EPA Smart School Siting Tool

A new tool to help communities site schools that promote healthy learning and community well-being

Association For Learning Environments Global Conference

Philadelphia, PA

Workshop: September 29, 2016

Today's Facilitators

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Agenda

1:30-1:35 Welcome & Introductions

1:35-1:45 Table Team Exercise #1: Your site selection process

1:45-1:50 Whole Group Reflections & Insights

1:50-2:00 Overview of Smart School Siting Tool

2:00-2:30 Table Team Exercise #2: Community Priorities

2:30-2:50 Table Team Exercise #3: Fictional Sites

2:50-3:00 Whole Group Reflections & Insights

3:00-3:10 Case Studies

3:10-3:30 Table Team Exercise #4: Snapshot

3:30-3:40 Whole Group Reflections & Insights

3:40-3:50 Site Comparison Workbook Demonstration

3:50-4:20 Table Team Exercise #5: Workbook Detail

4:20-4:30 Whole Group Reflections & Insights/Adjourn

1:35-1:45

Table Team Exercise #1:

Characterize your site selection process

What types of school sites are typically considered?

How are school sites compared?

Who is involved in identifying and evaluating potential sites?

Who makes the decision?

Reflections & Insights

Exercise #1

1:50-2:00

Overview of Smart School Siting Tool

Smart School Siting Tool
Key Objectives

The tool is designed to…

- Engage a more diverse group of stakeholders
- Encourage more holistic analysis of siting decision implications
- Foster and facilitate collaboration
- Support (not supplant) community decision-making

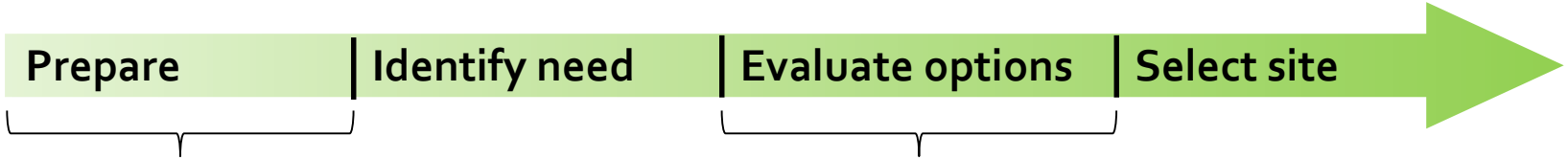
Available at:

http://www.epa.gov/smartgrowth/smart-school-siting-tool

Smart School Siting Tool

When To Use It

School Siting Timeline



Assessment & Planning Workbook

Helps communities prepare for siting decisions by assessing coordination between school siting and other planning processes

Site Comparison Workbook

Helps communities compare and evaluate school siting alternatives, including renovation, expansion, and new construction

User Guide

- Background on smart school siting
- Overview of the Smart School Siting Tool
- How to use the Workbooks
- Glossary and resources

Description

How To Use It: Two Separate Workbooks

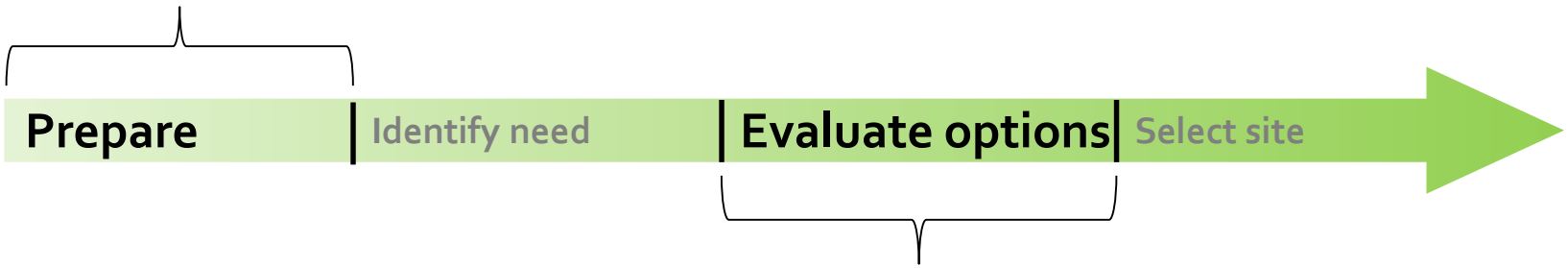
Assessment & Planning Workbook

Helps communities prepare for siting decisions by assessing coordination between school siting and other planning processes

One workbook per community

Assessment Plans & Codes, Site Selection Criteria, and Siting Process

Results Assessment Summary, Set Priorities, Develop Action Plan worksheet



Site Comparison Workbook

One workbook per site

Assessment 25 questions, 2cost calculator worksheets

Results One page site summary, Detailed summary report

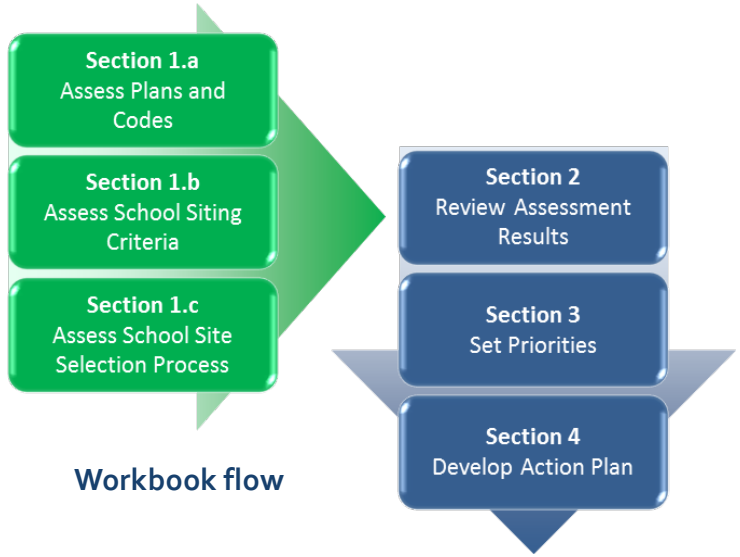
Helps communities compare and evaluate school siting alternatives, including renovation, expansion, and new construction

Smart School Siting Tool

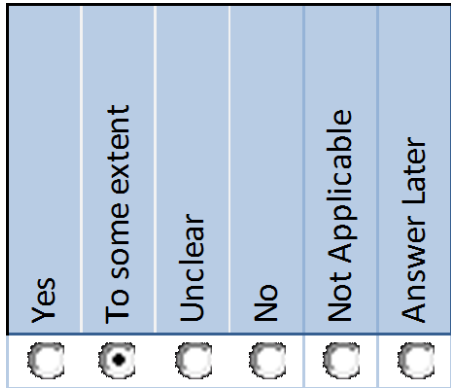
Assessment & Planning Workbook

Design:

- User-friendly downloadable Excel file
- Three assessment sections with ~200 closed ("select one") questions, with space for comments
- Baseline vs enhanced planning
- Summary, priority-setting, and action planning worksheets



Workbook flow



Answer choices

Assessment areas:

- Coordination between school and community plans and codes
- Alignment of school siting criteria and community planning priorities
- Coordination between school siting and community planning processes

Assessment & Planning Workbook
Overview and Information Needs

Workbook Section	Information Needs

Plans and codes	Familiarity with/access to…
	• School system plans:
	  • Long-range facilities plan
	  • Capital improvements plan
	• Community plans and codes:
	  • Comprehensive plan
	  • Zoning and building codes
	  • Local and regional transportation plans
	  • Community capital improvement plan

School siting criteria	Existing school siting criteria
Site selection process	Process used to select school sites

Site Comparison Workbook

Site Comparison Factors

Comparison Factors		Community Implications			
Criteria Category	Example Considerations	Healthy environment	Social well-being	Active, healthy lifestyles	Cost efficient
Proximity to students and population	• Near existing students • Near dense residential areas • Near future planned density	✓	✓	✓	✓
Availability/ adequacy of infrastructure	• Water/sewer infrastructure • Road/drainage infrastructure • Consistency with capital plan	✓			✓
Neighborhood schools	• Renovation • Environmental improvement • Serve underserved population • Right-sized, shared use	✓	✓	✓	✓
Street connectivity and site access	• Street grid/accessibility • Travel lanes and traffic • Physical barriers	✓		✓	
Pedestrian and bike facilities and safety	• Sidewalks/bike path facilities and connectivity • Intersection safety	✓	✓	✓	

Putting it into Action…
Smart School Siting Workshops

Planning & Assessment Workshop

Workbook-facilitated…

- Collaborative assessment
- Facilitated prioritization exercise
- Action planning
- Monitoring agreements

Site Comparison Workshop

Workbook-facilitated…

- Open-ended priority-setting exercise
- Collaborative site assessment
- Facilitated comparative site evaluation

2:00-2:30

Table Team Exercise #2:
Identifying Community Priorities for School Siting

Adopt one of six roles:

Learner, Teacher, Administrator, Trustee, Parent/Grandparent, Business/Community Leader

Review the cards which list different community values… related to community context, community development, and environmental considerations

Rank the cards represent your group values from most to least important

NOISE

[environmental]

nearby industrial, roadway, other sources of noise pollution or distraction

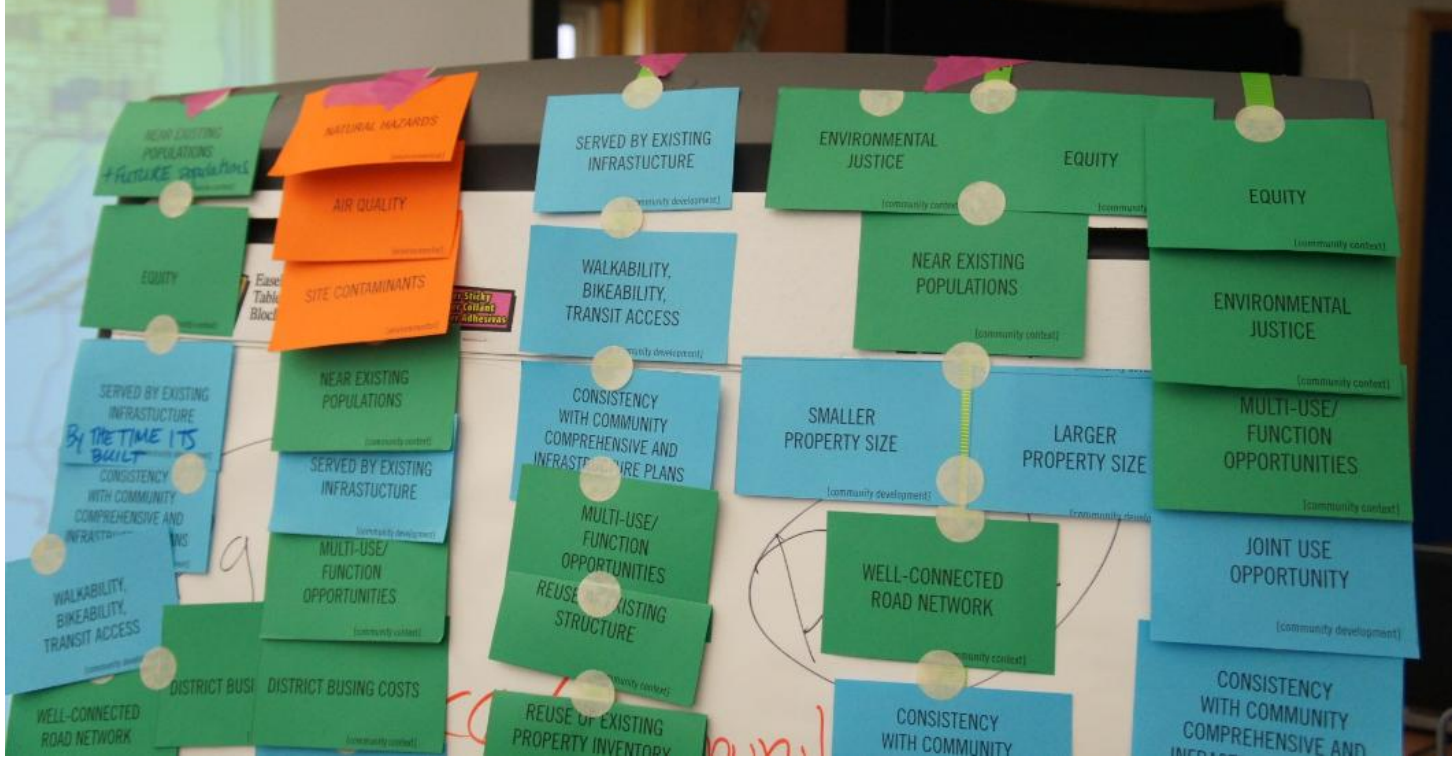
[environmental]

AIR QUALITY

[environmental]

nearby mobile sources such as high traffic highways or roadways

[environmental]



SERVED BY EXISTING INFRASTUCTURE

[community development]

water, sewer, stormwater, roadway capacity

[community development]

CAN SITE BE REPURPOSED IF CLOSED?

[community development]

[community development]

REUSE OF EXISTING PROPERTY INVENTORY

[community context]

a property already owned by school district, whether containing structures or not

[community context]

MULTI-USE/ FUNCTION OPPORTUNITIES

[community context]

can serve as an emergency shelter, community meeting space, recreation

[community context]

2:30-2:50

Exercise #3: Fictional Sites

Remain in your roles:

Learner, Teacher, Administrator, Trustee, Parent/Grandparent, Business/Community Leader

Think about **what's important to you** in selecting a school site

Advocate for your priorities in your group as you evaluate two sites

Fictional Site

The Need

The existing elementary school has exceeded its useful life

- Not a healthy learning environment
- Too small for ballfields and other recreation

The Alternatives

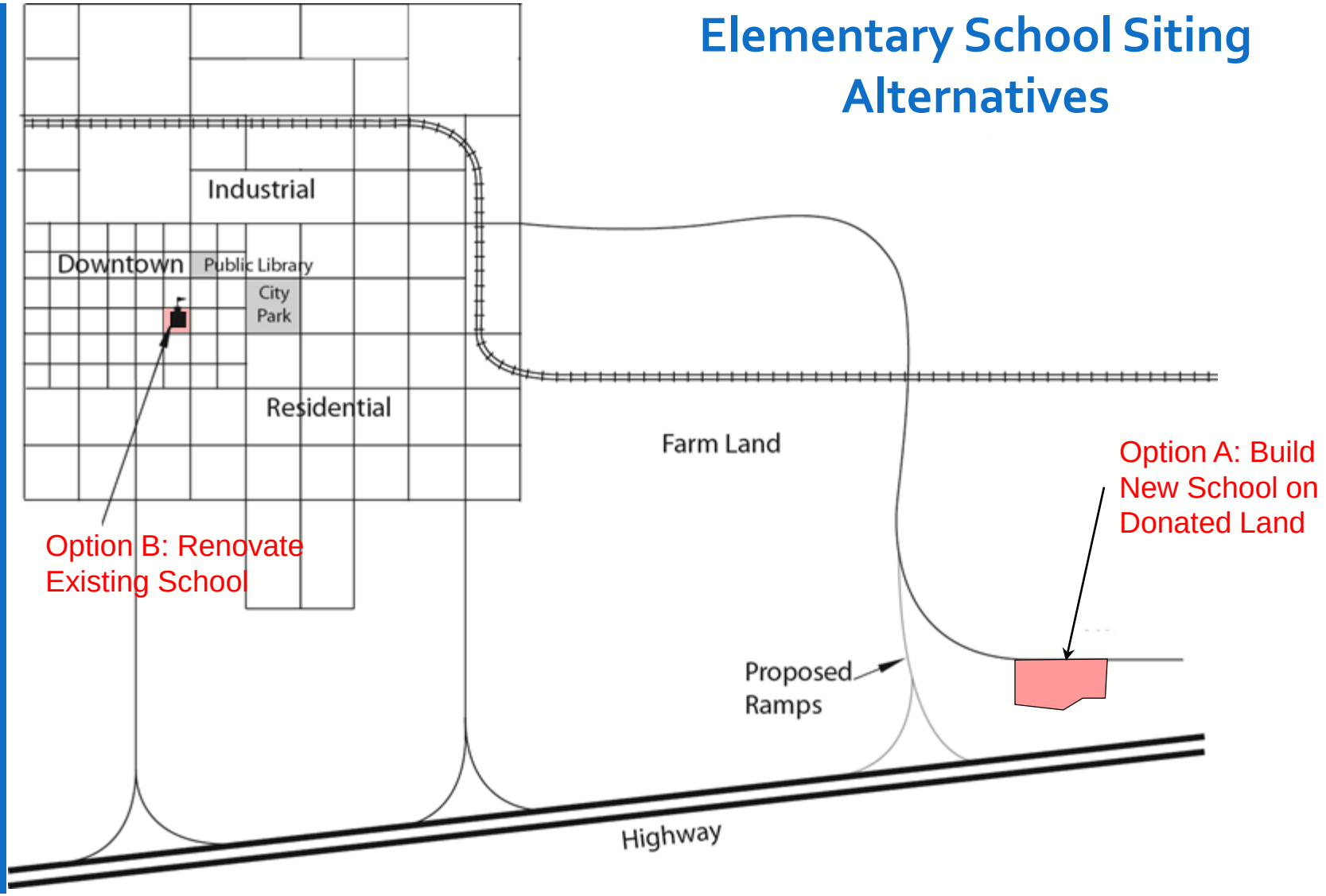
The school board's siting committee has identified two options

Option A: Build a new school on donated land

Option B: Renovate the existing school

Fictional Site

Elementary School Siting Alternatives



Fictional Site

High-Level Summary of Alternatives

	Option A: Build New School	Option B: Renovate Existing School
General description	Build new school on 30 acres of farm land to be donated by developer to the community with approval of a new housing development.	Rebuild as a high performing school after demolishing the interior and abating hazards. Need to identify alternatives to balance on-site recreation, parking, and other needs.
Cost Estimate	$30M Includes site preparation, new construction of building and grounds	$35M Includes building renovation, other site construction costs, temporary facilities for students
Pros	• Plenty of room for ballfields, parking, etc. • No land acquisition costs • Nice setting • Will serve the new development	• Preserve the "old school" in the downtown • No land acquisition costs • Close to existing students
Cons	• Hard to get there • Close to the highway	• Complicated construction, could be disruptive for downtown • Not enough room for ballfields • Temporary classrooms

Fictional Site

Table Team Discussion

Which option would you prefer? Why?

What do you agree on?

What do you not agree on?

What more would you like to know?

How should the decision be made?

How do you think the decision will be made?

Reflections & Insights

Exercises #2 & #3

3:00-3:10

Case Studies

Case Studies

What factors should we consider?

- Proximity to students and existing population
- Consistency with community development plans
- Beneficial site characteristics, e.g.,
  - Contribution to the quality of neighborhood
  - Shared use opportunities
- Bikability and walkability
- Air quality
- Cost
  - Borne by the school district
  - Other costs (roads, water and sewer, transportation, etc.)
- What else?

What factors are most important?

FRANKLIN
Right Location/ Wrong School

Expanded 5 times in 99 years

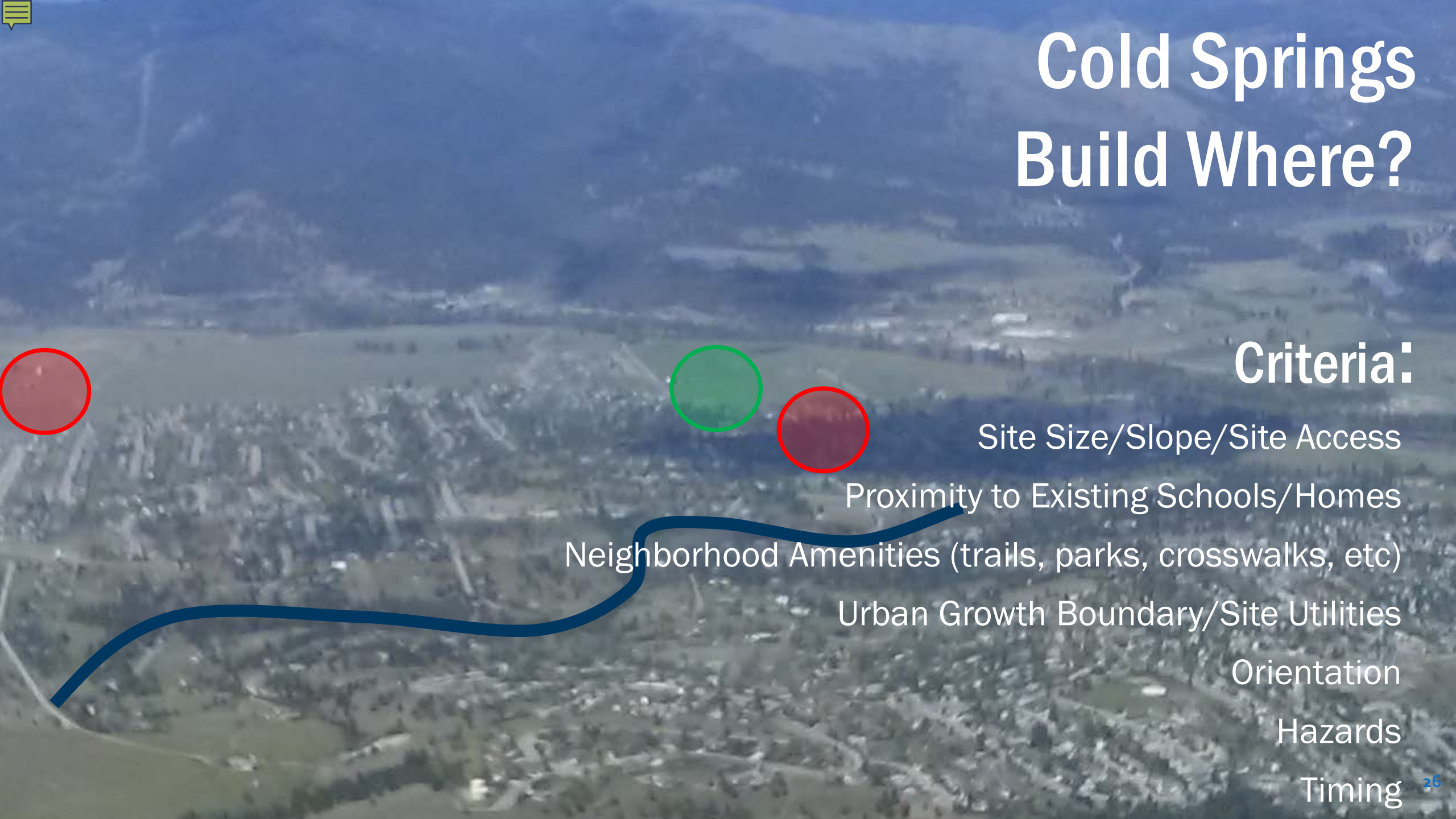
Rapidly Changing/Infill Neighborhood

Use of Existing Street Network

Franklin Case Study
Result

Rebuild New Elementary on Existing Site

- Neighborhood is well defined by 4 major streets, resulting in less than ½ mile walk to school
- Proximity to city bus service
- Reinvestment in low SES neighborhood
- Two story school uses 0.5 acre, remaining 1.5 acres of open space
- Cost savings associated with existing utilities
- Utilize existing streets for pick-up/drop-off, parking
- Community-based team advocated for alternative that reflected their values



Cold Springs Build Where?

Criteria:

Site Size/Slope/Site Access

Proximity to Existing Schools/Homes

Neighborhood Amenities (trails, parks, crosswalks, etc)

Urban Growth Boundary/Site Utilities

Orientation

Hazards

Timing

Lower Miller Creek:

Flat Site

Adjacent dense development

Within Urban Growth Boundary

Awaiting Annexation

Least overlap with adjacent attendance area

Marilyn Park:

Sloping site with no access

Required swap with developed city park

Single neighborhood collector street adjacent

Parking challenges

Overlap with adjacent attendance area

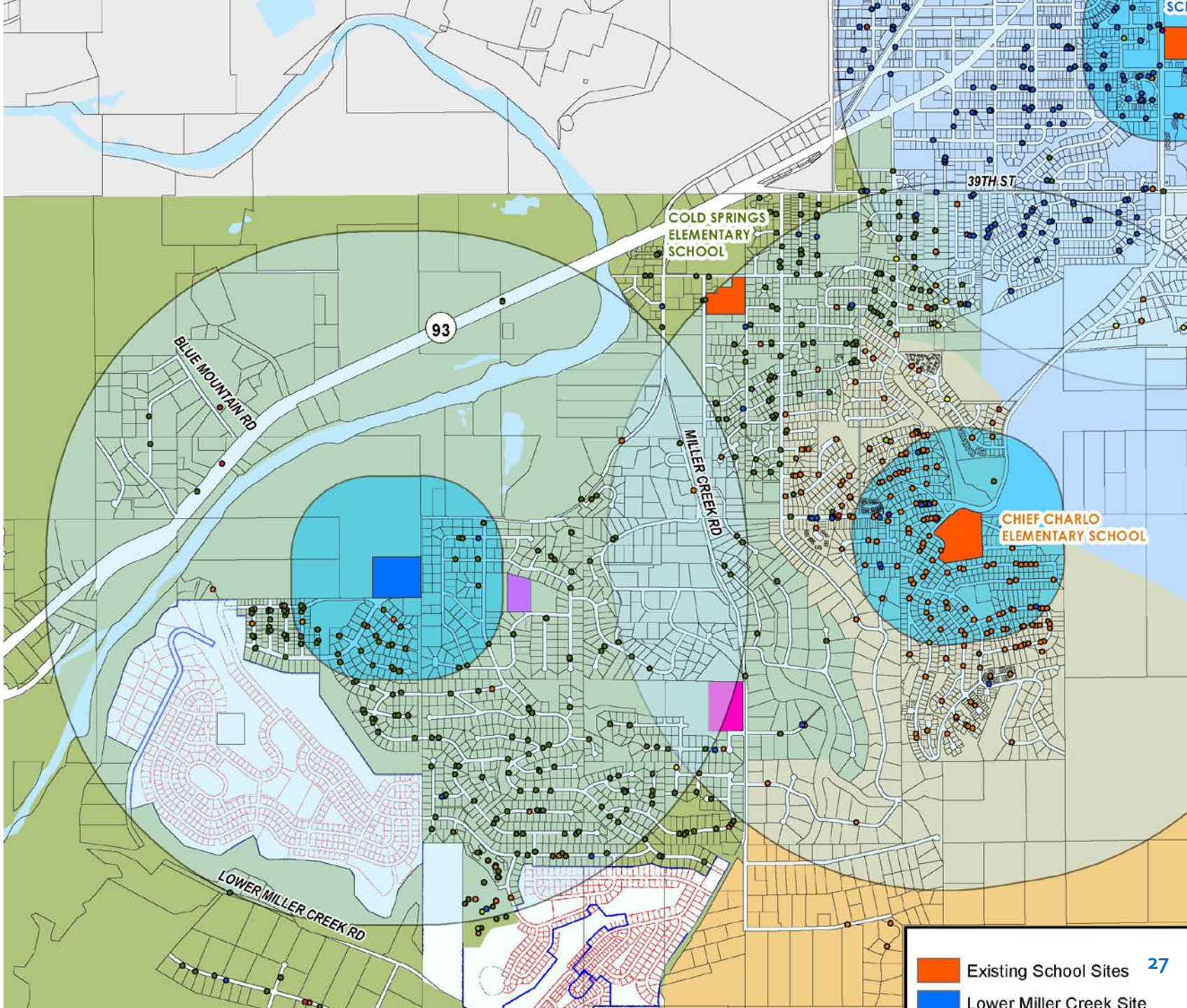
Meriwether:

Large site

Limited access from adjacent street

Major neighborhood collector

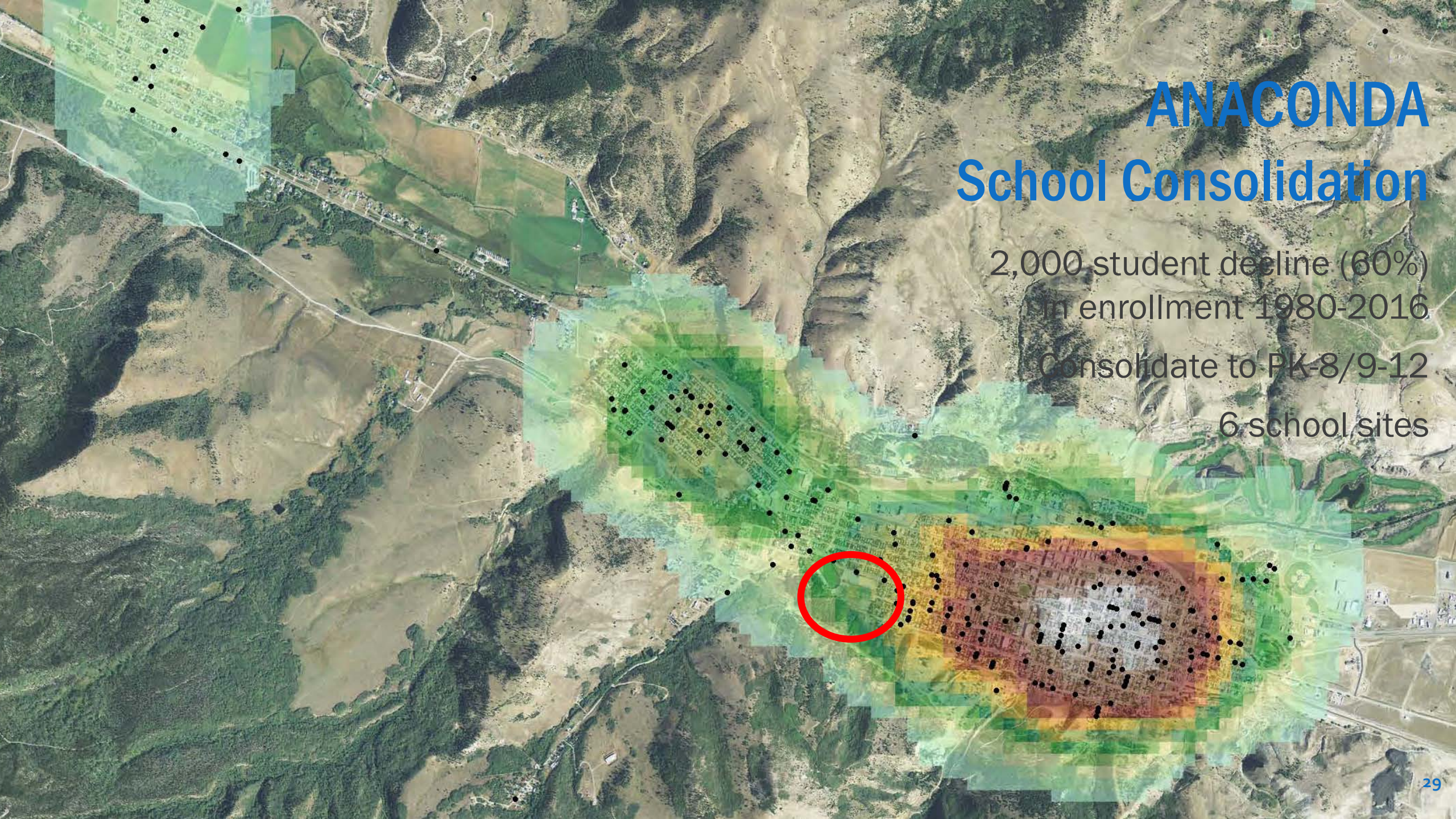
Significant overlap with adjacent attendance area



Cold Springs Case Study
Result

Rebuild New Elementary on New Site (Lower Miller Creek)

- Within Urban Growth Boundary
- Adjacent fire station, future neighborhood commercial
- Adjacent to two established neighborhoods with trails & parks
- Accessible Site
- City master plan anticipates high density when annexed
- Reinforced need for community engagement



ANACONDA
School Consolidation

2,000 student decline (60%) in enrollment 1980-2016

Consolidate to PK-8/9-12

6 school sites

Busy Highway

Smart Growth PROGRAM — *Smart School Siting Tool: Site Comparison Workbook*

SUMMARY

Building & Grounds Planning, Anaconda School District #10

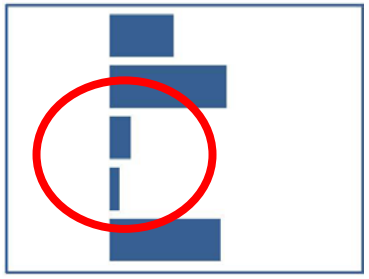
District Administration/PK/VOED
New school construction
1410 Park Avenue West

Description		*Key Characteristics*
Grades to be served:	PK-5	• Existing School Site
Planned enrollment:	532	• Access to Highway 1
		• Potential re-use for residential/commercial development
		•
		•

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

	Worksheet	Overall Score
2	Proximity to Students and Population Centers	30
3	Location in the Community	96
4	Site Characteristics	18
5	Connectivity with the Neighborhood	4
6	Bike and Pedestrian Accessibility	40

Score Profile



* Incomplete: not all factors scored

Estimated Costs

Borne By	One-time Capital Cost	Annual Cost
Local government		
Local school agency		
Developers		
Households		

* Incomplete: not all cost information available

Proximity

Smart Growth PROGRAM — *Smart School Siting Tool: Site Comparison Workbook*

SUMMARY

Building & Grounds Planning, Anaconda School District #10

Lincoln Elementary School
School renovation or expansion
506 Chestnut

Description		*Key Characteristics*
Grades to be served:	3-5	• Existing School Site
Planned enrollment:	254	• Access on four adjacent streets
		• Utilities bisect site
		•
		•

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

	Worksheet	Overall Score
2	Proximity to Students and Population Centers	96
3	Location in the Community	84
4	Site Characteristics	75
5	Connectivity with the Neighborhood	66
6	Bike and Pedestrian Accessibility	46

Score Profile

* Incomplete: not all factors scored

Estimated Costs

Borne By	One-time Capital Cost	Annual Cost
Local government		
Local school agency		
Developers		
Households		

* Incomplete: not all cost information available

Re-use of former school site

Smart Growth PROGRAM — *Smart School Siting Tool: Site Comparison Workbook*

SUMMARY

Building & Grounds Planning, Anaconda School District #10

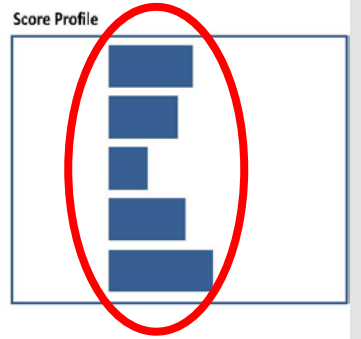
Mitchell Stadium
New school construction
West Fifth Street

Description		*Key Characteristics*
Grades to be served:	PK-5	• Largest school site
Planned enrollment:	600	• Access on two adjacent streets
		• former site of Washington School
		• Large shared parking area
		•

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

	Worksheet	Overall Score
2	Proximity to Students and Population Centers	42
3	Location in the Community	60
4	Site Characteristics	36
5	Connectivity with the Neighborhood	35
6	Bike and Pedestrian Accessibility	40

Score Profile



* Incomplete: not all factors scored

Estimated Costs

Borne By	One-time Capital Cost	Annual Cost
Local government		
Local school agency		
Developers		
Households		

* Incomplete: not all cost information available

Anaconda Case Study

District Admin Option

(Busy Highway)

Smart School Siting Tool: Site Comparison Workbook

SUMMARY

Building & Grounds Planning, Anaconda School District #10

District Administration/PK/VOED
New school construction
1410 Park Avenue West

Description

Grades to be served: PK-5
Planned enrollment: 532

Key Characteristics

- Existing School Site
- Access to Highway 1
- Potential re-use for residential/commercial development
-
-

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

	Worksheet	Overall Score
2	Proximity to Students and Population Centers	30
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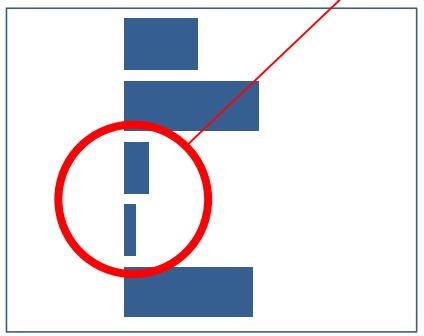
Score Profile



Assessment

- Highway isolates school from most neighborhoods
- Could sell property (location better for commercial use)

Link to completed Site Comparison Workbook

Anaconda Case Study

Lincoln Elementary Option

(Proximity to students)

Smart School Siting Tool: Site Comparison Workbook

SUMMARY

Building & Grounds Planning, Anaconda School District #10

Lincoln Elementary School
School renovation or expansion
506 Chestnut

Description		*Key Characteristics*
Grades to be served:	3-5	● Existing School Site
Planned enrollment:	254	● Access on four adjacent streets
		● Utilities bisect site
		●
		●

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

	Worksheet	Overall Score
2	Proximity to Students and Population Centers	96
3	Location in the Community	84
4	Site Characteristics	75
5	Connectivity with the Neighborhood	66
6	Bike and Pedestrian Accessibility	46

* Incomplete: not all factors scored

Score Profile

Assessment

- Strong proximity, ***but***…
- Small site with no open space
- Bisected by utilities
- Pick-up/drop-off challenges
- Parking challenges

Link to completed Site Comparison Workbook

Anaconda Case Study

Mitchell Stadium Option

(Reuse of former school site)

Smart School Siting Tool: Site Comparison Workbook

SUMMARY

Building & Grounds Planning, Anaconda School District #10

Mitchell Stadium
New school construction
West Fifth Street

Description		*Key Characteristics*
Grades to be served:	PK-5	● Largest school site
Planned enrollment:	600	● Access on two adjacent streets
		● former site of Washington School
		● Large shared parking area
		●

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

	Worksheet	Overall Score
2	Proximity to Students and Population Centers	42
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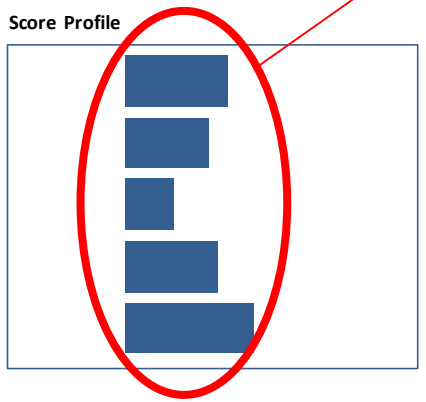


Assessment

- Re-use of brownfield site
- Re-develop former school site
- Shared use between School/City
- Large site with PK-12 opportunities
- Average scores throughout

Link to completed Site Comparison Workbook

Anaconda Case Study
Result

Rebuild New Elementary on Former School Site

- Community dialogue regarding values and worksheet results
- Middle of community (less than 1 mile walk)
- Two adjacent streets for access
- Share parking with football/soccer/softball/track &field
- Re-developed brownfield
- Water, sewer, power & data on site
- Sell Administration site for commercial development
- Sell Dwyer to city to expand park
- Sell Lincoln to Head Start/Boys & Girls, retain use of gym
- Revitalize downtown high school facility

3:10-3:30

Table Team Exercise #4:

Snapshot

Think of a school site you are currently working with

Look it up on Google Earth

Score the site on the sheet provided

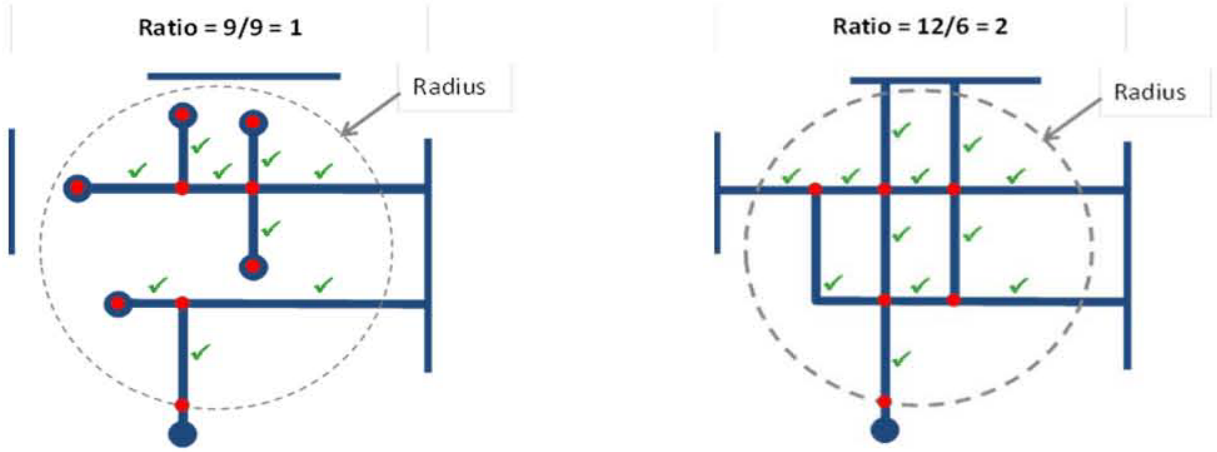
Worksheet 5: Connectivity with the Neighborhood

Glossary

Resources

17. What is the ratio of streets ("links") to intersections ("nodes")near the school site?

The ratio of streets to intersections is a measure of neighborhood connectivity. The higher the ratio, the greater the neighborhood's connectivity. Greater connectivity can provide more travel route options to get from one point to another, and can distribute traffic more evenly. It can also reduce travel time, whether walking, biking, or riding in a vehicle.



>1.8= 8

1.4-1.8= 4

<1.4= 0

Show Instructions for Question 17

You must enter school type on Worksheet 1 before completing this question

Score (Question 17):

Comments/Notes:

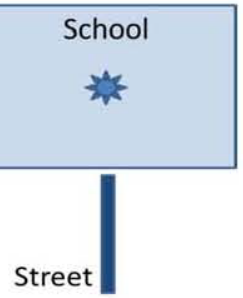
Comments/Notes:

18. How many streets service the school site?

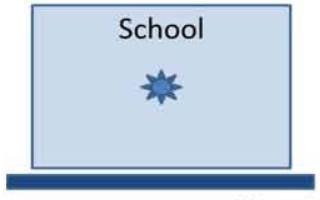
A school site that is accessed by multiple streets allows cars, buses, walkers, and bikers to approach the school from different directions, which can help reduce congestion. A site with two or more streets adjacent to the school site indicates a site that may be

Select the scenario that most closely represents the school site:

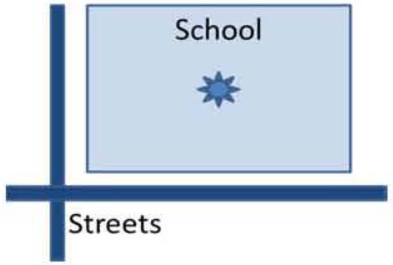
☐ One street, dead-ending at the school



☐ One street, adjacent to the school site



☐ Two or more streets, adjacent to the school site



Score (Question 18):

Comments/Notes:

19. How many travel lanes do the streets accessing the school site have?

Streets that are wide, have high posted speed limits, or support heavy traffic are the most significant barriers that prevent children from walking or bicycling to school. Multi-lane streets can expose walkers and bikers to a greater risk of injury since these streets tend to have more traffic and can take longer to cross.

How many travel lanes do the streets accessing the school site have?

Street 1

Street 2

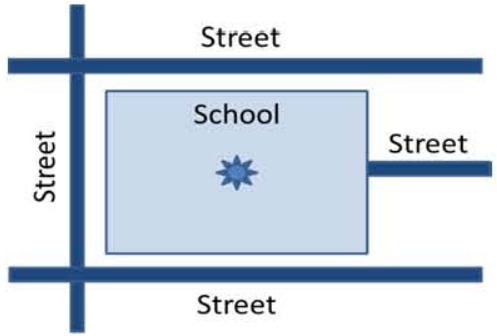
2 or More= 8
1 Adjacent= 4
Dead End= 0

Show Instructions for Question 19

19. How many travel lanes do the streets accessing the school site have?

Streets that are wide, have high posted speed limits, or support heavy traffic are the most significant barriers that prevent children from walking or bicycling to school. Multi-lane streets can expose walkers and bikers to a greater risk of injury since these streets tend to have more traffic and can take longer to cross.

How many travel lanes do the streets accessing the school site have?



Street 1 _____

Street 2 _____

Street 3 _____

Street 4 _____

Score (Question 19):

Comments/Notes:

Show Instructions for Question 19

2 lanes=8

3-4 lanes=0

5 lanes=-8

20. Through how many sides of the school site can walkers and bikers enter?

Having access to a school site from multiple sides can reduce the need to walk or bike around the perimeter of the site to access the entrance.

Through how many sides of the school site can walkers and bikers enter? _____

Score (Question 20):

Comments/Notes:

21. Do physical barriers limit access to the school site?

20. Through how many sides of the school site can walkers and bikers enter?

Having access to a school site from multiple sides can reduce the need to walk or bike around the perimeter of the site to access the entrance.

Through how many sides of the school site can walkers and bikers enter?

Score (Question 20):

Comments/Notes:

21. Do physical barriers limit access to the school site?

Physical barriers are things that discourage people from walking and biking, even if the distance traveled is short. Examples include railroad tracks, highways, large industrial sites, roads with speed limits higher than 40 miles per hour, water bodies, and steep terrain. Some physical barriers may require "safety busing" to safely transport children to school. Generally speaking, the closer a physical barrier is to the school, the more safety busing is required. School sites located in areas with few or no physical barriers

Within a 1/2-mile radius of the school site, how many physical barriers limit access to the school site?

Score (Question 21):

Comments/Notes:

Go to Worksheet 6

3 Sides= 6
2 sides= 3
1 side= 0

No barriers= 12
1-2 barriers= 0
3 barriers= (-12)

What was your score?

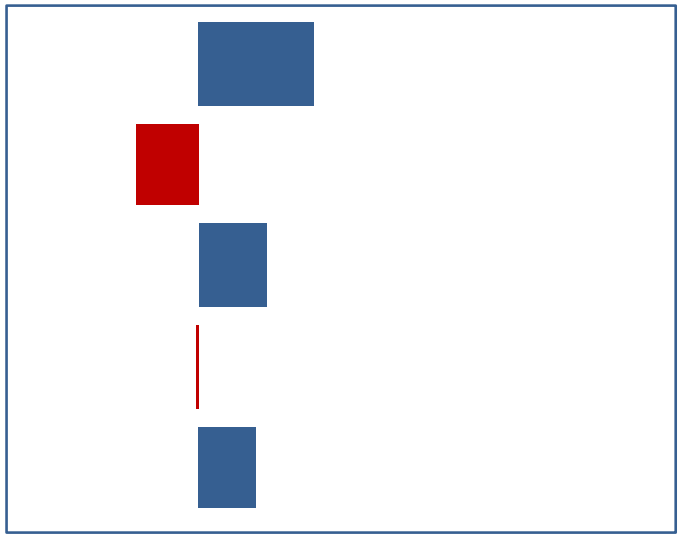
- MAX High +66/ MAX Low -44
- Share your observations
- What issues emerged?

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	Site Characteristics	31
5	Connectivity with the Neighborhood	-1
6	Bike and Pedestrian Accessibility	11

* Incomplete: not all factors scored

Score Profile



Reflections & Insights

Exercise #4

3:40-3:50

Site Comparison Workbook Detail

Site Comparison Workbook

Overview and Information Needs

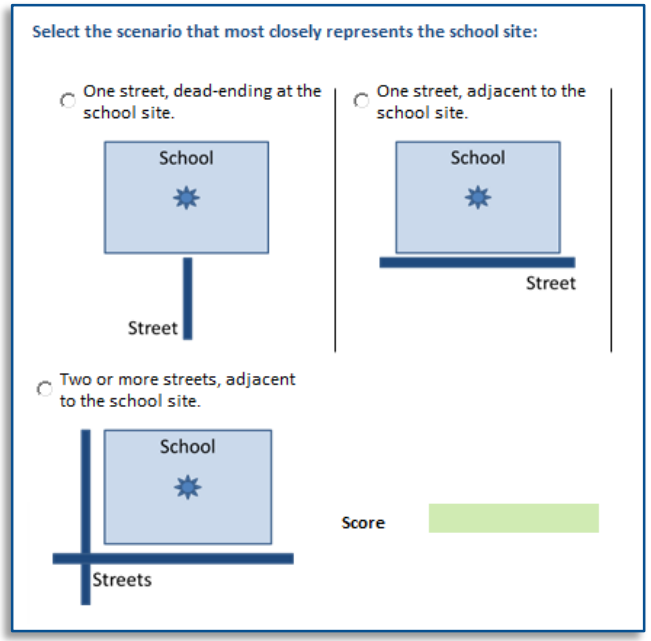
Workbook Section	Information Needs
Description of school need and site	• District and site identifiers • Grades to be served, capacity
Proximity to students and population	• District demographics • Geographic information • Neighborhood demographics
Location in the community	• Community development plans • Infrastructure
Site characteristics	• Potential neighborhood impacts • Shared use opportunities
Connectivity with neighborhood	• Neighborhood street network
Bike and pedestrian accessibility	• Condition and safety of pedestrian and bike networks/facilities
Cost calculators	• Planning-level capital cost estimates (by source of funds) • Planning-level O&M cost estimates (by who pays)

Site Comparison Workbook Demonstration

Design:

- User-friendly downloadable Excel file
- Site summary sheet, 5 worksheets with 25 multiple choice questions, and two cost calculators
- High-level and detailed summary sheets

Workbook navigation aid



Typical question format

Site comparison factors:

- Proximity to students and population centers
- Location in the community
- Beneficial site characteristics
- Connectivity with the neighborhood
- Bike and pedestrian accessibility
- One-time capital and recurring annual costs

3:50-4:20

Table Team Exercise #5:

Workbook Detail

Utilize the site you considered for Exercise #4

Open a live version of the workbook

Enter data for as many areas as possible

Utilize comments section as placeholder for insights

Change responses to compare outcomes

Reflections & Insights

Conclusion

Why Use the Smart School Siting Tool

The tool…

- Identifies opportunities and reasons to collaborate
- Includes questions of interest to different stakeholders
- Helps organize and synthesize information
- Helps focus dialogue and facilitate collaboration

To…

- Engage a more diverse group of stakeholders
- Encourage more holistic analysis of opportunities and impacts
- Foster and facilitate collaboration
- Support (not supplant) community decision-making

Closing Thoughts

Why will you apply what you have learned today?

How will you share your results with others?

How can this tool be more effective?

What would make it easy to get this tool in use across the nation?

What would motivate communities to use this tool?

What other information should be considered?

For More Information

The Smart School Siting Tool is available at:

http://www.epa.gov/smartgrowth/smart-school-siting-tool

For more information, please contact:

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