

## George T. Daniel Elementary Walking Audit



## Table of Contents

Overview of Program .....	1
Methodology .....	1
Community Participation .....	2
Overview of George T. Daniel Elementary .....	3
George T. Daniel Elementary Walking Audit .....	3
Walking Audit Field Note Map .....	3
Walking Audit Observations .....	3
Walking Audit Recommendations .....	4
Walking Audit Recommendations Map .....	4
Bicycling at George T. Daniel Elementary .....	5
Walking Audit Field Notes .....	6
Walking Audit Observations George T. Daniel Elementary School Grounds .....	10
Appendix : Guidelines for Bicycle Parking at Schools .....	11

## Overview of Program

Communities Putting Prevention to Work: George T. Daniel Elementary, Kent 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.<sup>1</sup> Childhood obesity is associated with cardiovascular disease and diabetes.

Three walking audits in Kent will be used to identify and prioritize nonmotorized improvements. The recommendations in these audits can be applied not only to the schools included in the program, but also to SRTS programs at other schools in the district.

<sup>1</sup>. 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 to 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 Kent School District participants, community partners, and primary school contacts. The Daniel Elementary audit took place on Wednesday June 25, 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 Janet Muldrow worked diligently with faculty and staff at Daniel Elementary, to gather parents, neighbors, city staff, and concerned citizens together for the walking audit. John Vander Sluis of the Bicycle Alliance of Washington 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 George T. Daniel Walking Audit Participants included:

City of Kent, Transportation Engineering Manager – Steve Mullen  
Kent School District, Transportation Services – Don Walkup  
Kent School District – Doreen Stewart  
Kent School District, Transportation Services – Becky Benedict  
Kent Police Department – Cesi Velez  
Kent Police Department – Debra LeRoy  
George T. Daniel Elementary, Principal - Janet Muldrow  
George T. Daniel Elementary, PTA/parent – Dee Klem  
George T. Daniel Elementary, Grandmother/Guardian – Connie  
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, also joined the walk.

## Overview of School

George T. Daniel Elementary serves 530 kindergarten through 6th grade students from the City of Kent. The school has a rich cultural diversity: Hispanic, African American, and Caucasian children are nearly equally represented, and the number of Asian students is increasing. Many of the students come from immigrant families, particularly from Eastern Europe. Over 30 percent are English language learners, and over 75 percent qualify for free or subsidized school lunches. The school is located at 11310 SE 248th Street, Kent, Washington.

Under Principal Janet Muldrow, the school has made a number of improvements to its students' transportation options. The school uses what it calls "airport-style" pick-up. Students are dismissed on a staggered schedule, and each wave of dismissed students waits in a small marked area for their ride. If a child is not in the pick-up area, the parent must circle the lot. This process has several benefits: loading from the box ensures that children do not cross lanes of traffic or parked cars to reach their ride, the staggered dismissal cuts down on the number of cars and students in the same area at a given time, and the small loading area makes it easy to supervise the pickup process. The process also offers several benefits from a Safe Routes to School perspective: biking and walking become more attractive options for parents (compared to driving in circles), the amount of distance that driver attention is distracted by scanning for their children is decreased, and school administration is freed up to think about the rest of the students' journey to and from school. Evidence of this is seen by the school, school district, and city's efforts to improve SE 248<sup>th</sup> Street with a new sidewalk and signage.

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.



## Walking Audit Top Recommendations

1. Provide connection from school across 248th Street: Daniel Elementary School representatives should continue working with the planner and traffic engineers at the school district and city level to add a crosswalk immediately in front of the school. Feet First endorses this new crosswalk location and suggests encouraging students to use this location once the installation is complete. Additionally, the new crosswalk will affect suggested walk to school route maps, and these maps should be updated as soon as the crosswalk is complete. (Field note #2)
2. Continue infrastructure improvements along SE 248th Street: Collaborative efforts between Daniel Elementary Principal Janet Muldrow, City of Kent engineers, and law enforcement officials have been successful in creating a designated walking area on the south side of SE 248th Street. The new walking path improves walking opportunities for students and community members. However, there is more work that could be done. Installing reflective turtles along the walking route will increase visibility during the much of the school year when students walk to and from school in the dark. Additionally, lighting along this route would greatly improve student visibility. (Field note #8)
3. Install a designated crossing on 109th Avenue SE: Students walking to and from Daniel Elementary and community members accessing the bus stop at the intersection of 109th Avenue SE and 106th Avenue SE do not have a designated crossing along 109th Avenue SE. Work with city officials to determine the exact location of a marked crosswalk. (Field note #11)
4. Complete Street Policy: City of Kent planners, designers, engineers, and traffic specialists should work together to develop a policy that addresses the width of existing wide streets, making complete streets a common retrofit practice in Kent neighborhoods such as the Daniel Elementary neighborhood. The City of Kent Transportation Master Plan Non-Motorized Transportation Study (August 2007) mentions complete streets as connective streets that provide access for pedestrians and bicycles. Further detailed suggestions of what this can look like is available through the Cascade Bicycle Club Complete Street Guide ([www.cascade.org/Advocacy/pdf/Complete-Streets-Guide-2011.pdf](http://www.cascade.org/Advocacy/pdf/Complete-Streets-Guide-2011.pdf)). The roads within the Kent Shires such as SE 250th Street, and 109th Avenue SE, are well positioned retrofits that would improve biking and walking in the area. Pedestrian and bike infrastructure such as painted sidewalks or simple reflective turtles can be placed within the existing right-of-way as opposed to buying or securing space to do this. Policy for future developments should incorporate incentive programs and policies that encourage new developments to incorporate sidewalks with a three-foot buffer and bike lanes to support walking and biking as viable means of transportation. (Field notes #11 and #13)










## Bicycling





The focus of this audit is on conditions for walking, and in general the same elements that increase safety and comfort for walking will benefit biking (especially slowing traffic and increasing student visibility). Therefore, this section briefly addresses elements that are particular to biking.





1. Bike Parking: While the school provides bike racks, these could be improved. The style of rack currently there can damage bike tires because it does not support the bike frame, it can also increase the risk of theft as bike frames cannot be locked to the rack. Moving the rack to one of the two covered walkways would provide two benefits: risk of theft would be decreased by the increased visibility from the school and decreased visibility from the street, and bike lifespan would be increased by protection from the elements. In addition, kids would be more encouraged to ride on rainy days without having to ride home on a wet seat. More details are included in the bike guidelines at the end of this report.
2. Road conditions: SE 248th Street continues to offer challenges for students on bikes. While adult riders are encouraged to use the roadway, many students ride on the sidewalk. In this case, the relative lack of separation between the new sidewalk and oncoming traffic makes this riskier for student riders. Riding with traffic, in accordance with traffic regulation, leaves students limited room on this road. Kids on bikes will benefit from bicycle safety skills training and from efforts to slow drivers on this road.
3. Economic limitations: Few kids were observed riding bikes at the school. This might be increased by seeking out free or discounted bike sources (or bike repair), such as rotary and other community groups, Southeast Seattle's Bikeworks, etc.

# George T. Daniel Elementary Walking Audit Field Notes




Field Observation Pt.	Location	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
1	Sidewalk in front of school along SE 248th St	x						The sidewalk in front of the school is adequately wide and has a substantial buffer between the walking path and the street.		
2	SE 248th St		x	x			x	Currently the connecting ramp is not a suggested walk route connection point. School administrators are working with the school district and Kent Public Works Department to use this crossing location as the preferred crossing point for students once crosswalk markings have been painted. This would move students away from the parking area exit and improve visibility. Moving the crossing location to this spot will also entail moving the existing crossing signage.	Feet First endorses the installation of a crosswalk at this location with a crossing guard positioned here before and after school. Feet First also recommends updating the walk route map to favor this location once the crosswalk is installed.	
3	Crosswalk in front of school across parking lot entrance and exit						x	This crosswalk is one of the main crossing locations for students to get from the school exit to the signed crosswalk across SE 248th St. Currently, with this set up, students must walk across the parking lot entrance and exit.	Daniel Elementary administrators, the school district representative, and City of Kent transportation planners are working to reduce the number of students that use this crosswalk by moving the crossing on SE 248th St to the east. See the previous field note.	
4	SE 248th St	x	x					The school has added ramping sidewalks to join school ground with potential crossing points across SE 248th St. There are current plans to move the crosswalk location to the east of the main school entrance.	Continue to work with the School District to support adding this crossing location to the walking options.	

Field Observation Pt.	Location	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
5	SE 248th St	x				x		The school has recently added a well-signed crosswalk and ramp across SE 248th St. This crossing location is highlighted by an overhead blinking crosswalk beacon.	Encourage students to cross at this location until another crossing is created.	
6	SE 248th St	x						This huge old cedar tree is a great community asset. Student like to play underneath and enjoy walking under the large bows. However the tree does obstruct sign visibility.	Maintain the health of this tree with regular monitoring of its growth so it does not obstruct the pedestrian crossing sign.	
7	SE 248th St and 112th Ave SE (Walnut Park Entrance/Exit)					x		This intersection has a stop sign and stop bar for cars exiting the complex. The recent development of the designated walking area has students regularly crossing this intersection.	Consider adding a painted crosswalk area in front of this entrance/exit to clearly prioritize pedestrian right crossing the street.	

Field Observation Pt.	Location	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
8	SE 248th St	x	x	x	x			Walking along SE 248th St is the single route to get to Daniel Elementary for many students. Participants on the walk noted that traffic along SE 248th St moves quickly often speeding above the posted school zone speed limit. The fast speed of traffic is intimidating and may influence student and parent decisions not to walk or bike.	Educate students about safe walking skills. Encourage students to walk in groups but still stay a safe distance from passing traffic. Consider adding a physical barrier between vehicle traffic and pedestrians. This could include reflective turtles, flexible bollards or similar low cost solutions. Work with local traffic safety enforcement officials to patrol and give warnings to speeding motorists.	
8	SE 248th St (south side of road)	x	x					A new speed sign has been added to the area just east of the school. This sign shows drivers their driving speed. Police have a reliable presence in the area to monitor speeding.	Continue to monitor behavior and work with local enforcement officials to ensure drivers are following the posted speed limits.	
8	SE 248th St (south side of road)	x	x					The addition of this walking path is a benefit to the school and community, providing walking options on both the north and south sides of SE 248th St. School kids are encourage to stay on the south side of the street based on safe crossing locations.	Additional improvements could be made to this new walking path. Work with school and city transportation engineers to make this area more clearly stand-out as a walking area. As of now, while it is beneficial, it does look like a standard painted right-of-way or paved shoulder that can be used for parking. Consider painting the area to look more like a sidewalk or even painting or marking it with school colors to denote to drivers that they are approaching a school zone.	
9	SE 248th St (south side of road)	x					x	The school and school district transportation department have added bright orange caution flags on top of the newly-posted no parking signs.	Continue to monitor behavior and work with local enforcement officials to make sure the area remains clear of parked cars.	

Field Observation Pt.	Location	Community Asset	Engineering Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
10	SE 248th St and 109th Ave SE						This intersection has a wide right turn radius allowing cars turning right to turn at high speeds as well as creep into the pedestrian crossing areas	Work with city engineers and traffic specialist to add a painted crosswalk at this location. This intersection could also be improved by reducing the turning radius on both sides of the street.	
11	109th Ave SE and SE 250th St		x	x			Students that live west of 109th Ave SE (Waterbrook Complex) do not have a safe place to cross 109th Ave SE. They are encouraged to cross at the intersection of SE 248th St and 109th Ave SE but often do not. This is particularly true for Waterbrook residents visiting the Kent Shires residents.	Work with city engineers and traffic specialist to create other crossing options for the students. One option would be to narrow 109th Ave SE by a pedestrian refuge island to minimize the crossing distance. Other options include adding "watch for pedestrian" signs and designated bike lanes. Consider a road diet for this street, there is ample street width to add a landscape buffer between the current curb edge and moving traffic.	
12	Entrance to Kent Shire off of 109th Ave SE		x			x	The entrance to Kent Shires is incredibly wide. While many of the students turn into the complex, the sidewalk ends here and there is no continued pedestrian infrastructure. Additionally, students that live on the south side of the entrance must cross either here or inside the complex. Each option is unsafe.	Consider extending the vegetation island located in the center of the road. The extension could be a sidewalk refuge island that would provide students a middle point in the road crossing but not impeded sightlines for cars. The city or school could request that the neighborhoods paint specified walking and biking areas on the street to indicate both to drivers and pedestrians a safer place to walk than in the middle of the road.	
13	110 Ave SE -Kent Shire complex		x			x	Within this cul-de-sac community there is no pedestrian or bicycle infrastructure. Signs and speed bumps encourage drivers to drive at the posted 10 mph speed. However, because of the numerous driveways and turn outs, it is often unclear where a safe route for walking or biking can be found. Often the pattern of behavior for walkers and bikers is to walk in the middle of the street.	The city or school could consider providing the community and development area specific suggestions such as adding stripes to the edges of the driving area to narrow the streets, using stencils to designate pedestrian spaces to indicate both to drivers and pedestrians a safer place to walk than in the middle of the road. The city or school could also present specific property value-based arguments for improvements ( <a href="http://www.ceosforcities.org/pagefiles/WalkingTheWalk_CEOsforCities.pdf">www.ceosforcities.org/pagefiles/WalkingTheWalk_CEOsforCities.pdf</a> ), as well as loans or fee-for-service to cover equipment and labor.	

# George T. Daniel Elementary Walking Audit Field Notes - School Grounds

Field Observation Pt.	Intersection	Community Asset	Engineering	Enforcement	Education	Encouragement	Policy	Field Observations	Recommendation	Image
	School Ground							Car pickup monitoring takes three staff members. Two staff are in the box to watch kids and open car doors. The third staff person keeps the sidewalk free and encourages student to use the crossing guard crosswalk before the crossing guard leaves their post.		
	School Ground							The yellow painted box is the location that student must remain until a parent arrives either retrieve the child. This places the students in an assigned location and prevents parents from waving to their children and encouraging them to walk into traffic. This system has worked out incredibly well and can be a model for other schools. Staff notes that this system has worked better with the recent addition of 'stand back lines'.		
	School Ground							The bike rack is a 'wheel bender' style and can cause damage to bikes since the bike rack does not support tire. Also because it is not possible to lock the frame of the bike to the rack, there is a greater risk of theft. The two racks are not located under a roof or weather protective structure.	Daniel Elementary school should consider replacing the bike racks with more secure and supportive structures. The school could also consider moving one of the two racks to a covered location, potentially just 50 feet back toward the building to protect bikes from rain.	

---

---

# 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.

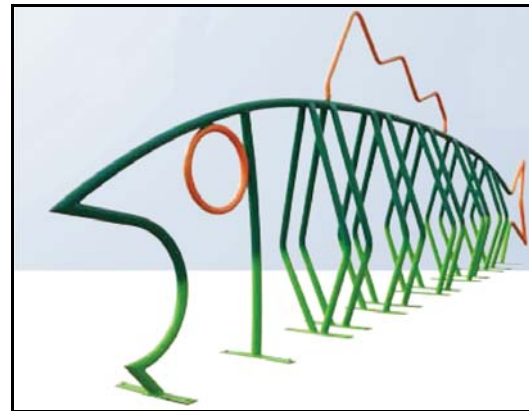


*“Wheel-bender” racks (above) can damage wheels and don’t allow frames to be locked to the rack.*

**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