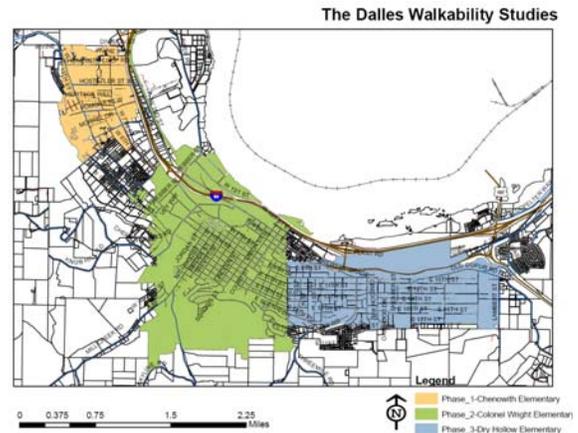


# Chenowith Area Walkability Assessment



*An in depth examination of the physical conditions affecting the pedestrian environment in the Chenowith neighborhood of the City of The Dalles, Oregon*



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The Chenowith Area walkability assessment was first conceived when representatives from Wasco County Planning Department and North Central Public Health Department were trained in Health Impact Assessment. Health Impact Assessment brings a health focus into the planning process so that planning policy decisions or projects take into account the health of the population. Recommendations from a Health Impact Assessment can be used to help shape decisions for the better health of a community. The Chenowith Walkability Assessment was chosen as a way to implement this Health Impact Assessment Training and was facilitated by a grant, originated by the CDC and The Association of State and Territorial Health Officials.

The City of The Dalles is an incorporated city, located within Wasco County, approximately 90 miles east of Portland, Oregon. The west end of The Dalles and the adjacent, unincorporated community of Chenoweth is populated with low income residents and has high concentrations of older mobile homes. The Dalles is a rural community with a population of approximately 12,000, and Chenoweth's population is close to 3,500 (US census figures for 2000). Nationally, per capita income in 1999 was roughly \$21,500.00; for Oregon, \$21,000.00, for Wasco County and The Dalles, \$17,000.00 & \$17,500.00 respectively, and for Chenoweth, \$15,500.00. 15.8 % of percent of Chenoweth residents live below the poverty level, compared with 13.0% for the State of Oregon. (& 27.1 percent of Chenoweth families with children under the age of 5 are living in poverty).

The west end of town is a neighborhood that lacks storm water drain systems, sidewalks, curbs and in some cases, paved roads. This area is part of the Chenowith Elementary School Boundary. The school came to the attention of the local Physical and Activity and Nutrition Coalition (PANC) during the annual Safe Routes to Schools campaign. The Chenoweth area was the only school not deemed safe for children to participate in the event. Early research into the complexities of development on the west end of town revealed a history of pressure from citizens to make development more affordable and waive requirements for sidewalks and related infrastructure. Part of the problem also stems from a patchwork of existing development that lacks such infrastructure. It was apparent that if the citizens would support walking amenities, the Planning Department and City Hall would also support them. The North Central Public Health District (NCPHD) feels that the community of The Dalles needs to know why walking amenities are worth the investment and be motivated enough to support safe walking and biking infrastructure. Before a walkability campaign can succeed, there needs to be more data to support it, hence the Pedestrian Environmental Quality Index (PEQI) is chosen to assess the community's walking environment.

## **Methodology**

The Chenowith study was based on a walkability study created by the San Francisco Dept. of Public Health. The tool, called the Pedestrian Environmental Quality Index (PEQI), is comprised of 21 street segment and 9 intersection factors associated with pedestrian environmental quality and safety, grouped into five domains- Intersection Safety, Traffic, Street Design, Land Use and Perceived Safety.

The San Francisco Department of Public Health chose street and intersection factors based on a review of transportation, planning and public health literature, which included existing pedestrian quality indices and level of service metrics design guidelines and factors associated with walking and improved pedestrian safety in empirical research.

## **Survey Instrument**

The PEQI, Pedestrian Environmental Quality Index, and the BEQI, Bicycle Environmental Quality Index are the survey tools used to record observational data of the Chenowith area for walking and biking quality. The PEQI and BEQI data are primarily collected with an observational survey based upon visual assessment of street segments and intersections by trained observers (training provided by project Staff). A survey form is completed for each individual intersection and street segment (i.e., the segment of a street between two intersections). The San Francisco Department of Public Health (SFDPH) designed this two-page survey as a checklist of closed-ended questions that is fairly simple to use in the field. SFDPH also created a Data Collection and Analysis Manual with pictures and detailed instructions for each indicator. The manual includes technical instructions for data entry in the custom-designed PEQI Microsoft Access database, geocoding street and intersections data, preparing maps and presenting results.

\*Note, the BEQI Microsoft Access Database hasn't yet been configured, so our BEQI data, to this date, has not been assessed. Also note that one indicator -traffic volume- is not collected on the survey. For this variable, street segment traffic counts were used from a previously gathered citywide dataset, created by the City of The Dalles and Wasco County road departments.

## **Data Collection**

The survey took place on February 13, 2010, from 9-3pm. Twenty volunteers from the community conducted the survey. The volunteers were trained on the PEQI and BEQI tools, then given a boxed lunch before heading outdoors to conduct a practice survey prior to commencing their assigned surveys.

The volunteers were grouped into teams of two and given group assignments that included specific street segments and intersections. The volunteers then recorded this data on individualized survey forms. The responses were then brought into an Access database, which was then converted into an Excel spreadsheet and brought into ArcGIS.

## **Data Entry**

After data is collected for all desired streets and intersections, it is entered into a customized Microsoft Access database wherein indicator responses are converted into numerical values, then scored. For the Chenoweth study, SFDPH created a customized Microsoft Access database. Data entry consists of selecting each indicator response using drop down boxes. Once data entry is complete, the database is designed to execute a series of programs that apply weighted values to each indicator response, and calculate the PEQI summary scores for Street Segments and Intersections based on the five domains (Intersection Safety, Traffic, Street Design, Land Use, Perceived Safety); this occurs when the user selects a specified button.

## **Scoring**

### **A. Indicator and Indicator Category Scores**

The survey was based on criteria developed over a year's time and based on national standards as well as advice and expertise from national traffic and safety experts. Five categories were selected: traffic, street design, land use, and intersection safety as well as perceived safety. Among these categories, 21 street segment and intersection factors were identified as indicators leading to the overall quality of the street segments and intersections.

These factors were used to produce the survey forms, which, upon completion of the survey were recorded and entered into the Access database as mentioned above. Indicator scores for each indicator category were created based on a survey of national experts, existing pedestrian quality indices and level of service metrics, design guidelines and factors associated with walking and improved pedestrian safety in empirical research. Final scores were informed by n=20 surveys.

1. Indicators: overall importance for pedestrian quality. Response options include "not important," "somewhat important," "very important," and "essential" on a scale from 1-5. We re-scaled the responses to a scale from 1-3 for the final indicator scoring, and weighted each indicator by the median value of its survey response score.

2. Indicator Response Categories: relative importance of indicator response categories for pedestrian quality. Within each indicator, indicator response categories were assessed on a scale of -5 to +5 (from extremely detrimental to ideal for pedestrians). We re-scaled the responses to a scale from 0-10 for the final indicator response category scores and weighted indicator response categories by a median value of their survey response scores.

In order for new indicators to be added to the survey, the new indicator should be assigned the median weight of all the indicators in its PEQI domain category. For example, if the presence of streetlights are added as an indicator, the indicator would be assigned a value ranging from 1-5 based on perceived importance, let's say (3). These scores were then rescaled from 1-3, let's say (2), and weighted by the median value of the survey response scores, let's say (2). Then, the surveyor would assign the presence of streetlights indicator an indicator response category between -5 and 5 (ranging from very bad to ideal pedestrian conditions), let's say (5), which were then rescaled to a score between 1-10 for the final indicator scores, let's say (10), and also weighted by a mean value of the survey response scores (5). Then the indicator value is incorporated into an arithmetic formula that includes the indicator response value, which then becomes the final PEQI score for that indicator for that particular street segment or intersection.

### Results of the Chenoweth Area Walkability Study

Results were compiled for the 54 street segments and 44 intersections in the study area (see table below), and some conclusions can be drawn from those results. Not surprisingly, the intersections proved to be the least friendly elements to walkers, and sadly, 100 % of them fell into the categories of Low or Poor, (with one quarter of them being in the worst category: "poor".) None of the street segments or intersections fell into the high or highest range, though fortunately, there were almost 39% of the street segments in average range for walkability. This left approximately 59% in the low range and 2% of street segments in the very lowest category of "poor". In conclusion, there is a great deal of room for improvement, and the intersections need the most work.

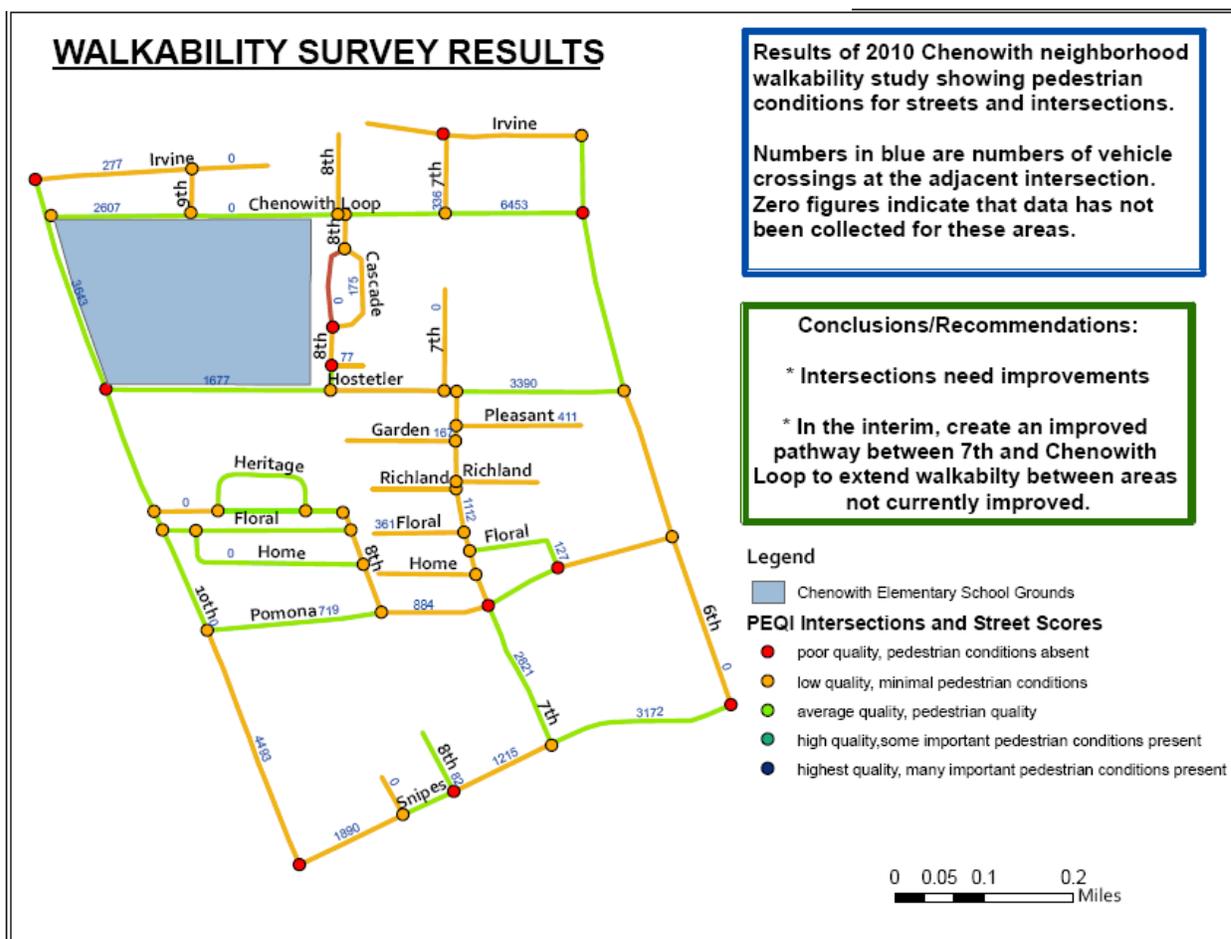
Table 1 Total PEQI Scores for All directions Combined

	Intersections		Street segment sides	
	number	percent	number	percent
Poor	11	26.0	1	2.0
Low	32	74.0	32	59.2
Average	0	0.0	21	38.8
High	0	0.0	0	0.0

Highest	0	0.0	0	0.0
TOTAL	44	100.0	54	100.0

Figure 1. below is a map of existing pedestrian conditions for the Chenowith Area of the City of The Dalles. As previously indicated, intersections in this area are predominantly poor to low pedestrian suitability. Street segments are predominantly low to average pedestrian quality.

Figure 1. Map of Existing Pedestrian Conditions- Chenowith Area



## V. RELEVANCE FOR LAND USE AND TRANSPORTATION PLANNING PROCESSES-

The study is projected to be useful for both local land use and transportation planning. The study identifies areas in need of improvement as well as potentially safe routes to school. These results are also helpful for policy leaders and department heads by allowing for the prioritization of projects and to secure project funding. For example, the Wasco County Road Department and the City of The Dalles Planning Departments are currently working together to apply for a sidewalk infrastructure project and are using the results of the Chenoweth Walkability Study to support their application for ODOT funding.

VII. STRENGTHS, - One of the strengths of the tool selected for this project was that it is developed using pedestrian safety research and expertise. By training volunteers and using a well developed manual, it removes much of the subjectivity that might otherwise influence results. In conducting an assessment of walkability in the community, there is an inherent and desirable side benefit of community cohesion around a common cause. People from all walks of life and all political persuasions can unite around an issue that improves the health of the population.

### **Next Steps**

The purpose of conducting a Walkability Study is to produce data that is crucial to securing funding for infrastructure projects related to walking and biking. A study of this kind could help decision makers identify safe routes that exist in the area, as well as areas that should be identified as priority improvement areas.

The Chenoweth area is only a portion of the City of The Dalles. Partners and decision makers should decide if it is a priority to the community to have the entire city assessed for walkability and bikeability, then work together toward achieving that goal.

Figure 2. below is a map depicting the City of The Dalles divided up into assessment phases that are based on school jurisdictional boundaries. Phase 1 has already been completed, phases 2 and 3 have not. Other potential focuses for data gathering might include identification of routes that link neighborhoods to points of interest like the historical district or the River Trail.

Figure 2- Walkability Study Phases

## The Dalles Walkability Studies

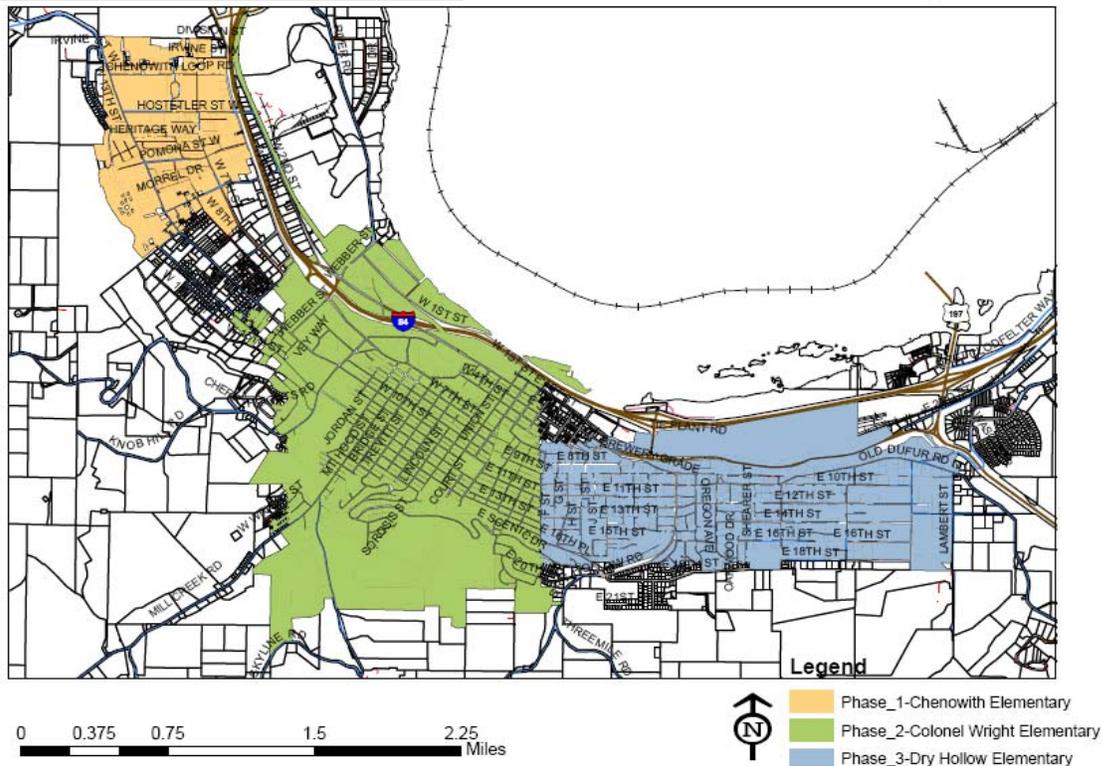


Figure 3 , below is a map that indicates the jurisdiction of street segments throughout the study area. From this map one can see the patchwork of street ownership, including the large number of street segments that are classified as public access streets, which are not under any governmental jurisdiction. This illustrates the challenges posed in addressing problems and efforts to mitigate them. Collaboration is vital between jurisdictions.

**Figure 3- Street Jurisdiction- Chenowith**

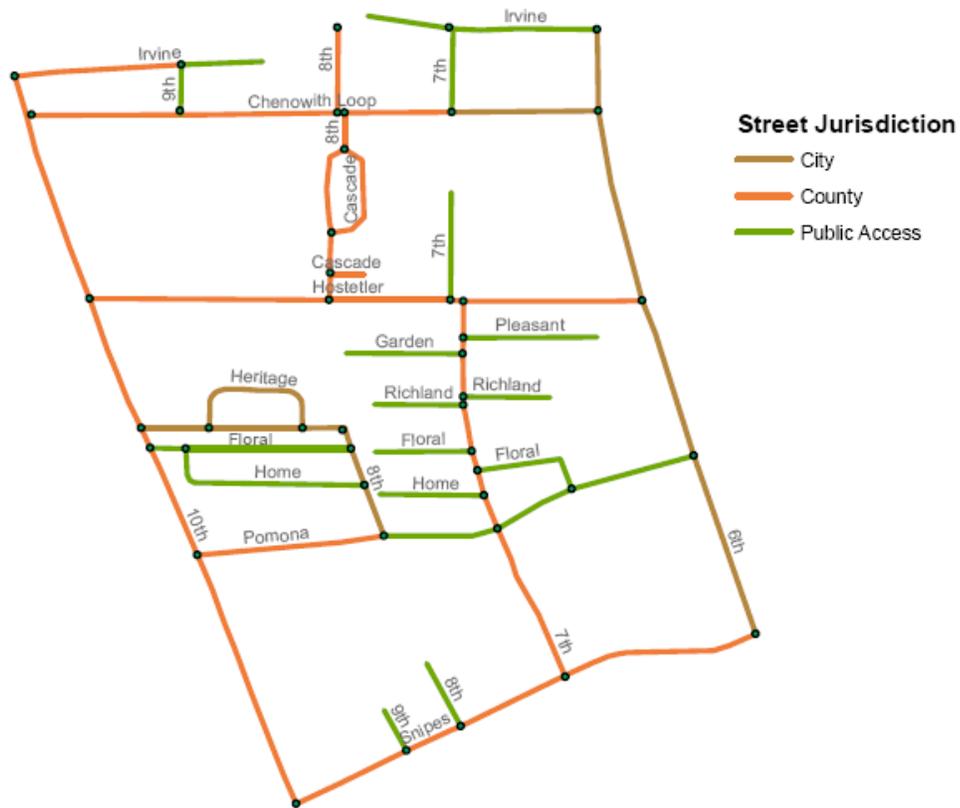
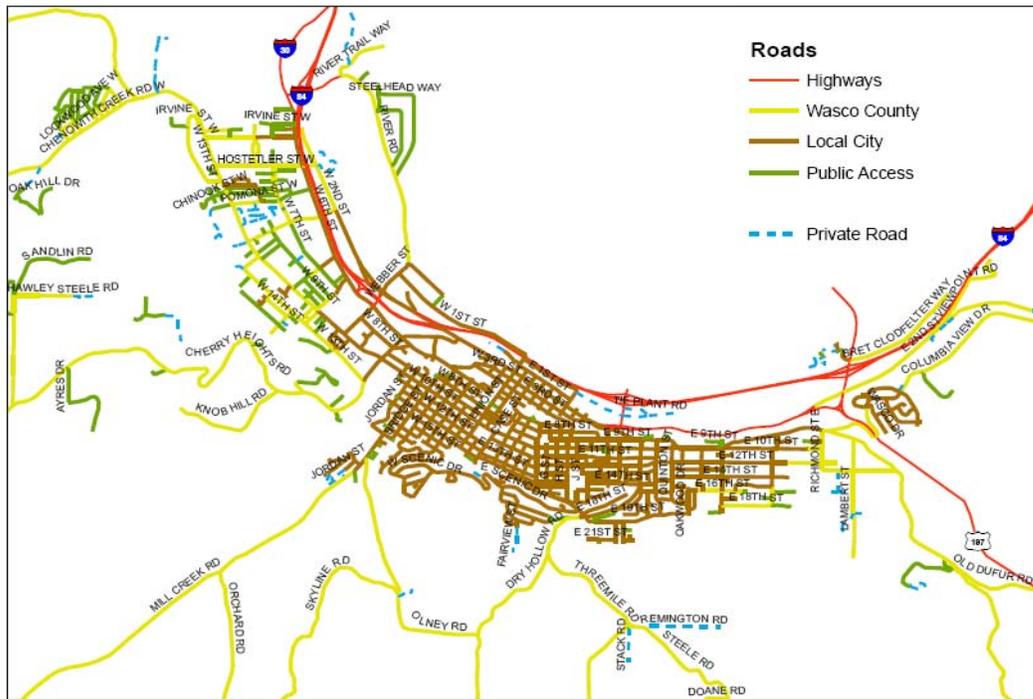


Figure 4 below indicates the street jurisdiction for the entire City of The Dalles. Knowledge of the jurisdiction of street segments throughout the City can assist City and County Departments in their coordination of street improvement projects.

**Figure 4- Street Jurisdiction- City of The Dalles**



### Funding Sources

We have identified a number of possible funding sources that focus on walkability and/or bikeability in Table 2 below:

Table 2. Funding Sources

Funding Source →	<b>State and Federal Safe Routes to School</b>	<b>Pending: Community Transportation Act- (needs to be voted on by the House of Representatives)</b>	<b>Transportation Enhancement Program, Oregon Department of Transportation</b>
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Who Can Apply →	Community Stakeholders in partnership with schools	Public Agencies	Non-profits, and for profit organizations in partnership with a public agency.  NOTE: Recipient must supply matching funds to cover at least 10.27% of the project cost.
What the Grant Does →	Identifies Safe Routes to School and other non-infrastructure related programming	Infrastructure related walking and biking projects	Infrastructure related walking and biking projects

Many other funding opportunities can be found at:

<http://www.enhancements.org/Links.asp>

**The State of Oregon Transportation Enhancement Contact:**

Patricia Fisher  
 TE Program Manager  
 Oregon DOT, Local Government Section  
 355 Capitol St NE, Room 326  
 Salem, OR 97301-3871  
 Tel: 503-986-3528 Fax: 503-986-3290  
[patricia.r.fisher@odot.state.or.us](mailto:patricia.r.fisher@odot.state.or.us)

**Lessons Learned**

1. Prior to the assessment, staff should assess the intersections and street segments in person to determine how to most evenly spread the data collection.
2. Designate a staffperson to stay in the meeting room for post-data collection wrap up with pairs that finish early. This person will i) ensure that all surveys were completed and legible ii) hand out and collect the post-data collection surveys iii)

collect feedback on the tool and the session overall, and iv) collect clipboards, stopwatches, and other materials used.

3. Some of the results likely reflect that PEQI was developed for urban areas and was used here in a more rural setting, which could affect the final scores. For example, in The Dalles, it may not be appropriate for many intersections to have a street signal and pedestrian signal, compared to a city like San Francisco.
4. This is a big project, be sure to prioritize efforts and plan accordingly.

## **Partnerships and Stakeholder Engagement**

The Chenowith Walkability Study was an impetus to the development of collaborations with other departments and organizations throughout the City and County. A list of these partnerships includes:

- The Dalles Planning Department
- The Dalles Traffic and Safety Committee
- The Dalles City Council
- The Dalles Planning Commission
- Wasco County Road Department
- Wasco County Court
- Wasco County GIS Department
- Wasco County Planning Commission
- The Dalles Cycling Club
- North Wasco County School District 21
- Mid Columbia Economic Development District

The Chenowith Walkability project has generated enormous support from all of the agencies listed above in addition to considerable support from the local community. Volunteers and other interested parties have expressed to the coordinators of the walkability project their interest the continuation of the assessment throughout the remainder of The Dalles.

An advisory group made of representatives from a variety of partners listed above has been formed to help guide the future of walkability/bikeability assessments throughout The Dalles. Discussion resulting from the formation of this group has developed interest in forming a long- term Mobility Plan for the City so as to develop and focus mobility efforts to create a more active and mobile community in the future.

## **Contacts with OPHD**

It was important to know that the OPHD staff would be available, should the need arise. Because our project used a tool developed by SFDPH, technical assistance was usually sought from their staff. OPHD was helpful in connecting us to other help sources; for instance, Maleia Jones, who had conducted a similar study in a more rural California community. In the future we recommend that rather than frequently scheduled conference calls, help should be provided on an as-needed basis. This would be better use of everyone's time.

## **Institutional Capacity**

As previously mentioned, interested parties of the City of The Dalles have expressed their desire and commitment to continue the Walkability/Bikeability study throughout the City of The Dalles. The major benefits of the continuation of this project include raised awareness of pedestrian/bike accessibility throughout the community, in addition the results of the walking/bike studies will create leverage towards competitive funding opportunities for infrastructure.

## APPENDIX A-GRANT WRITING TIPS

### Grant Writing Tips

The following are some helpful tips for successful grant writing (e.g., for government grants and private foundations):

1. Read the directions and applications thoroughly.
2. Find out what projects were previously funded.
3. Obtain a copy of a successful application.
4. Find out who reviews the applications and talk to him or her; it may be an individual or a larger group.
5. Always include a picture and graphic that quickly conveys what is being asked for in the proposal.
6. Identify key words and concepts in the grant application and then use them in your narrative.
7. Convey a sense of urgency — for example, if funding is not obtained, something of value such as a rail corridor will be lost.
8. Provide a timeline — demonstrate that the project is ready to go once funding is secured.
9. Focus on a tangible product — e.g., construct something, purchase some property, etc.; minimize the amount that goes for overhead and design.
10. Demonstrate that you are leveraging funds and that this is not the only funding source; no one wants to be a sole source of funds for a project or program.
11. Demonstrate community support through letters from neighborhood associations, advocacy groups, and local businesses.

# APPENDIX B-PHOTOS



## APPENDIX C-Post Survey Questions

### Post Survey study-questions

What do you think about walking in the West end of The Dalles? For each statement below, please circle the **one** answer that best fits you. Your responses will be kept anonymous.

1. I am \_\_\_\_\_ with how easy and pleasant it is to walk in the West end of The Dalles.

1 = not at all satisfied  
2 = slightly satisfied  
3 = moderately satisfied  
4 = very satisfied  
5 = extremely satisfied

2. There are sidewalks on most of the streets in the study neighborhood.

1 = strongly disagree  
2 = disagree  
3 = neither disagree nor agree  
4 = agree  
5 = strongly agree

3. I feel \_\_\_\_\_ from motor vehicle collision or injury when walking in the West end of The Dalles.

1 = not at all safe  
2 = slightly safe  
3 = moderately safe  
4 = very safe  
5 = extremely safe

4. I feel \_\_\_\_\_ from crime when walking in the West end of The Dalles.

1 = not at all safe  
2 = slightly safe  
3 = moderately safe  
4 = very safe  
5 = extremely safe

Below is space for additional thoughts, comments, or concerns about walking and biking in the West end of The Dalles that you would like to share.

## APPENDIX D-Pre Survey Questions

### Pre- Survey study-questions

What do you think about walking in the West end of The Dalles? For each statement below, please circle the **one** answer that best fits you. Your responses will be kept anonymous.

1. I am \_\_\_\_\_ with how easy and pleasant it is to walk in the West end of The Dalles.  
  
1 = not at all satisfied  
2 = slightly satisfied  
3 = moderately satisfied  
4 = very satisfied  
5 = extremely satisfied
  
2. There are sidewalks on most of the streets in the study neighborhood.  
  
1 = strongly disagree  
2 = disagree  
3 = neither disagree nor agree  
4 = agree  
5 = strongly agree
  
3. I feel \_\_\_\_\_ from motor vehicle collision or injury when walking in the West end of The Dalles.  
  
1 = not at all safe  
2 = slightly safe  
3 = moderately safe  
4 = very safe  
5 = extremely safe
  
4. I feel \_\_\_\_\_ from crime when walking in the West end of The Dalles.  
  
1 = not at all safe  
2 = slightly safe  
3 = moderately safe  
4 = very safe  
5 = extremely safe

Below is space for additional thoughts, comments, or concerns about walking and biking in the West end of The Dalles that you would like to share.

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# APPENDIX F-TO DO LIST

## Pedestrian Environmental Quality Index (PEQI)

Dates:

Saturday, February 13th: training in Chenoweth

Strategic decisions

- Presentation: how we'll split up the presentation to keep people engaged?
- Create email list to confirm participation and remind to wear comfortable walking shoes, bring water bottle if have; umbrellas watches with second hand etc.
- Find out what school can provide: i.e. projector screen, (we should probably bring our own projector, extension cords etc.) tables chairs and so on.

Checklist

EVENT	TASK	WHO	DUE	NEXT STEPS
Divide area into assignments	Jeanette and Allyson to decide on segments, <ul style="list-style-type: none"> <li>• Maps for volunteers.</li> <li>• estimated # of volunteers</li> </ul>	Both	February 4	<ul style="list-style-type: none"> <li>• Allyson to make copies of maps, place in packets for volunteers.</li> <li>• Allyson keep ongoing volunteer list.</li> </ul>
trial	Larger map of area to walk, provided by Jeanine	Jeanette	Fri 1/28	<ul style="list-style-type: none"> <li>• Allyson print Google map</li> </ul>
trial	clipboards	Allyson	Fri 1/22	Determine how many clipboards are available here at health department. Consider rainproof alternatives
trial	watch/stopwatch??	Allyson	Thurs 1/28	Look at study area; how many traffic lights are there to time?
trial	tape measure	Allyson	Thurs 1/28	Allyson bring tape measures; check dollar store
	Edit surveys to correspond with features of our walking environment, i.e. delete the scramble cross walks, other non applicable features.	Allyson and Jeanette	By Thurs 1/28	Have surveys ready to make copies
trial	Make enough survey copies for segments we're walking;	Allyson	Feb. 2	Allyson print after know # of intersections/street segments we'll walk (bring extra)
trial	pens/pencils; erasers	Allyson	February 4	Bring 50-60
trial	2 Master copies of relevant parts of	Allyson	Thur Feb 4	

## APPENDIX F-TO DO LIST

EVENT	TASK	WHO	DUE	NEXT STEPS
	manual			
trial	Site visit Chenowith School?	Allyson & Jeanette	February 3 <sup>rd</sup> or 4th	Make notes about what is needed for presentation.
training	Sign-in sheets w/ <b>phone</b> and ? email spaces ?	Allyson	Wed. Feb 3	(include cell phone so can call that day while out collecting info)
training	Design intro page for packet for walkers with our cell phone numbers	Allyson & Jeanette	Tuesday 2/2	Packet item
prep	email addresses for attendees	Allyson	2/26	Finalize PEQI volunteer email group
training	Lunch	Allyson	Tues 2/8/09	North Central Public Health will order
training	Projector - What shall we use???	Jeanette and Allyson to discuss	2/27 or so?	Arrange list of tech materials, extension cords etc. available.
training	Print color maps	Allyson	Tuesday 2/9	Check with Kathi: our color printer vs. Morin
training	Signs to direct people to community room + tape	Jeanette and Allyson	Tuesday 2/9	Bring tape, scissors...
training	Fill in survey copies (enough for all segments + intersections walking; only fill in Chenowith – NOT segments/intersections)	Allyson	Tuesday, 2/9	
training	Confirm with School contact: a. She (or other) will be at school at 8 am. b. get her cell phone number (or person who will be there at 8am) c. that projector is in the cafeteria d. that projector is connected e. that 30(?) chairs and enough Tables are in cafeteria	Allyson and Jeanette	Friday, 2/12	Chenowith School (arrange ahead of time with school contact below) (Projector and chairs: whose responsibility? School could provide screen. ) (Check this out ahead of time as well as the day before.)
training	Print back-up copies of presentation (in case projector doesn't work)	Allyson	2/9 Tuesday	•

## APPENDIX F-TO DO LIST

### CHECKLIST FOR ITEMS TO BRING DAY OF TRAINING

EVENT	TASK	WHO	DUE	NEXT STEPS
training	Sign-in sheets	Allyson	2/12	
training	Laptop + power cord + adaptor	Jeanette	Fri 6/27	Need projector?
training	Clipboards (enough for all attendees)	Allyson	2/12	Include with packets
training	Pens/pencils	Allyson	2/12	Include in packets
training	Stopwatch/watch with timer (enough for all attendees)	Allyson	2/12	
training	Packet for each walker; including sheet w/ our cell phone #s	Allyson	2/12	
training	Tape measures	Allyson	2/12	
training	Folders (enough for all attendees)	Allyson	2/12	
training	Agenda for training	Jeanette	2/12	
training	Manual (for packets; enough for all attendees)	Allyson	2/12	Part of packet
training	Color maps	Jeanette	2/12	<ul style="list-style-type: none"> <li>• This can be done at health department or printer...</li> </ul>
training	Street & intersection assignments	Jeanette	2/12	
training	Survey copies	Allyson	2/12	Part of packet
training	Umbrellas, appropriate gear for weather, water bottles	BYO	2/10	Send out reminders by email
training	Bottled water	Allyson	2/12	Provide enough for one per volunteer

### Phone numbers

*Jeanette: XXX XXX-XXXX*

*Allyson: XXX XXX-XXXX*

*Chenoweth School*

Office: \_\_\_\_\_

District contact person: \_\_\_\_\_ ph: \_\_\_\_\_

# The Dalles Walks

Walkability is one critical aspect of a *HEALTHY, vibrant* and **sustainable** community.

The North Central Public Health District along with the City of The Dalles, and Wasco County municipalities are organizing a walkability study for the Chenowith neighborhood of the City of The Dalles.

Please consider joining us on February 13th when we walk the streets to measure the walkability of the Chenowith neighborhood. The commitment is small, just one afternoon.

Date: February 13th, 2010

Time: 9-3 pm

Place: Chenowith Elementary School  
The Dalles, OR



Please help make The Dalles your place.  
Contact Allyson Smith at (541) 506-2625  
or Jeanette Montour at (541) 506-2565  
to volunteer for this event.

\* Lunch will be provided.

