



# Highlands Elementary Walking Audit



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## Overview of Program

### **Communities Putting Prevention to Work: Tiffany Park Elementary, Hazelwood Elementary, Highlands Elementary**

Safe Routes to School (SRTS) is a growing movement to encourage and support “active commuting” on the part of school children and families. At the intersection of public health, public safety, education and transportation, SRTS helps communities create a balanced alternative to an automobile-centered culture.

In an effort to improve King County children’s physical health, academic performance, and personal safety, the Bicycle Alliance of Washington and Feet First are leading Safe Routes to Schools programs at eighteen schools in 2011. Through partnerships with King County school districts and other community organizations, the programs identify safe and unsafe areas for biking and walking, design safety improvements, educate students on safe walking and biking practices, and launch events to encourage children to walk and bike. The project spans the “5 E’s” of SRTS: Education, Encouragement, Enforcement, Engineering and Evaluation.

The goal of the project is to create new or improved systems so that more children will walk and bike to school, thereby helping to combat childhood obesity. Childhood obesity rates have more than tripled in the past 30 years, while the number of children walking and biking to school has declined.

In 2009, less than 13 percent of students between the ages of five and 14 walked or biked to school, compared to 48 percent in 1969. Childhood obesity is associated with cardiovascular disease and diabetes, which contribute to the largest causes of death in the King County.

These three Renton walking audits identify and prioritize the next steps to acquiring funds for future projects. Additionally, the recommendations can be incorporated into the District and the City of Renton’s approach to Safe Routes to School programs at the other schools in the district.

### **Methodology**

First step of methodology was to gain an understanding of where students live, where they are coming from in the mornings and where they are going to in the afternoons. This information was gathered from the district as well as based in local knowledge of the teachers and staff at the school. Second step of this program was to meet with community stakeholders, such as teachers and staff at the school, PTA and if available other community partners.

These schools were chosen for the CPPW project based on their combination of high need status and program readiness. Each school’s neighborhood was visited and “ground-truthed” to compare mapping data with in-person observations. Notes and photographs were taken on pedestrian infrastructure-related assets and issues. Based on these observations, points of interest were chosen and maps were prepared for the community walking audits.

Dates were set for the community walking audits based on availability of the City of Renton School District Health Director, Susan Lander and of primary school contacts. The audits were conducted on January 20th at Tiffany Park Elementary, February 3rd at Hazelwood Elementary, and February 8th at Highlands Elementary. Each audits began at the end of the school day to observe the dismissal process, and lasted 1.5 hours. Audit participants were given maps, clipboards, and digital cameras. They recorded their observations directly onto the maps and took photographs to go along with their written observations. Their comments and the cameras were collected after the audit, and these records were integrated into the final reports.

## **Community Participation**

The principals, faculty and staff recruited community participants including parents, neighbors, and concerned citizens. Bicycle Alliance of Washington and Feet First created and emailed fliers to the school's, and coordinated meetings between the District and city planners, engineers, transportation specialist and the police department.

## **Highlands Elementary**

### **Highlands Elementary Community Walking Audit participants included:**

Highlands Elementary Student - Citlalli S  
Highlands Elementary Student - Maria Vasquez  
Highlands Elementary Student - Barbara Martinez  
Highlands Elementary Student - Alejandra Sanabria  
Highlands Elementary Student - Adrian Cordoba  
Highlands Elementary Student - Hector Alvarez  
Highlands Elementary Student - Stefanos Pamboukas  
Highlands Elementary Student - Riley Mintz  
Highlands Elementary Student - Shaianne Evans  
Highlands Elementary Student - Autumn Hansen  
Highlands Elementary Student - Cynthia Zanabria  
Highlands Elementary Parent - Jack Irvin  
Highlands Elementary Parent - Caren Mintz  
Highlands Elementary Parent - Sonia Pamboukas  
Highlands Elementary Parent - Lynnette Hall  
Highlands Elementary Faculty/Staff - Robin Paape  
Highlands Elementary Faculty/Staff - Annie Hetzel

City of Renton, Street Maintenance Supervisor – Patrick Zellner  
City of Renton, Public Works Transportation Planner – Nathan Jones

Renton School District Health Director – Susan Lander  
Renton School District, Transportation Director – Ron Scheepers  
Renton School District, Transportation Assistant Director – Debora Gilroy  
Renton School District, School Board – Pam Teal  
Renton School District, School Board – Al Talley

Renton Police Department, School Resource Officers - Keith Fekete and R. Hyett

Bicycle Alliance of Washington, Safe Routes to School Program Manager – John VanderSluis  
Feet First Executive Director – Lisa Quinn  
Feet First Active Communities Mapping Specialist – Gia Clark

## **Overview of School**

Highland Elementary is a K-5 school located at 2720 NE 7th St. within the Renton School District. Highlands Elementary has 610 students, 41 percent who speak English as a second language and 59% of students come from homes where English is not spoken. One of the assets available to Highlands Elementary is the schools close proximity to the Highlands Neighborhood Center, a vibrant and active community resource used frequently by students and community members.

## **Drop-off and Pick-up Procedures:**

While school drop-off and pick-up areas often pose challenges to SRTS programs, participants remarked on the high level of chaos in the Highlands pick-up area. Participants noted that the pick up lane is so wide it is used as three lanes by drivers. This leads to kids crossing two lanes of traffic to board cars in the far lane. Additionally, participants observed traffic entering and exiting the parking lot at a high rate of speed, multiple “exposure zones” (areas where pedestrians and cars share space, ex., the crosswalk that divides the main and side lots), and a generally high volume of cars. Other participants wondered whether the school could work with the City to evaluate whether the maintenance and design of 7th could be improved to improve driver speed and predictability.

While more detailed recommendations may be developed during safe routes to school planning, the following guidelines may be useful in approaching the issue:

- Clearly separate travel modes. Highlands has successfully separated bus traffic, but not ped/car/bike traffic.
- Keep car travel predictable, unidirectional, counterclockwise, and restricted to two lanes of traffic. Highlands could use paint, cones, and curbs to mark two lanes, more distinct loading areas, eliminate clockwise travel, two-way car travel across crosswalks, etc.
- Minimize the volume of traffic by promoting biking/walking/carpooling, designating remote pick-up areas, and instituting staggered dismissal times.
- Publicize and reinforce the rules using universal signage, curb striping, newsletters, and adequate staffing.

## **Bicycling:**

The topography in this area is relatively gentle. Students that live within close proximity to the school can be encouraged to bike.

# Highlands Elementary Walking Audit

## Walking Audit route #1:

Route #1 began by examining the pick-up and drop-off area. The group then walked south on NE 7th St to Harrington Ave., where students who live east of the school cross the street. The group walked through a small portion of this neighborhood and then walked south on Harrington Ave to NE 5th Pl. The group then walked west on NE 5th Pl to Edmonds, where they looked at the sidewalk and intersection that serve a number of students that to the southwest. From this point the group moved north to the community center and returned to the school using the multi-use path.

## Walking Audit route #2:

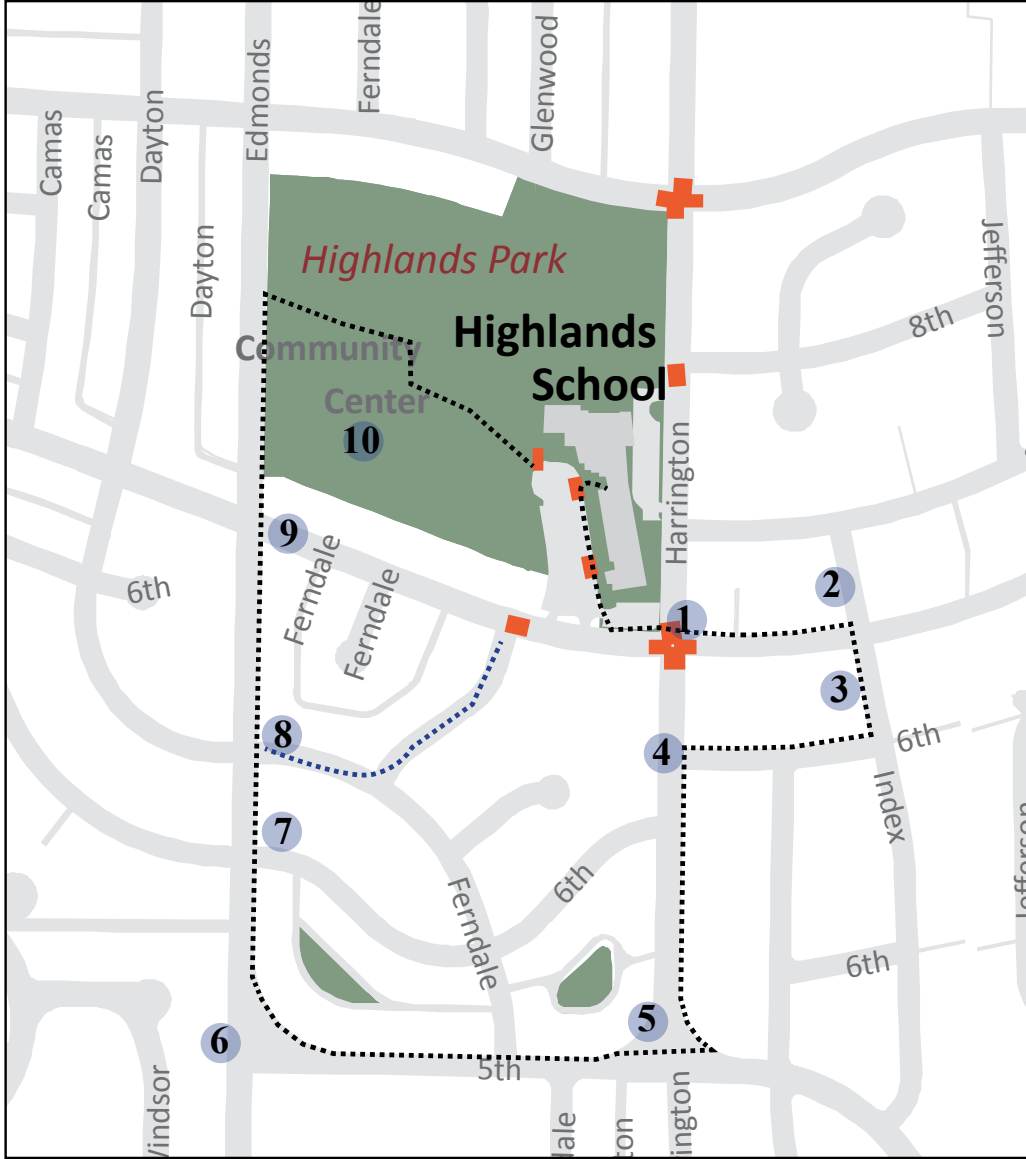
Route #2 began by examining the pick-up and drop-off area. The group walked north on Harrington to NE 9th St, then turned west on NE 9th St. The group examined the connection between the Aberdeen area and the numerous apartment complexes on the west side of Sunset Blvd NE, many of which are served by school buses despite the short walking distance to the school. The group then returned to the school via 7th and the community center's multi-use path.

## Walking Audit Top Observations




1. Much of the sidewalk road and sidewalk infrastructure of the Highlands Elementary neighborhood was designed and engineered in the post WWII era. The width and height of sidewalks and curb cuts are now out of compliance with current standards of pedestrian safety. Due to the low curb height it is a common practice throughout the neighborhood for people to park cars partially on the sidewalk, causing students to walk in the road.
2. Another recurring challenge in neighborhood infrastructure is the width of local streets. Local streets surrounding Highlands Elementary are on average thirty-five to forty feet wide. When these wide streets come together in a 'Y' (as in the case of 4th and Bronson) or when a curve connects with a through street (as in the case of 5th and Edmonds) the intersections end up creating expanses of concrete up to eighty feet across in some places. These areas are exceedingly difficult to navigate as a pedestrian. The intermittent presence of sidewalks at many of these intersections compounds the situation creating vulnerable situations for pedestrians. These intersections create ideal opportunities for engineering solutions. The first is a traffic circle, depending on the sightlines the circles would have to be designed specifically for the intersection. The second opportunity that these wide intersections provide is for bulb out connections for pedestrians, reducing the crossing time from one street corner to the next.
3. It was noted that there is significant vehicle congestion in the parking and driving area outside the school during pick-up and drop-off times. The volume and chaos of this traffic creates many safety hazards for students. Students navigate through the traffic as they try and locate their pick-up vehicle or make their way to sidewalks to walk home.



## **Walking Audit Top Recommendations**




1. Reduce the volume of cars entering the parking area during drop-off and pick-up. Because of the proximity of the community center school staff should work with community center organizers to arrange for a remote drop-off and pick-up location. There is a well-designed and well-traveled route between the back of the community center and the school.
2. Reduce the student-based chaos in the parking lot area. Restrict the location from which students may be picked up. For example, Daniel Elementary in Kent requires students to be picked up from a 15 ft<sup>2</sup> painted area and staggers dismissal times to effectively reduce pick up chaos. Assign school staff to strictly enforce any painted standback lines. Other measures could include assigning staff to monitor the area near the parking lot entrance; during the audit we observed students running through the side parking lot, twirling on the stop sign pole near moving traffic, and crossing lanes of parking lot traffic to board cars.
3. Reduce driver-based chaos in the parking lot area. Measures could include: using paint and/or curbs to narrow the number of effective lanes to two - a waiting/pick-up lane, and a no-boarding pass through lane; eliminating the risk of multi-directional traffic and back-up collisions by closing the side parking area during pick-up and drop off times; slow speed before cars arrive at the parking area by implementing measures such as speed tables on 7th.
4. Students expressed concern that crossing Edmonds and 7th was dangerous because of speed and visibility. This intersection has stop bars for the four-way stops but does not have painted crosswalks. Work with city officials to clearly mark the appropriate crossing location for this intersection.
5. Work with community members through an education campaign to increase pedestrian safety. In particular highlight the dangers faced by children and adults who must enter the roadway to walk around cars parked on sidewalks.



**Highlands Elementary Walking Audit Route 1**


Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
1	7th and Harrington		x					This intersection has very low curbs and no edges on the SW/SE/N corners. There is a car parked near the corner on the sidewalk and although there are crossing guards at school times, many cars tend to move quickly through this intersection.	Engineering: Raise the edges of the sidewalks at this corner.	
2	Index St north of 7th			x		x		This is a designated public area but tends to get overgrown with weeds and blackberry bushes and occasionally has large items (such as a boat) abandoned/discarded in this space. This is a pedestrian connection through the neighborhood between 7th and 8th.	Enforcement: Ask neighbors to report improper disposal, and provide them with the name of the correct authority. Call enforcement officers to respond to complaints about abandoned items. Ask neighbors to assist with weed management.. Encouragement: Local communities can work together to maintain the public space.	
3	Index St between 6th and 7th		x					The sidewalk ends on the west side of the street and does not exist on the east side. There is a designated pedestrian only area here as well as to the north across 7th. Crossing 7th from N to S needs a marked crosswalk.	Engineering: Continue sidewalk on the west side of the street to connect to 6th Ave. Work with local transportation and engineering departments to see if a crosswalk would be appropriate here. If not, perhaps there can be other designations that there are frequent crossings in the area.	
4	Harrington and 6th		x					There is an interesting garden maintained by a neighbor by the name of Janet, she is often in the yard working.		




Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
5	Harrington and 5th				x			Triangular area with particularly wide roads and a blind spot. This area is difficult to cross.	Education: Work with students to let them know that if they would like to be on the east side of the road at this point they need to cross the street back at the intersection of Harrington and 7th.	
6	Edmonds and 5th		x		x			This area has an enormous amount of pavement with no good place to cross. Cars park on the narrow 5th St. sidewalk, forcing pedestrians into the street. The blind curve, the hill, and speeding make this a difficult intersection to cross.	Engineering: Due to the hill on the south side of Edmond's, this is a difficult intersection. There may be an opportunity to install a flashing beacon or sign to indicate the need to slow down. Education: When deciding walking routes, make sure students know to cross Edmonds at 7th instead of 6th, and update walk routes accordingly.	
7	Edmonds and Ferndale			x				Sidewalk needs to be cleared and there is a lot of overgrown plants blocking the sidewalk. Needs crosswalk, can't see cars coming, power line through trees There is an open pipe low on the ground.	Enforcement: Contact neighbors and ask if they would take responsibility for clearing the sidewalk area. Engineering: Add a crosswalk to this area.	



Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
8	Edmonds and Ferndale/Dayton shortcut into school		x		x	x		This is a direct route for many of the students from this neighborhood and from areas to the south. There are no sidewalks and no good crossings from the west side of Edmonds.	<p>Engineering: Add sidewalks in this neighborhood - from the intersection of Ferndale and Edmonds over to Ferndale PI NE and up to 7th. Work with the city engineering to see if adding a stop sign and crosswalk at this intersection are warranted.</p> <p>Encouragement: Work with parents and educators to use this route as a supervised path and a place to practice Left Right Left crossing skills.</p>	
9	Edmonds and 7th		x					There are stop bars but no crosswalks. The intersection is askew creating an awkward direction to cross. Cars traveling north on Edmonds and taking a right on 7th speed due to the wide turning radius. Many students complained of this being a dangerous intersection.	Use engineering methods to slow traffic and reduce exposure time; consider adding a crosswalk at this location, and narrowing the intersection corners using paint or curbs.	
10	Community Center	x		x		x		Many students use the path between the school and the community center. Some parents use this parking lot as an alternative pickup location.	This is an ideal partnership to develop to encourage walking. The school could work with the community center to develop designated walking routes using the center as a starting point. Using the community center parking lot for remote pick up and drop off could reduce congestion and safety hazards at the school.	







**Highlands Elementary Walking Audit Route 2**

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy			
								Field Observations	Recommendation	Image
1	Harrington and 8th		x					Students run across the street without looking for cars to meet their parents. Cars speed down Harrington. There are crossing guards at this location.	Engineering: Add sidewalk and curb cut. Enforcement: Ask law enforcement to visit the school during pick up and drop off times to ticket speeders. Discourage parents from parking in the bus parking area.	
2	Harrington		x					Poor northbound pavement conditions on Harrington for bikes.	Engineering: Improve the pavement conditions for cyclists.	
	School Grounds - Harrington							Bushes need trimming along street, parents line up and kids run out without safe access to crosswalk.	Engineering: School should trim the bushes on school grounds. Add a crosswalk to this location.	
3	Harrington and NE 8th		x					Difficult and unsafe to cross in this area.	Add a crosswalk mid-block. Add a flashing light and speed controller.	

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
4	832 Harrington				x			Hedges up to edge of driveway creates a sightline problem.	Contact the residents and explain to them their responsibility (and the reason) for keeping their driveway clear.	
4	Harrington (east side) near NE 9th			x		x		Gravel and mud on sidewalk, empty space with some tire tracks indicate that cars park here. Hedges block the sightline from driveway to sidewalk. The rolled sidewalk encourages drivers to park up on the sidewalk.	Educate residents about not parking on the sidewalk and blocking crosswalk Policy: City should review its policy for rolled curbs, discourage their installation, and pursue grants for upgrading around schools.	
4	Harrington and NE 9th		x	x				No street light at corner. Garbage can blocks sightlines and encroaches on wheelchair/stroller access. There is a curb cut at crosswalk.	Install lighting to illuminate the street corner and crossing walk. Provide police enforcement in this area to reduce speeding. Ask Public Works to relocate the trashcan. Paint stand back lines to encourage kids to wait away from traffic.	
5	NE 9th	x	x					Cars backfiring, sidewalk cracked/uneven, nice street trees	Engineering: Improve sidewalk conditions. Encouragement: This is an opportunity for an engagement campaign. The school could purchase from Feet First Nature Watcher booklet to include in a lesson plan.	

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations			Recommendation			Image		
								Field Observations			Recommendation			Image		
6	NE 9th and Glenwood		x					Gate is left unlocked providing great access for school children walking to school. However, there are no ramps for strollers/wheelchairs or crosswalks. The small hill encourages drivers to speed and decreases their sightlines.			Add a crosswalk between Glendale and Glenwood to make it safe for people to cross and help with sightline issue.					
7	NE 9th and Ferndale				x			Car on sidewalk			Partner with the City on an education campaign to encourage residents not to park their car on sidewalks.					
7	NE 9th and Ferndale		x					The streets are wide and numerous cars passing this area.			Provide a crosswalk.					
8	2554 NE 9th				x			There is a nice tree starting to hang over the sidewalk.			Educate residents about their responsibility to keep their trees and other shrubbery cleared from the sidewalk.					

Observation Pt.	Intersection	Community Asset Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
	NE 9th and 9 Edmonds	x	x				No crosswalks at this intersection. Tree at 9th & Edmond blocks sightlines and wide radii helps allow fast turns. The stop sign is also located back from the intersection.	Reduce the turning radii by reviewing possibility of a bulb out in this area. Add crosswalks at this intersection. Ask resident to trim their tree and educate them about their responsibility to keep the sidewalk clear from any shrubbery.	
	9 Edmonds		x				Speeding cars, kids playing near street, sidewalks not raised	Provide enforcement in this area to reduce the number of cars speeding in this area. Consider installing speed tables or other engineering tools.	
	10 9th and Aberdeen	x					Cars parked on sidewalk, very poor sidewalk conditions, plus there are grates that are oriented incorrectly making it hazardous for cyclists.	Improve sidewalk conditions. Work with the City to reorient the grates on the street.	
	11 7th and Edmonds	x					No crosswalks.	Add crosswalk at Edmonds East to West.	

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations		Recommendation		Image
								Field Observations	Recommendation			
12	7th and Ferndale				x			Cars parked on sidewalk		Provide an education campaign to let residents know how important it is to keep the sidewalk clear.		
13	Park and Community Center near school	x						This is a huge asset to the community.		There is potential for this to be a drop off/pick up location for parents to reduce the number of vehicles coming on to school grounds to pick up their children.		
13	Path into community center	x						Water does not drain along the pathway.		Research what natural material might be used to absorb the extra water to make easier for people to walk along the trail during the rainy season.		
14	School grounds - at the pick up drop off location							There currently is a white stripe for kids to stand behind.		Paint the white stripe yellow to make it more vibrant.		

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# Guidelines for Bicycle Parking at Schools

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Providing good quality bicycle parking for students and staff can encourage biking by decreasing the risk of conflict, theft, and damage.

**Bicycle parking must be:**

- visible
- accessible
- secure
- easy to use
- convenient
- plentiful

**Bicycle parking should be:** covered, well lit, and in plain view without being in the way of pedestrians.

**Theft** is a serious concern for bicyclists. Nearly 1.5 million bikes are stolen in the U.S. each year. Safe and convenient parking is as critical to bicyclists as it is for motorists. Racks should:

- Be placed in areas with high pedestrian activity and “eyes-on-the-street”
- Be more visible to staff and students than passersby
- Allow the frame and one wheel to be locked to the rack when both wheels are left on the bike
- Allow the frame and both wheels to be locked to the rack if the front wheel is removed
- Allow the use of either a cable or U-shaped lock
- Be securely anchored.



*Good bike rack designs.*

In areas with high crime concerns, schools should consider placing racks in rooms or cages that can be locked during the school day.

**Location:** Racks need to be sited and installed appropriately for them to be well used:

- Racks that are placed less than 2'-3' from a wall or less than 30" from another rack will end up sitting empty.
- Racks need to be clearly visible and accessible, within 50' of the building's main entrance or at several commonly used entrances.

**Design Standards:** Racks should:

- Support the bicycle frame, not just one wheel
- Resist cutting, rusting, bending and deformation
- Be usable by bikes with no kickstand and bikes with water bottle cages

- Be usable by a wide variety of sizes and types of bicycle
- Be promoted with bike parking directional signs
- Have roofs or be located under awnings - to provide riders with rain protection while locking their bikes *and* to prolong the life of the bikes' metal and rubber components- an important issue for low-income riders.

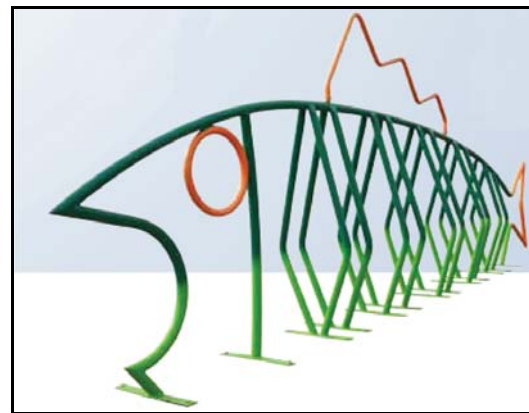


*“Wheel-bender” racks (above) can damage wheels and don’t allow frames to be locked to the rack.*

**Costs:** The cost to purchase and install bike rack varies, but is almost always cheaper and more efficient than providing car parking:

- A bike rack that parks two bikes costs \$150 to \$300.
- A locker that holds two bikes costs between \$1,000 and \$4,000 to purchase and install.
- The cost to provide two car parking spaces is \$4,400 on a surface lot and \$25,000 in a garage.
- Parking for 10-12 bikes can fit in the same space required for a single car.

**Customized Designs:** As long as they meet the guidelines discussed above, bicycle racks can serve a dual purpose by promoting a school’s name, mascot, or values (see below).



**More Information:** To learn more about how to choose a rack that is good for your school, please consult these resources:

- The Association of Pedestrian and Bicycle Professionals (APBP) <http://www.apbp.org/?page=Publications>.
- The Pedestrian and Bicycle Information Center: <http://www.bicyclinginfo.org/engineering/parking.cfm>.
- Madison, WI bike parking guidelines: <http://www.cityofmadison.com/trafficEngineering/documents/MadisonBikeParking20100715.pdf>
- John Vander Sluis, The Bicycle Alliance of Washington, JohnV@bicyclealliance.org