

Cascade View Elementary Walking Audit



King County Public Health



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Overview of Program

Communities Putting Prevention to Work: Cascade View Elementary, Tukwila Elementary, Thorndyke 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 school districts in King County 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. 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 all three schools.

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 March 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.

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

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.

Cascade View

Cascade View Elementary Community Walking Audit participants included:

Cascade View PTA Secretary - Redha Mohammed

Community Schools Collaboration Project Manager - Melissa Morin

Community Schools Collaboration - Lee Aleaga

Tukwila School District Director of ELL and Student Services - Nina Williams

Tukwila Police Department Community Policing Coordinator - Chris Partman

Neighbors Without Borders Action Committee - Mary Koontz

Tukwila School District School Board Director - Dave Larson

King County Public Health - Donna Oberg

King County Public Health - Kadie Bell

City of Tukwila Department of Community Development Senior Planner - Moira Carr Bradshaw

City of Tukwila City Engineer - Robin Tischmak

Julia de la Torre – Cascade View parent

Approximately 12 students from the CSC after school program also joined the walk.

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

Cascade View serves K-5 students from the northern part of the City of Tukwila. The student body numbers around 460 students, and has a rich cultural diversity; approximately a third of the students are Asian, a third Hispanic, and the remaining third African American or White. Many of the students come from refugee and immigrant families. Students and school staff face particular socioeconomic challenges; nearly 85% qualify for free or subsidized school lunches and over half are English language learners. 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 13601 32nd Avenue South.

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.

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.

Cascade View Elementary dramatically changed its drop-off and pick-up routines this school year. The school administration effectively separated the three school travel modes -- car, bus and pedestrian/bike -- and gave each a clearly designated part of the campus. The result has been an enormous improvement in the before and after school atmosphere of safety, and should be considered a model for other area schools. Despite these marked improvements, the infrastructure of the school still prioritizes vehicles over pedestrian and bicycle transportation. As a result there are additional points of conflict that could be improved. Pages 15 and 16 of this report highlights a few additional observations and possible recommendations noted during the walking audit.

Bicycling: Cascade View currently has a few students that bike on a regular basis, although large-scale ridership is hindered by inconsistent infrastructure such as sidewalks that start and stop, lack of a visible cycling culture, and economic barriers to bicycle ownership. During the walking audit, several students were observed biking home; all were wearing helmets.

The school provides parking for bicycles, although the rack placement and design could be improved to address theft and damage concerns (see the walking audit field notes following this section and bicycle parking guidelines in this report). The surrounding neighborhood contains positive and negative elements for kids on bikes: wide shoulders provide room for bikers, but these shoulders are often only on one side of the road; in many places sidewalks offer protected space for slow-riding child cyclists; pavement is generally in good repair, although several drainage grates have been installed with long or wide holes parallel to bike wheel path- of-travel.

Cascade View Walking Audit

Walking Audit Route #1:

Route 1 focused on the north and east of the school, specifically examining Military Road, the nearby neighborhood, and the apartment complexes north of 133rd. Route 1 participants began by examining the school grounds. They then preceded north on 32nd and west on 135th to Military Road. After discussion at this point participants returned east along 135th to 35th, where they turned north to examine the apartment complexes north of 133rd. The group noted the alley between 35th and 37th, as well as the walkway along 37th. The group continued south on 37th to 137th, then headed east back to the school.

Walking Audit route #2:

Route 2 examined the informal "cut through" used by many students who live south of the school. This route began on the packed earth path that leads from the back of school grounds, through the church property, and ends at the intersection of 140th and the 33rd Ave S. The group continued south on 33rd Ave S to 144th. The route turned east on 144th and then north through Cascade View Community Park, a gathering point for community members (particularly middle and high school students). The route then headed north on 35th, crossed 140th to 34th, and continued north until 137th, where the group turned west and returned to the school.

Walking Audit Top Observations

1. After this area was annexed to the City, Tukwila created paved shoulders along prioritized routes in order to provide some immediate affordable solutions to the lack of sidewalks in the neighborhoods. Paved shoulders are installed on one side of the street, thereby causing either out of direction travel or exposed or unsafe walking and biking.
2. While the audit route did not address the specifics of Military Road, it should be noted that it is not a “complete street,” as it prioritizes freight and car traffic. Participants commented that angled intersections, lack of signals, and long straightaways contributed to concern over speeding, Pedestrians or cyclists who use this road, either to cross the neighborhood or access public transit, are faced with significant comfort and safety issues. There are a number of opportunities for pedestrian improvements, including improved lighting and markings at crossings, and over the long term, signalization with call buttons, and sidewalks.
3. Within a few blocks from the school there are two burned out houses. These houses could become safety concerns if the City does not condemn or otherwise address the structures.
4. There is a very well designed and engineered walking environment in close proximity to the school grounds. Funding from other infrastructure projects has clearly been leveraged to improve pedestrian safety. However, in many cases, one side of a street will have sidewalks and curb cuts while the opposite side will have little to no pedestrian amenities.
5. A number of students and community members take advantage of the pedestrian-only access between the school and the food bank. These two large open space areas coupled with the cemetery just to the east of the school are great assets for the neighborhood.

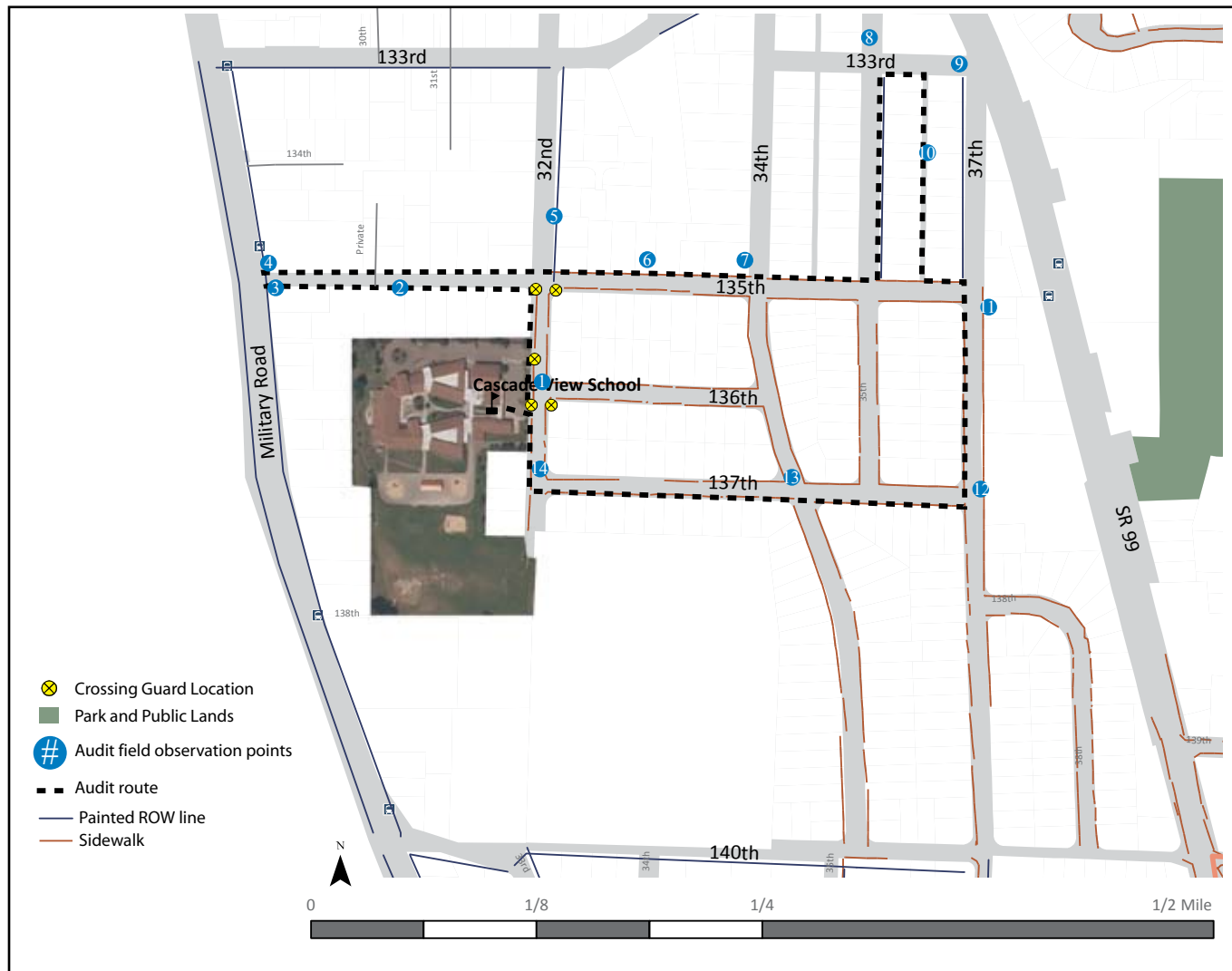
Walking Audit Top Recommendations




1. Military Rd S and 135th: Participants were clear that this area should be prioritized for safety improvements. Participants commented that several corner radii seemed to have been designed to accommodate freight traffic turning off of Military Road. The school could work with the City to tighten up some intersections and use signage to direct freight to preferred intersections. This will be complicated by the fact that jurisdiction for Military Road lies with the City of SeaTac. However, partnership with SeaTac could be accompanied by work to make the Tukwila side of the road safer; for example, fewer freight routes could be designated and non-freight intersections could be tightened up, pedestrian and bicycle amenities could be installed, and speed control measures could be initiated.
2. Intersection of the church driveway, 140th St and 33rd Ave S: Many students use this intersection in the morning and afternoon. This location has poor sightlines, traffic moves quickly as it turns from Military Road onto 140th. The food bank places an adult crossing guard here during peak distribution hours. This is not guaranteed for students during the peak student arrival and dismissal hours. It is important for a crossing guard to be stationed here everyday during school arrival and dismissal.
3. Intersection of 33rd Ave S and 34th Pl S: This intersection is problematic in design. The wide turning radius allows cars to turn without significantly reducing speed, while the angled intersection increases the time pedestrians and bikers spend exposed to traffic. City engineers may be able to develop infrastructure-based solutions. Consider installing a pedestrian refuge island halfway across the crosswalk. This would tighten the turning radius as well as reduce the amount of exposure time for pedestrians. This is particularly important for pedestrians (and students on the morning walk to school) as northbound pedestrians have their back to approaching vehicles.




Walking Audit Top Recommendations Continued:




4. A general recommendation for pedestrians is to choose walking routes with Painted ROW lines in the direction of travel. When this is not possible be particularly aware of traffic conditions.
5. A general recommendation for the City of Tukwila is to continue it's paved shoulder program for specific streets.


Cascade View Audit Route 1



Observation Pt.	Location or Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendations	Image
1	136th and 32nd		X	X	X			32nd Ave near the front of the school is marked and designed for pedestrians (i.e. crosswalk is striped and the sidewalks are to code). The crosswalk here is guarded by the student patrol team. Participants say drivers will sometimes park along this restricted way too close to the crosswalk.	The signage is clear, but participants say that a painted curb (yellow or red) would help.	
2	135th between Military Rd and 32nd			X				There are no sidewalks here, and large drainage grates could be hazardous for cyclists. There is a flashing beacon installed at this location, but it was not flashing when we were there (less than 20 minutes after school was out) and participants doubted that it functions properly.	Confirm that the sign is programmed to match student travel patterns. Contact city traffic officials about maintenance for the sign. Consider working with neighborhood group to ensure regular monitoring.	
2	135th between Military and 32nd		X					The walking area for pedestrians is not separated from vehicles. Because of this it is particularly important for pedestrians to be visible as well as to be aware of what they can do to keep safe. Ideally, there would be a way to create a physical designation of pedestrian space separate from vehicle traffic.	Work with city officials to designate this area as a high use pedestrian zone. There is potential for additional sidewalks extending from 32nd to Military Rd.	
3	Military Rd S and 135th		X					This area is a heavily traveled route for the middle and high school students in Tukwila as they walk between the Cascade View neighborhood and a bus stop on Military Road. Participants noted challenges for pedestrians: fast moving traffic on Military Road, no sidewalks on Military Road or 135th, wide-radius curves and poor lighting for the winter months. Participants were clear that this area should be prioritized for safety improvements. This improvement will be complicated by the fact that Military Road is the divider between 2 municipalities: Tukwila and Unincorporated King County.	Stakeholders in this area should examine this intersection and design improvements to enhance walkability and pedestrian safety. Possible solutions include east side of sidewalk through shoulder, restriping sidewalk, lit crosswalk signs.	







Observation Pt.	Location or Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendations	Image
4	NE corner of Military Rd and 135th	X		X				Amazing trees! Participants identified these as Siberian Elm. At several locations on our walk, we saw interesting and impressive trees.	School staff or community members could develop an urban nature walk or outdoor education program. FeetFirst has simple nature walk brochures available for use.	
5	32nd just north of 135th		X					New sidewalk in front of one house only. There is also a burned out house along 135th.	Encourage city officials to have this condemned and cleared as soon as possible.	
6	135th between 32nd and 34th	X						This street, as well as much of the area immediately east of the school, has wide sidewalks with curb ramps, reticulated domes for ADA, and decorative cement work. The City Engineer joining the walk explained that these improvements were made in conjunction with a drainage project a few years ago.	Incorporate pedestrian improvements into future infrastructure work.	
7	135th and 34th	X						Well designed curb ramps and improvements		




Observation Pt.	Location or Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendations	Image
8	35th between 133rd and 132nd		X	X				<p>One of the students with us on this walk explains that is difficult to negotiate this block of her walk to school. The lack of sidewalks and lack of a paved shoulder on this block make it difficult for a pedestrian to navigate. Parked cars along the residential complex compounds the problem. Pedestrians are pushed into the roadway.</p>	<p>One of the first rules in Safe Routes to School is to find the safest route. One participant noted that the best pedestrian exit from these apartments is on the south side. Until engineering improvements are possible, it may be possible to avoid walking on this block. The building owners should work with the neighbors to designate and support clear pedestrian exits from this property.</p>	
9	133rd and 37th	X						<p>Bollards were installed at this location, putting a stop to what participants described as troublesome speeding through the parking lot to these apartments. They can be removed for maintenance vehicles.</p>		
10	Alley between 35th and 37th, and 133rd and 135th		X					<p>There was a fair amount of discussion about whether or not alleys can be a desirable path to school. Our group split at this point, with half checking out the alleyway. The biggest problem here was a hanging wire from the power lines. It's unknown whether it was live or not, but it did not look safe. The barking dogs at the corner were well contained.</p>	<p>Public works should investigate the hanging wire as a maintenance issue.</p>	
11	37th between 133rd and 135th		X	X				<p>There are few pedestrian facilities, there is only a paved shoulder line on the west side of the street and no sidewalks or markings on the east side. There is also no crosswalk at the intersection of 137th and 37th. This is not a direct route from housing to school.</p>	<p>Until significant infrastructure can be installed, school walk route map should indicate alternative route for students in this area.</p>	





Observation Pt.	Location or Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendations	Image
12	137th and 37th		X					This location leads to the entrance of a large apartment or condominium complex. The stop line for southbound traffic is painted well beyond the stop sign and is exactly where the legal crosswalk should be.	The stop line should be removed and painted further to the north to allow crossing room and sightlines for pedestrians.	
13	34th on both sides of 137th		X	X				Participants noted that 137th is a wide street with sightlines sometimes impeded by parked cars.	Ped safety education efforts can use this area to talk about sightlines	
14	137th and 32nd			X	X	X		While painted crosswalks exist crossing 34th, there are no marked crossings along 137th. This intersection is not the preferred crossing point, yet students and adult pedestrians regularly cross between traffic at this location. There was debate in the group about which would be better -- a painted crosswalk and stop signs, or continued education and enforcement. The preferred crossing is at 136th a quarter of a block away		

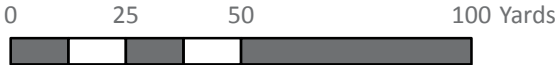
Cascade View Audit Route 2







Observation Pt.	Location or Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendations	Image
1	33rd where it runs through Cascade View El. Property (south entrance to school grounds)	x				x		There is a mud ditch between the property of the school and the church. A community garden provides interest during the year. Occasionally there is a strong smell from the compost. Perhaps there are educational opportunities for students to engage with growing food. This area has a bit of trash left by walkers. The city has applied for WSDOT grants to develop this path.	<p>Engineering: Add gravel to muddy area between property. Work with the church to create a designated walking area on the church parking lot to encourage students to stay out of the main car travel area.</p> <p>Community Asset: Perhaps there are educational opportunities for students to engage with growing food.</p> <p>Encouragement: This is a great place to support encouragement campaigns because it is an ideal set up to showcase places that allow for pedestrian only experiences.</p>	 
1	33rd where it runs through Cascade View El. Property (south entrance to school grounds)		x		x			The church gate is sometimes closed and parking area is without fence, there are mud holes and it is a narrow road. Residents report occasional drug use occurs in the field behind the school.	 	
2	33rd and 140th		x		x			There is no walkway to walk to school, cars don't stop at the 3-way stop sign, and one needs to be extra careful here. The hill prohibits ability to see car coming from the west.	<p>Engineering: Adding in a designated walking lane for students would show both drivers and pedestrian where they should be walking when traveling through the church parking lot.</p> <p>Education: Although there is a crossing guard sometimes to assist with the Food Bank traffic, it would be helpful to also have a crossing guard here at the beginning and release from school. Use this area when teaching students pedestrian skills.</p>	 

Observation Pt.	Location or Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendations	Image
3	Along 33rd		x					Students noted during the walk that there are a series of 'scary' houses along this stretch of road. Students find this area daunting because it is often dark when they are walking home and the lighting is insufficient.	Engineering: Install additional street lighting along this stretch of 33rd or change lighting structures to provide more light. Trimming hedges back from the paved shoulder would also improve sightlines and pedestrian visibility.	
3	33rd between 140th and 144th		x		x			There is a paved shoulder line on the east side of the street.	Engineering: Consider using "candlestick" style plastic markers to reinforce the shoulder at priority points. At intersections such as 33rd at 34th, provide a break to allow through travel by bikes/peds. Education: Use this area when teaching students pedestrian skills.	
4	33rd and 34th		x		x			There is a stop bar, a crosswalk and sign post but the stop sign is missing. Cars traveling north on 33rd and then turning right onto 34th tend to move quickly and b/c of the wide radius of the turn.	Engineering: see top recommendations Install a stop sign on 34th. Work with city engineers to examine other engineering options that would reduce the speed of cars traveling on this road, particularly at this intersection.	
5	33rd just north of 144th		x					The entire of the apartment complexes just north of 144th is a driveway. There is no designated marking or indication that students will be walking through this area. There is no sidewalk or marked shoulder.	Engineering: Install designated walking area using paint or physical infrastructure (bollards, curbs, rumble strips) to funnel cars and show drivers that this is a commonly used walkway.	
6	Park between 143rd and 144th	x	x				x	Students like this park and it is a community asset for elementary, middle and high school students. There is a visible link between the park and 33rd. However, there is not a physical connection b/c the apartment complex has fenced off the parking area.	Engineering: This is an ideal place to remove the existing fence between the park and the apartment parking lot. If this connection existed students could cut through the park to get to the walking route on 33rd. Encouragement: This park is an ideal location for remote drop-off programs where parents can drop off students or park and walk the kids to school.	

Observation Pt.	Location or Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendations	Image
7	35th and 143rd into park							There is no good exit or entrance from or to the park from 143rd.		
	35th Ave							The students enjoyed talking about the drainage ditch and muddy spots as we walked along. There does not seem to be high traffic volume on the block.	Encouragement: Programmers should consider this as a potential walking school bus route, an alternative to 33rd Avenue.	
8	35th between 140th and 143rd		x				x	There is not a paved shoulder on this road. The students on the route said they would feel safer walking here if more people walked here regularly.	Programmers should consider this as a potential walking school bus route if a paved shoulder was added. This route can serve as an alternative to 33rd Avenue.	
9	34th and 140th		x					The alignment of this intersection is problematic. There are no sidewalks on the south side of the street and the one on the corner of 34th is offset from 35th causing pedestrians to walk diagonally across. There are clear sight lines here but no crosswalks or stop signs. The intersection to the east at 37th and 140th also does not have a crosswalk. However, a number of middle and high school students that live in this neighborhood use these interesections to cross the street.	Engineering: As part of larger review, the walking route maps for the elementary, middle and high school should consider 140th as a high pedestrian use area in need of safe crossings. City and School District representatives should work together to determine where an appropriate crossing could be located along 140th.	



Observation Pt.	Location or Inter	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy			
								Field Observations	Recommendations	Image
1	Drop off area							Extra wide curb cut for drop off area to accommodate bus and car, stop sign but no bar	Paint stop bar for cars.	
2	Bike parking							Poor bicycle rack quality and placement.	Move bicycle rack inside gated school area, preferably in a location protected from rain.	
3	Drop off loop entrance							2-way, interrupted sidewalk, ideally remain at same level, signed	Maintain level walking path for students.	
4	Drop-off loop exit							Do not enter sign but no bar, bus drop-off area, extra long curb to accommodate bus and car exits but sidewalk slopes	Narrow the width of driveway exit.	

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.

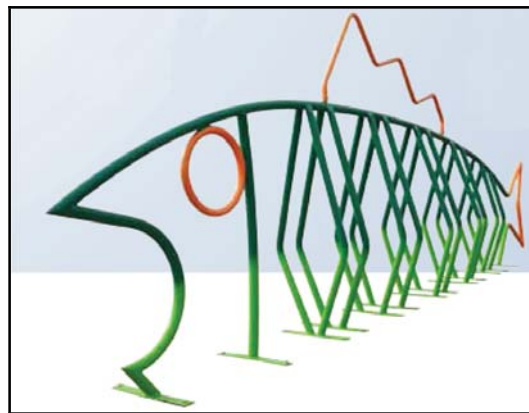


“Wheel-bender” racks (above) can damage wheels and don’t allow frames to be locked to the rack.

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