

# Broadwater Elementary School Safe Routes to School Report



The purpose of this report is to identify safer options for students to use while actively commuting to school and to help schools identify barriers their students may face while actively commuting to school. Parents and caregivers should still exercise caution and evaluate the chosen route(s) based on their own perception of safety and the student's comfort and ability level.

While schools may be worried about liability related to Safe Routes to School, having a Safe Routes to School plan helps schools to think strategically about risk involved in traveling to school and can help to minimize the risks both for students who are actively commuting and for those who are arriving by car or bus.

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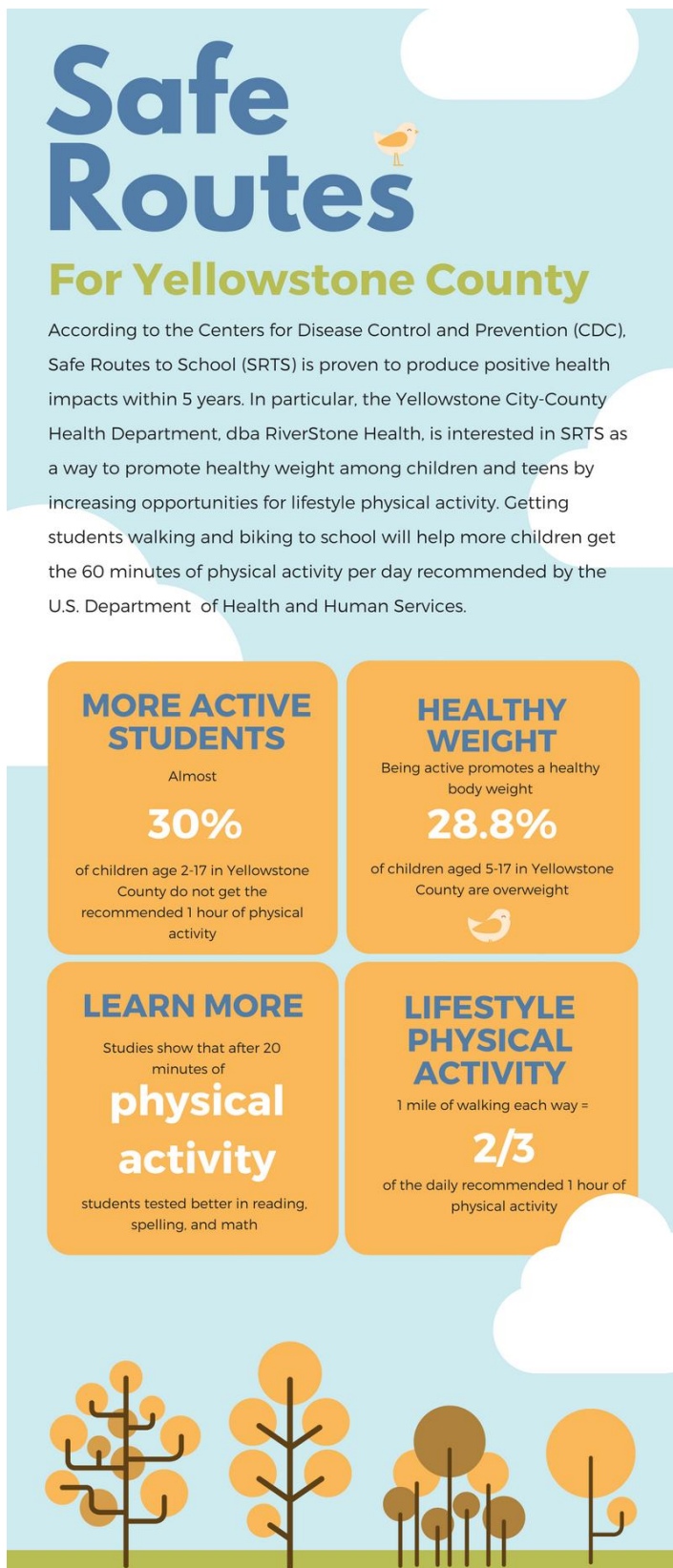
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Figure 1, Safe Routes for Yellowstone<sup>i</sup>



## What is Safe Routes to School?

The goal of Safe Routes to School (SRTS) programs are “to create safe, convenient, and fun opportunities for children to bicycle and walk to and from schools.”<sup>ii</sup> Schools achieve this goal through a combination of education, encouragement, environmental change, enforcement, and evaluation efforts.

## Previous Safe Routes to School Efforts in Yellowstone County

Between 2000 and 2010, several efforts were made to promote SRTS, including small scale school-based projects, the development of local Go Play! maps, parent/caregiver surveys administered by the health department, and a SRTS planning report created by the City, which focused primarily on infrastructure enhancements. Following these efforts, a comprehensive SRTS study was conducted by a local engineering firm, resulting in improvements made possible through Community Transportation Enhancement Projects (CTEP) funding, which is no longer available. In 2017, Billings Public Schools (SD2) redrew school enrollment boundary lines. As a result, the City of Billings Engineering department updated school walk maps to reflect the new boundaries, creating a need to re-examine current routes and efforts.

## Current Project Team

Across the nation, public health departments have played an active role in evaluating and promoting safe routes to schools as a means of improving the health status of a community. Representatives from City of Billings Engineering, Billings/Yellowstone City County Planning Department, local school districts, and a local community member joined RiverStone Health staff to create a walking and bicycling audit and Principal interview. RiverStone Health employees then conducted the audits and interviews at 10 elementary schools around Yellowstone County during fall and winter of 2017.

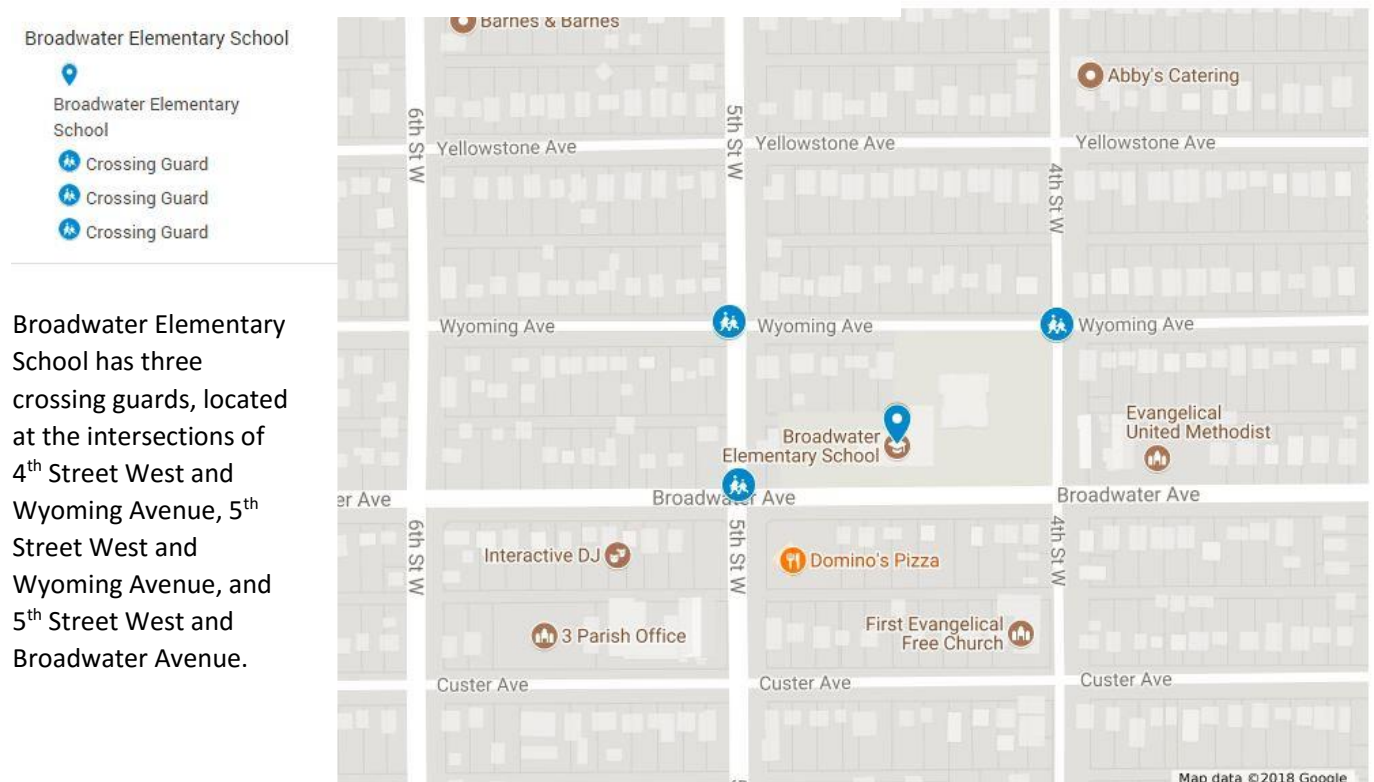


# Broadwater Elementary School Profile

<b>Principal</b>	Justin Huck
<b>School District</b>	Billings Public Schools
<b>Enrollment</b>	366
<b>Percent of Students Receiving Free and Reduced Lunch (Source: Principal Interview)</b>	67%
<b>Address</b>	415 Broadwater Avenue, Billings, MT, 59101
<b>Start Time</b>	8:15 a.m.
<b>Dismissal Time</b>	2:20 p.m. (K-3) 3:00 p.m. (4-5)
<b>Demographics (Source: Principal Interview)</b>	3.8% American Indian or Alaska Native 0% Asian 3.0% Black or African American 0% Native Hawaiian or other Pacific Islander 11.7% Two or more races 9.8% Hispanic or Latino 71.3% White (non-Hispanic)
<b>Key Informants</b>	Principal Justin Huck

Table 1, Broadwater Elementary School Profile

## Broadwater Elementary School Crossing Guard Location



Broadwater Elementary School has three crossing guards, located at the intersections of 4<sup>th</sup> Street West and Wyoming Avenue, 5<sup>th</sup> Street West and Wyoming Avenue, and 5<sup>th</sup> Street West and Broadwater Avenue.

Figure 2, Broadwater Elementary School Crossing Guard Locations<sup>iii</sup>



# Neighborhood Profile

## Neighborhood Characteristics

### Broadwater Elementary SRTS Walking Map

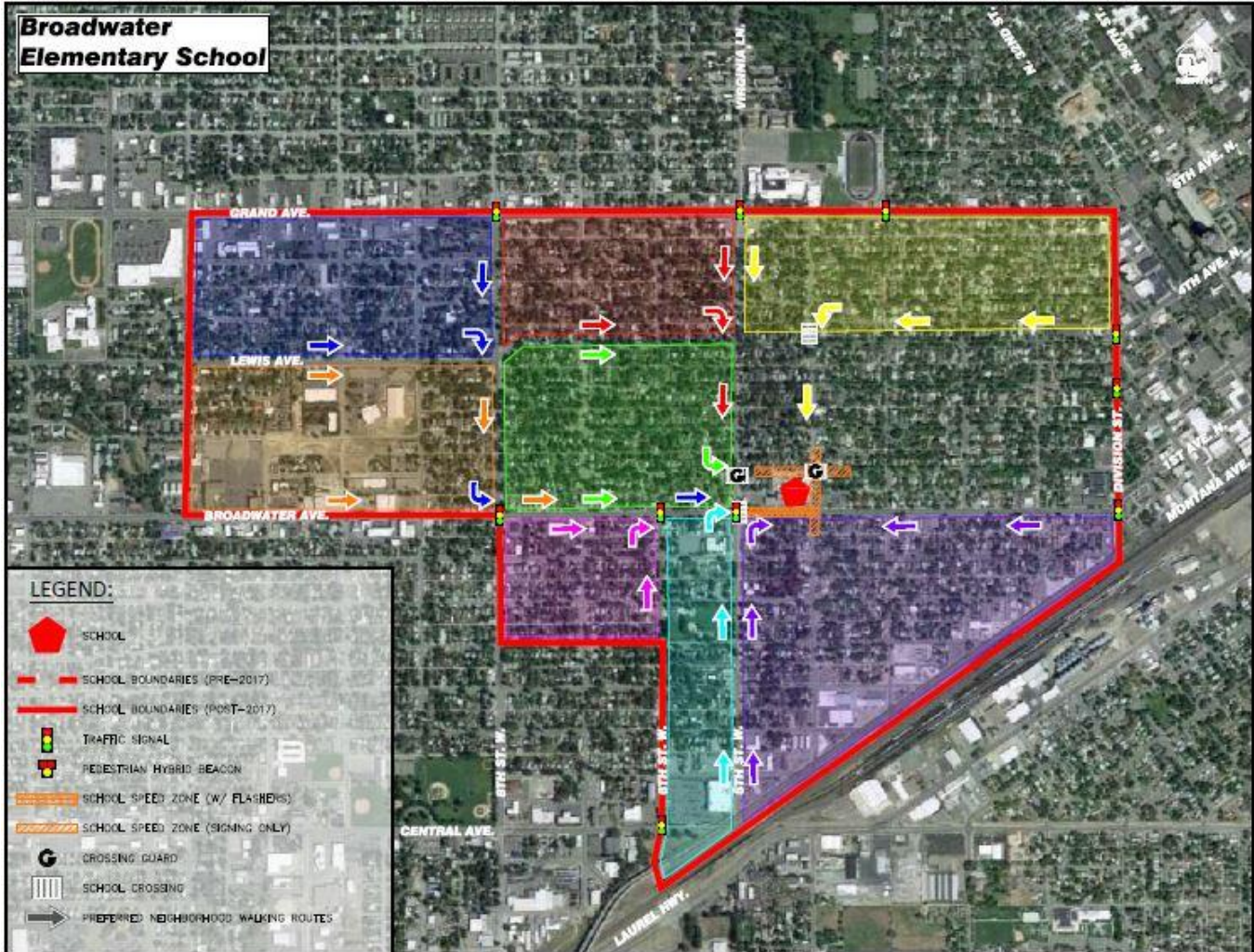


Figure 3, Broadwater Elementary School Walk Route Map. Students who attend Broadwater Elementary School live in the area enclosed by the red lines. Image credit: City of Billings Engineering Division.

Broadwater Elementary School sits on Broadwater Avenue in central Billings. There is a bus zone on 4<sup>th</sup> Street West next to the school with a few spaces for cars dropping off students with injuries or disabilities. There is no formal drop-off area for students arriving by car. Parents and caregivers drop-off students on residential streets around the school or park a block away. The church next door also allows parents to park there to drop students off or pick them up. Three crossing guards help students cross at intersections near the school. The area surrounding the school is mostly residential. All students live within one mile of the school. There are a few destinations nearby that students might visit including Terry Park, Dominos, and the convenience store on Grand Avenue across from Senior High School.

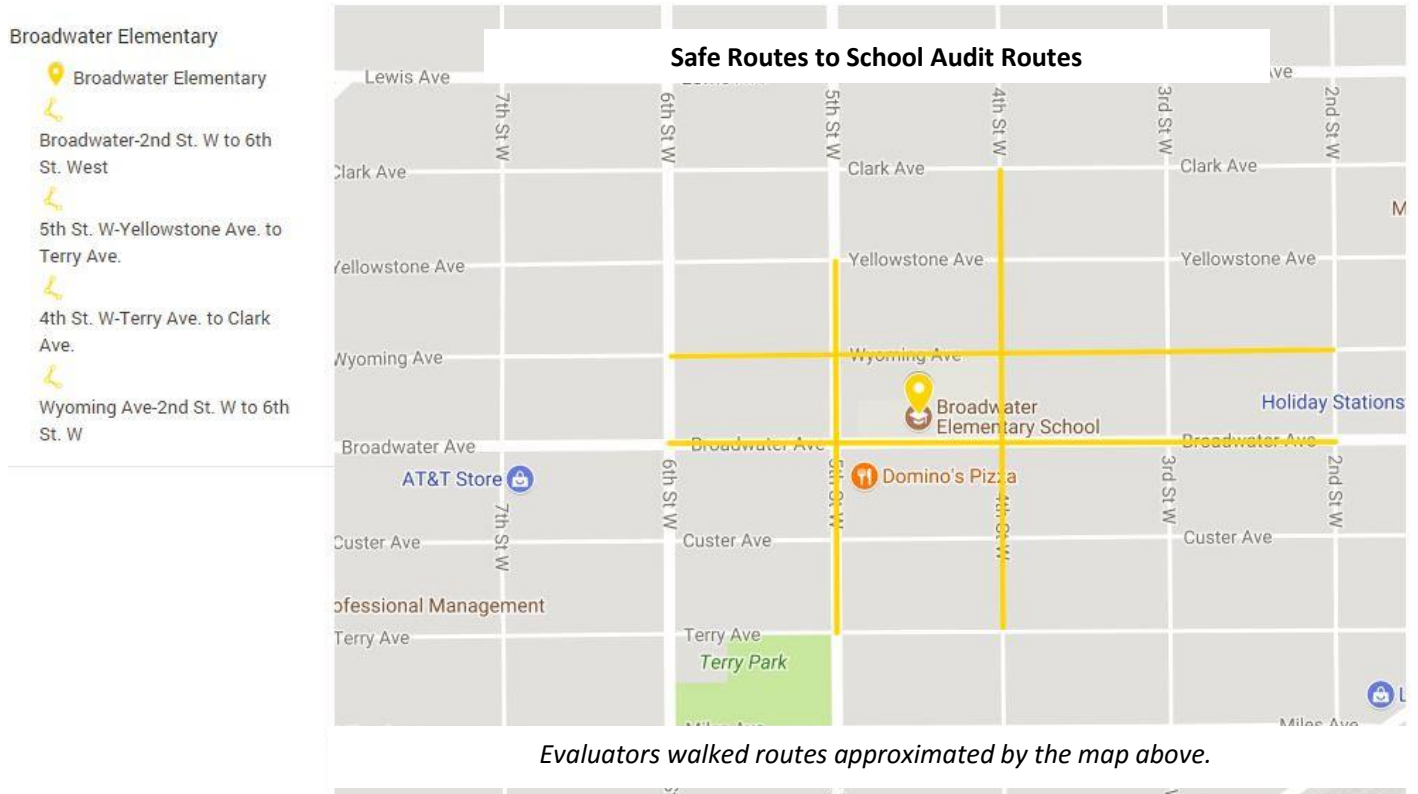


Figure 4, The church parking lot near Broadwater Elementary School serves as an informal remote drop off location.

# Assessment Methods

The results in this report were collected via the following methods:

- Walk and bicycle audit
- Behavioral observations around arrival and dismissal times
- Key informant interview with principal and assistant principal



## What makes a safe route to school?

While there is no way to completely eliminate risk, we evaluated routes based on elements that would make them safer including, but not limited to, the following:

- Lighting
- Sidewalks
- Buffers between the sidewalk and the road
- Speed of traffic on the road
- Width of the road (wider streets are harder to cross)
- Crosswalks
- Crossing guards
- Bike lanes/bike routes
- Multi-use trails



# Key Findings

The following section highlights key findings from the Safe Routes to School Assessment of Broadwater Elementary School. The top results are listed from each of the assessment methods-the walk/bike audit, behavioral observations, and the key informant interview.

## Walk and Bicycle Audits

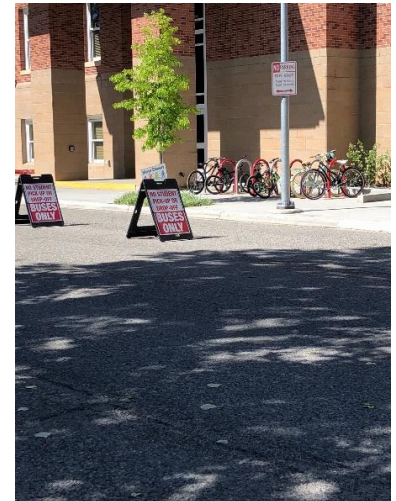
- 1. Residential Streets for the win!** Broadwater Elementary School has an advantage in that many of the streets to the north of the school are residential. Residential streets often have a lower traffic volume and slower speeds. Many residential streets surrounding Broadwater Elementary School, such as Wyoming Avenue and 4<sup>th</sup> Street West, have sidewalks for children to walk on and a strip of grass between the sidewalk and the street that separates students from traffic.



*Figure 6, The intersection of 5<sup>th</sup> Street West and Wyoming Avenue.*

- 2. Busy streets nearby.** While many of the streets surrounding Broadwater Elementary School are slower, residential streets, there are a couple of streets nearby where cars drive quickly. The two main examples are Broadwater Avenue and 5<sup>th</sup> Street West. Specific issues on these streets are discussed in the findings from both the behavioral observations and the key informant interviews. On Broadwater Avenue and 5<sup>th</sup> Street West, motorized traffic appears to drive fast with a signed speed of 35 mph on Broadwater Avenue.

- 3. Bike parking available!** Students who bike to school need safe places to lock up their bikes. Broadwater Elementary School provides several bike racks known as staples on the east side of the school where students can lock up their bikes. Better yet, the bike staples are placed right next to the door and are very visible which encourages other students to consider biking as well!



*Figure 7, Bike Parking at Broadwater Elementary School*

## Behavioral Observations

1. **Three cheers for crossing guards!** Crossing guards, such as those located at 5<sup>th</sup> Street West and Broadwater Avenue, are key to helping students cross streets safely. On the day of the afternoon audit, there was a car accident on the south side of Broadwater Avenue just west of the intersection at 5<sup>th</sup> Street West. Children crossing the street were excited to see the accident and wanted to know what was going on, however the crossing guard helped to reroute them and provide extra crossing support to help keep them safe. The intersection of 5<sup>th</sup> Street West and Wyoming Avenue is busy with fast moving cars. Especially given that the traffic on 5<sup>th</sup> Street West does not have a stop sign, the crossing guard plays a key role.



Figure 8, Bus lane at Broadwater Elementary School on 4<sup>th</sup> Street West

2. **C is for Crosswalk and that's good enough for me!** During the audits, evaluators observed some students who were not utilizing crosswalks. Because cars parked on the east side of 4<sup>th</sup> Street West on the opposite side of the school, some children crossed mid-block. It is safer to cross at intersections, especially during drop-off and pick up times when there are high volumes of traffic.

3. **Red light, green light.** The intersection at 5<sup>th</sup> Street West and Broadwater Avenue is a busy one. Drivers on 5<sup>th</sup> Street West have a green light without a left turn arrow. During the audit, several cars began turning from 5<sup>th</sup> Street West onto Broadwater Avenue without yielding to pedestrians crossing the street. In addition, drivers ran the red light and turned right on red from Broadwater Avenue onto 5<sup>th</sup> Street West, even though there is a sign that prohibits it. These behaviors could be dangerous for students or the crossing guard at this intersection.

## Key Informant Interviews

1. **Keep educating on active transportation!** Broadwater Elementary School incorporates education on active transportation into health enhancement classes. The Health Enhancement teacher takes 4<sup>th</sup> and 5<sup>th</sup> graders to walk the neighborhood and talk about safety, what signs mean, how to cross streets, and which routes are safer. In addition, this teach teaches kids how to check over parts of the bike, the importance of wearing a helmet, and how to ride safely around town.

2. **Be careful on Broadwater.** Broadwater is a busy street with four lanes and an additional center turn lane. While there are sidewalks, around the school there is no grass or plant buffer zone to act as a barrier and further separate children from the passing cars. Principal Huck is worried what could happen if a car were to jump the curb or if a student were to fall into the street. Principal Huck also reported that students who live south of Broadwater often do not want to wait to cross at 5<sup>th</sup> and Broadwater where the crossing guard is stationed, so they cross earlier without a crossing guard.



Figure 10, 4<sup>th</sup> Street West and Broadwater Avenue

3. **Neighborhood School.** Broadwater Elementary School is a neighborhood school and many students live close by. This makes it more possible for students to walk, bike and roll to school and could mean that Broadwater Elementary School students would benefit from encouragement (see the 5 E's below) for active transportation as many do live close enough to actively commute. This is of course made more difficult during the winter when even a short distance may see too far in the cold temperatures.

# School Recommendations – Broadwater Elementary School

## The 5 E's

There is no one size fits all solution to improve Safe Routes to School and get more students actively commuting, however, many schools base their changes on the 5 E's. The 5 E's include: Encouragement, Education, Environmental Change (generally called Engineering), Evaluation, and Enforcement. The following section offers a menu of options for improving each of the 5 E's strategies that may be particularly beneficial for Broadwater Elementary School. For a detailed explanation of each strategy, please see Appendix A.

Focus Area	Recommended for School	Evidence-Based Strategy
Encouragement	✓	Walking School Buses and Bike Trains
	✓	Competitions and Incentives
	✓	Back to School Kickoff
	✓	Walk and Bike to School Day/Week/Month
		Remote Drop-Off
		School Route Walking Maps
Education		Classroom Curriculum and Skills Training
	✓	Bicycle Rodeos
		School Traffic Safety Campaign
	✓	Education on the Safe Routes to School Map
Environmental Change		<i>School Campus</i>
		Facilitated Rotating Drop-off/Pick-up
		Bicycle Parking
	✓	Redesign of Drop-off and Pick-up Procedures
	✓	Placemaking
		<i>Partnership with Local Government</i>
	✓	Improved Crossings
		Wayfinding Signage
		School Zone Signage
		Roadway Stencils
		Sidewalks
	Traffic Calming (e.g. lane narrowing or landscaping)	
	Bicycle Facilities (e.g. bike lanes or shared-use paths)	
Evaluation	✓	Student Hand Tallies
	✓	Parent Surveys
	✓	Establish a school-based committee to address safety issues related to active transportation
Enforcement		Crossing Guard
		School Safety Patrols
		School Parking Lot Citations

Table 2, *Safe Routes to School Recommendations*. RiverStone Health would like to credit Mendocino County for this list of recommendations. Most of these strategies come from their 2014 report, *Safe Routes to School Program Toolkit* which can be found online at <https://mendocinosrts.weebly.com/>




# Appendix A

The following Appendix includes detailed descriptions of all the strategies listed in this report.

Many of the recommendations in this appendix are sourced from Mendocino County’s 2014 *Safe Routes to School Program Toolkit* which can be found online at <https://mendocinosrts.weebly.com/> RiverStone Health has summarized these suggestions with the permission of the Mendocino County Department of Transportation.

## Encouragement

Strategy	Description
<p><b>Walking School Buses and Bike Trains</b></p>	 <p><i>Figure 10, Walking School Bus<sup>v</sup></i></p> <p>Parents and guardians may feel better about the safety of their children both around strangers and traffic if students are accompanied by a trusted adult. Many communities have started what they call walking school buses, or in the case of biking, bike trains, as a way of easing these concerns while raising rates of active transportation. Walking as a group can also help get students to school on time. Walking school buses can range in levels of formality. In their most organized form, a trusted adult will stop at each student’s house along the route and pick up the student on the way to school. Less formally, adults could be stationed along the route at key points to keep an eye out to make sure students are safe. These adults can be volunteers or paid.</p> <p>Resources:  <a href="http://www.saferoutespartnership.org/sites/default/files/resource_files/step-by-step-walking-school-bus.pdf">http://www.saferoutespartnership.org/sites/default/files/resource_files/step-by-step-walking-school-bus.pdf</a>  <a href="https://www.saferoutespartnership.org/sites/default/files/031918-srs-biketrain-toolkit-final.pdf">https://www.saferoutespartnership.org/sites/default/files/031918-srs-biketrain-toolkit-final.pdf</a></p>
<p><b>Competitions and Incentives</b></p>	<p>Competitions and incentives around active transportation can take many forms. Some schools may wish to provide an incentive based on the number of times a student actively commutes to school at any time during the year, others may offer chose to offer a competition between classrooms during a specific week or month.</p>
<p><b>Back to School Kickoff</b></p>	<p>A Back to School Kickoff includes a combination of encouragement and education activities at the beginning of the school year before families set their school transportation habits. Any combination of activities to get families more familiar with how to walk and bike safely to school can be included.</p>
<p><b>Walk and Bike to School Day/Week/Month</b></p>	<p>In order to encourage active commuting among students who have not actively commuted in the past or are infrequent active commuters, schools sometimes celebrate a specific day, week, or month related to active transportation. This event <i>Continued on the next page</i> should be advertised to students and parents to boost participation. The school may also chose to provide extra support for new active commuters such as a one-time Walking School Bus or Bike Train.</p> <p><i>Continued on the next page</i></p>

Some examples of specific days, weeks, or months related to celebrating active transportation are:

- Two Feet Tuesdays
- Walking or Wheeling Wednesdays or Walk or Wheel Once a Week (WOW)
- International Walk to School Day in October
- National Bike to School Day in May
- Bike Month in May


Resources:

<http://www.walkbiketoschool.org/>

<https://www.saferoutespartnership.org/blog/get-rolling-bike-school-day>

<https://dashbc.ca/what-we-do/programs-initiatives/walk-and-wheel/>

### Remote Drop-off

 Broadwater Elementary School has an informal remote drop-off location at the church across the street.


For students who are not able to actively commute to school due to distance or safety, the school can offer remote drop-off. Often, a nearby park is designated as the remote drop-off site and children can walk to the school either in groups or accompanied by a trusted adult or staff member.

Resources:

[http://www.changelabsolutions.org/sites/default/files/SRTS-Remote-Drop-Off-Rural\\_School\\_Districts-FINAL\\_20140611.pdf](http://www.changelabsolutions.org/sites/default/files/SRTS-Remote-Drop-Off-Rural_School_Districts-FINAL_20140611.pdf)

<http://www.actionforhealthykids.org/game-on/find-challenges/safe-route-challenges/1443-remote-drop-off>

### School Route Walking Maps

 Broadwater Elementary School has a school walking route map.

All Billings Public Schools have a school route walking map but it is helpful to distribute them at the beginning of the year so that parents and guardians are aware of the routes. County schools can use the resource below to help create maps.

Resources:

[https://www.saferoutespartnership.org/sites/default/files/guide\\_to\\_creating\\_walking\\_route\\_maps\\_for\\_safe\\_routes\\_to\\_school.pdf](https://www.saferoutespartnership.org/sites/default/files/guide_to_creating_walking_route_maps_for_safe_routes_to_school.pdf)

# Education

Strategy	Description
<b>Classroom curriculum and skills training</b>	<p> Broadwater Elementary School teaches about active transportation in Health Enhancement classes.</p> <p>Teaching lessons related to active transportation in the classroom is one way to ensure the message gets out to a majority of students. Topics can include how to walk or bike safely to school, the health benefits of active transportation, and how to perform basic maintenance on a bicycle such as checking the air, brakes, and chain (ABCs of bicycling).</p> <p>Resources: <a href="http://www.saferoutespartnership.org/sites/default/files/pdf/Curr_Guide_2011_lo.pdf">www.saferoutespartnership.org/sites/default/files/pdf/Curr_Guide_2011_lo.pdf</a> <a href="https://www.saferoutespartnership.org/state/bestpractices/curriculum">https://www.saferoutespartnership.org/state/bestpractices/curriculum</a></p>
<b>Bicycle Rodeos</b>	<p>Bicycle Rodeos are events where students can get fitted for helmets, learn the ABCs of bicycling (air, brakes, and chain), and complete different courses designed to teach bicycle skills and safety. Bicycle Rodeos are often able to provide more hands-on experience than in class education. The event can be run by school staff, volunteers, or the local police department.</p>  <p><i>Figure 11, Bike Rodeo<sup>vi</sup></i></p> <p>Resources: <a href="http://www.saferoutespartnership.org/sites/default/files/pdf/Bike_Rodeo_CT.pdf">www.saferoutespartnership.org/sites/default/files/pdf/Bike_Rodeo_CT.pdf</a></p>
<b>School Traffic Safety Campaign</b>	<p>Traffic Safety Campaigns educate adult drivers on the importance of slowing down and paying extra attention in school zones and of following drop-off and pick-up procedures. This can be accomplished by providing information to parents and guardians, by putting up bollards to better define areas meant only for those walking and biking, or by putting up additional signage to alert the public of the importance of driving slowly. For example, if there is a shared use path that connects to a school campus that is mistakenly used by cars as a frontage road, pop up bollards or signage may help reduce misuse. If signs are put up in the public right of way, the school will need to receive permission from the local engineering or public works department.</p> <p>Some schools also ask parents and community members to sign a pledge to follow the speed limit and drive carefully within the school zone. These drivers then get stickers for their car with the intention that these stickers will bring further awareness to the importance of driving carefully around the school.</p> <p>Resources: <a href="https://billingstrailnet.org/take-the-hi-road/">https://billingstrailnet.org/take-the-hi-road/</a> <a href="http://www.getstreetsmarts.org/">http://www.getstreetsmarts.org/</a></p>
<b>Education on the Safe Routes to School Map</b>	<p>Families may want help reading the SRTS map and determining which route would be best for their students to take to school. The school could offer a help session sometime before or right after school starts to help determine the best route. This session could include volunteers that help families walk the routes to school.</p>






# Environmental Change – In House

STRATEGY	DESCRIPTION
<p><b>Facilitated Rotating Drop-off/Pick-up</b></p>	<p>Facilitated rotating drop-offs/pick-ups help eliminate the dangers of a driver hitting a pedestrian, bicyclist, or student getting out of the car. Under this model, cars enter and exit the drop-off/pick-up line at the same time. One volunteer is needed at the end of the line to direct drivers into the drop-off/pick-up area and one is needed at the front of the line to usher drivers out onto the street. This process helps eliminate the problem of cars pulling around each other which increases the risk of a driver not seeing a student who is actively commuting or vice versa. In addition, this method helps all available space in the line to be used efficiently rather than only having students dropped off right in front of the school.</p> <p>Resources:  <a href="http://www.trinitasclassical.org/wp-content/uploads/2016/09/Platooning-Drop-Off-and-Pick-Up.pdf">http://www.trinitasclassical.org/wp-content/uploads/2016/09/Platooning-Drop-Off-and-Pick-Up.pdf</a></p>
<p><b>Bicycle Parking</b></p>	<p> Broadwater Elementary School currently offers bike parking.</p> <p>Students riding their bikes to school need a safe place to park them. Bicycle parking can be covered or uncovered and should offer easy access and support for the bike.</p> <div data-bbox="1057 709 1455 1010" data-label="Image"> </div> <p>Resources:  <a href="https://ci.billings.mt.us/2168/Bicycle-Parking">https://ci.billings.mt.us/2168/Bicycle-Parking</a>  <a href="https://www.saferoutespartnership.org/resources/report/school-bike-parking-assessment">https://www.saferoutespartnership.org/resources/report/school-bike-parking-assessment</a>  <a href="https://www.saferoutespartnership.org/sites/default/files/pdf/BikeParkingTipSheet-web.pdf">https://www.saferoutespartnership.org/sites/default/files/pdf/BikeParkingTipSheet-web.pdf</a></p> <p><i>Figure 12, Bike Parking at an Elementary School<sup>vii</sup></i></p>
<p><b>Redesign of Drop-off and Pick-up Procedures</b></p>	<p>This strategy is context specific and would require careful consideration by school staff in conjunction with families and students. By redesigning the drop-off and pick-up procedures, schools can help reduce potential conflicts between vehicles and students actively commuting to school or simply getting out of or into a vehicle. For example, students who are being picked up by personal vehicles may be released 10 minutes after students who are riding the bus or actively commuting, to reduce congestion. Delayed release increases safety for all students and provides an extra incentive for students who are actively commuting.</p>
<p><b>Placemaking</b></p>	<p>According to the <i>Project for Public Spaces</i>, “Placemaking inspires people to collectively reimagine and reinvent public spaces as the heart of every community. Strengthening the connection between people and the places they share, Placemaking refers to a collaborative process by which we can shape our public realm in order to maximize shared value.” Placemaking can include a variety of different aspects such as public art installations, adding or refreshing landmarks in the neighborhood, creating a welcoming gathering space either for activities or relaxing, or whatever else the community desires. Placemaking could help parents, guardians, and students to feel more comfortable in their neighborhood and therefore decrease fears about active commuting. <i>Continued on the next page.</i></p>

Resources:

<https://www.pps.org/category/placemaking>

## Environmental Change – In Partnership with Local Government

Strategy	Description
Improve Crossings	<p data-bbox="480 394 1120 430">Crossing improvements can take many forms including:</p> <ul data-bbox="519 451 1461 945" style="list-style-type: none"><li data-bbox="519 451 1396 514">• <i>Adjusting traffic signal timing</i> to allow children enough time to cross the street. Children may need more time than adults to cross.</li><li data-bbox="519 546 1461 609">• <i>Audible signals</i> help active commuters with vision impairments to know when it is safe to cross the street.</li><li data-bbox="519 640 941 945">• <i>Painting crosswalks</i> can help reinforce that pedestrians have the right of way and alert drivers that they need to stop. Local engineering and public works departments can help the school determine which type of crosswalk is most appropriate.</li></ul>  <p data-bbox="795 955 1485 987"><i>Figure 13, an example of a creative crosswalk in Austin, TX<sup>viii</sup></i></p> <ul data-bbox="519 1039 893 1344" style="list-style-type: none"><li data-bbox="519 1039 893 1344">• <i>ADA Compliant Curb Ramps</i> allow people using wheelchairs, mobility aids, or riding a bicycle to move safely from the sidewalk to the street. Check current ADA regulations to determine what design is currently compliant.</li></ul>  <p data-bbox="1063 1323 1364 1386"><i>Figure 14, ADA Compliant Curb<sup>ix</sup></i></p>  <p data-bbox="568 1701 747 1764"><i>Figure 15, Curb Extension<sup>x</sup></i></p> <ul data-bbox="893 1459 1461 1627" style="list-style-type: none"><li data-bbox="893 1459 1461 1627">• <i>Curb Extensions</i>, according to the <i>National Association of City Transportation Officials (NACTO)</i>, “...visually and physically narrow the roadway, creating safer and shorter crossings for pedestrians...”</li></ul> <ul data-bbox="893 1732 1461 1900" style="list-style-type: none"><li data-bbox="893 1732 1461 1900">• <i>Midblock Crossings</i> can help students safely cross in between marked intersections. Midblock crossings can include (advance) yield signs, Rectangular Rapid Flash Beacons (RRFB), and bicycle and pedestrian hybrid beacons among others.</li></ul> <p data-bbox="480 1900 812 1934"><i>Continued on the next page.</i></p>

Resources:  
[http://guide.saferoutesinfo.org/engineering/marked\\_crosswalks.cfm](http://guide.saferoutesinfo.org/engineering/marked_crosswalks.cfm)

### Wayfinding Signage



Wayfinding signage can help active commuters more accurately predict the amount of time it will take to walk or bike to a location and to identify safe routes. By placing signs around the neighborhood, students and families could gain a better understanding of how long it takes to walk to the school from their homes. For example, a placing a sign at the intersection of State Avenue and Jackson Street that says “Three minutes’ walk to Orchard Elementary” could help the walk to school seem shorter for students who live in that area.

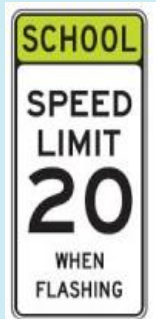
Figure 16, Wayfinding Signage<sup>xi</sup>

Resources:

<https://walkyourcity.org/>

<https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/bike-route-wayfinding-signage-and-markings-system/>

### School Zone Signage



👍 Broadwater Elementary School already has school zone signage.

School Zone Signage alerts drivers that they are approaching a school and that they should slow down.

Figure 17, School Speed Zone Sign<sup>xii</sup>

### Roadway Stencils

Painting advance warning of a school crossing on the street can help warn drivers that they are approaching the crossing.



Figure 18, Stencils Warning Drivers of School<sup>xiii</sup>

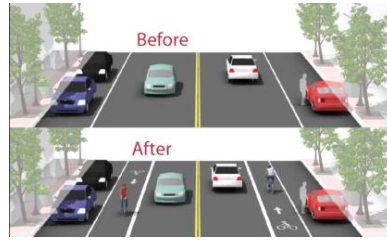
### Sidewalks

Working with local government to ensure that all routes to school have sidewalks will help create safe spaces for children to walk.



## Traffic Calming

Traffic calming can help slow down traffic and reduce the volume of traffic on a road.



There are many methods to calm traffic, including but not limited to:

- *Speed bumps*
- *Lane narrowing or road diets*. Often the extra space left over from narrowing the lane(s) or eliminating a lane(s) is turned into a bike lane or is used to create a center turn lane.

Figure 19, Lane Narrowing<sup>xiv</sup>

- *Diversions*. These are used to keep motorized traffic off of a certain street or only allows the motorized to travel in one direction. Diversions can be created through physical barriers or through signage. The intersection of Clark Avenue and Division Street in Billings is an example of a traffic diversion created by signage.
- *Landscaping* can create visual interest on the street and help slow down traffic. This could be a low cost option.

Resources:

<https://www.pps.org/article/livememtraffic>

## Bicycle Facilities

Bicycle facilities make it more comfortable to bike on roadways or can provide a safe place to bike away from traffic.



Figure 20, Buffered Bike Lane<sup>xv</sup>

Types of bicycle facilities include:

- *Bike Lanes*
- *Buffered Bike Lanes*
- *Shared Lane Markings*
- *Shared Use Paths*
- *Bicycle Boulevards* which combine a number of traffic calming measures and wayfinding signage to make the street more comfortable for bicycle riding.

Resources:

[http://guide.saferoutesinfo.org/engineering/on-street\\_bicycle\\_facilities.cfm](http://guide.saferoutesinfo.org/engineering/on-street_bicycle_facilities.cfm)

## Evaluation

### Strategy

#### Student Tallies

### Description

Tallies can provide a good estimate on many students are walking or biking to school. The Safe Routes to School National Partnership suggests taking these tallies during several days in both September and May.

Tallies can be completed in several different ways. Creativity is also encouraged:

- *Hand Tallies* can be done by a simple hand count at the beginning of the first class of the day. Teachers can ask their students to raise their hand first if they walked to school and then if they biked to school.
- *Scan in* Some schools have set up a scanner system that students can scan when they arrive to school by active transportation. The system can notify their parent or guardian by text message that the student has arrived and the school gets a count of how many students actively commuted to school.

**Parent Surveys**

Parent surveys can help verify the accuracy of hand tallies as well as supply additional information on barriers that students face in actively commuting to school, what is working well, and what programs, policies, or environmental changes would be most effective.

**Establish a School-Based Committee to Address Safety Issues Related to Active Transportation**

Having a committee that can listen to concerns related to active transportation and makes adjustments as needed will help ensure that SRTS changes with changing challenges and demands.

## Enforcement

**Strategy**

**Description**

**Crossing guard**

👍 Broadwater Elementary School already has three crossing guards.

Crossing guards can help ensure that students follow the rules to help them stay safe as well as increase compliance of motorists stopping for crosswalks. They can also notify school officials of potential hazards they see outside of the school. One study showed that crossing guards can also

Resources: <https://www.codot.gov/programs/bikeped/safe-routes/training-curriculum/training/crossing-guard/COSRTSE-CrossingGuardTrainingManual>

**School Safety Patrols**

During school safety patrols, trained students help enforce safe drop-off and pick-up procedures.

Resources: <https://schoolsafetypatrol.aaa.com/>



Figure 22, School Safety Patrol Member<sup>vi</sup>

**School Parking Lot “Citations”**

In order to address drivers who are not following pick-up and drop-off procedures, school staff can hand out citations that look like police tickets. Instead of issuing a fine however, these tickets can include information for parents about how to follow the rules to create a safer environment for everyone.

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