

Pioneer Elementary Walking Audit



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Overview of Program

Communities Putting Prevention to Work: Pioneer Elementary, Auburn School District

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, these 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. These efforts span the “5 E’s” of SRTS: Education, Encouragement, Enforcement, Engineering and Evaluation.

The ultimate goal of this grant is to encourage more children to walk and bike to school, thereby helping combat childhood obesity. Childhood obesity rates have more than tripled in the past thirty 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 fourteen walked or biked to school, compared to 48 percent in 1969.¹ Childhood obesity is associated with cardiovascular disease and diabetes.

Three walking audits in Auburn will be used to identify and prioritize nonmotorized improvements. They have been timed to coincide with the school district transportation planning meeting scheduled for June of 2011. Additionally, the recommendations in these audits can be applied to SRTS programs at other schools in the district.

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

Methodology

The first step 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 from teachers and staff at the school. The second step of this program was to meet with community stakeholders including teachers, staff, PTA members, and other community partners, if available.

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 Auburn School District participants, community partners and primary school contacts. The Pioneer Elementary audit took place on Tuesday May 17th, 2011. The audit 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, Principal Debra Gary worked diligently with principals, faculty and staff at Pioneer Elementary, to gather parents, neighbors, city staff, and concerned citizens. John Vander Sluis of the Bicycle Alliance of Washington and the dedicated Auburn School District Director of Transportation, Dennis Grad, worked to identify and contact city planners, engineers, transportation specialists and the police department to solicit their participation in this community and coalition building process.

The Pioneer Walking Audit Participants included:

King County Public Health - Donna Oberg
City of Auburn planning - Chris Hankins
Auburn School Board - Ray Vefik
Auburn School District Transportation - Dennis Grad
Auburn School District Safe Walking Routes Committee - Kristen Bruhahn
Auburn School District Police - Robin McCluskey
Pioneer Elementary Principal - Debra Gary
Pioneer Elementary PE teacher - Michael McKinley
Pioneer Elementary Staff - Karen DeGroot
Pioneer Elementary Staff - Marissa Spaid
Pioneer Elementary Staff - Rashelle Thornhill
Pioneer Elementary Staff - Crystal Morrison
Pioneer Elementary Staff - Patty Ahkenfelt
Reporter for Auburn Reporter - John Loboell
Bicycle Alliance of Washington, Safe Routes to School Program Manager – John Vander Sluis
Feet First Active Communities Mapping Specialist – Gia Clark
Approximately eight students, many of whom often walk home daily joined the walk.

Overview of School

Pioneer Elementary

Pioneer Elementary serves 375 pre-kindergarten through fifth grade students from the City of Auburn. The school has a rich cultural diversity: half of the students are Hispanic, and a third are Caucasian. Over 40% are English language learners, and over 80% qualify for free or subsidized school lunches. The school is located at 2301 M Street SE, Auburn, Washington.

Pioneer is a nationally recognized leader in Safe Routes to School work. Through the efforts of City of Auburn, Pioneer Elementary School, and Auburn School District staff - and the acquisition of a Washington Safe Routes to School grant - Pioneer has cut the number of required buses from seven to one. The school remains committed to promoting physical activity; the gym opens before school so students can participate in semi-structured activities, students participate in 45-minute PE classes three times a week, students take a 15-minute class break in the afternoon for walking, and more. School administration credits the students' high test scores in part to this commitment to physical activity.

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. When student drop-off and pick-up procedures seem to be particularly dangerous, Feet First is available for consultation to examine the circulation patterns and behaviors that may be contributing to the pedestrian/vehicle points of conflict.

Bicycling:

The area surrounding the school is largely supportive of student bikers. Beginner riders can use the sidewalk network and off-road trail to ride off-road, and more advanced riders can make use of the (generally) slower speed neighborhood streets. Bike lanes are present on many of the local collector streets. However, none of the youth bikers who were observed during the audit were wearing helmets and could benefit from efforts to promote helmet use. A number of sources for free helmets will be provided to the school.

The school's bike parking is better than that found at many other schools. Racks are provided in a gated alcove by the main entrance, providing secure parking that is very visible to school users but not passersby. Bike parking could be improved by upgrading to a "staple" or other design style that supports the bike's frame and provides a way to lock the frame to the rack. This would improve security and increase the life of the bikes. Bike parking may be more of an issue at the other end of kids' rides – the school could seek opportunities to provide more locks to students, and the City could work with apartment owners to provide more secure storage locations. See the field notes and attached guide to bicycle parking for a brief overview of bike parking location concerns.

Ridership may also be hindered by families' economic constraints. The school and district are seeking partnerships to put more bikes in kids' hands. Rotary and other community groups are often available to fund bike drives and to repair families' damaged bikes. Programs such as in Southeast Seattle's Bikeworks offer kids a chance to earn a bike through community service.

The pedestrian elements discussed in the remainder of the report generally apply to kids on bikes as well; efforts to slow cars, decrease crossing times, and increase visibility all benefit both modes of transportation. The gravel parking area behind the school may pose additional challenges to kids on bikes due to the increased exposure to traffic and the risk of losing balance on loose gravel.

A more detailed bike-audit was conducted by an intern with King County Public Health, and will be provided to the school.

Pioneer Elementary Walking Audit

Walking Audit route:

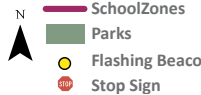
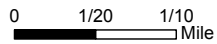
The walking route examined a number of challenges that are representative of challenges that students face during their walk to and from school. This route was chosen so that these recommendations could be applied in other areas with similar infrastructure barriers. There were also a number of points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

The Pioneer walking audit route focused on the area immediately around the school, in particular we looked at the success of the completed projects led by Principal Gary and her staff along F Street SE (pt. 10). It should be noted that both Principal Debra Gary and her dedicated staff were active in supporting both the engineering changes along F Street SE as well as the educational and behavioral changes that have led to the improved walking condition for residents and students. Many of the students that attend Pioneer live close to the school and with the changes that have been made in the walking environment at the school all but one bus has been eliminated from the school's transportation option. The walking audit route examined the area around the school that could still use additional improvements.



Dashed line represents walking audit route.

Numbers correspond to field note observation point.



Walking Audit Top Observations:

1. The Pioneer Elementary designated walking area has consistent and connected sidewalks throughout much of the single family residential neighborhood to the north, east and south of the school.
2. The addition of the walking path at point #10 near Pioneer Elementary is an excellent demonstration of the Safe Routes to School program. The coalition building and collective effort of the school staff, Auburn School District, and city of Auburn shows that small improvements can make tremendous changes in community health and well being while also reducing transportation costs.
3. Pioneer Elementary has reduced bus service to the school from six buses to one bus. This is a remarkable feat. The majority of these students now walk home, often with adult supervision. The school area at dismissal time is alive with pedestrian activity and adds to a general sense of community and safety.



Successful example of SRTS program installing a 'walking path' to improve options for students to walk to school.

Walking Audit Top Recommendations

1. Rear exit to school – Work with the Auburn School District transportation department to address drainage and create a designated pedestrian area. Some suggestions include angled-in parking to improve sightlines of cars, signage on fence (with diagrams) to encourage angled-in parking, installation of concrete tire stops to keep a separated area for pedestrians between the fence and the road. When addressing the puddles and drainage issue along this area, the school district should consider replacing the gravel with permeable paving options if possible.
2. K Street SE crossing – Add reflectors to this crosswalk location or an overhead flashing crosswalk sign to highlight pedestrian travel before and after school. Additionally, overhead lighting such as street lights would increase pedestrian visibility. Work with the Auburn Transportation Department to determine the most appropriate overhead lighting for this location.
3. Head Start parking area – This area like the section of gravel at the exit of the school, needs to be addressed to support pedestrian safety. The school district can use a similar approach in this location as is proposed at the rear exit to the school.
4. K Street SE sidewalks – The length of K Street SE between 21st SE and 25 Street SE is primarily without sidewalks. Students from Pioneer Elementary School travel both north and south on K Street SE both before and after school. Additionally, this is a connector street for many of the Olympic Middle School students. Work with city officials to install as a designated walking area for students. This could range from a low cost painting of a right of way line, individual barrier blocks as used in the walking path along F Street SE between 25th Street SE and 26th Street SE, or ideally, full curb, gutter, and sidewalk.



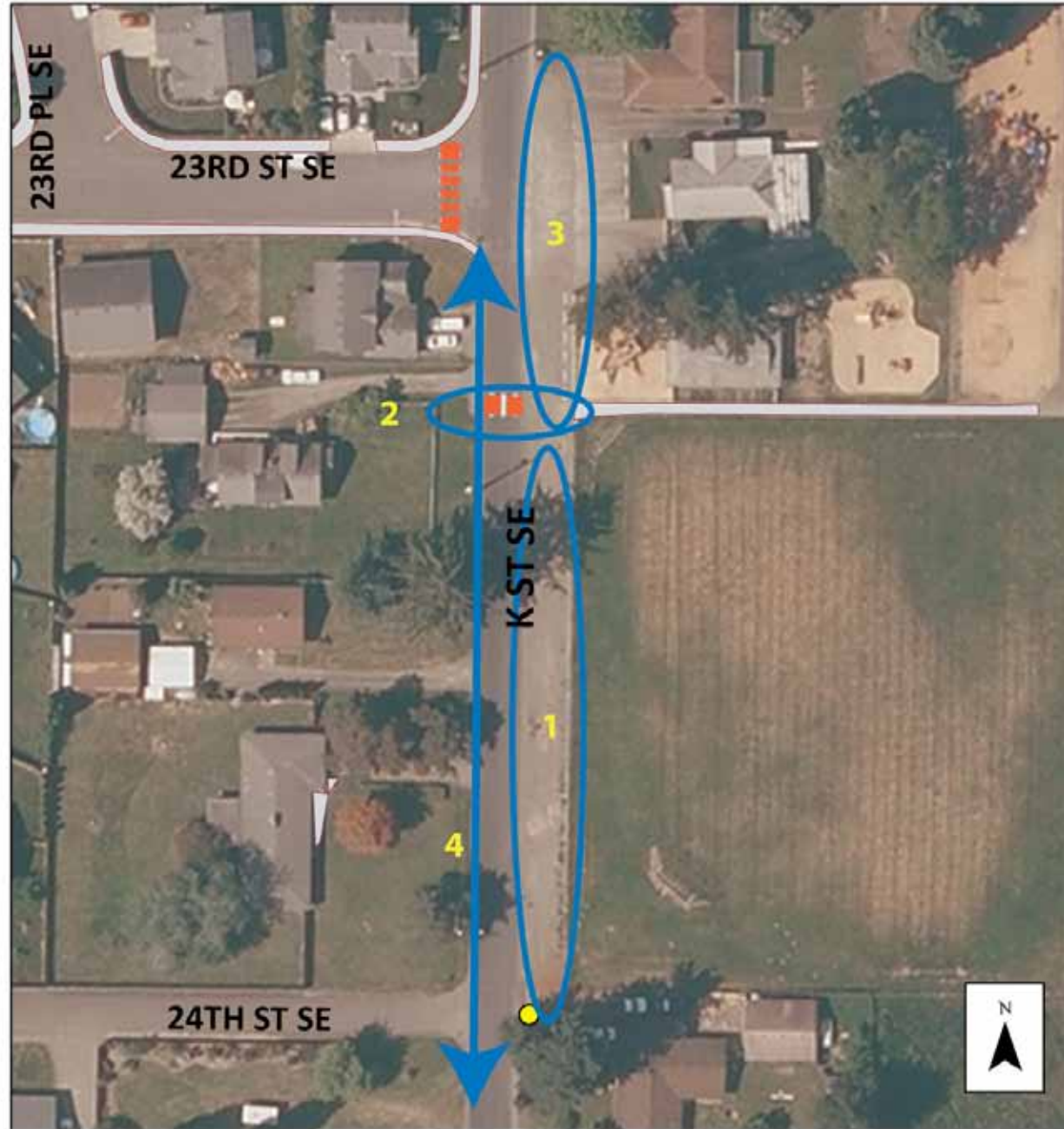
Recommendations 1 and 3 suggest using car stops to designate angle in parking and create a pedestrian walk way between cars and fence.










Overhead lighting and/or pedestrian flashing lights in ground or over head will alert drivers when pedestrians are crossing the road.




Auburn Pioneer Elementary





- School Flashing Signal
- School Zones
- Crosswalk
- Sidewalk









Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
	School Grounds	x						The metal barriers are solid and effective means of delineating pedestrian and vehicle space. They help to funnel pedestrian traffic to designated crossing points.		
	School Grounds	x						The bicycle locker area is secure and a great school amenity. It could however be moved to a more visible and convenient location. This particular bicycle rack style does not support the weight of the bike frame or allow frame to be locked to the rack	As part of future walk and bike campaigns apply funding to replace the bike racks with racks that allow the frame to be locked as well as the wheel.	
1	K Street SE school exit	x					x	When cars are parked in the gravel area behind the school for baseball games or school events, children and adults walk behind the parked cars instead of at the front. This leads them to be both in the street and to be in a less visible position when cars are backing out. Drainage is a problem and the area often has large puddles.	Work with school district officials to install a physical barrier to prevent cars from parking so close to the fence thus creating a designated pathway for pedestrians to walk in front of the car. Metal barriers, like the ones in the front of the school, could be used.	

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
2	K Street SE crossing	x						This is a useful crossing and the guard is a community asset to assist students safely across the street. It would be useful to have the area lit during the winter months when it is dark on the way both to and from school. This could allow safe crossing when there is not an adult crossing guard to assist the students.	Add reflective markings to the crosswalk or consider an above street lit crosswalk sign to light the crosswalk during the fall, winter, and early spring months. This would also assist safe crossing when there is not an adult crossing guard at other times of the day. Designate the areas near the crosswalk as no parking zones to maintain clear sightlines.	
3	K Street SE near crossing	x		x	x			The area behind the Head Start program has similar pedestrian challenges as the area gravel area mentioned in pt. #2.	Work with school district officials to examine this area behind the school while looking at the adjacent parking concerns behind the playfield. Consistent messaging for pedestrians and motorists is important when considering changes to these areas.	
4	K Street SE	x						While there are sidewalks along a portion of K Street SE, the majority of the street does not have a designated walking area. The stretch of road on K Street SE from 21Street to 25th is heavily traveled by students.	Work with the City of Auburn to determine if K Street SE can receive sidewalk or 'walking path' funding.	
5	21st Street SE	x						Fairly busy road with what seems like fast traffic flow. There is not a light on 21Street Street SE between A Street SE.	Consider a pedestrian crossing light that operates during school hours.	

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
6	21st Street SE	x						Pleasant landscaping along the street.		
7	21st Street SE near H Street SE	x						Tree blocks street light and visibility. Unfortunate placement of pole and crosswalk can hide people waiting to cross. This crosswalk location serves not only some of the Pioneer Elementary students but a number of Olympic Middle School students.	Consider a pedestrian crossing light that operates during school hours or possibly an over head crossing light. In the short term, adding flag buckets and crossing flags to this location could improve pedestrian visibility as well as trimming back tree branches that obscure the street light and pedestrians.	
8	23rd and F	x						Look at installing a crossing to accommodate pedestrian traffic, there is just one crosswalk across F Street. Also trees along F could use trimming	Work with Auburn School District to understand the proposed plans for Olympic Middle School and how these changes can support Pioneer Elementary School students that travel along F Street. Request tree trimming along sidewalk to allow clear passage for pedestrians.	
9	24th and F							Pedestrian flow is north/south but there is no marked crossing.	Installing a crosswalk marking would improve pedestrian visibility.	

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
10	F south of 25th Street	x						These are the asphalt walking paths installed previously through the dedication and commitment of the strong coalition between Pioneer Elementary, school district transportation department and the city. Many of the participants involved in the project credit this improvement as a key component in encouraging many more families walking their children to school.		
10	F south of 25th Street	x						Nice walking path clearly defines walking area		
11	25th Street SE	x						Missing sidewalks, however it has been helpful that the previous barrier was removed, so now there are only the bollards which stop cars but are very inviting for walking and cycling.		
12	25th Street SE	x						An example of the pleasant walking environment along the street where cars are not allowed.		

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
13	Cedar Lanes Park	x						Interesting trees are in the Cedar Lanes Park. Middle school students commonly walk through the park.		
14	25th Street SE and K Street SE	x						One of the flashers is too far apart to effectively slow traffic.	Work with school and city transportation departments to determine the appropriate distance for sign placement.	
15	M Street SE and 23rd SE	x						Pleasant entrance area, with lots of sidewalks, many parents accompany the children.	This is a highly traveled pedestrian area. School can work with officials to maintain sight lines for crossing pedestrians by pulling stop bars back from the crossing locations as well as enforcing the no parking zones. No parking zones could also be increased in length.	
15	M Street SE and 23rd SE	x						Adult crossing guard seems to be effective.		

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
16	M Street SE north of 23rd SE				x			Participants and school staff commented that many parents will cross M Street at mid block just north of the crosswalk with crossing guard.	Encourage parents to use the marked crossing.	
*	Approaching school	x						There have been improvements along M Street SE north of 21st to protect pedestrians as cars tend to speed around the curve in the road.		
**	Overall	x						There have been many improvements already in the walking environment, and increased numbers of students have been walking.	The before and after shots from posted in Principal Gary's office are wonderful tools to demonstrate the impact the walking path has made on the physical environment. Documenting changes as project move forward is encouraged.	

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.

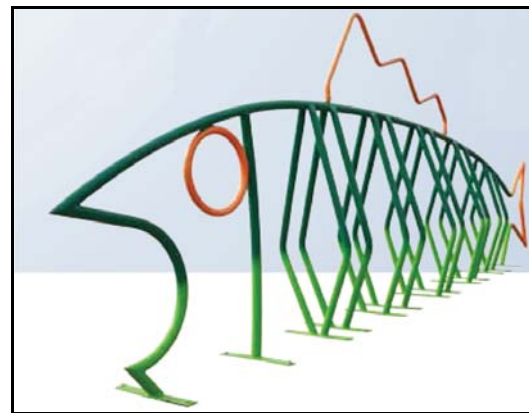


“Wheel-bender” racks (above) can damage wheels and don’t allow frames to be locked to the rack.

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