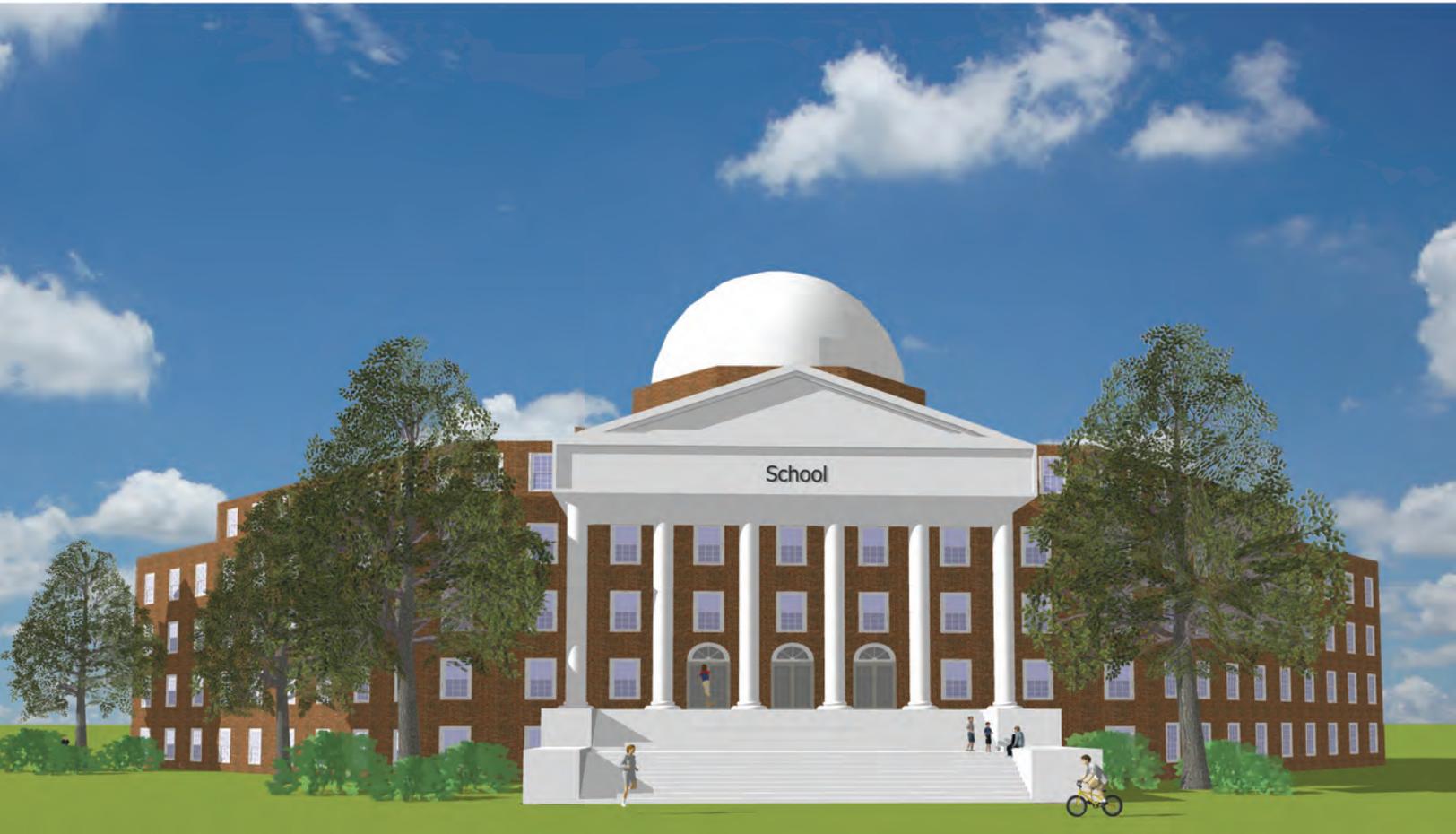


Michigan School Siting Guidelines

Taking the Environment into Account



Principal Investigators

Paul Mohai, Ph.D., University of Michigan

Byoung-Suk Kweon, Ph.D., PLA, University of Maryland



LANDSCAPE ARCHITECTURE
Department of Plant Science and Landscape Architecture

Funded by a Grant from THE KRESGE FOUNDATION

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Sponsor

The Kresge Foundation

Paul Mohai, Ph.D., is Professor in the School for Environment and Sustainability at the University of Michigan, Ann Arbor. He is a founder of the Environmental Justice Program at Michigan and a major contributor to the growing body of quantitative research examining disproportionate environmental burdens and their impacts on low income and people of color communities. He has served on the U.S. EPA's National Environmental Justice Advisory Council (NEJAC) and the Michigan Advisory Council on Environmental Justice (MAC-EJ), and has provided testimony on environmental justice to the U.S. House of Representatives, the U.S. Senate, and the Michigan Civil Rights Commission. He is author of numerous articles, books, and reports focused on race and the environment. Dr. Mohai can be reached by email at pmohai@umich.edu or by phone at (734) 763-4598.

Byoung-Suk Kweon, Ph.D., PLA, is Associate Professor in the Department of Plant Science and Landscape Architecture at the University of Maryland and a registered landscape architect. Her research on improving environments for school children was recognized with a national award from the Council of Educators in Landscape Architecture (CELA). In 2011 and 2012, she was named as a Landscape Architecture Foundation Research Fellow who documented the environmental, educational, social and economic benefits of school outdoor learning environments. She wrote numerous articles and was recently recognized as the top 9th most cited landscape architecture faculty member nationwide as of December 2018. Dr. Kweon can be reached by email at kweonb@umd.edu.

July 3, 2020

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Acknowledgements

We would like to extend our thanks to everyone who contributed to the development of this report. This effort would not have been possible without the invaluable contribution of your insights and participation in our conferences and meetings.

We would also like to thank US Representative Rashida Tlaib and State Senator Stephanie Chang for their devoted attention to developing school siting policy within the Michigan State Legislature, and for providing their expertise and perspective in the development of this work.

Additionally, a very special thanks to Lois Gibbs and Stephen Lester at the Center for Health, Environment and Justice, and to Steve Fischbach at the Virginia Poverty Law Center for sharing their unwavering leadership, knowledgeable insights, and hard-earned wisdom from the field throughout the entirety of this project.

Special thanks to those who provided their professional expertise in reviewing summaries of key policies in their respective states. These include Steve Fischbach, Litigation Director, Virginia Poverty Law Center (formerly Supervising Attorney, Rhode Island Legal Services); Andrea Brown, AICP, Executive Director, Michigan Association of Planning; Nancy Bernard, Program Manager, Washington State Department of Health; Anne Fritzel, AICP, Senior Planner, Washington State Department of Commerce; Michael O'Neill, Consultant for the California Department of Education; as well as several anonymous reviewers. We also give special thanks to Dawn Nelson, our dedicated assistant and project manager, whose attention to detail, hard work, good judgement, and persistence we could not have done without. In addition, we thank our research assistant Arianna Zrzavy for her invaluable contributions and tireless efforts to review, revise, and organize the final report.

We extend our heartfelt appreciation to our Steering Committee members Dr. Dolores Leonard, Coordinator, 48217 Zipcode Air Monitoring Committee; Dr. Pamela Pugh, Vice-President, State of Michigan Board of Education; Rhonda Anderson, Organizing Manager, Sierra Club and Donele Wilkins, Executive Director, Green Door Initiative. It has been an honor to work on this project in their company and be guided by their grounded and visionary leadership.

Finally, we would like to extend our appreciation to The Kresge Foundation for their continued support and funding of this work, without which none of this would be possible. Thank you, especially, to David Fukuzawa, Managing Director of Kresge's Health Program, for his help and support throughout the project.

Thank you very much for working with us.

Paul Mohai
Byoung-Suk Kweon

Task Force Members and Contributors

Affiliations listed at time of contribution. Current affiliations listed in parentheses.

Principal Investigators

Paul Mohai, PhD, University of Michigan
Byoung-Suk Kweon, PhD, University of Maryland

Project Manager

Dawn Nelson, University of Michigan

Postdoctoral Research Fellows

Sangyun Lee, PhD, University of Michigan (currently at Korea Environment Institute)
Chingwen Cheng, PhD, University of Michigan (currently at Arizona State University)
E. Cody Sametshaw, JD, University of Maryland (currently at US Department of Veterans Affairs)

Research Assistants

Nathan Allen, University of Maryland (currently at Coastal Land Design)
Richa Bundy, University of Michigan (currently at Wake Forest School of Medicine)
Hayley Currier, University of Michigan (currently at TransForm)
Laura Grier, University of Michigan
Ember McCoy, University of Michigan
Ima Otudor, University of Michigan
Mozhgon Rajaei, PhD, University of Michigan (currently at Oakland University)
Amy M. Sametshaw, University of Maryland (currently at EnviroCollab)
Christina Sauer, University of Michigan (currently at The Walt Disney Company)
Samantha Shattuck, University of Michigan (currently at Pegasus Technical Services c/o US EPA ORD)
Arianna Zrzavy, University of Michigan

Steering Committee

Rhonda Anderson, Sierra Club
Byoung-Suk Kweon, PhD, University of Maryland
Dolores Leonard, EdD, 48217 Zipcode Air Monitoring Committee
Paul Mohai, PhD, University of Michigan
Dawn Nelson, University of Michigan
Pamela Pugh, DrPH, Urban Regeneration LLC and State of Michigan Board of Education
Donele Wilkins, Green Door Initiative

Writing Team

Richa Bundy, University of Michigan (currently at Wake Forest School of Medicine)
Chris Coombe, PhD, University of Michigan School of Public Health, Detroit Community-Academic Urban Research Center

Deitra Covington, Blanche Kelso Bruce Academy (currently Sierra Club - Michigan Executive Committee)

Hayley Currier, University of Michigan (currently at TransForm)

Laura Grier, University of Michigan

Byoung-Suk Kweon, PhD, University of Maryland

Justen Lewis, Detroit Wayne County Health Authority (currently at Michigan Medicine)

Lois Maharg, On the Mark Editing, LLC

Ember McCoy, University of Michigan

Paul Mohai, PhD, University of Michigan

Dawn Nelson, University of Michigan

Ima Otudor, University of Michigan

Mozhgon Rajaei, PhD, University of Michigan (currently at Oakland University)

Tina Reynolds, JD, Michigan Environmental Council

Amy M. Sametshaw, University of Maryland (currently at EnviroCollab)

E. Cody Sametshaw, JD, University of Maryland (currently at US Department of Veterans Affairs)

Christina Sauer, University of Michigan (currently at The Walt Disney Company)

Samantha Shattuck, University of Michigan (currently at Pegasus Technical Services c/o US EPA ORD)

Arianna Zrzavy, University of Michigan

Task Force Subcommittees

Environmental Quality and Human Health

Chris Coombe, PhD, University of Michigan School of Public Health, Detroit Community-Academic Urban Research Center

Mouhanad Hammami, MD, Wayne County Health and Human Services (currently at Trinity Health)

Ronda Harrison, Michigan School Nurses' Association (former Director)

Pamela Pugh, DrPH, Urban Regeneration LLC and State of Michigan Board of Education

Donele Wilkins, Green Door Initiative

School Site Screening Criteria and Environmental Review Process

Byoung-Suk Kweon, PhD, University of Maryland

Michelle Martinez, Consortium of Hispanic Agencies (currently at Third Horizon Consulting)

Paul Mohai, PhD, University of Michigan

Randall Raymond, Geographic Information Specialist (currently at Cyber Alert School Safety)

Tina Reynolds, JD, Michigan Environmental Council

J. Sia Robinson, Detroit Public Schools and REER Research

Amy M. Sametshaw, University of Maryland (currently at EnviroCollab)

E. Cody Sametshaw, JD, University of Maryland (currently at US Department of Veterans Affairs)

Capacity Building and Inter-Agency Collaboration

Nikhol Atkins, American Federation of Teachers - Michigan
Justen Lewis, Detroit Wayne County Health Authority (currently at Michigan Medicine)
Dawn Nelson, University of Michigan
Rory Neuner, MI Air MI Health Coalition (currently at Michigan Health Endowment Fund)
Samantha Shattuck, University of Michigan (currently at Pegasus Technical Services c/o US EPA ORD)

Community Involvement

Rhonda Anderson, Sierra Club
Ethriam Brammer, PhD, Wayne State University (currently at University of Michigan)
Deitra Covington, Blanche Kelso Bruce Academy (currently Sierra Club - Michigan Executive Committee)
Ebony Elmore, Sierra Club Beyond Coal Campaign - Detroit
Dolores Leonard, EdD, 48217 Zipcode Air Monitoring Committee
Cadey Sontag, Garden City Public Schools
Alisha Winters, Detroit Community Resident

Task Force Members

Sara Adar, PhD, University of Michigan School of Public Health
Meg Thomas Ackerman, Michigan Fitness Foundation, Safe Routes to School (former Director)
Katie Alexander, Michigan Fitness Foundation, Safe Routes to School (current Director)
Rhonda Anderson, Sierra Club
Nikhol Atkins, American Federation of Teachers - Michigan
Stuart Batterman, PhD, University of Michigan School of Public Health
Mike Berkowitz, Sierra Club Beyond Coal Campaign
Scott Bertschy, University of Michigan
Ethriam Brammer, PhD, Wayne State University (currently at University of Michigan)
Andrea Brown, AICP, Michigan Association of Planning
Richa Bundy, University of Michigan (currently at Wake Forest School of Medicine)
Senator Stephanie Chang, Michigan Senate, 1st District
Chingwen Cheng, PhD, University of Michigan (currently at Arizona State University)
Steven E. Chester, JD, former Director MDEQ (currently at Miller Canfield)
Chris Coombe, PhD, University of Michigan School of Public Health, Detroit Community-Academic Urban Research Center
Deitra Covington, Blanche Kelso Bruce Academy (currently Sierra Club - Michigan Executive Committee)
Hayley Currier, University of Michigan (currently at TransForm)
Vicki Dobbins, Sierra Club
Michael Elliott, PhD, University of Michigan School of Public Health
Ebony Elmore, Sierra Club Beyond Coal Campaign - Detroit
Sabreen Ettaher, Wayne County Health Department
Michelle Fecteau, State of Michigan Board of Education
Steven Fischbach, JD, Rhode Island Legal Services (currently at Virginia Poverty Law Center)

Lois Gibbs, Center for Health, Environment and Justice
Christopher Godwin, University of Michigan
Sara Gosman, JD, University of Michigan (currently at University of Arkansas)
Laura Grier, University of Michigan
Zena Hamdan, Walden University
Mouhanad Hammami, MD, Wayne County Health and Human Services (currently at Trinity Health)
Jim Harrington, American Lung Association
Ronda Harrison, Michigan School Nurses' Association (former Director)
Jocelyn Hayward, R. Neuner Consulting
Elena Herrada, Detroit Public Schools Board of Education
Renaë Hesselink, US Green Building Council - West Michigan
Kimberly Hill-Knott, Detroiters Working for Environmental Justice (currently at Future Insight Consulting, LLC)
Rep. Rachel Hood, West Michigan Environmental Action Council (currently Michigan House of Representatives, 76th District)
Ife Kilimanjaro, East Michigan Environmental Action Council
Trish Koman, PhD, University of Michigan School of Public Health
Byoung-Suk Kweon, PhD, University of Maryland
Theresa Landrum, Sierra Club and United Citizens of Southwest Detroit
Sangyun Lee, PhD, University of Michigan (currently at Korea Environment Institute)
Dolores Leonard, EdD, 48217 Zipcode Air Monitoring Committee
Stephen Lester, Center for Health, Environment and Justice
Justen Lewis, Detroit Wayne County Health Authority (currently at Michigan Medicine)
Simone Lightfoot, National Wildlife Federation
Boying Liu, University of Michigan
Erin Longchari, University of Michigan (currently at Issaquah Food & Clothing Bank)
Vincent Martin, Human Synergy Works
Toni Williams Martin, Human Synergy Works
Maureen Martin, University of Michigan
Michelle Martinez, Consortium of Hispanic Agencies (currently at Third Horizon Consulting)
Ahmina Maxey, Zero Waste Detroit (currently at Transforming Power Fund)
Mac McClelland, Otwell Mawby, P.C. (currently at Mac Consulting Services LLC)
Ember McCoy, University of Michigan
Allison McElroy, University of Michigan
Rebecca Meuninck, PhD, Ecology Center
Paul Mohai, PhD, University of Michigan
Peter Morman, Senior Policy Advisor, Michigan House of Representatives
Dawn Nelson, University of Michigan
Rory Neuner, MI Air MI Health Coalition (currently at Michigan Health Endowment Fund)
Pamela Pugh, DrPH, Urban Regeneration LLC and State of Michigan Board of Education
Mozhgon Rajaeë, PhD, University of Michigan (currently at Oakland University)
Randall Raymond, Geographic Information Specialist (currently at Cyber Alert School Safety)
Edna Reaves, Detroit Federation of Teachers

Tina Reynolds, JD, Michigan Environmental Council
J. Sia Robinson, Detroit Public Schools and REER Research
Amy M. Sametshaw, University of Maryland (currently at EnviroCollab)
E. Cody Sametshaw, JD, University of Maryland (currently at US Department of Veterans Affairs)
Elizabeth Santos, Detroit Hispanic Development Corporation
Christina Sauer, University of Michigan (currently at The Walt Disney Company)
Hannah Schapiro, University of Michigan
Samantha Shattuck, University of Michigan (currently at Pegasus Technical Services c/o US EPA ORD)
Greg Smith, Community Research
Cadey Sontag, Garden City Public Schools
Ryan Stock, PhD, University of Michigan (currently at Northern Michigan University)
Rep. Rashida Tlaib, JD, Michigan House of Representatives, 6th District (currently US House of Representatives, Michigan 13th District)
Ian D. Tran, ISMOTION and US Green Building Council - Detroit Region (also currently Alkemystery 313, LLC)
Donele Wilkins, Green Door Initiative
Guy Williams, Detroiters Working for Environmental Justice (currently at USANA Health Sciences)
Alisha Winters, Detroit Community Resident
Sandra York, Michigan Parent Teacher Association (former Executive Director)
Senator Coleman A. Young II, Michigan Senate, 1st District (currently at Coleman Young Consulting LLC)

Presenters

Meg Thomas Ackerman, Michigan Fitness Foundation, Safe Routes to School (former Director)
Nathan Allen, University of Maryland (currently at Coastal Land Design)
Chad Bailey, United States Environmental Protection Agency
Stuart Batterman, PhD, University of Michigan School of Public Health
Mike Berkowitz, Sierra Club Beyond Coal Campaign
Andrea Brown, AICP, Michigan Association of Planning
Senator Stephanie Chang, Michigan Senate, 1st District
Steven E. Chester, JD, former Director MDEQ (currently at Miller Canfield)
Chris Coombe, PhD, University of Michigan School of Public Health, Detroit Community-Academic Urban Research Center
Deitra Covington, Blanche Kelso Bruce Academy (currently Sierra Club - Michigan Executive Committee)
Michael Elliott, PhD, University of Michigan School of Public Health
Michelle Fecteau, State of Michigan Board of Education
Steven Fischbach, JD, Rhode Island Legal Services (currently at Virginia Poverty Law Center)
David Fukuzawa, The Kresge Foundation
Lois Gibbs, Center for Health, Environment and Justice

Mouhanad Hammami, MD, Wayne County Health and Human Services (currently at Trinity Health)

Elena Herrada, Detroit Public Schools Board of Education

Kimberly Hill-Knott, Detroiters Working for Environmental Justice (currently at Future Insight Consulting, LLC)

Byoung-Suk Kweon, PhD, University of Maryland

Dolores Leonard, EdD, 48217 Zipcode Air Monitoring Committee

Stephen Lester, Center for Health, Environment and Justice

Justen Lewis, Detroit Wayne County Health Authority (currently at Michigan Medicine)

Michelle Martinez, Consortium of Hispanic Agencies (currently at Third Horizon Consulting)

Mac McClelland, Otwell Mawby, P.C. (currently at Mac Consulting Services LLC)

Paul Mohai, PhD, University of Michigan

Peter Morman, Senior Policy Advisor, Michigan House of Representatives

Rory Neuner, MI Air MI Health Coalition (currently at Michigan Health Endowment Fund)

Pamela Pugh, DrPH, Urban Regeneration LLC and State of Michigan Board of Education

Mozhgon Rajaei, PhD, University of Michigan (currently at Oakland University)

Tina Reynolds, JD, Michigan Environmental Council

Amy M. Sametshaw, University of Maryland (currently at EnviroCollab)

E. Cody Sametshaw, JD, University of Maryland (currently at US Department of Veterans Affairs)

Samantha Shattuck, University of Michigan (currently at Pegasus Technical Services c/o US EPA ORD)

Rep. Rashida Tlaib, JD, Michigan House of Representatives, 6th District (currently US House of Representatives, Michigan 13th District)

Andrew Wald, University of Michigan Taubman College of Architecture & Planning

Sandra York, Michigan Parent Teacher Association (former Executive Director)

Senator Coleman A. Young II, Michigan Senate, 1st District (currently at Coleman Young Consulting LLC)

Chapter 1: Introduction

Need for New Policy in Michigan

Michigan currently does not have a statewide approach to school siting that takes into account environmental quality. In 2011, the United States Environmental Protection Agency released national voluntary *School Siting Guidelines*, calling on states to develop and implement their own school siting and environmental cleanup standards. A number of states have done so, and, with support from the Kresge Foundation, the Michigan School Siting Task Force — a group of scholars, policy professionals, Michigan legislators, and members of non-governmental organizations and Michigan’s school communities — has worked to identify tools and best practices that could facilitate healthy school siting decisions in Michigan. The purpose of this report is to explain the need for a school siting policy in Michigan, document the work of the School Siting Task Force, evaluate the resources available for developing a school siting policy, and provide recommendations for a school siting policy for the State of Michigan. This report documents that our work is intended to stimulate policy debate and timely concrete action among Michigan legislators, policy advocates, and school communities. Its ultimate goal is to galvanize state lawmakers to develop a statewide school siting policy in Michigan that safeguards students’ health and well-being.

In order to provide a recommendation to lawmakers for a school siting policy in Michigan, the Task Force organized subcommittees to investigate several areas of concern. Following the Introduction, which reviews the history of the school siting project, the report is divided into four additional chapters detailing Task Force findings. Each of these chapters ends with a list of recommended actions to take toward achieving specific goals. The report ends with a final (sixth) chapter discussing the progress of State legislative efforts to pass a school siting law for Michigan that takes into account environmental quality factors.

Developing and enacting a school siting policy in Michigan will involve consideration of financial, technical, and legal matters. These considerations will be subject to Michigan’s political process and involve significant dialog and compromise. Rather than recommend a single approach to school siting — which might not garner enough support to succeed as a template for legislation — the Task Force has chosen to present several options, including a model process developed by Task Force members, by way of triggering discussion and gaining acceptance among policy makers. The following describes the work of the Michigan School Siting Task Force and its findings and recommendations.

Environmental Quality and Schools in Michigan

Before initiating the work of the School Siting Task Force, we conducted research to better understand the environmental quality around schools in Michigan and whether there are links between environmental quality and student health and academic performance. Our initial questions included:

- Where are schools in Michigan located?
- Can we find data with which we can assess environmental quality around the schools?
- Are schools in Michigan located “randomly” in terms of the environmental quality around them? Or are they located in areas that tend to be worse (or better) than compared to relevant geography, such as the towns, cities, or districts within which they are located?
- Is there a link between the demographics of the populations the schools serve and the schools’ environmental quality?
- Is there a link between the environmental quality around schools and student health and academic performance?
- What policies exist to ensure that environmental quality around schools in Michigan is protected?

We began tackling these questions through a grant from the Kresge Foundation. Our first step was to identify the approximately 3,600 schools in Michigan and obtain important information about them, such as: geographic locations, size of student bodies, demographic characteristics, student-teacher ratios, expenditures per student, attendance rates, and measures of academic performance. We also compiled environmental data that allowed us to estimate air pollution burdens around the schools within precise geographic distances of one, two, and three kilometers from the schools. These environmental data included the US Environmental Protection Agency’s (USEPA) Toxic Release Inventory (TRI), the USEPA’s Risk Screening Environmental Indicators Geographic Microdata (RSEI-GM) and the USEPA’s National Air Toxics Assessment (NATA).

The USEPA’s Toxic Release Inventory (TRI) includes information about industrial facilities that are listed in the North American Industry Classification System (NAICS) and are of a minimum size and capacity (employing 10 or more fulltime equivalent employees and manufacturing, processing or otherwise using regulated chemicals above their designated thresholds) (USEPA, 2019a). Using geographic information systems (GIS), we measured the straight-line distance between each Michigan school and the nearest TRI industrial facility. In addition, we measured the distance of each school to the nearest limited access highway, including interstate highways and toll highways (see Figure 1.1). We found that schools located closer to industrial facilities and major highways had higher risks of respiratory and neurological diseases than those located farther away. We also found that schools located closer to the industrial facilities and major highways had a higher percentage of students failing to meet the state standards for English and math, even after controlling for student expenditures per school, school size, student–teacher ratio, free lunch program enrollment, and other factors (Kweon, Mohai, Lee, and Sametshaw, 2018).

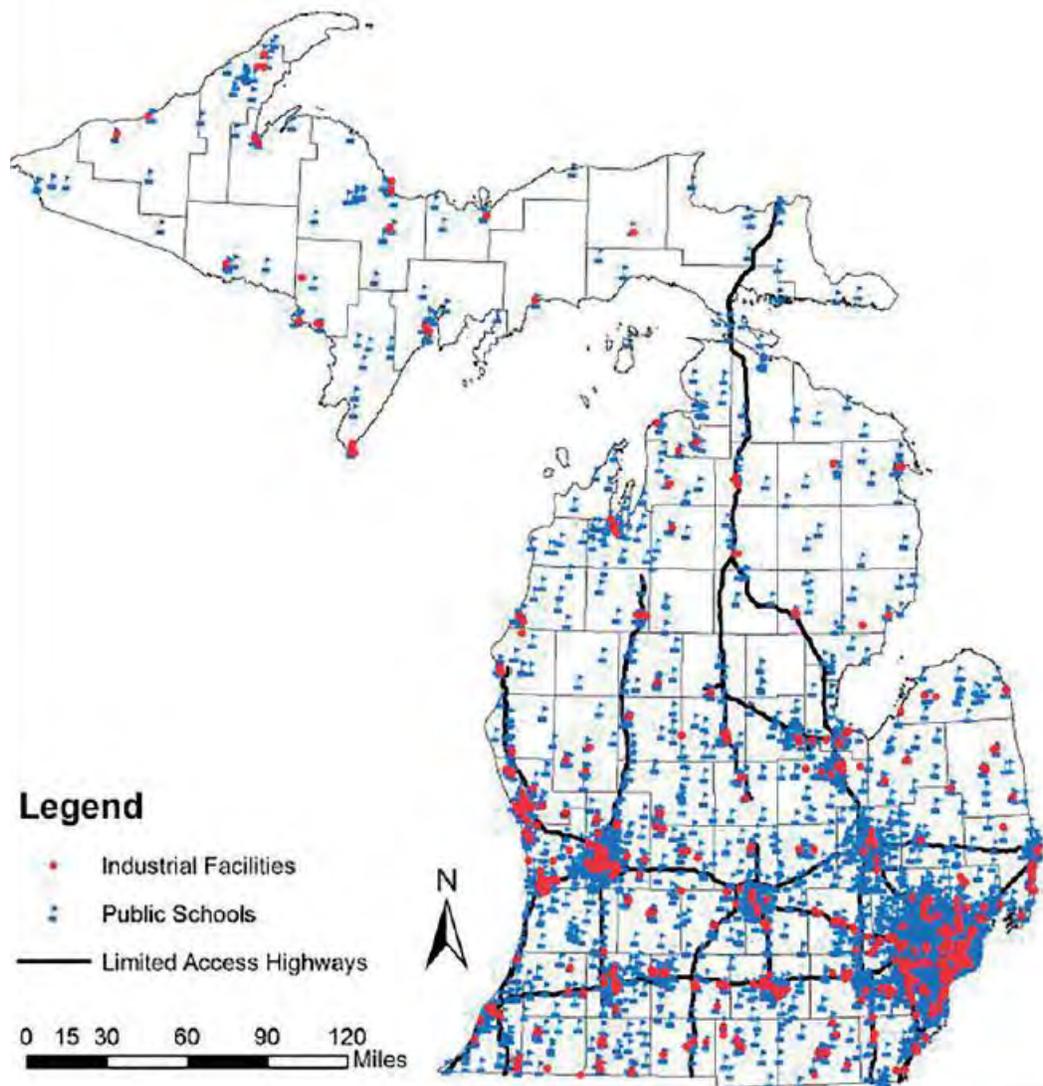


Figure 1.1 – The locations of schools, industrial facilities, and highways in Michigan (reprinted from Kweon, Mohai, Lee, Sametshaw, 2018).

In addition to measuring the distances of Michigan schools to these sources of air pollution, we also employed the USEPA’s RSEI-GM database, which is derived from the air emission data reported by major industrial facilities to the TRI (USEPA, 2019b). With these data, the USEPA conducts air dispersion modelling, taking into account stack heights, types and volumes of releases, timing of releases, wind speeds and directions, and other factors for every facility. The USEPA has divided the entire US into 1 km x 1 km square grid cells and has determined total air toxic concentrations (burdens) from the industrial facilities for each grid cell in the US. We used these data, with the aid of geographic information systems (GIS), to determine total air toxic concentrations from industrial sources within 1.0 km, 2.0 km, and 3.0 km of every school in Michigan (Mohai, Kweon, Lee, and Ard, 2011; see Figure 1.2). As when examining schools’ proximity to the major sources of air pollution, we found that the greater the estimated total

industrial air toxic concentrations around the schools, the higher the proportions of students who failed to meet the state’s educational testing standards. Attendance rates, a potential indicator of poor health, also tended to be lower. Furthermore, these patterns persisted even when controlling for the confounding factors mentioned above. Astonishingly, we found nearly two-thirds (64%) of all schools in Michigan are located in the more, rather than less, polluted parts of their respective school districts.

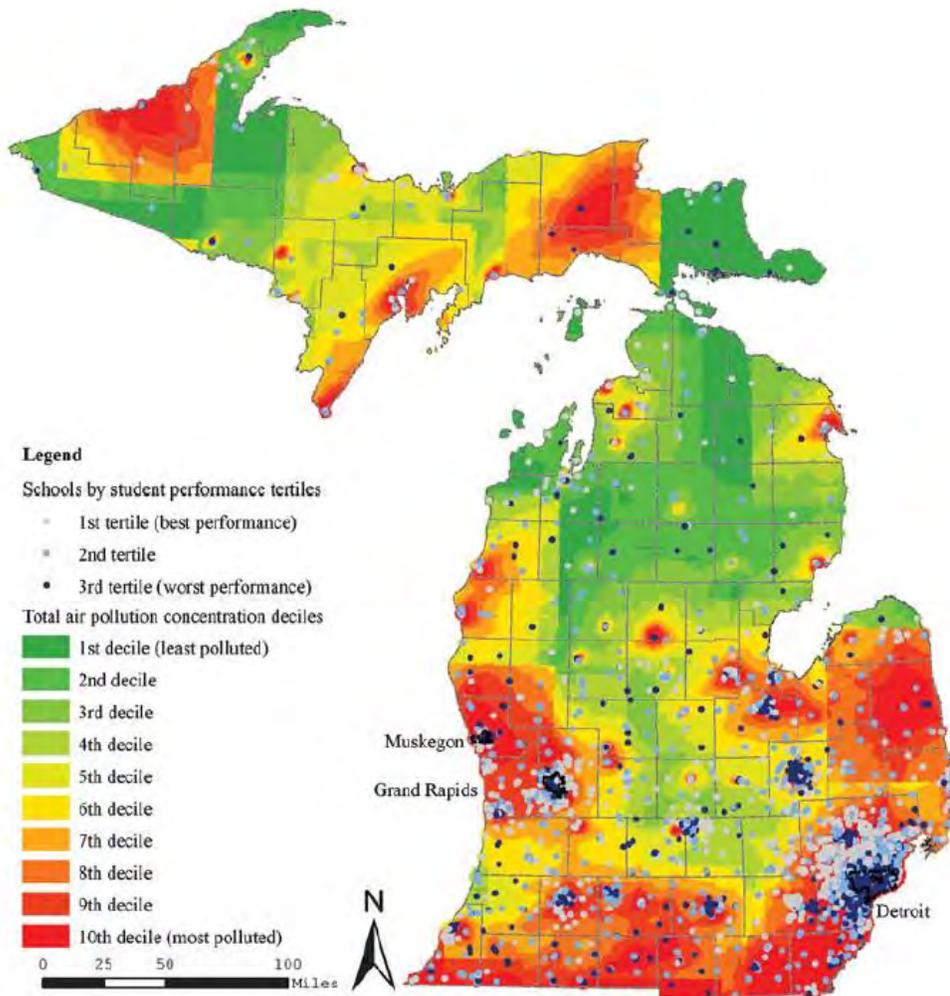


Figure 1.2 – Total air pollution concentrations from industrial sources around schools and student performance (reprinted from Mohai, Kweon, Lee, and Ard, 2011).¹

We furthermore replicated our analysis using the USEPA’s National Air Toxics Assessment (NATA) data. Unlike RSEI-GM, which takes into account emissions only from major industrial

¹ Copyrighted and published by Project HOPE/Health Affairs as Paul Mohai, Byoung-Suk Kweon, Sangyun Lee, and Kerry Ard, “Air Pollution around Schools Is Linked to Poorer Student Health And Academic Performance.” *Health Affairs* (Millwood). 2011, Vol. 30, No. 5, pp. 852–862, exhibit 1. The published article is archived and available online at www.healthaffairs.org/. Reused with permission from Project HOPE/Health Affairs.

sources, the USEPA's NATA attempts to take into account all sources of air pollution, including small industrial emitters and mobile sources (USEPA, 2018). The USEPA combines the accumulated air pollution burdens from all the sources and expresses these burdens into three types of risk: respiratory, cancer, and neurological. There are advantages of NATA in relation to RSEI-GM, in that it takes into account air pollution burdens from all sources, but NATA also has some disadvantages. Rather than assigning respiratory risk, cancer risk, and neurological risk to 1 km x 1 km square grids, as does RSEI-GM, NATA assigns these three different types of risks to census tracts, which tend to be larger and vary in their size and shape. Also, NATA is updated only sporadically, while RSEI-GM is updated annually. Nevertheless, with the aid of GIS we estimated respiratory, cancer, and neurological risks within 1.0 km, 2.0 km, and 3.0 km of every school in Michigan (Mohai, Kweon, and Lee, 2010; Mohai et al., 2011). Our analyses of the respiratory, cancer, and neurological risks around Michigan schools using NATA yielded a very similar pattern of findings as when schools' proximity to major sources of air pollution and total air toxic concentrations around schools from industrial sources were analyzed. These findings demonstrate that schools in Michigan tend to be located in the more polluted parts of their districts and that high pollution burdens are linked to high absenteeism and low academic performance (Mohai et al., 2010; Mohai et al., 2011; Kweon et al., 2018).

Environmental Quality and School Siting Policy

The patterns we found in Michigan led us to search for the reasons why they exist and the approaches that might change them. We believe that economics may be a major driving force behind these patterns (Mohai et al., 2011). Schools require land and land is expensive. Economic forces will drive the search for school sites toward properties that are available and affordable. However, properties that are most desirable *economically* may not be the most desirable *environmentally*. A survey of school superintendents in Michigan conducted by Professor Richard Norton at the University of Michigan found that economic factors were most often mentioned as the most important factor in determining the site for new schools (Norton, 2006). Other factors included the price and availability of the land and whether the land was already owned by the school district. Environmental quality was not among the factors mentioned by Michigan school superintendents as influencing school site location decisions (Norton, 2006).

If economic considerations are what mostly drive school siting decisions, and these considerations divert attention from other important factors that may affect student health and academic performance, such as the environment, then policies need to be in place to make certain that serious oversights do not occur. A second step in our project therefore was to identify and assess school siting policies that already exist which might serve as a model for Michigan. Fortunately, we found that documentation of school siting policies in other states already commenced with the work of Rhode Island Legal Services (Fischbach, 2006). Rhode Island Legal Services found that only about half (26) of the states in the US have school siting policies that take into account environmental quality factors -- Michigan not being one of them. However, even among those states that do have a policy, there is a wide range in the actions prescribed and their levels of stringency. We sought to identify and evaluate policies that would

be most optimal for Michigan. Through sponsorship by the Kresge Foundation, we organized and supervised a team of Masters' students at the University of Michigan who analyzed and evaluated the effectiveness of a range of school siting policies adopted in other states in the US (Brown, Etue, Fox, Schafrick, and Rajae, 2012).

Michigan Task Force on School Siting Policy

At the same time we conducted our research on environmental quality around schools in Michigan and surveyed existing policies that take into account environmental factors in school siting decisions, we also began identifying important stakeholders in Michigan and presented to these stakeholders the results of our research. Through funding from the Kresge Foundation, we brought these stakeholders together for the first time at a Conference convened in May 2013 at the University of Michigan's School of Natural Resources and Environment (now the School for Environment and Sustainability) to talk about the issues pertaining to environmental quality and schools. Momentum for developing school siting policies that take into account environmental quality considerations grew out of a concern for Michigan schoolchildren's health and ability to learn. The lack of such policies leaves students vulnerable to the harmful effects of pollution and environmental contamination that could compromise health and academic achievement. The problem of how to rectify this situation drew scientists, academics, community organizers, government officials, state and local school board members, teachers' union officials, parent-teacher organizers, and policy analysts to participate in the panel discussions and breakout sessions that ensued. Drawing on knowledge gained from previous work examining pollution burdens around schools in Michigan (Kweon et al., 2018; Mohai et al., 2011; Wu and Batterman, 2006; Wyckoff, Adelaja and Gibson, 2011; Zhang, Baker, Tufts, Raymond, Salihu, and Elliott, 2013) and school siting policies adopted in other states (Fischbach, 2006; Brown et al., 2012), key conference objectives were to:

- Initiate dialogue among conference participants
- Address research conducted in Michigan on the relationship between polluted school environments and the health and cognitive development and functioning of schoolchildren, and
- Explore the benefits of a statewide school siting policy, observing precedents set by other states and guidelines from the USEPA.

The proceedings of the May 2013 conference are documented in a report entitled [*Developing Policy on Environmental Quality, Schools, and Health in Michigan*](#) (Mohai, Kweon, Nelson, Marin, and Rajae, 2013).

The same group of legislators, academics, and community members assembled for a second working conference held at the University of Michigan's School for Environment and Sustainability (SEAS) in May 2014. Adopting *Michigan School Siting Task Force* as the name for their group, they endeavored to move the school siting project forward. Discussion centered on establishing working groups to delve more deeply into issues relating to environmental

quality and student health. This led to the creation of four subcommittees whose mission would be to investigate and draft a set of recommendations:

1. Environmental Review Process and Site Screening Criteria Subcommittee,
2. Environmental Quality and Human Health Subcommittee
3. Community Involvement Subcommittee, and
4. Capacity Building and Interagency Collaboration Subcommittee.

Each subcommittee was assigned a set of tasks. The Environmental Review Process and Site Screening Criteria Subcommittee was tasked with:

- Identifying relevant federal site screening guidelines
- Surveying school siting policies in other states, and identifying beneficial practices thereof
- Developing model guidelines for conducting environmental review, and
- Developing a model authority structure for the review process.

The Environmental Quality and Human Health Subcommittee was tasked with identifying health effects that should be given investigative priority and examining health impact assessment (HIA) as a potential tool for evaluating school sites in Michigan. The Community Involvement Subcommittee was charged with identifying methods to foster meaningful community involvement in school siting decisions, as well as key federal school siting guidelines and recommendations to include in Michigan policy. Finally, the Capacity Building and Interagency Collaboration Subcommittee was tasked with identifying important agencies and organizations and the roles they could play in the school siting process to build capacity and foster collaboration between actors at all levels and with developing a model school siting policy for Michigan.

Subcommittee members then set to work on the tasks, recording their findings and meeting periodically to draft recommendations. The findings and recommendations were compiled into a draft report. In January 2015, the Subcommittees presented their findings to other members of the Task Force at a progress reporting conference held at the School for Environment and Sustainability. In addition to promoting the sharing of information, the conference was intended to move discussion of school siting policy forward and engage participants in working toward development of final recommendations on environmental quality, schools, and students' health in Michigan. The Task Force reconvened in May 2016 to revise the report and finalize their recommendations. Participants also discussed how the school siting issue might evolve in the months and years ahead and which group was best equipped to champion the issue and advocate for a statewide policy protective of schoolchildren's health.

In September 2017, State Representative Stephanie Chang introduced HB4977 in the Michigan legislature, a bill that would require an environmental assessment before siting a new school facility. This bill was introduced as part of a package of bills aimed at improving the environmental health of schools in the State. The full text of the bill can be found in Appendix A. Although this bill did not pass into legislation, Stephanie Chang, now a State Senator, plans to reintroduce this bill in the near future.

Following are the Task Force's findings and recommendations in full. In Chapter 2, we address the environmental review process, screening criteria, and health impact assessment. In Chapter 3, we address public involvement and strategic siting choices. In Chapter 4, we identify key participants and address capacity building. In Chapter 5, we discuss exemplary policies in seven states which can serve as models of best practices for Michigan. In Chapter 6, we discuss current efforts in the State Legislature to formulate and adopt school siting policy that take into account environmental quality factors. Our goal is to make the information in this report an important and useful guide to all stakeholders who want to see the best environmental protections for the school-aged population in the State of Michigan.

Chapter 2: Environmental Review, Screening Criteria, and Health Impact Assessment

Development of a statewide school siting policy entails consideration of many factors. In Michigan, local education agencies (i.e. school districts, school boards, and school superintendents), or LEAs, have traditionally decided where to locate schools. Their concerns are often practical, centering on cost and availability of land and timely completion of construction (Norton, 2006; Michigan Land Use Institute, 2004). LEAs play a central role in school siting decisions in Michigan, and this is unlikely to change in the foreseeable future. Given the important role they play, local education agencies must have access to state and federal resources in order to procure adequate technical support and ensure the even application of school siting policies across the state (USEPA, 2015b; CHPAC, 2010).

Members of the public also have a compelling interest in where schools are located. Their children may be at risk to exposure to pollutants and other possible school site contaminants, and their monies are used to build new schools. An equitable school siting policy must enable community participation at various stages of the school siting process. Indeed the US Environmental Protection Agency (USEPA) identifies meaningful public involvement as one of the major components of a successful school siting policy, important for facilitating strategic siting choices and ensuring a robust environmental review process (USEPA, 2011).

School siting decisions also involve technical questions of environmental, educational, and community planning. Decisions should be informed by empirically supported best practices, and technical resources must be available to communities as they plan for new schools. The environmental review and site selection process must be robust enough to ensure that environmental health goals are actually achieved.

In considering a model school siting policy for Michigan that takes into account environmental quality factors, members of the School Siting Task Force shared, reviewed, discussed, and synthesized numerous documents and reports. Two especially important documents that the Task Force drew on were the US Environmental Protection Agency's 2011 voluntary *School Siting Guidelines* (USEPA, 2011) and the 2010 *Report of the School Siting Task Group of the Children's Health Protection Advisory Committee* (CHPAC, 2010). The Task Force complemented these with other important and relevant documents and reports, such as the Rhode Island Legal Services' *Not In My Schoolyard: Avoiding Environmental Hazards at School through Improved School Site Selection* (Rhode Island Legal Services, 2006), the Michigan Land Use Institute's *Hard Lessons: Causes and Consequences of Michigan's School Construction Boom* (Michigan Land Use Institute, 2004), SEAS graduate students' report *Developing Policy on Environmental Quality, Schools, and Health* (Brown et al., 2012), the Michigan State Housing Development Authority's (MSDHA) *Environmental Review Guidelines* (MSHDA, 2016), and others.

In addition, policies in key states were reviewed to identify best practices. Specifically, these included established school siting policies in Rhode Island, California, Minnesota, Maryland, New Jersey, Washington, and New York (see Chapter 5).

Discussions took place in subcommittee meetings, most often conducted through phone conferencing, and during the four conferences on the University of Michigan campus, when all members of the Task Force were brought together to meet face-to-face to review, discuss, and update plans. The following provides a review of the key guidelines, documents, and reports that were consulted. The principal recommendations of the Task Force pertaining to the environmental review process, screening criteria, and health impact assessment were derived from a consideration of these sources. These are discussed below and a summary of the key recommendations is provided at the end of this chapter.

Environmental Review Process

The US Environmental Protection Agency (USEPA) released national voluntary School Siting Guidelines in October 2011 (USEPA, 2011). These guidelines recommend three major components of a successful school siting policy: 1) meaningful public involvement, 2) strategic siting choices, and 3) a robust environmental review process. In addition, the USEPA indicates other policies that impact the environmental health of schools beyond school siting regulations. The guidelines were the culmination of a process initiated by Congress, which enacted the Energy Independence and Security Act (EISA) in 2007 (US House, 110th Congress, 2007). The EISA mainly dealt with energy issues. However, Subtitle E, Section 502 required the USEPA to develop model guidelines for the siting of school facilities. Specifically, EISA required the USEPA to consider “the special vulnerabilities of children to hazardous substances of pollution exposures in any case in which the potential for contamination at a potential school site exists” (US House, 110th Congress, 2007; USEPA, 2007).

The USEPA turned to the Children’s Health Protection Advisory Committee (CHPAC) for assistance in developing the school siting guidelines. [CHPAC](#) is a body comprising outside researchers, academics, health care providers, environmentalists, state and tribal government employees, and citizens who advise the USEPA on regulations, research, and communications related to children’s health (USEPA, 2015b). CHPAC issued its report in February 2010 (CHPAC, 2010). The final [School Siting Guidelines](#) issued by the USEPA contain elements of the CHPAC report (USEPA, 2011).

The USEPA School Siting Guidelines (2011) are founded on four broad principles that emphasize a rigorous environmental review process that includes meaningful public involvement and health impact assessment of the broader community (USEPA, 2011):

1. Safe and healthy school environments are integral components of the education process

2. The environmental review process should be rigorous, thorough, well documented, and include substantive and ongoing meaningful public involvement
3. Schools should be located in environments that contribute to the livability, sustainability, and public health of neighborhoods and communities, and
4. The school siting process should consider the environmental health and safety of the entire community, including disadvantaged and underserved populations.

The Michigan School Siting Task Force identified several sections in the USEPA Guidelines and the CHPAC report that provide the basis for a strong environmental review process in Michigan. We review those sections here. While school siting policy should be understood to involve decisions about the siting of public K-12 educational facilities and construction sites for new school buildings, it should also encompass decisions about facility closures, expansions, mergers, retentions, real property leases, and real property purchases. When possible, school siting policies should apply to early learning facilities and other places where children spend significant amounts of time (USEPA, 2007, 2011, 2015b; CHPAC, 2010).

Environmental Screening

A full understanding of the potential risks of all candidate school locations is essential for ensuring that a prospective site does not pose unacceptable health and safety risks to students and staff (USEPA, 2011). When the LEA decides to proceed with a school facility project, it considers whether a new school site is needed, or whether renovation, repair, and/or expansion could be considered. The school siting committee (SSC) identifies candidate locations (including renovation of the existing site) and screens potential sites (USEPA, 2011).

Pollutants and environmental health hazards that affect children are not limited to property lines and building footprints. Thus, screening should not be limited to the boundaries of a proposed school site. Decision makers must also consider sources of pollutants or environmental hazards near proposed school sites. Furthermore, a distinction should be made between *screening perimeters* and *exclusion zones* when evaluating potential hazards (USEPA, 2007, 2011, 2015b; CHPAC, 2010).

Screening perimeters establish predetermined distances from potential school sites that trigger further environmental review when they include potential sources of pollutants or environmental hazards. The purpose of the review is to assess whether a particular source poses a potential health threat, to determine the level of threat, and to propose a course of action if a threat is found (see Appendix B).

The Children's Health Protection Advisory Committee (CHPAC), which reviewed the USEPA Guidelines in 2010, further recommends an additional screening metric known as an *exclusion zone*. Exclusion zones function as trigger points, but they do not give rise to further review. Rather, exclusion zones establish distances from pollutant sources that are presumptively

harmful. They categorically and automatically exclude a school site from consideration (USEPA, 2007, 2011, 2015b; CHPAC, 2010; see Appendix C).

The USEPA guidelines recommend that potential school sites be screened for a number of potential risks and safety hazards during the environmental review process. These are outlined in Exhibits 5 and 6 of the USEPA's School Siting Guidelines (USEPA, 2011) and listed in Appendix B at the end of this report. These hazards are generally recommended to be measured through agencies at the state, tribe or local level. Examples include:

- air pollution,
- oil contamination
- agricultural pesticides
- groundwater contamination
- surface water pollution
- safety hazards
- noise
- odors
- Superfund sites
- landfills
- high-traffic roads, and
- industry (USEPA, 2011).

The USEPA recommends a screening perimeter between proposed school sites and environmental features that may present hazards to future school occupants (USEPA, 2011). The perimeter distances depend on the hazard of concern (see Appendix B and Exhibit 6 in USEPA Guidelines). For example, for dry cleaners, gas stations, and other fuel dispensing facilities the recommended screening distance is 1000 feet, while for large agricultural operations employing aerial pesticide spraying the recommended distance is 3 miles. See Appendix B for screening perimeter distances of other hazards. The presence of a hazard within the perimeter would then trigger further study. The LEA should then identify an environmental professional to conduct preliminary environmental assessments based on sites or before the decision is made to acquire land or use a particular location. The standard for environmental site assessments is the American Society for Testing and Materials' (now ASTM International) Standard Practice for Environmental Site Assessments Phase I. The assessment should evaluate the potential for:

- On-site contamination
- Off-site contamination
- Impacts of the project on the environment, and
- Positive environmental attributes of candidate locations (ASTM International, 2013).

The LEA and SSC should review the findings and make a recommendation. If the site is acceptable from an environmental perspective, the environmental review is complete. If potential environmental concerns are found, LEAs should select a different site or perform a comprehensive environmental review (USEPA, 2011). If remediation or mitigation is necessary to prevent exposures, site-specific remediation/mitigation measures (USEPA, 2011) and a long-

term stewardship plan should be developed, reviewed by the public, and implemented (USEPA, 2011). The LEA should conduct an annual review to evaluate the implementation and performance of a remedy or mitigation, and to identify new sources of environmental hazards once the school is open (USEPA, 2011).

For most hazards that the USEPA recommends minimum *screening* distances for triggering further site review and evaluation, CHPAC recommends *exclusion* distances prohibiting new school siting entirely. These exclusion distances tend to be smaller than the screening distances triggering reviews. For example, CHPAC recommends excluding siting new schools within 50 feet of a typical gas station, within 300 feet of a large gas station, within 500 feet of a dry cleaner operating with two or more machines, and within 0.25-2.5 miles of a large agricultural operation employing aerial pesticide spraying (see Appendix B for a more complete list).

In summary, the USEPA and CHPAC recommendations should be integrated into state and local school siting policies to ensure that appropriate environmental reviews are conducted. Policies on school siting should apply to a variety of educational facilities and address a variety of concerns affecting siting decisions. Potential pollutants and hazards should be assessed in both the immediate and surrounding areas of a proposed site. Finally, local education agencies — including those in at-risk communities — must have access to state and federal resources during the review process. The USEPA and CHPAC recommendations should be integrated into state and local school siting policies to ensure that appropriate environmental reviews are conducted.

Using MSHDA Housing Standards for the Environmental Review

The USEPA (2011) has recommended that each state or tribe set its own school siting and environmental cleanup standards in its environmental review process. The agency has also suggested that environmental standards used to evaluate school site contamination could be based on “standards developed for schools or residential use, or risk-based levels set for residential use” (USEPA, 2011, p. 74). The Michigan State Housing Development Authority (MSHDA) requires and conducts an environmental review for all proposed multi-family housing developments (MSHDA, 2016, 2020). MSHDA’s environmental review process for siting and approving state-funded housing developments could therefore provide a useful model for developing an environmental review process for siting schools in Michigan.

Established in 1966, the MSHDA provides financial and technical assistance through public and private partnerships to create and preserve safe and decent affordable housing, engage in community economic development activities, develop vibrant cities, towns and villages, and address homeless issues. The MSHDA requires site-specific environmental screening for all multi-family development proposals being considered for financing by the agency (MSHDA, n.d.).

The Environmental Review section within MSHDA is responsible for approving or rejecting an affordable housing project proposal based on the onsite environmental conditions determined in

the environmental review process (MSHDA, 2020). This section is fully funded by MSHDA and staffed by two full-time environmental professionals. These staff work with housing developers throughout the environmental review process to ensure that each project meets state and federal environmental safety standards (MSHDA, 2020).

A Phase I Environmental Site Assessment (ESA) is conducted before any housing project can move forward. ESAs are conducted in accordance with the ASTM E1527-13 Standard Practice for ESAs. Depending on funding, sites must meet both federal (24 Code of Federal Regulations, Part 58) and state (Natural Resources and Environmental Protection Act, ACT 451) regulatory requirements. The agency describes the process in detail in the Michigan State Housing Development Authority Environmental Review (ER) Requirements document (MSHDA, 2020).

A Phase I ESA is conducted by an environmental consultant who investigates potential hazards and contaminants via site reconnaissance, local expert interviews, and information sources such as regulatory databases and historical records. If Recognized Environmental Conditions are identified, as detailed in the Rental Development Division Environmental Review Requirements document (MSHDA, 2020), a Phase II ESA is triggered.

The goal of the Phase II is to determine whether contamination exists on the property. During this phase, soil, water, and local materials are sampled and tested for contaminants. The types of contaminants tested for depend largely on the historical uses of the property reported in the Phase I. The results of the Phase II are written up in a Phase II ESA report that is provided to section staff. MSHDA staff use the results of the Phase II to inform the requirements for the project going forward.

The Michigan Department of Environment, Great Lakes, and Energy (MDEGLE) also requires disclosure of a baseline environmental assessment and a Response Activity plan for proposed housing development sites. The Response Activity plan is a plan developed prior to construction that addresses potential adverse effects on the health and safety of the public and the environment and identifies methods to avoid negative outcomes. The professional or industry leading the project must also submit plans to remediate environmental hazards (State of Michigan, 1994: Michigan Natural Resources and Environmental Protection Act, Act 451 of 1994, Part 201: Environmental Remediation).

Once necessary remediation takes place, both the environmental professional and MSHDA must sign off on the post-closure documents, which may include restrictions on usage of the land and resources.

Health Impact Assessment

In addition to the environmental review, the USEPA School Siting Guidelines (2011) state that “the school siting process should consider the environmental health and safety of the entire community, including disadvantaged and underserved populations” (p. 9) and that “schools should be located in environments that contribute to the livability, sustainability, and public

health of neighborhoods and communities” (p. 13). As defined by the National Research Council in a report cosponsored by the Center for Disease Control (CDC) and Robert Wood Johnson Foundation, California Endowment, and National Institute of Environmental Health Sciences, a health impact assessment (HIA) is “a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of the effects within the population. [The] HIA provides recommendations on monitoring and managing those effects” (National Research Council, 2011, p. 5).

While Environmental Impact Assessments (EIA) in an environmental review required by the National Environmental Protection Act (NEPA) are intended to address health impacts as well as environmental impacts, in practice EIAs do not actually conduct a health analysis and have not been used to mitigate adverse health impacts of potential projects. This is partially due to the fact that current statutes determining the Environmental Impact Report (EIR) process do not explicitly describe the kinds of public health effects to be included in an EIA. An EIR is a part of the EIA process and the internationally recognized EIR standards do not provide guidance on the appropriate scope, standards, or methods for analyzing health effects. The integration of an HIA analysis into the EIA process has the potential to improve the intended health outcomes originally intended by the authors of NEPA (Bhatia and Wernham, 2008). When neighborhoods and communities make decisions about school siting and construction, HIAs need to analyze not only the children attending schools but also the residents in the neighborhoods and communities.

HIAs address the determinants of public health from a broad, holistic perspective. They recognize that the health of an individual should be assessed in the context of families and public infrastructure, living and work conditions, and political factors (Detroit Community-Academic Urban Research Center, 2015). The population a school district serves may be racially, socioeconomically, and culturally diverse and, due to patterns of economic and/or racial segregation, live in different neighborhoods. An HIA, used as a tool to evaluate the health and equity consequences of building a school in a particular location, could show that these different communities and student populations are or will be disparately affected by the environment around a school or proposed school site. This would help to ensure that the health of all students and nearby communities is considered as the pros and cons of a particular site are weighed.

Although there is no national standard for conducting HIAs, the Center for Disease Control (CDC) has evaluated the use of HIAs nationally and globally and recommends the following protocol consisting of several steps (National Research Council, 2011; Public Health Law Center, 2015). First, a *screening process* should be implemented by the School Siting Committee (see Chapter 3 for more details) to determine the need and value of conducting an HIA for a particular school siting decision. The screening process should consider the following factors:

- Potential for the decision to cause substantial adverse or beneficial health effects for school children as well as community residents, or irreversible or catastrophic effects (for example lead poisoning or cancer), even if the effects have a low likelihood
- Ability of information from the HIA to alter a school siting decision or help the decision-maker to discriminate among alternative school siting options
- Possibility that a disproportionate burden of the health effects of a school siting decision is placed on vulnerable populations
- Existence of public concern or controversy regarding health effects of a proposal, and
- Availability of time and resources to complete the assessment.

The School Siting Committee should consider using Michigan State University's (MSU) HIA Toolkit questionnaire to address the above factors. The Toolkit and the questionnaire can be found in Appendix D. Using the MSU screening questionnaire criteria, the School Siting Committee should determine if the Environmental Impact Assessment is sufficient for determining school site suitability, or if an HIA should be conducted to further illuminate the potential health impacts of the decision.

If the School Siting Committee determines that an HIA is necessary, it should proceed with scoping. *Scoping* develops a plan for conducting the HIA and identifies what health risks and benefits to consider (Detroit Community-Academic Urban Research Center, 2015). Meanwhile, the School Siting Committee should perform the following steps:

- Convene an HIA team to conduct the HIA
- Provide technical guidance and peer review
- Ensure adequate and fair representation of diverse interests and priorities among stakeholders
- Communicate the results of the HIA to decision-makers and stakeholders, and
- Ensure recommendations address community needs.

The School Siting Committee should also establish a plan for stakeholder participation throughout the HIA process (see Chapter 3). HIA team members often include public health professionals, university researchers, and members of community-based organizations. HIA team members often work with the support of public health experts and input from a variety of disciplines to obtain necessary data. A core HIA team is responsible for the majority of the research and analysis, though they may rely on outside experts with knowledge specific to the needs of the proposed sites (Ingham County Health Department and Michigan State University, n.d.). The plan the HIA team develops should identify:

- Populations that might be affected by the school siting decision
- Health effects to be evaluated
- Research questions and a plan to address them, and
- Data and methods to be used and siting alternatives to be assessed.

The next step in an HIA is a formal *assessment* that describes the current baseline health status of the affected populations and assesses the potential health impacts of each siting alternative, including an explicit statement of data sources, methods, assumptions, and uncertainty. After the formal assessment, *recommendations* should be made for practical changes to the

proposed school site or alternatives to avoid, minimize, or mitigate adverse effects, or to capitalize on opportunities to improve health at the proposed school site. Recommendations should consider:

- Community input
- Identified public health risks
- Feasibility of changes due to political, economic, or technical limitations
- Indicators for monitoring public health risks should the site move forward, and
- Mechanisms for implementation and compliance of necessary changes to the school site.

Following the compiling of recommendations, the HIA team should submit a *report of findings* to the School Siting Committee, decision-makers, affected communities, and other stakeholders. The written report should be communicated clearly and made publicly available. Lastly, an HIA conducts a *monitoring and evaluation* period that includes process evaluation, impact evaluation, and outcome evaluation. *Process evaluations* assess the comprehensiveness and effectiveness of how the HIA was conducted. *Impact evaluations* measure the extent to which the HIA has impacted the school siting decision-making process, and *outcome evaluations* measure the degree to which the final school siting decision based on the HIA results led to the desired health outcomes in the short- and long-term (Rao and Ross, 2014; Gase, DeFosset, Gakh, Harris, Weisman, and Dannenberg, 2017).

Recommendations for Environmental Review, Screening Criteria and Health Impact Assessment in the School Siting Process

The following recommendations focus on an in-depth environmental review process with screening criteria to be conducted before a land-acquisition or school siting decision is made. These recommendations are based on the US Environmental Protection Agency's (USEPA) School Siting Guidelines and the Children's Health Protection Advisory Committee's (CHPAC) recommendations on the EPA Guidelines. A full understanding of the potential risks of all candidate school locations is essential for ensuring that a prospective site does not pose unacceptable health and safety risks to students and staff.

The environmental review process should include the following stages (USEPA, 2011):

A. Once the local education authority (LEA) decides to proceed with a school facility project, the LEA should first consider whether renovation, repair, and/or expansion of an existing facility could be considered, or whether a new school site is needed. The school siting committee (SSC) should identify candidate locations (including renovation of the existing site) and screen potential sites using the hazards and sources of hazards outlined in Exhibit 5 and 6 of the USEPA Guidelines (see Appendix B).

1. Potential hazards include air pollution, oil contamination, agricultural pesticides, ground water contamination, surface water pollution, safety

hazards, noise, and odors.

2. Potential sources of hazards include for example Superfund sites, landfills, high-traffic roads and industry.

3. EPA recommends a *screening perimeter* between proposed school sites and environmental features that may present hazards to future school occupants, which would then trigger further study. The Children's Health Protection Advisory Committee, which reviewed the EPA Guidelines in 2010, recommends an additional screening metric known as an *exclusion zone*. If a site is located within an exclusion zone of a hazardous environmental feature, the site should no longer be pursued.

B. Once the LEA designates candidate sites and before the decision is made to acquire land or use a particular location or structure, the LEA should identify an environmental professional to conduct preliminary environmental assessments.

1. The assessment should evaluate potential:

- a. Onsite contamination;
- b. Offsite contamination;
- c. Impacts of the project on the environment;
- d. Positive environmental attributes of candidate locations.

2. The LEA and SSC should review the findings and make a recommendation. If the site is acceptable from an environmental perspective, the environmental review is complete.

C. If potential environmental concerns are found, LEAs should select a different site or perform a comprehensive environmental review.

D. If remediation or mitigation is necessary to prevent exposures, site-specific remediation/mitigation measures and a long-term stewardship plan should be developed, reviewed by the public, and implemented.

E. The LEA should conduct an annual review to evaluate the implementation and performance of a remedy or mitigation, and to identify new sources of environmental hazards once the school is open.

The School Siting Task Force identified additional beneficial practices in the environmental review of school sites. These included:

- Establishing a checklist of environmental hazards to screen for, including pollutants in the air, soil, and water as well as factors such as noise pollution and the safety of routes children will take to get to school

- Specifying how and by whom the initial site assessment will be conducted
- Indicating remedial actions that must occur to ensure that contamination is removed from the site, and specifying which environmental hazards should exclude a site from consideration
- Specifying how schools will be monitored for compliance with environmental regulations
- Broadening participation in the school siting process to include state regulatory agencies and members of the public
- Incorporating funding provisions so that environmental reviews can be conducted in all school districts regardless of individual communities' financial situation
- Requiring site-specific environmental screening (Phase I Environmental Site Assessment) for all school siting proposals
- Requiring additional investigation (Phase II Environmental Site Assessment) when recognized environmental conditions are found during the Phase I Environmental Site Assessment process
- Making Health Impact Assessments (HIA) be a part of Michigan school siting policy
- Seeking community input to identify public health risks.

Chapter 3: Key Participants in the School Siting Process

In Michigan, school sites are usually chosen by local education agencies based on the social and financial circumstances of the school district. Without state oversight or regulations calling for the environmental review of prospective school sites, some siting decisions may be compromising students' health and academic success (Kweon et al., 2018; Mohai, et al., 2011). There is no requirement for public input during the school siting process or a requirement that local planning and zoning authorities be involved. Without such meaningful participation, school siting decisions may not reflect the health needs of various student populations or further communities' long-term goals.

If every Michigan child deserves a healthy school environment, then state regulatory agencies and community stakeholders must participate in the school siting process. Michigan legislators must first mandate participation of state agencies to: 1) ensure that appropriate reviews and assessments are conducted, and; 2) monitor compliance with remedial measures taken to protect students' health. Concern for socioeconomically and racially vulnerable populations makes it imperative that state regulatory agencies and the state legislature be involved.

Michigan's school siting policy also needs to call for expanded local involvement in school siting decisions. It should promote public participation at several points in the process, as well as the participation of local planning and zoning authorities and school health teams. Moreover, statewide school siting policy must enable local stakeholders to obtain the technical assistance they need to understand the issues and fully participate in the process. Local stakeholders can then make informed school siting choices that ensure the health of children and communities.

Having examined environmental review and health assessment practices in Chapter 2, we identify potential actors in a Michigan school siting policy and the roles they might play here in Chapter 3. In addition to local education agencies, key participants will include state regulatory agencies and members of local school communities and school siting committees. For the benefit of school siting policy advocates and community activists, we explore how to build community organizations focused on school siting issues and suggest who may be best suited to provide technical assistance. We also propose a model school siting process (see page 40) that could serve as a template for Michigan legislators drafting a policy to fit the needs of the state.

State Actors in the School Siting Process

State agencies positioned to play a role in a statewide school siting policy include the Department of Licensing and Regulatory Affairs, the Department of Environment, Great Lakes, and Energy, the Department of Health and Human Services, and the Department of Education. These state agencies have programs and enforce regulations that could be adapted to include regulations for the review of school sites. State agencies should also serve as conduits for federal and/or state technical assistance funds for school siting efforts, as recommended in the USEPA School Siting Guidelines (USEPA, 2011). They may also provide assistance to

communities making school siting decisions. Additionally, the State of Michigan Board of Education may also provide support and guidance for school siting policy advocates as efforts move forward.

Department of Licensing and Regulatory Affairs (DLARA)

The Bureau of Construction Codes is the office within Department of Licensing and Regulatory Affairs (DLARA) that currently reviews all construction site plans, including plans for schools (State of Michigan, 2009; MDLARA, 2020a). Permits are required for school building projects to ensure the safety of school building occupants from hazards. Michigan codes offer “minimum requirements for safety from various hazards in the built environment including safety from fire, structural failure, electrical shock, contamination of potable water systems, cross connections of water supply systems and waste disposal systems, and contamination of building environmental air. Additionally, codes provide safe egress, access for persons with mobility limitations, and proper lighting” (MDLARA, 2020a). However, there is no requirement where schools can be sited. If Michigan is to adopt a school siting policy, a requirement to consider the environmental quality around a proposed school site could be added to the review and permit application checklist. This would be a logical way to keep schools from being built near environmental hazards and keep potential hazards away from schools.

Michigan Department of Environment, Great Lakes, and Energy (MDEGLE)

The Michigan Department of Environment, Great Lakes, and Energy (MDEGLE) has several programs that provide guidance and resources to communities and businesses working to create healthier environments (MDEGLE, 2019b). The Neighborhood Environmental Partners Program (MDEGLE, 2019a) fosters environmental awareness and provides support to communities, and similar programs exist for businesses. The MDEGLE has also created a number of environmental decision-making checklists (MDEGLE, 2019c). One of them is a permit checklist for schools, called the Permit Information for School Site-Plan Review (MDEGLE, 2020). This checklist includes useful information about air quality permits to install equipment that has the potential to emit air contaminants, asbestos notification, land and water featured programs, soil erosion and sedimentation, storm water discharge from construction, water supply, wastewater, storage tanks, etc. However, this checklist does not provide any information about how to select healthy and safe school sites to improve children’s well-being. It is rather how new school constructions will impact existing air, water, and physical environments. The MDEGLE could also conduct or oversee the environmental review of existing schools and potential school sites.

Michigan Department of Health and Human Services (MDHHS)

The Health Disparities Reduction and Minority Health Program of the Michigan Department of Health and Human Services (MDHHS) is dedicated to promoting health equity and the elimination of health disparities for Michigan’s populations of color. This includes supporting

programs, policies, and applied research that addresses the social determinants impacting health inequities; collaborating with the MDHHS to improve health outcomes for racial and ethnic minorities; and facilitating culturally and linguistically appropriate health services throughout the MDHHS (MDHHS, 2016). The Health Disparities Reduction Section offers grants “to build local capacity and mobilize communities to address the root causes of health disparities and increase awareness of the linkages between social determinants of health, health disparities, and health equity” (MDHHS, 2016). The MDHHS could serve as a useful partner in the evaluation of school siting policy design, implementation, and outcomes. It could also be tasked with conducting health impact assessment. The health impact assessment can be a screening tool to avoid choosing school sites that are hazardous for children’s health. It can be another step to protect children from various hazards.

Michigan Department of Education (MDE)

The Michigan Department of Education (MDE), in line with recommendations from the US Department of Health and Human Services’ Centers for Disease Control and Prevention, encourages school districts to plan, adopt, implement, and evaluate Coordinated School Health Programs and periodically examine whether they respond to the needs and values of the community. This involves creating a school health team comprising school staff, parents, students, and other community members. The team oversees several aspects of school life:

- health and physical education
- health services
- family and community involvement
- counseling, psychological, and social services
- nutrition services
- healthy physical environment, and
- health promotion for school staff.

The team also makes recommendations to the school board (Asthma Initiative of Michigan for Healthy Lung, 2020). Furthermore, the Michigan State Board of Education endorsed the coordinated school health program in 2003 to underscore the effort for improving students’ academic achievement (MDE, 2003). School health teams should be active participants in the school siting process.

The USEPA School Siting Guidelines’ recommendation to insure meaningful public involvement includes forming a school siting committee. The school health team can be an organization that can be supportive of the school siting committee or can be a part of a school siting committee in Michigan.

A Role for the State Legislature

In addition to the state legislature enacting a statewide school siting policy, the Task Force recommends that the legislature or state executive play a role in enforcing state regulations. As

part of the school siting process, state agencies should be required to report to the state executive or the state legislature on school districts' compliance with minimum environmental health and quality standards, a reporting requirement intended to enhance accountability. Elevating the profile of noncompliance to the level of the state legislature will attract greater public and federal attention to the matter of enforcing compliance, particularly in cases where school districts have difficulty meeting school siting goals because they are unable or unwilling to implement policy reform. In the former situation, the inability to implement reforms would likely be publicized to a greater extent than it would be if there were no reporting requirement. As recent events in Flint, Michigan, have demonstrated, publicity is sometimes a necessary driving force in ensuring compliance with public environmental health standards. In the latter situation, the reporting provision may spur more value-driven policy discussions to take place than would occur in the absence of reporting requirements.

The state legislature should also make federal and state resources available to local communities and school siting committees for technical assistance to ensure that organized community stakeholders are full participants in the school siting process. The technical assistance may be provided by experts from state agencies or professional organizations.

Professional Planning Agencies

Professional planning organizations and local and regional planning authorities are equipped to offer guidance on long-range community development and siting of new schools. Without such professional assistance, school districts may make decisions that inadvertently harm schoolchildren's health and have a negative impact on communities. Additionally, since the number of schools that open or close fluctuates from year to year (MI School Data, 2016), it is helpful to integrate planning information into the process as early as possible.

Michigan Association of Planning (MAP)

Michigan Association of Planning (MAP) is a 501 c 3 nonprofit professional association with nearly 5,000 members. MAP is the state chapter of the American Planning Association, with membership of nearly 5,000 including planning professionals in practice and in academia as well as 3,500 members who serve as elected and appointed municipal officials like planning commissioners and zoning board of appeal members (Andrea Brown, personal communication, March 9, 2020). The Michigan chapter counts 385 planners who are certified by the American Institute of Certified Planners (AICP). MAP presents itself as "the only organization in Michigan devoted solely to representing elected and appointed local officials and professional planners" (MAP, 2013). In 2007, MAP adopted a policy on schools and local government to encourage communication between local governments and school systems, recommending that schools and governments work together to determine the best school sites. MAP (2007) also endeavors to "support policies that encourage school boards and local governments to consider the long-term environmental impacts of school locations and consequently invest in storm water management, environmentally sound site design, green infrastructure, and energy efficient

buildings” (p. 2.). In addition, MAP urges schools and local governments to conduct analyses to ensure that school siting locations are environmentally safe (MAP, 2007).

In 2013, MAP adopted a social justice and planning policy that identified several fields of interest, including general land use, health, and the environment. School siting policy was not specifically addressed, but MAP (2013) recommends “planning for neighborhoods and worksites to be free of environmental toxins and pollution” (p. 6). It also recommends “exploring and planning for transportation systems that reduce road congestion and fuel dependency by providing connected choices of transit, rail, walking, and biking networks” (MAP, 2013, p. 4).

Community Participation in School Siting Decisions

Public involvement in the school siting and environmental review process is crucial to building and maintaining healthy learning environments. Such participation requires dissemination of information about potential and existing health hazards and ensures that decisions affecting children’s health will incorporate community values, needs, and desires. Community members who have a stake in these decisions include teachers, students, parents, other local residents, and other school personnel. The USEPA Guidelines call for public participation in long-range facilities planning. They also address the importance of communications and technical assistance that enable meaningful public participation in the school siting process (selected passages from the USEPA Guidelines are listed in Appendix E).

In the past, public engagement has generally come too late to achieve outcomes satisfactory to the community (Paddock, 2012). Moreover, school siting decisions may have disparate effects on different populations within a school district, raising concerns about environmental justice. The USEPA has established model guidelines for public participation which, updated in 2013, stress the importance of community involvement in any environmental justice action (National Environmental Justice Advisory Council, 2013). To achieve outcomes that are acceptable and equitable to all, community residents should be involved in determining school siting standards starting early on, whether at the level of prospective statewide legislation or case-specific school siting and construction decisions.

Meaningful community involvement in school siting decisions can be facilitated by long-range facilities plans, cultivation of community groups dedicated to school siting issues, and supply of timely information and technical assistance to those community groups. There are, however, major challenges involved in attempting to change policy or garner community support for a specific effort. Some of these challenges stem from a lack of resources and governmental support. Others derive from communities themselves: residents may be indifferent to an issue or unaware that they could have an impact, or barriers may exist due to language, cultural background, and lack of trust. Members of the community may be inexperienced at developing and implementing public participation models as well.

In view of these challenges, we will now suggest ways to engage community members and increase the number of individuals who recognize themselves as stakeholders in the school siting process. Some of these strategies can be initiated by community members themselves.

Others — in accordance with recommendations from the USEPA School Siting Guidelines (USEPA, 2011) and the Children’s Health Protection Advisory Committee (CHPAC) report (CHPAC, 2010) — require the assistance of state agencies and local education agencies.

Public Participation: Early and Informed

When environmental hazards are identified in or near existing schools -- such as the high levels of sulfur dioxide emissions found in parts of Wayne County that designate the area as being in “non-attainment” of national standards for sulfur dioxide (USEPA, 2015a; MDEQ Air Quality Division, 2016), or the high lead levels identified in the town of Belding, Michigan (USEPA, 2020; MDEQ, 2011) -- it is important that community residents are informed immediately. They need to know the nature of the hazard, the immediate and long-term health impacts of the hazard, symptoms that may indicate exposure to the hazard, and available treatments for exposure. The public should also have a voice in decisions on how to deal with the hazard, whether through remediation, school closure, or other measures. Decisions made with community input will more likely be viable as they incorporate community wants and needs.

Public involvement should also be integral to long-range planning efforts for the siting of new schools. There are model guidelines on citizen involvement for which the state does provide generally (MDEQ, 2014); these could be adapted to school siting decision-making processes. Opportunities for participation should occur at many points along the way, including the earliest stages. As President Clinton stated in the Sustainable Communities Report of 1997: “True participation means giving people the opportunity to take part in the initial phases of planning, not just the ratifying of decisions that have already been made, or commenting on plans that have already been drafted,” (The President’s Council on Sustainable Development, 1997, p. 15).

Enlisting the active participation of community stakeholders — including those who may not have participated in the past — may entail extra time and training. Fostering public participation in school siting decisions requires a multi-tiered strategy, with each tier generating momentum for the tier that follows. A multi-tiered strategy calls for different types of engagement at different points in the process, and each type of involvement further informs decision-making and final outcomes. Here we discuss several ways to foster public participation in the advocacy process (as community stakeholders push for better school siting policies) and in any school siting process implemented in the future.

Community Action Committees (CACs)

The Michigan School Siting Task Force recommended forming a community-based advocacy group. In the early stages of the advocacy process, small groups of advocates should look to form community-based committees to address local concerns related to school siting. Committee members would include parents, youth, teachers, local business owners, members of faith-based organizations, and other community members. The authority of these committees would lie in the right of self-determination in the communities they represent. The way these

committees are formed can vary, but they should authentically represent the interests of the community. This can happen in an organic, grassroots cooperative manner, with the early stages and committee formation evolving from neighborhood and community meetings. Another approach to establishing such a committee would be for a community services nonprofit organization to hire a community resident as a project leader to create and maintain the committee structure. Community Action Committees (CACs) could be set up at the county or district level throughout the state and given programmatic support from state agencies.

A CAC could be broadly focused on improving the environment and the health of an entire community. The committee could also choose to focus on a specific issue such as climate action plans, assessing community vulnerability to extreme heat, air quality, and access to cooling centers. Schools can function as heat wave shelters during extreme heat events, a function which is recommended in the voluntary school siting guidelines issued by the USEPA whereby schools should have capacity to double as emergency shelters for the community (USEPA 2011, p. 1). The CAC could select one or more member representatives to build relationships with local and state government agencies, the local education agency, the school siting committee, and the local business community (including heavy industry), creating open communication channels.

CACs can benefit communities in several ways. First, they provide an opportunity for young adults to take leadership roles in their own communities, learn from their elders, and create continuity in community involvement. This allows for the transmission of knowledge of, and experience in, school siting issues in a context outside government. CACs can also serve as distinct entities for the receipt of technical assistance and technical assistance funding, as recommended in the USEPA Guidelines (2011, p. 24) and the CHPAC report (2010). Independently, CACs can also obtain grant funding or other provisions for vulnerable communities and strengthen engagement through project funding. CACs can also facilitate broader community involvement in the various forms of public engagement discussed in this section.

School Siting Committees

A school siting committee should be formed to focus on the siting of a specific school (USEPA, 2011). The committee should consist of representatives from stakeholder groups that reflect the demographics of the community, including but not limited to parents, students, building engineers, facilities managers, school administrators, staff, school board members, teachers, public health organizations and environmental advocacy groups. The committee should also include representatives from the local education agency (LEA) as well as local government and tribal staff. The diversity of interests and expertise these participants bring to their school siting committees would help assure that all community concerns — including health concerns related to broader social patterns (e.g. walkable communities and access to fresh food) — are considered in the school siting process. The school siting committee (SSC) could also function as a subcommittee of an already organized parent-teacher organization.

The leader of the school siting committee should communicate with the CAC about plans from local education agencies, including those affecting school building maintenance, construction, and renovation. The school siting committee should also solicit information from other entities with plans that could impact the health of schoolchildren and the quality of the school environment both indoors and outdoors.

School siting committees should play a major role in decisions affecting school location (see Appendix E for relevant recommendations from the USEPA Guidelines). Assisted by local planning and zoning authorities, they should develop long-term facilities plans that reflect anticipated economic growth and seek to correct socioeconomic injustice and inequity. The plans should be reviewed by the public and updated annually. While facilities plans will be implemented by local education agencies, the power to make decisions about new school construction; school building repair, renovation, or expansion; and school closures necessitating student reassignments should rest with the school siting committee.

Town Hall Meetings

Town hall meetings are a key part of any public engagement process (Lukensmeyer and Brigham, 2002). CACs, school siting committees, school health teams, and other stakeholders can identify opportunities to organize town hall meetings as part of the advocacy process. At meetings, government agency representatives and representatives of local education agencies should be present to disseminate information and answer questions. The goals of transparency and accountability may be more fully realized if CAC members serve as facilitators to enhance communication between government stakeholders and the public, as CAC members will be intimately familiar with local siting issues and the nature of the region. The CAC member should have the ability to translate technical information to the public while acting as a spokesperson for concerned citizens.

Town hall meetings are most successful when community members are aware of the issues to be addressed; have reasonable access to materials and information; and are notified well in advance of the date, location, and time. Public participation can be increased if meetings are scheduled regularly and hearings on a topic of interest are scheduled more than once to maximize attendance.

Community groups and local education agencies should share the responsibility for publicizing town hall meetings. School districts should release draft documents and written notification of meetings in a timely way. While many districts will have websites that can host this information, school officials should consider additional options such as sending information via direct mail, sending material home with students, and having copies of relevant material on hand in the school's administrative offices. All school staff should participate in the public notice process, sending home notices about school siting projects with the same due diligence they would employ when sending notices about standardized testing and other important issues.

Community organizers can publicize meetings on the internet as well, but outreach efforts should also include face-to-face and non-web-based communications as well as social media

and online platforms. Notices for meetings should appear in local newspapers and be posted in public places such as libraries, local government agency offices, and other distribution centers. These centers may include faith-based organizations; community centers; and businesses such as laundromats, hair salons, and barber shops. The notices should appear in all locally relevant languages.

Public meetings can be televised utilizing the local television station, a public service normally free of charge. Community residents can then participate in meetings from home by calling in comments by telephone. This would enable better representation of vulnerable populations with limited mobility, such as elderly adults, people with disabilities, and families with young children.

Local education agencies should provide the public with timely access to materials that explain simply and clearly the school siting process and the issues involved. Agencies should seek out every opportunity to ensure that all parents are provided with necessary and relevant information well in advance of school siting decisions. Additionally, state and local agencies should translate key documents into any language spoken by more than 5% of the school population and also provide translation services. Materials should be available in multiple formats across multiple platforms—online and hard copy, and translated into Spanish, Arabic, or any other widely-spoken local language.

Student Engagement

Engaging students in issues of environmental health can help keep the issues alive between public meetings and during temporary lulls in public engagement efforts. Many school districts around the state have an environmental component in their curriculum. It can be used to inform students and generate discussion on local environmental issues, including school siting concerns. Students ages 12 and older can work on school siting and health projects during and after school. They can work independently or together with local youth groups such as the National Junior Honor Society and the Young Educators Alliance, a joint effort of the Eastern Michigan Environmental Action Council and Detroiters Working for Environmental Justice.

Teachers, parents, and community groups can help build children's awareness of hazards in their environment by providing them with cameras to take photos of pollution around their schools. This can empower children to assert their right to live and attend school in a healthy environment. Building children's awareness of hazards in the school environment may also strengthen the participation of families in the school siting process. Parents and other community members can take photos of environmental hazards around schools in further support of advocacy efforts.

Short film documentaries and photography projects can inspire children and communities to come forward with stories of their own. Such projects can bring about the sharing of local narratives, mobilize youth, and bolster agency, as demonstrated by the success of the *Young Voices for the Planet* film series (Cherry, 2020; NOAA Climate Services, n.d.). Students can also participate in contests promoting relevant environmental themes. The US Green Building Council sponsors an annual My Green School Art contest to build students' awareness of the

importance of environmentally sustainable school buildings (US Green Building Council, 2016). The resulting documentaries, photo journals, and other creative works can then be given exposure in the media, generating further interest in and concern for local environmental issues and school siting projects.

Technical Assistance

Full, informed community participation throughout the school siting process will depend on communities receiving adequate technical assistance. State agencies can provide such assistance by supplying relevant informational documents written in plain English. One such document might be the Michigan DEGLE's checklist for school site construction, which lists actions that must be taken before proceeding with school construction (MDEGLE, 2019c). Documents should also be translated into any language spoken by more than 5% of the school population. Considerations of social equity demand that all community members be afforded every practical opportunity to have a say in decisions affecting the health of their community.

State-level assistance can also come from experts able to interpret dense, technical information in terms the community understands. The process can be as simple as setting aside time at public meetings to review all the data being considered by local education authorities in making a school siting decision. This time should not be treated as a time to simply summarize data or present talking points on the assumption that parties are already familiar with the material or may be able to review it later. Instead, it should consist of an interactive learning process in which technical experts involved in data collection and analysis are available to answer questions. Translation should be provided in districts where community residents are not proficient enough in English to understand what is said. All technical assistance should be provided in a timely manner.

State agencies should provide community members with this technical assistance to ensure that the communities have the information they need to fully understand the environmental and health consequences linked to potential school sites. Additionally, state agency staff can benefit from professional training workshops designed specifically for improving competencies and proficiencies in providing this technical assistance. The federal government provides a variety of resources and training that can further structure and provide foundation for technical assistance (USEPA, 2008a, 2015b, 2015c).

In summary, a statewide school siting policy in Michigan should call for expanded state and local participation in the school siting process. State actors should include:

- state regulatory agencies that conduct or oversee environmental reviews and health impact assessments, monitor school districts' compliance with remedial actions, and funnel technical assistance resources (and may provide technical assistance) to communities with school siting projects, and
- the state legislature, that oversees compliance with state regulations and provides federal and state funding for communities' technical assistance needs.

Local actors should include:

- local education agencies
- members of the public and organized community groups
- school siting committees, and
- school health teams (if such teams exist).

The technical assistance and training community members need in order to understand the health and environmental consequences of a school siting decision can be provided by state agencies or advocacy groups such as the Michigan Association of Planning (MAP).

Recommendations for Key Participants and a Set of Model Guidelines for School Siting

The following recommendations are presented in two parts. Part 1 highlights the key participants and methods by which school siting should occur in Michigan. Part 2 brings together these recommendations and those in the previous Chapter (Environmental Review) to offer a model set of guidelines by Task Force members for school siting in Michigan.

Part 1: Key Participants and Methods

In considering key participants and methods for school siting in Michigan, the school siting process ultimately should:

- Promote shared responsibility for school-siting decisions among local and state actors
- Include provision for siting policy in MDEGLE and MDLARA site construction checklists in the state regulatory process
- Make technical assistance and training available from *and for* state agencies - communities and local agencies can seek assistance from state agencies, while state agencies should provide professional development and training opportunities for agency staff on school siting and related issues
- Draw on federal technical assistance resources, such as USEPA training and guidance on using environmental screening tools
- Adopt diverse strategies to engage the public in issues concerning the school environment, including town hall meetings and training workshops, and ensure multiple opportunities for local stakeholder participation
- Distribute public meeting notices and other written materials with adequate advance notice and in a comprehensive manner - all information should be translated for non-English-speaking community residents

- Allow community members to organize and establish grassroots community action committees and school siting committees, and
- Engage students in school- and community-related environmental concerns.

Part 2: A Set of Model Guidelines for School Siting in Michigan

After considering many ways to strengthen the review process and identifying the agencies, individuals, and groups that should serve as key participants, a model set of guidelines was developed by our Task Force that includes the following six steps:

Step 1: Local education agencies work in consultation with local planners, community action committees and school health teams to establish a school siting committee, draw up site and construction plans, and submit an initial site application to the Bureau of Construction Codes in the Michigan Department of Licensing and Regulatory Affairs (MDLARA). MDLARA currently oversees school construction plans (MDLARA, 2020a).

Step 2: Upon submission of the school site application to MDLARA, the Michigan Department of Environment, Great Lakes, and Energy conducts an environmental review process. The process includes opportunities for public comment in which community action committees and school health teams can participate.

Step 3: Upon completion of the environmental review process, the Michigan Department of Health and Human Services conducts a health impact assessment. Members of the school siting committee, community action committees, and the school health team can participate in the assessment, especially during the early stages of project development. Assessment of health disparities can be overseen by the department's Office of Equity and Minority Health.

Step 4: Once the results of the environmental review and the health impact assessment are published, the public has the right to submit comments. A public forum also takes place. All feedback on the results is incorporated into the final documents, which are submitted to MDLARA with the original site application.

Step 5: MDALRA issues a decision to approve or disapprove the school siting application based on all the information provided.

Step 6: School siting committees, community action committees, and school health teams can appeal MDLARA's decision to the Michigan Office of Administrative Hearings and Rules, an autonomous agency within MDLARA (MDLARA, 2020b), if there are objections to the final siting decision.

Chapter 4: Capacity Building and Interagency Collaboration

Many public policy and advocacy organizations work at the intersection of school health, environmental health, and environmental justice at national, state, and local levels. As suggested in Chapter 3, a statewide school siting policy will require technical assistance during the school siting process, and many organizations involved in urban and regional planning, children's health, school policy, and environmental issues are equipped to provide that support and assistance.

Some of these existing groups have identified coordination and communication with other groups as programmatic priorities. Communities now involved in school siting projects or concerned about environmental contamination in existing schools should — if feasible — take advantage of this available aid or expertise. Policy and advocacy organizations could serve as valuable sources of information and support for school communities. Partnering or consulting with such groups could make it easier to bring community members together around the issue of unhealthy school environments and build capacity to advocate for policies favorable to children's health. Adapting a program or initiative created by another organization to fit the needs of a Michigan school district could facilitate school siting decisions and lead to healthier and more equitable outcomes.

In Chapter 3, we identified potential actors in a Michigan school siting policy and the roles they might play. In Chapter 4, we discuss the agencies that could lead or support the state's implementation and oversight of Michigan's school siting policy, as well as advocacy organizations that could provide trainings, tools and resources for communities during the school siting process. Agencies that could lead and support the state's implementation and oversight of a school siting policy in Michigan include local and regional planning agencies, described below.

Local and Regional Planning Authorities

Local and Regional Planning Authorities can be useful resources to local education agencies (school districts, superintendents, and school boards). Local school agencies and school siting committees should seek the assistance of local planning authorities (city and regional planning departments) when reviewing plans and making school siting and construction decisions. Integrating planning guidance into decision-making processes early and often can lead to better outcomes overall (Carey, 2011). Policy reform advocates should look for opportunities to connect with planning authorities as well.

According to Kelley Carey in *Why Schools Need Planners* (2011), city and regional planners can contribute toward improved school siting decisions by providing computer mapping of school site locations, demographic analyses, five-year planning strategies, and strategies for increasing public involvement. When a professional planner is not part of the process, school

districts may be inclined to base siting decisions on controversial school attendance plans, poor enrollment projections, and disjointed planning and duplication of projects. Modern suburban sprawl is one result of disjointed school siting policy. A distantly located school, which may appear to be the least expensive option, ends up costing significantly more due to increased costs of infrastructure, services, and school transportation (Carey, 2011). The best way for school districts to avoid such undesirable outcomes is to draw on the expertise of local and regional planners (see Case Study 1 for an example of how Lansing, Michigan has incorporated planning expertise in its school siting plans, page 43).

Planners may be able to obtain state funding for public health projects related to school siting through the Governor's Regional Prosperity Initiative, a grant provided by the Michigan Department of Technology, Management and Budget. This regional initiative makes grant funding available to state-designated planning regions and metropolitan planning organizations if they collaborate with business and nonprofit representatives, as well as representatives from local and regional economic development organizations, workforce boards, adult education providers, and the higher education community. The initiative is geared toward building regional economies. It provides an opportunity to link public health concerns to broader public policy issues of economic growth (Michigan Department of Technology: Management and Budget, 2020). More information can be found at michigan.gov/dtmb/0,5552,7-358-82547_56345_66155---,00.html.

US Environmental Protection Agency: Healthy Schools, Healthy Kids

The USEPA's Healthy Schools, Healthy Kids program provides a wide range of resources to support school siting policy development and implementation, as well as a variety of other reports, tools, trainings, and funding to "establish, maintain, or enhance a school environmental health program" (USEPA, 2017a). One of these offerings is the Smart School Siting Tool. This online tool was created to help local government and education authorities align school siting and community development decisions. It includes an Assessment and Planning Workbook that allows communities to understand how well they are coordinating school siting into community planning, and a Site Comparison Workbook that helps decision-makers evaluate and compare potential locations for new or renovated schools (USEPA, 2017b). It can be found at epa.gov/smartgrowth/smart-school-siting-tool.

The USEPA has also developed reports which support the need for strategic school siting. The report "Youth Travel to School: Community Design Relationships with Mode Choice, Vehicle Emissions, and Healthy Body Weight" (USEPA, 2008b) investigated motivations for different school travel methods and the connection to CO2 emissions. The report "Schools for Successful Communities: An Element of Smart Growth" (USEPA, 2004a) discusses the integration of school planning with smart growth principles. These reports may provide useful insight to those advocating for school siting policies.

The Center for Green Schools and the US Green Building Council

The Center for Green Schools, part of the US Green Building Council, supports the development of green schools worldwide, based on three pillars: reducing environmental impacts and costs, improving occupants' health and performance, and increasing sustainability literacy. The Center for Green Schools publishes research and best practices, advocates to lawmakers, and helps educate students and teachers on sustainability, among other initiatives. Their resources can support Michigan schools in building more sustainably.

The US Green Building Council also runs the Leadership in Energy and Environmental Design (LEED) program. LEED is a nationally recognized green building certification program that offers a framework for developing and measuring green building design, build-out, operations, and long-term sustainability. LEED-certified buildings operate more efficiently, leading to cost savings and ultimately a healthier environment for users. Certification requires each individual project to apply through the US Green Building Council. Currently, several Michigan academic institutions are gold LEED certified or have facilities certified as LEED, including the University of Michigan (Ann Arbor), Michigan State University, Central Michigan University, Ferris State University Housing Complexes, and Kalamazoo Public Schools (MDEQ, 2013). Recommending or requiring LEED certification for new construction would help ensure a healthier learning environment for Michigan students.

The City of Lansing, Michigan's comprehensive 2012 master plan, *Design Lansing*, is a strong local example of a municipality prioritizing environmental quality around its schools. By implementing best practices in urban planning including Smart Growth principles, Complete Streets, and Green Development, Lansing is seeking to build better neighborhoods for children and their families. *Design Lansing* states: "the design of new school sites and buildings should consider a range of green development strategies—from energy conservation and the use of sustainable materials to potentials for incorporating community gardens," (City of Lansing Planning Commission, 2012, p. 93). While Lansing is facing a decline in population and therefore a need to consolidate schools to serve larger areas, it still seeks to maintain safe walking routes to school through the "Safe Routes to School" program. It also recognizes that open space and play facilities associated with schools are valuable and difficult to replace, so should be preserved even if the associated school closes (City of Lansing Planning Commission 2012, p. 93). The city of Lansing's master plan may be a valuable model for incorporating green design principles into a more comprehensive city master plan. More information can be found at lansingmi.gov/275/Design-Lansing.

Advocacy Groups

There are several major advocacy organizations and initiatives, described below, that could provide trainings, tools, and resources for communities during the school siting process in Michigan.

Michigan Association of Planning (MAP)

As we mentioned in Chapter 3, the Michigan Association of Planning (MAP) is the state chapter of the American Planning Association (APA), a professional community planning organization in the United States (APA, 2020). As a national organization, the APA recommends that states provide financial aid for school construction and financial incentives for adherence to school siting guidelines (McDonald, 2010). MAP provides education and resources that can be helpful for siting schools such as community engagement, planning and zoning, site plan review, and clean energy planning (MAP, 2018). As we mentioned in Chapter 3, their school and local government policy can be a great resource for local education agencies to work with local governments.

Healthy Kids, Healthy Michigan

Healthy Kids, Healthy Michigan is a statewide advocacy collaborative that works to reduce childhood obesity in Michigan. The coalition is made up of over 150 organizations from various sectors, including government, the private sector, school districts, health care and nonprofits (Healthy Kids, Healthy Michigan, 2020; Michigan State University, 2020). The diverse membership includes, for example, the Michigan Environmental Council, Michigan State Medical Society, Michigan Department of Health and Human Services and the Michigan Department of Education (Healthy Kids, Healthy Michigan, 2020). They develop and pursue annual goals aimed at preventing childhood obesity through state level policy, including policies that support health and physical education, as well as food access and active living. While promoting active lifestyles (including through the Safe Routes to School program described below) and healthy food access, they also support a statewide school siting policy that promotes the development of community-centered schools. They have engaged in school siting conversations and examined how to impact policy and support at the local level. Community-centered schools can be part of successful initiatives that promote active transportation (e.g., Safe Routes to School and Complete Streets (see below for more information)). More information can also be found at [heart.org/idc/groups/heart-public/@wcm/@mwa/documents/downloadable/ucm_307009.pdf](https://heart-public/@wcm/@mwa/documents/downloadable/ucm_307009.pdf).

Safe Routes to School

Safe Routes to School was started by the US Department of Transportation (USDOT) in 2005 and is a federal program of more than 800 affiliated partners across the US (Safe Routes to School National Partnership, 2015). Notably, Michigan was an early pilot state since 2003 (Safe

Routes to School Michigan, 2016). As in all states, the Michigan Safe Routes to School program is run by the Federal Highway Administration Office of Planning, Environment, and Realty (Safe Routes to School National Partnership, 2016). The goal of the program is to promote safe biking and walking to and from school to improve school children's health and wellbeing (Safe Routes to School National Partnership, 2015). A recent report states that the program is reaching a "critical mass" of support across the nation from communities that are actively promoting student safety while traveling to and from school (USDOT, 2015). Safe Routes to School Michigan works with schools and communities to develop, support, and fund projects that make it safer for students to walk and bike to school and in greater numbers (Safe Routes to School Michigan, 2016). One of the FHWA grant programs, the Congestion Mitigation and Air Quality Improvement Program, provides funds from the Federal Highway Administration specifically for areas that are designated as being non-attainment, or where the air pollution levels are worse than the federal standards (Safe Routes to School: "Funds for SR2S Appendix F," 2005).

In Michigan, the SRTS program is managed by the MDOT who contracts with the Michigan Fitness Foundation to administer the program to schools and communities across the state. The aim is to encourage and make it safer for students to walk and bicycle to school and facilitate projects that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of elementary and middle schools (Safe Routes to School Michigan, 2016). Given their ongoing work with the *Healthy Kids, Healthy Michigan* coalition mentioned above, they could be an important ally for a Michigan school siting policy, as well as ensure its successful implementation once signed into law. More information can be found online at www.michiganfitness.org and saferoutesmichigan.org.

Michigan Complete Streets Coalition

The Michigan Complete Streets Coalition is a project of the League of Michigan Bicyclists, Michigan Environmental Council, and American Association of Retired Persons (AARP) of Michigan and represents over 100 organizations across the state. This coalition advocates for statewide and local Complete Streets policies which ensure street designs serve all users, including pedestrians, people with disabilities, bicyclists, transit users, and children, not just motorists (Michigan Complete Streets Coalition, 2015). The coalition works toward providing citizens with healthier, more accessible means of travel, including those that allow for exercise and independence. The idea of Complete Streets' design is an important part of implementing Safe Routes to School, and a key component of the *Healthy Kids, Healthy Michigan* initiative. This coalition could be a useful partner in advocating for and implementing a successful school siting policy, as school safety involves the quality of the roads and sidewalks and the safety of the neighborhoods children travel through on their way to school. More information can be found online at michigancompletestreets.wordpress.com.

Michigan Environmental Council (MEC)

The Michigan Environmental Council (MEC) is a coalition of over 70 organizations that seek to promote positive environmental change in Michigan through the political process. Their 2019-

2020 policy priorities can all “be linked to environmental justice (EJ)” (MEC: “Environmental Justice,” 2018). The MEC has worked with the *Healthy Kids, Healthy Michigan Coalition* on school siting and *Safe Routes to School* in the past, so could be an ideal partner in supporting and implementing proposed legislation.

In 2010, the MEC worked in partnership with the *Healthy Kids, Healthy Michigan Coalition*, and in advocacy for walkable school siting plans (MEC: “Annual Report,” 2010). Based on its history of vocal advocacy for children’s well-being and environmental health, and work on school siting plans, the group could be a partner in leading an awareness campaign for implementing school siting policy in Michigan. More information can be found online at environmentalcouncil.org.

Training and Workshops

Customized training workshops that specifically engage planners can build capacity at all levels and create communication networks among state agencies, school districts, and communities. Local workshops can acquaint communities with school siting guidelines. State agencies, advocacy networks, and community groups can collaborate in designing workshops to increase capacity on multiple fronts. State and local actors can develop cross-training opportunities for health, education, and planning professionals and collaborate on projects involving short- and long-term school site planning and public health issues to develop locally meaningful assessments and resources and the capacity to support decision-making. Training workshops can serve to engage a diverse audience from local communities and school districts as well as county, state, and federal agencies.

Training workshops can be designed with two goals in mind: to enhance public participation, and to provide professional development and training for state and local agency staffs and other professionals engaged in the school siting process. These goals can be achieved in one workshop design, or as separate workshops, depending on the needs of the stakeholder groups. State agencies such as MDEGLE, MDHHS, and MDE should educate agency staff on new school siting policies and procedures, which can lead to the development of training and technical assistance for schools and communities.

Advocacy and planning groups such as the Michigan Association of Planning can work with communities in customized training workshops to increase decision-making capacity and strengthen community involvement throughout the site selection process. These workshops can focus on any aspect of the process, including long-range facility planning, strategies to engage youth and other members of the community, communications planning, and technical information that needs explaining so community members can make informed choices affecting children’s health. Participants may include CACs, school siting committees, school health teams, and other community residents. Such workshops can also help to empower the community to interact with state agencies and local education agencies during the school siting process. The Georgia Conservancy is an example of an organization that could provide resources or take the lead in these initiatives. This and other examples are described below.

Georgia Conservancy

The Georgia Conservancy is a statewide organization that supports advocacy, engagement, and collaboration around issues of land and coastal conservation, sustainable growth, and environmental stewardship. In an effort to promote the understanding of the importance of the environmental, community development, and public health issues related to school siting, the organization has taken the lead on “research, outreach and educational efforts to introduce communities to best school siting practices” (Georgia Conservancy: “School Siting,” n.d.). The organization currently provides free resources for communities across the country through hands-on workshops, webinars, and training materials that help acquaint stakeholders with the USEPA guidelines and help them identify school sites that fit within outlined specifications (Georgia Conservancy: “School Siting Workshops,” n.d.). Many of the Georgia Conservancy’s resources and trainings may prove useful to school siting advocates in Michigan.

In 2011, the Conservancy received a grant from the USEPA to make their School Siting Guidelines more accessible to the general public (Georgia Conservancy: “School Siting Workshops,” n.d.). The Georgia Conservancy worked with the Georgia chapter of the US Green Building Council and a nonprofit called Mother and Others for Clean Air to develop *Old School, New School, This Place, That Place*, a training that includes three modules for parents, community leaders, urban designers, planners, and other stakeholders engaged in school site decision-making processes. The training involves a three-hour session on the importance of school siting that includes a presentation, case studies, and facilitated dialogue about school siting and the USEPA guidelines. The training materials are available on the Georgia Conservancy’s website (gcnew.squarespace.com/schoolsiting/workshops) and can be tailored to fit the needs and policies of each state (Georgia Conservancy: “School Siting Workshops,” n.d.). The Georgia Conservancy also provides small-scale technical support in school siting best practices to schools trying to support communities in school siting and design (Georgia Conservancy, “Blueprints,” n.d.). The *Old School, New School, This Place, That Place* training, workshops and technical support the conservancy offers could be valuable resources for Michigan communities planning new school projects and renovating existing schools.

Michigan State University Land Policy Institute, Planning & Zoning Center

The Land Policy Institute (LPI) at Michigan State University seeks to address land use challenges in Michigan, the Midwest, and beyond through research, outreach and education. They develop land use policies, strategies and best practices that enrich community and economic life (LPI, n.d.). LPI’s Planning & Zoning Center provides “research, education and consultation on best practices for community planning and development control” (LPI: Planning & Zoning Center, n.d.) More information can be found on their website at https://www.canr.msu.edu/landpolicy/program/planning_zoning_center_at_msu/index.

Organizations that Conduct Research & Produce Policy Papers

The following are organizations that conduct research and produce policy papers on land use and community planning, school construction, and public health. Their work may be useful to policy advocates endeavoring to promote development of a statewide school siting policy in Michigan.

Center for Local, State, and Urban Policy (CLOSUP)

The University of Michigan's Center for Local, State, and Urban Policy (CLOSUP, 2020) is a program of the Ford School for Public Policy that "conducts, supports and fosters applied academic research to inform local, state, and urban policy issues" (CLOSUP, 2020). They produced a policy report in 2006 entitled: "Planning for Schools in Michigan: Local School Board Decision-making on School Renovation, New School Construction, and School Siting" (Norton, 2006) discussing the relationships between new school construction and community growth. The findings of this report may be useful in advocating for strong school siting policies in the State.

This report found that half of Michigan's public school districts were improving their facilities with renovation or new school construction, and that most new schools were being built in urban areas. The report also found that most construction initiatives came about as a result of competition among school districts, facility aging and degradation, and financial concerns. When local education agencies consulted with local government on school siting decisions, government input was found to have had little influence on the choices school districts made. Decisions to build schools in exurban areas were mainly driven by the relatively low cost of exurban sites. The report did not indicate that environmental considerations were relevant in school board decision-making.

GroundWork Center for Resilient Communities

The GroundWork Center for Resilient Communities is an advocacy organization that works to "protect the environment, strengthen the economy, and build community" (Groundwork Center for Resilient Communities, 2018). They focus on a local food and farming economy, clean energy, and downtown redevelopment and transit solutions in northwest Michigan, as well as on the state level.

Then known as the Michigan Land Use Institute, the Groundwork Center published a report in 2004 entitled, *Hard Lessons: Causes and Consequences of Michigan's School Construction Boom*. In the report, they argued that new school construction can be detrimental to the environment, communities, and economies. New schools are expensive, take up large plots of land, and increase taxes. The GroundWork Center recommends the renovation of existing buildings rather than the construction of new facilities. The report also indicates that increased

community involvement in siting decisions is correlated with less costly long-term school board decisions (Michigan Land Use Institute, 2004).

While the Groundwork Center has turned its focus away from school siting specifically, the report continues to resonate in the State, and provides useful Michigan case studies of school siting decisions.

ChangeLab Solutions

ChangeLab Solutions is an interdisciplinary nonprofit, nonpartisan group specializing in two areas: researching community planning, policy, and law; and drafting model policies for creating positive change in communities related to health and just communities (ChangeLab Solutions, 2020). Though originating in California, the organization now creates laws and policy models that have been implemented nationwide on the neighborhood, city, and state levels.

The organization has developed several resources in support of smart school siting that can be used by policy makers to develop a Michigan-specific policy. The foundation of their resources is their “Ten Fundamental Principles of Smart School Siting” for school districts and local governments, outlining what they believe will lead to strong school siting decisions on the local level. These principles, outlined below, are reflected in the policy recommendations made in this report (ChangeLab Solutions, 2012):

- Collaborative planning
- Long-term, data-driven planning
- Accounting for all costs
- Co-location and shared use of facilities
- A preference for renovation rather than new construction
- Diverse, walkable schools through school siting and assignment policies
- Equity in school facilities
- Assessment of health impacts
- Safe routes to school, and
- Safe infrastructure for walking, bicycling, and public transportation in the school vicinity.

ChangeLab Solutions also provides model school siting policies for school districts. These include a package of policies that ensure the aforementioned principles are applied in school siting decisions, including:

- School Siting Overview Policy
- Long-Term Coordinated Planning
- Procedures for School Site Planning
- Considerations for School Siting Determinations
- Site Design, and
- General Guidelines for Attendance Zones & Assignment Policies.

This model can be used by local school districts attempting to implement their own policies, or by the state to help develop an inclusive policy for Michigan. The principles enforced here are reflected in the policy recommendations made in this report.

Finally, ChangeLab Solutions offers tailored support specific to a state's needs. They have already created an Illinois-specific model school siting policy for lawmakers in that state. Policy makers or advocates may contact Changelab Solutions for guidance in further developing an effective policy for the State of Michigan.

Recommendations for Capacity Building & Interagency Collaboration in the School Siting Process

In this Chapter we have highlighted key organizations and initiatives whose missions align with providing safe and healthy environments for children in their communities and at school, and research that is supportive of the need for comprehensive school siting policy. Collaborating with these groups and taking advantage of their technical support and research will strengthen efforts to advocate for and implement healthy, environmentally sound school siting policies in Michigan.

We recommend that:

- State and local agencies and community groups invite and integrate participation from planning professionals as well as improve inter-agency coordination and assist residents with inter-agency navigation
- Customized training workshops be designed specifically to engage professional planners and integrate cross-training opportunities for health, education, and planning professionals
- School siting policy advocates consider the spectrum of cross-cutting themes across multiple sectors and rely on and build on the work of existing coalitions, advocacy organizations and networks to build support and capacity for implementing policy
- School siting policy reports from research and policy organizations be used in addition to previous legislative initiatives for school siting in Michigan, to further develop a working proposal for school siting policy, and
- State and local officials dedicate proactive regulatory bodies to screen development proposals with a sustainability and resilience lens.

Chapter 5: School Siting Policies in Seven States

The School Siting Guidelines issued by the USEPA are voluntary and, at the state level, regulations on school siting and environmental review differ from one state to the next. In 2006, Rhode Island Legal Services submitted a 50-state survey of laws governing school siting to the USEPA (Fischbach, 2006). The report, funded under the USEPA's Environmental Justice Small Grant Program, was completed with assistance from the Center for Health, Environment and Justice in Falls Church, Virginia. In addition to the Rhode Island Legal Services report, Masters students at the University of Michigan's School of Natural Resources and Environment (now the School for Environment and Sustainability) conducted an extensive follow-up review of these policies, including interviews with key stakeholders, to identify, evaluate, and catalogue school siting policies based on their level of stringency and effectiveness (Brown, Etue, Fox, Shafrick, and Rajae, 2012). These reports (Fischbach, 2006; Brown et al., 2012) were reviewed by Task Force members and used as bases for identifying key state policies to be considered for a school siting policy in Michigan that takes into account environmental quality factors. States whose policies were reviewed include Rhode Island, California, Minnesota, Maryland, New Jersey, Washington, and New York. All of these states require some type of environmental review before a school site is approved.

The summaries of state school siting policies below were reviewed by experts from their respective states. The experts represent stakeholder organizations such as the Rhode Island Legal Services, the School Facilities and Transportation Services Division at the California Department of Education, the Washington State Department of Commerce, and the Washington State Department of Health. Other anonymous experts also reviewed the summaries of their states' school siting policies. The summaries below are intended to help identify for consideration best practices in the seven states that can supplement the guidelines presented by the USEPA (2011) and CHPAC (2010).

Rhode Island

Rhode Island's school siting policy reflects many elements found in the USEPA's School Siting Guidelines. While exact screening and exclusion distances vary slightly, similarities in categories of environmental hazards considered include power lines, landfills, rail lines, hazardous pipelines, and high traffic roads and highways (Rhode Island Department of Education School Construction Regulations, 2007; CHPAC, 2010). Furthermore, Rhode Island's policy is largely focused on avoiding toxic vapor intrusion into school buildings and includes strict guidelines for the remediation of potential school sites that have been exposed to toxic vapor (Rhode Island Industrial Property Remediation and Reuse Act § 23-19.14-4, 2014; CHPAC, 2010).

While the USEPA recommends using screening perimeters to determine the need for evaluation of environmental hazards, Rhode Island sets minimum distances sites *must be* from environmental hazards. Setback (or "exclusion") distances require that a school not be built

within a particular distance of a hazard, as opposed to screening perimeters which require further study and evaluation (Rhode Island Department of Education School Construction Regulations, 2007; CHPAC, 2010). Another difference between Rhode Island and the USEPA's policies is that Rhode Island employs a point system requiring each site to earn a certain number of points from a grading criteria in order to be considered for a new school and does not require an Environmental Impact Report, which the USEPA recommends (NE CHPS, 2019; CHPAC, 2010). Minimum distances from environmental hazards, along with the grading criteria used in Rhode Island, are described in more detail below.

As per the USEPA guidelines, Rhode Island requires the formation of a school committee (similar to the USEPA's school siting committee) made up of local residents and stakeholders to propose school locations (Rhode Island Board of Education Act § 16-2-5, 2014). Rhode Island also involves the public in remediation plans of contaminated school sites, as suggested by the USEPA guidelines (Rhode Island Industrial Property Remediation and Reuse Act § 23-19.14-5, 2014). However, Rhode Island does not explicitly require public involvement in long range school facility plans, evaluation of project scope and environmental criteria, or long-term maintenance and monitoring of sites as suggested by the USEPA (CHPAC, 2010).

School committees are responsible for selecting sites where new schools are built in Rhode Island. Committees for each city or town are made up of three elected residents (Rhode Island Board of Education Act § 16-2-5, 2014). School committees propose new school sites to the Board of Regents for Elementary and Secondary Education (Board of Education) by submitting the following in two stages:

1. A statement of interest signed by the Superintendent, School Committee, and Municipal Representative (mayor or city council member), which includes:
 - a. Project justification
 - b. Facilities analysis
 - c. District asset protection
 - d. Capital improvement plan, and
 - e. Community demographics
2. A feasibility study, which includes:
 - a. Cost projections
 - b. Site work (Rhode Island Department of Education School Construction Regulations, 2007).

Stage 1 focuses on identifying need and must include the formation of a School Building Committee made up of eight city and school representatives, such as the Superintendent of Schools and a member of the School Committee. Stage 2 focuses on developing solutions and must include review from the Department of Administration's Division of Planning, Rhode Island Historical Preservation and Heritage Commission, and the Commission on Disabilities and must be approved by the Council on Elementary and Secondary Education ("Improving Rhode Island's Public Schoolhouses," Rhode Island Department of Education-School Building Authority, 2018).

As mentioned above, Rhode Island employs a point system requiring each site to earn a certain number of points in order to be considered for a new school. For the grading criteria, the Board of Education uses the Northeast Collaborative for High Performance Schools (CHPS) Verified Program (NE CHPS, 2019). New school construction projects must achieve at least 110 points in these criteria, and if a project achieves 160 points it is eligible to be recognized as a CHPS Verified Leader. Site selection standards include the following opportunities to earn points:

- Site selection (2 points)
- Avoid environmentally sensitive land, such as wetlands and farmland (3 points)
- Minimize site disturbance (1 point)
- Construction site runoff control and sedimentation, such as reducing erosion and negative impacts on water and air quality (1 point)
- Post-construction stormwater management (1 point)
- Central location (2 points)
- Located near public transportation (1 point)
- Joint-use of facilities by integrating the neighborhood into the school grounds (1 point)
- Encouraging human-powered transportation (2 points)
- Reduce heat islands (2 points)
- Avoid light pollution and unnecessary lighting (2 points)
- Promote the use of school gardens (1 point)
- Use locally native plants for landscape (1 point), and
- Ensure a thorough site analysis by implementing at least 3 of 7 site and building best practices (2 points; NE CHPS, 2019).

For sites to be approved by the Board of Education in Rhode Island, they must be:

- At least 500 feet from 50-133kV powerlines
- 750 feet from 220-230kV powerlines
- 1500 feet from 500-550kV powerlines
- At least 1500 feet from railroad tracks, hazardous pipelines, and major highways
- Not within an area with moderate or high radon potential, noxious pollution, and contamination, or that is an USEPA radon zone, and
- At least one mile away from active landfills (Rhode Island Department of Education School Construction Regulations, 2007).

Rhode Island also has very strict laws regarding the siting of schools on sites having the potential for toxic vapors to intrude into the building (vapor intrusion). School construction -- a process which includes new buildings, expansion of existing school buildings, or leasing of space for school purposes -- is banned on sites where levels of hazardous substances with potential for vapor intrusion are higher than those set by the Department of Environmental Management unless the source of toxic vapors is removed from the site and a passive sub slab vapor extraction system is installed under the school building (Rhode Island Industrial Property Remediation and Reuse Act § 23-19.14-4, 2014). "Hazardous substances" are defined as substances presenting significant potential to cause adverse effects on human health or the environment when released into the environment (Rhode Island Industrial Property Remediation

and Reuse Act § 23-19.14-3, 2014). “Chemicals with potential for vapor intrusion” are the 160 chemicals identified in the USEPA’s “User’s Guide for Evaluating Subsurface Vapor Intrusion into Buildings” (2004b).

Where levels of hazardous substances with potential for vapor intrusion do not exceed the applicable standards, the Department of Environmental Management must complete the following steps:

- Require the property owner to prepare a site model including the source area of the chemicals or petroleum, and
- Evaluate the site model to determine if chemicals could migrate as vapors or gas into the school building (Rhode Island Industrial Property Remediation and Reuse Act § 23-19.14-4).

If the Department of Environmental Management determines there is potential for chemicals to migrate as vapors, the chemicals must be removed and ventilation systems must be installed.

For potential school sites formerly used for industrial, manufacturing, or landfill purposes that are contaminated by hazardous materials, the project sponsor must prepare and post a written report on the sponsor’s website at least thirty days prior to selecting the site that:

- Projects the costs to acquire or lease the property, and to cleanup and maintain the property in accordance with applicable clean-up standards
- Projects the time period required to complete a cleanup of the property for school purposes
- Discusses the rationale for selecting the property for use as a school with an explanation of any alternatives to selecting said property considered by the project sponsor
- Solicits written comments on the written report for a period of at least thirty days after posting said report on the sponsor’s website and conducts a public hearing during said thirty day period at which public comment is taken on said report
- Prepares a second written report that summarizes and responds to the public comments received during the public comment period and at the public hearing and posts said second report on the sponsor’s website, and
- Considers the findings of the reports when selecting a site for school purposes.

Lastly, whenever a site that is known to be contaminated or is suspected of being contaminated based upon its past use is considered for possible reuse as the location of a school, the project sponsor must hold a public meeting for the purposes of obtaining information about conditions at the site and environmental history at the site that may be useful in establishing the scope of the investigation of the site and/or establishing the objectives for the environmental clean-up of the site (Rhode Island Industrial Property Remediation and Reuse Act § 23-19.14-4, 2014). Additionally, the sponsor must allow for a 10-20 day public comment period and must submit a

report to the Department of Environmental Management that summarizes what occurred at the public meeting and any public comments that were received (Rhode Island Industrial Property Remediation and Reuse Act § 23-19.14-5, 2014).

California

California's school siting policy reflects many of the elements found in the USEPA School Siting Guidelines. California employs screening perimeters for many common environmental hazards, as the USEPA suggests (California Department of Education, 2013). While there are some differences in the hazard categories evaluated and minor differences in recommended distances, California's policy generally aligns with the USEPA recommendations (see Appendices B and C). Other similarities include a consideration of safe routes to school and joint-use projects. California goes beyond the guidelines recommended by the USEPA by requiring setback (or exclusion) distances for specific hazards. Setback distances require that a school not be built within a particular distance to a hazard, as opposed to screening perimeters which require further study and evaluation. In particular, setback distances are required for above ground high-voltage transmission lines, high-pressure natural gas lines, gasoline lines, pressurized sewer lines, and high-pressure water pipelines.

Further, as per the USEPA guidelines, California recommends (though does not require) a selection team composed of the actors recommended by the USEPA such as community members, public officials, and the school design architect. Additionally, California requires an Environmental Impact Report as recommended by the USEPA, although California uses the process dictated by the California Environmental Quality Act (CEQA).

Where California's policy differs from the recommendations set out by the USEPA is in providing for meaningful public involvement. While California's policy does require some public involvement, it does not require the development of a public involvement strategy or budget to ensure adequate public involvement, especially for underserved and non-English speaking communities (California Department of Education, 2013). California does not have a detailed process for incorporating public feedback, or for evaluating public involvement, as recommended by the USEPA. The policy is discussed in more detail below.

California has a rigorous process for selecting sites and funding public schools. Any school district seeking state school facility funding must comply with Education Code Section 17251 (California Education Code, 2017) and the California Code of Regulations (CCR), Title 5, sections 14001 through 14012 (California Department of Education, 2020) and receive approval from the Department of Education (California Department of Education, 2013). This process involves numerous state agencies, including:

- Department of Education (CDE), School Facilities and Transportation Services Division (SFTSD), which
 - Establishes school siting and plan standards for schools built in the state (CCR Title 5)

- Reviews and approves projects (site and plans) for consistency with Title 5, and
- Provides best practice support, advice, and assistance to local education agencies (California Education Code Section 17251, 2017);
- Department of Toxic Substances Control (DTSC), which
 - Provides hazardous material assessment and cleanup oversight for state-funded site acquisition and non-exempt school site construction: California Education Code Section 17072 (California Education Code, 2001)
- Division of State Architect (Department of General Services), which
 - Approves all school construction for structural, fire/life safety, accessibility standards (Title 24 & Field Act – Seismic Standards), except for non-state funded charter schools (California Department of Education, 2013); and
- Office of Public School Construction (Department of General Services and staff of State Allocation Board), which
 - Administers State bond funding programs and supports and implements State Allocation Board regulations and policies (California Department of Education, 2013).

Either school district staff or a selection team can choose school sites, although the Department of Education recommends a selection team. A selection team should include community members, teachers, administrators, public officials, and the architect selected by the school district to design the project, including people with and without children in the district. A school board member can also be included (California Department of Education, 2013). The selection team should evaluate the following screening and ranking criteria for each proposed site:

- | | |
|------------------|--|
| ● Safety | ● Accessibility |
| ● Location | ● Public services |
| ● Environment | ● Utilities |
| ● Soils | ● Cost |
| ● Topography | ● Availability (on the market, title clearance, etc.) |
| ● Size and shape | ● Public acceptance of the proposed site
(California Department of Education, 2013) |

As part of the CDE site approval process, CDE staff will visit and evaluate sites identified by the district per this criteria and rank alternatives.

In evaluating sites based on the above criteria, the selection team will consider the following specific factors:

- Proximity to airports:
 - If the site is within two nautical miles of an existing airport runway or a potential runway included in an airport master plan, additional approval must be obtained by the California Department of Transportation (DOT), Aeronautics Program,

Office of Airports for both aircraft safety and noise (California Department of Education, 2013)

- Proximity to above ground high-voltage power transmission lines; school sites are not eligible if they are:
 - 100 feet from the edge of an easement for a 50-133kV (kilo volts) line
 - 150 feet from the edge of an easement for a 220-230kV line, or
 - 350 feet from the edge of an easement for a 500-550kV line (CCR Title 5, Section 14010)
- Presence of toxic and hazardous substances:
 - The following potential hazards on and near the proposed school site must be investigated by a qualified consultant who prepares a Phase I Environmental Assessment conducted according to the current American Society of Testing and Materials standards which must be reviewed and approved by DTSC (soil sampling and remediation may also be required and overseen by DTSC):
 - Landfill areas;
 - Current or former dump areas, chemical plants, oil fields, refineries, fuel storage facilities, nuclear generating plants, abandoned farms and dairies, and agricultural areas where pesticides and fertilizer have been heavily used;
 - Naturally occurring hazardous materials, such as asbestos, oil, and gas (California Education Code sections 17213.1 and 17213.2, 1996).
- Hazardous air emitters and hazardous material handlers within a quarter mile:
 - The district must determine that any permitted or non-permitted facilities within one-quarter mile will not constitute a potential endangerment to public health (California Education Code section 17213, 1996; Association of Environmental Professionals, 2020).
- Other health hazards, including history of hazardous or solid waste disposal (California Department of Education, 2013)
- Proximity to railroads:
 - While no setback distance is required, a safety study must be conducted if the proposed site is within 1,500 feet of tracks which shall assess rail traffic and the need for sound or safety barriers and pedestrian and vehicle safeguards (California Department of Education, 2020).
- Proximity to high-pressure natural gas lines, gasoline lines, pressurized sewer lines, or high-pressure water pipelines:
 - A site may not be selected if lines carrying hazardous substances are on or below proposed site
 - The site shall not be located within 1,500 feet of a pipeline that can pose a safety hazard as determined by a risk analysis study. CDE recommends that the district hire professionals to conduct pipeline risk assessments

- CDE protocol recommends the district consider the depth of water on the school site that would result from rupture of any nearby large volume water source as well as any potential subsidence on the site (California Department of Education, 2013)
- Proximity to above-ground water or fuel storage tanks:
 - The district should contact the state and local fire marshals, public utilities commission, and California Department of Industrial Relations to evaluate school's level of safety in the event of an explosion or rupture
- Noise:
 - The California Department of Transportation considers sound at 50 decibels in the vicinity of schools to be the point at which it will take corrective action for noise generated by freeways
 - CDE recommends noise studies and noise attenuation if the noise level would significantly affect the educational program
- Proximity to major roadway:
 - While no setback distance is required, CDE recommends sites be at least 2,500 feet from highways when explosives are transported and at least 1,500 feet from highways when gasoline, diesel, propane, chlorine, oxygen, pesticides, and other combustible or poisonous gases are transported;
 - If within 500 feet of roadways with heavy traffic (as defined in code) the district must determine through air dispersion modeling that air quality does not pose significant health risks.
- Results of geological studies and soils analyses (California Education Code, 1996):
 - Studies assess the potential risk of earthquakes, liquefaction, and landslides, as well as flooding and inundation
- Condition of traffic and school bus safety:
 - The following factors should be considered in designing pickup and drop-off points: separation of bus traffic from all other traffic, sufficient width of paved roads, and need for left-turn lanes
- Safe routes to school (walkability and bike-ability of site):
 - Sites on major streets with heavy traffic may require traffic studies and a plan for the safe arrival and departure of students, and
- Safety issues for joint-use projects:
 - Account for safety of students when cooperating with other local government entities on school and public facilities.

The California Environmental Quality Act (CEQA: California Code of Regulations, Title 14, Section 15000 et seq.) establishes that public agencies, including school districts, must analyze,

avoid, mitigate, or where feasible, minimize foreseeable environmental damage (Association of Environmental Professionals, 2020).

The LEA (local education agency), for example the school district or school board, is usually the lead agency in charge of meeting the requirements of CEQA, and ensuring the preparation and adoption of an Environmental Impact Report or negative declaration before a potential site is acquired (California Education Code §§17210(g), 17213.1(a)(1-3), 1996; 5 Code Cal. Reg. § 69104, Public Resources Code sections 21000 et al.) (California Department of Education, 2013). The review and approvals by DTSC for hazardous materials may also need to be reflected in the CEQA process.

California Government Code sections also require that school siting decisions comply with local general plans and land use zoning regulations. School districts may overrule local zoning and general plan designations for schools if specified procedures are followed (Government Code sections 53094, 65402(a), and 65403 and Public Resources Code Section 21151.2) (California Department of Education, 2013). School districts must notify the local city/county planning commission to allow comments on the proposed siting and for consistency with the general plan. School districts must also meet with appropriate local government, recreation and park authorities to consider possible joint use (California Education Code § 35275, 1995). School siting decisions must also comply with California Coastal Commission coastal protection regulations (Public Resources Code Section 30000 et seq. and California Code of Regulations, Title 14, sections 13001-13666.4) and Williamson Act agricultural land protections (California Department of Education, 2013). If a site is designated for agricultural use the district governing board must also make additional findings (California Education Code § 17215.5, 2017).

Although limited, the California policy does stipulate some public involvement requirements (California Department of Education, 2020). School district governing boards must conduct a public hearing evaluating the site using the aforementioned Title 5 site selection standards prior to acquiring any site for school use (California Education Code § 17211, 1996). Districts may, however, request exemption from any Title 5 standards if the district demonstrates that mitigation of specific circumstances overrides a standard without compromising a safe and supportive school environment. Further, the California Environmental Quality Act requires a public comment on the draft Environmental Impact Report or negative declaration (California Education Code § 17213.1(a)(6)(B), 1996) before the school project is approved. Finally, if the DTSC process involved soil sampling or hazardous material remediation, school districts are required to develop a public participation plan based on a baseline survey of the affected community; developing fact-sheets outlining the investigation and response activities (in languages other than English, if appropriate) and adequate notice of public meetings and an opportunity to participate in those meetings.

Minnesota

Minnesota's school siting process is largely different from the guidelines proposed by the USEPA. While the USEPA suggests developing a school siting committee, school boards in

Minnesota propose new school sites to the Commissioner of the Minnesota Department of Children, Families and Learning (Minnesota Education Code § 123B.70-71, 2019; CHPAC 2010). Additionally, while the USEPA suggests screening perimeters for a number of environmental hazards, Minnesota's policy requires local governing units to provide information about potential environmental effects of proposed sites via an Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS) (Minnesota Administrative Rules § 4410.0300, 2009; CHPAC, 2010). Though these forms do not use screening perimeters, they do consider similar hazards to the USEPA, including existing land use, geology, contamination, air and noise pollution, and transportation (Minnesota Administrative Rules § 4410.1200, 2009; Minnesota Administrative Rules § 4410.2300, 2009; CHPAC, 2010). The EAW and EIS worksheets are meant to provide information to the Commissioner, rather than to make decisions about proposed sites (Minnesota Administrative Rules § 4410.0300, 2009). Though the USEPA suggests incorporating public involvement throughout the school siting process, Minnesota involves the public only if the Commissioner submits a negative review (Minnesota Education Code § 123B.70, 2019; CHPAC, 2010). The policy is described in more detail below.

In Minnesota, local school boards submit school siting proposals to the Commissioner of the Minnesota Department of Children, Families and Learning if the project cost is over \$100,000 (Minnesota Education Code § 123B.70-71, 2019). The proposal must contain the following items:

- Geographic area and population served by the potential project, student enrollments from the previous five years, and student enrollment projections for the next 5 years
- A list of existing facilities and an assessment of the extent to which alternatives to the proposed site are available both within the school district or in neighboring school districts
- A list of the specific deficiencies of the facility that demonstrate the need for a new or renovated facility
- A description of the project with estimated expenditures and dates of the project
- Source of funding for the project, and
- Documents requiring the district and contractors to comply with the following:
 - Sustainable design
 - Certification that plans for heating and air conditioning meet code standards for indoor air quality
 - Certification that the background noise level will not exceed the American National Standards Institute Acoustical Performance Criteria, and
 - Proof of consultation with government units about traffic, access to mass transit, and safety of pedestrians and cyclists (Minnesota Education Code § 123B.71, 2019).

If the Commissioner submits a positive review based on information submitted with the proposal and any other information the Commissioner deems relevant, the school board may proceed

with school construction. If the Commissioner submits a negative review, the following steps must be followed:

- The Commissioner must schedule a public meeting within 60 days of notification, and
- The school board must appoint a task force of up to five people to advise the Commissioner on advantages, disadvantages, and alternatives to the proposed site.

The school board cannot proceed with construction if the Commissioner upholds a negative review after the public meeting and discussions with the task force (Minnesota Education Code §123B.70, 2019).

School districts may use health and safety revenues to remove hazardous substances, repair facilities to meet fire and life safety codes, correct labor and industry facility equipment violations, and manage indoor air quality (Minnesota Education Code § 123B.57, 2019).

The construction or renovation of a school could require either one of two types of environmental review processes that provide usable information to project proposers, governmental decision makers, and the public (Minnesota Administrative Rules § 4410.0300, 2009). The first is the Environmental Assessment Worksheet (EAW), which is completed by the responsible governmental unit to determine the environmental effects of a proposed project and to determine if an Environmental Impact Statement (EIS), a lengthier and more rigorous environmental review process, is required. There are 36 mandatory categories of projects that require an EAW that are listed in the Minnesota Administrative Rules section 4410.4300, and 27 mandatory categories of projects that require an EIS that are listed in the Minnesota Administrative Rules section 4410.4400.

Of the 36 categories of projects that require an EAW and the 27 mandatory categories of projects that require an EIS, school construction projects would likely fall under subpart 14, the “Industrial, commercial, institutional facilities” category. The amount of gross floor space, or the total area of all floors of all structures of the project, determines whether the Responsible Governmental Unit is required to submit an EAW, an EIS, or neither. The thresholds, listed below, vary according to the size of the city where the project would be located (Minnesota Department of Education, 2018):

City Population	EAW Threshold (sq ft)	EIS Threshold (sq ft)
Over 100,000	400,000	1,000,000
20,000-100,000	300,000	750,000
Under 20,000	200,000	500,000
Unincorporated	100,000	250,000

An EAW addresses the following major categories using a provided worksheet:

- Project name, proposer, and location
- Identification of the responsible governmental unit that will prepare and review the environmental documents, EAW contact person, and instructions for people who wish to submit comments
- Description and purpose of the project, construction methods, quantification of physical characteristics and impacts, description of project site, land use and physical features of surrounding area
- Resource protection measures assimilated in the project design
- Identification of potential major environmental impacts that might require further investigation
- Identification of required governmental approvals, reviews, financing, and permit conditions
- Explanation of the need for the project and who will benefit, if the project will be carried out by a governmental unit
- Assessment of the compatibility of the project with approved plans of local governmental units (Minnesota Administrative Rules Part 4410.1200, 2009).

An EIS includes the following components:

- A cover sheet including identifying information
- An abstract of the EIS
- Summary of major findings and controversies
- Table of contents
- Required governmental approvals
- Reasonable alternatives to the proposed project
- Environmental, economic, employment, and sociological impacts of the project
- Mitigation measures that could eliminate or minimize adverse environmental, economic, employment, or sociological effects of the project, and

- List of preparers
- Project description
- Appendix, when applicable (Minnesota Administrative Rules Part 4410.2300, 2009).

School construction decisions must comply with the laws of the Department of Health, Labor and Industry, Public Safety, and Pollution Control Agency (Minnesota Education Code § 123B.56, 2019). Potentially relevant laws include:

- Asbestos use must be documented and removed, handled, and disposed of safely in renovation and demolition projects (Minnesota Administrative Rules § 7011.9920, 2020)
- The input of mercury into the solid waste stream is prohibited during a school construction or renovation project (Minnesota Environmental Protection Statute § 115A.932, 2019).
- School construction and renovation projects must meet established lead standards for paint dust, bare soil, and drinking water, and should reduce and avoid lead use when possible (Minnesota Administrative Rules Chapter 4761, 2013)
- Polychlorinated Biphenyls (PCB's) over 50 parts per million must be properly labeled, stored, and disposed of (Minnesota Administrative Rules Chapter 7045, 2019), and
- Mining is prohibited within 500 feet of a public school, provided the school was in existence before the issuance of a mining permit (Minnesota Administrative Rules § 6132.2000, 2008).

School districts must also comply with the Minnesota Department of Natural Resources (DNR), which seeks to protect shore lands, lakes, and rivers from pollution, and minimize negative effects of flooding (Minnesota Statute § 103F.105, 2019). Districts must work with local DNR units to determine how these rules might affect school siting decisions.

Maryland

Maryland has incorporated some of the recommendations put forth by the USEPA School Siting Guidelines. As recommended, Maryland does require an environmental review process, as dictated by the Maryland Environmental Policy Act. This environmental review process assesses many of the elements recommended by the USEPA including flood, pollution, noise, and impacts on habitat and wildlife. Maryland's policy, however, does not provide screening distances or exclusion zones, and does not stipulate to what standards the environmental assessment is evaluated (State of Maryland, 2017).

Maryland's policy stipulates that school siting decisions must be consistent with county and municipal plans, water and sewer, transportation options, and economic growth policies, which is consistent with USEPA recommendations for positive location attributes (State of Maryland, 2017; CHPAC, 2010).

However, Maryland does not require or recommend the involvement of a school siting committee -- LEAs manage the process. In addition, Maryland only requires a public hearing if particular parties request it, and does not require public involvement throughout the process, as the EPA recommends (Maryland Code Annotated, Education § 4-116, 2013; CHPAC, 2010).

Maryland's policy is described in further detail below.

According to rules and regulations established by the State Board of Education, local education agencies (LEA) must receive approval for proposed sites for new or existing schools from the local Superintendent and Board of Education. The LEA then submits a comprehensive report to the Maryland Department of Planning to request State Clearinghouse review. The State Clearinghouse for Intergovernmental Assistance, a unit within the Department of Planning, ensures projects operating within the state are consistent with state and local policies and programs (Maryland Department of Planning, n.d.). The report includes:

- Site analysis report
- Site plans and maps
- Site location plan including existing and proposed land uses; roadways, sidewalks, and trails; and public transit routes (all within a half mile of the proposed site); as well as parks and other public uses in the vicinity, and
- Environmental Assessment Form (EAF) as required by Maryland Environmental Policy Act. This includes an assessment of significant environmental effects including:
 - Land use and planning considerations, such as proximity to flood plains and access to public recreation areas
 - Water considerations, such as water absorption effects and expected water discharge
 - Air considerations, such as pollution and noise
 - Impacts on plants and animals, such as reduction of habitat for threatened or endangered species, and
 - Socio-economic impacts, such as impact on properties and traffic flow.

School sites should reflect sustainable community planning practices including:

- Locations within a Priority Funding Area as established by the State of Maryland
- Minimized school site sizes (while still meeting student needs)
- Access to public transportation, and
- Shared parking options and densities that promote walking and biking.

Upon resolving issues brought up in State Clearinghouse review, materials are submitted to the Public School Construction Program's Interagency Committee (IAC) on School Construction (under the Board of Public Works) and the State Superintendent of Schools for final approval (Maryland Code Annotated, Education § 4-116, 2013). IAC determines the organization, structure, rules, regulations, and administrative procedures for school construction and makes project recommendations to the Board of Public Works, which grants funds for school construction projects (Maryland Public School Construction Program, 2014).

The IAC and Superintendent approve or disapprove of the proposed site based on the following criteria (Maryland Administrative Code § 23.03.02.13, n.d.):

- Consistency with the county and municipal plans and expected growth of the area
- Available water and sewer service
- Transportation options, and
- Consistency with state economic growth policies.

Community residents may be involved. After the LPA issues approval for a site, a public hearing is required if:

- The LEA "considers it desirable"
- At least 100 adult residents submit a written petition for a hearing, or
- The county commissioners or council asks for a hearing.

Petitions must be filed with the county within 15 days of preliminary approval of a site. Notice of a hearing must be published in a county newspaper 10 days before the hearing. The State Superintendent considers minutes from the hearing in deciding whether to approve a site (Maryland Code Annotated, Education § 4-116, 2013).

New Jersey

New Jersey's policy is in many ways aligned with the USEPA School Siting Guidelines. However, the policy only applies to some school districts, known as Schools Development Authority (SDA) school districts. The New Jersey Administrative Code defines SDA districts as those that received education opportunity aid or preschool expansion in the 2007-2008 school year (New Jersey Administrative Code § 19:34-3.2, 2016). Regular operating districts are not impacted by any state-level school siting policy. The school siting process is managed by the school district and the SDA -- no school siting committee is required. A community advisory committee is encouraged, but this committee merely provides feedback and does not manage the process, as the USEPA Guidelines recommend (New Jersey Administrative Code § 19:34-3.2, 2016; CHPAC, 2010).

New Jersey goes beyond the USEPA Guidelines by requiring an inventory of all sites owned by the district, the municipality, and privately-owned sites the district is interested in acquiring, and requiring an evaluation of four sets of considerations for each site (detailed below). These considerations are consistent with the USEPA Guideline recommendations, though they are

required earlier in the process and on more sites than the USEPA recommends (New Jersey Administrative Code § 19:34-3.2, 2016; CHPAC, 2010).

New Jersey requires information from an array of sources in an initial site review for each proposed site, which is consistent with USEPA recommendations. The state's policy may require additional studies that align with the USEPA Guidelines, but the required studies are site-dependent, per SDA discretion. New Jersey requires an environmental screening report, which focuses on technical and administrative obstacles, rather than environmental health, as an environmental impact report would (New Jersey Administrative Code § 19:34-3.2, 2016; CHPAC, 2010).

New Jersey divides its school siting management between regular operating districts and SDA school districts. Regular operating districts have no state oversight for their school siting activities and operate independently. SDA school districts, however, receive additional state funding and oversight, due to their location in low-income communities. New Jersey's school siting policy only applies to SDA school districts.

School siting for SDA districts in New Jersey is classified as a "pre-construction activity" and regulated under Title 19, Chapter 34 of the New Jersey Administrative Code (§ 19:34-3.2, 2016). The three major parties involved in the siting process are the local school district, the New Jersey SDA and the New Jersey Department of Education (DOE).

If a school district is seeking to acquire a new site, the process begins with site identification. The local board of education of the school district and the governing body of the local municipality are required to assemble an inventory of sites that are owned by the district, owned by the municipality, or are privately owned sites that the school district is interested in acquiring (§ 19:34-3.2(a), 2016). There are four key features of this written report (§ 19:34-3.2(b), 2016):

1. Estimation of costs and timetable
2. Discussion of community fit and potential negative impacts
3. Identification of infrastructure needs such as water supply, sewage capacity, utility capabilities, and traffic characteristics, and
4. Identification of significant environmental considerations such as:
 - a. remediation needs, soil and groundwater quality
 - b. historic and cultural uses
 - c. neighboring land uses, and
 - d. ecological impacts (impact on wetlands, streams, endangered species, etc).

The school district submits this report to the New Jersey Schools Development Authority, the state agency in charge of undertaking and funding school facilities project (§ 19:34-1.2, 2016). The SDA then determines from the submitted list which sites might be suitable. Based on this analysis, the school district can choose one to three specific sites to pursue with additional approvals.

The SDA encourages, but does not require, a district to form a community advisory committee to promote community participation throughout the preconstruction phase of a project. These committees could include virtually any interested community members, including parents, teachers, business and community leaders, planners, school leadership, and government officials (§ 19:34, 2016). If a community advisory committee has been formed, they should hold a public hearing for input on this narrower list of potential sites.

The school district then submits to the DOE and the SDA an application for approval of preconstruction activities, including an endorsement of the choices by the community advisory committee, if applicable (§ 19:34-3.2, 2016). The SDA provides the DOE with information on the proposed sites, and if the DOE approves, convenes a working group to undertake a preliminary suitability evaluation. The working group will consist of SDA, DOE, and school district staff, and may include an SDA environmental consultant, a community advisory committee member, and other experts and specialists (§ 19:34-3.2, 2016).

After the Schools Development Authority approves the identification of these one to three sites, it begins feasibility studies on the sites. The SDA first conducts an initial site review for each proposed site to determine whether to proceed with additional feasibility studies. The initial site review will include (§ 19:34-3.3, 2016):

- Aerial photographs of the site
- Aerial photographs of surrounding area
- Local, state and federal environmental records
- Land title information
- Wetland identification
- Flood plain information
- Historical uses
- Surrounding area land uses

Based on this collected information, the SDA and its working group will determine whether to continue with feasibility studies on the proposed sites, and the scope of such studies. Relevant studies may include, for example, a cost comparison with rehabilitation of an existing school facility or traffic impact study. Sites that meet a specific set of criteria and are identified as particularly suitable may be streamlined through the process. More likely, sites will have considerable infrastructure or environmental uncertainties. In these cases, increasingly stringent feasibility studies are performed to determine the site's environmental quality and remediation liability exposure, extraordinary development and improvement needs, former property ownership, sufficient utility connection, etc. During any stage of the studies, a potential site may be eliminated from consideration with a written rejection. The scope of the studies conducted will be defined by the SDA and approved by the SDA. The SDA will also determine when the scope has been satisfied (§ 19:34-3.2, 2016).

The SDA then prepares an environmental screening report assessing “the likelihood of obtaining the various environmental, historical, and cultural and land use approvals and permits relevant to the proposed site” (§ 19:34-3.2, 2016). The primary purpose of the report is to determine potentially insurmountable technical and administrative obstacles ahead of site

acquisition. Once the school district receives the report, the district is obligated to involve the community by holding a public school board meeting within 30 days. It must disseminate public notice of this meeting and inform the community advisory committee, if applicable (§ 19:34-3.2, 2016).

Following the feasibility studies and public input, the Schools Development Authority chooses a site based on the following considerations (§ 19:34-3.5, 2016):

- Cost and schedule impacts, such as adjustments to project schedule
- Community impacts, such as compatibility of neighboring land uses
- Infrastructure considerations, such as sufficiency of water supply, and
- Environmental considerations, such as environmental quality impacts.

The SDA executes the proceeding steps to acquire the land and permits and oversee construction and remediation (§ 19:34-3.5, 2016).

Additional legislation passed in 2007, known as the Madden Legislation (NJDEP, n.d.), also stipulates that a preliminary assessment and potential remediation be performed for certain sites. A licensed site remediation professional must conduct the investigation and issue a remediation document for these sites.

Sites to be used for educational purposes, such as private schools, public schools, or charter schools, are subject to the Madden Legislation if one or more of the following conditions exist:

1. There is one of the following activities occurring at the subject site:
 - a. Renovation/rehabilitation/alteration (increasing the square footage of building)
 - b. Change in use (e.g. industrial to non-industrial, non-educational certificate of occupancy to educational certificate of occupancy), or
 - c. New construction;
2. The subject site is/was:
 - a. A known contaminated site
 - b. Suspected as contaminated, a historic fill site, or has a former agriculture use
 - c. An Industrial Site Recovery Act (ISRA) subject site, or
 - d. One of the applicable Uniform Construction Codes (UCC), including A, F, H, S, B, or M.

Madden-subject educational centers are required to submit either a Remedial Action Work Plan or a Remedial Action Outcome (RAO) issued by a Licensed Site Remediation Professional (LSRP), before a construction official can issue a construction permit. If a Remedial Action Work Plan, rather than a RAO, is used for obtaining a construction permit, then a RAO must be obtained before a Certificate of Occupancy (CO) can be issued.

School officials then must submit a work plan to remediate the site to be approved by the Department of Environmental Protection before proceeding with construction. Remedial work plans are required when:

- There is a renovation or alteration to increase the size of a school building
- There is a change in usage of a school building
- A proposed site requires new construction
- A school site is contaminated
- A school site is classified as an Industrial Site Recovery Act site, or
- The site does not meet one or more of the Uniform Construction Codes.

The Department of Health and Senior Services provides follow up to ensure compliance via random spot checks. In the case of noncompliance, the commissioner of the department can issue a fine of \$25,000 for the first offense and \$50,000 for each following offense (New Jersey Revised Statutes § 52:27D-130.4, 2013).

New rules were also instituted in 2007 to improve public notice of site remediation activities, including (NJDEP, 2019):

- Posting a sign or sending letters to local officials and to owners and tenants of properties within 200 feet of the site's boundary
- Distributing and publishing a factsheet if contamination is detected off-site
- Re-distributing and re-publishing a fact sheet once contamination is delineated, and
- Requiring additional public participation if the community petitions the Department of Environmental Protection.

Washington

The school siting policy in Washington mirrors the recommendations put forth by the USEPA in several ways. As recommended by the USEPA, a site selection committee drives the school siting process in Washington by identifying and evaluating potential sites and recommending one or more to the school district board (USEPA, 2011; School Facilities Manual, 2011).

Further, Washington requires an environmental review process, though it differs from that laid out in the USEPA guidelines. While the USEPA recommends environmental review for all locations being considered for a school sites, Washington requires an Environmental Impact Statement only for projects that will significantly affect the quality of the environment, which is determined using an environmental checklist (Washington Revised Code Annotated, § 43.21C.110, 2010; Washington Administrative Code § 197-11-904, 2016; USEPA, 2011).

In accordance with the USEPA guidelines, Washington requires site selection committees to consider health, safety, and environmental risks of potential school sites, such as noise, air quality, and renewable energy (Washington Administrative Code § 246-366-030, 2019; School Facilities Manual, 2011; USEPA, 2011), though Washington does not set screening distances or exclusion zones for environmental hazards. In addition, Washington does not require public

involvement throughout the process, as the USEPA recommends (USEPA, 2011). Washington's school siting policy is described in further detail below.

Since at least 1960, the Washington State Board of Health (SBOH) rule for primary and secondary schools has required that (Washington Administrative Code § 246-366-030, 2019):

- The board of education shall obtain written approval from the health officer that the proposed development site presents no health problems before a new school facility is constructed, an addition is made to an existing school facility, or an existing school facility is remodeled (the board of education may request the health officer make a survey and submit a written health appraisal of any proposed school site)
- School sites shall be of a size sufficient to provide for the health and safety of the school enrollment, and
- Noise from any source at a proposed site for a new school, an addition to an existing school, or a portable classroom shall not exceed an hourly average of 55 dBA (over 60 minutes) and shall not exceed an hourly maximum of 75 dBA during the time of day the school is in session; sites exceeding these sound levels are acceptable if a plan for sound reduction is included in the new construction proposal and the plan for sound reduction is approved by the health officer.

The Department of Health (DOH -- a separate entity from the SBOH) provides technical assistance to local health jurisdictions and school districts on the aforementioned SBOH rule and other school environmental health and safety issues. School officials are required to work with their local health officers throughout the process (Washington Administrative Code § 246-366-040, 2017). School districts in the state operate independently under the governance of their school boards. Local health jurisdictions operate independently under local boards of health.

To begin the site selection process, the appropriate school official assembles and directs a site selection team (similar to USEPA's school siting committee). This team identifies and evaluates potential sites and recommends one or more to the school district board. The policy recommends that the team evaluate the property on the following criteria, and determine criteria prioritization internally (School Facilities Manual, 2011):

- Site characteristics, such as lot size and shape, stormwater management, and whether the site will support the educational program
- Legal requirements, such as variance or re-zoning requirements, hazards, and easements
- Location considerations, such as convenience for pupils, potential co-uses for the community, and aesthetics
- Infrastructure considerations, such as water and sewer services, energy sources, and potential for renewable energy

- Site access considerations, such as vehicle access, traffic patterns, and suitability for public transportation and bicycles, and
- Health and safety considerations, such as air quality, industrial and traffic noise, and service by public agencies such as fire department.

Per the Washington State Environmental Protection Act (SEPA, Washington Revised Code Annotated § 43.21C.110, 2010) and the SEPA rules (Washington Administrative Code § 197-11-904), an environmental impact statement (EIS) is required for a major action significantly affecting the quality of the environment. To determine whether a proposed site will require an EIS, the school district may have an engineer or consultant use an environmental checklist determined by Washington Administrative Code § 197-11-960. The checklist includes elements such as earth-related issues (i.e. topography, erosion risk, soils, etc.), water-related issues (i.e. surface, ground, runoff, etc.), plants and animals, and environmental health (i.e. toxic chemical exposure, hazardous waste, etc.), among others (Washington Administrative Code § 197-11-960). The school district will then use the information in the environmental checklist to determine whether to conduct an EIS.

Once a site is selected and acquired, it is presented to the Office of Superintendent of Public Instruction (OSPI) if state funds are being requested. OSPI will meet with the district's administrative staff to conduct an on-site review of the proposed site. The district should consider completing a site review with local code agencies to review issues such as adequacy of water supply, acceptable noise levels, and the presence of environmental contaminants (School Facilities Manual, 2011). Site acquisition should align with the district's long-range capital plan if OSPI funding is being requested (Washington Department of Commerce, 2017).

Washington's Growth Management Act requires cities and counties to designate urban growth areas (UGAs), within which compact urban growth must occur, and outside which growth is limited. UGA boundaries limit the extension of sewer and define responsibility for water streets and other public facilities. In 2017, the Growth Management Act was updated (Washington Revised Code § 36.70A.213, 2018) to allow the extension of public facilities and utilities beyond UGAs to serve rural schools, if the school serves both urban and rural students. In order to site a school outside the UGA, a school district must follow these additional steps (Washington Revised Code § 36.70A.213, 2018):

- The school district adopts a policy regarding school service area
- The district prepares a cost analysis of the short- and long-term costs associated
- The district makes a report as to the unavailability or inappropriateness of sites within the UGA
- The County and City reviews the request for a school facility outside of the UGA, and
- The County, City, and/or utility agree to the public service extension.

New York

New York has incorporated some of the USEPA's school siting recommendations. As suggested, New York has an environmental review process that is similar to that of the USEPA in that it is two stages. While this process does not involve screening perimeters for specific environmental hazards, it does involve accessibility, environmental impacts, and mitigation efforts for contaminated sites (New York State Department of Education, 2013; CHPAC, 2010).

Similar to the USEPA, New York requires public involvement in the school siting process. While the state does not require the formation of school siting committees, it does require public review and comment on the Environmental Impact Statement, once accepted by the Bureau of Facilities Planning, of each proposed site (New York State Department of Conservation, n.d.). New York's policy is described in further detail below.

In New York, the Commissioner of Education must approve all school siting, construction, and renovation projects that cost over \$100,000, unless the school is located in a city with more than 70,000 inhabitants. In cities with over 70,000 residents, the Commissioner may waive the requirements for submissions of plans and instead substitute an outline of plans for review. The Commissioner may use their discretion in deciding whether or not to review plans for projects that cost under \$100,000 (New York Education Code § 408, n.d.).

The size and location of each site must be consistent with the long-term building plans of each district. School sites must meet the following minimum acreage requirements:

- Elementary schools (grades K-6): 3 acres, plus 1 acre for each 100 pupils, and
- Secondary schools (grades 7-12): 10 acres, plus 1 acre for each 100 pupils (The University of the State of New York, 1976).

The Commissioner may approve a new school building on a site that does not meet these above size standards if the Board of Education submits a request for variance. A request for variance includes a narrative request, a map of the school district showing the location of all district-owned facilities, and a small scale plan showing roadways, buildings, and topographical features of the land (New York State Department of Education, 2013).

The Board of Education must submit an Application for Examination and Approval of a School Site (form EFP-S/71) to the Bureau of Facilities Planning (The University of the State of New York, 1976). According to form EFP-S/71, this process requires the following information:

- Site description, and
- Site analysis prepared by an architect or engineer including the following elements:
 - Description of the other sites considered
 - Ranking of selected sites in order and factors that lead to the selection decision
 - Educational adaptability of the site
 - Accessibility of the site for vehicles and pedestrians

- Soil conditions as related to bearing and drainage
- Development costs, and
- Statements regarding conservation of natural resources and avoidance of environmental problems.

Once the Bureau of Facilities Planning approves a proposed site, the board must submit an Environmental Impact Statement (EIS) to the Bureau of Facilities Planning in accordance with the State Environmental Quality Review Act (New York State Department of Education, 2013). An EIS includes the following items:

- A description of each proposed action and its benefit
- A description of the environmental settings of the areas that will be affected
- An evaluation of potential adverse environmental impacts, including those that can be avoided or mitigated
- A description of mitigation measures to minimize environmental impacts, and
- An evaluation of alternatives to the proposed action in terms of site, technology, scale, design, and timing

If the EIS is accepted, it is published for public review and public comment, which must last a minimum of 30 days. A public hearing is not mandatory, but the Board of Education may choose to hold one. After the public review and comment process, the final EIS is prepared and published, including any comments made and the Board's response to the comments (New York State Department of Conservation, n.d.).

Recommendations for School Siting from Seven States

The USEPA national voluntary guidelines provide a template for state school siting procedures. In this Chapter, we highlighted seven exemplar state policies concerning school siting in relation to environmental factors. These and other state policies, laws and regulations can promote school siting in order to avoid harmful environmental exposures and facilitate physical activity, healthy behaviors and healthy communities (USEPA, 2011). Our review of these state policies is intended to help identify for consideration best practices that can supplement the guidelines presented by the USEPA (2011) and CHPAC (2010).

These include policies that:

- Consider siting and permitting processes that influence where potential sources of environmental pollution may be allowed to locate with respect to schools
- Encourage the creation of long-range school facilities plans by local education authorities (LEAs)
- Do not require minimum number of acres for school sites

- Encourage communities and LEAs to plan and develop joint use agreements
- Do not favor larger enrollment schools
- Consider true long-term costs of a site assessment/investigation, including for example utilities improvements and long-term site monitoring
- Encourage efficient location of schools and judicious use of busing
- Consider 'walkability' infrastructure
- Provide sufficient funding mechanisms for proper analysis and consideration of suitable sites
- Provide technical support to LEAs during the environmental review
- Encourage public involvement throughout the siting process, and
- Encourage renovation and expansion of existing schools in favor of building new schools.

Chapter 6: School Siting Bills in Michigan

School siting legislation that takes into account environmental quality factors has been pursued in the Michigan state legislature since 2004 (see Table 6.1). Michigan House Bill 5660, sponsored by Rep. Philip Lajoy was introduced in 2004 and passed by the House (Michigan House Bill 5660, 2004). This bill required public schools to submit their new school site plans to local zoning authorities for review. The zoning authority would either agree with the site plan or suggest changes to the site plan. However, the superintendent of the public institution would be the final decision maker on the site plan to accept or reject the zoning authority's suggestions. In 2009, State Rep. Rashida Tlaib (currently a member of the US House of Representatives) introduced Michigan House Bill 5271 (Michigan House Bill 5271, 2009). This bill prohibited building new schools before any environmental assessment of the proposed sites. The bill also required notification of the results of the environmental assessment to the public. However, the bill did not pass the education committee level. In 2010, Rep. Tlaib revised the bill and reintroduced Michigan House Bill 5991, which was passed by the House (Michigan House Bill 5991, 2010), but not the Senate. This bill is similar to Rep. Tlaib's earlier bill. Her efforts to have Michigan school siting legislation continued in 2013 when she introduced Michigan House Bill 4278 (Michigan House Bill 4278, 2013). However, this bill also was not successful. Until that time, school siting legislation efforts were limited to the Michigan House of Representatives. Subsequently, in 2013 State Senator Vincent Gregory introduced the first Michigan Senate Bill 0115 to the State Senate (Michigan Senate Bill 0115, 2013), but this too failed. Each of these bills required the building of healthy new schools by avoiding environmental hazards, engaging public participation and bringing government agencies in to the school siting process.

School siting legislation efforts continued with State Representative Stephanie Chang (currently State Senator). In 2015, she introduced House Bill 4657 (Michigan House Bill 4657, 2015). We worked with Representative Chang to provide recommendations for House Bill 4657. Our recommendations were built on the US Environmental Protection Agency's (EPA) School Siting Guidelines and the Children's Health Protection Advisory Committee's (CHPAC) recommendations on the EPA Guidelines. Unfortunately, this bill failed to pass the House (Table 6.1).

Table 6.1 – Michigan school siting bills.

Michigan Bill	Sponsor	Year	Categories	Status
House Bill 5660	Philip Lajoy	2004	Education: school districts; Land use: planning; Education: board members	Passed by the House but failed to pass the Senate
House Bill 5271	Rashida Tlaib	2009	Education: building use; Education: facilities; Environmental protection: other	Died in committee
House Bill 5991	Rashida Tlaib	2010	Environmental protection: other; Education: school districts; Education: public school academies	Passed by the House but failed to pass the Senate
House Bill 4278	Rashida Tlaib	2013	Education: facilities; Education: building use; Environmental protection; other	Printed bill filed 02/20/2013 but not passed
Senate Bill 0115	Vincent Gregory	2013	Education: facilities; Education: governing boards; Education: school districts; Education: public school academies; State agencies: education	Referred to committee on education but failed to pass the Senate
House Bill 4657	Stephanie Chang	2015	Education: facilities; Education: building use; Environmental protection; other	Printed bill filed 05/28/2015 but failed to pass the House
House Bill 4977	Stephanie Chang	2017	Education: facilities; Education: building use; Environmental protection; other	Bill electronically reproduced 09/19/2017 but failed to pass the House

The most recent bill, Michigan House Bill 4977: School Siting -- Environmental Assessments, was introduced in September 2017, again by then State Representative Chang. This bill was introduced as part of the “ABC Education” plan, a package of bills aimed at supporting health and wellness for students and teachers (Chambers, 2017). HB 4977 was developed with input from the School Siting Task Force and the recommendations of this report. We presented to former State Rep. Chang the findings of our research pertaining to school siting and environmental quality in Michigan and worked with her in 2017 to help draft a bill that would require conducting environmental assessments in the siting of any new school in Michigan. HB 4977 focused on two particular recommendations: 1) the creation of a meaningful public involvement process structured around the creation of a school siting committee, and 2) an in-depth environmental review process with screening criteria to be conducted before a land-acquisition or school siting decision is made. Rep. Chang formally introduced HB 4977 in the Michigan House of Representatives on September 18, 2017, along with a package of seven other bills drafted by her colleagues focused on environmental quality and schools. A press conference was held at the Amelia Earhart Elementary School in Detroit to announce the

introduction of these bills, at which members of the School Siting Task Force attended. Appendix A contains a copy of House Bill 4977. Appendix F contains a copy of an article about these bills published in the *Detroit News* on September 18, 2017 entitled “Bills proposed to improve Michigan’s classroom environment” (Chambers, 2017). The bill was referred to the Committee on Education Reform and electronically reproduced but it was not given any further consideration.

Future legislative proposals could expand current legislative efforts by drawing on the previous bills, the US EPA Guidelines, the CHPAC Recommendations, best practices already implemented in the various states, and the information contained in this report generated by the School Siting Task Force. Advocates can use these bills and the Task Force recommendations in this report to further develop proposals for legislators to work with and fine-tune agency roles. The proposal could include potential sources of federal funding and technical assistance and should estimate costs associated with recommendations and potential solutions. Advocates can continue to seek support from state representatives and senators to collectively move legislation forward.

Currently, our team is working with State Senator Stephanie Chang to revise Michigan House Bill 4977 and introduce a new bill in the Michigan State Senate. Senator Chang is planning to introduce the school siting bill in the coming year. Our team will be active participants to help with this effort.

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Appendices

Appendix A

Michigan House Bill 4977 (2017) introduced by former State Representative Stephanie Chang (Currently Michigan State Senator)

HOUSE BILL No. 4977

September 19, 2017, Introduced by Reps. Chang, Wittenberg, Pagan, Geiss, Yanez, Green, Moss, Sneller, Ellison, Rabhi, Sowerby, Clemente, Camilleri, Hoadley, LaGrand, Durhal, Zemke, Greimel, Liberati, Hammoud and Gay-Dagnogo and referred to the Committee on Education Reform.

A bill to amend 1976 PA 451, entitled "The revised school code,"

(MCL 380.1 to 380.1852) by adding section 1264.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 SEC. 1264. (1) THE BOARD OF A SCHOOL DISTRICT OR
 INTERMEDIATE
2 SCHOOL DISTRICT OR THE BOARD OF DIRECTORS OF A PUBLIC SCHOOL
3 ACADEMY SHALL NOT ACQUIRE A SITE FOR THE CONSTRUCTION OF A SCHOOL
4 BUILDING OR, IF A SITE WAS ACQUIRED BEFORE THE EFFECTIVE DATE OF
5 THIS SECTION, COMMENCE CONSTRUCTION OF A SCHOOL BUILDING ON THE
6 SITE UNLESS THE BOARD OR BOARD OF DIRECTORS HAS CONDUCTED AN
7 ENVIRONMENTAL ASSESSMENT OF THE SITE TO DETERMINE WHETHER THE SITE
8 IS A FACILITY AND HAS HELD A 30-DAY PUBLIC COMMENT PERIOD UNDER
9 SUBSECTION (7).
10 (2) THE DEPARTMENT, IN CONSULTATION WITH THE DEPARTMENT OF

1 ENVIRONMENTAL QUALITY, SHALL DEVELOP GUIDANCE FOR SCHOOL DISTRICTS,
2 INTERMEDIATE SCHOOL DISTRICTS, AND PUBLIC SCHOOL ACADEMIES ON
3 ENVIRONMENTAL ASSESSMENTS UNDER SUBSECTION (1) REGARDING POTENTIAL
4 HAZARDS TO BE CONSIDERED, INCLUDING, BUT NO LIMITED TO, AIR
5 POLLUTION, OIL CONTAMINATION, GROUNDWATER CONTAMINATION, SURFACE
6 WATER POLLUTION, SAFETY HAZARDS, AND NOISE AND ODORS, AND UNITED
7 STATES ENVIRONMENTAL PROTECTION AGENCY RECOMMENDATIONS FOR
8 EXCLUSION ZONES AND SCREENING PERIMETERS.

9 (3) THE BOARD OF A SCHOOL DISTRICT OR INTERMEDIATE SCHOOL
10 DISTRICT OR THE BOARD OF DIRECTORS OF A PUBLIC SCHOOL ACADEMY SHALL
11 PROVIDE PUBLIC NOTICE OF THE RESULTS OF AN ENVIRONMENTAL ASSESSMENT
12 UNDER SUBSECTION (1) WITHIN 7 DAYS OF THE COMPLETION OF THE
13 ENVIRONMENTAL ASSESSMENT BY BOTH OF THE FOLLOWING MEANS:

14 (A) POSTING ON THE SCHOOL DISTRICT'S, INTERMEDIATE SCHOOL
15 DISTRICT'S, OR PUBLIC SCHOOL ACADEMY'S WEBSITE, IF ANY.

16 (B) PUBLICATION IN A NEWSPAPER OF GENERAL CIRCULATION IN THE
17 TERRITORY OF THE SCHOOL DISTRICT OR INTERMEDIATE SCHOOL DISTRICT IN
18 WHICH THE SITE IS LOCATED.

19 (4) IF THE ENVIRONMENTAL ASSESSMENT UNDER SUBSECTION (1)
20 INDICATES THAT THE SITE IS A FACILITY, ALL OF THE FOLLOWING APPLY:

21 (A) THE BOARD OR THE BOARD OF DIRECTORS SHALL NOT COMMENCE
22 CONSTRUCTION OF A SCHOOL BUILDING AT THE SITE UNLESS A LICENSED
23 PROFESSIONAL ENGINEER HAS ATTESTED UNDER SEAL THAT PLANNED RESPONSE
24 ACTIVITY OR CORRECTIVE ACTION UNDER PART 201 OR 213, RESPECTIVELY,
25 OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA
26 451, MCL 324.20101 TO 324.20142 AND 324.21301A TO 324.21334, WILL
27 MEET RESIDENTIAL STANDARDS.

1 (B) IF THE BOARD OR BOARD OF DIRECTORS CONSTRUCTS A SCHOOL
2 BUILDING ON THE SITE, THE BOARD OR BOARD OF DIRECTORS SHALL
3 COMPLETE ALL OF THE FOLLOWING AT THE FACILITY:

4 (i) RESPONSE ACTIVITIES UNDER SECTION 20107A OF THE NATURAL
5 RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, MCL
6 324.20107A.

7 (ii) RESPONSE ACTIVITY OR CORRECTIVE ACTION UNDER PART 201 OR
8 213, RESPECTIVELY, OF THE NATURAL RESOURCES AND ENVIRONMENTAL
9 PROTECTION ACT, 1994 PA 451, MCL 324.20101 TO 324.20142 AND
10 324.21301A TO 324.21334, THAT MEETS RESIDENTIAL STANDARDS.

11 (5) IF AN ENVIRONMENTAL ASSESSMENT UNDER SUBSECTION (1)
12 REVEALS SIGNIFICANT ENVIRONMENTAL CONCERNS HARMFUL TO HUMAN HEALTH,
13 THE BOARD OF A SCHOOL DISTRICT OR INTERMEDIATE SCHOOL DISTRICT OR
14 THE BOARD OF DIRECTORS OF A PUBLIC SCHOOL ACADEMY SHALL CONSIDER
15 SELECTING AN ALTERNATIVE SITE OR PERFORM A PHASE II EPA
16 ENVIRONMENTAL SITE ASSESSMENT.

17 (6) THE DEPARTMENT SHALL ENCOURAGE SCHOOL DISTRICTS,
18 INTERMEDIATE SCHOOL DISTRICTS, AND PUBLIC SCHOOL ACADEMIES TO DO
19 ALL OF THE FOLLOWING:

20 (A) FORM A SITING COMMITTEE TO MAKE RECOMMENDATIONS ON
21 POTENTIAL SITES FOR NEW SCHOOL BUILDINGS OR THE RENOVATION OF
22 EXISTING SCHOOL BUILDINGS.

23 (B) PARTICIPATE IN THE ENVIRONMENTAL ASSESSMENT OF POTENTIAL
24 SITES FOR NEW SCHOOL BUILDINGS OR THE RENOVATION OF EXISTING SCHOOL
25 BUILDINGS.

26 (C) DEVELOP A PUBLIC ENGAGEMENT PLAN REGARDING THE SITING OF
27 NEW SCHOOL BUILDINGS OR THE RENOVATION OF EXISTING SCHOOL

1 BUILDINGS.

2 (D) ENSURE THAT SITING DECISIONS ACCOUNT FOR FISCAL
3 CONSTRAINTS AND ALIGN WITH THE OBJECTIVES OF LOCAL AND REGIONAL
4 DEVELOPMENT PLANS.

5 (E) REACH OUT TO DISADVANTAGED COMMUNITIES TO ENSURE
6 MEANINGFUL OPPORTUNITIES TO ENGAGE REGARDING THE SITING OF NEW
7 SCHOOL BUILDINGS OR THE RENOVATION OF EXISTING SCHOOL BUILDINGS.

8 (7) THE BOARD OF A SCHOOL DISTRICT OR INTERMEDIATE SCHOOL
9 DISTRICT OR THE BOARD OF DIRECTORS OF A PUBLIC SCHOOL ACADEMY THAT
10 CONDUCTS AN ENVIRONMENTAL ASSESSMENT UNDER SUBSECTION (1) SHALL DO
11 ALL OF THE FOLLOWING:

12 (A) HOLD A 30-DAY PUBLIC COMMENT PERIOD REGARDING THE
13 COMPLETED ENVIRONMENTAL ASSESSMENT THAT BEGINS WITHIN 7 DAYS OF THE
14 PUBLIC NOTICE OF THE RESULTS OF THE ENVIRONMENTAL ASSESSMENT UNDER
15 SUBSECTION (3).

16 (B) HOLD AT LEAST 1 PUBLIC HEARING ON THE ENVIRONMENTAL
17 ASSESSMENT DURING THE PUBLIC COMMENT PERIOD UNDER SUBDIVISION (A).

18 (C) MAKE A MEANINGFUL EFFORT TO ADDRESS LANGUAGE BARRIERS OR
19 ANY OTHER BARRIER TO PUBLIC COMMENT TO ENSURE MAXIMUM PUBLIC
20 ENGAGEMENT DURING THE PUBLIC COMMENT PERIOD UNDER SUBDIVISION (A).

21 (D) PROVIDE PUBLIC RESPONSES TO ALL QUESTIONS OR CONCERNS
22 RAISED DURING THE PUBLIC COMMENT PERIOD UNDER SUBDIVISION (A).

23 (8) THIS SECTION DOES NOT APPLY TO ANY OF THE FOLLOWING:

24 (A) THE MAINTENANCE, REPAIR, OR IMPROVEMENT OF AN EXISTING
25 BUILDING OR RECREATIONAL OR ATHLETIC STRUCTURE OR FIELD.

26 (B) THE REPLACEMENT OF AN EXISTING RECREATIONAL OR ATHLETIC
27 STRUCTURE.

1 (9) AS USED IN THIS SECTION:

2 (A) "CORRECTIVE ACTION" MEANS THAT TERM AS DEFINED IN SECTION
3 21302 OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT,
4 1994 PA 451, MCL 324.21302.

5 (B) "ENVIRONMENTAL ASSESSMENT" MEANS A PHASE I ENVIRONMENTAL
6 ASSESSMENT CONDUCTED IN ACCORDANCE WITH ASTM INTERNATIONAL STANDARD
7 E1527, "STANDARD PRACTICE FOR ENVIRONMENTAL SITE ASSESSMENTS: PHASE
8 I ENVIRONMENTAL SITE ASSESSMENT PROCESS" ALONG WITH SUFFICIENT
9 ENVIRONMENTAL SAMPLING OF RECOGNIZED ENVIRONMENTAL CONCERNS, IF
10 THAT SAMPLING IS NECESSARY TO DETERMINE WHETHER THE PROPERTY IS A
11 FACILITY.

12 (C) "FACILITY" MEANS THAT TERM AS DEFINED IN SECTION 20101 OF
13 THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA
14 451, MCL 324.20101.

15 (D) "RESPONSE ACTIVITY" MEANS THAT TERM AS DEFINED IN SECTION
16 20101 OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT,
17 1994 PA 451, MCL 324.20101.

18 (E) "SCHOOL BUILDING" MEANS ANY OF THE FOLLOWING:

19 (i) A BUILDING INTENDED TO BE USED TO PROVIDE INSTRUCTION FOR
20 PUPILS, INCLUDING AN ADDITION TO AN EXISTING BUILDING.

21 (ii) A RECREATIONAL OR ATHLETIC STRUCTURE OR FIELD INTENDED TO
22 BE USED BY PUPILS.

23 (F) "SCHOOL BUILDING" DOES NOT INCLUDE PLAYGROUND OR EXERCISE
24 EQUIPMENT.

Appendix B

The United States Environmental Protection Agency School Siting Guidelines: Exhibits 5 and 6

- Exhibit 5: Factors Influencing Exposures and Potential Risks
- Exhibit 6: Screening Potential Environmental, Public Health and Safety Hazards

Exhibit 5: Factors Influencing Exposures and Potential Risks

Potential Hazard	Potential Variables	Potential Mitigation Options N=New schools E=Existing structure
<p><i>Air Pollution</i> (see Section 8.1)</p>	<ul style="list-style-type: none"> ■ Type and volume of contaminant released ■ Distance from the source ■ Nearby traffic type, fuel, volume and speed (mobile sources) ■ Stack height, facility practices and type of pollution control employed (stationary/point sources) ■ Timing of operations (stationary/point sources) ■ Meteorological conditions (e.g., prevailing wind direction and wind speed) ■ Atmospheric stability and mixing ■ Regulatory compliance ■ Intensity of use ■ Presence of natural or man-made buffers (e.g., trees, hills, buildings) ■ Planning and zoning 	<ul style="list-style-type: none"> ■ Adopt an area-wide approach to address air pollution issues (N/E) ■ Maximize distance from transportation or other pollution sources (N) ■ Vegetation buffers (N/E) ■ Anti-idling policies (N/E) ■ Limiting bus or personal car use on and near campus (N/E) ■ Enhanced indoor filtration/air cleaning (N/E) ■ Locating sensitive activities and outside air intakes away from sources (e.g., locate playgrounds and classrooms away from source; place parking lots, utilities closer) (N/E) ■ Timing of HVAC system operations (N/E) or industry operating periods (N/E) ■ Limiting outdoor activities during high exposure periods (N/E)
<p>Soil Contamination</p>	<ul style="list-style-type: none"> ■ Type of contamination ■ Extent of contamination ■ Concentration of contamination ■ Depth of contamination ■ Potential transport (e.g., runoff or migration to ground water, air transport) ■ Geology and soil characteristics ■ Water table ■ Access or exposure potential (e.g., dermal contact/ingestion) ■ Barriers (e.g., plants, grass, ground cover, pavement) 	<ul style="list-style-type: none"> ■ Site cleanup and removal (N/E) ■ Onsite treatment (N/E) ■ Engineering controls (e.g., cap, venting systems, vapor barriers) (N/E) ■ Institutional controls (N/E)

Potential Hazard	Potential Variables	Potential Mitigation Options N=New schools E=Existing structure
<p><i>Use of Agricultural Pesticides</i> (see Section 8.12)</p>	<ul style="list-style-type: none"> ■ Use pattern (application rate, crop type) ■ Environmental conditions (wind, temperature, etc.) ■ Toxicity of the pesticide ■ Volatility ■ Persistence 	<ul style="list-style-type: none"> ■ Application of Integrated Pest Management measures to reduce pesticide use (N/E) ■ Choice of pesticide active ingredients (N/E) ■ Oversight and strict enforcement of product label use directions and drift restrictions (N/E)⁵⁰ ■ Use of drift reducing application technologies and best management practices (N/E) ■ Enhanced indoor filtration/air cleaning (N/E) ■ Locating sensitive activities and outside air intakes away from sources (e.g., locate playgrounds and classrooms away from source; place parking lots, utilities closer) (N/E) ■ Timing of HVAC system operations (N/E) ■ Limit opening of classroom doors and windows during periods of potential spray drift (E) ■ Limiting outdoor activities during high potential exposure periods (E) ■ Notification when pesticides are applied (N/E)

⁵⁰ Buffer zones are specified on all pesticide product labels. The buffer zones provide flexibility based on several factors such as application rate, field size, application method, and soil characterization.

<i>Potential Hazard</i>	<i>Potential Variables</i>	<i>Potential Mitigation Options</i> N=New schools E=Existing structure
Ground Water Contamination	<ul style="list-style-type: none"> ■ Type of contaminant(s) ■ Type and frequency of contact with contaminated water ■ Type of contact with contaminated water/route of exposure (e.g., ingestion) ■ Extent of contamination ■ Concentration of contaminants ■ Extent of vapor intrusion (for certain contaminants) 	<ul style="list-style-type: none"> ■ Seek alternative drinking water sources or install water treatment systems (N/E) ■ Restrict access to water bodies (N/E) ■ Phytoremediation (N/E) ■ Mitigation system for vapor intrusion (N)
Surface Water Pollution	<ul style="list-style-type: none"> ■ Type of contaminant(s) ■ Type and frequency of contact with contaminated water/route of exposure (e.g., dermal) ■ Extent of contamination ■ Concentration of contaminants ■ Stormwater runoff 	<ul style="list-style-type: none"> ■ Improve riparian buffers (N/E) ■ Restrict access to water bodies (N/E) ■ Green roof, rain gardens and barrels (N/E)
Safety Hazards	<ul style="list-style-type: none"> ■ Frequency ■ Intensity of hazard (e.g., explosion vs. flooding) 	<ul style="list-style-type: none"> ■ Emergency response plans (N/E) ■ Emergency shelter design incorporated (N)
<i>Noise</i> www.epa.gov/schools/siting/resources.html#LINKS_noise	<ul style="list-style-type: none"> ■ Distance ■ Timing and intensity of source ■ Presence of natural or man-made buffers (e.g., hills, noise barriers) 	<ul style="list-style-type: none"> ■ Active noise control (N/E) ■ Install or preserve noise barriers (e.g., highway barriers or other noise buffers) (N/E)
Odors	<ul style="list-style-type: none"> ■ Timing of operations ■ Meteorological conditions (e.g., prevailing wind direction and wind speed) 	<ul style="list-style-type: none"> ■ Locating sensitive activities and outside air intakes away from sources (e.g., locate playgrounds and classrooms away from source; place parking lots, utilities closer) (N/E) ■ Enhanced indoor filtration/air cleaning (N/E)

Exhibit 6: Screening Potential Environmental, Public Health and Safety Hazards

IMPORTANT: This table is intended to assist with the initial screening of candidate locations but is NOT a substitute for case- and site-specific evaluation of potential risks and hazards. It is intended to be used in conjunction with the example [Environmental Review Process](#) (see Section 5) and [Evaluating Impacts of Nearby Sources of Air Pollution](#) (see Section 6). For more information on typical environmental hazards that may be encountered during the school siting process, see the [Quick Guide to Environmental Issues](#) in Section 8). Existing applicable federal, state, tribal or local statutes, ordinances, codes or regulations take precedence over the recommendations contained in this table. Users should check with state, tribal and local authorities for applicable requirements or other recommendations.

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Onsite buildings or structures (including all leased space)	<ul style="list-style-type: none"> ▪ All onsite or adjacent buildings/structures slated for reuse, renovation or demolition. 	<ul style="list-style-type: none"> ▪ Legacy contaminants in existing structures including lead and other heavy metals, asbestos, PCBs, vapor intrusion/(VOCs), mold, radon, pesticides, pests ▪ For existing school buildings, chemicals from laboratory, art, shop, drama, maintenance, cleaning, grounds ▪ Structure may not meet current building codes (e.g., for seismic activity) 	<ul style="list-style-type: none"> ▪ All onsite structures slated for demolition, reuse or renovation 	<ul style="list-style-type: none"> ▪ Evaluate for the presence of hazardous materials or conditions. Age, location, condition and type of structure, and the history of use are critical factors to consider in assessing potential risks. Identify all potential hazards and remediate as appropriate. 	<ul style="list-style-type: none"> ▪ Lead ▪ Heavy Metals ▪ Asbestos ▪ PCBs ▪ Vapor Intrusion/(VOCs) ▪ Mold ▪ Radon ▪ Mercury ▪ Pesticides ▪ Air Pollution ▪ Risk Assessment

⁵¹ See the Resources page of the guidelines website for links related to the topics listed under the 'Additional Information.' (www.epa.gov/schools/siting/resources)

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Contaminated sites (formerly or currently regulated under Superfund, RCRA hazardous waste sites, state-regulated hazardous waste sites, or unremediated sites under federal, tribal or state orders or agreements for cleanup)	<ul style="list-style-type: none"> Properties that have or are managing hazardous waste onsite, or have had releases of hazardous waste in the past, and are under federal (CERCLA, RCRA Subtitle C), tribal or state regulation. 	<ul style="list-style-type: none"> Air pollution Dust Soil contamination Ground water contamination Vapor intrusion into structures Surface water contamination Odors Accidental release/spill of hazardous chemicals 	<ul style="list-style-type: none"> Identify and evaluate all facilities within ~1 mile of prospective locations Applies to both onsite as well as adjacent or nearby sites 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Regulating agencies should be consulted to obtain environmental status of the site, if it has been assessed. The site may have had contamination removed or addressed, and be safe for use or the site may still need additional cleanup. The site should not be used for a school unless regulating agencies can confirm that the potential for unsafe human exposures has been prevented. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs) Heavy Metals in Soil and Ground Water Water

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Solid waste landfills and transfer stations	<ul style="list-style-type: none"> Properties that have or are managing non-hazardous solid waste. 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Vapor intrusion into structures Surface water contamination Odors Pests and disease vectors Diesel emissions and heavy truck traffic Fires 	<ul style="list-style-type: none"> Identify and evaluate all facilities within ~1 mile of prospective locations Applies to both onsite as well as adjacent or nearby sites 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Regulating agencies should be consulted to obtain environmental status of the site, if it has been assessed. The site may have had contamination removed or addressed, and be safe for use, or the site may still need additional cleanup. The site should not be used for a school unless regulating agencies can confirm that the potential for unsafe human exposures has been prevented. 	<ul style="list-style-type: none"> Air Pollution Heavy Metals in Soil and Ground Water Vapor Intrusion/ (VOCs) Risk Assessment Maps and Mapping Water

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Formerly Used Defense Sites (FUDS)	<ul style="list-style-type: none"> Properties formerly owned, leased, possessed or used by the Department of Defense (DOD) or its components that were transferred from DOD control prior to the enactment of the Superfund Amendments and Reauthorization Act (SARA). The FUDS program communicates with regulatory agencies, tribes and the public to ensure proper characterization and cleanup of past DOD lands. 	<ul style="list-style-type: none"> Unexploded ordnance (FUDS) Discarded military munitions Munitions constituents Surface water contamination Ground water contamination Legacy contaminants in existing structures including lead and other heavy metals, asbestos, PCBs, vapor intrusion/(VOCs), mold, radon, pesticides, pests 	<ul style="list-style-type: none"> Identify and evaluate all facilities within ~1 mile of prospective locations Applies to both onsite as well as adjacent or nearby sites 	<ul style="list-style-type: none"> Consult with state, tribal and local authorities to identify sites. 	<ul style="list-style-type: none"> Formerly Used Defense Sites Maps and Mapping Water

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
High-traffic roads and highways	<ul style="list-style-type: none"> High-traffic roads or roads with heavy diesel truck traffic. 	<ul style="list-style-type: none"> Air pollution Noise Accidental releases/spills of hazardous chemicals Pedestrian and bike safety 	<ul style="list-style-type: none"> Identify and evaluate all high-traffic roads and highways within ~½ mile Roads farther away with a high likelihood of accidental releases should also be considered 	<ul style="list-style-type: none"> In general, air pollutant concentrations will be highest closer to the source, decreasing with distance from the road. Many factors affect the magnitude and extent of impacts, so the potential variables and mitigation options described in Exhibit 5 should be evaluated. Consider additional mitigation strategies for locations near high-traffic roads. Also, consider potential adverse consequences related to inability of students to walk/bike to school, etc. 	<ul style="list-style-type: none"> Roads Air Pollution Noise Risk Assessment Water
Distribution centers, bus terminals, bus garages and truck-stops	<ul style="list-style-type: none"> Facilities with more than 100 trucks/buses per day, or more than 40 refrigerated trucks per day. 	<ul style="list-style-type: none"> Air pollution, including diesel emissions Soil contamination Ground water contamination Surface water contamination Vapor intrusion Heavy truck or bus traffic 	<ul style="list-style-type: none"> Identify and evaluate all major distribution centers within ~½ mile Centers farther away with a high likelihood of accidental releases should also be considered 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. 	<ul style="list-style-type: none"> Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs)

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Large industrial facilities	<ul style="list-style-type: none"> Fossil fuel power plants (more than 50 MW), incinerators, refineries, chemical/ pharmaceutical/rubber and plastics plants, cement kilns, metal foundries and smelters, other large industrial facilities. 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Surface water contamination Accidental releases/spills of hazardous chemicals Odors Heavy vehicular traffic 	<ul style="list-style-type: none"> Identify and evaluate all large industrial facilities within ~½ mile 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with local air quality agencies to determine sites with high concentrations nearby. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs) Water
Other large sources	<ul style="list-style-type: none"> Metal platers (especially chrome), rendering plants, sewage treatment plants, composting operations, fertilizer or cement plants, large manufacturing facilities. 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Surface water contamination Accidental releases/spills of hazardous chemicals Odors 	<ul style="list-style-type: none"> Identify and evaluate all other large sources within ~½ mile 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with local air quality agencies to determine appropriate separation. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs) Water

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Gas stations and other fuel dispensing facilities	<ul style="list-style-type: none"> Large gas station dispense more than 3.6 million gallons per year. 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Vapor intrusion into structures Heavy vehicular traffic 	<ul style="list-style-type: none"> Identify and evaluate gas stations and other fuel dispensing facilities within ~1,000 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with state, tribal and local authorities for applicable requirements. Evaluate for spills, leaking underground storage tanks, potential air emissions. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Underground Storage Tanks Vapor Intrusion/ (VOCs)
Dry cleaners	<ul style="list-style-type: none"> Facilities using perchloroethylene or similarly toxic chemicals. 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Vapor intrusion into structures 	<ul style="list-style-type: none"> Identify and evaluate dry cleaning operations within ~1,000 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with state, tribal and local authorities for applicable requirements. Consult with local environmental agencies to determine locations with high concentrations. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs)

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Other area/small sources	<ul style="list-style-type: none"> Auto body shops, furniture manufacturing and repair; wood product manufacturing or processing; printing, electronics and chip manufacturing; charbroilers, commercial sterilization, back-up generators; small neighborhood metal platers 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Surface water contamination Odors Vapor intrusion into structures 	<ul style="list-style-type: none"> Identify and evaluate other small sources within ~1,000 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with local health and/or environmental agencies to determine locations with high concentrations. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping
Large agricultural growing operations	<ul style="list-style-type: none"> Operations employing aerial pesticide spraying 	<ul style="list-style-type: none"> Air pollution (from volatilization and drift) Soil contamination Ground water contamination Surface water contamination 	<ul style="list-style-type: none"> Identify and evaluate all large agricultural growing operations within ~3 miles 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Water
Large concentrated animal feeding operations	<ul style="list-style-type: none"> Animal feeding operations 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Surface water contamination Odors 	<ul style="list-style-type: none"> Identify and evaluate all animal feeding operations within ~1 – 3 miles 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with local health and/or environmental agencies to determine locations with high concentrations. 	<ul style="list-style-type: none"> Concentrated Animal Feeding Operations Air Pollution Risk Assessment Maps and Mapping Water

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Ports	<ul style="list-style-type: none"> Marine ports with more than 100 truck visits/day 	<ul style="list-style-type: none"> Air pollution Noise Soil contamination Surface water contamination Heavy vehicular traffic Accidental releases/spills of hazardous chemicals 	<ul style="list-style-type: none"> Identify and evaluate all port facilities within ~1 mile Ports farther away with a high likelihood of accidental releases should also be considered 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. 	<ul style="list-style-type: none"> Air Pollution Noise Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs)
Rail yards, intermodal freight terminals and major rail lines	<ul style="list-style-type: none"> A major service and maintenance rail yard; Rail lines serving more than 50 trains/day (excluding electric light rail, except for safety) 	<ul style="list-style-type: none"> Air pollution Noise Odors Soil contamination Ground water contamination Vapor intrusion into structures Accidental releases/spills of hazardous chemicals Fire/explosions Safety Large truck traffic 	<ul style="list-style-type: none"> Identify and evaluate all major rail yards, intermodal freight terminals and rail lines within ~1 mile Rail facilities farther away with a high likelihood of accidental releases should also be considered 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with local air quality agencies to determine locations with high concentrations. Consider additional mitigation approaches. 	<ul style="list-style-type: none"> Air Pollution Noise Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs)

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Rail lines	<ul style="list-style-type: none"> All rail lines (excluding electric light rail) 	<ul style="list-style-type: none"> Air pollution Noise Odors Soil contamination Ground water contamination Physical hazards due to derailment Hazardous cargo spills Train road crossings and access to rail tracks 	<ul style="list-style-type: none"> Identify and evaluate all rail lines within ~1/2 mile Rail lines farther away with a high likelihood of accidental releases should also be considered 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. Evaluate safety based on cargo, speed, traffic, etc. See Potential Variables under Exhibit 5. Consult with local air quality agencies to determine locations with high concentrations. Consider additional mitigation approaches. 	<ul style="list-style-type: none"> Rail Yards and Rail Lines Maps and Mapping Noise
Airports and heliports	<ul style="list-style-type: none"> All commercial and military airports, consider flight patterns/runway configuration 	<ul style="list-style-type: none"> Safety concerns near runways Noise Air pollution 	<ul style="list-style-type: none"> Identify and evaluate all locations within ~2 miles from runways 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with state, tribal and local authorities for applicable requirements. Consult with local air quality agencies to determine locations with high concentrations. 	<ul style="list-style-type: none"> Airports Maps and Mapping Noise

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Power lines	<ul style="list-style-type: none"> High voltage power lines more than 50 kV. 	<ul style="list-style-type: none"> Exposure to electromagnetic fields Safety concerns if power lines fall 	<ul style="list-style-type: none"> Identify and evaluate all high voltage power lines within ~500 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Consult with state, tribal and/or local authorities for requirements. Variable, depending on voltage and if lines are above ground or below ground. 	<ul style="list-style-type: none"> Power Lines Electromagnetic Fields
Cellular phone towers	<ul style="list-style-type: none"> All cellular phone towers and antennas. 	<ul style="list-style-type: none"> Exposure to electromagnetic fields Fall distance of towers 	<ul style="list-style-type: none"> Identify and evaluate cell towers within ~200 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Review and apply Federal Communications Commission regulatory guidance. 	<ul style="list-style-type: none"> Electromagnetic Fields
Hazardous material pipelines	<ul style="list-style-type: none"> Oil pipelines, high pressure natural gas pipelines, chemical pipelines, high pressure water lines. 	<ul style="list-style-type: none"> Soil contamination Ground water contamination Accidental release/spills of hazardous materials Fire/heat from flammable fuels Flooding/erosion from water Explosion hazard 	<ul style="list-style-type: none"> Identify and evaluate hazardous material pipelines within ~1,500 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> No hazardous pipelines on site (except natural gas serving school). 	<ul style="list-style-type: none"> Pipelines Maps and Mapping Water

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Reservoirs, water or fuel storage tanks	<ul style="list-style-type: none"> All aboveground large volume liquid storage tanks 	<ul style="list-style-type: none"> Potential for inundation in an accident Surface water contamination Ground water contamination Vapor intrusion into structures Air pollution 	<ul style="list-style-type: none"> Identify and evaluate reservoirs, water or fuel storage tanks within ~1,500 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Evaluate drainage direction and emergency planning options. 	<ul style="list-style-type: none"> Aboveground Storage Tanks Maps and Mapping Water
Geologic features	<ul style="list-style-type: none"> Earthquake faults, liquefaction zones, volcanic/geothermal activity, landslide/lahar zones, flood zones, methane zones, naturally occurring hazardous materials (examples: asbestos, uranium, radon) areas, etc., reservoirs, high water table 	<ul style="list-style-type: none"> Natural hazards Air pollution Soil contamination Surface water contamination Ground water contamination Dust Moisture intrusion 	<ul style="list-style-type: none"> Identify and evaluate potential geologic hazards within ~¼ mile of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Evaluate geologic/geotechnical hazards for every location. 	<ul style="list-style-type: none"> Natural Hazards Maps and Mapping

Appendix C

USEPA, CHPAC, and California Recommended Hazard
Guidelines

USEPA, CHPAC, and California Recommended Hazard Guidelines

Hazard	Hazard Definition	California Policy	EPA Guidance: Minimum Actionable Distance	CHPAC Report: Screening Perimeter ¹	CHPAC Report: Exclusion Zone ²	Type of Environmental Hazard
Adjacent building construction	All onsite or adjacent buildings/structures slated for reuse, renovation or demolition	N/A	All onsite or adjacent buildings/structures slated for reuse, renovation or demolition	N/A	N/A	Chemical, Physical
Contaminated sites	Properties that have or are managing hazardous waste onsite or have had releases in the past	“Proximity to” (No provision in state law)	1 mi (5,280 ft)	1 mi (5,280 ft)	0.19 mi (1,000 ft)	Chemical
Solid waste landfills	Properties that have or manage non-hazardous solid waste	“On or adjacent to site” (No provision in state law)	1 mi (5,280 ft)	1 mi (5,280 ft)	0.19 mi (1,000 ft)	Biological, Chemical
Formerly used defense sites	Properties formerly used by the Department of Defense	N/A	1 mi (5,280 ft)	N/A	N/A	Chemical, Physical
High traffic roads and highways	High traffic roads or roads with heavy diesel traffic	0.09 mi (500 ft)	0.5 mi (2,640 ft)	0.5 mi (2,640 ft)	0.09-0.19 mi (500-1,000 ft)	Chemical, Physical
Distribution centers, bus terminals, bus garages, truck stops	Facilities with more than 100 trucks/buses per day or more than 40 refrigerated trucks per day	N/A	0.5 mi (2,640 ft)	0.5 mi (2,640 ft)	0.19 mi (1,000 ft)	Chemical
Large industrial facilities and large sources of pollution	Fossil fuel power plants (more than 50 MW), incinerators, refineries, chemical/pharmaceutical, rubber plastics plants, etc.	0.25 mi (1,320 ft)	0.5 mi (2,640 ft)	0.5 mi (2,640 ft)	0.09-0.19 mi (500-1,000 ft)	Chemical

Gas stations and other fuel dispensing facilities	Large gas station dispensing more than 3.6 million gallons per year	N/A	0.19 mi (1,000 ft)	0.19 mi (1,000 ft)	50 ft, typical gas station 300 ft, large gas station	Chemical
Dry cleaners	Facilities using perchloroethylene (tetrachloroethylene) or similarly toxic chemicals	N/A	0.19 mi (1,000 ft)	0.19 mi (1,000 ft)	300 ft for perc. cleaners 500 ft for operations with 2+ machines	Chemical
Other area/small sources	Auto body shops, furniture manufacturing, wood product manufacturing or processing, printing, electronics, and chip manufacturing, etc.	N/A	0.19 mi (1,000 ft)	0.09-0.19 mi (500-1,000 ft)	Site-specific	Chemical
Large agricultural growing operations	Operations employing aerial pesticide spraying	0.25 mi (1,320 ft)	3 mi (15,840 ft)	3 mi (15,840 ft)	0.25-2.5 mi (1,320 – 13,200 ft)	Chemical
Large concentrated animal feeding operations	Animal feeding operations	N/A	1-3 mi (5,280 ft – 15,840 ft)	1-3 mi (5,280 ft – 15,840 ft)	0.25 mi (1,320 ft)	Chemical
Marine Ports	More than 100 truck visits/day	N/A	1 mi (5,280 ft)	0.5 mi (2,640 ft)	0.19 mi (1,000 ft)	Chemical
Railyard, intermodal freight terminals and major rail lines	Major service and maintenance railyard; rail lines serving more than 50 trains/day (excludes electric light rail)	0.25 mi (1,320 ft)	1 mi (5,280 ft)	Rural: 1 mi (5,280 ft) Urban: 0.5 mi (2,460 ft)	0.19 mi (1,000 ft)	Chemical, Physical
Rail lines	All rail lines (excludes electric light rail)	0.28 mi (1,500 ft)	0.5 mi (2,640 ft)	0.28 mi (1,500 ft)	0.02 mi (128 ft)	Chemical, Physical
Airports and heliports	All commercial and military airports	2 mi (10,560 ft)	2 mi (10,560 ft)	2 mi (10,560 ft)	0.23 – 0.57 mi (1,200 – 3,000 ft)	Chemical, Physical
Power lines	High voltage power lines more than 50kV	100 ft for 50-133 kV line; 150 ft for 220-230 kV	0.09 mi (500 ft)	0.07 mi (350 ft)	0.07 mi (350 ft)	Physical

		line; 350 ft for 500-550 kV line				
Cell phone towers	All cellular phone towers and antennas	N/A	0.04 mi (200 ft)	0.04 mi (200 ft)	On or adjacent to site	Physical
Hazardous material pipelines	Oil pipelines, high pressure natural gas pipelines, chemical pipelines, high pressure water pipelines	0.28 mi (1,500 ft)	0.28 mi (1,500 ft)	0.28 mi (1,500 ft)	Site-specific	Chemical
Reservoirs, water or fuel storage tanks	All above-ground, large-volume, liquid storage tanks	“Near”	0.28 mi (1,500 ft)	0.28 mi (1,500 ft)	Site-specific	Chemical, Physical
Geologic features	Earthquake faults, liquefaction zones, volcanic/geothermal activity, landslide/lahar zones, flood zones, methane zones, naturally occurring hazardous materials (asbestos, uranium, radon) areas, reservoirs, high water table	Site within flood zone	0.25 mi (1,320 ft)	0.25 mi (1,320 ft)	50 ft from active faults to buildings	Physical

¹If a potential school site is located within the screening perimeter of an environmental feature, then potential risks from that feature require further study.

²Exceptions can be made if supported by quantitative risk assessment (including consideration of mitigation measures) and compliant with applicable law.

Appendix D

Michigan State University's Mid-Michigan Health Impact Assessment (HIA)
Toolkit (<https://msustatewide.msu.edu/Programs/Details/3557>)

HIA Questionnaire for Air Quality

- Does the project/development entail demolition activities and has the presence of asbestos and lead been determined?
- Are there plans for mitigating dust?
- Will the project/development result in increased stationary air emissions?
- Has the developer obtained necessary permits?
- Will the project result in increased mobile-source air emissions, not including automobiles?
- Will the project result in increased air emissions from automobiles?
- Has the project accommodated public transit (e.g. bus stops) in its design?
- Is the proposed use compatible with adjacent uses?
- Are non-motorized transportation alternatives (e.g. bike paths) available for those who do not own or do not want to use cars?
- Do anticipated emissions include controlled contaminants (e.g. VOCs, mercury)?

Appendix E

Selected passages on community involvement from the USEPA School
Siting Guidelines Report

USEPA School Siting Guidelines (pages 20-24, 34-36)

- Make a Long-Range Facilities Plan: **(pages 20-21, 34-36)**
 - Predict school district enrollments for the foreseeable future (5 years).
 - Identify existing school infrastructure that may need to be improved or replaced.
 - Develop a plan for meeting new space needs that consider building on new sites, leasing space in existing sites, renovating or reconstructing existing schools.
 - Include approximate dates for opening any new school facilities, and estimated costs of facility improvements.
- Establish a School Siting Committee **(pages 20-21)**
 - Responsibilities include:
 - Make recommendations to the local education agency (LEA) governing body on sites for building new schools, leasing space for new schools, and/or renovating or expanding existing schools.
 - Participate in the environmental review of potential sites.
 - Committee should include:
 - Representatives of the LEA governing body (elected school board members)
 - Local government or tribal staff (city planner, government environmental health specialist, county auditor)
 - Representatives like parents, teachers, public health organizations, community members, environmental advocacy and environmental justice groups, age-appropriate students, local trade/building associations, etc.
- Establish a Communications Plan: **(pages 22-23)**
 - Provide information to the public and identify ways for the public to participate in school siting decisions.
 - LEA should publicize the release of draft plans and reports, the commencement of public comment periods, and public hearings through written notice that is:
 - All school siting documents should be:
 - In lay-accessible language
 - Public in newspapers of general circulation within LEA jurisdiction
 - Delivered to each parent-teacher organization, to each labor union covered by a collective bargaining agreement with the LEA, to businesses located within 1,000 feet of potential school sites, and to residents living within 1,000 feet of potential school sites.
- States should provide technical assistance regarding: **(page 24)**
 - Proper evaluation of possible contamination at potential sites (including how to manage and review Phase I and Phase II environmental site assessments.)
 - Evaluation of site remediation cost analyses including proper removal and offsite disposal of contamination, and for engineering and institutional controls to contain contaminants.
 - Development of long-term maintenance and monitoring plans to ensure effectiveness of controls for the life of the school.
 - Provide professional development and training opportunities that will enable LEAs to ensure healthy learning environments.

Appendix F

Detroit News Article titled “Bills proposed to improve Mich.’s classroom environment” by Jennifer Chambers

Bills proposed to improve Mich.'s classroom environment

Jennifer Chambers, *The Detroit News*

Published 1:09 p.m. ET Sept. 18, 2017



(Photo: David Guralnick / The Detroit News)

Detroit — A group of state Democratic lawmakers introduced a seven-bill package on Monday that calls for the creation of a plan to annually test water and air quality in every Michigan school and create an environmental education task force.

The bills — announced by state Reps. Stephanie Chang, D-Detroit; Darrin Camilleri, D-Brownstown Township; Kristy Pagan, D-Canton Township; and Robert Wittenberg, D-Oak Park — would help local schools improve the health and wellness of students and staff, reduce environmental impact and energy costs and address environmental understanding.

The bills, which will be formally introduced on the House floor on Tuesday, would:

- Require environmental assessments be conducted for any proposed school construction site or addition to an already acquired site.
- Require the state Board of Education to revise its local wellness policy to include a plan for testing water and air quality in every school.
- Create a one-time, \$9 million supplemental appropriation for water- and air-quality testing and remediation in schools.
- Encourage each school building in a district to conduct an energy audit every three years to identify potential efficiencies and conservation improvements.
- Create a task force to develop a curriculum to help students understand and address environmental challenges, contribute to students' healthy lifestyles and provide activities and programs that advance environmental education.

“Given recent events in our state regarding water and air quality, it’s vital that our schools regularly conduct tests to ensure that our students are drinking clean water and breathing clean air. This package protects students’ longterm health, while also giving parents and families the certainty they deserve about the environmental standards of their child’s

school,” Camilleri said.

Chang said studies show school location and air pollution are linked to student attendance and academic performance.

“So if we want our kids to be healthy enough to attend school and to do well in school, then we need to make sure they have a healthy school environment,” Chang said. “These bills outline steps our schools and the state can take, such as my bill that addresses school siting, to create a healthier physical environment for our students.”

Paul Mohai of the School for Environment and Sustainability at the University of Michigan spoke at the press conference, saying children cannot choose where they live or attend school, and they are especially vulnerable to environment toxins.

“This makes it especially important they go to schools in clean, healthy and safe environments. Our research we have found more than 40 percent of schools in Michigan are located near major sources of air pollution,” Mohai said.

Emile Lauzzana, director of Community-Michigan for the U.S. Green Building Council, joined lawmakers Monday morning for the announcement.

According to Lauzzana, 18 Michigan schools have achieved LEED standards and efficiencies in their buildings. Twelve other states have laws similar to what is being proposed in Michigan, he said.

“States with green school policies teach students to lead in a changing world and demonstrate a commitment to fiscal responsibility, good job growth, and healthy, high-performance facilities,” Lauzzana said.

The legislators also announced the formation of the Better Classroom Caucus, which Wittenberg will chair, to address the environmental and health factors in schools.

JChambers@detroitnews.com

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