

THE SMART SCHOOL SITING TOOL *USER GUIDE*



1. Introduction



School locations and community development are inextricably linked. School locations affect community land use patterns and infrastructure needs. Local land use, the location and capacity of road and utility networks, and community investments in economic development, housing, and other social programs affect school surroundings and learning environments. Taken together, school siting and other community decisions influence housing and transportation choices, neighborhood vitality, economic development, costs of community services, environmental quality, and overall community health and well-being.

These strong connections between school location and community development suggest the importance of coordinating and aligning school siting and other community decisions. However, in many communities, planning and decisions about school siting and other community priorities are disconnected.

Improved coordination between school and other local government agencies on school siting decisions can yield multiple community benefits, including:

- School siting and other community priorities that reinforce—rather than work against—each other.
- Better learning environments and educational outcomes.
- More efficient use of taxpayer dollars.
- Higher quality of life.¹

The U.S. Environmental Protection Agency (EPA) developed the **Smart School Siting Tool** under its Smart Growth Implementation Assistance Program to help school agencies and other local government agencies work together to better align school siting and other community development decisions.

The Smart School Siting Tool is composed of two Excel-based workbooks:

- The Assessment & Planning Workbook helps a community understand how well its school siting process is coordinated with land use and other community planning processes.
- The Site Comparison Workbook helps a community evaluate and compare candidate sites for a proposed school, which could be a new or renovated school.

This User Guide provides background on the links between school siting and community impacts (Section 2), presents an overview of the Smart School Siting Tool (Section 3), and describes how to use the Assessment & Planning and Site Comparison Workbooks (Sections 4 and 5).

¹ More information about the connections between school siting, education, and community sustainability can be found at EPA's Smart Growth website (<http://www2.epa.gov/smartgrowth>).

Appendix A provides a summary of EPA’s Smart Growth Implementation Assistance Program, and Appendix B provides a glossary of terms used in this User Guide. Appendix C identifies additional resources related to school siting, smart growth, land use, and related issues, including children’s health, and walking and biking. Appendix D acknowledges those who contributed to the development of the Smart School Siting Tool.

2. School Siting and Community Impacts



Schools are an integral part of communities: they are civic anchors and provide students with safe, healthy places to get a good education. Schools help shape the perspectives and knowledge of the students that pass through them, including the future leaders of our communities. Decisions about where to locate schools affect the learning environment and education. They also affect community development and land use patterns, cost of community services, environmental quality, and community well-being.

School locations affect residential development patterns, demand for new or upgraded roads and public utilities, local transportation patterns, and other community investments. Just as schools influence land development patterns, those patterns influence school locations. Local governments guide land use development in specific areas, for example, through land use planning and infrastructure investments. In addition, this interplay between school location and community development is dynamic: as the number of school-aged residents in an area changes over time, the number, type, or location of schools might also need to change.

Schools are a major financial investment for a community. Typically, the local school agency is responsible for the costs of building a new school or renovating an existing school, including the costs of land acquisition, site preparation, and construction. Most often, these direct costs are the only costs considered when comparing school siting alternatives. However, school siting decisions have cost implications for local governments, taxpayers, families, and individuals. These cost implications include:

- If a new or renovated school requires new or upgraded infrastructure (e.g., roads, sewers, and sidewalks), local governments often bear the costs of construction and ongoing maintenance.
- If an area's population grows because it has a new or renovated school, this can create additional demand for infrastructure and local government services in the area.
- The location of the school relative to residential development affects the costs of busing students to and from school.
- When bus service is not available and a school cannot be reached safely by walking, biking, or public transit, households pay the costs of driving children to and from school.

Schools also affect a community's impact on the environment. The energy used to construct and operate schools results in the emission of greenhouse gases and other air pollution. Greenhouse gases and air pollution are emitted from transporting people to and from school each day. In addition, school siting and design play a part in the availability of open space, stormwater runoff, and other environmental concerns.

Schools can also influence social equity and environmental justice issues, depending on where they are sited in a community. School location can affect how far students, parents, teachers, and staff have to travel to and from the school. When affordable housing choices are limited, this can alter students' level of involvement in extracurricular activities and parents' level of involvement in teacher conferences and other school activities.

Despite the many connections between school siting, land use and transportation patterns, and other community outcomes, planning and decisions about school siting and other community priorities are often disconnected. For example, school siting decisions may not take into account water and sewer capital investment priorities and school siting plans may be considered outside the scope of the local comprehensive plan.

School Siting Trends

From 1930 to 2013, the number of schools in the United States decreased from 262,000 to 98,000, while student population increased from 28 million to 50 million.² Many policies influenced this trend of building fewer schools serving larger student populations.

One such policy, still in place in many states, is a minimum acreage requirement for schools. In 1953, the Council of Education Facility Planning International (CEFPI) published guidelines that encouraged schools to serve more students and be developed using more acreage. The guidelines called for a minimum of one acre of land for every 100 students plus 10 acres for an elementary school, 20 acres for a middle school, and 30 acres for a high school. Many states and communities adopted the guidelines as minimum acreage requirements, making it difficult to build schools on smaller parcels in existing neighborhoods. In 2004, CEFPI published new guidelines that emphasized educational program needs versus student enrollment as the basis for establishing the acreage required to accommodate a school. However, 27 states³ and countless communities still use acreage minimums based on the older guidelines.

Other factors, such as the higher cost of land in an existing neighborhood compared with land in a less developed area and funding formulas that prioritize new construction over renovation, have also encouraged school agencies to build new schools outside of existing neighborhoods.

As a result, schools in many communities have been pushed to larger properties, often located outside the neighborhoods where students live. When sited on a large parcel, schools are more isolated from their surrounding community (see Figure 1).

² U.S. Department of Education, National Center for Education Statistics. *Digest of Education Statistics 2013*. 2013. <https://nces.ed.gov/programs/digest/d13/index.asp>, U.S. Department of Education, National Center for Education Statistics. *Selected Statistics from the Public Elementary and Secondary Education Universe: School Year 2013-14*. 2015. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015151>.

³ For more information, see Smart Growth America, "Reduce or Eliminate Acreage Standards for K-12 Schools" at <http://www.smartgrowthamerica.org/guides/smart-growth-at-the-state-and-local-level/education/reduce-or-eliminate-acreage-standards-for-k-12-schools/>.



Figure 1: Schools located outside neighborhoods where students live are more isolated and are more difficult to access via transit, walking, and biking.

Source: <http://www.epa.gov/smartgrowth/pdf/webinar2/TTorma-Schools-090512-v2.pdf>

When pushed to a less central location in the community, these schools require students, teachers, and staff to travel longer distances, resulting in increased time spent commuting, higher busing costs, and increased greenhouse gas emissions and air pollution. Schools in less developed areas of a community usually have less infrastructure—such as sidewalks, bike paths, and crosswalks—to make it safer and easier for the students who do live nearby to walk or bike to school. Finally, schools sited in more distant, less central locations also lose their function as a neighborhood anchors.

The national shift toward siting schools on larger, less centrally located sites is demonstrated by the decline in students walking and biking to school. In 1969, approximately half of elementary school students walked and biked to school, but by 2009, only about 13 percent of students ages 5-14 biked or walked to school.⁴

⁴ For more information, see Safe Routes to School Online Guide, “The Decline of Walking and Bicycling” at http://guide.saferoutesinfo.org/introduction/the_decline_of_walking_and_bicycling.cfm.

School Siting and Smart Growth

Communities use smart growth approaches to build and enhance neighborhoods that have a mix of land uses, compact land development patterns, and more diverse housing and transportation options.⁵ Smart growth strategies engage the community in development decisions.

When school siting decisions are made in coordination with a community's land use planning process:

- Communities can spend public money as efficiently as possible and provide benefits to the community at large.
- School locations can reinforce local land use and development priorities to improve quality of life.
- Schools can serve as neighborhood anchors to promote a strong sense of community, strengthen existing neighborhoods, and support reinvestment in older neighborhoods.⁶

Integrating smart growth approaches into the school siting process can encourage more neighborhood-centered schools. These schools tend to be smaller and closer to students. Neighborhood-centered schools:

- Can make it easier for students, teachers, and staff to walk and bike to school, which lets them work regular physical activity into their daily routines.
- May reduce the number and length of automobile trips, which reduces greenhouse gas emissions and other air pollution.
- Use existing infrastructure and buildings, conserving energy and resources.
- May reduce or avoid the development of open space and farmland.
- Offer facilities that nearby residents can use for recreation and other community activities outside of school hours.
- Serve as a use to redevelop vacant or previously developed sites.⁷

⁵ Appendix A provides more information on smart growth approaches.

⁶ U.S. Environmental Protection Agency. "Smart Growth and School Siting." <http://www2.epa.gov/smartgrowth/smart-growth-and-school-siting>. Accessed Nov. 23, 2015.

⁷ U.S. Environmental Protection Agency. "Smart Growth and School Siting." <http://www2.epa.gov/smartgrowth/smart-growth-and-school-siting>. Accessed Nov. 23, 2015.

3. The Smart School Siting Tool



In 2011, EPA published the *School Siting Guidelines*⁸ to encourage, inform, and improve consideration of environmental factors in local school siting decision-making processes. The Guidelines support the link between school siting and smart growth by recommending that schools be sited near population and infrastructure, consider implications of the school location on transportation options, and develop Safe Routes to School programs that can support alternative modes of transportation.

EPA's Smart Growth Implementation Assistance Program developed the **Smart School Siting Tool** (see Appendix A) to go one step further. It supports the EPA School Siting Guidelines by providing communities with a tool to help communities assess their school siting processes and compare alternative school sites in a more coordinated and comprehensive way.

The Smart School Siting Tool has two parts:

1. The Assessment & Planning Workbook helps a community understand how well its school siting process is coordinated with land use and other community planning processes and identify priorities for improving coordination. See Section 4.
2. The Site Comparison Workbook helps a community evaluate and compare candidate sites for a proposed school. See Section 5.

A proposed school refers to a school that is needed to address changes in student enrollment, including a new school, an existing school that is being renovated and/or expanded, or a school that is being relocated.

A candidate site is any site that the community is considering for the proposed school.

When to Use the Smart School Siting Tool

The two parts of the Smart School Siting Tool can help communities at different points in the school siting process (see Figure 2). The Assessment & Planning Workbook aims to evaluate and improve the coordination between a community's school siting and land use processes (including the processes to develop plans and codes). Changing these processes can take many months or even years, and communities will benefit most if these processes are adjusted before a school siting process begins. While the Assessment & Planning Workbook can be used at any time, it will likely be most useful if applied well before a community begins the process to site a proposed school.

The Site Comparison Workbook helps to compare candidate school sites. It should be used after a community has begun the school siting process and has identified two or more candidate sites for a proposed school.

⁸ U.S. Environmental Protection Agency. *School Siting Guidelines*. 2011. http://www2.epa.gov/sites/production/files/2015-06/documents/school_siting_guidelines-2.pdf.

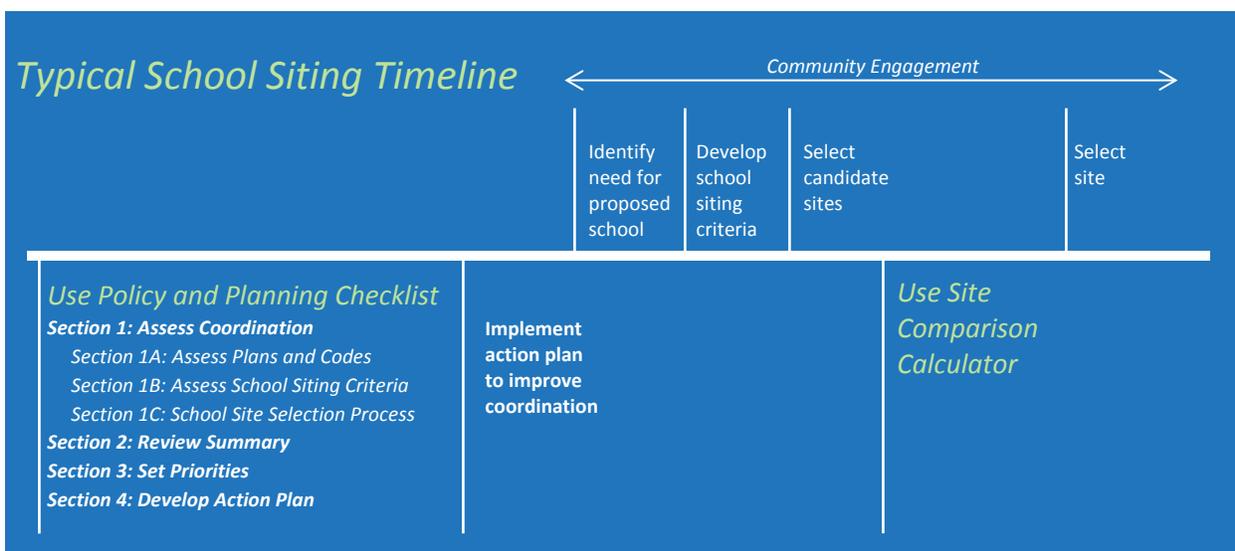


Figure 2: When to use the Smart School Siting Tool during a typical school siting process.

Who Should Use the Smart School Siting Tool

The tool can be used in rural, suburban, and urban settings under different local government and school agency organizational structures, including tribal governments.

School agencies, community planning departments, and other local government staff can collaborate to answer the questions in the workbook. The goal is for staffs to work together on the tool and break down organizational barriers, identify obvious areas of collaboration, and cooperate. By working together to answer the questions in the tool, a community can build capacity and enhance its coordination.

4. The Smart School Siting Tool Assessment & Planning Workbook



The Assessment & Planning Workbook helps communities better coordinate community development and school siting processes by: assessing how well school siting and other planning processes are coordinated, identifying specific ways these processes can be better coordinated, and developing an action plan to improve coordination.

The Excel-based Assessment & Planning Workbook is organized into four sections:

- Section 1 - Assess Coordination.
- Section 2 - Review Assessment Results.
- Section 3 - Set Priorities.
- Section 4 - Develop Action Plan.

Section 1 consists of three separate worksheets that contain a series of questions to help you assess your level of coordination. The worksheets organize the questions into the following general categories:

- Section 1.a: Assess Plans and Codes.
- Section 1.b: Assess School Siting Criteria.
- Section 1.c: Assess School Site Selection Process.

Section 2 provides a high-level summary of the community's coordination of school siting and other processes based on your responses to Section 1. Section 3 allows you to prioritize items using your assessment's suggested areas of potential improvement. Section 4 sorts these items based on priorities established in Section 3 and enables you to develop an action plan.

You may choose to use the Assessment & Planning Workbook in its entirety or just the sections and subsections that are relevant to you. Figure 3 shows the general flow for the workbook from assessment through action planning.

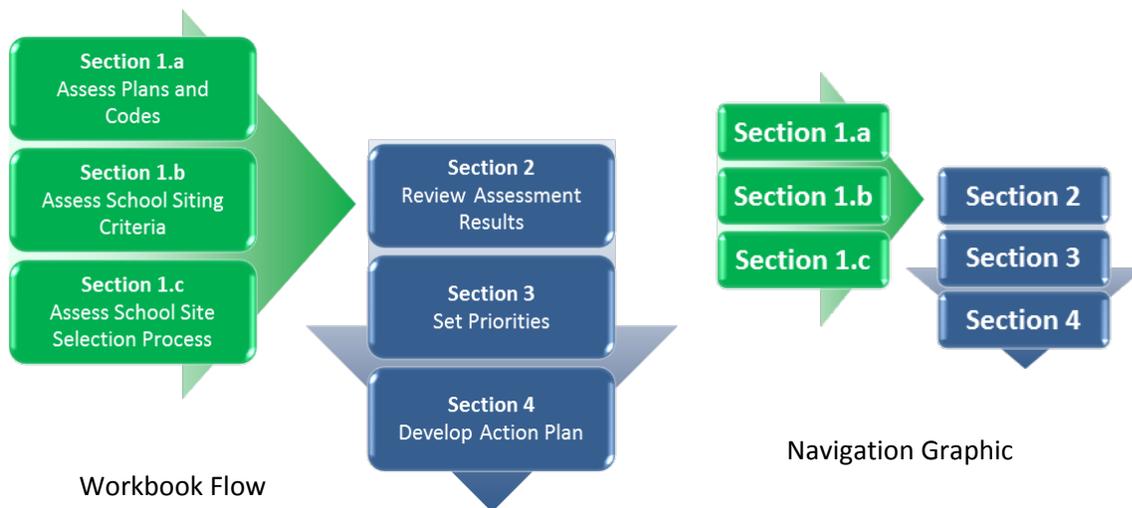


Figure 3: The Planning & Assessment Workbook is organized into four sections. This navigation graphic is provided in the workbook to help you keep track of where you are and move from section to section.

Introduction

The Introduction tab includes brief background information on the benefits of improved coordination between school siting and other community development activities.

Instructions

The Instructions tab describes how to use the Assessment & Planning Workbook. You can use the workbook to assess the current state of coordination. You can also update the workbook periodically to evaluate your progress toward improved coordination. If you plan to use the workbook to monitor progress and want a "fresh start" for each review, it is recommended that you upload and start with a clean, blank copy of the workbook. There is no way to clear all answers from a previously completed workbook.

As you answer questions, the summary in Section 2 will keep track of the level of completion of each section and will develop a section-by-section and overall assessment. Section 3 will automatically list items where your answers indicate that coordination could be improved. Section 4 will remain blank until you begin to prioritize the items listed in Section 3.

To navigate between worksheets in the Assessment & Planning Workbook, you can click on the green navigation button at the bottom of each worksheet to go to the next worksheet, click on the next tab in the workbook, or click on one of the boxes in the navigation graphic at the top of each worksheet (see Figure 3).

Glossary tables are included on the worksheets to define terms and concepts that may be new to some users.

Section 1: Assess Coordination

Section 1 of the Assessment & Planning Workbook helps assess how well your community’s school siting process is coordinated with land use and other community planning processes through a series of questions. The questions are organized into three subsections. Although the subsections are designed to be used sequentially, you may choose to use one or more of the subsections independently based on your community’s specific needs.

There are many factors to consider when evaluating how well school siting and other community planning processes are coordinated. To better understand the extent to which your community is coordinating these processes, Section 1 groups questions into those that represent “baseline planning and coordination” and “enhanced planning and coordination.” Questions organized under baseline planning and coordination assess whether a community is meeting a baseline level of coordination typical of most communities, while questions organized under enhanced planning and coordination consider whether a community is demonstrating above-average coordination between school siting and land use. Figure 4 is an example of the differences between the types of questions included to assess baseline versus enhanced planning and coordination.

1.c.iii Communication with Community Stakeholders and the Public
The purpose of the following questions is to assess the level of coordination with community stakeholders and the public in the school site selection process. These questions should be answered by the local school agency with support from local government staff.
<i>Baseline planning and coordination</i>
Has a community engagement plan been developed?
Does it include dates and methods of delivery of information to the public?
Does it identify ways for the public to participate in school siting decisions?
<i>Enhanced planning and coordination</i>
Is the communications plan being jointly administered by both the school siting committee and local government?
Is there sufficient funding allocated for meaningful public involvement activities in the school siting budget?
How could communication with community stakeholders and the public be improved?

Figure 4: Questions in the Assessment & Planning Workbook are organized to assess basic and enhanced planning coordination.

Most questions in Section 1 will be answered by clicking on a radio button indicating one of the following choices (see Figure 5):

- Yes.
- To some extent.
- Unclear.
- No.
- Not applicable.
- Answer later.

1.b School Siting Criteria
 School siting criteria help evaluate siting alternatives for a proposed school based on their potential to support local school agency and broader community goals. Criteria can be used to evaluate school site reuse (i.e., renovation or demolition and new construction) as well as construction on a new site. The purpose of the following questions is to assess the extent to which existing school siting criteria reflect school agency and broader community goals. These questions should be answered by the local school agency.

	Yes	To some extent	Unclear	No	Not Applicable	Answer Later
<i>Baseline planning and coordination</i>						
Has the local school agency established siting criteria for	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have the school siting criteria been adopted by the school	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If yes, do the criteria consider:						
Proximity to student body (e.g., portion of the student school) of the school)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proximity to other schools?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reusing, renovating, and/or expanding existing school	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 5: Radio buttons and a description fields are used to provide answers to questions in the Assessment & Planning Workbook.

If you choose “not applicable,” the question will not be included in subsequent sections of the tool (i.e., summary of assessment results, priority-setting, and action planning). If you choose “answer later,” the question will be treated as a “skipped” question in the summary of assessment results (Section 2).

For each question, there is also space in a column labeled “Description” to note information such as the name of a document or point of contact, dates, an idea to follow up on, or a new idea triggered by the question (see Figure 5). For open-ended questions (e.g., “How could the school siting criteria be improved?”), the only place to provide a response is in the Description field.

To go to another section of the Assessment & Planning Workbook, you can click on the green button at the bottom of each worksheet (which will take you to the next section in sequence), click on the next worksheet tab, or click on the navigation graphic. The three worksheets that make up the assessment portion of the workbook are described below.

Section 1.a: Assess Plans and Codes

Plans and codes are the high-level documents that provide a framework for school siting, land use, and other community investments. In this subsection, the tool presents a series of questions to evaluate how well your school and community plans are coordinated. Section 1.a is organized around the different types of plans and codes your community may use, including:

- Long-range School Facilities Master Plan (1.a.i).
- School Capital Improvement Plan (1.a.ii).
- Comprehensive Plan (or Growth Plan) (1.a.iii).
- Zoning and Building Codes (1.a.iv).
- Regional or City Transportation Plans (1.a.v).
- Community Capital Improvement Plan (1.a.vi).

For each type of plan or code, the tool presents a series of questions that will help you evaluate the level of coordination between school siting and other community planning processes.

Section 1.b: Assess School Siting Criteria

School siting criteria are used to evaluate and select sites for a proposed school, which could be a new or renovated school. In this subsection, the tool presents a series of questions to help you evaluate how well your community's school siting criteria reflect your community planning priorities.

Section 1.c: Assess School Site Selection Process

This subsection looks beyond the siting criteria and asks you to assess the process by which the community applies the criteria and selects school sites. It includes a series of questions about who is involved in siting decisions and how decisions are made. Subsection 1.c will help you evaluate how well the school site selection process is coordinated with other community development decisions.

Section 2: Review Assessment Results

Section 2, Review Assessment Results, summarizes how well the community's school siting and other planning processes are coordinated based on your responses to the assessment worksheets in Section 1. The results are organized by subsection and provide a high-level summary of how many actions the community has taken under the categories of basic and enhanced coordination and planning. The summary uses simple, color-coded results, as illustrated in Figure 6.

A green circle in the summary indicates more than two-thirds of the actions being assessed have been taken; a yellow circle indicates some actions have been taken (one-third to two-thirds); and a red circle indicates less than one-third of the actions have been taken. When calculating the proportion of actions taken, "yes" answers are treated as a complete action and "to some extent" answers are weighted as 50% of a complete action. If more than half the responses in a section are "unclear," the summary shows no color. Clicking on the gray "Scoring Detail" button will bring you to a tab with detailed information on the tool's scoring system.

If one or more questions have not been answered, the summary shows an "X" in the circle. The summary also notes the number of questions that have been skipped, including those for which you answered "answer later," and provides a gray button that allows you to return to the subsection with incomplete questions (see Figure 6). If all responses are "N/A," the summary shows "N/A." These features can help you identify where additional assessment work may be needed.

The summary provides a single color-coded score as a roll-up of all of the questions (i.e., "Overall Assessment"), as well as color-coded scores for each subsection of the Assessment & Planning Workbook, with separate color-coded scores for "basic planning and coordination" and "enhanced planning and coordination."

Section 2: Review Assessment Results

Key to Symbols:

- All or a majority of actions have been completed
- Some action has been taken, more is needed
- Actions have yet to be initiated or more action is needed
- "Unclear" was answered for more than half of the questions in this area
- X** One or more questions in this area have yet to be answered (or have been skipped)
- NA** "NA" was answered for all of the questions in this area

Section 1.a	1.a.i Long-Range School Facilities Plan	Baseline planning and coordination	●
		Enhanced planning and coordination	●
	1.a.ii School Capital Improvement Plan	Baseline planning and coordination	●
		Enhanced planning and coordination	●
	1.a.iii Comprehensive Plan/Growth Plan/General Plan	Enhanced planning and coordination	●
	1.a.iv Zoning and Building Codes	Enhanced planning and coordination	●
1.a.v Regional or City Transportation Plans	Enhanced planning and coordination	NA	
1.a.vi Community Capital Improvement Plan	Enhanced planning and coordination	●	
Section 1.b	1.b School Siting Criteria	Baseline planning and coordination	●
		Enhanced planning and coordination	●
Section 1.c	1.c.i School Siting Committee	Baseline planning and coordination	●
		Enhanced planning and coordination	X
	1.c.ii Coordination between the Local School Agency and Local Government	Baseline planning and coordination	●
		Enhanced planning and coordination	●
1.c.iii Communication with Community Stakeholders and the Public	Baseline planning and coordination	●	
	Enhanced planning and coordination	●	
Overall Assessment		Baseline planning and coordination	●
		Enhanced planning and coordination	●

Figure 6: Section 2, Review Summary, provides a color-coded summary of how well a community's school siting and land processes are coordinated.

The summary is not meant to indicate the overall efficacy of your community's school siting, land use, and other planning processes. It is meant to help you identify areas where there is room for improvement in your coordination. Section 3, "Set Priorities," provides a tool to help you set priorities for improving coordination in those areas.

Section 3: Set Priorities

To help sort through the questions that were answered in Section 1, Section 3 lists the questions that had a response of *no*, *unclear*, or *to some extent* (see Figure 7).

Section 3 rephrases the questions from Section 1 in terms of *actions* and identifies a potential next step that you could take based on your response to the original question. A response of:

- *No* indicates that you might consider initiating an action.
- *Unclear* indicates that you might want to gather more information.
- *To some extent* indicates that you might want to continue that action.

For actions that you want to initiate, gather more information for, or continue, you can assign a priority (high, medium, or low) and add comments to describe how you will complete each action (see Figure 7).



Section 3: Set Priorities

Section	Type	Action	Response	Description	Next Steps	Priority	Action Comments/Notes
1.a.i Long-Range School Facilities Plan	Enhanced	Consider in the long-range school facilities plan broader community infrastructure plans for roads and sewer, water, and other utilities	No	Coordinate planning with DPW	Initiate action	High	Staff to set up meeting first quarter 2016
1.a.i Long-Range School Facilities Plan	Enhanced	Factor into the long-range facilities plan other local and regional planning and project cycles, for example, associated with public investments in streets, parks, water and sewer, or other public infrastructure	No		Initiate action	Low	
1.a.i Long-Range School Facilities Plan	Enhanced	To ensure community planning reflects projected school needs, incorporate the long-range school facilities plan as an element in the community comprehensive plan	No		Initiate action	Low	
1.a.i Long-Range School Facilities Plan	Enhanced	Seek broad community input in the development of the long-range school facilities plan	No		Initiate action	Medium	

Action	Response	Description
Consider in the long-range school facilities plan broader community infrastructure plans for roads and sewer, water, and other utilities	No	Coordinate planning with DPW

Priority	Action Comments/Notes
High	Staff to set up meeting first quarter 2016

Figure 7: Section 3, Set Priorities, allows you to establish priorities for actions that will enhance coordination between school siting and land use processes

Section 4: Develop Action Plan

Section 4 sorts actions you identified in Section 3 for improving coordination between school siting and other community planning processes from highest to lowest priority. You can use this prioritized list to develop an action plan that identifies the person, group, or organization responsible for each action and a target timeframe (see Figure 8).



Section 4: Develop Action Plan

Action	Type	Priority	Action Comments/Notes	Responsible Party	Timeframe
Consider in the long-range school facilities plan broader community infrastructure plans for roads and sewer, water, and other utilities	Initiate action	High	Staff to set up meeting first quarter 2016	Local school agency planning staff	Set meeting for first quarter' establish milestones during meeting
Align long-range school facilities plan with priorities of community economic development and neighborhood revitalization plans	Gather more information	High			
Seek broad community input in the development of the long-range school facilities plan	Initiate action	Medium			
Factor into the long-range facilities plan other local and regional planning and project cycles, for example, associated with public	Initiate action	Low			

Action	Type	Priority	Action Comments/Notes
Consider in the long-range school facilities plan broader community infrastructure plans for roads and sewer, water, and other utilities	Initiate action	High	Staff to set up meeting first quarter 2016

Responsible Party	Timeframe
Local school agency planning staff	Set meeting for first quarter' establish milestones during meeting

Figure 8: Section 4, Develop Action Plan, allows you to develop an action plan to enhance coordination between school siting and land use processes.

5. Smart School Siting Tool Site Comparison Workbook



The Site Comparison Workbook helps communities directly compare two or more candidate sites for a proposed school in terms of whether they:

- Reinforce the community’s vision of future land use and development and serve as neighborhood anchors.
- Provide safe and efficient transportation options (e.g., encourage walking and biking) to reduce costs and support health.
- Take advantage of existing infrastructure to reduce local government costs.

The Excel-based Site Comparison Workbook is organized into eight worksheets:

- Worksheet 1 requests information about the proposed school and candidate site.
- Worksheets 2-6 contain 25 questions that help you to compare candidate school sites organized into the following categories.
 - Proximity to students and population centers (Worksheet 2).
 - Location in the community (Worksheet 3).
 - Beneficial site characteristics (Worksheet 4).
 - Connectivity with the neighborhood (Worksheet 5).
 - Bike and pedestrian accessibility (Worksheet 6).
- Worksheets 7 and 8 provide a place to document known costs associated with a candidate site and identify who will be responsible for the cost.

To reduce the potential for misinterpretation and miscommunication, the Site Comparison Workbook relies on quantitative information as much as possible. Each question includes background information to provide context. The Workbook includes instructions for questions that require data collection or analysis.

After completing the worksheets, the Site Comparison Workbook provides a one-page summary report with a score for each candidate site. The scores are relative, intended to help compare the relative strengths and weaknesses of candidate sites. The scores are not meant to be an independent assessment of the quality of any individual site. The Site Comparison Workbook also provides a detailed summary report that captures the answer to each question for each candidate site. Figure 9 summarizes the eight worksheets included in the Site Comparison Workbook.

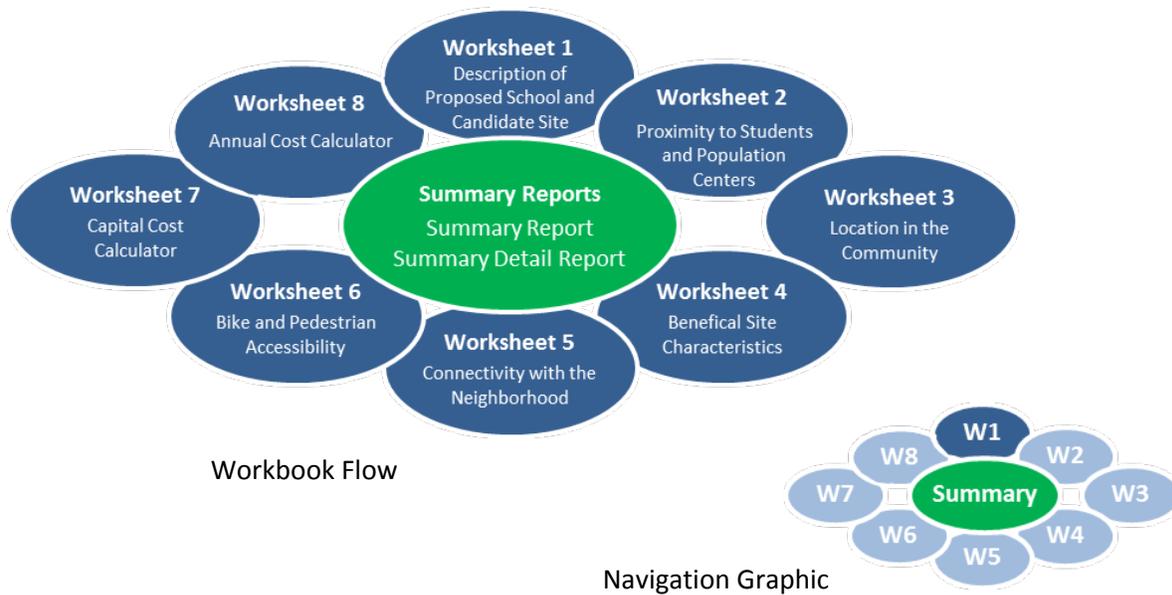


Figure 9: The Site Comparison Workbook includes eight worksheets and two summary reports. This navigation graphic is provided in the workbook to help you keep track of where you are as you move from worksheet to worksheet.

Introduction

The Introduction tab includes brief background information on the benefits of improved coordination between school siting and other community planning processes and investments.

Instructions

The Instructions tab describes how to use the Site Comparison Workbook. To compare candidate sites, it is necessary to complete a separate set of eight worksheets for each site. To do so, save the workbook using a file name that indicates the candidate site being evaluated. Once you have started an assessment, you can save the file and return to it later to complete and update your responses. When starting a new assessment for a different site, it is best to start with a blank copy of the workbook rather than reusing a version completed for another site to avoid inadvertently picking up answers from the previous site. There is no way to clear all answers from a previously completed assessment.

There are no mandatory questions in the Site Comparison Workbook. However, the more questions that are answered, the better will be your basis for comparing candidate sites. For questions that require data collection or analysis, data collection instructions are provided.

As you answer questions, a score will appear. The scores in the Site Comparison Workbook are relative. They are intended to help you compare the relative strengths and weaknesses of the candidate sites against one another. The scores are not meant to be used independently.

To navigate between worksheets in the Site Comparison Workbook, you can click on the green navigation button at the bottom of each worksheet to go to the next worksheet, click on the next tab in the workbook, or click on one of the ovals in the navigation graphic that is at the top of each worksheet and shown in Figure 8.

Glossary tables are included on the worksheet to define terms and concepts that may be new to some users.

Worksheet 1: Description of Proposed School and Candidate Site

Worksheet 1 captures basic information about the proposed school (e.g., the grades and number of students it will serve) and the candidate site being evaluated (e.g., common name, location, and major characteristics driving consideration of the site) (see Figure 10). Responses to the questions on school type and projected student capacity will be used in the Site Comparison Workbook questions and scoring. Other responses are used in the summary report.

Smart School Siting Tool: Site Comparison Workbook	
Worksheet 1: Description of Proposed School and Candidate Site	
Project Name	
What is the name of the project or need driving this siting evaluation?	
School District	
What is the name of the school district as referenced by the Census School District Review Program (SDRP)?	
Site Name	
What is the name most commonly used to describe the site?	
Location/Address	
What is the physical address and/or lat-long coordinates of the site?	
Construction Type	
Will the site be used to renovate/expand an existing school or construct a new school?	
School Type	
What grades will the proposed school serve?	Grades:
Is this lowest grade level considered elementary, middle, or high school?	School type for lowest grade level:
Projected Student Capacity	
How many students is the planned school expected to accommodate?	Planned enrollment:
Why This Site is Being Considered	
Briefly describe 3-5 characteristics driving consideration of this site	

Figure 10: Worksheet 1 captures basic information about the proposed school and candidate site.

Worksheets 2-6: Questions to Compare Candidate Sites

Worksheets 2-6 include 25 questions, grouped as follows, to compare candidate sites:

- **Worksheet 2: Proximity to Students and Population Centers.** This worksheet asks questions about the location of the site relative to existing and projected student and population centers in the community and other information about the socioeconomic conditions near the candidate site. A separate tab labelled “Instructions_Worksheet 2” includes detailed instruction for collecting data to complete this worksheet.
- **Worksheet 3: Location in the Community.** This worksheet asks questions about the location of the site relative to community growth boundaries and areas where the community wants to encourage development. It also inquires about the type of infrastructure improvements that the site might need and whether these improvements align with community infrastructure development plans.
- **Worksheet 4: Beneficial Site Characteristics.** This worksheet addresses some of the candidate site’s specific characteristics and the potential benefits to the community of renovating or building a school on the site. Considerations include whether the site has an existing school that will be renovated, is a brownfield, is an appropriate size, offers potential joint uses, has cultural or historic assets, and has access to public transit.
- **Worksheet 5: Connectivity with the Neighborhood.** This worksheet focuses on how the candidate site relates to the neighborhood, including: how well connected is the nearby street network; how many streets service the school; how many travel lanes are on the streets accessing the school site; how many sides of the site allow bicyclist or pedestrian entry; and whether other physical barriers limit access to the site.
- **Worksheet 6: Bike and Pedestrian Accessibility.** This worksheet examines whether the candidate site has sidewalks, safe streets, and bike lanes nearby.

The 25 questions are captured in blue headers. Each question is followed by background information that explains why the question is relevant to smart school siting and how school siting is linked to land use or quality of life. Some questions have sub-questions that when answered will return a single score (see Figure 11). While no questions are mandatory, you are encouraged to respond to as many as possible. Each question has a Comments/Notes field so you can document your ideas and come back to a question later.

15. Are there facilities located within ¼ mile of the school site that could be shared with the school? Will the school offer facilities that community members can use outside of school hours?

Schools and communities that share facilities (referred to as joint use) use limited resources more efficiently. For example, a park that is underused during the day can serve as outdoor play space for a school, or community members can use a school swimming pool outside of school hours. Allowing both schools and communities to use the same facilities is cost-effective, reuses existing infrastructure, and gives existing communities new amenities.

Check off all the joint uses within ¼ mile of the school site that the proposed school may offer to the community or that the community may offer the proposed school:

<input type="checkbox"/> Park	<input type="checkbox"/> Another school's facilities
<input type="checkbox"/> Pool	<input type="checkbox"/> Community center
<input type="checkbox"/> Other recreation center	<input type="checkbox"/> Health clinic
<input type="checkbox"/> Library	<input type="checkbox"/> Career or employment center (high school only)
<input type="checkbox"/> Shared parking	<input type="checkbox"/> Other community facility (e.g., theater)
<input type="checkbox"/> None	

Score (Question 15):

Comments/Notes:

Figure 11: Example of a question, background information, and sub-questions.

Some questions require you to collect and evaluate information. In these instances, instructions are provided in a gray box or, for Worksheet 2, a separate tab (see Figure 12). When needed, diagrams are provided to illustrate a concept.

Instructions and Supplemental Worksheet for Completing Worksheet 2

Worksheet 2 requires collection of demographic information for Census block groups near the school site and the School District to be served. Information can be obtained using: 1) geocoded data maintained by the school agency, 2) Census data available using GIS tools; and/or 3) data collected using tools provided by the U.S. Census Bureau.

Click the button below to see instructions and to access a supplemental worksheet (if needed) to collect the information needed to complete the questions on this worksheet.

Go to Instructions and Supplemental Worksheet

Show Instructions for Question 17

- Use GIS to draw a ½ mile radius from the proposed school site.
- Count the number of “nodes” as the number of intersections between two or more streets plus the number of cul-de-sac ends. Enter this information.
- Count the number of “links” as the number of street segments linking two nodes. Enter this information.
- Note: where a street crosses the ½-mile radius, count the street segment as a “link.” If the street ends in a cul-de-sac outside of the radius, count the intersection with the radius as a node. If the street intersects another street outside of the radius, do not count the intersection with the radius as a node.

Figure 12: Example of a question requiring collection and evaluation of information and the instructions that are provided by the Site Comparison Workbook.

Worksheets 7 and 8: Capital Cost Calculator and Annual Cost Calculator

EPA recommends that you use the Site Comparison Tool relatively early in the site selection process (see Figure 2), when communities are comparing a small number of candidate sites but the estimated cost associated with each site is likely not fully quantified. Worksheets 7 and 8 are designed to help communities start compiling available cost information for candidate school sites, even if costs are likely to be revised in the future. These worksheets can give a more complete picture of the community-wide costs associated with candidate sites, including estimates of the distribution of costs among different stakeholders.

To better estimate and compare the total cost of candidate sites, Worksheet 7 (Capital Cost Calculator) helps communities estimate the capital, or one-time, costs associated with each site and identify which stakeholder group(s) might bear those costs, including local government, the local school agency, and developers.

Worksheet 8 (Annual Cost Calculator) helps communities estimate the annual costs, including operations and maintenance costs associated with the school building and grounds and transportation costs for the school agency, students and their families, teachers, and staff. The worksheet helps you organize this information and identify which stakeholder group(s) might bear ongoing, annual costs, including local government, the local school agency, developers, and households (see Figure 13).

Worksheet 7: Capital Cost Calculator						
Capital costs are one-time costs associated with site acquisition, site preparation, and design and construction of the school and its supporting infrastructure.						
Capital Cost Consideration	Description	One-time Cost Borne By:				Cost Cannot Yet Be Quantified
		Local Government	Local School Agency	Developers	To be Determined	
Real estate acquisition						
Site preparation						
School renovation or expansion (including mitigating deferred maintenance)						
New school construction						
Provision of excess classroom capacity during construction						
Road upgrades (within 6 blocks of school)						
New roads						
New lanes						
Pavement reconstruction, resurfacing						
Curb cuts						

Figure 13: Worksheets 7 and 8 (pictured here) differentiate between costs to local government, the local school agency, developers, and households to better compare the total cost of candidate sites.

Summary Report

The Summary Report is a one-page summary generated for the candidate site based on the answers and information provided in Worksheets 1 through 8. It recaps the basic information about the site, provides an overall score for each worksheet, and graphically indicates how many of the total available points the candidate site accrued in each worksheet. It also summarizes the estimated costs from Worksheets 7 and 8.

You can print one Summary Report for each candidate site being evaluated and examine them side by side to assess their relative strengths and weaknesses. As noted earlier, the scores in the Site Comparison Workbook are relative. They do not provide a stand-alone assessment of the quality of a candidate site but, rather, they are intended to compare candidate sites.

When comparing sites, you can give more weight to worksheets or questions that you feel are most important to your community. For example, if proximity to students and population centers is most important to your community, you can use the Summary Reports to quickly see which candidate sites scored highest in this category. Likewise, you can easily evaluate the relative strengths and weaknesses of sites by comparing the scores across each category (see Figure 14).

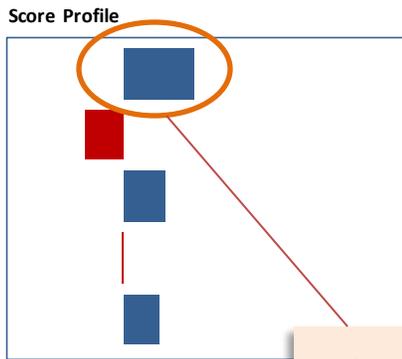


SUMMARY REPORT

Project Name: Inadequate capacity in existing middle school (5-
School District: Central School District
Site Name: Option 3
Site Location: Main Street
Construction Type: New school construction

Site Scores *(should be compared against the site scores generated for other candidate sites)*

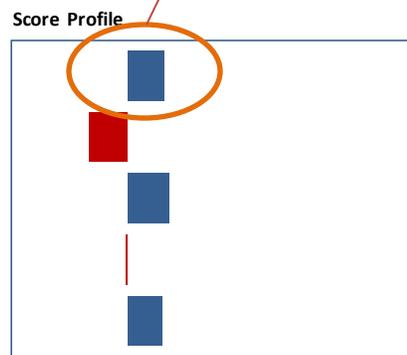
Worksheet	Overall Score
2 Proximity to Students and Population Centers	29
3 Location in the Community	-28
4 Beneficial Site Characteristics	31
5 Connectivity with the Neighborhood	-1
6 Bike and Pedestrian Accessibility	11



School District: Central School District
Site Name: Option 4
Site Location: South Street
Construction Type: New school construction

Site Scores *(should be compared against the site scores generated for other candidate sites)*

Worksheet	Overall Score
2 Proximity to Students and Population Centers	15
3 Location in the Community	-28
4 Beneficial Site Characteristics	31
5 Connectivity with the Neighborhood	-1
6 Bike and Pedestrian Accessibility	11



In this example, "Option 3" scored relatively higher than "Option 4" in the "Proximity to Students and Population Centers" category.

Figure 14: The Summary Report is a one-page summary designed to allow for easy comparison to help you compare candidate sites.

The scores are not set to a scale (e.g., 1-100) and should not be used as independent scores or grades for a single candidate site.

Summary Detail Report

The Summary Detail Report captures the basic information about the candidate site at the top of the report. It then presents each question from the Site Comparison Workbook, the response to each question, and the points allocated to each response (see Figure 15). For Worksheets 7 and 8, the Summary Detail Report provides tables with costs broken into the type of cost (i.e., one-time capital costs or recurring annual costs) and the organization that will bear the expense (e.g., local government or local school agency).

You can use the Summary Detail Report as a stand-alone summary of each candidate site or to obtain a more detailed side-by-side comparison of multiple candidate sites.



SUMMARY DETAIL REPORT

Project Name: Inadequate capacity in existing middle school (5-year projection)
School District: Central School District
Site Name: Option 3
Site Location: Main Street
Construction Type: New school construction

<i>Description</i>	<i>Key Characteristics</i>
7-8	<ul style="list-style-type: none"> • Land owned by municipality
800	<ul style="list-style-type: none"> • Adequate acreage • Relatively flat topography • Room for shared use athletic fields • Good site access

Worksheet 2: Proximity to Students and Population Centers

Question	Response	Score
1. How many students are currently located within 1 mile of the school site?	18.8% of students (based on planned enrollment)	10
2. How many students are projected by the local government to be located within 1-mile of the site in 10 years?	50% of students (based on planned enrollment)	8
3. What is the current population density of the area surrounding the school site relative to the whole school district?	The population density near the site is 800 (per sq.mi.) versus 1000 people/sq.mi. community-wide	12
4. What is the planned population density of the area surrounding the school site relative to the whole school district?	Zoning near the site allows 4 dwellings per acre versus a range of 0.5 to 12 dwellings per acre community-wide	-5
5. What is the socio-economic status of the population near the school site relative to the whole school district?	The area near the site has higher levels of the following relative to the school district: poverty	4

Total Score - Worksheet 2 **29**

Figure 15: The Summary Detail Report

Appendix A: Smart Growth Implementation Assistance



Communities around the country are looking to get the most from new development and to maximize their investments. Frustrated by development that gives residents no choice but to drive long distances between jobs and housing, many communities are bringing workplaces, homes, and services closer together. Communities are examining and changing zoning codes that make it impossible to build neighborhoods with a variety of housing types. They are questioning the fiscal wisdom of neglecting existing infrastructure while expanding new sewers, roads, and services into the fringe. Many places that have been successful in ensuring that development improves their community, economy, and environment have used smart growth principles to do so (see box). Smart growth describes land development patterns that create attractive, distinctive, and walkable communities that give people of varying age, wealth, and physical ability a range of safe, convenient choices in where they live and how they get around. Growing smart also means that we use our existing resources efficiently and preserve the lands, buildings, and environmental features that shape our neighborhoods, towns, and cities.

However, communities often need additional tools, resources, or information to achieve these goals. In response to this need, EPA launched the Smart Growth Implementation Assistance program to provide technical assistance—through contractor services—to selected communities.

The goals of this assistance are to improve the overall climate for infill,⁹ brownfields redevelopment, and the revitalization of non-brownfield sites—as well as to promote development that meets economic, community, public health, and environmental goals. EPA and its contractor assemble teams who have expertise that meets community needs. While engaging community participants on their aspirations for development, the team can bring their experiences from working in other parts of the country to provide best practices for the community to consider.

⁹ Infill: new land use development in already developed areas.

Smart Growth Principles

Based on the experience of communities around the nation, the Smart Growth Network developed a set of 10 basic principles:¹⁰

- Mix land uses.
- Take advantage of compact building design.
- Create a range of housing opportunities and choices.
- Create walkable neighborhoods.
- Foster distinctive, attractive communities with a strong sense of place.
- Preserve open space, farmland, natural beauty, and critical environmental areas.
- Strengthen and direct development towards existing communities.
- Provide a variety of transportation choices.
- Make development decisions predictable, fair, and cost effective.
- Encourage community and stakeholder collaboration in development decisions.

For more information on the Smart Growth Implementation Assistance program, including reports from communities that have received assistance, see www.epa.gov/smartgrowth/sgia.htm.

¹⁰ Smart Growth Network. "Why Smart Growth?" <http://smartgrowth.org/why-smart-growth/>. Accessed Oct. 30, 2015.

Appendix B: Glossary



Acreage minimum	A policy requiring a certain number of acres to be dedicated to a school site.
Community capital improvement plan	Identifies community infrastructure projects (e.g., utilities, roads, or sewers) for the next five years and outlines the schedule and financing for those projects. Often reflects community land use plan projections of future development growth and demand.
Comprehensive plan	Provides a blueprint for how a community or county will grow and develop.
Environmental justice	“The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” ¹¹
Growth boundary	A land use planning line established to promote development inside the boundary and prevent or limit development outside the boundary.
Joint use	Arrangements between local government and schools to share facilities, parks, pools, parking, and other recreational, educational, and civic facilities.
Long-range school agency facilities master plan	Identifies important projections of long-term school and community needs such as student enrollment, operational costs, facility maintenance and renovation, and infrastructure to use in making school siting decisions.
Neighborhood connectivity	The degree to which a neighborhood provides efficient connections between locations through roads, sidewalks, and public transit.
Neighborhood schools	Public schools that are in neighborhoods where a significant portion of students live and can walk or bike to school.
Regional or city transportation plan	Provides a long-term blueprint for a region or city’s transportation system. It typically considers major development, mobility needs, and capital investment priorities.
Safe Routes to School	A program to increase the number of children walking and bicycling to schools by creating safe, convenient, and fun walking and bicycling routes to school.
School capital improvement plan	Builds from a long-range school agency facilities master plan to establish priorities for capital investments in the school system.
Site preparation	The activities required to get land ready for construction.
Social equity	Fair access for all community members to employment, education, and resources.

¹¹ U.S. Environmental Protection Agency. “Environmental Justice.” <http://www.epa.gov/environmentaljustice/>. Accessed Oct. 30, 2015

Appendix C: Resources



Association for Learning Environments

EPA Office of Sustainable Communities

EPA Office of Children's Health Protection

EPA Office of Brownfields and Land Revitalization

National Center for Safe Routes to School

National Trust for Historic Preservation

Safe Routes to School National Partnership

University of California (UC) Berkeley Center for Cities and Schools

Acknowledgments



EPA Contributors and Reviewers

- Office of Sustainable Communities: Regina Langton (project manager), Nora Johnson, John Thomas, and Megan Susman.
- Office of Children’s Health Protection: Margot Brown.
- Office of Brownfields and Land Revitalization: Ann Carroll.
- Region 8: Cynthia Cody, Diana Hammer, and Wendy Thomi.

External Reviewers

- John Chadwick, Assistant Superintendent, Facilities and Operations, Arlington (Virginia) Public Schools.
- Cathy Costakis, Montana State University-Bozeman, public health consultant.
- Renee Kuhlman, National Trust for Historic Preservation.
- Johanna McCrehan, The Georgia Conservancy.
- Katherine Moore, The Georgia Conservancy.
- Nick Salmon, CTA Architects Engineers.
- Jeff Vincent, UC Berkeley Center for Cities and Schools.
- Wendy Weaver, sustainability consultant.
- Dave Wortman, The Brendle Group.

Billings, Montana Contributors:

SGIA Steering Committee

- Jeana Lervick.
- Kristen Lundgren.
- James Mariska.
- Patty Nordlund.
- John Quandt.
- Jenna Richter.
- Mary Westwood.
- Josi Wilgus.
- Donna Witham.

Local Government Officials

- Kathy Aragon, School District #2 Trustee (past).
- Greta Besch-Moen, School District #2 Trustee.
- Terry N. Bouck, Superintendent, Billings Public Schools.
- Candi Millar, Director, Planning and Community Services.
- Christina F. Volek, City Administrator.

Acknowledgments

