

Table of Contents

Summary	1
Background	1
School and District Support for Walking and Bicycling.....	3
Methods	5
Figure 1. Location of Middlesex County in New Jersey	6
Data Collection	6
Data Analysis	7
Results.....	8
Table 1. School Responses on Bicycling Policy in Middlesex County, NJ.....	9
Table 2. School Responses on Bicycling Policy by School Type in Middlesex County, NJ	9
Table 3. Supportive and Non Supportive Bicycling Policies and Practices in Middlesex County, NJ.....	10
Conclusion	11
Communication.....	12
Limitations.....	14
Changing District Policies.....	14
Resources	15
Acknowledgments	15

Summary

School policies can play an important role in determining the mode of travel students use to get to and from school. Despite this role, little is known about the consistency and the content of school policies on active travel. The purpose of this study is to examine all of the school policies in one county in New Jersey as well as identify the content of the policies. All 165 public schools excluding pre-kindergarten, Head Start and vocational programs in Middlesex County, New Jersey were surveyed and participated in a nine question structured telephone interview to examine school policies on walking and bicycling. Participants were generally school administrators, such as secretaries and principals. Extensive field notes were taken during the interviews and entered into a standardized form. Data were coded into categories based on interviewee response. No policies on walking were reported. Seventy-two schools had policies on bicycling (44%), while 79 schools had no formal policy (48%), however they had a practice that was neither official nor passed by an administrative body. Among the 151 schools, 88 of the schools support bicycling, with an additional ten supportive practices or policies, but with minimum grade restrictions, while 53 of the schools' practices or policies were not supportive of cycling. The remaining 14 schools reported that they did not know their policy or could not report it (8%). Throughout Middlesex County, NJ, there is wide variation in school policies and practices regarding bicycling to and from school.

Background

The percentage of children ages 5-18 who walk or bicycle to school in the U.S. has declined over time (1). In 1969, approximately half of all schoolchildren used active travel, operationally defined as any form of human-powered travel such as

walking or bicycling, to get to or from school, and 87% of those living within one mile of school walked or bicycled. In 2001, just 16% of schoolchildren used active modes of travel (1). One of the reasons for this decline is that some schools have established policies banning these active modes of travel, therefore students are driven or bused to and from school (2). This study is the first attempt to systematically evaluate the school policies related to bicycling, based on data from one county, Middlesex County in New Jersey.

Students derive many benefits from walking or cycling to and from school, such as improved health through physical activity, improved safety awareness, adoption of positive active travel behaviors, increased sense of independence, and contributions to the reduction in the environmental impact.(3). The Center for Disease Control and Prevention (CDC), National School Board Association (NSBA) and Federal Highway Administration (FHWA) are just a few of the many national organizations that support and encourage walking and bicycling to school as an opportunity for children to include physical activity in their daily routine. In addition, Healthy People 2020, a plan to improve the health of all Americans, recommends increasing the proportion of walking trips to school of one mile or less, and bicycling trips of two miles or less (4). There is strong evidence that physically active children are at a decreased risk of childhood obesity and related negative health consequences such as diabetes, cardiovascular disease, hypertension, stroke and several kinds of cancer (5). Despite this evidence, many children are not physically active on a regular basis (6). The prevalence of childhood obesity in U.S. children under the age of 19 has doubled in the past 30 years (7). More specifically, obesity in children aged 6-11 has tripled nationally from 6.5% in 1979-1980 to 19.6% in



2007-2008 (8), and among adolescents aged 12-19 obesity increased from 5% to 18% during the same period (8).

There are many reasons why walking and bicycling to school has declined. In a 2004 nationally representative CDC survey asking parents to identify barriers to active travel to and from school, parents most commonly cited distance to school, followed by traffic-related danger (2). School policy, prohibiting or limiting students from cycling or walking, was the fifth most often cited barrier, identified by 6% of the respondents (2). Although banning or prohibiting walking or bicycling is the most obvious school policy-related barrier, other deterrent policies are also in place, such as restricting lower grades from participating, school unwillingness or inability to store bicycles and helmets, often due to lack of space, and delayed dismissal for walkers and cyclists until the buses and cars leave the school grounds (9). The variability of school policies on active travel is unknown, but thoroughly examining the different school and school board policies within one county can gain a better and deeper understanding on the current policy conditions for bicycling to and from school.

School and District Support for Walking and Bicycling

Currently, studies on the creation of school policies and status of school policies on active travel are scant. However, a few studies have been conducted examining the level of school and district support for walking and bicycling, which demonstrate the effect school policies can have.

In 2007, the University of South Carolina Prevention Research Center conducted a *School Travel Survey* to ask district superintendents, school board chairs, and elementary and middle school principals in South Carolina about their attitudes and beliefs about walking to and from school (10). The survey asked questions



concerning school and district policies related to active travel and the communication of these policies. Results from the survey revealed that district officials were generally more supportive of walk to school efforts (58% are in favor) than principals. In addition, more middle school principals (43%) were in favor than elementary school principals (38%) (10). The study found that more middle schools had supportive walking and bicycling policies than elementary schools. In addition, district officials and principals who reported having clear positions on active travel more commonly reported these positions verbally or through memos rather than through official written policies (10). The authors concluded that schools and districts should develop official written policies on active travel, preferably those of a supportive nature to increase rates of active travel. The authors referred to opportunities for advocates to work with parents and school districts to promote active travel, while ensuring student safety is paramount (10).

King, Rojas-Guyler and Sparks, also surveyed principals about their perceptions of students walking and bicycling to school (11). The purpose of the 2007 study was to identify the presence of restrictive policies, the frequency of active travel to and from school, and the perceptions of factors influencing students walking and bicycling to school, as observed by elementary and middle school principals. The study consisted of all public and private, elementary and middle schools in three counties in a Midwestern region. According to the study, principals largely underestimated the number of students walking or bicycling to school (11). In addition, principals at schools with higher walking and bicycling rates were significantly more likely to report that students should consider walking or bicycling if residing within one mile of the school, had significantly more enabling environments for bicycling,

and had significantly fewer barriers to bicycling (11). Based on these findings the authors recommended continuing to work with principals to increase physical activity through active travel. They felt that principals are supportive of more walking and bicycling and should be members of the team, along with community and school health educators, to increase physical activity among students by walking or bicycling to school (11). However, work still needs to be done to further improve the presence of factors that encourage and support active travel, and one of the ways this can occur is through clear, supportive school policies.

Methods

This cross-sectional study developed and used a nine question structured survey to examine school policies on walking and bicycling in Middlesex County, New Jersey. Middlesex County is in central New Jersey and was selected for both its population diversity and diversity of land uses, as it encompasses urban, suburban and rural environments. Figure 1 presents the location of the county in the state. The population is 58% white, 10% black, 21% Asian and 18% Hispanic or Latino of any race (12). With a 2010 population of almost 810,000 including over 160,000 children ages 5-19, it is the second most populous county in the state (12). The county is also densely populated with 2,622 people per square mile, making it the 21st most densely populated county in the country and fourth in the state (12). Of the 603 operating school districts in NJ in 2010, 24 are in Middlesex County and included in the study area (13). The county comprises 53 cities, towns and census designated places. The median household income in 2010 was \$51,914 (14).

Figure 1. Location of Middlesex County in New Jersey



Data Collection

All 165 of the public schools in Middlesex County, New Jersey were contacted by telephone to obtain information on the presence and if relevant, types of current school policies for students walking or bicycling to and from school. Pre-kindergarten and Head Start programs and the five vocational schools were excluded, as they often have students traveling from greater distances and may handle walking and cycling policies differently. The phone list for all schools in Middlesex County was compiled by Rutgers University’s Bloustein Survey Research Center using the New Jersey Department of Education’s School Directory (which can be found at: <http://education.state.nj.us/directory/>). The Bloustein Survey Research Center downloaded and cleaned the data in December of 2009.



The interview was performed with an individual from each school who was knowledgeable about school policies on walking and bicycling. These interviewees were generally part of the school administration, such as secretaries and principals. Schools that did

not respond to the initial call were called up to ten times, until all of the schools had been reached. Interviews ranged from five to twenty minutes, and no schools or participants received a follow-up call once they were reached. The interviews were conducted using a structured pre-tested interview guide. The interview guide had nine questions focusing on school policies on walking, bicycling and travel via other wheeled sports equipment eliciting both open-ended and closed-ended responses. Questions were asked about policies on helmet use and bicycle racks and the communication and monitoring of these policies. To increase the consistency of responses, two trained interviewers conducted interviews and Rutgers staff monitored the first three phone calls of each interviewer. All interviews were conducted in English and took place between October 2010 and May 2011. Participation was voluntary and interviewees did not receive any compensation or reimbursement. Since some interviewees directed the interviewer to a web page containing information about the school policy or practice, all school and school district web pages were searched as a follow-up procedure, and when available, the specific language used was documented.

Data Analysis

Data analysis was conducted using extensive field notes during the interviews and then entered into a standardized form. Data were then coded into categories based on interviewee response to interview question one, "Does your school have a clear position or policy about students riding bicycles to and/or from school?" The reply to this question was initially coded as a binary response, but as more data were collected more categories emerged, which are presented in Table 1.

“No school districts in the study area had policies about walking to school”

Results

No school districts in the study area had policies about walking to school and thus the following results are exclusively about bicycling policies and practices. However, in the few areas with 100% busing, the majority of school administrators claimed that walking is not permitted. Broadly, bicycling policies tended to fall into two categories: official policy and unofficial practice. The latter indicates that the school did have a rule about bicycling but it was not official or passed by an administrative body, such as a school board. These practices were sometimes written or recorded but more often were reported verbally, which is consistent with the South Carolina Prevention Research Center *School Travel Survey* data (8).

Of the 165 schools contacted, all were reached. These consisted of 111 elementary schools, 32 middle schools, and 22 high schools in the study. Of the 165 schools, 8% did not know if they had a policy or were unwilling to give out that information. Over 43% had a policy, while 48% had no policy on bicycling to or from school. For those schools that had a policy, three categories emerged: schools that permitted bicycling; schools that permitted bicycling but restricted children in lower grades from participating (called grade restrictions); and schools that required explicit permission from the principal to bicycle. For schools without a policy, two of the same categories of responses emerged: schools that permitted bicycling and schools that permitted bicycling with grade restrictions. A third category of schools that banned bicycling also emerged among these schools with practices and no policies. A detailed summary of the distribution of responses can be seen in Table 1 and by school type in Table 2.

Table 1. School Responses on Bicycling Policy in Middlesex County, NJ

Category	<i>n</i>	%
Policy	72	43.64
Permitted	7	4.24
Permitted with Grade Restrictions	33	20.00
Principal Permission Required	32	19.39
No Policy	79	47.88
Permitted	36	21.82
Permitted with Grade Restrictions	10	6.06
Not Permitted	33	20.00
Unknown or Can't Give Information	14	8.48

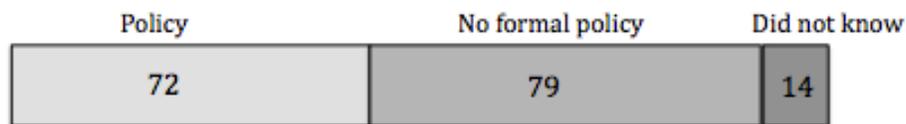
Table 2. School Responses on Bicycling Policy by School Type in Middlesex County, NJ

Category	<i>n</i>	%
Policy	72	43.64
Elementary School	47	28.48
Middle School	14	8.48
High School	11	6.67
No Policy	79	47.88
Elementary School	53	32.12
Middle School	14	8.48
High School	12	7.27
Unknown or Can't Give Information	14	8.48
Elementary School	11	6.67
Middle School	3	1.82
High School	0	0.00

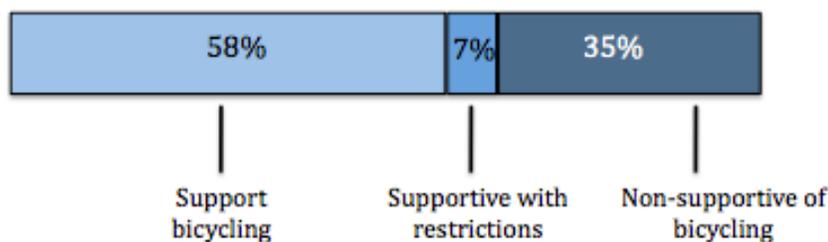
Table 3. Supportive and Non-Supportive Bicycling Policies and Practices in Middlesex County, NJ

Policy or Practice Type	<i>n</i>	%
Supportive Policy or Practice	88	53.33
Elementary School	46	27.88
Middle School	21	12.73
High School	21	12.73
Supportive Policy or Practice with Grade Restrictions	10	6.06
Elementary School	5	3.03
Middle School	5	3.03
High School	0	0.00
Non-Supportive Policy or Practice	53	32.12
Elementary School	49	29.70
Middle School	2	1.21
High School	2	1.21
Unknown or Can't Give Information	14	8.48
Elementary School	11	6.67
Middle School	3	1.82
High School	0	0.00

Of the 165 schools in Middlesex county, NJ, what number have a policy on bicycling to and from school?



Of those who know if they have a policy, what percent support bicycling?



Among the 151 schools that knew whether or not they had a policy, 88 of the schools had a policy or practice allowing bicycling, 53 schools had policies or practices banning cycling and ten schools had policies or practices that allowed cycling with grade restrictions, prohibiting students in lower grades from participating. In classifying policies and practices as supportive, non-supportive, or supportive with grade restrictions, those schools containing only grades where bicycling was prohibited due to grade restrictions were coded as non-supportive and those schools that contained grades where bicycling was both prohibited and allowed due to the grade restriction were coded as supportive with grade restrictions. Thus, in the 43 schools with grade restrictions either by policy or practice reported in Table 1, 33 schools restricted all of the grades at particular schools, meaning that no one at that school was allowed to bicycle. The middle schools where this occurred were from one school district that allows bicycling in 7th grade, although the middle schools comprise of 6th graders. The remaining ten schools allowed children in particular grades, such as fourth grade and above to cycle, while children in lower grades at the same school were prohibited. Table 3 presents the full results.

Conclusion

There is little to no consistency among schools in Middlesex County regarding bicycling policy content. The findings show a range of written or verbal policies from allowing bicycling, to permitting it for students in second to seventh grade, to banning bicycling. Some school representatives did not know if a policy was in place. Since this information was compiled through telephone interviews, the authors did not thoroughly examine specific geographic conditions surrounding the schools to determine the safety of the nearby environment for bicycling, which should be

done in future research. Investigation of geographic conditions was limited to a cursory look using Google Street View of selected school locations' bicycling compatibility through on-line mapping. Preliminarily, there appears to be no agreement over safe navigability. There are no obvious differences in the built environment around schools that allow bicycling and those that prohibit this activity. This relationship should be examined thoroughly through detailed geographic analysis in future research.

Communication

Schools that followed official school district policies commonly directed the interviewer to the official policy, which was often located on the school district website or in a parent or student handbook. Interviewees reporting unofficial school practices were less likely to direct the interviewer to written documentation and the information rarely appeared on school or district websites.

Communication issues that arose during the course of the research are threefold. First, and most commonly, the interviewer was transferred to several staff members before finding an interviewee who was knowledgeable about school policies or practices, indicating that at many schools this information was not widely known by the staff. This response could leave an individual or parent frustrated or confused when seeking information. Second, some individual schools adhere to district policies, while other schools have written their own policy, thereby rendering the district policy misleading. Third, administrative turnover can lead to confusion, particularly in cases where principal permission is required for bicycling. Unofficial practice could change every time a new principal is hired. During one phone call, the interviewer was transferred several times between a substitute principal and new administrative staff and never received definitive information on the



issue of bicycling to school. These communication issues could lead parents who might be otherwise willing to allow their child to bicycle to choose another mode of travel. Creating clear written policies and ensuring that staff, parents and students are informed could avoid these problems.

Despite the variation among school bicycle policies, some common language was used for similar policies. For example, policies that permit bicycling commonly addressed the location that the bicycle is to be stored and the fact that the school assumes no responsibility for these items. For schools that permit bicycling with grade restrictions, the grade that bicycling becomes a permitted mode of travel varies widely in Middlesex County from second to seventh grade without justification of the reason for the grade selection. Furthermore, in several cases, even when the policy did not prohibit bicycling, some policies used relatively negative language to describe cycling, such as: “Because of the clear and present danger of accidents in traffic inherent in bicycle riding, it shall be the policy of the Board to prohibit the use of bicycles by students to travel to and from those schools so listed by the principal” (15). This policy’s use of negative language, stating the “clear and present danger” of cycling, communicates concern to parents considering a travel mode choice for their child. Additionally, the policy language is confusing. The Board of Education assigns the decision regarding bicycling to each school principal, which is both difficult to understand due to the language and structure of the policy, and may also change with administration turnover. Furthermore, delegating the decision to school principals rather than the School Board does not provide for public input.

Limitations

Although all schools in Middlesex County, NJ were contacted and responded to the interview, the job title of the interviewee varied by school from the principal to the principal's secretary and in a few schools, the school nurse. Although this variation somewhat limits the comparability of responses, the interviewer called each school and asked for a staff member who was knowledgeable about school policies on active travel. The strength of this method is that it is reflective of the experience of a parent or guardian seeking information about school policy or practice. Therefore, despite the variability in the interviewees, this method was considered most useful for examining the relationship between the policy or practice and its communication.

Communication is a critical component, particularly since parents most often determine the mode of travel to and from school. Lastly, since information was gathered through telephone interviews, the effect of specific geographic conditions, traffic, or the built environment on individual school policies or practices could not be investigated.

Changing District Policies

The findings from this study, both on the presence of policies and the variability in their content, suggest that there may be opportunities for practitioners and parents to question or change school policies and practices on this issue and perhaps successfully advocate for supportive written policies modeled after schools districts. Although supportive school district policies may increase the number of children walking and bicycling in some communities, they are only one small part of a program geared towards improving childhood physical activity rates and the possible achievement of the Healthy People 2020 goal set for higher rates of

walking and bicycling to school. Thus, these policies should be examined, but also considered in coordination with other efforts, policies and events that promote safe, active travel to ensure an integrated approach.

Resources

- Why Should a School District Adopt Policies on Walking and Biking?
http://policy.rutgers.edu/vtc/srts/toolbox/School_Walk_Bike_Policy%20Fact%20Sheet.pdf
- A Model Walking Program
<http://policy.rutgers.edu/vtc/srts/toolbox/Model%20Walking%20Policy.pdf>
- A Model Biking Program
<http://policy.rutgers.edu/vtc/srts/toolbox/Model%20Bicycle%20Policy.pdf>
- Backing Off Bike Bans
http://changelabsolutions.org/sites/default/files/Backing-Off_Bike-Bans_FINAL_20130715_0.pdf

Acknowledgments

The authors would like to thank Elizabeth Ward, former graduate assistant at the Voorhees Transportation Center at the Edward J. Bloustein School of Planning and Public Policy at Rutgers University, and the center's director, Bob Noland, PhD. We would also like to thank Elise Bremer-Nei and Sheree Davis of the New Jersey Department of Transportation, Sara Zimmerman, JD of ChangeLab Solutions, and Beverly Stern, RN, BSN.

References

(1) Centers for Disease Control and Prevention. KidsWalk-to-School: Then and Now - Barriers and Solutions. February, 2008.
http://www.cdc.gov/nccdphp/dnpa/kidswalk/then_and_now.htm. Accessed June 28, 2012.

(2) Centers for Disease Control and Prevention. CDC Morbidity and Mortality Weekly Report: Barriers to Children Walking to or from

School --- United States, 2004. September 30, 2005. Vol 54, Issue 38, pp. 949-952.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a2.htm>.

Accessed June 28, 2012.

(3) Sustrans. Sample "Bike It" Cycling Policy: Safe Routes to School.

http://www.sustrans.org.uk/assets/files/Safe%20Routes/resources/toolkit/SRS_cycle_policy_example.pdf. Accessed June 28, 2012.

(4) U.S. Department of Health and Human Services. *Healthy People 2020*. Washington, DC: U.S. Department of Health and Human Services; 2010.

(5) Centers for Disease Control and Prevention. Obesity Halting the Epidemic by Making Health Easier. Division of Nutrition, Physical Activity and Obesity, 2011.

(6) Centers for Disease Control and Prevention. YRBSS National Youth Risk Behavior Survey: 1991-2011. Trends in the Prevalence of Physical Activity and Sedentary Behaviors.

<http://www.cdc.gov/healthyouth/yrbs/factsheets/index.htm>.

Accessed July 10, 2012.

(7) Cummins S. K. and Jackson R. J. The Built Environment and Children's Health. *Pediatric Clinics of North America*, Vol. 48, 2001, pp. 1241-1252.

(8) Odgen, C., and Carroll, M. Prevalence of Obesity Among Children and Adolescents: United States Trends 1963-1965 Through 2007-2008. *NCHS Health E-Stat*, June 2010.

(9) Ahlport, K. N., Linnan, L., Vaughn, A., Evenson, K., & Ward, D. Barriers to and Facilitators of Walking and Bicycling to School: Formative Results From the Non-Motorized Travel Study. *Health Education & Behavior*, Vol. 35, 2008, pp. 221-244.

(10) Mathews, A., Pluto, D., Ogoussan, O., & Banda, J. Active Travel to School: Policies and Attitudes of School and District Leaders. *Journal of Physical Activity and Health*, 7(Suppl 1), 2010, pp. S13-S19.

(11) King, K. A., Rojas-Guyler, L., & Sparks, J. School Principals' Perceptions of Students Walking and Bicycling to School. *Californian Journal of Health Promotion*, 2007, pp. 51-61.

(12) U.S. Census Bureau. Profile of General Population and Housing Characteristics, Middlesex County, New Jersey. 2010. Accessed July 13, 2012.

(13) New Jersey Public School Statistics. School Districts By Type 2010-2011.

http://www.njsba.org/schoolstats/bmrwebstats_schooldist.html.

Accessed July 13, 2012.

(14) U.S. Census Bureau. Selected Economic Characteristics, 2006-2010 American Community Survey 5-Year Estimates, Middlesex County, New Jersey. 2010. Accessed July 13, 2012.

(15) Old Bridge Township Public Schools. Board of Education, Board Policy: By Laws and Policy: 5000: Pupils. Student Use of Bicycles and Motor Vehicles.

<http://www.oldbridgeadmin.org/documents.cfm?id=1524.4748&subid=4755>. Accessed July 13, 2012.