
- Sidewalks around schools
- Crosswalks around schools
- Crossing guards around schools
- JU of school facilities
- JU by park district
- JU by P&R Dept
- JU by before/after school programs
- JU by other

Encouraged | Required

a n=175
Prevalence of School-related Policies in Plans

- **School Siting**
- **Co-location schools with parks**
- **Schools walking distance of res. areas**
- **Sidewalks around schools**
- **Crosswalks around schools**
- **Crossing guards around schools**
- **JU of school facilities**
- **JU by park district**
- **JU by P&R Dept**
- **JU by community group**
- **JU by before/after school programs**
- **JU by other**

Encouraged and Required

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Prevalence of Any (Required or Encouraged) School-related Provisions in Policies and Plans

- School Siting
- Co-location schools with parks
- Schools walking distance of res. areas
- Sidewalks around schools
- Crosswalks around schools
- Crossing guards around schools
- JU of school facilities
- JU by park district
- JU by P&R Dept
- JU by community group
- JU by before/after school programs
- JU by other

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Factors Influencing Policy and Plan Provisions
### Multivariate Regressions: Community Characteristics Significantly Associated with School-Related Policies and/or Plans-1

<table>
<thead>
<tr>
<th>Low-income areas(^a) predicting school-related policy</th>
<th>Not LI</th>
<th>LI</th>
<th>Adj. %</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy: School siting</td>
<td>16%</td>
<td>5%</td>
<td>0.22</td>
<td>0.06</td>
<td>0.86</td>
</tr>
<tr>
<td>Plan: Joint use of school facilities</td>
<td>77%</td>
<td>49%</td>
<td>0.09</td>
<td>0.09</td>
<td>0.57</td>
</tr>
<tr>
<td>Plan: Joint use of school facilities by P&amp;R Dept</td>
<td>19%</td>
<td>5%</td>
<td>0.20</td>
<td>0.05</td>
<td>0.81</td>
</tr>
<tr>
<td>Plan: Joint use of school facilities by other (munis/counties)</td>
<td>67%</td>
<td>48%</td>
<td>0.41</td>
<td>0.17</td>
<td>0.99</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&gt;66% White (^b) communities predicting school-related policy</th>
<th>≤Not Maj. White</th>
<th>≥Maj. White</th>
<th>Adj. %</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan: School siting</td>
<td>54%</td>
<td>33%</td>
<td>0.39</td>
<td>0.17</td>
<td>0.90</td>
</tr>
<tr>
<td>Plan: Schools w/in walking distance of residential areas</td>
<td>32%</td>
<td>15%</td>
<td>0.34</td>
<td>0.13</td>
<td>0.91</td>
</tr>
<tr>
<td>Plan: Joint use of school facilities by community group</td>
<td>11%</td>
<td>3%</td>
<td>0.21</td>
<td>0.05</td>
<td>0.98</td>
</tr>
</tbody>
</table>

\(^a\)All low-income models are adjusted for race/ethnicity (non-white ref.), urbanicity (rural ref.), region (south ref.) ;

\(^b\)All >66% White models are adjusted for income (high ref.), urbanicity (rural ref.), region (south ref.)
# Multivariate Regressions: Community Characteristics Significantly Associated with School Related Plans-2

<table>
<thead>
<tr>
<th>Midwest Areas Predicting(^a) School-related Plan</th>
<th>Adj. %</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not MW</td>
<td>MW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidewalks around schools</td>
<td>42%</td>
<td>19%</td>
<td>0.28</td>
</tr>
<tr>
<td>Crosswalks around schools</td>
<td>16%</td>
<td>2%</td>
<td>0.09</td>
</tr>
<tr>
<td>Joint use of school facilities</td>
<td>70%</td>
<td>46%</td>
<td>0.28</td>
</tr>
<tr>
<td>Joint use of school facilities by other (munis/counties)</td>
<td>64%</td>
<td>41%</td>
<td>0.35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Northeast Areas Predicting(^a) School-related Plan</th>
<th>Adj. %</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not NE</td>
<td>NE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School siting</td>
<td>46%</td>
<td>22%</td>
<td>0.28</td>
</tr>
<tr>
<td>Co-location of schools with parks/open space</td>
<td>34%</td>
<td>7%</td>
<td>0.11</td>
</tr>
<tr>
<td>Sidewalks around schools</td>
<td>44%</td>
<td>9%</td>
<td>0.11</td>
</tr>
<tr>
<td>Crosswalks around schools</td>
<td>15%</td>
<td>2%</td>
<td>0.09</td>
</tr>
</tbody>
</table>

*All models sig at or below p<.05; \(^a\)All models are adjusted for race/ethnicity (non-white ref.), urbanicity (rural ref.), income (high ref.), and region (S=ref).

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# Multivariate Regressions: Plans as a Predictor of Zoning

<table>
<thead>
<tr>
<th></th>
<th>Adj.* %</th>
<th>AOR*</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Plan Prov.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidewalks around schools</td>
<td>28%</td>
<td>52%</td>
<td>2.96</td>
</tr>
<tr>
<td>Joint use of school facilities by other (munis/counties)</td>
<td>12%</td>
<td>26%</td>
<td>3.40</td>
</tr>
</tbody>
</table>

*All models significant at p<.05 and adjusted for race/ethnicity (non-white ref.), urbanicity (rural ref.), income (high ref.), and region (south ref.).

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Conclusion and Policy Implications
Conclusion

- Local governments are interested in identifying ways to improve the environment around schools as evidenced by the plan data.
- Data from this study indicates that interest does not lead to actual policy enactment.
- Most school-related provisions are not prevalent in policies/plans.
- Predominantly White communities are less likely to adopt selected active living-oriented policies and plans.
- Disparities exist in lower income communities and the MW and Northeast regions of the country.

Source: www.pedbikeimages.org / Dan Burden
Policy Implications

- Local governments should review their existing policies related to the built environment and modify them to address infrastructure improvements that could be made to promote pedestrian safety around schools.
- Local governments should consider adopting joint use agreements as a cost-effective way to provide recreation opportunities.

Source: www.pedbikeimages.org / Dan Burden
Resources/Contacts

For more information, visit: [http://www.bridgingthegapresearch.org/](http://www.bridgingthegapresearch.org/)

Contact: Emily Thrun: ethrun2@uic.edu; Jamie Chriqui: jchriqui@uic.edu

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References


(4) Heath GW, Brownson RC, Kruger J, et al. The effectiveness of urban design and land use and transportation policies and practices to increase physical activity: a systematic review. *Journal of Physical Activity & Health*. 2006;3(Supplement 1):S55-S76.
