

# Midway Elementary School Walking Audit



Highline  
Public  
Schools



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## Safe Routes to School Program at Midway Elementary School, Des Moines WA

Safe Routes to School (SRTS) is a growing movement to encourage and support active commuting by 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. Safe Routes to School programs break barriers and solutions into their “5 E” components: Education, Encouragement, Enforcement, Engineering, and Evaluation. In short, the goal of Safe Routes to School program is to encourage kids to walk and bike safely to school.

### *Why Encourage Kids to Walk and Bike to School?*

Increasing kids’ physical activity lowers obesity rates, improves lung-related health, and enhances readiness to learn by lowering stress levels. However, over the past generation activity levels and obesity rates have gotten worse: the share of students who walk or bike to school has fallen from 48% to 13%, while childhood obesity rates have tripled. This change has serious consequences; obesity’s role in diabetes and heart disease make it one of the two leading causes of preventable death in King County.

### *What is the Communities Putting Prevention to Work Grant?*

The Communities Putting Prevention to Work Grant (CPPW) is a national initiative to prevent chronic disease and promote health through policies, programs, and physical improvements. King County was awarded grant funding through the Centers for Disease Control & Prevention (CDC) to promote healthy eating, active living, and tobacco cessation.

Under the CPPW Safe Routes to School program, Midway Elementary School (and 17 other schools throughout South King County) will:

- identify safe and unsafe areas for biking and walking
- identify safety improvements
- prioritize desired improvements to acquire future funding
- train PE teachers to deliver a safe walking and biking curriculum
- educate students on safe walking and biking practices
- hold events to encourage children to walk and bike

## *Who is involved in the Safe Routes to Schools Program?*

Safe Routes to Schools programs rely on a diverse group of participants. Under the CPPW program, the primary participants are:

- The Bicycle Alliance of Washington: The Bicycle Alliance is a non-profit state leader in SRTS. It is coordinating the CPPW countywide SRTS efforts, designing the teacher training and student curriculum, providing bikes for kids to use in PE, and providing technical advising.
- Feet First: Feet First is a non-profit which promotes walkable communities throughout Washington. It is leading walking audits and developing maps for the CPPW schools.
- Highline School District: The district applied for CPPW SRTS funding in conjunction with other CPPW funding for healthy eating and active living efforts.
- City of Des Moines: The City is pursuing its own CPPW projects on City wide pedestrian and bicycle transportation planning including: participating in the Midway Elementary School Walking Audit and weekly walking group; identifying priority projects for Safe Routes to School for 5 public elementary schools; Complete Streets Ordinance; and updates to their Comprehensive Plan for healthy eating and active living.
- Parents and students: Parents and students are key to sharing their knowledge of their community's assets and barriers.

## *What is a walking audit?*

A walking audit is an opportunity for community members to gain firsthand knowledge of students' walking environment and to jointly develop improvement strategies. Parents, students, school staff, district transportation and health staff, City staff, and other community members walk commonly used routes and take notes on the experience. Audit recommendations can often be applied to other schools in the district.

## **Methodology**

The following steps were undertaken to produce this walking audit:

- 1) Information Gathering: Feet First and the Bicycle Alliance met with district and school staff to gain an understanding of where students live, where they go after school, and the biggest non-motorized challenges they face as walkers and cyclists.
- 2) Ground-Truthing: Feet First visited each neighborhood and compared map data and 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.

- 3) Scheduling: Dates were set for the audit based on availability of the Highline School District participants, community partners, and primary school contacts. The audit was conducted at the end of the school day on October 4, 2011 to observe the dismissal process, and lasted one and one-half hours.
- 4) Outreach: The school and district invited parents, City staff, and other community members to participate. The Bicycle Alliance and Feet First provided fliers and newsletter copy for outreach.
- 5) Group Participation: Audit participants were given maps, clipboards, and digital cameras. They recorded their observations by writing on the maps and taking photographs.
- 6) Reporting: Feet First collected the comments and cameras, then compiled the findings into this report. The report was circulated among the City, district, and school staff for review.

## List of Participants

In order to gather participants for the community walking audits, Derek Severson and Val Allen worked diligently with principals, faculty, and staff at Midway Elementary School to gather parents, neighbors, City staff, and concerned citizens. The Bicycle Alliance of Washington and Feet First created and e-mailed fliers to the school's main contacts, City planners, engineers, transportation specialist, and the police department. They also met personally with City staff.

Midway Elementary School Community Walking Audit participants included:

Parent – Sheldon Gray  
 Rainier High School Student – Krysta Rogers  
 Rainier High School Student – Cesia Amaya  
 Midway Teacher – Derek Severson  
 Highline School District – Scott Logan  
 Highline School District – Val Allen  
 South King County Public Health – Kadie Bell  
 City of Des Moines, Transportation Engineer – Brandon Carver  
 City of Des Moines, Parks, Recreation & Senior Services Department,  
 Des Moines Healthy Living Initiative, Policy Analyst – Sue Anderson

City of Des Moines, Police Department, Community Service Officer –  
 Kory Batterman  
 City of Des Moines, Planning and Building Department, Planning  
 Manager – Denise Lathrop

Communities Putting Prevention to Work program staff:  
 Bike Alliance of Washington, Safe Routes to School Program  
 Manager – John Vander Sluis  
 Feet First Active Communities Mapping Specialist – Gia Clark  
 Feet First Volunteer Coordinator – Darcy Edmunds

## Overview of Midway Elementary School

Midway Elementary School serves 550 pre-kindergarten through 6th grade students from the City of Des Moines. The school has a rich cultural diversity: half of the students are Hispanic, with the balance composed nearly equally of African American, Asian, and Caucasian students. Forty percent of students are English language learners, and 85% qualify for free or subsidized school lunches. The school is located at 22447 24th Ave S, Des Moines, Washington.

Midway has undertaken a number of measures to improve safety and promote walking and biking to school. Principal Rebekah Kim has improved the driver pick-up area procedures to slow traffic, decrease driver unpredictability, and reduce the number of children walking in front of cars. PE teachers Derek Severson and Derek Byrne received training from the Bicycle Alliance of Washington and Feet First. They also taught their 4<sup>th</sup> through 6th graders a seven-lesson course on bicycle and pedestrian safety. Mr. Severson and Mr. Byrne have also started a Walking Thursday encouragement event, walking with their students from Grace Lutheran Church every week.

### Notes on School Parking Lots

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 here.

School drop-off and Pick-up areas often pose particular difficulty for students getting to school. 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 discrete 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.

## Bicycling at Midway Elementary School

While the intent of the walk was to assess the walking environment, the following observations were made that affect kids on bikes.

The biking environment for students is mixed. The school provides ample bicycle parking that is somewhat shielded from passersby by landscaping and convenient to the school entrance (Figure 1). Bike parking could be improved in three ways:

- provide parking under a covered area, prolonging the life of the bikes and encouraging students to ride on days with rain showers – no one likes to ride on a wet saddle! (Figure 2)
- provide enclosed parking (this can encourage ridership in high-crime areas )
- encourage and/or incentivize staff to use the racks (this increases staff health, and also provides a good example for students).

See the appendix for more information on bike racks.

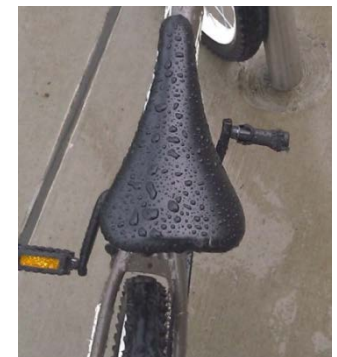
The volume of traffic on 24<sup>th</sup> Ave S is likely to make kids on bikes uncomfortable, although we did observe both youth and adults biking on the street. The paved shoulder south of the school is narrow, forcing bikes to share the lane with cars. While the paved shoulder widens north of the school, bikers must share this space with a large number of walkers. These conditions increase the importance of Derek Severson's PE curriculum for teaching students how to ride near traffic and how to ride in a predictable straight line. Other than 24<sup>th</sup> Ave S, the streets we visited provided pleasant low-traffic riding environments.

We observed several student riders on our walk, including two who highlighted potential improvement opportunities. The first was a student riding without a helmet, who returned to his house to retrieve it after making eye contact with Derek Severson. This highlights the importance of disseminating bike/pedestrian safety lessons to parents for enforcement at home. The Bicycle Alliance can provide bike safety information designed for multilingual communities for distribution at the office, family nights, and other appropriate venues. The second noteworthy student was practicing riding on a bike that was several sizes too large. The school could connect its students with social service organizations and non-profits that provide bike maintenance and bike swap opportunities to students. Examples include Bikeworks in Southeast Seattle and the Cascade Bicycle Club's Major Taylor program. More sources for bikes and helmets will be provided to the school and district.



**Figure 1 – Bike Parking**

The school's wave-style racks are in view of the office, but outside the dry area created by the front awning.



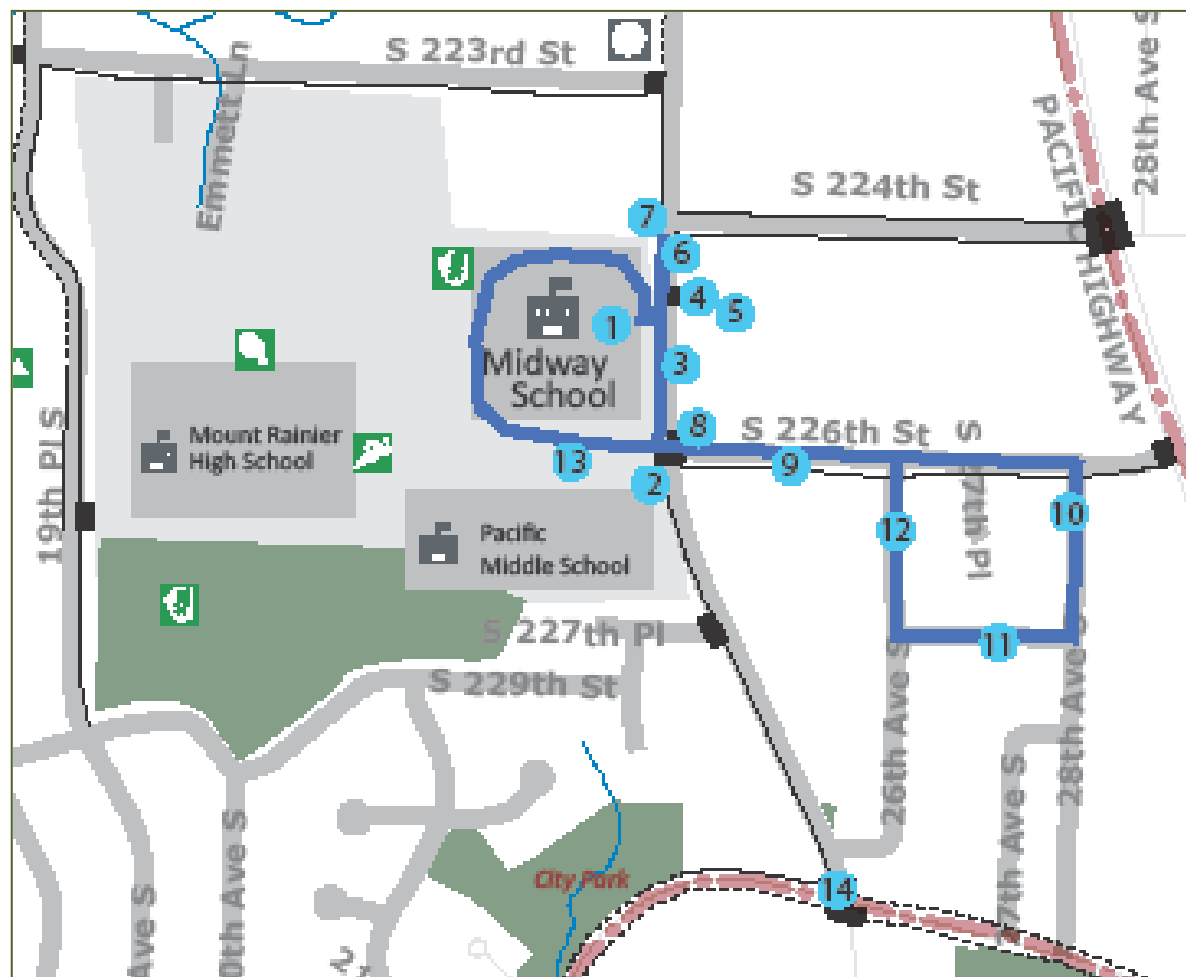
**Figure 2 – Wet Seats**

Mid-day showers and lack of covered parking have soaked this student's saddle.

## Midway Elementary School Walking Audit

### Walking Audit Route

Midway Walking Audit Route targeted connections north of the elementary school, the neighborhood immediately to the east of the school which is a combination of apartment complexes and single family housing, and connections from the elementary school to the middle and high school campuses.



**Figure 3 – Walking Audit Route and Field Note Observation Points.** Each number coordinates with the field observation. See Appendix I for detailed descriptions and recommendations.

## Top Observations for Walking Environment of Midway Elementary School

School Campus Design: Midway Elementary School is part of a larger school campus that includes Pacific Middle School and Rainier High School. Much of the area immediately surrounding the campus has sidewalks on the school property and well-thought-out interior circulation through the schools. This interior circulation allows students to access by foot each of the schools from multiple directions. However, just beyond the campus there is a lack of sidewalks and safe walking areas.

Unimproved Right of Way Areas: The majority of the streets in the area have what are known as “unimproved right of way areas.” These areas lack sidewalks and other pedestrian facilities. Much of the Des Moines area uses a white fog line to delineate driving lanes from pedestrian shoulders. While this is an attempt at designating a separate pedestrian area, these shoulders are often narrow and uncomfortably close to fast-moving traffic. In addition to the narrow width of many of these walking areas, it is common to find a drainage ditch just outside the shoulder. This leaves the pedestrian walking between fast moving traffic and a steep ditch. Often in the Midway neighborhood and other nearby communities, it is common for people, adults and children alike, to walk on these unimproved shoulders. People are walking, which we would like to encourage; however, the environment in which they are walking is often unsafe.



Figure 3 – Unimproved Right of Way on the east side of 24<sup>th</sup> Ave S extends from S. Kent Des Moines Rd north up to S. 216<sup>th</sup> St.

## Top Recommendations for Midway Elementary School

24th Ave S Sidewalk Improvements: (Field Note #4/#6) The whole length of 24<sup>th</sup> Ave S from S Kent Des Moines Rt to S 216<sup>th</sup> St lacks sidewalks on the east side of the street. The west side of the street has sidewalk infrastructure that is inconsistent and at times non-existent. The most dangerous length of 24<sup>th</sup> Ave S is the 86 yards between the existing crosswalk on the north side of the Midway Elementary School and S 224<sup>th</sup> St. There has already been much discussion and analysis of 24<sup>th</sup> Ave S in the recent City of Des Moines Safe Routes to School Project Report prepared by Alta Planning. Both the Alta SRTS Report and the findings from this report strongly encourage the City of Des Moines to prioritize improving the sidewalk infrastructure along 24<sup>th</sup> Ave S. Currently, students heading to S 224th St cross at the designated crosswalk and must then walk 86 yards (260ft) with their back to traffic, with little clearance because of a deep drainage ditch on the east side of 24th Ave S. Washington law states that if there is no crosswalk available pedestrians must walk facing traffic. Recommendation here is 1) add a 5-foot wide sidewalk on the east side of 24<sup>th</sup> Ave S. It is recommended that the sidewalk

extend on the east side of 24<sup>th</sup> Ave S from S Kent Des Moines Rd to at least S 220<sup>th</sup> St. A 5-foot wide sidewalk with 4-foot buffer will separate students from traffic. 2) to work with the City of Des Moines to install a high visibility crosswalk on the east side of 24<sup>th</sup> Ave S to provide safe crossing of S 224<sup>th</sup>. These recommendations are in alignment with the recommendations presented by Alta in the SRTS Report for the City of Des Moines and illustrate the strong need for improvements in this area of the Midway Elementary School walk area.

24th Ave S/S Kent Des Moines Rd: Traffic moves quickly along S Kent Des Moines Rd. There is a painted Right-of-Way line that visually separates the shoulder of the road from the driving lane. However, this shoulder of the road is narrow and the speed of cars on this road is significant and while the painted line helps to define the walking area it provides no protection. This is not a safe place for pedestrians of any age to walk and was brought up by parent participants on the walk as a reason they do not let their students walk in the neighborhood.

Despite its dangers, many people still walk here, primarily adults and high school student's commonly-used walking route. We would like to encourage walking and support the demand for a safe walking environment. This road connects bus riders to transit stops, education facilities such as the elementary, middle, and high schools to the north and Highline Community College to the south. Additionally, Grace Lutheran Church is a community asset and a draws people for services and programs on weekdays as well as weekends. The 7-11 is another pedestrian generator and one that is commonly visited by high school students. The lack of pedestrian facilities encourages unsafe behavior and pedestrians should not be unduly penalized for poor behavior particularly when facilities are inadequate.

- It is important to encourage pedestrians to be extraordinarily cautious on this road. There is an opportunity to provide education for the middle and high schools in addition to the ones that have been provided to the elementary school students.
- Consult with Feet First on how to organize a crosswalk action at the intersection of 24<sup>th</sup> Ave S and S Kent Des Moines Rd. A crosswalk action is a community led event where pedestrians continuously walk back and forth across a crosswalk with signs and brightly colored clothes. This is a great way to maintain the momentum created in the recent walk to school days that have been happening this fall and increase community awareness of pedestrian issues. Because of safety concerns it is important to be strategic in organizing this event.
- The City of Des Moines can support walking with short term and long term solutions.
  - S Kent Des Moines Rd may benefit from speed feedback signs as well as a speed enforcement campaign. The campaign can begin by warning speeding drivers and being clear about when ticketing will begin.

- Make this area of S Kent Des Moines Rd a priority for improving pedestrian's safety. Ideally, this would include adding sidewalk infrastructure and other speed reducing design solutions along the length of the road from SR99/Pacific Highway to Marine View Dr S.

School Parking Lot Exit Sign: Work with the School District and the Des Moines Police Department to determine the most appropriate way to sign this area of the parking lot. The current visual information is unclear for drivers and may be adding to some of the confusion.

Encouragement Campaign: Derek Severson, the Midway Physical Education teacher, has been organizing and conducting walk to school events for much of October, with support from Midway Elementary, Highline School District, the City of Des Moines, and the Des Moines Police. Many of the students at Midway Elementary School are within walking distance from the school and can be supported in the effort to change behavior. Feet First recommends continuing to support Derek Severson and the Midway Elementary School staff in their effort to encourage students walking to and from school. Behavior change takes continued effort. Feet First recommends that Midway Elementary School look into further funding for Safe Routes to School programming from other sources including National Safe Routes to School mini-grants for incentives and outreach assistance as well as the City of Des Moines.

## Contacts & Project Information

**For more information about this report, CPPW, or Feet First, please contact:**

Jen Cole, Safe Routes to School Program Director  
Tel: 206.652.2310  
[jen@feetfirst.org](mailto:jen@feetfirst.org)




Lisa Quinn, Executive Director  
Tel: 206.652.2310  
[lisa@feetfirst.org](mailto:lisa@feetfirst.org)




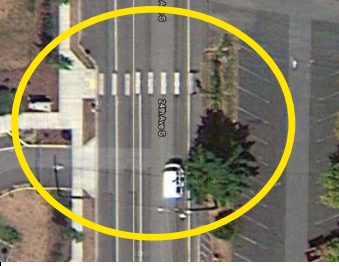
Gia Clark, Active Communities Mapping Specialist  
Tel: 206.652.2310  
[gia@feetfirst.org](mailto:gia@feetfirst.org)





Feet First  
314 1<sup>st</sup> Ave South  
Seattle, WA 98104





Feet First is a 501(c)(3) non-profit organization. Feet First promotes walkable communities through advocacy, community organizing, research, and education.


## Appendix I – Walking Audit Field Notes

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
1	School Parking lot	x				x		Many students that live within walking distance get rides from parents/guardians.	Encourage students and adults to walk to school. Derrick Severson has been organizing a number of very successful walking events in October mobilizing not only the Midway students and parent/guardians as well as the local Des Moines police and other community members. Walking to school programs need to be sustained as a means to make change. Build on the momentum from the fall walking events to continue to encourage parents/guardians to walk with their students.	
1	School Parking lot				x	x	x	The school staff at Midway are working to make the pick-up and drop-off process go smoothly. The high volume of cars traveling through the area for student pick-up is a main concern at Midway. Cones effectively preserve crosswalk space and narrow lanes but drivers often get agitated with parking lot restrictions.	Work with parents to volunteer and assist in making the pickup process easier and safer by asking the drivers to assist in regulating the process. For example, an adult that picks up their student every day could be approach to help at dismissal time. Then when they have first hand experience of how chaotic the scene is they may be more invested in not only asking other parents to stop driving but may have motivation to stop driving themselves.	
1	School Parking lot	x		x			x	There is some confusion at the exit of the parking lot. There is a posted sign shows right turn only, however the original paint shows three lanes of traffic flow (entrance, left turn, right turn).	Work with the School District and the Des Moines Police Department to determine the most appropriate way to sign this area of the parking lot. The current visual information is unclear for drivers and may be adding to some of the confusion.	
1	Crossing Guards at Crosswalks	x					x	There are two official crossing guards for Midway Elementary. One is stationed at the exit of the parking area and 226th S, the other is located at the crosswalk at the north entrance to the parking lot and the mid block crosswalk to the church. Each of these crossing guards has a bright crossing flag but insufficient crossing gear.	<a href="#">Midway Elementary can apply for a "Mini-grant" through the National Center for Safe Routes to School to get vests, hats, walkie-talkies. Additionally, there is an opportunity to begin a student patrol program at Midway.</a>	

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
2	Crosswalk at S 226th S and 24th Ave S	x			x	x		This crosswalk is a well placed and well used connection point for pedestrians crossing 24th Ave S. Many of the Midway Elementary students use this to cross the street to walk home to houses in the SE corner of the school walk zone. Many middle and high school students cross 24th Ave at this location to access the bus stops.	While this crossing location functions well for now, it is a singular functional aspect of the walking environment in a neighborhood that needs many improvements. Improvements such as adding overhead lighting or flashing warning to this crossing location could be incorporated as part of improving the entire 24th Ave S pedestrian infrastructure.	
3	24th Ave S (between S 216th St & Kent Des Moines Rd)			x	x			Traffic volume on 24th Ave S is high at all times of day but increases significantly at the start and end of the school day. 24th Ave S is a local road used to avoid traffic on Pacific Highway S and connect between 516/Kent Des Moines Rd and S 216th St. Traffic patterns are generally manageable, however, there are concerns about speed and the PD sometimes targets this area for speed traps.	Midway Elementary staff and Highline School district can continue to work with the Des Moines Police Department to encourage and enforce drivers to obey posted speed laws. Midway staff can assist by informing student parent/guardians about the posted speed limit signs. The City of Des Moines has also recently initiated a new School Zone Safety Program which Midway staff, partner/guardians, and School District officials can look into for further support. <a href="http://www.desmoineswa.gov">www.desmoineswa.gov</a>	
3	24th Ave S (between S 216th St & Kent Des Moines Rd)		x				x	This whole stretch of road is unsafe for walking and biking. 24th Ave S exemplifies a general lack of pedestrian and bicycle infrastructure through out much the Midway neighborhood. The City has participated in similar walking audits before and is invested in making improvements.	The City of Des Moines should extend the sidewalk on the west side of 24th Ave S. Currently there are intermittent segments of sidewalk which, if connected could greatly improve both the safety and the experience of walking in this neighborhood.	
4	Crosswalk at 24th Ave S/ Church Parking lot	x	x	x	x	x	x	The sidewalk bulb-out effectively narrows crossing distance and the paint is bright, clearly designating this as a crosswalk. The concern at this location is the crosswalk location. The crosswalk connects the school to the church parking lot but does not consider travel beyond the parking lot. Students heading to S 224th St must then walk 86 yards (260ft) with their back to traffic with little clearance because of a deep drainage ditch on the east side of 24th Ave S.	Feet First recommends that the city immediately improve the pedestrian infrastructure on the east side of the street. This crosswalk is designed explicitly for drivers who park in the church parking lot and not for pedestrians that need to cross the street and then continue traveling north. Additionally as it is designed now the crosswalk does not connect well even to the parking lot forcing people to walk in and out of the driveway entrance. See Field Note #6	

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
5	24th Ave S / Church Parking lot	x			x	x		The Midway Community Covenant Church parking lot across the street from the school is a favorite parking location for parents to drop off students and or park and pick up students while avoiding the Midway parking lot. However, many of these adults do not cross 24th Ave S at the cross walk and cut through the parking lot adding to the confusion and congestion in the Midway pick-up area.	Work with parents to educate and encourage people who park in the church parking lot to use the appointed crosswalk locations, to stay on the sidewalk in the Midway parking lot and to return with their student to the car in the same manor. This is an opportunity for adults model safe walking behavior to the students.	
6	24th Ave S between Church parking lot and S 224th St		x				x	This stretch of 86 yards along 24th Ave S is problematic and warrants continued conversation between the Highline School District, Midway Staff and the City of Des Moines. There has already been much discussion about this area	If the City of Des Moines chooses to keep the crosswalk at its current location in front of the church parking lot they must improve the stretch of road between the crosswalk and the sidewalk on S 224th St. As it is now the engineering of this crosswalk suggests to pedestrians that they should cross here and then walk with their back to traffic if they are heading north. According to (RCW 46.61.250) pedestrians must walk facing traffic.	
7	24th Ave S / S 224th St		x		x		x	Pedestrians frequently cross 24th Ave S to the sidewalk along S 224th St. While this is a legal crossing location, it is unmarked. Previously this location had a marked crosswalk but it was removed to encourage pedestrians to cross at the church parking lot crosswalk instead.		
8	24th Ave S / 226th St	x					x	High school and middle school students gather at the bus stop on both sides of 24th Ave S. Students tend to congregate in the bus waiting area but depending on the number of students the area can not accommodate the numbers. The bus stop on the east side of 24th does not have an overhead shelter. The bus stop on the west side of the street does not have adequate waiting area landing pad, seating or overhead shelter.	<a href="#">Improving the waiting area for bus riders is an important element of supporting transit ridership. Feet First recommends that community members work with City and County representatives to maintain adequate service to these bus stop locations. Look into the recently formed Save Our Metro campaign for grassroots organizing around metro cuts.</a>	

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
9 S 226th St						x		226th is used by drivers as a cut through from Pacific Highway. There is no sidewalk on the north side of the road but a clear and safe sidewalk on the south side of the road. Participants noted that there is occasionally graffiti in the area and specifically pointed out a Swastika painted on ground.	Work with community members to maintain areas free from graffiti.	
10 28th Ave S		x					x	The city recently installed no parking on signs at the intersection of 28th Ave S and S 227th Pl to improve sightlines and reduce the number of cars parking on the street. However, 28th Ave S still prioritizes vehicles not pedestrians. There is no sidewalk or even a marked walking area clear for pedestrians. As a result students walk in the road. Often when walking to and from school the area is dark and foggy. The single street light does not provide sufficient light to make pedestrians visible to cars.	Work with the City and property owners to install lighting near the multifamily apartments. Work with property owners and city staff come up with creative ways to allow for parking while also providing a designated walking path for students. One option is to add parking stop blocks 2-3 feet from the current street edge making a designated area for walking. This would narrow the road but not significantly and also accommodate pedestrian safety.	
11 S 227th Pl		x					x	There are no designated walking areas for pedestrians. Cars park close to edge of street forcing pedestrians to walk in the middle of the street.	Work with property owners and city staff come up with creative ways to allow for parking while also providing a designated walking path for students. One option is to narrow the street by adding in sidewalks or pedestrian right of way markings. This would narrow the road but not significantly and also accommodate pedestrian safety.	
12 26th Ave S		x					x	There are no designated walking areas for pedestrians. Cars park close to edge of street forcing pedestrians to walk in the middle of the street.	Work with property owners and city staff come up with creative ways to allow for parking while also providing a designated walking path for students. One option is to narrow the street by adding in sidewalks or pedestrian right of way markings. This would narrow the road but not significantly and also accommodate pedestrian safety.	

Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
13	Path S of School	x				x		Students that live to the southwest and the northwest of the school can connect to the middle school and the elementary school by walking clear well lit walking paths on the side and behind the school. This is a thoughtful design element that supports and enables students to arrive to school by foot.	Students should be encouraged to use these connection trails and the Highline School District should be recognized for having thought about the interior circulation of students. This is a great example of how campus design can improve options for walking and biking to school.	
14	24th Ave S/Kent Des Moines Rd		x	x	x		x	Traffic moves quickly along S Kent Des Moines Rd. There is a painted Right-of-Way line that visually separates the shoulder of the road from the driving lane. However, this shoulder of the road is narrow and the speed of cars on this road is significant. This is not a safe place for pedestrians of any age. However, it is a commonly used walking route despite the dangers.	Kent Des Moines Road needs to have improved pedestrian infrastructure or there needs to be concerted effort by the City to improve alternative routes for pedestrians other than Kent Des Moines Rd.	

## Appendix II – Guidelines for Bicycle Parking at Schools

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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.

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.

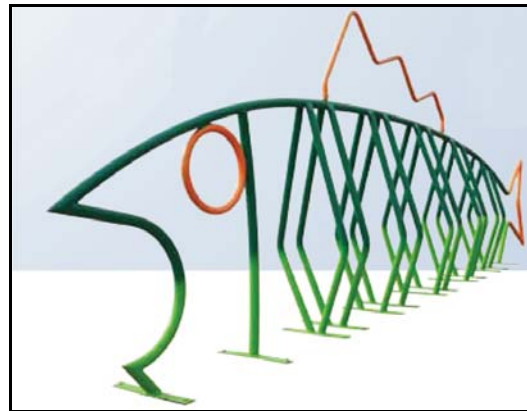
**Costs:** The cost to purchase and install bike rack varies, but is almost always cheaper and more efficient than providing car parking:

- 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.



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

**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](mailto:JohnV@bicyclealliance.org)