

Thorndyke Elementary Walking Audit



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Overview of Program

Communities Putting Prevention to Work: Cascade View Elementary, Tukwila Elementary, Thorndike 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 SRTS 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 Bicycle Alliance 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 U.S. students between the ages of five and 14 walked or biked to school, compared to 48 percent in 1969¹. Childhood obesity is associated with cardiovascular disease and diabetes, which contribute to the largest causes of death in the region.

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

1. 2009 National Household Travel Survey, U.S. Department of Transportation

Methodology

First step of methodology was to gain an understanding of where students live, where they are coming from in the morning and where they are going 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. The second step of this program was to meet with community stakeholders, such as teachers and staff, as well as the PTA and if available, other community partners.

Each school’s neighborhood was visited and “ground-truthed” (map data was compared 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 Tukwila School District participants, Community Schools Collaboration, community partners and primary school contacts. The audits were conducted on January 25th at Cascade View Elementary, January 27th at Tukwila Elementary, and February 17th at Thorndyke Elementary. Each 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

In order to gather participants for the community walking audits, the Community Schools Collaboration Project Manager, Melissa Morin, worked diligently with principals, faculty and staff at Cascade View, Tukwila, and Thorndyke, to gather parents, neighbors, city staff, and concerned citizens. The Bicycle Alliance of Washington and Feet First created and emailed fliers to the school's main contacts, city planners, engineers, transportation specialist and the police department, and met in person with city staff.

Thorndyke Elementary

Thorndyke Elementary Community Walking Audit participants included:

City of Tukwila - Evie Boykan
Community Member/Neighbor – Nancy Musser
City of Tukwila - Jaimie Rearis
Principal - Brian Hutchison
Crossing Guard Supervisor and Thorndyke teacher - Teresa Peterson
Student - Johnny Fleurine
Student - Solomon Campo
Student - Emily Bila
Student - William Bila
Student - Chrissayn Borwieck
Parent - Monica Davalos
Parent - Marina Vargas
Parent - Miriam Acalco
Parent/PTA member - Pam Bila

Approximately seven students from the Community Schools Collaboration after school program joined the walk.

Community Schools Collaboration - Melissa Morin

Bicycle Alliance of Washington, Safe Routes to School Program Manager – John Vander Sluis

Feet First Safe Routes to School Program Director – Jen Cole

Feet First Active Communities Mapping Specialist – Gia Clark

All walking audit participants were emailed a draft copy of this report and given the opportunity to review it and provide further input, which was then integrated into the report.

Overview of School

Thorndyke Elementary serves approximately 400 K-5th grade students from the City of Tukwila. The school has a rich cultural diversity; students of Hispanic African American, Asian, and White ethnicities are equally represented. Safe Routes programs at the school face distinct barriers; 40% of the students are English language learners, and 75% qualify for free or subsidized school lunches. Programming is conducted in partnership with the Community Schools Collaboration, which combines direct services with strong partnerships with families, cities, school districts, and other community-based organizations. The school is located at 4415 S 150th St, Tukwila WA.

School Grounds:

School drop-off and Pick-up areas often pose particular difficulty for SRTS. The combination of high numbers of family vehicles, yellow bus service, pedestrians and bicycle traffic can make the final approach to the school difficult for students and adults alike.

A general rule of thumb is to make a clear separation between different travel modes by having discreet areas dedicated to bus loading, family vehicles, and bicycle/pedestrian access. Signage and curb striping should be unambiguous, schools should distribute information that clearly states the school procedures, and adequate staffing should be provided to supervise each area.

Thorndyke Elementary school has made many choices on school grounds to assist in the dismissal process at the end of school by dividing the students based on their transportation mode. However, there is still a considerably large volume of cars entering into the pick-up & drop-off area.

It is outside of the scope of this walking audit to do an in-depth analysis of student drop-off and pick-up procedures for each school. However, some general observations about the school ground and drop-off/pick-up routines are noted in this report.

Bicycling:

The Thorndyke neighborhood offers both positive and negative elements for kids on bikes. The school offers plentiful parking for bikes, with secure racks. While neither is located where they can be seen by school staff, both are more visible from the school than the street. Neither offers protection from the rain. See the attached guide to bike parking.

Likewise, the local streets offer benefits and challenges. The traffic is primarily slow, although several streets are used heavily by drivers to avoid Showalter/Foster traffic congestion. Several participants expressed concern over topography and the risk of collision to bikers traveling at high speed downhill. The CPPW bike safety education program gives teachers the opportunity to instruct kids to position their bikes appropriately when crossing driveways. The school could also educate neighbors with a flier or other outreach to ask for caution when exiting their driveways in a car. Most of the measures addressed in the pedestrian component of this report would benefit kids on bikes as well, by improving sightlines, slowing traffic, and encouraging physical activity.

Several measures could be pursued to address the economic barriers to biking. There are a number of bike shops in the area that could be approached to donate equipment, or to establish an earn-a-bike program. Additionally, a number of bike clubs, including the Boeing Bike Club could be approached to provide riding opportunities for students. There are also a number of community organizations that provide free or subsidized helmets to low-income families – these organizations could be included in school-based events. Other programs have found a wealth of bikes in their communities that just needed minor repairs to be rideable.

Thorndyke Elementary Walking Audit

Walking Audit route:

The walking route examined a number of challenges that are representative of challenges that students face during their walk to and from school. This route was chosen so that these recommendations could be applied in other areas with similar infrastructure barriers. There were also a number of points on the route that are specific points of concern.

The route began by examining a naturalized foot path between the school and the apartment complex behind the school. The route then returned to the front of the school, surveyed the pick-up and drop-off area in front of the school. The group then crossed S. 150th St. and connected to a commonly used driveway/private road which connects to “Rocky Road” a paved but rather steep pedestrian walkway. The walkway crests the top of a hill as it continues on as 46th Ave. S. until intersecting with the major through street of S. 144th St. in front of Showalter Middle School. The group traveled west on S. 144th St. past Foster High School for a few blocks until the intersection with Pacific Hwy S (Rt. 99). After one block on 99 the group turned onto 146th St to again experience using the paved shoulder markings used in many neighborhoods as a designated walking area. The route then headed south on to 42nd Ave S. to compare the paved shoulder with sidewalk infrastructure. Once the group reached 150th crossed at the intersection of 42nd Ave. S. and 150th and returned to the school with a group of participants on either side of the street.

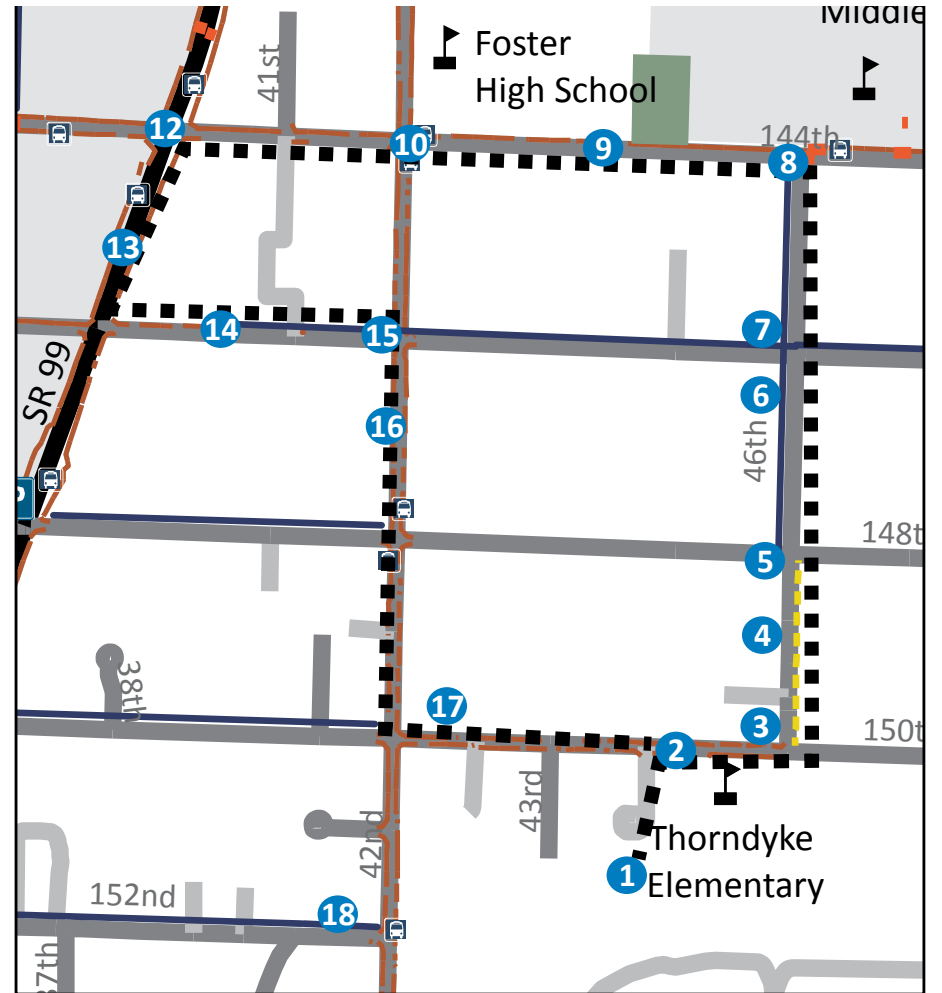
Walking Audit Top Observations

1. Tukwila engineering policy prioritizes walkways by marking a white line on one side of many streets, this is referred to as a ‘paved shoulder’. While this provides direction for pedestrians and cyclists, it sometimes contradicts the standard safety guideline of walking facing traffic when no sidewalk exists. Furthermore, much of the driving culture includes parking in these paved shoulders as there is no physical delineation between walking area and vehicle parking.
2. Because of the close proximity of 3 schools (Thorndyke Elementary, Showalter Middle School and Foster High School) , there is a high number of student pedestrians in this area, making SRTS efforts important, including pedestrian safety education, encouragement and enforcement.
3. Pacific Hwy S (St. Rt. 99) has recently improved much of the walking environment over the last several years. However even with these changes, crossing locations are relatively far apart and it is a common practice to cross 99 at locations other than the official signal crossing locations. In addition to difficulty crossing 99 there are often multiple stores along 99 that have driveway entrances that cut across the sidewalk.
4. While there are new and consistent sidewalks in much of this neighborhood (for example the length of 42nd) the sidewalk design prioritizes vehicles over pedestrians with deep slanting, frequent driveway cuts. More contemporary sidewalk designs create a level walking surface with driveways that rise to the curb; the City has implemented this design in recent work near Cascade View Elementary.
5. Thorndyke Elementary has a remote school bus pick up at Showalter Middle School. Students that live north of 144th Street walk to Showalter Middle School and are bussed from this location. Because of this remote pick up location, the walking audit considered major walking routes to and from Showalter Middle School.

Walking Audit Top Recommendations




1. Work with city engineers to determine and mark the most appropriate crossing location for students to travel across 150th in front of the school. There is no designated crosswalk in front of the school to direct foot traffic across 150th. Many students cross diagonally from the front of the school to the “Rocky Road” in order to head toward the middle school and neighborhoods N/E of the school. Feet First suggests crossing at the location on the east side of the parking area where there is currently an adult crossing guard stationed to help facilitate safe crossing. Since parents often park east of this location during pick up and drop off adding a crosswalk will make this crossing official and support additional changes in pick up and drop off procedures. (Field note 2)
2. In order to support the policy of paved shoulders the city can work with the community to create an education campaign to inform drivers of the impacts of driving patterns on pedestrian safety. Using City of Tukwila, community and school support an education and outreach campaign can target homeowners as well as local businesses informing them of the correct use of paved shoulders and driveways. (Field note 6 &16)
3. There is a long stretch north of 144th without a designated crossing spot and there are significant pedestrian generators (the housing complex on the west and the middle/high school on the east side)A marked crossing is necessary north of 144th to accommodate Thorndyke students who travel from the housing on the west side of the street to the school bus pickup behind Showalter Middle School. (Field note 11)




Thorndyke Elementary Walk Route









- Crosswalk Locations
- Park and Public Lands
- Bike Route
- Painted/Paved Shoulder
- Sidewalk
- # Audit Stop
- Audit Route









Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
1	Trail to apartments	X			X			<p>This trail behind the school connects to the apartment complex along Southcenter Blvd. The City has worked to keep this trail open for pedestrians. It is well used by students and community members even though in parts it is slippery, and steep. In winter months it is not well lit. The trail needs some maintenance to clean up the overgrown blackberries and clear out the trash.</p> <p>Participants did not express concerns about crime in this area, nor a fear of having children use the path. However there is no pedestrian infrastructure in the apartment parking area. There are no crosswalks for pedestrians and cars are not warned that people may be crossing from the trail through the parking lot to the apartments.</p>	<p>Keep this trail open and accessible to students. The school can organize a trash pick-up day to involve students in the improvement of this area. Work with the apartment management to install painted crossing locations for students and other pedestrians to use as well as install a sign for motorists warning them of pedestrian crossing.</p>	
2 Top Recommendation #1	150th and Thorndyke Elementary		X					<p>There are currently no marked crosswalks on S 150th St. between 42nd Ave. S and the school campus. Many students cross diagonally from the front of the school to the "Rocky Road" (pedestrian access only on 46th Ave. S.) in order to head toward the Middle school and neighborhoods N/E of the school.</p>	<p>City engineers should work with the school to determine preferred location and place at least one marked crosswalk in this corridor.</p>	
3	150th and 46th							<p>The house on the corner keeps 3 large dogs that bark and charge when people walk past the house on the route to 'Rocky Road'. The dogs are in an enclosed pen, so it is more an issue of comfort than safety at this location.</p>		

Field Observation Pt.	Intersection	Community Asset					Field Observations	Recommendation	Image
		Engineering	Enforcement	Education	Encouragement	Policy			
4	Rocky Road'	X					<p>The designated trail serves many people in the community. The trail is also rather steep and tends to be slippery due to moss build up on the pavement. Getting to the trail pedestrians use 46th Ave S which is an active street used by neighbors as well as waste and recycling trucks. The common practice of adults and children alike is to walk in the middle of the street.</p>	<p>This is a good location for educators to teach students about recognizing when they are transitioning from one kind of walking environment to another. Mark standard street lines as well as a designated walking area along 46th Ave S to inform pedestrians and drivers alike that this is an active street for cars and peds. Work with city trail/parks and recreation departments to power wash the asphalt and remove moss or coordinate a community effort to mobilize volunteer labor.</p>	
5	Rocky Road and S. 149th St			x			<p>The 'pedestrian only area' of Rocky Road ends at the top of a hill. There is poor pedestrian visibility as when crossing because of a downward hill to the west.</p>	<p>This is a good location for educators to teach students about sightlines and the importance of listening for traffic as well as looking for it.</p>	
6	Top Recommendation # 2 46th Ave. S between S. 148th St. and S. 144th St.	x				x	<p>There are few pedestrian facilities along 46th Ave. S. The designated walking area, marked by a paved shoulder (painted right of way line), is on the west side of the street. Cars parked in the ROW are problematic for pedestrians who have to walk into the flow of traffic in order to get around the car. Additionally, trash/recycle bins are routinely placed in the sidewalk and paved shoulders creating obstacles for pedestrians.</p>	<p>Inform residents who live along this street of dangers that parking in the ROW creates for pedestrians. Work with the City of Tukwila and private garbage/recycling companies place empty bins out of the way of pedestrian paths. Additionally, work with local residents and encourage them to place trash/recycle containers out of the way of pedestrian paths. There have been successful sticker campaigns that work with all parties to get bins out of the pedestrian walking area.</p>	

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
	7 S. 146th St. and 46th Ave. S			x				Participants comment that many cars run this 4 way stop.	Police enforcement of this area could help improve pedestrian safety.	
7	46th Ave. S between 146th and 144th.				x			Students counted more than 8 noisy dogs on this block. All dogs were contained, but barked at and approached the group as we passed. For some, this created discomfort, while for others it was entertaining and interesting.	Education tools like scavenger hunts can be a fun way for children and adults to realize how much more they can see and notice when on foot compared to when in a car.	
8	46th Ave. S and S. 144th St.		x		x			Overgrown bushes on the west side of the street block use of the paved shoulder walking area, and impede pedestrian visibility to drivers on busy 144th St.	The overgrowth needs to be cut back. There needs to be a crosswalk sign or a better marked crosswalk. Request maintenance from home or property owner to help improve pedestrian visibility. Private property issues that affect public rights-of-way can be referred to Tukwila City Code Enforcement at (206) 431-3671.	
8	46th Ave S. at 144th St.				x			Pedestrians need to cross 46th from the paved shoulder before reaching the designated crosswalk across 144th. While this seems inconvenient at first, sightline issues at the corner make it clear that the painted locations were chosen for safety reasons. Traveling south from this location, however, could be problematic for pedestrians to use the paved shoulder on 46th Ave S.	Indicate this intersection as a preferred crossing point for the school walk route map to cross 144th Street on the east side of the intersection where the crosswalk is currently painted. Feet First should work with the City to determine appropriate walk route recommendations for traveling south on 46th Ave. S. and simliar locations in the area.	

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
	Sidewalk in front of Foster 9 High school	x						The painted sidewalk in front of Foster High School adds to community character and visibly marks the area as a school zone. The planting strip with large trees adds to the pedestrian comfort and appeal, even on this busy street.		
10	144th and 42nd		X	X				The intersection of 144th St. and 42nd Ave S. becomes congested during the morning and afternoon school dismissal times due to the volume of students crossing the street. This intersection is a four way stop and does not have a signal to assist students in crossing the street.	City engineers should work with the school to determine if this is an appropriate intersection for a stop light with a pedestrian crossing signal.	
11 Top Recommendation #3	42nd, north of 144th: midblock crossing							Participants asked to take a detour from our designated route to witness a common problem especially for students pedestrians in this area. Students living in the housing complex to the west will cross here in the morning, either to go directly to the high school or to catch the bus to Thorndyke. (In the afternoon, they do this in reverse). This results in a high number of students crossing midblock with no designated path or assistance. There are no marked crossings on this stretch of road, although there are pedestrian generators on each side.	City engineers should work with the school to determine preferred location and place at least one marked crosswalk in this corridor, possibly at this location.	
12	144th and SR 99							This is a very busy intersection. High school students want to get to the Jack in the Box across SR 99.		

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
13	Along SR 99			X			X	Drug deals, prostitution, and police activity have been witnessed. Hwy 99 is very busy major street with fast moving traffic. There are smoke shops, pawn shops, and cars entering and exiting from steep driveways. There's a steep driveway along the Eastside of SR 99 where it may be difficult for a driver to look for traffic and pedestrians.	Work with area police to conduct targeting speed enforcement at this location. The school can provide parents/guardians with appropriate phone numbers to report illegal activity.	
14	Along 146th, between 42nd and SR 99		X					A new power pole is in the middle of the sidewalk on the north side of S. 148th sty.		
15	146th and 42nd		X	X				A tall wooden fence blocks visibility at the corner. Cars parked in driveways block sidewalk.	Inform residents who live along this street of dangers that parking in the ROW creates for pedestrians.	
16 Top Recommendation # 2	148th and 42nd		X					There are lots of driveways and people pulling in and out. There are overgrown bushes on the north side. The slanted driveways and sidewalks make it difficult for people with strollers and wheelchairs.	Request maintenance from property owner to increase visibility and inform them of the dangers that parking in the ROW creates for pedestrians. Education for children should emphasize the importance of awareness of driveway issues, both on foot and by bike	

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
17	150th heading East toward school	x						Creek and stream are great community assets however it often gets overgrown. One participant mentioned that she has personally cut back vegetation in order to clear the sidewalk.	Work with city to maintain clear sidewalks. School can organize work days with community to clear the vegetation and public information signs.	
18	152nd, near 42nd		X					This is another location off the scheduled loop. Two participants pushing strollers asked us to look specially at this location because it causes difficulty for them on their walks to school. There are no sidewalks on 152nd, posing a particular challenge for pedestrians with strollers as the walk the steep hill to or from 42nd. Wide curb radii at the intersection result in fast moving traffic making this turn. Participants emphasize that it does not feel safe to walk here.	City engineers should work to improve the pedestrian safety and infrastructure in this area.	
18	152nd and 42			X				One participant noted that the Ambassador Gardens Apartments at 7300 South Center Boulevard feels particularly dangerous to walk and that there are many school students live here.	This may be a good location to start a Walking School Bus.	

Guidelines for Bicycle Parking at Schools

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.



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.

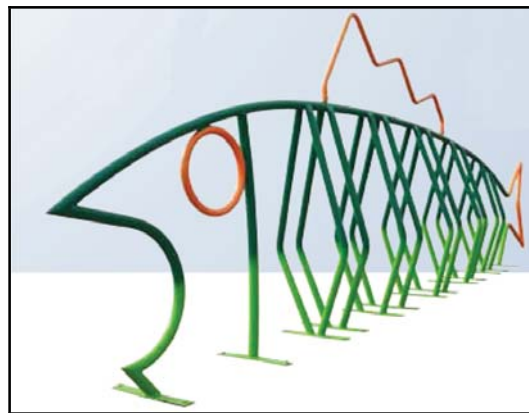


“Wheel-bender” racks (above) can damage wheels and don’t allow frames to be locked to the rack.

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