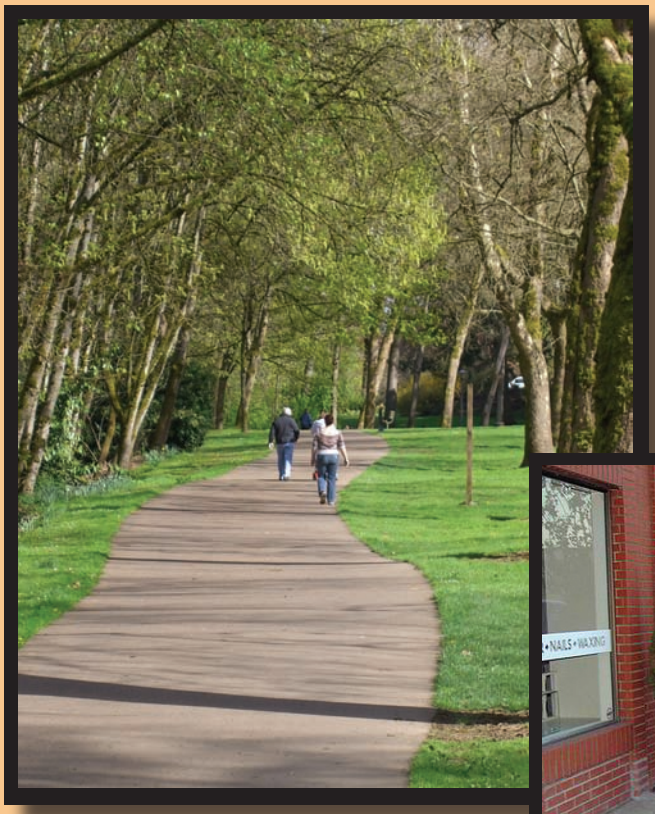

City of Eugene

Visual Preference Workshops
Summary Report

EUGENE Pedestrian & Bicycle Strategic Planning Process

CPW Community Planning Workshop

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Introduction

In October 2006 the City of Eugene kicked off an effort to create its first Pedestrian and Bicycle Strategic Plan with the Eugene Walking and Biking Summit. The summit marked the beginning of a year-long public involvement process that includes a series of public involvement events. The third event, facilitated pedestrian and bicycle visual preference workshops were held on Thursday, April 12, 2007. Forty-five community members participated in the mid-afternoon sessions at City of Eugene Public Works offices in downtown Eugene.

The October Summit included a facilitated issue identification exercise that gathered wide-ranging community concerns about walking and biking. The April 12 visual preference workshops were designed to investigate two important concerns identified at the Summit: **pedestrian and bicycle facilities and infrastructure**. The goal of the visual preference sessions was to gain a better understanding of what types pedestrian and bicycle facilities are most comfortable for a variety of users. Data collected will help guide the City, the University of Oregon's Community Planning Workshop (CPW), and the Departmental Advisory Committee in developing the vision, goals, strategies, and actions of the City of Eugene Pedestrian and Bicycle Strategic Plan. A primary goal of the plan is to make Eugene a more walkable and bikeable community.

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Section 1
Background

Introduction

Like many other cities, Eugene is investigating ways of becoming a more walkable and bikeable community. Policy makers and planners are interested in developing transportation infrastructure that supports and encourages the use of alternatives to the private automobile locally and throughout the U.S. Local, regional and Federal agencies have steadily increased spending on non-motorized transportation over the past twenty years; and federal law requires the consideration of alternatives to the private automobile in transportation planning documents[1].

Bicycling, walking and other forms of human-powered transportation are widely accepted as efficient, healthy, and ecologically sustainable alternatives to the private automobile. Despite the apparent benefits, nearly 76% of the US population chose to drive alone for their daily commute to work in 2000 (US Census 2000). The feasibility of choosing to use an alternative to the private automobile for work and for other daily trips varies greatly for a number of reasons. Factors such as land use development patterns, individual habits, weather, topography, education, and availability of facilities all come into play in the choice, or lack there of, to walk or ride a bicycle for transportation.

A variety of methods are utilized by policy makers and planners to reduce reliance on the automobile including specific regulatory measures, development of public transit systems, construction of bicycle and pedestrian facilities and infrastructure, implementation of a variety of programmatic incentives for using alternatives to driving alone, and more recently – individualized marketing techniques. One of the most critical components of a complete transportation system is the availability of appropriate routes, infrastructure and facilities for walking and biking. A basic infrastructure and network must exist before other measures to increase walking and biking can be implemented effectively.

[1] http://www.fhwa.dot.gov/environment/bikeped/study.htm).

Research Question

My research seeks to understand what types of pedestrian and bicycle facilities and design elements are most comfortable for a variety of user types. Comfort is used as a measurement because it offers insights into the likelihood of use by pedestrians and cyclists of different skill levels. Those highly skilled users are likely to walk or ride on all types of facilities, whereas those users who are less skilled may require certain facilities or design elements offering increased safety or comfort. Planning and engineering pedestrian and bicycle facilities and specific design elements should take into consideration the users to ensure the needs of a broad spectrum of the population are met. Using input from community members, this study rates the comfort level of a variety of facility and design elements.

The Eugene Experience

The City of Eugene is widely recognized as a community that values and actively supports walking and biking. Strong political and community investment in pedestrian and bicycle infrastructure has led to a highly-developed network of off-street shared paths, well-connected sidewalks and miles of on-street bike lanes. Accordingly, Eugene is recognized as a Silver Level Bicycle Friendly Community by the League of American Cyclists (2004)[2] and as the #8 Best City for Walking in the American Podiatric Medical Association's list of top-ten walking cities (2005)[3]. While accolades and awards tell an encouraging story, the transportation habits of Eugene residents mirror those of the nation as a whole; the majority of Eugene's population chooses not to regularly walk or bike to meet their transportation needs.

A 2007 Oregon Department of Transportation (ODOT) funded study completed by the Social Data research group found that despite having an "excellent walking and biking infrastructure", the majority of trips taken in Eugene are by the private automobile[4]. Using their own survey tool, Social Data researchers found that Eugene residents walk for eight percent of their daily trips and bike for three percent of their daily trips, while 67 percent of daily trips made were by single occupant private automobile. Although their

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[2] http://www.bicyclefriendlycommunity.org/AllBicycleFriendlyCommunities.htm

[3] http://www.apma.org/s_apma/sec.asp?CID=701&DID=19328

[4] ODOT Individual Transportation Options Pilot Project, Socialdata America, March 2007

survey methodology differs, Social Data's findings correlate closely with US Census data measuring work commute trips. Transportation to work statistics collected from the 2000 US Census and the 2005 US Community Survey is shown in Table 1 below.

Table 1[5]: Journey to Work, 2000, 2005

2000

	Eugene	Oregon	United States
Walk	6.1%	3.6%	2.9%
Bike	5.5%	1.1%	0.4%

2005

	Eugene	Oregon	United States
Walk	n/a	3.2%	2.5%
Bike	n/a	1.5%	0.4%

While Eugene residents may walk and bicycle at higher rates than the national average in the United States, there is much room for growth. As noted previously, policy makers and planners use many tools to increase the share of trips made on foot and by bicycle. These include regulatory measures, various incentives, providing transit connections, individualized marketing techniques, and construction of appropriate infrastructure and facilities. Before encouragement policies or programmatic tools are implemented, pedestrians and cyclists require basic levels of facilities and infrastructure catering to their needs. Thus, the built environment plays a significant role in determining the methods by which people move about.

Facilities and Infrastructure Research

The connection between rates of bicycling and the existence or lack thereof of bicycle facilities is well documented. Research ranges from showing general correlations between facilities and bicycle commuting rates to more specific studies showing cyclist's preference for different types of routes based on travel time.

A 2003 study found that, "higher levels of bicycle infrastructure are positively and significantly correlated with higher rates of bicycle commuting[6]." While there is a positive correlation between the existence of bicycle facilities and rates of bicycle commuting, the same study found that simply building bicycle facilities without

[5] 2000 US Census and 2005 US Community Survey

[6] Dill, Jennifer and Carr, Theresa. Bicycle Commuting and Facilities in Major U.S. Cities: If You Build Them, Commuters Will Use Them – Another Look. *Transportation Research Record*, Vol. 1828. pp. 116-123, 2003

other measures does not guarantee increased bicycle commuting. Bicycle commuting statistics used in the Dill and Carr study were obtained from a number of sources including US Census information and the Census 2000 Supplemental Survey (C2SS). The authors compared existing rates of bicycle commuting with the level of bicycle-specific infrastructure in a number of communities. Consequently, the study did not provide detailed information or conclusions about bicycle facility user preference or level of comfort on different types of facilities.

While useful at a broad policy level, the positive correlation between ridership and facilities does not address specific nuances in pedestrian and bicycle infrastructure design elements. Understanding how particular elements affect users' experience on facilities is critical for policy makers, planners and engineers to consider in planning, design and construction. The ability to shift more trips from driving to walking and biking is, in part, dependant on whether pedestrian and bicycle facilities are designed to meet the needs of a broad range of user types from the most ardent bicycle commuter to the inexperienced yet interested novice.

In their 2003 study, Stinson and Bhat analyzed results from a stated preference survey with over 3000 respondents[7]. The authors found that bicyclists prefer routes that have lower travel times, are located on residential roads (as opposed to major or minor arterials), and that include striped bicycle lanes. Given the choice, cyclists preferred to ride on residential streets over streets with striped bike lanes. Respondents also indicated a preference for separated shared-use paths over streets without specific bicycle facilities. Other factors such as street condition, traffic controls (signals and stop signs), and connectivity were less important to the survey respondents. Ultimately, the authors determined that bicycle commuters weigh travel time as the most important factor in choosing a route.

In a follow up study in 2004, Stinson and Bhat refined their research by analyzing route preference across individuals with different levels of experience commuting by bicycle[8]. This study investigated types of bicyclists categorized by their level of experience and interest compared with their route preference. They found that

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[7] Stinson, Monique A. and Bhat, Chandra R. An Analysis of Commuter Bicyclist Route Choice Using a Stated Preference Survey. *Transportation Research Record,* Vol. 1828, pp. 107-115, 2003.

[8] Stinson, Monique A. and Bhat, Chandra R. A Comparison of the Route Preference of Experienced and Inexperienced Bicycle Commuters. May 2006.

experienced cyclists are most concerned with minimal travel times, whereas inexperienced cyclists are most concerned with perceived safety around motorized traffic. Understanding the connection between route preference and experience levels allows policy makers, planners and engineers to plan for and implement facilities likely to be used by a wide range of bicyclists. Categories of cyclists analyzed in this study were: experienced bicycle commuters, inexperienced bicycle commuters who have an interest in commuting in the future, and inexperienced commuters who have no interest in commuting. Neither of Stinson and Bhat's studies examined pedestrian route preference.

Krizek, Levinson, and Tilahun also investigated user preference on a variety of different cycling facilities[9]. The researchers utilized an adaptive stated preference survey to evaluate individual preferences for different attributes of cycling facilities. Participants rated images using a visual preference survey based on travel time and type of facility. Higher travel times were associated with better facilities (i.e. off street paths) and lower travel times were associated with less attractive facilities (i.e. roads with no striped bike lane and adjacent car parking). They found that respondents were willing to travel up to 20-minutes longer to use an off-street path versus using a road with no striped bike lane and adjacent car parking. Unlike other studies cited here, Krizek et al found that "preferences are not dictated by experience at least in this SP [stated preference] context." Although cycling experience did not play a significant role in facility preference, factors such as sex and income level were associated with slight differences in stated preference.

Within the context of existing research, several key pieces of information about cyclist route preferences are known. To sum up, cyclists of varying skill and experience levels generally prefer routes with low to no vehicle traffic and base their route preference largely on travel time. Lower overall travel times are rated as a critical factor in route choice. It is unclear how significant the effect of user skill and experience is in determining route choice though; the studies do not offer conclusive data on this point. Additionally, these studies lack a thorough investigation of specific pedestrian and bicycle facility and infrastructure elements. The City of Eugene's visual

[9] Tilahun, Nebiyou Y., Levinson, David M., and Krizek, Kevin J. Trails, Lanes, or Traffic: The Value of Different Bicycle Facilities Using an Adaptive Stated Preference Survey. University of Minnesota: Nexus Research Group, 2007

preference workshops seek to understand the connection between cyclist and pedestrian user types and route or facility preference.

Several of the studies cited associate different types of cyclists based upon experience or skill level with preference for different types of facilities and routes. Absent from each of these particular studies is a similarly detailed analysis of pedestrian types and route preference. City of Eugene transportation planners are interested in understanding how different types of cyclists and pedestrians rate facilities and infrastructure elements based upon their comfort level.

The associated goals of this visual preference study include understanding pedestrian and bicycle user types and measuring their comfort level on a variety of different facilities and infrastructure types using a Likert scale visual preference survey.

Taxonomy of Pedestrian and Cyclist Types

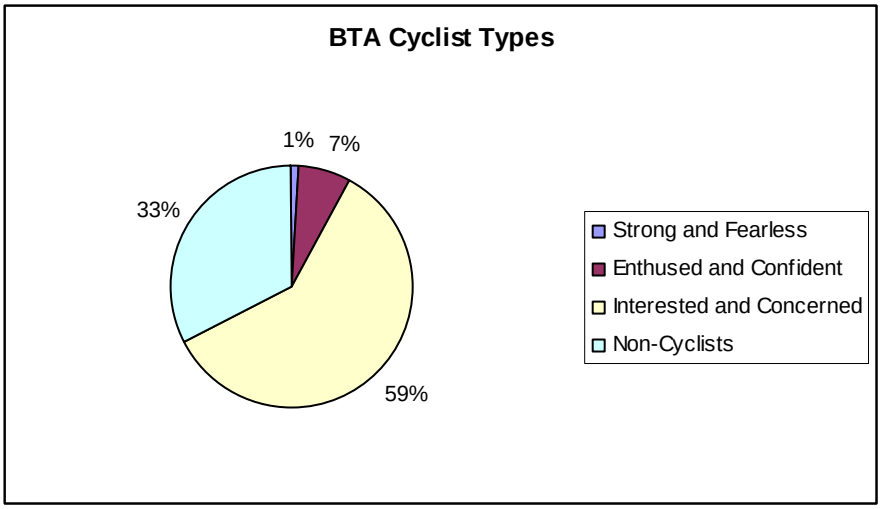
This visual preference study aims to understand the perceived comfort of a variety of pedestrian and bicycle facilities and infrastructure from the perspective of different user skill levels. Identifying pedestrian and cyclist user types based on skill and experience is an important first step in the process. Existing literature and research offer several different cyclist taxonomies, however a parallel system for defining pedestrians is lacking. This section of the report describes existing cyclist taxonomies.

Categories of bicyclists analyzed by Stinson and Bhat in their 2004 study align closely with those developed by Oregon's Bicycle Transportation Alliance (BTA)[10]. The authors categorized survey respondents into the following groups: (1) experienced bicycle commuters; (2) inexperienced yet interested bicycle commuters and; (3) inexperienced and uninterested bicycle commuters. The BTA's taxonomy of cyclists defined in their 2005 Blueprint for Better Biking adds a fourth group and is represented in Figure 1 below[11].

[10] Stinson, Monique A. and Bhat, Chandra R. A Comparison of the Route Preference of Experienced and Inexperienced Bicycle Commuters. May 2006

[11] & [12] Bicycle Transportation Alliance. Blueprint for Better Biking: 40 Ways to Get There. Website: http://www.bta4bikes.org/at_work/blueprint.php, accessed 2-14-2006

Figure 1: BTA Cyclist Types[12]



This taxonomy of cyclists was developed by the BTA through extensive research and surveys of the population in Portland, Oregon. Of particular interest for policy makers and planners are the inexperienced yet interested bicycle commuters or the interested and concerned group of cyclists. These roughly aligning groups are the largest segment of cyclists; they are comprised of people who would choose to cycle if there were more low-traffic and no-traffic routes available. Currently, there is little research on the segmentation of different cyclist user types specific to the City of Eugene; however Eugene's population ratios may be similar to those in Portland.

According to the Blueprint for Better Biking, the BTA's vision is to "Create a network of bicycle routes that attracts all people…" This vision aligns with goals of the City of Eugene's Pedestrian and Bicycle Strategic Plan – to make Eugene a more walkable and bikeable community. A significant indicator of walkable and bikeable communities is found in the share of trips made by foot or by bicycle; communities with a greater share of trips by these modes are assumed to be more walkable and bikeable. Maximizing potential walking and biking trips requires that facilities are built to meet the needs of a broad level of bicyclist and pedestrian user experience and skill levels.

As indicated previously, the existence of appropriate bicycling facilities correlates with greater bicycle commuting rates; however measures beyond simply building sidewalks and striped bike lanes are required to significantly increase walking and cycling trips. The

Travel Smart program is an example of one such measure that targets a specific segment of the population with the goal of increasing walking and bicycling trips[13].

The Travel Smart program uses a survey tool administered to a random sample of the population to identify people interested in learning more about walking, bicycling and transit as transportation options. Researchers segment survey respondents into three primary categories; 1) regular users; 2) interested, and; 3) not interested. These categories are similar to those used by Stinson and Bhat in their research and by the BTA in their Blueprint for Better Biking report. Of particular interest in each document is the largest segment of the population; the group interested in yet currently not actively bicycling or walking for transportation. In Eugene, the Travel Smart individualized marketing technique increased the mode share of walking and biking trips by one-percent each in the sample population and increased overall sustainable modes (walking, biking and transit) by 18% in the target population.

A significant component of the City of Eugene's Pedestrian and Bicycle Strategic planning process is the creation of a facilities design guide. Findings from the visual preference surveys will help inform what types of pedestrian and bicycle facilities are used and how they are designed to meet the needs all facility users. For the purposes of this study, a visual preference survey of various pedestrian and bicycle facilities was used to understand those facilities and design elements that are conducive to pedestrians and cyclists who make up the segment of the population that is interested, however for various reasons is not currently walking or biking for transportation. Greater investment in those facilities and design elements offering the most comfort for a range of user types may translate into greater shares of trips by foot or bicycle, especially when combined with methods of education and encouragement.

[13] ODOT Individual Transportation Options Pilot Project, Socialdata America, March 2007

Section 2
Visual Preference Methodology

Introduction

During the year-long Pedestrian and Bicycle Strategic planning effort the City of Eugene has used a variety of public involvement techniques to inform community walking and biking priorities. In addition to gathering information on topics such as bicycle parking and theft, senior and accessibility issues, youth-focused outreach, and education and encouragement, City staff sought data on those design elements conducive to walking and biking by a range of user types. More specifically, staff wanted to understand the comfort levels of a range of different users on a variety of different pedestrian and bicycle facilities.

The greatest opportunity for increasing walking and biking trips is found in the group of pedestrians and bicyclists who are currently interested and concerned. This group, the largest percentage of the population, would potentially choose to walk or bike if they had more information and if appropriate facilities were constructed.

The purpose of the visual preference surveys was to determine what types of pedestrian and bicycle facilities are most comfortable for a range of different user levels. Facilities and elements rated more comfortable are considered more effective in encouraging walking and biking for transportation to a broad spectrum of the population. The method used to measure this qualitative data included a stated preference visual preference survey administered in a focus group setting in combination with a group discussion and a written questionnaire.

Methodology

The methodology section of this report outlines the visual preference workshop activities, the strategies used for outreach and recruitment of participants, and the means of data collection used during the sessions.

Visual Preference Workshop Sessions

To answer the question of what types of infrastructure, facility and design elements are most comfortable for a range of users, a focus group-like input activity was developed. Available research on this aspect of pedestrian and bicycle planning offers general conclusions about the need for certain types of facilities for cyclists, however it lacks specificity for the needs of pedestrians and does not offer solutions for the City of Eugene in particular.

The reason for using a focus group-like setting as a means of data collection was to build upon existing research and to gather input from local pedestrians and cyclists. Data gathered using focus groups is qualitative and offers a snapshot of the needs of a small sample of facility users and may not be representative of the larger population. However, data gathered still provides meaningful input for Eugene's Pedestrian and Bicycle Strategic planning process. While the design of other input activities conducted during the planning process provided staff with many excellent ideas for making Eugene a better community for walking and biking, more specific input on facilities and design was necessary. To accomplish this, a structured visual preference survey tool was designed.

A total of four separate visual preference group sessions were held on Thursday, April 12th, 2007. Two of the sessions were comprised of pedestrians only and two were comprised of cyclists only. All of the sessions were scheduled to last approximately one-hour during the middle of the day. The first two sessions ran from 11:15 a.m. to 12:15 p.m. and the last two ran from 12:45 p.m. to 1:45 p.m. Volunteer participants were instructed to arrive promptly in order to stay on schedule and were provided a free lunch in exchange for their participation. The sessions were held in City of Eugene Public Works offices in downtown Eugene.

Each of the four visual preference sessions was structured to collect data following the same methodology; the sessions were identical except for differences in pedestrian-specific or bicyclist-specific visual content. The agenda used for the sessions follows:

a. **Welcome** **(5 min)**
b. **Ground Rules & Introduction** **(5 min)**
c. **Image Viewing & Evaluation Section** **(5 min)**
d. **Review of Evaluation Scores & Discussion** **(30 min)**
e. **Questionnaire** **(10min)**
f. **Closing** **(5 min)**

During the welcome, introduction and ground rules section, the facilitator explained how input gathered from the visual preference survey and from the questionnaires would be incorporated into the City of Eugene's Pedestrian and Bicycle Strategic Plan. Participants were asked to "share the air" so all comments and ideas could be expressed freely within the allotted time. After the introduction section, the facilitator described how the remainder of the session would be conducted.

Participants were advised that they would first view a slideshow with 25 images depicting different types of pedestrian and (or) bicycle facilities and infrastructure. During the presentation, they would be instructed to rate their personal comfort level with each image. Following the initial viewing, a group discussion on the images and individual ratings followed. At the end of the discussion section, participants would be asked to complete an anonymous questionnaire seeking demographic information and specific pedestrian or bicycle-related information.

Outreach and Recruitment

A variety of outreach methods were utilized in the recruitment strategy for the visual preference sessions. The strategy evolved over time in response to challenges in recruiting less experienced cyclists and pedestrians. Typically, visual focus groups combine people with common interests or characteristics to discuss a specified topic. In this study, participants shared a common interest in cycling or pedestrian issues, however their experience levels varied and were weighted towards having more bicycling or walking experience than the typical community member; participation in the groups was likely due to an existing interest in bicycling and walking issues. Thus, the sample obtained from these visual preference sessions likely over-represents the experienced cycling and walking population of Eugene.

City staff and CPW graduate students used email, newsletters, website advertising, flyers, word of mouth, and local media to recruit participants. Outreach targeted the following groups and individuals:

- **Local bicycling and walking groups including the Eugene Bicycle Coalition (EBC), Greater Eugene Area Riders (GEARs),**
- **Local recreational walking organizations and community advocates,**
- **Local representatives of the Bicycle Transportation Alliance (BTA),**
- **The University of Oregon's Community and Regional Planning list serve,**
- **The March and April editions of the City of Eugene's InMotion E-Newsletter, sent to nearly 1000 subscribers,**
- **The City of Eugene's Pedestrian and Bicycle Strategic Plan page of the transportation website, and**
- **Flyers were distributed to many local bicycle shops, local specialty walking and running retailers, locations on the University of Oregon Campus.**

City transportation planning staff and Community Planning Workshop (CPW) graduate students also informed people by word of mouth about the opportunity to participate. Finally, notice of the opportunity to participate came in the form of a letter to the editor in the *Eugene Weekly* from Eugene Mayor Kitty Piercy[14]. Mayor Piercy encouraged community members to participate in the visual preference workshop sessions.

These outreach methods were successful in meeting a recruiting goal of 10 to 12 participants per session. There were 12 and 9 participants respectively in the first and second pedestrian sessions, and 13 and 11 participants respectfully in the first and second bicycle sessions. During the sessions, participants were asked to indicate how they learned about the visual preference sessions.

Sample

A total of 45 volunteers participated in the visual preference surveys. To better understand how effective the outreach methods were, participants were asked to indicate how they learned about the workshops. Responses from the cyclists and pedestrians varied slightly.

[14] *Eugene Weekly*, Letters Section, March 29, 2007

Pedestrian participants were more likely to have learned about the sessions from direct emails and from the City of Eugene's InMotion E-Newsletter. Other frequent responses included word of mouth and Mayor Piercy's Letter to the Editor. Bicycle participants were more likely to have learned about the visual preference surveys through a combination of the City's InMotion E-Newsletter and emails from the Eugene Bicycle Coalition. Other sources included Mayor Piercy's letter to the editor and word of mouth. Responses are indicated in Table 2 below.

Table 2: Participant Responses – "How did you learn about the workshops?"

	Email (InMotion Newsletter)	Word of Mouth	Letter to the Editor (Eugene Weekly)	Other
Pedestrians	50%	23%	18%	9%
Cyclists	39%	13%	30%	17%

Initially, City staff hoped to recruit cyclists and pedestrians describing themselves as *interested and concerned*, the largest segment of the population. Gaining a better perspective of the types of facilities and design elements that are comfortable for a broad range of users requires input from those who are less experienced or potentially intimidated by certain features. During the outreach and recruitment, City staff attempted to screen participants by asking questions about their walking and bicycling habits. The vast majority of volunteers indicated being very experienced in either walking or biking depending on their area of interest. Several experienced volunteers were put on a waiting list after acknowledging the importance of gaining perspectives from those less experienced users. After limited success in recruiting users identifying themselves as having less experience, staff broadened their participant scope to include any user level for this initial study.

Recruiting less experienced users posed significant challenges; those who responded to outreach were more likely to already commute by bicycle or foot and rated themselves as being very experienced, often without solicitation. Those who participated in the workshops were similarly skilled. The participant makeup as derived from the workshop questionnaires is displayed in Table 3 below.

Table 3: Participant Skill & Attitude Classification

Pedestrians	**A.M. Session**	**P.M. Session**	**Total**	**Percent**
Strong and Fearless	1	1	2	10%
Enthused and Confident	6	4	10	48%
Interested and Concerned	3	2	5	24%
Other	2	2	4	19%

Cyclists	A.M. Session	P.M. Session	Total	Percent
Strong and Fearless	6	8	14	58%
Enthused and Confident	7	3	10	42%
Interested and Concerned	0	0	0	0%

In comparison with the Bicycle Transportation Alliance's estimates, the makeup of cyclist participants in the Eugene visual preference workshops is somewhat unrepresentative of the general population. Out of 24 participants in the cyclist sessions, none reported being in the *interested and concerned* group. This is in striking contrast to the BTA's taxonomy of user types, in which the *strong and fearless* and *enthused and confident* groups account for 1% and 7% of the population respectively.

A broader spectrum of skill levels and attitudes were represented within the pedestrian sessions; however the majority of participants indicated being *enthused and confidant* walkers. Because a parallel ranking system for pedestrians is absent, participants were asked to explain their responses. Many of the responses indicated similar concerns and feelings; most participants indicated being avid walkers and many shared concerns about inattentive or law-breaking car drivers.

Data Collection

Three methods of data collection were used during the pedestrian and bicycle visual preference workshop sessions. First, a visual preference survey was administered to the participants who were instructed to rate each viewed image by their comfort level. Next, participants were led through a facilitated discussion of the ratings given to images in the visual preference survey. Finally, participants were instructed to complete a brief questionnaire that asked for demographic data in addition to information about the type of pedestrian or bicyclist each individual considered themselves.

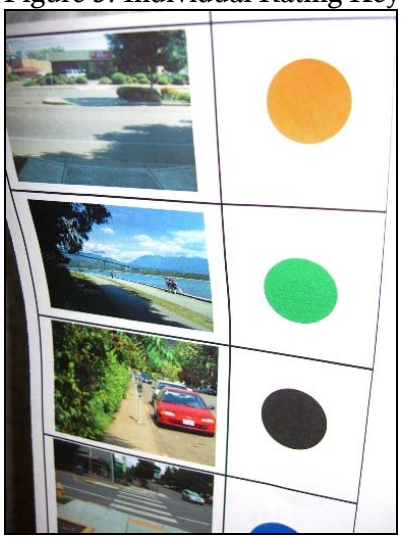
During the viewing and evaluation section, participants were asked to rate each of the 25 slideshow images using a color-coded Likert scale. Each person was given a key with images corresponding to those in the slideshow and space next to each image where a colored dot indicating their rating could be affixed. The color-coded numerical rating scale is displayed in Figure 2 below.

Figure 2: Rating Scale

1	Would definitely use
2	Comfortable
3	Neither comfortable nor uncomfortable
4	Uncomfortable
5	Would not use

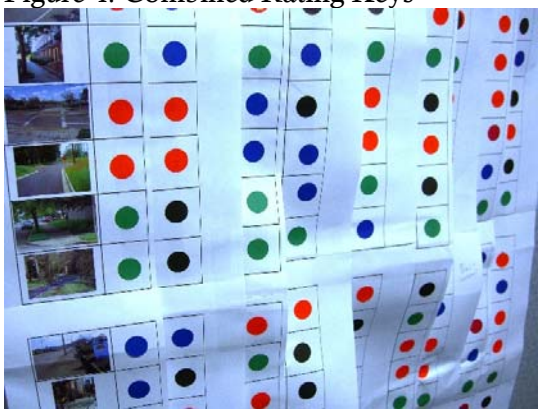
As each image was displayed on screen, participants recorded their comfort level as instructed by the facilitator. Although the facilitators asked participants to hold their comments and questions until the end of the initial viewing activity, there was an occasional clarifying question. In general those participants asking questions wanted to know which element of the image they were to focus on. Each group spent between five and ten minutes to complete the image viewing and evaluation section of the visual preference survey. An example of the completed participant rating keys is displayed in Figure 3.

Figure 3: Individual Rating Key



After the initial slide show and image evaluation, facilitators collected completed participant rating keys. These were combined into large wall-size sheets so that a color-coded pattern of ratings was visible next to the images. These sheets (Figure 4) were then hung on a wall in the meeting room so the facilitator and participants could readily view the images and ratings during the discussion section.

Figure 4: Combined Rating Keys



During the discussion section of the visual preference surveys, the initial slideshow was repeated, however the facilitator paused at each image and asked participants, 1) to describe why they gave an image a particular rating, 2) what the positive elements (comfortable) of the image were, and 3) what the negative elements (uncomfortable) were. Participants were also encouraged to review and discuss the group's collective rating of each image by examining the combined individual rating sheets displayed on the wall. A note taking assistant recorded responses while the facilitator led the discussion. A typical discussion initiated by the facilitator for each image follows:

"Let's look at how participants rated this image; it appears that many people rated it as *comfortable*, while a few people rated it as *would not use*. What elements of this design or facility made you feel comfortable and what was it about this image that made you feel uncomfortable? Were there any other comments?"

The entire discussion section lasted approximately 30 to 40 minutes per group. Participants were given one to three minutes of discussion time per image depending on the depth of discussion; some images elicited responses of greater depth than others. Specific responses and comments were captured by the note taker and are included in the findings section of this report. Immediately following the discussion section, participants were asked to complete a brief questionnaire. Because facilitation was conducted by two different people (one for the pedestrian groups and one for the cyclist groups) there were slight discrepancies in the facilitation styles. These differences resulted in the first cyclist group not adequately completing the entire image rating section of the survey.

Following each discussion section, participants were asked to complete an anonymous questionnaire. The questionnaire asked a

number of demographic questions including age, sex and occupation of participants. It also asked for more specific information about the type of cyclist or pedestrian user group each participant self-identified with. Once completed, questionnaires were returned to the group facilitator and the workshop session concluded. To compensate volunteers for participating, they were provided with a complimentary lunch.

Data from the visual preference survey, the rating discussion, and the questionnaire was analyzed to determine the types of facilities and design elements were most comfortable for the user types participating in the workshop sessions. Analysis consisted of five steps;

1) Organization of image rating scores and self-identified participant user type into spreadsheets (Tables, Appendix B),

2) Assignment of median rating scores to each image shown during the visual preference survey (Tables, Appendix B),

3) Grouping of images into thematic facility and design elements,

4) Synthesis of participant comments recorded during the image rating discussion section, and

5) Integration of questionnaire responses (Appendix A) into the overall analysis.

Section 3
Findings and Conclusions

Introduction

The findings and conclusions section of the visual preference workshop report is divided into two sections; 1) *visual preference survey rating results and discussion session responses*, and 2) *questionnaire responses*. Following the workshop findings are conclusions and an explanation of the various limitations encountered and recommendations for further study.

Rating Results and Discussion Responses

Pedestrian Groups

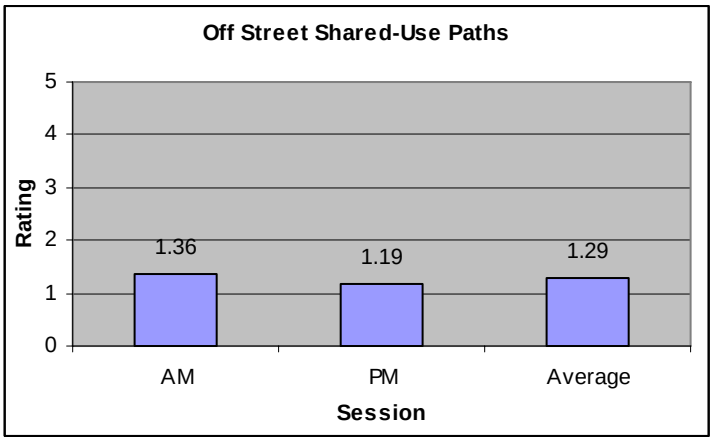
Images presented to pedestrian participants were grouped into five themes for analysis. A summary of the themes, comments received during the discussion section, and tables with associated average ratings follow (1= comfortable, 5= uncomfortable).

1) Off-Street Shared Use Paths

In each of the pedestrian visual preference sessions, with few exceptions, participants rated off-street shared use paths as *would definitely use* (the most comfortable rating). One image showing a more remote and wooded shared use path received slightly lower comfort ratings than others because of perceived safety issues. Participants cited conflicts with other users as potential negative attributes of shared-use paths. Comments captured during the discussion section included:

- **Positive**: Green space, nature, wide, separation from other users
- **Negative**: Narrow, conflicts with cyclists, visibility issues, lack of lighting, hard surfaces

Table 4: Off Street Shared-Use Paths

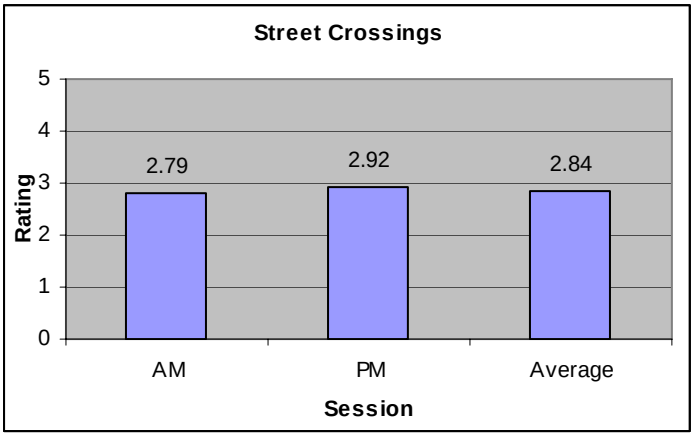


2) Street Crossings

Images displaying a variety of different street crossing scenarios were generally rated in the neutral range with a number of exceptions. Signalized crossings and those crossings with additional or higher visibility signage were rated as slightly more comfortable by most participants. Situations with multi-lane roads and pedestrian refuge islands received lower comfort level ratings. Comments captured during the discussion section included:

- **Positive**: Striping, signage, signals, high visibility signs and markings, different pavement materials (red concrete), design/architectural elements, pedestrian islands
- **Negative**: Speeding cars, drivers ignoring pedestrians, absence of markings and (or) signage, pavement, signs that are too bright/obnoxious, drivers ignoring signs/markings

Table 5: Street Crossings

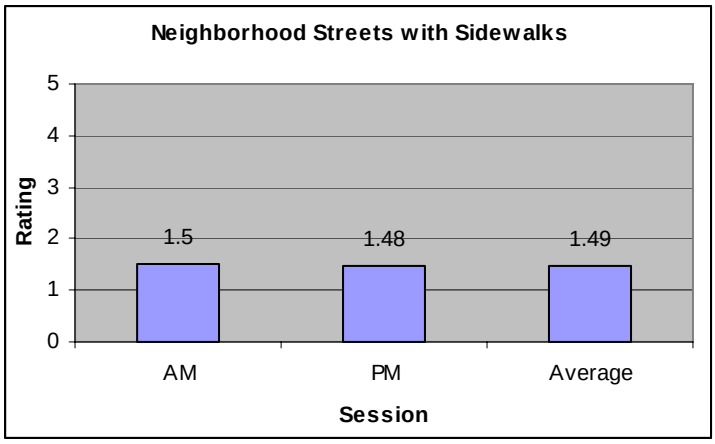


3) Neighborhood Streets with Sidewalks

In general, pedestrians rated setback sidewalks similarly to curbside sidewalks – both were generally considered comfortable with a slightly higher comfort rating given to setback sidewalks. Potential influences on the rating include landscaping and presence or absence of vehicles on the adjacent street. Images with greener landscaping tended to receive higher ratings. Comments captured during the discussion section included:

- **Positive**: Low traffic, visual aesthetic, on-street parking buffer, median strip, landscaping, traffic calming if present
- **Negative**: Lack of buffer (median strip), if narrow, too much pavement/asphalt, lack of lighting

Table 6: Neighborhood Streets with Sidewalks

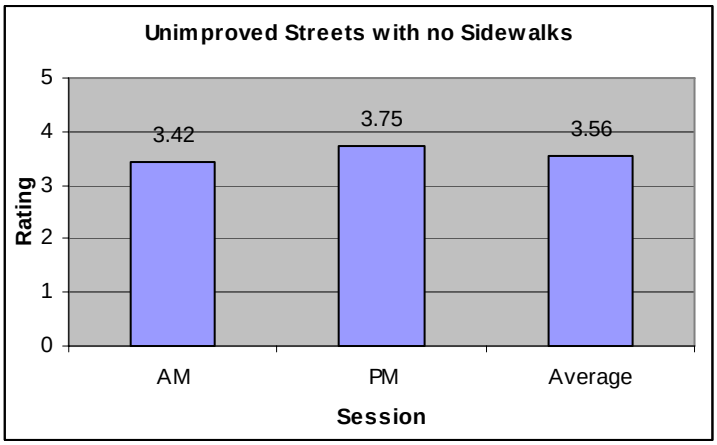


4) Unimproved Streets with no Pedestrian Facilities

Participants almost universally rated streets without pedestrian facilities as uncomfortable. Three images showing different variations of streets without sidewalks including new and old construction were all rated lower on the comfort scale. Participants indicated feeling unsafe being forced to share the road with cars and expressed a fear of being trapped with no where to go in the case of an emergency. Some participants indicated liking the nearby natural green space shown in the photos. Comments captured during the discussion section included:

- **Positive**: Trees and nature, green space, shoulders (if wide), traffic volume (perceived to be lower)
- **Negative**: Lack of sidewalks, gravel and debris, poor visibility, driveway conflicts, "No Escape", no lighting at night

Table 7: Unimproved Streets with no Sidewalks

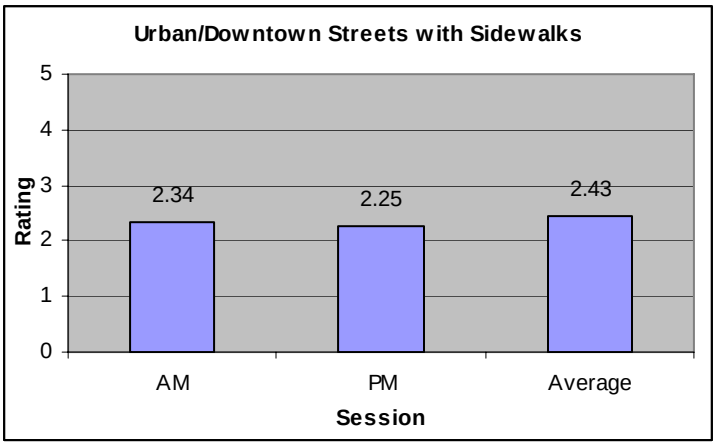


5) Urban/Downtown Pedestrian Facilities

The collection of urban and downtown pedestrian facilities received ratings generally falling between *would definitely use* to *neutral*. There were only a few ratings in the lower end of the comfort scale and those were assigned to an image depicting a "big city" urban environment. This may be due to the difference between Eugene's urban fabric compared to a larger city with greater population density. Comments captured during the discussion section included:

- **Positive**: Buffer next to higher-volume and higher-speed roads, trees, setback sidewalks, activity & socializing, pedestrian signals, things to look at, street furniture
- **Negative**: High-speed and high-volume streets, lack of a buffer, dangerous or difficult crossings, driveway conflicts, poor aesthetics, too-narrow sidewalks, overgrown vegetation

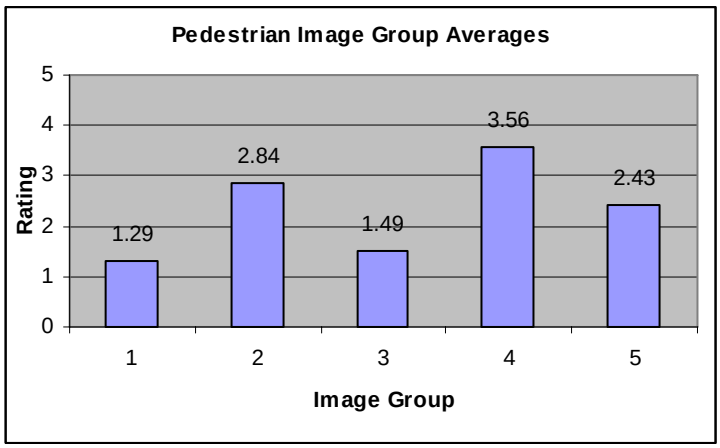
Table 8: Urban/Downtown Streets with Sidewalks



Pedestrian Image Group Rating Summary

Table 9 displays the average combined rating of the A.M. and P.M. pedestrian groups.

Table 9: Pedestrian Image Group Averages



Cyclist Groups

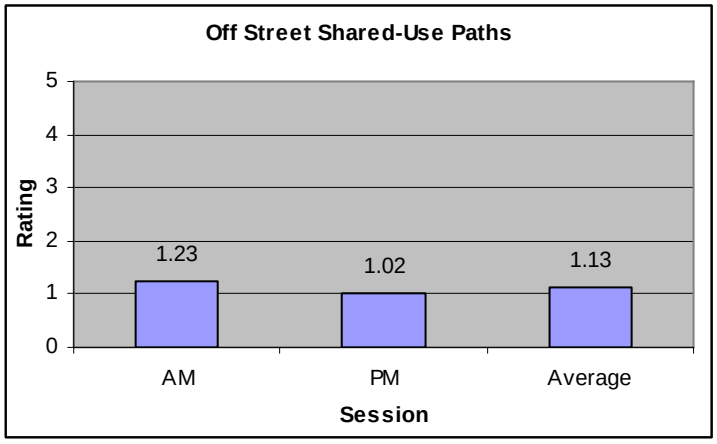
Images presented to cyclist participants were grouped into five themes for analysis. A summary of the themes and tables with associated ratings and comments received during the discussion section follows (1= comfortable, 5= uncomfortable). Unlike the two pedestrian sessions, which were relatively comparable on their comfort ratings, a notable difference in ratings exists between the A.M. and P.M. cyclist sessions. Participants in the A.M. session consistently rated the same images as being less comfortable than the P.M. session participants. This may be attributed to the method by which the facilitator operated during the two sessions.

1) Off-Street Shared Use Paths

Cyclist participants rated off-street shared use paths as the most comfortable image theme out of the five groups. Participants who indicated lower ratings generally did so because of surface maintenance problems or potential conflicts with other path users. Several cyclists indicated a preference for alternative routes because the shared-use path system did not provide needed connections to businesses and employment or other commuting destinations. Comments captured during the discussion section included:

- **Positive**: Comfortable, ideal facility, absence of cars, wide path, liked separated paths (ped/bike), scenery, liked colored concrete, tranquility
- **Negative**: Conflicts with pedestrians or other users, high speed cyclists, sometimes have limited visibility, if narrow, limited or poor nighttime visibility, congested on weekends, often poor choice for commuting

Table 10: Off-Street Shared Use Paths

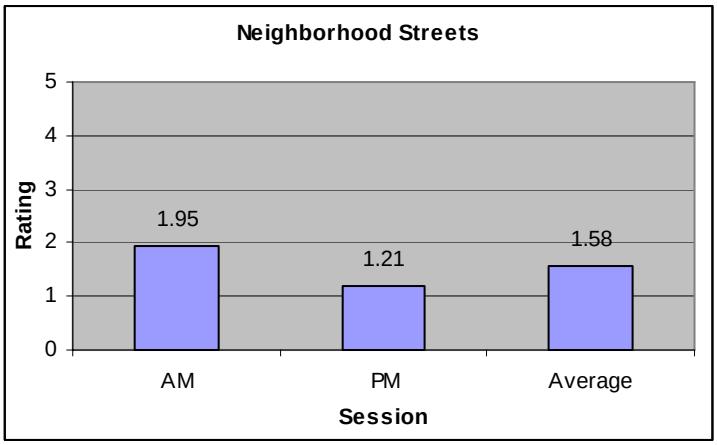


2) Neighborhood Streets

This group of images depicted low-traffic neighborhood streets without striped bike lanes. Participants rated these images as being comfortable and most of the participants indicated they would use those facilities. In general, participants expressed a preference for using neighborhood streets that included specific design elements for bicyclists including bicycle-only street entrances and streets with traffic calming elements. Comments captured during the discussion section included:

- **Positive**: If designed for bikes, low car speeds and volumes, good visibility, allows bikes a quiet route off main street, traffic calming if present to slow cars
- **Negative**: Cars sometimes speed, if requires parking removal, still have car conflicts, can be too narrow, traffic calming may not be effective for cyclists (traffic circle)

Table 11: Neighborhood Streets

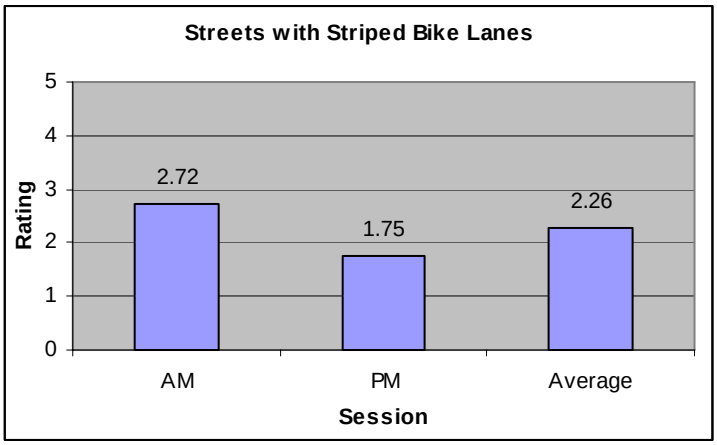


3) Streets with Striped Bike Lanes

Participants indicated being comfortable riding on streets with bike lanes in the majority of situations. Images shown during the presentation showed a variety of different bike lane configurations. Lower comfort ratings were assigned to situations where bike lanes ended at intersections and where bike lanes were situated in-between traffic lanes. The greatest rating discrepancy between A.M. and P.M. participants occurred in this group of images. Comments captured during the discussion section included:

- **Positive**: Presence of striped bike lane, wide lane, well-marked, continuity/connectivity, business accessibility, great if street is well maintained (surface condition and debris), liked blue bike lane for visibility, not having to worry about car doors
- **Negative**: Being in traffic, sharing turn lanes, driveways, when it lane is an afterthought, car doors, adjacent car parking, debris in lanes, poor street surface conditions, faded markings, speed differential

Table 12: Streets with Striped Bike Lanes

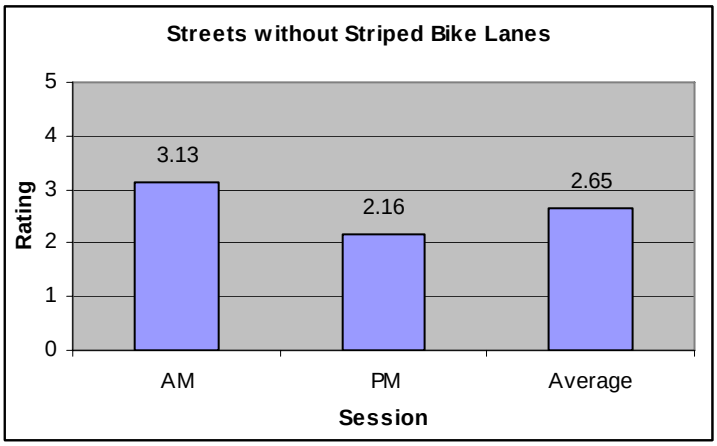


4) Streets without Striped Bike Lanes

This theme differed from the neighborhood street theme in the types of streets included in the presentation. Images in this category were wider, higher volume and some were not improved to urban standards. Although many of the participants ranked images in this theme as being comfortable, many others ranked them as being neutral to uncomfortable, especially if they perceived potential conflicts with cars. Comments captured during the discussion section included:

- **Positive**: If low traffic volume/speed, taking the whole lane, landscaping, if wide travel lane
- **Negative**: Competing with cars, car doors, fast moving traffic, unclear right of way, narrow streets squeezing cyclists

Table 13: Streets without Striped Bike Lanes

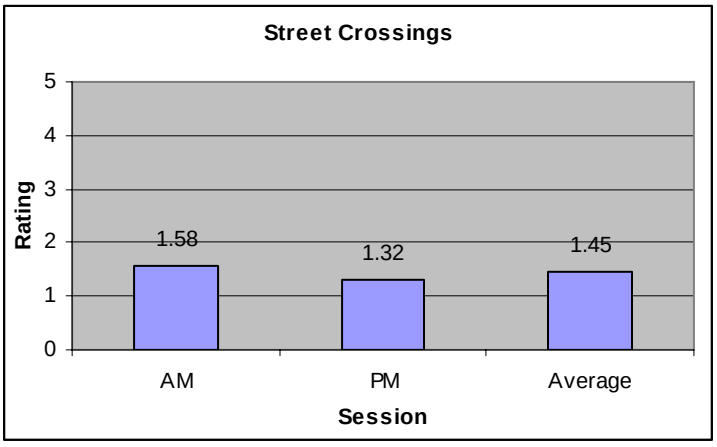


5) Street Crossings

Cyclists were shown a group of images of street crossings. In general, cyclists ranked these as being comfortable and had few negative reactions. Comments captured during the discussion section included:

- **Positive**: If well-marked, with refuge islands, ramps for bikes
- **Negative**: Cars ignoring cyclists, no grade separation, narrow refuges offering no protection

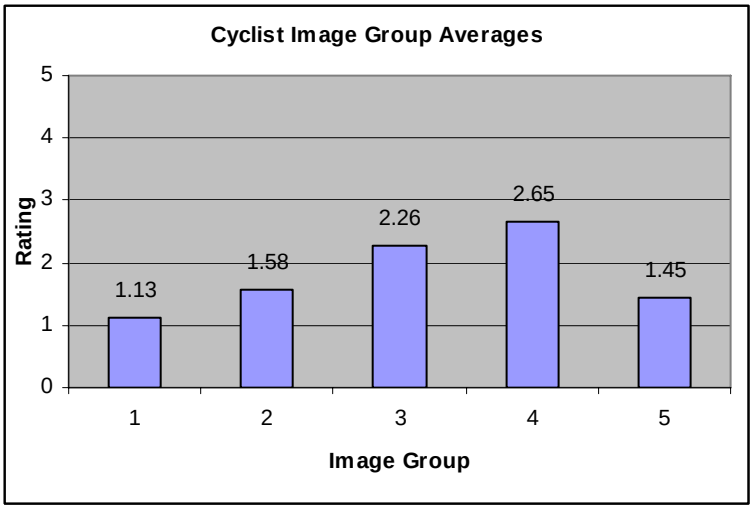
Table 14: Street Crossings



Cyclist Image Group Rating Summary

Table 15 displays the average combined rating of the A.M. and P.M. cyclist groups.

Table 15: Cyclist Image Group Rating Summary



Questionnaire Responses

Three of the questions included in the participant questionnaire related specifically to the visual preference image rating and discussion sections of the workshop. These questions were designed to allow participants an opportunity to expand on the discussions held throughout the workshop. Responses to these questions were grouped into themes and are summarized below.

Pedestrians

Pedestrian participants sited comfortable elements as the presence of landscaping, presence of other people, and setback sidewalks. Participants indicated that cars, darkness, and a lack of pedestrian-oriented signage were elements of the environment making them feel unsafe. In terms of encouraging additional walking trips by the Eugene population, participants suggested increased law enforcement, promotional and special events geared towards walking, education of motorists, and a variety of engineering solutions.

Cyclists

Cyclist participants indicated separation from motor vehicles, low-traffic streets, and the presence of bicycle parking as elements adding to their comfort. Unsafe elements included poorly maintained road surfaces, inattentive car drivers, and bike lanes adjacent to parked cars. Cyclist participants suggested increasing connectivity, creating incentives, installing better bike parking, and holding educational and promotional

Conclusions

The data collected here affirms many of the best pedestrian and bicycle planning, design and engineering practices. Those pedestrians who participated in this study indicated that they are more comfortable on shared-use paths, sidewalks with landscaped buffers, and crossings that are well-marked and clearly indicate the requirement for drivers to stop. Cyclists indicated they are more comfortable on facilities having minimal conflict with cars, neighborhood streets designed and designated for bicycle use, and using striped bike lanes on higher volume streets. While useful in reaffirming best practices, the level of specificity in particular design elements needs further investigation.

City staff will use data collected through the visual preference surveys in three ways. First, the comfort level ratings will be used as

a resource in developing official pedestrian and bicycle facility design guideline handbook. The guidelines will be applied to future infrastructure planning, engineering, and construction as well as for informing staff of the best practices for enhancing current facilities. Second, input received from participants during the discussion sections and through the questionnaires will be used to supplement and develop actions and action steps in the pedestrian and bicycle strategic planning process underway currently. Finally, data and feedback collected during the initial study will be utilized in refining the methodology for future implementation. City staff will use the visual preference methodology from this study as a model for future pedestrian and bicycle public involvement activities.

Limitations

Several limitations were encountered in the design and implementation of this study. Most significantly, the data analysis does not provide particularly useful insights into the comfort level of different user types. This is a problem related to the outreach and methodology of the study. Participants who volunteered for the workshops were unrepresentative of the general population. Participants in both the pedestrian and the cyclist groups represented more experienced users than would be found using a random sample of the population. Although analysis was limited by the unrepresentatively greater experience level of participants, this limitation is relatively easily to overcome using a different and more targeted outreach strategy.

Bias towards more experienced users originated, in part from the limited outreach conducted for these workshops. Volunteers self-selected to participate because of a pre-existing interest in walking and biking issues. Further studies using this model should either specifically target less-experienced populations or should be administered to a random sample. Reducing bias in the sample can be accomplished one of two ways. First, a web-based visual preference survey could be administered to a randomly selected sample. Second, to maintain the focus-group atmosphere and the discussion section, workshops could be advertised with unannounced topics (with compensation) through the local print media.

In addition to bias and a self-selecting sample, the study may have been limited by the measure utilized for rating images during the visual preference survey. Images were rated by user perceived comfort. Perceived comfort may not provide the best indication of

likelihood for use of different facilities and design features. Other potential measures include perceived safety, user-friendliness, and others.

Finally, a number of limitations were encountered in the methodology of the study. These included the collection method of participant image ratings, the number of images shown during the visual preference survey slideshow, and the use of separate facilitators for the pedestrian groups and the cyclist groups. Although the method of data collection was simple and provided participants with relatively quick feedback about the collective groups' ratings, future studies would benefit from the use of emerging electronic voting technologies. Integrating instantaneous voting and feedback into a presentation offer the benefit of viewing a particular image and the average group rating simultaneously with a facilitated discussion. Twenty-five images were used in each of the slideshow sessions. Future studies would benefit from limiting the number of images to ten or fewer to be more efficient with available time. Additionally, images should be targeted to specific design features or types of infrastructure rather than displaying a broad spectrum of different elements. Finally, the use of separate facilitators with different facilitation styles may have led to slightly different results between participant groups. Future studies may benefit from the use of a single facilitator between sessions.

Further Study

An important component of the study is the comparison of participants' self-identified user skill level with their comfort level on a variety of different types of pedestrian and bicycle facilities. Due to the self-selecting sample, there was little differentiation between participants and their visual preference ratings. Future studies improving on this methodology could potentially address the stated limitations and better identify those facilities and design elements meet the needs of less experienced pedestrian and bicycle users.

Future variations will be designed utilizing data collected during this initial study. Likely alterations include targeted outreach to specific user groups such as youth, seniors or parents. The visual preference survey will focus on a specific type of infrastructure with fewer images and a discussion of greater depth for each particular image. Electronic voting technology will be incorporated into the rating section of the visual preference survey to allow instantaneous

feedback for participants and for the session facilitator. Finally, the model developed for this study can be applied at a project-specific level to be used in the planning phase of future pedestrian and bicycle facility and infrastructure projects.

Appendix A
Questionnaire Responses

Introduction

This appendix reports the results of the questionnaires administered during the visual preferences sessions. Each participant was asked to complete a questionnaire at the end of the session to collect more detailed information about demographics, walking or biking information, and evaluation of the sessions. Questions and responses from the pedestrian groups and the cyclist groups follow.

Pedestrian Questionnaire Responses

1. If you were to choose a category, how would you classify your general attitude while walking in Eugene?

	A.M. Session	P.M. Session	Total	%
Strong and Fearless	1	1	2	10%
Enthused and Confident	6	4	10	48%
Interested and Concerned	3	2	5	24%
Other	2	2	4	19%

2. Please explain your response to the previous question in the space below.

A.M. Session

- I walk quickly and enjoy walking. I also walk defensively, (thus not fearless) because of the careless of many drivers.
- I love to walk, but I frequently run into trouble. Drivers not paying attention to my needs, obstacles, being treated unequally. Drivers are treated better, less "?" at stop lights, more secure space
- I walk every day, and am really comfortable with it.
- I believe pedestrians have the right-of-way in urban environments.
- I enjoy walking and am confident when I am walking
- 1. City Infrastructure is skewed in favor of motorists. 2. Traffic signals are configured in favor of motorists. 3. There is no more space in the atmosphere for byproducts of motor fuel combustion. 4. Urban & transportation development have been auto-centric.

- Many cross walks are not formed to allow pedestrians to cross in time. 6th & 7th Ave's near Blair/Monroe are terrible!
- It feels empowering and refreshing to travel by foot.
- I enjoy walking around Eugene and know that drivers (almost always) and cyclists (sometimes) don't watch for or seen concerned about the safety of pedestrians. Stop signs and pedestrian crosswalks are often ignored.
- I mainly walk for transportation - very utilitarian attitude. But I am aware of the dangers from cars while I walk.
- I assume everyone will do the opposite of what logical action would suggest.

P.M. Session

- Some concern when crossing large streets even w/marked crosswalks; since drivers ignore pedestrians for the most part.
- I know my rights as a pedestrian but do value personal safety
- I love to walk but inattentive or inconsiderate drivers/bike riders cause fear at time.
- I love walking & have done so as a commuter, recreational uses & I teach Nordic walking on cut paths, etc.
- Mostly good about walkable areas. "New" safety concerns downtown. All the bike & ped trails around the city are wonderful
- Enjoy walking along the roads & sidewalks of Eugene. I am cognizant of cars not watching for pedestrians so I am cautious
- I enjoy sights & sounds - Mostly purposeful in that I have a destination but meander along the way.
- I have been walking to work, shopping, etc. in Eugene for over 15 years. I chose "Strong & Fearless" because this is what I have come to find necessary to travel efficiently and at the same time fulfill my commitments to educating motorists about pedestrian rights and to setting an example of being assertive (but not reckless).
- I feel the City is a good place for pedestrians, but I do think it could be improved,

3. Why do you walk? Pick all that apply.

	A.M. Session	P.M. Session	Total
Recreation	8	8	16
Transportation & Commuting	10	7	17
Shopping	10	8	18
Exercise	10	9	19
Other	2		

4. What considerations go into your choice to walk? Pick top 3.

	A.M. Session	P.M. Session	Total
Health and Fitness	7	8	15
Environmental/Ecological	8	7	15
Cost	3	3	6
Fun	5	5	10
Lifestyle	9	7	16
Avoid Traffic	5	2	7
Parking	1	2	3
Other	6	8	14

5. How did you learn about these focus groups?

	Email (InMotion Newsletter)	Word of Mouth	Letter to the Editor (Eugene Weekly)	Other
Pedestrians	50%	23%	18%	9%

6. What elements make for a comfortable walking environment?

A.M Session

- People, Bikes, Sidewalks, Trees
- 1.Continuous parks 2.Absence of motor vehicles
- Set backs w/plants & trees. Pedestrian islands & signs. Clear markings on roads. Traffic Calming.
- Good shoes - Dry Path - Traffic (walk) signals – Awnings
- Green space, distance from cars, low speed limits, enough room for bikes (or bike path on streets).
- Low Car Traffic - Well lit at night
- Low noise, enough width for 2 abreast so there aren't a lot of obstacles or upheavals or cracks to watch out for (smooth surface) Pleasant scenery (trees, plants, shops, nice architecture).

P.M. Session

- Sidewalks/paths, Trees/greenery, Away from cars, No bikes on sidewalk, crossing signals to get the green light.

- Set back sidewalk - Big Tree -Interesting Houses/Facades/Yards - Lower Traffic
- Lack of car traffic noise - Enough room to walk safely - natural beauty
- Safety from cars, vehicles - Natural surroundings near by - Ability on walk continuously at good brisk pace for +/- 1 hr. - Ability to get to destination 1 hour
- Sidewalks, Vegetation
- Absence of TRAFFIC created by separate walking path - A green space full of concrete and asphalt - Designated Pedestrian Crossings
- Even Surface - Continuous sidewalk, uninterrupted by other folk's yards.
- Chaotic traffic situations
- Park strips between sidewalk & street Good cross walks

7. What elements make you feel unsafe walking?

A.M. Session

- Not any people, Large areas
- Traffic Congestion
- Short Lights/Walk signs. Multiple lanes of traffic. No setback from street
- Fast traffic, Close proximity to traffic
- No sidewalk or sidewalk next to traffic, high speed limits, walk signal too short at intersections with lights.
- heavy car traffic, parking lot driveways, seeing many drivers talking on cell phones - implying lack of attention
- Interaction with cyclist skateboarders, etc.
- Poor lighting. No side walks. Short -lived walk signals. Poorly signed & lighted islands.

P.M. Section

- No sidewalks or narrow w/no buffer cars going fast, especially around curves.
- Fast traffic, more than 2 total lines curb-side sidewalks
- Bike passing from the rear without warning - Inadequate shoulder or sidewalk.
- Close proximity of Cars - Speed of nearby cars - unsafe places to cross streets (lack of Ped x signage, lack of cross walk lines, etc.) - Lack of sidewalks & Lack of shoulders on roads
- No sidewalks, Car traffic zooming by

- Sidewalks at the edge of busy streets with telephone poles taking up part of the walk way - Cars pulling out of driveways, parking lots & Turning Lanes
- Poorly maintained surface - Construction - development or destruction in progress
- Thick vegetation very close to walkway
- Narrow streets with no sidewalks. Busy streets with a lot of stone driveways.

8. How can we encourage more people in Eugene to walk?

A.M. Session

- Have more walking distance and other things people enjoy, have a healthier environment so people feel safer walking.
- 1. Create a network of interconnected parks. 2. Stop favoring the private automobile. 2. Create some covered walk ways. 4. Provide pedestrian/Bike incentives funded by motor fuel tax.
- Make no-traffic areas in downtown, the most walkable areas are where cars can't go. Narrow streets. Give peds/bikes priority in lights.
- Parade or other special event that covers a large distance.
- Make pedestrians a higher priority - More places to cross busy streets (and ensuring that people in cars STOP).
- Uh..Stop the rain? :-) Have sidewalks at all streets, highly visible crosswalks & signals, traffic calming to slow traffic.
- Prioritized signals for pedestrians (and bicyclists)! In other words you don't have to wait through a signal cycle for the crosswalk once you push the crosswalk button (or ride over the vehicle sensor)
- Have no idea - other than providing a more pleasant experience.

P.M. Session

- Time the traffic lights downtown to pedestrians or install crossing signals so you can quickly get a green light.
- Land use planning/zoning - Shop in neighborhoods (sm. Stores) *proximity to needed services) - Diversity in Buildings & Landscapes
- Higher gas prices, expand public transport.
- Upgrade crossing areas to make safer - Upgrade paintings, cross walks etc. - Encourage new roads/updated roads to encourage green buffers Cars/walk ways.
- The City is a great walkable City. Keep adding dedicated ped/bike trails away from direct traffic. People don’t' walk due to their own lack of motivation, not City environment

- Provide designated walking corridors that are marked and linked. - Modal development where shops & stores are within walking distance of homes and neighborhoods.
- Publish comparative distances - in accessible places. "It is xyz miles around the inside of the mall" "It is abc miles from Valley River to Alton Baker on River Trail". Then people might think "I can do that". Publish in places like High schools, Eugene Weekly, Outdoor bulletin boards, coffee shops.
- Add sidewalks in residential areas that now lack them. Add landscaping to some of the bike/ped ways. Have more neighborhood stores, Laundromats, etc. so people won't have to drive to malls.
- Better & more marked cross walks

9. How knowledgeable would you characterize yourself on walking issues?

A.M. Session

- I'm ok with walking knowledge
- Highly knowledgeable
- Fairly knowledgeable
- OK
- Moderately knowledgeable
- I keep up on ped/bike issues
- Medium

P.M. Session

- Fairly Knowledgeable
- Very Knowledgeable
- Not very.
- Fairly knowledgeable: - I walk 3-5 x weekly, do errands & shop via foot - I teach folks to Nordic walk - I used to commute to work via foot 3.75 m/1 way
- Medium - Not sure what you mean by walking issues? - Design, human tendency, safety, etc.
- Good, but not Excellent.
- Not very - I have thought about this related only to myself and occasionally related to Healthier Communities. I am a new arrival in Eugene.
- Very knowledgeable (from experience)
- Fair to Good

10. How would you rate your experience participating in the focus group?

	A.M. Session	P.M. Session	Total
Extremely Satisfied	4	3	7
Satisfied	5	5	10
Neither Satisfied nor Dissatisfied		1	1
Dissatisfied			
Extremely Dissatisfied			

11. Gender

	A.M. Session	P.M. Session	Total
Male	5	3	8
Female	7	6	13

12. Age

	A.M. Session	P.M. Session	Total
Under 20	2		2
20-24			
25-29	1		1
30-34	1	2	3
35-39			
40-44	4		4
45-49			
50-54		4	4
55-59	2	3	5
60-64	2		2
65-69			
70-74			
75+			

14. Use the space below for additional comments.

A.M. Session

- 1. The lunch was a big Distraction. 2.Two aspects of pedestrian amenities to keep in mind: A. Quality of immediate environment/experience. B. Is this an effective route to actually get from point A to B. Pedestrian routes need to be connected & continuous.
- Please consider making more of the downtown core, car free. The City could work w/LTD to offer small ran service in "car-less" areas. This idea is not novel; many European cities are / have done / are doing this now. London is now charging cars user fees in an effort to clean its air & fight Global warming. More EMX-like or light rail services would make Eugene a better place to live. Portland's a great model.
- My biggest concern is the legal crosswalks that are not striped. Thank you for the good food & vegan option!
- Thanks for lunch!
- I appreciated the preparation that went into the presentation and the opportunity to hear other people's comments and share my own. My views of the photos were different if I imagined myself running (for exercise).

P.M. Session

- Give direction to the building (i.e. Enter on Park)
- Food, focus group; thanks.
- Interesting process
- Would like to see results in a public place (Walmart/the Mall) where people who don't walk/bike might see & become interested.
- Thanks for he opportunity to participate (and for lunch).
- I thought the input from the focus group was very good.

Bicyclist Questionnaire Responses

1. What type of cyclist are you? Indicate the “best-fit” category.

	A.M. Session	P.M. Session	Total	%
Strong and Fearless	6	3	9	38%
Enthused and Confident	7	8	15	63%
Interested and Concerned	0	0	0	

2. What is the Primary Use of your bike? Pick One.

	A.M. Session	P.M. Session	Total
Recreation	1	3	4
Transportation & Commuting	11	6	17
Shopping		3	3
Exercise	1	2	3
Other		2	2

3. What considerations go into your choice to bike? Pick top 3.

	A.M. Session	P.M. Session	Total
Health and Fitness	10	8	18
Environmental/Ecological	11	6	17
Cost	2	3	5
Fun	2	3	5
Lifestyle	6	9	15
Avoid Traffic	2	0	2
Parking	2	1	3
Other	2	0	2

4. How did you learn about these focus groups?

	Email (InMotion Newsletter)	Word of Mouth	Letter to the Editor (Eugene Weekly)	Other
Cyclists	39%	13%	30%	17%

5. What elements make for a comfortable bike riding environment?

A.M. Session

- Ease in safely locking bike when arrive at destination
- Wide, safe bike lanes on busy city streets - streets designed for bikes - i.e. parking on left side only, etc. - Allow rolling stops for bicycles at stop signs, via law +/or regulation - Streets/paths designated as Bike or Bike preferred
- Respectful auto drivers - Minimal traffic - Bike lane - Bike Deaths - Lights on heavily used paths
- Bike laws separated from traffic - Clear signage
- Awareness of motorists of the right of bikes to the road & when bikes can legally and are suggested by ODOT to take over full lane of traffic. Motorists trained to look for the slighter profile of bikes. No obstructions on road such as leave, debris, potholes or cracked/chewed up bike lane or sides of street. Police protecting cyclists from reckless drivers rather than targeting cyclists out of malice or because of a lack of understanding of the law.
- The fewer interactions with cars, the better. Designated like lanes. Residential streets
- Separation from motor vehicles or dedicated path. Good bike racks. Engineering bldg. needs bike rack.
- Side Streets & Alleys dedicated to bikes, avoiding major arterials, ramps on sidewalks at corners Bike lanes behind concrete barriers
- Avoid obstacles - Low speed between vehicles & bikes - well marked lanes - smooth road surface
- More traffic lights - I love the island at Amazon bike path & 24th. Very effective
- Bike paths, good riding surface, walkers say right
- Bike paths, Avoiding traffic, Bike lane if in traffic

P.M. Session

- Safety, Liability, Wide, Clearly marked lanes, Smooth surface, free of debris
- Wide Bike Lane
- Well marked / signed bike lanes, Secure, well lit place to lock my bike.
- Prefer separate from cars (safety and breathing pollution) lean, smooth
- Protection from car traffic. Smooth surface, Well, lighted, Wide
- Everything works for me; hence fearless above. Things that make it better @ times include usual or physical separation from cars. Slow auto speeds. High gas prices (at least the car drivers pay for some of their waste).
- Good riding surface, well marked lanes/ wide enough slow/ respectful traffic
- 1-Marked bike Lane 2-Separation from Cars 3-Wide Bike riding space 4-Good lighting 5-Good riding surface 6-Park like environment 7-Good bike locking facilitating available.
- Dedicated Bike paths. Other users. Calmed traffic on streets.
- Dedicated & marked bike lanes. Safe & secure parking/locking facilities. Separate paths along busy streets, parkways, highways..

- Leisure - Clearly marked, defined bike path. Good surface. Wide enough for two. Scenic. Limited traffic. Business - Clearly marked / defined path. Good surface. Shares same corridors as other traffic. Safe

6. What elements make you feel unsafe on your bike?

A.M. Session

- Lots of cross traffic dark paths & streets
- Busy streets with no Bike lane - Bike lane merging with moving or crossing traffic - cell phone use in cars - parking on right hand side of bike lane - Bike lane between moving traffic (re turn lanes)
- No bike lane w/heavy traffic - Discourteous drivers - that "wild eye" look that suggests a driver doesn't want to wait even seconds for a cyclist.
- Danger from Cars
- Bike lanes between travel lanes and parked cars narrow or terminated bike lanes at intersections merging across two one way travel lanes to turn at an intersection
- See above. Lack of aforementioned
- Rough roads, dark streets with lots of traffic, Dark empty streets are Ok, especially if they are bike streets
- Lots of cars, fast cars, cars parked beside bike lane
- Bike Lanes with only a strip of paint to protect Mr. From Cars Leaf Blowers, Beliefs that a driver will see a cyclist
- Lack of space - Blind Spots - lack of designated marking in bike racks - Cars - Bike paths crossing streets - Leave/debris in Lanes
- No traffic light - i.e., 30th & University
- close traffic, fast vehicles traffic, surface flaws not repaired
- Heavy traffic, Cars not noticing you in bike lane

P.M. Section

- Unsafe Drivers! Crowded busy lanes/paths (dogs, peds, skaters) - Lanes are really narrow
- High Speed Autos
- Other cyclist (cyclist riding the wrong way in bike lanes), Lack of enforcement of traffic laws by the police.
- Bad driver behavior, lack of lighting, poor & littered pavement
- Traffic, Bikes w/out lights, Bad pavement, Trash in bike lanes
- Bikes going the wrong way towards me, people feeding geese/ducks on bike path, dogs on/off leashes.
- fast cars, Bad surface, No place to ride
- 1-Cars on both sides of the bike lanes 2-Bike lane not signed well enough 3-Poor riding surface 4-Bike lane that ends abruptly
- Stones, Glass, Wet Leaves, Ice. Un-lighted walkers & Bikes @ night
- Lack of marked bike lanes & signs. Riding next to parked cars (DOORS). Inattention by drivers. Inconsistent enforcement of bike/car infractions.

- Bad road surface conditions on streets where bike lane are adjacent to vehicle lanes. Unimproved shoulders.

7. How can we encourage more people in Eugene to bike?

A.M. Session

- Bike paths. Better bike parking, consider bike path going East-West near 24th/south Eugene High
- Promote Bike awareness & safety to autos - promote bikers to be safety conscious around pedestrians' children - Adequate enforcement of existing rules/laws - Encourage Business to put in safe/secure Bike parking.
- The City? Resist the temptation to build more roads - The parking rates, don't build more garages.
- Make it economically favorable to not drive.
- $ incentive for bike commuters or fees for those that don't ride - Make it more convenient - Make bike lanes safer - re-stripe and maintain road markings
- Educated motorists as to a cyclists right to the road. Penalize motorists that drive recklessly around cyclists, especially if injury/death occurs. Educated the Police to understand basic traffic laws in regards to cyclists. City of Eugene must conduct a high profile advertising / Public Service announcement campaign on TV, radio, billboards, sides of buses, print media ads, letters to editor, Mailings, pamphlets, courses educating motorists of cyclists legal right to road especially when bikes can legally take over a lane w/out being harassed, made to feel unsafe or ran off the road.
- safer bike areas, deal with the high bike theft - have more designated areas to park & lock bikes
- More bike paths. Connect Willamette and Amazon paths by off street path. City employees should set example
- This will happen when gasoline is depleted provide well-lit, patrolled covered parking for bikes
- Fix areas w/safety concerns - Provide more covered sidewalk bike parking
- Emphasize it is something people can do to help reduce Global Warming. - Work on tax credits for bike commuters, Promote it; radio, TV, paper, more events like PPF.
- frequent riding event - different levels
- Incentives for riders, Enter to win Bikes, Free training for bike fixing

P.M. Session

- Covered Bike Parking, Incentives (bike discounts), Educate both drivers and cyclists, Keep lanes clearly marked & free of litter
- Increase Bicycle right-of-way vs. Autos, Reduce Road Rage in Autos, Post Bicycle rules on bike Paths, Speed Limit, Single File, Put Center line on Bike Paths

- Local businesses coming together to create a city wide commute incentive plan that is ongoing. People rewarded for riding their bikes to work.
- Connections, connections, connections. Enforce laws for bikes AND cars. More paths
- Take the good (bike friendly) things you are already doing & multiply them by 100. Reward (encourage) bicyclists with perks like safe parking areas (valets) & public recognition of bike friendly businesses. And all items I wrote in Question #6
- Increase the cost of gas (tax); increase cost of insurance 9car); develop densely subsidize such development; create community land trusts to keep land affordable; don't build parking; cap parking maximums; @ Suburban shopping malls, and offices @ 1/2 current allowed.
- Safe lock-up option, Make more safe surfaced lanes, every street have a bicycle option. Envision traffic being 1/2 cars, 1/2 bikes. Share the road & fix the road.
- 1-Better and more bike locking facilities 2-Better bike signage to appropriate paths. 3-Better enforcement of bike/car traffic laws.
- "Calm" a few side streets N & S, E & West. Make it easier to cross busy one way streets through town.
- Consistent enforcement & message from Police. More bike lines & bike signs. Dedicated paths where available.
- Raise gas prices. Art bike parades

8. How knowledgeable would you characterize yourself on bicycling issues?

A.M. Session

- Very - Experienced rider
- Relatively knowledgeable, but this one escaped my attention.
- Not sure what is the range here. I commute regularly but I am not really an activist. - I suppose I am minimally informed but I read ln-Motion & I'm on some distribution lists.
- more than average
- Very knowledgeable
- Fairly
- Marginally
- 32 years of bicycle commuting make me very aware of issues.
- over – knowledgeable
- Very Knowledgeable
- Fairly knowledgeable
- Very informed
- Use Bikes mostly for leisure, Would like more info

P.M. Session

- Fairly Knowledgeable

- Very
- Fairly
- Very
- Better than most bicyclists, & better than all non-bicycling motorists.
- Extremely knowledgeable
- Very
- I ride to work year round and I am interested in the future of biking in Eugene. I stay up on local issues.
- Somewhat
- Fairly. I've bike commuted for 20 yrs, been hit twice, and (?) twice, had my bike stolen & yet I still ride.
- Pretty decent when it comes to local routes & bike issues

9. How would you rate your experience participating in the focus group?

	A.M. Session	P.M. Session	Total
Extremely Satisfied	1	2	3
Satisfied	7	4	11
Neither Satisfied nor Dissatisfied	2	1	3
Dissatisfied	1		1
Extremely Dissatisfied			

10. Gender

	A.M. Session	P.M. Session	Total
Male	8	8	16
Female	5	3	8

11. Age

	A.M. Session	P.M. Session	Total
Under 20			
20-24			

25-29	2		2
30-34		2	2
35-39	1	1	2
40-44	2		2
45-49		1	1
50-54	5	1	6
55-59		3	3
60-64		1	1
65-69			
70-74			
75+	1	1	2

12. Use the space below for additional comments.

A.M. Session

- Thank you for taking the time to listen to our concerns. Encouraging - Overall, I think Eugene is doing a good job & promoting bike use.
- I appreciated Sarah's comment about thinking about a consistent reason for cycling and using it to rate all of the sides. Thanks so much!
- Many issues not covered. Need more time to discuss agendas (perhaps) brought to meeting other than the planners.
- Good job Facilitating!
- Without education of motorists to pay attention to cyclists & an understanding of how to share the road w/cyclists of knowing when a bike can legally take over a full traffic lanes most measures are merely window dressing. This education must be sponsored by the city of Eugene if it claims it is interested in increasing bike use. If educational measures are not taken, any injuries or deaths resulting from motorists fall largely on the City of Eugene's shoulders. Eugene will be held accountable fro any lack of action.
- Allowed too many anecdotes/opinions. So didn't get to some interesting & various opinion situations. Keep comments/etc. under control. Thanks f/asking. This is great to have input.
- More ways to encourage biking. - LTD allow 72 bikes on if racks are full - Discounts at local bike shops, COE subsidize more covered bike parking - A light at 30th & university - Promote cycling as transportation in schools

P.M. Session

- Need more signage listing bike rules.

- It's nice to see a City so dedicated to bicycles as transportation. Please resurface Lorane Hwy as it goes up through the South Hills. This is one of the most dangerous road surfaces I've ever been on and it's used heavily by cyclists.
- More major bike events - Family friendly. Flex-bike rentals. More bike racks & lockers esp. @ movies & restaurants. Allow lots of businesses along the major paths.
- Good job! I feel the slide show could have been quicker. Good job describing/setting up the forum. I skipped lunch with the understanding that my special food request would be (?) A bit grumpy fro lack of enough blood sugar. Please request that people respond with their food preference, i.e., omnivore, dairy loving veggie, or vegan and please make certain enough food is provided and reserved for those who responded or, let us know that we will need to provide for ourselves.
- Make it public & do more about everyone & New York being top bike theft. I don't have a car, rely on bike , need better surfaces on street, need better lighting @ night. Need intelligent bike lock ups - everywhere possible. Have a MAKING THE TRANSITION from Car to Bike free workshops - What it takes to not get ripped off & be safe & make bike riding a reality. Bike cages that work for locks.
- I would really like to see a couple of side streets "calmed". Going North-South/East-West. Some education & enforcement or using lights (Bikes & peds) @ night. Better more secure Bike parking. Traffic planning seems to think of bikes as an after thought.

Appendix B: Visual Preference Image Evaluation and Discussion Results

Introduction

This appendix contains visual preference participant comfort-level ratings for each image shown during the initial slideshow viewing session. Tables B-1 and B-2 provide individual participant and group average rating scores for each of the five image categories. Tables B-3 and B-4 display actual images presented during the visual preference slideshow sessions and median rating scores along with positive and negative attributes of each image as recorded during the discussion section of each workshop session.

Table B-1. Individual Pedestrian Participant Ratings

Pedestrian Session Images	People on the shared use path	Separated bike and ped paths (Vancouver)	Narrow, woodsy shared use path	Established neigborhood, sidewalk, trees	Meandering sidewalk & raised bike lane	Setback sidewalk, green landscape	Setback sidewalk, busy street	Curb ramp, setback sidewalk w/ mature trees	Curbside sidewalk, busy street	Urban, downtown sidewalk	Narrow sidewalk, meters, shrubs	Quiet downtown sidewalk scene, street furniture	Curbside Sidewalk, busy street	Stairs	New street, no pedestrian facilities	Unimproved street w/ no pedestrian facilities	Unimproved street w/ no pedestrian facilities	Busy street w/ traffic circle, pedestrian, cars	Mid-block crossing, multi-lane road	Refuge island crossing	Ped refuge & curb ramps on multi-lane facility	High-visibility crosswalk	Crossing w/ extra signage	Multi-stage crossin
Image #	**1**	**13**	**8**	**4**	**16**	**25**	**2**	**7**	**9**	**10**	**14**	**17**	**21**	**22**	**6**	**11**	**18**	**23**	**3**	**5**	**12**	**15**	**19**	**20**	**24**
Group #	1			2			3								4				5						
Ped Avg	**1.29**			**1.49**			**2.43**								**3.56**				**2.84**						
A.M.	1.36			1.50			2.34								3.42				2.79						
1	1	1	1	1	1	1	2	1	2	1	2	1	2	2	5	4	4	4	2	2	2	2	1	1	2
2	1	1	4	1	2	1	3	2	5	1	4	2	3	3	4	5	5	4	5	4	4	2	2	2	4
3	1	1	2	2	3	1	2	1	3	4	2	2	2	4	2	3	4	3	4	4	2	3	2	3	4
4	1	1	2	3	2	1	2	1	4	3	2	2	3	4	2	3	3	2	3	4	3	3	4	2	4
5	1	1	1	1	1	1	2	1	3	1	4	1	3	1	4	3	4	4	3	4	4	2	4	2	4
6	1	1	1	1	2	1	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2
7	1	1	1	3	2	1	2	2	4	2	2	1	2	4	4	4	3	4	4	4	4	2	1	1	4
8	1	1	2	1	2	1	1	2	3	3	4	1	1	1	3	3	2	2	2	2	4	2	1	1	3
9	1	1	1	2	1	1	5	4	4	3	2	1	2	3	3	4	4	4	4	4	5	3	2	2	4
10	1	1	1	1	1	2	2	1	4	3	3	1	3	3	4	4	4	5	2	1	4	2	3	2	3
11	2	1	3	1	1	1	2	2	2	2	4	1	2	2	3	3	2	4	4	2	3	2	3	2	3
12	1	1	5	3	2	2	2	3	3	2	4	2	2	2	5	4	4	4	2	3	4	3	3	3	4
Avg	1.08	1.00	2.00	1.67	1.67	1.17	2.25	1.83	3.25	2.25	2.92	1.42	2.25	2.58	3.33	3.50	3.33	3.50	3.08	3.00	3.42	2.33	2.33	1.92	3.42
P.M.	1.19			1.48			2.25								3.75				2.92						
13	1	1	1	1	2	2	1	1	2	2	3	1	2	3	4	4	4	4	4	4	4	3	3	2	3
14	1	1	1	1	2	1	2	1	4	1	4	1	2	2	2	4	3	2	4	2	5	2	3	1	3
15	1	1	1	1	2	1	2	3	3	1	3	1	3	1	4	4	2	4	4	3	4	3	4	2	2
16	1	1	1	1	1	1	1	4	2	2	3	1	1	1	4	4	2	4	3	3	4	2	2	1	4
17	1	1	2	1	1	1	2	1	4	3	3	1	3	2	4	4	4	4	3	4	4	2	2	2	4
18	1	1	1	2	1	1	2	2	4	3	3	1	3	3	2	3	3	4	3	3	2	2	3	2	4
19	1	1	1	4	1	1	3	2	2	1	5	1	2	2	5	5	5	4	4	4	2	2	4	1	4
21	2	2	3	2	2	2	2	3	2	3	4	2	2	4	4	4	3	4	2	4	3	2	3	2	2
22	1	1	1	2	2	1	1	3	4	2	3	1	2	2	4	4	5	5	3	3	4	3	2	2	4
Avg	1.11	1.11	1.33	1.67	1.56	1.22	1.78	2.22	3.00	2.00	3.44	1.11	2.22	2.22	3.67	4.00	3.44	3.89	3.33	3.33	3.56	2.33	2.89	1.67	3.33
Total Avg	**1.10**	**1.05**	**1.71**	**1.67**	**1.62**	**1.19**	**2.05**	**2.00**	**3.14**	**2.14**	**3.14**	**1.29**	**2.24**	**2.43**	**3.48**	**3.71**	**3.38**	**3.67**	**3.19**	**3.14**	**3.48**	**2.33**	**2.57**	**1.81**	**3.38**

Table B-2. Individual Cyclist Participant Ratings

Cyclist Session Images	Shared use path	Separated bike tracks	Narrow shared-use path	Separated bike and pedestrian facilities	Diverter, bike boulevard	Traffic calming - traffic circle	Neighborhood Street - no striping	Shared turn lane (cars and bikes)	Bike lane w/ parallel car parking	Middle of the street bike lane	Bike lane w/ no on-street parking	Busy street with striped lane through intersection	Blue bike lane	Bike lane with driveways	Blue bike box	Dashed bike lane striping	Ending bike lane	Contra flow bike lane	Raised bike lane	Slow traffic downtown street	Unimproved street w/ no bike facilities	Street w/ no lanes	Shared lane arrow "sharrow"	Crossing with people	Crossing
Image #	**1**	**22**	**24**	**9**	**11**	**18**	**2**	**3**	**5**	**7**	**8**	**10**	**14**	**15**	**16**	**19**	**20**	**23**	**25**	**4**	**6**	**12**	**21**	**13**	**17**
Group #	**1**				**2**			**3**												**4**				**5**	
Bike Avg	1.13				1.58			2.26												2.65				1.45	
A.M.	1.23				1.95			2.72												3.13				1.58	
1	1	3	1	1	2	4	2	2	2	4	4	4	4	4	3	4	4	1	2	4	3	4	3	1	1
2	1	1	1	1	2	1	1	3	4	2	2	4	4	2	1	3	4	1	1	4	4	4	2	1	1
3	1	1	1	1	2	2	1	1	1	2	1	2	4	2	4	2	4	2	1	1	1	3	4	2	2
4	2	2	1	1	1	1	1	2	1	1	1	4	4	4	4	1	4	1	1	1	4	3	3	1	3
5	1	4	1	1	1	1	1	2	4	1	1	4	2	4	2	3	4	2	2	4	4	3	1	1	1
6	1	2	1	1	1	4	3	3	3	3	2	4	2	4	2	4	3	2	2	2	3	4	2	2	4
7	1	3	1	1	1	2	2	2	1	1	1	4	4	3	2	2	4	2	1	3	4	4	4	1	1
8	1	1	1	1	1	3	3	2	3	2	3	5	4	3	3	4	4	2	2	3	4	4	3	1	1
9	1	2	1	2	2	1	1	3	4	5	5	4	5	5	3	5	3	4	5	2	3	3	3	2	2
10	1	1	1	1	1	2	1	2	2	2	2	3	3	2	2	3	4	2	1	1	3	3	2	2	2
11	1	1	1	1	1	3	3	2	3	4	1	4	3	1	2	3	4	1	1	3	4	3	4	1	1
12	1	1	1	1	2	4	4	4	3	2	2	3	4	2	3	3	2	3	2	5	4	4	3	1	4
13	1	1	1	1	2	4	2	2	2	2	2	5	3	2	3	2	4	2	2	3	4	4	2	1	1
Avg	1.08	1.77	1.00	1.08	1.46	2.46	1.92	2.31	2.54	2.38	2.08	3.85	3.54	2.92	2.62	3.00	3.69	1.92	1.77	2.77	3.46	3.54	2.77	1.31	1.85
P.M.	1.02				1.21			1.75												2.16				1.32	
14	1	1	2	1	1	1	1	1	1	1	1	2	2	2	1	2	2	1	4	1	1	1	1	2	2
15	1	1	1	1	1	1	1	1	3	1	1	2	1	1	2	1	2	1	1	4	1	2	5	1	2
16	1	1	1	1	1	2	1	1	1	1	1	1	4	2	1	1	3	1	1	2	2	2	1	1	1
18	1	1	1	1	1	1	1	3	2	2	4	4	2	1	1	3	3	1	1	3	2	3	1	1	1
19	1	1	1	1	1	3	1	3	3	1	1	4	4	3	1	4	1	1	1	3	4	4	1	1	1
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1
21	1	1	1	1	1	1	4	1	2	4	4	4	2	1	1	1	4	1	1	4	4	2	1	2	4
22	1	1	1	1	1	1	1	1	1	1	1	2	2	1	2	1	2	1	1	2	2	3	2	1	1
23	1	1	1	1	1	1	1	4	2	2	3	4	4	4	4	4	4	1	1	2	4	4	3	1	1
24	1	1	1	1	1	2	1	1	1	1	1	3	2	1	1	1	2	1	1	2	2	2	2	1	1
25	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1	2	2	1	1	1
Avg	1.00	1.00	1.09	1.00	1.00	1.36	1.27	1.64	1.64	1.45	1.73	2.55	2.36	1.64	1.45	1.82	2.36	1.00	1.36	2.27	2.27	2.36	1.73	1.18	1.45
Total Avg	**1.04**	**1.38**	**1.05**	**1.04**	**1.23**	**1.91**	**1.60**	**1.97**	**2.09**	**1.92**	**1.90**	**3.20**	**2.95**	**2.28**	**2.03**	**2.41**	**3.03**	**1.46**	**1.57**	**2.52**	**2.87**	**2.95**	**2.25**	**1.24**	**1.65**

Table B-3. Pedestrian Slideshow Images and Discussion

	Image	Median Rating	Comfortable	Uncomfortable	Comments
1: People on shared-use path		1	Green grass Connectivity Wide enough for all users	Path not wide enough Hard surface Congestion, potential collision hazard	Good for recreation, not transportation
		1	Wide path, no cars, green Level surface		
2: Setback sidewalk, busy street		2	Trees are barrier to traffic	Dangerous to cross High speeds and lots of traffic	
		2	Setback sidewalk Trees		
3: Mid-block crossing, multi-lane road		3	Good markings Pedestrian island	Signage alone insufficient Too many motorists ignore crossings Pedestrians are invisible.	
		3	Islands are a good thing Island	Not enough lighting Two lanes of traffic to cross Drivers ignore signs and markings - false sense of security Too far to cross (disabled)	

4: Established neighborhood, sidewalk, trees		1	Nice neighborhood	Too narrow of a sidewalk	
		1	Low traffic Interesting surface On-street car parking offers a buffer Historic character	Uneven walking surface Feels claustrophobic Safety after dark?	
5: Refuge island crossing		4	Nice to have the island Islands help Island increases comfort	Speeding cars Speeding cars Too close to intersection Angle of crossing is difficult Lack of striping Speeding cars Cars on path	Needs speed humps Add raised crosswalk
		3	Striping and refuge island are a good for a defense against cars.	No signal here for pedestrians. Adjacent intersection makes it difficult for cars to stop if there's a pedestrian on the road Would feel safer with a narrower gap between islands.	
6:New street, no pedestrian facilities		4	Trees and nature	No escape for pedestrians Difficult to move out of the way of cars	
		4		No sidewalks and poor visibility for There is no sidewalk. There is no shoulder making it difficult to walk on the street	

7: Curb ramp, setback sidewalk w/ mature trees		2	Trees Trees providing shade Setback sidewalk	Driveways across sidewalk Poor visibility Red car on sidewalk	Generic sidewalk
		2	Mature trees Setback from the road Generally a good urban sidewalk. Lower traffic volumes here	Many cars at driveways - conflict with pedestrians.	
8: Narrow, woodsy shared use path		1	Wooded surroundings	Too many blind curves Blind curves Surface too hard Too narrow Cyclists riding too fast	
		1	Green and in nature	Inconsiderate bike riders Limited visibility with vegetation and narrow path Would not feel safe alone here	
9: Curbside sidewalk, busy street		4		Utilitarian and boring Would not walk here for pleasure Bikes on sidewalk, no bike lanes No buffer High curb on the right side No social scene	
		3	Landscaping on the right Wide sidewalk	Getting splashed by cars Road too narrow for traffic volume High speed and traffic volume There are a lot of driveways in the area, dangerous for peds There is no buffer from traffic	

10: Urban, downtown sidewalk		3	Activity and socializing Trees, wide sidewalk, lots of space Well designed, different materials	Pedestrian and cyclist interaction	
		2	Wide sidewalk Presence of pedestrians There a pedestrian signal Safety in numbers	This area is chaotic The noisy environment	
11: Unimproved street w/ no pedestrian facilities		4	Greenery	Gravel on shoulders No where for the pedestrian to go Very uncomfortable at night	
		4	Little shoulder	There doesn't seem to be much traffic control on the street Blind driveways Narrow shoulder Street surface looks dangerous - cars may swerve onto shoulder	
12: Ped refuge & curb ramps on multi-lane facility		4	Island	Poor visibility due to vegetation No striping Lack of signage	Is this legal?
		4		No lines and signs indicating to cars there are pedestrians Would rather go to a signal Potential car/ped conflicts	

13: Separated bike and ped paths (Vancouver)		1	Separated paths Very effective	Hard materials Needs signage (bikes/peds) Hard surface materials	
		1	The water and the natural beauty The separation of bikes from pedestrians	Path is directly next to the water without any barriers	If the path is not separated by a green strip, then a barrier would be better.
14: Narrow sidewalk, meters, shrubs		2		No room to walk Overgrown vegetation No where to go Vegetation Parking meters Need wider sidewalk with meters	
		3	The greenery	The plants are overgrown This is only a one-way sidewalk. This sidewalk is very narrow. Cars could hit you when they open a door. Get rid of the parking meter	
15: High-visibility crosswalk		2	Crosswalk stripes - they show motorists that it is a ped crossing.	Drivers might ignore markings Need more signage Crowned street	Educate peds how to use islands
		2	One lane crossing - island Island alerts drivers Bright white stripes helpful to indicate crossing. Traffic slows down before coming to the crossing.	Half-island	

16: Meandering sidewalk & raised bike lane		2	good for pedestrians Different materials help the look Landscaped median and setback area Median (traffic calming)	Pavement and hard surfaces
		2	Peaceful quiet area to walk Traffic has to slow down around the median and are forced to weave in and out. Designed for more than	This area doesn't have anything to look at - only backyard fences. At night no one can see you because it's all backyards
17: Quiet downtown sidewalk scene, street furniture		1	Comfortable Bench is a nice asset to the street. Trees Gathering places Awnings are nice in rain.	Narrow sidewalks Not enough room on sidewalk Crossing the street
		1	Trees The storefronts give pedestrians something to look at Benches really appealing Trees provide buffer	
18: Unimproved street w/ no pedestrian facilities		4	Wide shoulders	Debris in road Gravel on shoulders Poor night visibility
		3	The shoulder allows peds to get out of the way. low traffic volume Trees Wide shoulder	No streetlights - safety at night Would be cautious as a Conflicts at driveways

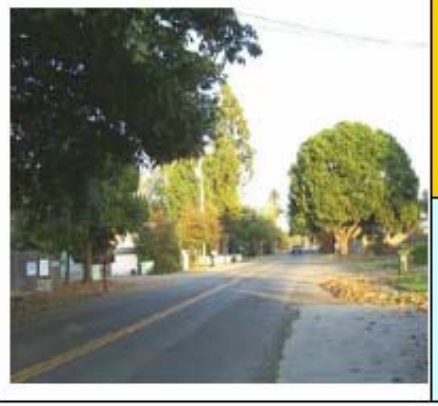
19: Crossing w/ extra signage		2	Visible bright signage High visibility signage	The signage is ugly and could The signage is distracting. Signs are unclear Street needs horizontal striping	
		3	Bright signs Signs cars aware of peds The signs tell drivers to yield - more effective	Signs are little obnoxious Good concept, ugly signs Street needs more markings No Island Chaotic traffic situation Why not a stop sign?	
20: Multi-stage crossing with signal heads		2		No pedestrian warning signs Give signal priority to peds pedestrian shouldn't have to wait an entire cycle to cross	
		2	Ped signal is good Red concrete looks good and tells cars to stop. Fencing directs peds Good signage - very clear Natural elements		
21: Curbside Sidewalk, busy street		2	Pleasant neighborhood, not a strip mall	Driveways across sidewalk	
		2	Greenery Low traffic volume	Interrupted sidewalk?	This should be the minimum baseline for sidewalks - a buffer would be better

22: Stairs		3	The stairs are good ways to get exercise.	Major hurdle for those with disabilities
		2	Pedestrian railing Built for pedestrians Bike trough	The stairs are ugly (concrete) Steep stairs Cannot take a grocery cart up these
23: Busy street w/ traffic circle, pedestrian, cars		4	Wide shoulders	No separation of cars/people Too much to pay attention to Too much going on here Either get hit by a car or jump in the mud
		4	There is a shoulder Slow moving traffic (traffic calming)	Lots of cars, no sidewalk Limited visibility Too many cars nearby Chaotic
24: Pedestrian refuge at shared use path		4		Bleak surroundings, too much concrete Pedestrians are ignored by cars Should be signs to stop cars
		4		No on-street markings Fast moving traffic Speeding cars Narrow island Ugly intersection

25: Setback sidewalk, green landscape		1	Green trees and pleasant surroundings	No bike lanes Narrow sidewalk Too much asphalt - all for cars
		1	Green buffer Wide buffer from street Interesting scenery This street is aesthetically pleasing. Landscaping and trees	

Table B-4. Cyclist Slideshow Images and Discussion

Image	Median Rating	Comfortable	Uncomfortable	Comments
1: People on the shared use path 	1	During day - comfortable It is away from traffic Very comfortable It's ideal, I like it	Needs more lighting Poor visibility at night Interactions with pedestrians	
	1	No cars Limited cars Wide path, surface is clear	Pedestrians Dogs, inline skaters On Sunday - need a center line People feeding geese At night it is hard to see people	
2: Neighborhood Street - no striping 	2	Dedicated bike route It's for bikes Speed limit signs	Parking in the wrong direction Speeding traffic Cars should park on one side only Prefer off-street paths No bike-route signs	The less we ask cars to do for bikers, the more we'll avoid problems between cars and bikes (in response to suggestion for parking removal)
	1	Wide Low traffic use of street Few cars Good visibility	Shared use with cars Poor road condition	Can't tell if the street is one way, or if cars are parked on the wrong side of street
3: Shared turn lane (cars and bikes) 	2	It's a bike lane! One way and well signed. No adjacent parking Two one-way streets Lots of activity Quiet in the evening	Traffic Shared turn lane Cars and bikes cross paths Bike lane looks like an afterthought Poor visibility at night	
	1	Nice to have bike lane on this busy street Sign Bike lane is in correct spot	Cars crossing bike lane	

4: Slow traffic downtown street		3	I like it because it's my lane when I'm riding It's easy to take the whole lane on a bike. Slow drivers Fine street	Traffic Parking/car door opening It's not wide enough for both bikes/cars Brick crossings are slippery when wet - easy to lose traction
		2	Low traffic speed and volume Slow traffic I feel equal with the cars Can take up the whole lane Parallel parking instead of	Car doors Narrow Opening doors Competition with drivers Lots of pedestrians crossing No dedicated bike lane
5: Bike lane w/ parallel car parking		3	Bike lane It's wide enough	People pulling out Car doors The road surface is irregular These lanes are full of rain/leaves during certain seasons.
		1	Spacious Large bike lane Fairly low traffic Great to have access on main street instead of just side streets	Only 1 bike lane in 1 direction Surface conditions are bad Parallel parking/car doors
6: Unimproved street w/ no bike facilities		4		Is that a gravel shoulder?
		2	Low traffic It's pretty Shaded Low volume of traffic	Unpaved shoulder Road surface No bike lane No sidewalk High speed traffic

7: Middle of the street bike lane		2	Everyone knows that	
		1	Big lane Double yellow line is nice Bike lane on accessible/busy street Don't have to worry about car doors	Surface The lane should be more clearly designated--coloring, reflectors Need to be vigilant about traffic Cars do not understand this lane No bike queue-jump
8: Bike lane w/ no on-street parking		2		
		1	There is a bike lane No car doors or parking It's a major street Continuous bike lane Parking is on the other side of the street	Surface The markings are faded There's lots of trash in path Only a bike lane on 1 side of street
9: Separated bike and pedestrian facilities		1		
		1	The bike lane is separated from pedestrians The lane is wide enough It's scenic	There's no signage on the path Placement of benches It could be wider Needs landscaping (buffer) It's one way-- what if you want to go the other way?

10: Busy street with striped lane through intersection		4	There is a bike lane	
		2	Business accessibility There is a bike lane This bike lane actually has good pavement Biker is visible in the middle of the road	Lane is not clearly marked, needs color/reflectors Needs better transitions It's not clearly marked Confusing for bikes and drivers There is traffic on 2 sides
11: Diverter, bike boulevard		1		
		1	It's for bikes Quiet traffic– you're not competing with cars It allows through access for bikes rather than following car route	It's a little narrow The cross street is not marked for cyclists? Limits access There is uneven pavement--harder to navigate in narrow area
12: Street w/ no bike lanes		4		
		2	Looks like a wide lane No parking Well landscaped Could ride on the sidewalk here	Cars go fast regardless of speed limit No bike lane & uneven edge Cars have to decide if bikes have a right of way Many driveway conflicts

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13: Crossing with people		1		
		1	It's well marked Traffic barriers (islands) Dedicated shared-use path There are ramps on both sides of the crossing Refuge island	It is not well marked Cars don't stop There aren't any signs for cars-- no yield for peds/bikes Have no idea what car will do No grade separation to slow cars
14: Blue bike lane		4		
		2	I like the color Color = visibility Bike lane on busy street (great) - business access Best marked bike lane Out of the way of cars	Fast moving cars Is paint expensive? Speed differential Bus & car conflicts Slick paint Narrow bike lane
15: Bike lane with driveways		3	It's clean (right now) It's a good surface There is space to bail if need to-- the grass Bike lane! No parked cars	Traffic volumes and speeds Can't make left turns Speed differential - bikes and cars A gutter- no protection for bikers Driveway conflicts Nothing to indicate bike presence
		1	There's a bike lane No on street parking Solution for busy street Trees - shade & buffer Good surface Often full of debris	Fast moving traffic (frantic) No signs this is a biking area Driveway conflicts Not enough traffic calming Trees/vegetation must be trimmed back for clearance	Why not color the bike lane for added visibility? These landscaped areas often have automatic sprinklers that spray in the bike lanes (pools)

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16: Blue bike box		3	It's nice to have the color I don't know what you could do to make it more appealing to bikers Having color is huge!	You have to trust the guy behind you.	Hard to know where the biker is going to--what's after the intersection? Bike lanes are a mistake on many roads. Better to separate bikes & cars
		1	It's clearly marked It gives preferential treatment to bikers Nice surface	Cars will be unfamililar with this marking You can't tell if the traffic signal will be activated by a bike	
17: Busy crossing, no marking		1		Should be yield signs for cars - they don't stop	Maybe they should make areas like a school zone--slow the traffic down.
		1	There's refuge It's wide enough Good surface Good surface	It's not striped or marked that it's a crossing Takes you away from businesses - hard to access Not enough width between the barriers for turning left	
18: Traffic calming - traffic circle		2			
		1	Slows traffic down some It's visible to cars-- equal for both	Circle too small to slow traffic No bike lane Lots of parked cars It's logical for cars to go around when turning left - bikes don't Reflectors slick when wet	

19: Dashed bike lane striping		3			
		1	Bike lane Business accessibility Stripes are clearly marked Cars don't turn left in front of you No worry about car doors	The law says you are required to use the bike lane if it's present, but many bikers need to turn right at this intersection The bike lane is not on the familiar side for motorists	
20: Ending bike lane		4	The sign is good Bike lane	It's a pinch point I see pretty crazy maneuvers at this intersection The cars are fast in this area The cars are forced into bike lane	Does bike lane continue after intersection?
		2	Bike lane at least for a while The surface is not bad The bike route is marked	No dead end sign Really confusing for cars and bikes No sidewalk No information for motorists that bikes share the road	
21: Shared lane arrow "sharrow"		3			
		1	Some indication that bikes exist on this roadway Accessibility to busy area	Unfamiliar bike symbol (to everyone) It's very ambiguous It's confusing Opening car doors	It's a wide bike lane? Where was photo taken?

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22: Separated bike tracks		1		Is that a separate bike lane?
		1	Separated from peds and cars Great business access Different surface color I like the curb (assuming curb is there)	Any speed limit for bikes Gives drivers the impression that bikes shouldn't be on the road Slick surface Crossing pedestrians It's narrow
23: Contra flow bike lane		2		
		1	Bike lanes on both sides Only traffic in 1 direction - know cars' direction It's well marked It doesn't look like there's on street parking	Students park in the bike lanes Poor surface One bike lane is the wrong way on a one-way street Too many markings
24: Narrow shared-use path		1		
		1	No cars Tranquil Curvilinear	High speed cyclists Limited visibility Dangerous at night (no call boxes) No center striping Poor surface conditions Too narrow!

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25: Raised bike lane		2			
		1	Visual separation Traffic calming devices Slows cars, not bikes Raised area keeps cars from driving over on it There's no car parking	Narrow bike lane with curb and drop off - can't pass other bikes Too expensive - don't like it They tend to collect lots of debris Calming devices pinch bikes and Kids ride on the sidewalk here	Why is road designed this way? (raised)