

Terminal Park Elementary Walking Audit



Table of Contents

Overview of Program	1
Methodology	1
Community Participation	1
Overview of Terminal Park Elementary	3
Terminal Park Elementary	3
Bicycling in the Area	3
Terminal Park Elementary Walking Audit	4
Walking Audit Route Map	4
Walking Audit Observations	4
Walking Audit Recommendations	5
Walking Audit Recommendations Map	6
Walking Audit Field Notes	7-12
Guidelines for Bicycle Parking at Schools	13-14

Overview of Program

Communities Putting Prevention to Work: Terminal Park 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 Terminal Park Elementary audit took place on Wednesday May 11, 2011. The audit began at the end of the school day to observe the dismissal process, and lasted one and one-half 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 Tim Carstens worked diligently with principals, faculty, and staff at Terminal Park Elementary to gather parents, neighbors, city staff, and concerned citizens. John Vander Sluis of the Bicycle Alliance of Washington and the Auburn School District director of transportation, Dennis Grad, worked to identify and contact city planners, engineers, transportation specialists, and police officials to solicit their participation in this community- and coalition-building process.

The Terminal Park Walking Audit Participants included:

Tim Carstens – Principal at Terminal Park Elementary

Jennifer Isham - Terminal Park Parent

Seth Wickstrom – City of Auburn Public Works

Ray Vefik - Auburn School District Board Member

Officer Robin McCluskey - Auburn School Police

Officer Jeff Doll - Auburn School Police

Dennis Grad - Auburn School District Transportation

Approximately five students, many of whom often walk home daily joined the walk.

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

Feet First Active Communities Mapping Specialist – Gia Clark

Overview of School

Terminal Park Elementary

Terminal Park Elementary serves over 400 kindergarten through fifth grade students from the city of Auburn. The school has a rich cultural diversity: half of the students are African American, Hispanic, or Asian, and half are Caucasian. One-fifth of the students are English language learners, and over two-thirds qualify for free or subsidized school lunches. The school is located at 1101 D Street SE, Auburn, Washington.

The school is likely to be redeveloped when funds become available. While this makes short-term on-campus improvements less likely, over the long-term it will provide an opportunity to incorporate bike and pedestrian needs into the initial design.

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 and pick-up routines are noted in this report.

Bicycling

The area surround the school is largely supportive of student bikers. Beginning riders can use the sidewalks to ride off-road, and more advanced riders can make use of the (generally) slower speed neighborhood streets. Busier streets such as 17th Street SE have wide shoulders or bike lanes. However the youth bikers who were observed during the audit were not wearing helmets and could benefit from efforts to promote helmet use. Several sources for free helmets will be provided to the school.

Most of the issues detailed in the following field notes affect students on bikes as well as walkers. In some cases kids on bikes may be even more affected – for example, the double-parked cars in the parent pick-up area could force bikers to choose between running a narrow gauntlet and risk getting “doored,” or avoiding the double-parkers by riding immediately next to oncoming traffic. School Policy should designate a specific bike rider release door at another building exit away from this area to avoid this area of bike and vehicle conflict.

The school provides parking for bikes behind the main school building; however, this parking could be improved in many ways. For example, the racks have been bolted to the ground too close to a wall, so that bikes must be parked crossways across the rack – thereby reducing its storage capacity. The rack’s location also encourages bikers to ride through the staff parking lot rather than providing direct access to the street. Finally, improved parking would be located in a covered, secure area where school staff could easier observe it – these measures would decrease the risk of theft and increase the life of the bikes. See the attached guide to bicycle parking for a brief overview of bike parking location concerns.

Terminal Park 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.

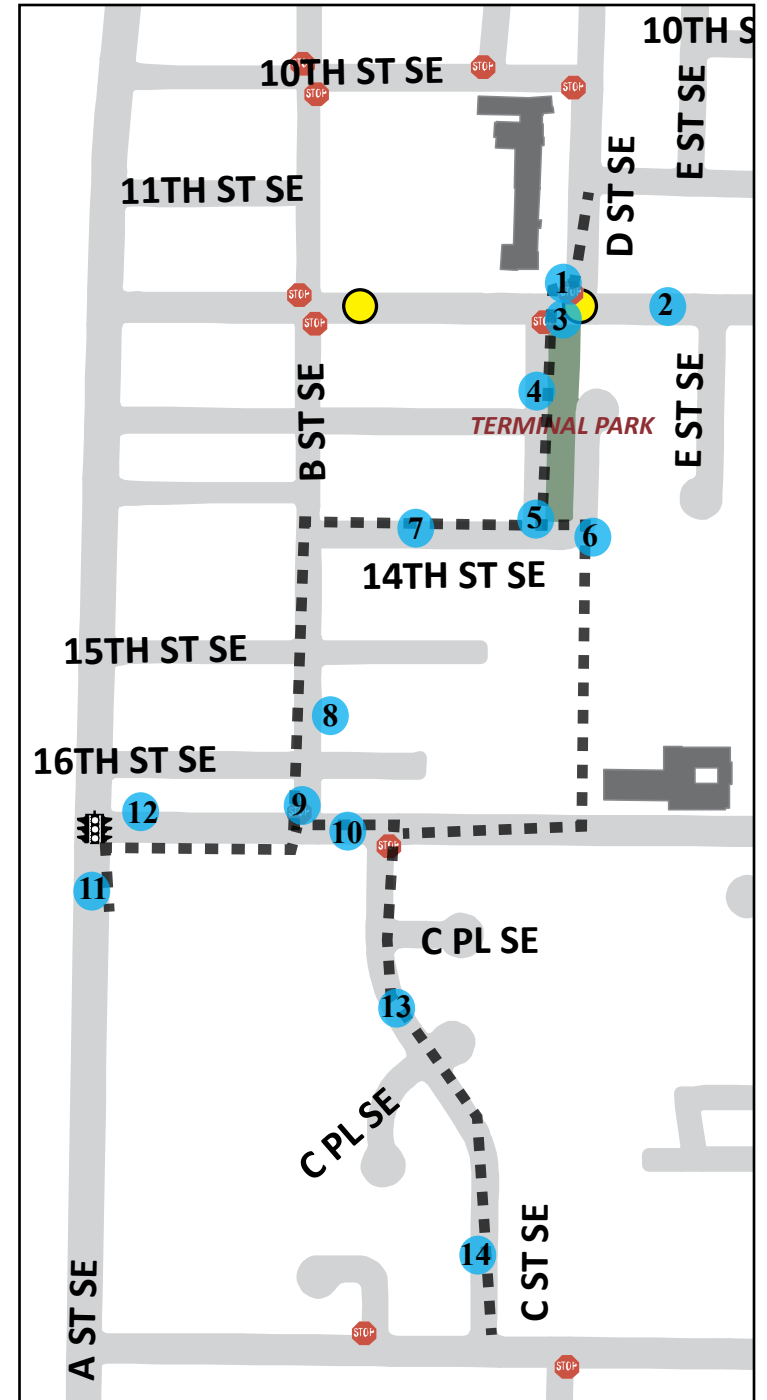
The Terminal Park walking audit route focused on the neighborhoods south of the school, in particular the route along B and C Streets SE between 12th Street SE and 21st Street SE. It should be noted that both Principal Tim Carstens and Auburn School District Director of Transportation, Denis Grad, suggested this route as a potential way to broaden the walking area for Terminal Park. Many of the students that attend Terminal Park live close to the school but receive bus service because of specific problem intersections, notably along A Street SE and 17th Street SE. The walking audit route examined these areas in order to make recommendations that would assist in creating safe walking routes to school for these students.

Walking Audit Top Observations:

The Terminal Park 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. The sidewalks are level and easily navigable most of the time; however, during periods of heavy rain some of them pool with water.

The currently defined walking area for Terminal Park Elementary is bounded on the west by A Street SE, diagonally on the east and northeast by Auburn Way S, and on the south by 17th Street SE. While there are significant challenges to increase the walking area beyond A Street SE and Auburn Way S there is an opportunity to extend the southern boundary across 17th Street SE to Terminal Park's draw boundary at 21st Street SE.

The major east/west corridors in this neighborhood are 12th Street SE, 17th Street SE, and 21st Street SE. The City has tried to make these streets more bike and pedestrian friendly by adding bike lanes in both directions, and installing sidewalks. However, travel north/south is limited to a few designated crossing locations.



Walking Audit Top Recommendations

If the walk area for Terminal Park Elementary expands to include students that live in the nearby apartment complex at 1750 A Street SE there are two critical aspects of the walk that need to be addressed. The first is to improve pedestrian safety along A Street SE (observation point #11 – recommendation #1) while improving pedestrian safety at the intersection of A Street SE and 17th Street SE (observation point #12 – recommendation #2) or providing the students with another safe crossing along 17th at B Street SE or C Street SE. Recommendation #3 specifically addresses walking connectivity for students who live on C Street SE south of 17th Street SE and who currently receive bus service.

1. A Street SE: To improve pedestrian safety along A Street SE work with city officials create a visual and physical separation between the pedestrians and vehicle traffic. Ideally Auburn planning and transportation can incorporate a planting strip along the length of A Street SE turning the length of A Street more into a tree lined boulevard. This however is a long term planning project that may not be readily incorporated into city priorities. Short term solutions to designate a safe pedestrian walking area along A Street SE include the installation of cement barriers, metal railing, and/or reflective cones particularly at and approaching intersections. Each of these options clearly communicates to drivers that there are pedestrians using the sidewalk along A Street SE.

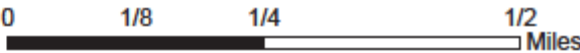
2. A Street SE & 17th Street SE: This intersection is particularly problematic because cars that are turning right from A Street SE onto 17th Street SE with great speed. Luckily there are a number of ways to improve this intersection. First, repaint the crosswalk, which is a simple fix that can be done immediately. Second, reduce the turning radius by squaring the corner to reduce turning speed while also reducing the exposure time for pedestrians. This can be done by physically adding cement to the corner or using other physical barriers to indicate to drivers that the turning area is narrower. Alternately, the installation of a pedestrian refuge area would also shorten the travel distance for pedestrians. Third, add a timed pedestrian crossing that allows pedestrians the exclusive right of way to cross without car traffic allowed to turn right or left onto 17th Street SE. Auburn school district officials should work with City planners to determine the viability of this option.

3. 17th Street SE: Install a north/south crosswalk across 17th Street SE at either B Street SE or C Street SE. Work with city transportation and engineering officials to determine precise positioning for this crosswalk. Installing a painted crosswalk at this intersection will direct and concentrate the pedestrian crossings that are already quite prevalent at this intersection.

4. B Street SE: Connect sidewalk infrastructure along B Street SE between 14th Street SE and 17th Street SE. Work with city officials to create sidewalks connecting the existing sidewalks along the east side of B Street SE and to resolve the drainage problem on the gravel walkways. This particular stretch of B Street SE is already a well-traveled walk to school route for several students. It also serves as a community connection to Metro bus options available on 17th Street SE.

5. Holy Family Catholic Church: Work with the Holy Family Catholic Church to address concerns of parent speeding in the neighborhood. Some parents of the students at Holy Family may be unaware that there is a public school so nearby. Principal Carstens has a working relationship with the church, and a number of Terminal Park families are or have been members of the church. As part of this relationship building between Terminal Park and Holy Family, discuss the possibility of creating a walkway designated for students to use along the west side of the existing driveway. Ideally this walkway would also allow for students to move their bicycles.

Auburn School District Terminal Park Elementary











Legend





- Stop Sign
- Pedestrian Crossing
- School Zone Flasher
- Traffic Signal
- School Zones
- Bike Lane
- Crosswalk
- Parks
- Parking
- Current walk area
- Proposed addition to walk area
- Top walking audit recommendation areas



Terminal Park Elementary










Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
1	D St SE. & 12th St SE	x						Crossing guards assist students to cross the street before and after school at this location. This is a great connecting point to Terminal Park. These crossings are well placed on both 12th St SE and on C however the paint is starting to fade. This area does also have heavy car traffic at pick-up and drop-off with patterns of unsafe driving behavior such as illegal parking and three point U-turns.	Work with city officials to have the crosswalk repainted. Ensure that student patrol guards wear safe and reflective clothing. Additionally, a community activity could include marking the roadway with the school mascot to denote the entrance into the school zone.	
2	12th St SE	x						There are flashing beacons along 12th as well as designated bike lanes	If flashing beacon lights need maintenance please call:	
3	12th St SE to Terminal Park	x								
4	Terminal Park	x						Terminal Park is a great local amenity. Students can access the park easily from the corner of 12th and D St SE as well as at an entrance on D St SE and 13th St SE.	This location can be a great gathering spot for encouragement events and as a place to practice pedestrian safety.	

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
5	Terminal Park to 14th St. SE							The park is well connected to a safe crossing on 12th St SE, the park lacks a clear connection on the south end of the park. There is no clearly marked crossing location.	Work with city officials to determine an appropriate crossing location and markings.	
6	North side of Holy Family property							Carpool traffic from Holy Family contributes to the traffic in the neighborhood. This is also a commonly used cut through for the Olympic Middle School students. When the gate is closed students figure out ways to get themselves and their bikes over the fence.	Partner with the Holy Family community in an encouragement campaign to slow down driving speeds. Work with the church to discuss options for students to use the church property as a safe through route from 17th to 12th. Suggestions that came up in discussion were adding in a separated fence area on the west side of the driveway. The designated walkway could allow students to walk themselves and their bikes through the area without intersecting with Holy Family parent pick up routines.	
7	14th St SE	x						There are continuous and well constructed sidewalks throughout much of the Terminal Park walking area.	Work community members, school staff and city officials to identify the missing connections between the existing infrastructure.	
8	1400 - 1500 B St SE (east side of the street)		x					The stretch of distance between 14th St SE and 16th St SE lacks an even surface for walking. There are no sidewalks. One section has a gravel 'walkway'. However it is often potted with holes which fill when it rains. The other stretch of this segment has a large grass area on which to walk, however, this too gets waterlogged during a rain storm.	Work with city officials to add sidewalk to this section of B St SE. If this portion of sidewalk was added there would be continuous sidewalk on the east side of the street from 17th St SE all the way to 7th St SE.	

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
9	17th St SE & B St SE	x						17th St SE is a busy through road. The speed of travel is higher here than on 12th St SE. There are no speed limit signs and drivers maintain fast speeds as they turn off of A St SE. There is not an official crossing at this location. The closest designated crossing location is at 17th St SE and A St SE (500ft east) or at 17th St SE and F St SE (900 ft west).	Work with city officials to determine how and where a safe crossing location could be installed along 17th. Ideally the crossing location would be close enough to B St SE and C St SE that it would allow students to walk safely from the apartments along A St SE as well as the students that live along C St SE between 17th and 21st St SE.	
10	17th St SE & C St SE							Currently the students that live along C St SE do not walk to school because there is not a safe crossing location across 17th St SE.	See the recommendation for the point # 9	
11	17th St SE & A St SE							Students are bused from an apartment complex on C St SE (500 feet south of the intersection with 17 th St SE) The speed limit on C St SE is 45 mph while the actual speed is likely much higher. There is a wide sidewalk but it does not have an adequate buffer zone (planting strip, parked cars, bike lane, etc.) to encourage safe walking for students.	Efforts to include these kids in a safe walking area should factor in kid-specific pedestrian behavior (ex, dart-outs) as well as driver behavior (particularly fast right turns off of C-Street). If a better crossing is not simultaneously developed per other observations, school should confirm that signal is timed for children, crosswalk is restriped and reinforced with pedestrian refuge island. Additional pedestrian signage/lights could be beneficial.	
										

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
13	C St. SE (17th St SE to 21st St SE)							Trash bins block sidewalk on the days material is picked up. It is currently part of city policy that all bins must be set out 3' away from a car. Perhaps it could be part of policy to have them returned out of the way of pedestrians.	Work with the neighbors and encourage them as well as the city to keep the sidewalks clear of waste barrels. There has been a successful campaign to keep sidewalks clear by placing stickers on the barrels as a reminder to keep the sidewalks clear.	
14	C St. SE (17th St SE to 21st St SE)							Pedestrians should be encouraged to walk on the west side of C St SE to avoid having to navigate the numerous wide cul-de-sac intersections.		

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
1	Crossing location SE to 11th St SE							Student patrol monitors this location in the mornings and evenings. It was mentioned that adding a crossing area through the grass and then again with a supervised crossing through the driveway would keep travel lines clean and easy for students.		
9	Crossing location SE to 11th ST SE							Crosswalk in front of school is in good repair and supervised by student patrol. However, student patrol works without adult supervision. Crosswalk sightlines maintained by placing a cone in the parking spot on either side of it, but parents still violate sometimes. Crosswalk visibility increased by placing a cone halfway across the crosswalk. Patrol has vests and flags.	Provide regular adult supervision to deal with drivers. Provide them a vest, hat or other official bright and reflective gear.	
3	Terminal Park pick up/drop off							The use of metal railing helps to define pedestrian space and vehicle space well. Parents line up along D street.	When designing the new school, efforts should be made to create clear physical delineations between the student area and the vehicle zone. This can be created using more engaging material.	
4	Terminal Park pick up/drop off							Double parking in front of school forces cars into oncoming traffic or other into other unpredictable patterns.	Encourage parents/guardians to volunteer to take shifts managing double parking behavior as well as communicate to other parents how driving patterns affect all of their children.	

Field Observation Pt.							Field Observations	Recommendation	Image
	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement			
5	D St SE & 10th St SE						Cars making odd u-turns, etc. in the intersection north of the school – using crosswalk for weird three-point turns, etc.	Temporary barriers such as cones or slow down signs could be placed in the intersection to encourage drivers to follow appropriate driving etiquette.	
6	D St SE & 10th St SE						Flashing beacons present on the 10th St SE.		
7							Allowing parking up to the stop sign in the intersection north of the school degrades sightlines.	Red curb, signage, and reinforcement	
8	Rear of Terminal Park Elementary						Bike racks could be better – uncovered and unwatched, but also set up too close to the wall, so bikes must be parked horizontally across the rack, reducing functional parking from 20+ to 5-10.		

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.

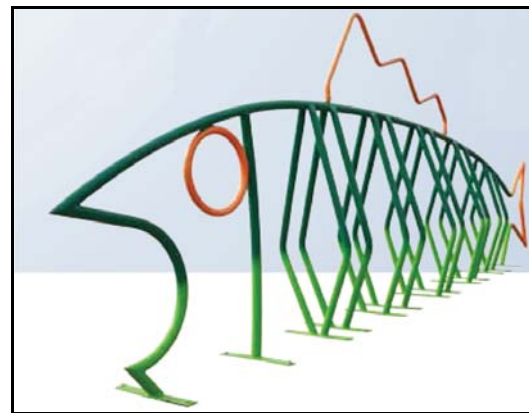


“Wheel-bender” racks (above) can damage wheels and don’t allow frames to be locked to the rack.

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