Bikes Mean Business in Eugene

An Economic Impact Study of the Downtown Silicon Shire

University of Oregon
Oregon Leadership in Sustainability

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UNIVERSITY OF OREGON

OLIS
Oregon Leadership in Sustainability
Graduate Certificate Program

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Executive Summary

This study for the City of Eugene, was undertaken by four Oregon Leadership in Sustainability graduate students from the University of Oregon. The goal is to investigate the role bike commuting and infrastructure play in the Silicon Shire members' operations and decisions in central Eugene. The Silicon Shire is a business association in the Eugene-Springfield area made of up businesses in or related to the technology field. The types of businesses it includes are: hardware development, gaming, software development, technology services, biotech, digital creative, and micro-breweries. City advisors to this project were Mike Sullivan, the Community Development Manager, and Rob Inerfeld, Transportation Planning Manager.

Biking has been shown to improve economic viability, worker productivity, and reduce environmental impacts. The basic question for this study was whether or not Silicon Shire members in downtown Eugene considered biking when making business decisions, such as location, employment, storefront, and more. This study found that:

- 83% of Silicon Shire businesses said that Eugene's bike network was important to their business
- Companies with more employees were more concerned with bike infrastructure
- 100% of the Micro-Breweries, Hardware Developers and Gaming Companies who responded thought Eugene's bike network was important to their business.
- Employees younger than 35 are more likely to bike to work.
- 22% of businesses who responded provide additional incentives to bike to work beyond bike parking
- 66% of businesses thought a bike share in downtown would have an impact on their business

Recommendations for the City in addressing biking for the Silicon Shire downtown in response to these findings include:

- Market the City's bike sharing so the positive impact is visible to all downtown businesses.
- Continuing to improve bike infrastructure in Eugene and encourage businesses in the Silicon Shire to use the Cycle Lane cell phone application.[1]
- Inform businesses on opportunities to integrate biking into employee health insurance plans.

[1] http://www.thempo.org/learn/cyclelane.cfm

Introduction

Globally, the benefits of shifting transportation modes towards bicycling and pedestrian choices is growing in popularity because of its measurable benefits. Biking has been linked to greater job creation per million dollars of infrastructural investment than any other infrastructure category[2], with an increase over automobile lanes by 3.6. Biking also improves health, productivity, and reduces cost of living by displacing personal automobile expenses. Social costs of biking are lower than cars as well; with fewer associated pollutants and emissions, less required infrastructure, smaller land use impacts, and fewer fatalities. In Oregon, bike fatalities made up 2.9% of traffic fatalities in 2006[3]; note the disparity between miles traveled by bike in Oregon versus by car. For car travel, the US witnessed 12.77 fatalities per 100,000 registered vehicle in 2009, marking the most recent data point in a downward trend since at least 1994[4]. These statistics exclude non-fatal accidents, which also often have social costs, including hospitalization, reduced worker productivity, and infrastructure repair or revision.

Eugene and Springfield are home to the Silicon Shire, an association of technology-related businesses such as software and hardware development, digital creativity, tech services, bio-tech companies and even micro-breweries. Eugene itself is proud of its bicycle culture and infrastructure. For each day in 2011, the US Census Bureau estimated around 4,800 people commuted to work by bicycle in Eugene[5], excluding movement unrelated to employment, like students, the unemployed and retired, and shopping or other trips, which would drive up bike movement throughout Eugene significantly. Biking clearly is culturally significant to Eugene and plays an economic role, but how much it contributes economically has not been sufficiently measured.

Silicon Shire employees who bike to work save money by not driving to work each day. Thus, they are more capable of contributing back into Eugene's local economy than those who are driving since cyclists tend to make more frequent trips to the store and spend more money.[6] The American Automobile Association (AAA) studies the cost of driving, and in 2012 a sedan cost an average of $0.596 per mile, or $24.51 a day.[7] In rough comparison, Family Bicycle, a Wisconsin bike shop, estimated generously the annual cost of bike ownership to be $1,648 for the first year, and $350 each following year[8]. This is $4.515 a day for the first year and less than a dollar a day every year thereafter. Saving at least $20 a day is no small amount, especially for the working class. AAA's studies also focus only on the private costs of ownership and operation, not the environmental and social costs associated with planning for the automobile, and all the pollution

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[2] Garrett-Peltier, H. (2011). Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts. Amherst, MA: Political Economy Research Institute.

[3] http://www-nrd.nhtsa.dot.gov/PUBS/810802.pdf

[4] http://www-fars.nhtsa.dot.gov/Main/index.aspx

[5] Eugene Commuting Characteristics by Sex, 2011 American Community Survey 1-Year Estimates.

[5]S0801. U.S. Census Bureau.

[6] http://www.treehugger.com/urban-design/study-finds-cyclists-and-pedestrians-spend-more-stores-drivers.html

[7] AAA "Your Costs of Driving – 2012 Edition"

[8] http://familybicycles-kc.com/resources/cost-of-car-ownership-vs-buying-a-bicycle/

and greenhouse gas emissions resultant of its use and production. Biking to work drastically reduces these numerous impacts.

This study seeks to investigate the role of bicycling in attracting Silicon Shire businesses in central Eugene. By targeting a specific sector of Eugene's economy and and even more specific location, the City of Eugene stands to learn how these businesses are impacted by and perceive biking. The savings to employees by reducing the need for a car and even encouraging bike travel can save employees a significant amount of money, which is likely redirected in part back into the local economy of Downtown Eugene and other Silicon Shire businesses. The Silicon Shire is an attractive economic segment to Eugene because it brings higher income and notoriety from the digital industries and breweries. These businesses are transforming Eugene into a post-industrial economy with interesting and attractive local businesses that draw more creative, enterprising individuals to Eugene, many of whom are likely to find the ability to bike or walk to work an attractive feature.

Methodology

This research focused on members of the Silicon Shire located in central Eugene, Oregon. The area was defined by the Economic Development office at the City of Eugene and the boundary for the study is defined as follows: north to the river, south to 19th Avenue, east to Orchard Street, and West to Blair/ VanBuren Street.

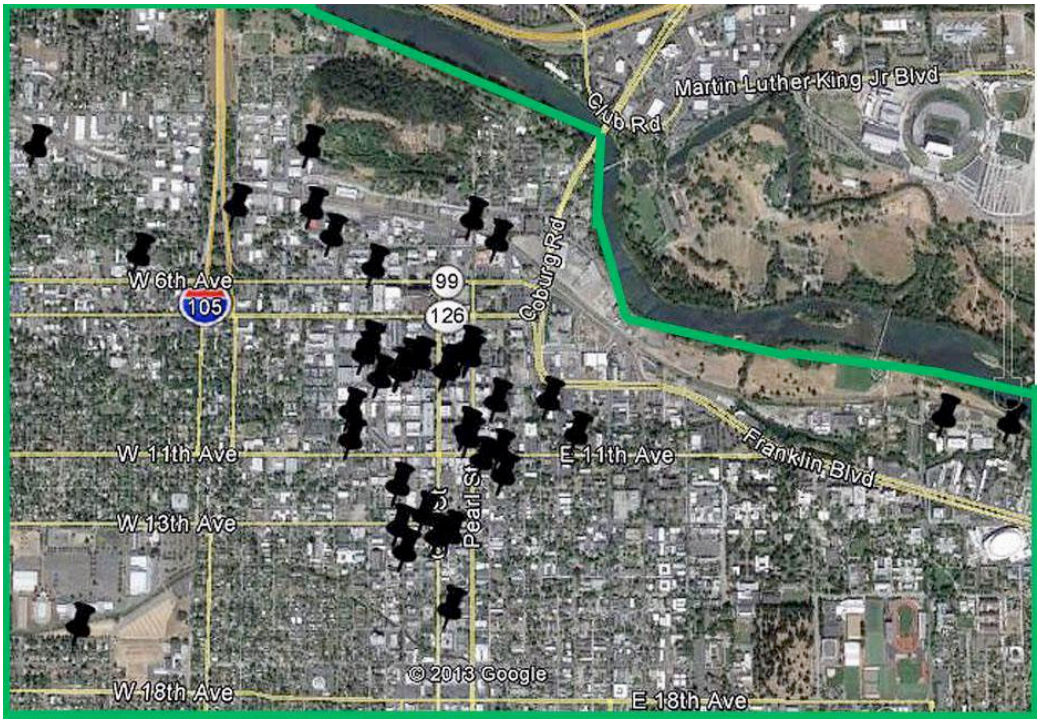


Figure 1: Map of Study Area. Black pins denote the locations of the businesses surveyed. Green line marks survey area.

Survey questions were formatted through Qualtrics electronic survey software and then emailed to the targeted businesses between Tuesday February 26 and Wednesday February 27, 2013. Researchers followed up with businesses by phone or in person from Friday March 1st to

Wednesday March 6th, 201. Of the 58 Silicon Shire businesses within the studied area, 37 responded to the survey, resulting in a 64% response rate. The survey results were evaluated using qualitative methods and Qualtrics statistical analysis tools.

The researchers made four assumptions about the results of the data. Assumptions were made about the difference between:

H_1 number of employees who work in the company and concern with bike infrastructure,
H_2 business type and concern with bike infrastructure,
H_3 the average age of employees and their likelihood to commute by bike and
H_4 businesses who made bicycle investments and their feelings on bike infrastructure.

Each hypothesis was tested using the data collected in Qualtrics using the cross tabulation and survey results tools.

Key Findings

H_1 Silicon Shire companies who have more employees are more likely to be concerned with bike infrastructure than those with fewer employees.

Researchers reject the null hypothesis. There is a strong positive correlation between number of employees and concern with bike infrastructure.

The more employees a business has, the higher the response for concern or feelings about the impact of Eugene's bicycle network became. 100% of businesses who have more than 25 employees reporting thought Eugene's bike network was important to their business. The majority of the businesses, at 83% regardless of the number of employees, thought Eugene's bicycle network is important to some degree. By company size, the percent of businesses who said infrastructure was important increased in a positive correlation with company size beginning at 66%, then 83% for businesses with 6 - 10 employees, 88% for businesses with 11 - 25 employees and 100% for businesses with 26 or more employees. It is important to note that the smaller companies responded to the survey more than the others, while only two large businesses with 51-100 employees responded to the survey. These findings may be a result of the number of smaller businesses and lack of large businesses located in the Silicon Shire.

When asked whether or not locating downtown had anything to do with attracting employees 19 businesses said no, 15 said yes. When questioned further during interviews one business indicated that though they located downtown due to lower rent and not because of the biking infrastructure, they support their employees biking to work and find that locating in a bike friendly area has been good for business. The moderately sized businesses indicated that locating downtown was related to attracting employees who would like to have the option of biking or walking to and from work. This result was consistent with the concern with Eugene's bike infrastructure. (*See Appendix 3: Chart 1 for cross-tabulation results.*)

H_2 Gaming Companies, Digital Creative Companies, and Micro-Breweries are more likely to be concerned with bike infrastructure than other company types.

Researchers accept the null hypothesis. There is no relationship between business type and concern with bike infrastructure.

Of the seven different types of businesses surveyed, the micro-breweries were most concerned with Eugene's bicycle network as 50% thought that bike infrastructure was extremely important to their business. The tech services companies followed in their concern for bicycle infrastructure with 43% that thought bike infrastructure was extremely important to their business. Gaming companies and digital creative companies both thought that the bicycle network in Eugene is important to some degree for their employees and/or business, in addition 75% of software companies thought bike infrastructure is at least somewhat important to their business. *(See Appendix 3: Chart 2 for cross tabulation results.)*

H_3 Companies whose employees are under age 35 are more likely to bike to work than companies whose average employees are over 35.

Researchers reject the null hypothesis. There is an association between age and biking to work. This hypothesis was confirmed indicating that employees who are younger than 35 years old are more likely to bike to work than companies whose employees are older than 35.

A total of 86% of the businesses employed people in age bracket 25 to 45 years old. Those businesses with the greatest number of employees in age bracket 25 to 35 said that 25% to 75% of their employees biked to work. There was no correlation, however, between the employee age and the businesses concern with bike infrastructure for the employee. See *(Appendix 3: Chart 3 for cross tabulation results.)*

H_4 ___Businesses that invest in bike facilities or programs are more likely to believe that biking has a higher impact on their business than companies who do not invest in bike facilities or programs.

Researchers accept the null hypothesis. There is no relationship between company investments in bike facilities and programs, and perceptions on the impact of bike infrastructure.

The three of the nine businesses who thought the bike infrastructure was extremely important to business also provided incentives (investments in bike programs and facilities) for their employees to bike to work. Additionally, 22.7% of businesses that thought bike infrastructure was somewhat important to their business also provided incentives to their employees to bike to work. And 26% of companies that thought the bicycle network was important to some degree also provided incentives for their employees to bike to work. In addition, 23% of the companies who think the bicycle network is important for business/employees also provided a health care plan that promotes bicycling to work. Six of the eight companies that both provide incentives and are concerned with bike infrastructure also provide secure bike parking. Only one business invests in an 'in-house' bike share program. *(See Appendix 3: Chart 4 for cross tabulation results).*

Conclusions

Infrastructure

A total of 83% of respondents responded positively when asked about the downtown bicycle network; stating that the bicycle network in Eugene is an important part of their business. When comparing these results to age there is correlation between how young employees are and the importance of bike infrastructure.

Results indicate that 81% of companies do provide secure bicycle parking. However, the definition of security remains unclear. 'Secure' can range from parking inside the office building to bike cages to standard bike racks provided by the City. When asked about a bike share program, 66% of the businesses said they thought it would have at least some impact on their business; however, only one business had some version of a bike share program. The findings do indicate that bike infrastructure is at least somewhat important to most businesses.

Health Care

Given the number of smaller companies in the Silicon Shire, a surprising, 19% of respondents said that they did provide health care plans that incentivize biking to work. Out of the seven respondents that did have a plan they were more likely to find that the downtown bike infrastructure was important for their business. However, they were less likely to have other incentives for their employees biking to work. Additionally, some of the respondents who were reached through phone surveys made a suggestion that there should be more information handed out to explain the different health care plans and incentives to promote biking to work. They expressed interest in health care programs but did not know what the options were, so they did not have a bike friendly health care plan.

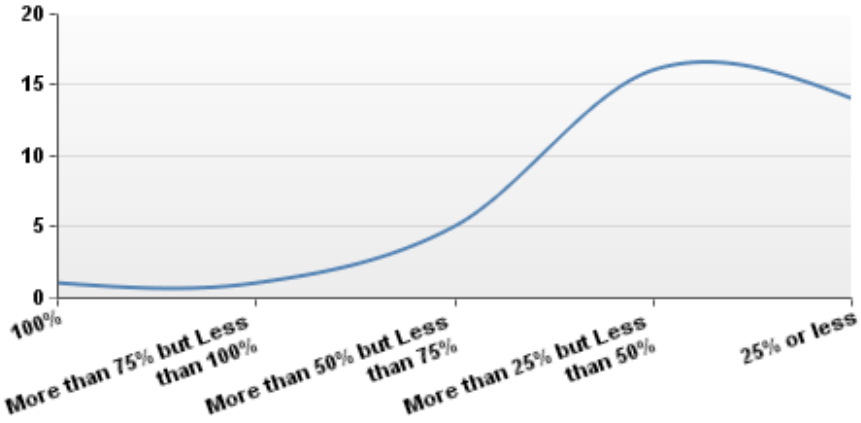
Age

Half the respondents reported that their employees were 36 to 45 years old. In comparing this age range to how important the bicycle culture was to their business, a majority of these respondents (78%) reported that bike culture in Eugene did not have an impact on their business decisions. However, 13 of 22 respondents in the 36-45 age bracket said that the downtown bike network was an important aspect to their business.

Employee Commuting

In exploring how many people in total bike to work the majority of businesses have around 25 to 50 percent of their employees who bike to work. The businesses that had more people biking to work were more likely to be concerned about the biking network and the overall biking culture in Eugene.

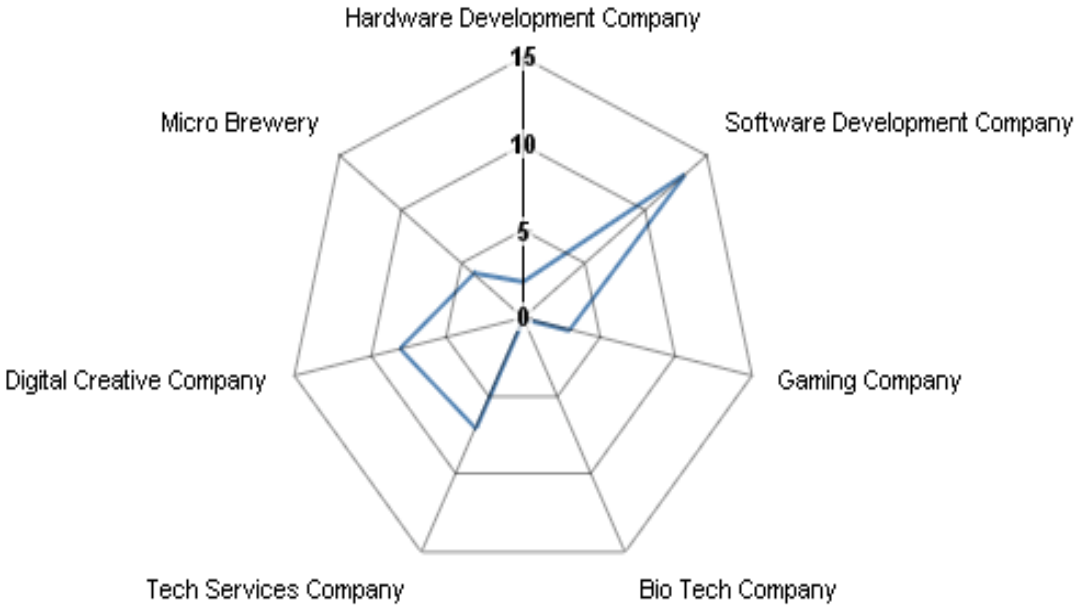
Number of Businesses Whose Employees Bike to Work by Percentage



Graph 1: Quantity of Businesses (y-axis) vs Percentage of Employees that Bike to Work (x-axis)

Business Type

Number of Each Business Type Surveyed



Graph 2: Quantity of Type of Business Surveyed

Out of all of the business types, software development companies were the businesses that completed the greatest amount of surveys. The second most surveyed business type were the digital creative companies. However, the majority of software development companies (76.9%) agreed that Eugene's bicycle network was important part of downtown, while the digital creative

companies had more employees who bike to work - 62.5% versus 76.9% of businesses. While there are a variety of businesses, overall there is little difference in their responses when compared with one another.

Business Types and Response Rates

Business Type	Quantity	Responses	Response Rate
Tech Services	9	7	77%
Hardware Development	1	2	200%[9]
Digital Creative	9	8	88%
Gaming	4	3	75%
Micro Brewery	5	4	80%
Bio Tech	1	0	0%
Software Development	29	13	45%

Graph 3: Business Type.

Recommendations

In reviewing the conclusions the researchers recommend several actions. There are four main recommendations for future research or action.

- While the survey suggests that there is not a demand for a bike share program, after reviewing the additional comments and conversations with the businesses there appears to be a lack of understanding of what a bike share actually is. The researchers recommend an outreach/ engagement program explaining the importance of a bike share program downtown, not only for their employees but perhaps for their customers as well.
- Of the 37 businesses surveyed 7, or 19% of them promote biking to work in their healthcare. In addition the businesses who did not showed an interest in learning more about these types of healthcare plans. The researchers recommend (similar to the above recommendations) to implement an outreach or engagement program focusing on how business could better promote bicycling habits.
- Eugene's bicycle network is an important part of the downtown region. Specifically taking into account the written suggestions in the surveys, the city could focus on

[9] The 200% Response rate is assumed by researchers to be a difference in the respondent's self-identity on the survey and on the Silicon Shire business list. The surveys were filled out differently and from different locations. In addition, it is possible that the business could have expanded or changed without updating that information on the Silicon Shire website.

strengthening the overall network by further linking bike paths to bike lanes. Additionally, continue to focus on how to improve the bike network in downtown Eugene.

- The researchers gained a much more in-depth understanding of how bike culture and infrastructure influences Eugene's economy. However, the researchers also understand that this survey represents a very small sample of the businesses in Eugene. Therefore, the researchers recommend that a larger, more comprehensive survey be developed and implemented in the future to target a more dense section of downtown and including other businesses. Additionally, researchers found that phone and in-person survey distribution was helpful and is more feasible in a smaller area.

Appendices

Appendix A: Scope of Work

Scope of Work
Bikes Mean Business
January 23, 2013

OLIS Team Members
Amy Combs
Ben Farrell
Kacey Messier
Tristan Sewell

Clients
City of Eugene:
Rob Inerfeld, Transportation Planning Manager
Mike Sullivan, Community Development Manager

Background
Cycling provides employment and transportation in Eugene, both earning incomes and saving residents from the costs of automotive transportation. Many residents choose to bike to work or school, as well as for leisure, giving cyclists many health benefits that come from biking. To fully understand the importance of bicycling in Eugene, economic analysis should be undertaken. With knowing the economic value cycling creates in Eugene, better policies and planning can be put in place to take advantage of cycling's benefits and mitigate against its costs.

Purpose
The purpose of this scope of work is to describe OLIS's approach to researching and identifying the impact commuter cyclists have on the local economy. The study will seek to provide support for future investments in bicycle infrastructure. This project will provide an estimate to quantify the economic benefits that cycling has on Lane County, including its impact on business, employment and revenue. Specifically, the project will include:

- An estimate of direct bike-related business activity
- An estimate of how many jobs are created through direct bike-related activity
- An estimate of how much revenue is a result of direct bike-related activity
- And other relevant statistics about cycling in Eugene

Work Program
OLIS will engage a team of graduate student researchers under the direction of
Ann Scheerer, Instructor/Project Advisor and Larisa Varela, Assistant Instructor/
Project Advisor. As staff to OLIS, Ann Scheerer and Larisa Varela are responsible for overseeing the work and conduct of the student researchers.

Task 1: Research and compare methodologies of similar studies
Task 2: Contact and interview resources
Task 3: Develop two to three proposals for final review
Task 4: Meet with clients develop an understanding for the final deliverable(s)
Task 5: Prepare and present the final deliverable(s)

Project Schedule

Table 1 presents our project timeline. We will begin work in January 2013 and complete the project by March 22, 2013.

Table 1: Project Timeline

Task	Timeline
Research Methodologies	January 28, 2013
Contact and Interview Resources	By February 4, 2013
Meet with Clients to Propose Methodology	February 8, 2013
Check in Presentation	February 8, 2013
Prepare Survey Questions for Clients	February 8 - February 25, 2013
Distribute Surveys	February 26 - March 6, 20113
Analyze Results and Develop a Report	March 7 - March 15, 2013
Develop Final Presentation for Clients	March 16 - March 20, 2013
Final Presentation of Survey Results	March 21, 2013

Appendix B: Survey

University of Oregon graduate students working with the City of Eugene are evaluating the impact of bicycling on businesses in the Silicon Shire.

You are receiving this survey because your business is a member of the Silicon Shire. Your anonymous responses will help us understand how bicycling plays into business and employment decisions for this segment of Eugene's economy.

The survey takes less than 5 minutes to complete. We know your time is valuable. Thank you for your assistance.

PLEASE CIRCLE YOUR ANSWERS

1. Which of the following best describes your business?

Hardware Development Company
Software Development Company
Gaming Company
Bio Tech Company
Tech Services Company
Digital Creative Company
Micro Brewery

2. About how many employees work here?

1 to 5 6 to 10 11 to 25 26 to 50 51 to 100

3. What is the age range of the greatest portion of your employees?

18 to 25 26 to 35 36 to 45 46 to 55 55+

4. Approximately, what percentage of your employees bike to work?

100%
More than 75% but Less than 100%
More than 50% but Less than 75%
More than 25% but Less than 50%
25% or Less

5. Did your decision to locate your business downtown have anything to do with attracting employees who value being able to bike to work?

Yes No

6. How important is Eugene's bicycle network to your employees and/or business?

Extremely Important
Somewhat Important
Somewhat Unimportant
Very Unimportant

7. Do you provide any incentives for your employees to bicycle to work?

Yes No

8. Do you provide secure bicycle parking for your employees?

Yes No

9. Do you have a bike share* program?

*A bike share is a service in which bicycles are made available for shared uses to individuals who do not own them. Bike share systems provide free or affordable access to bicycles for short-distance trips in urban areas as an alternative to motorized transportation.

Yes No

10. What impact do you think a bike share program in Downtown Eugene would have on your business?

High Impact
Medium Impact
Low Impact
No Impact

11. Does Eugene's bicycling culture influence your business decisions?

Yes No

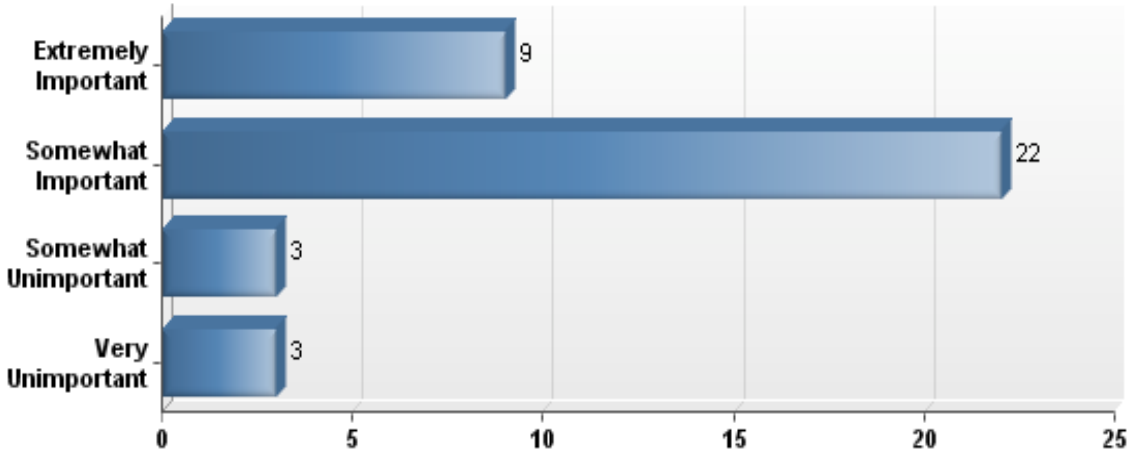
12. Do you provide a health care plan that promotes bicycling to work?

Yes No

If you have any more comments regarding employee biking habits, bike infrastructure in Eugene, thoughts on bike sharing, or the like, please feel free to leave them here or on the back of this page. Thank you again for your time.

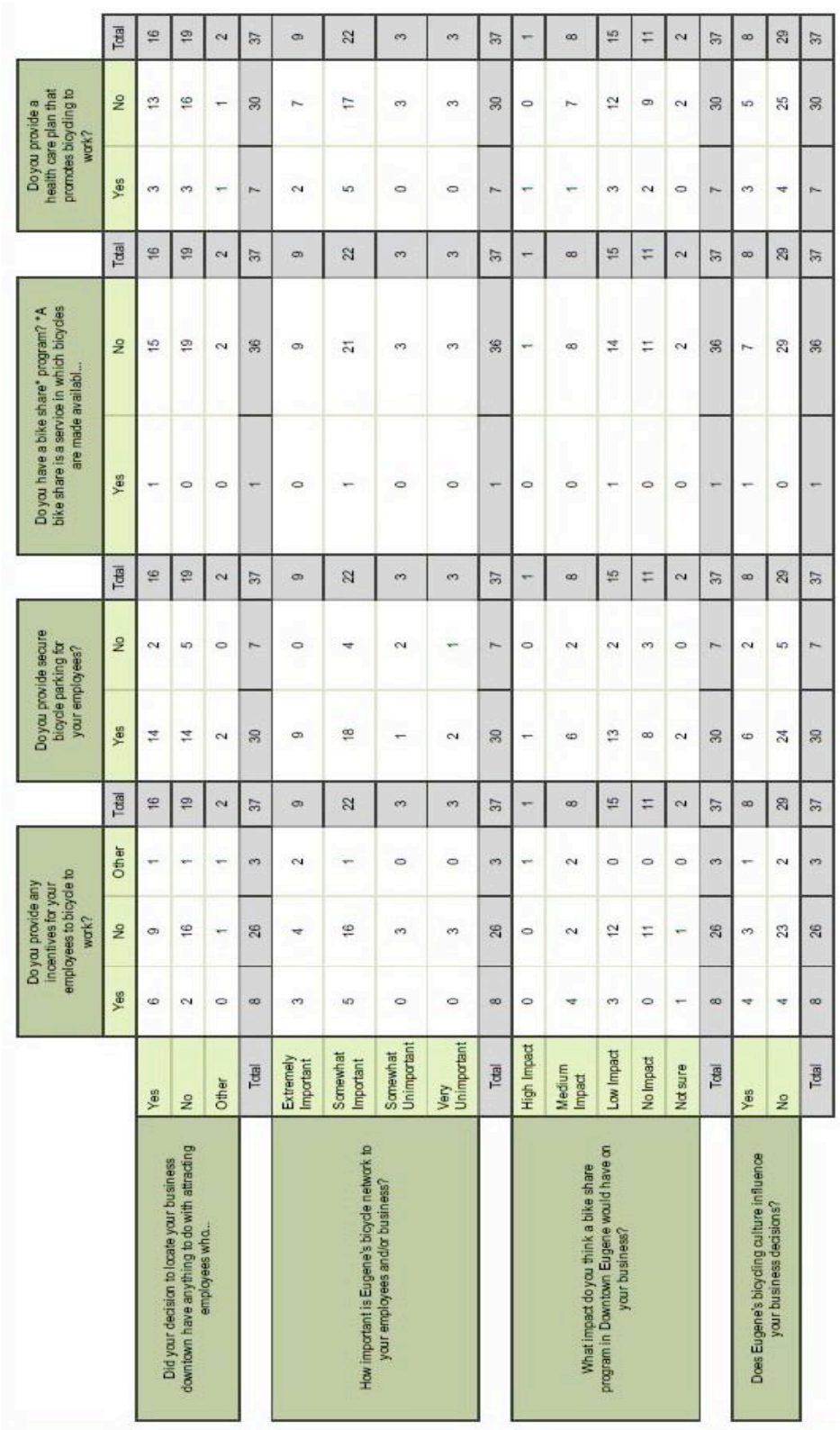
Appendix C: Charts and Graphs

Graph 1: Importance of Eugene's bicycle network to employees and/or business



Cross Tabulation:

Infrastructure vs. Concern - Chart 0



		Do you provide any incentives for your employees to bicycle to work?				Do you provide secure bicycle parking for your employees?			Do you have a bike share* program? *A bike share is a service in which bicycles are made availabl...			Do you provide a health care plan that promotes bicycling to work?		
		Yes	No	Other	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
Did your decision to locate your business downtown have anything to do with attracting employees who...	Yes	6	9	1	16	14	2	16	1	15	16	3	13	16
	No	2	16	1	19	14	5	19	0	19	19	3	16	19
	Other	0	1	1	2	2	0	2	0	2	2	1	1	2
	Total	8	26	3	37	30	7	37	1	36	37	7	30	37
How important is Eugene's bicycle network to your employees and/or business?	Extremely Important	3	4	2	9	9	0	9	0	9	9	2	7	9
	Somewhat Important	5	16	1	22	18	4	22	1	21	22	5	17	22
	Somewhat Unimportant	0	3	0	3	1	2	3	0	3	3	0	3	3
	Very Unimportant	0	3	0	3	2	1	3	0	3	3	0	3	3
	Total	8	26	3	37	30	7	37	1	36	37	7	30	37
What impact do you think a bike share program in Downtown Eugene would have on your business?	High Impact	0	0	1	1	1	0	1	0	1	1	1	0	1
	Medium Impact	4	2	2	8	6	2	8	0	8	8	1	7	8
	Low Impact	3	12	0	15	13	2	15	1	14	15	3	12	15
	No Impact	0	11	0	11	8	3	11	0	11	11	2	9	11
	Not sure	1	1	0	2	2	0	2	0	2	2	0	2	2
	Total	8	26	3	37	30	7	37	1	36	37	7	30	37
Does Eugene's bicycling culture influence your business decisions?	Yes	4	3	1	8	6	2	8	1	7	8	3	5	8
	No	4	23	2	29	24	5	29	0	29	29	4	25	29
	Total	8	26	3	37	30	7	37	1	36	37	7	30	37

H_1 Results - Chart 1

		About how many employees work here?					
		1 to 5	6 to 10	11 to 25	26 to 50	51 to 100	Total
How important is Eugene's bicycle network to your employees and/or business?	Extremely Important	1	3	3	2	0	9
	Somewhat Important	7	2	5	5	2	21
	Somewhat Unimportant	1	1	1	0	0	3
	Very Unimportant	3	0	0	0	0	3
	Total	12	6	9	7	2	36
Do you provide secure bicycle parking for your employees?	Yes	8	5	9	6	1	29
	No	4	1	0	1	1	7
	Total	12	6	9	7	2	36
Did your decision to locate your business downtown have anything to do with attracting employees who...	Yes	4	3	5	2	1	15
	No	8	2	3	5	1	19
	Other	0	1	1	0	0	2
	Total	12	6	9	7	2	36

H_2 Results - Chart 2

		Which of these best describes your business?							
		Hardware Development Company	Software Development Company	Gaming Company	Bio Tech Company	Tech Services Company	Digital Creative Company	Micro Brewery	Total
How important is Eugene's bicycle network to your employees and/or business?	Extremely Important	1	1	0	0	3	2	2	9
	Somewhat Important	1	9	3	0	2	5	2	22
	Somewhat Unimportant	0	1	0	0	1	1	0	3
	Very Unimportant	0	2	0	0	1	0	0	3
	Total	2	13	3	0	7	8	4	37
Do you provide secure bicycle parking for your employees?	Yes	2	11	2	0	6	6	3	30
	No	0	2	1	0	1	2	1	7
	Total	2	13	3	0	7	8	4	37
What impact do you think a bike share program in Downtown Eugene would have on your business?	High Impact	1	0	0	0	0	0	0	1
	Medium Impact	0	2	0	0	1	4	1	8
	Low Impact	0	7	0	0	2	3	3	15
	No Impact	1	3	3	0	3	1	0	11
	Not sure	0	1	0	0	1	0	0	2
	Total	2	13	3	0	7	8	4	37
Does Eugene's bicycling culture influence your business decisions?	Yes	1	1	0	0	1	3	2	8
	No	1	12	3	0	6	5	2	29
	Total	2	13	3	0	7	8	4	37

H_3 Results - Chart 3

What is the age range of the greatest portion of your employees?	Approximately, what percentage of your employees bike to work?						How important is Eugene's bicycle network to your employees and/or business?				
	100%	More than 75% but Less than 100%	More than 50% but Less than 75%	More than 25% but Less than 50%	25% or less	Total	Extremely Important	Somewhat Important	Somewhat Unimportant	Very Unimportant	Total
18 to 25	0	0	0	1	2	3	0	3	0	0	3
26 to 35	0	0	4	8	2	14	4	10	0	0	14
36 to 45	1	1	1	5	10	18	4	9	3	2	18
46 to 55	0	0	0	1	0	1	0	0	0	1	1
55+	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	5	15	14	36	8	22	3	3	36

H_4 Results - Chart 4

		Do you provide any incentives for your employees to bicycle to work?				Do you provide a health care plan that promotes bicycling to work?		
		Yes	No	Other	Total	Yes	No	Total
How important is Eugene's bicycle network to your employees and/or business?	Extremely Important	3	4	2	9	2	7	9
	Somewhat Important	5	16	1	22	5	17	22
	Somewhat Unimportant	0	3	0	3	0	3	3
	Very Unimportant	0	3	0	3	0	3	3
	Total	8	26	3	37	7	30	37
What impact do you think a bike share program in Downtown Eugene would have on your business?	High Impact	0	0	1	1	1	0	1
	Medium Impact	4	2	2	8	1	7	8
	Low Impact	3	12	0	15	3	12	15
	No Impact	0	11	0	11	2	9	11
	Not sure	1	1	0	2	0	2	2
	Total	8	26	3	37	7	30	37
Does Eugene's bicycling culture influence your business decisions?	Yes	4	3	1	8	3	5	8
	No	4	23	2	29	4	25	29
	Total	8	26	3	37	7	30	37

Appendix D: Article Summaries and Case Studies

Article Summaries

"Portland's Green Dividend"

Joe Cortright's publication aims to break down the economic benefits Portland experiences from its environmental policies and planning efforts. He introduces his point with commutes. Portlanders travel 20% less than the US average for large metropolitan areas. Given the city's population, this saves 2.9 billion miles traveled annually, which Cortright conservatively estimates to be $1.1 billion. Cortright indicates this savings is then redirected into the local economy at a rate of about $800 million, but I believe there are further economic benefits outside of his analysis like health improvements and happiness, which cannot easily be economically measured. Restaurants and breweries are cited as examples of where this saved cash goes, because Portland has a very high number of each, ranking 3rd for most restaurants *per capita* in a major metro area. Aside from just travel costs, Cortright also evaluates the opportunity cost of drive commutes using ODOT estimates. Workers' travel time is valued at $15 an hour (this is called contingent valuation and is how economists estimate less clear costs). By saving 100 million hours by driving less, Portlanders save another $1.5 billion.

These savings represent those directly borne by consumers and restored to the local economy. There is also significant reduction to environmental degradation. This would include the avoided carbon emissions related to less driving, which is estimated to be 1.4 million tons of GHGs per year. The cost to offset a similar amount of GHGs is estimated between $28 and $70 tons.

Cortright goes on to discuss causes for these reductions, which include a lower rate of car purchasing than the US average, higher hybrid adoption rates, compact land use policies within the UGB, and a high rate of transit use among non-poor residents. Finally, Cortright mentions a positive feedback loop regarding migration to Portland by college-educated 25-34 year old professionals with an interest in neighborhood living and 'green' culture.

"Economic Effects of Traffic Calming on Urban Small Businesses"[10]

The article "Economic Effects of Traffic Calming on Small Urban Businesses" looks at the economic impacts bikes and bike lanes have on the San Francisco economy. The study specifically looks at the preconceived notions of how bike culture influences business activity. The study compared the preconceived notions from local business of how bike lanes might affect their business to how the bike lanes actually affected their businesses.

The methods that they used were surveys, interviews, and a one street experiment. In this experiment they put in a bike lane on a road without a bike lane to physically see the difference or impact that the lane created in the local businesses day-to-day business activity. The surveys were

[10] Drennen, Emily. "Economic Effects of Traffic Calming on Urban Small Businesses." 2003. Web. 25 Jan. 2013.

used throughout the larger San Francisco area to gather data about preconceived notions of bikes and the impact on local business activity. The interviews were used throughout the study to judge what the businesses owners initial impressions were about the change and how they felt afterward.

The study found that the street experiment was helpful to gain a stronger understanding from the business owners around the need or benefits of bike lanes on the side of the road. Despite this the study found that the business owners still felt that parking spaces on the side of the road were more desirable than bike lanes in order to gain more customers. Overall the study acknowledged that there needs to be strong community support around bike culture, including creating bike lanes, in order to reap the full economic potential from including greater bike friendly areas throughout the San Francisco area.

This report was completed by Kelly Clifton. She explored the relationship between mode choice and consumer behavior. This report found that cyclists on average spend more due to two main reasons. The first reason is that cyclists tend to stop more frequently than individuals in automobiles. Secondly, where the cyclists are concentrated (the down town or urban core) have greater concentration of shops to frequent. Additionally, the study found that customers arriving by automobile were more likely to spend more at one trip. However, because of the frequency of trips taken by cyclists the average amount of money spent per cyclist annually is greater than motorists. This report is similar to the San Francisco study because like the San Francisco report this study found that bike lanes were overall beneficial to the local businesses.

Additionally, "Catering to the Bicycle Market" utilized a similar methodology as the San Francisco project. Their main strategy was to pass out surveys to all businesses across the Portland downtown, urban, and suburban areas. The surveys were specifically sent out to local/ big box grocery stores, restaurants, bars, convenience stores, clothing stores, and "other". One of the limitations of the study was the use of only surveys in the project. Interviews or a more diverse sample could have been utilized. However, this study does build upon similar studies such as the San Francisco study to try to explore the impact of bicyclist as consumers in a much wider scope than past projects. Finally, this study uniquely promotes the benefits of marketing specifically to cyclists.

Major Takeaways from this Study:

- Although motorist spend more per trip, cyclists shop more frequently
- On average per month cyclist spend more compared to motorist
- There may be increased financial benefits to specifically marketing to cyclists
- Surveys were utilized in this project. Surveys are seen as a trend throughout bike and economic studies

Pathways to Prosperity.[11]

[11] *Pathways to Prosperity*. Rep. N.C. Department of Transportation Division of Bicycle and Pedestrian Transportation, July 2004. Web. 25 Jan. 2013. http://www.ncdot.gov/bikeped/download/bikeped_research_eiafulltechreport.pdf

The bicycle economic impact study is mostly based around the impacts from tourism. The study implemented an overall map of the region, highlighting existing bicycle infrastructure. North Carolina State University conducted a survey of bicyclists and tourists. Surveys were conducted at the visitor centers, bike paths and trails, and wide paved shoulders. Their survey questions can be helpful in our creation of survey questions for Eugene, OR. The conservative estimate of the annual economic impact in the region is $60 million. Approximately 1,400 jobs are created and supported by the bike economy. Approximately $6.7 million from federal, state, and local funds were used to construct the bicycle facilities in the region. The return on investment is approximately 9 fold. The main methods of the study were survey data and economic data. In my opinion, though the EIA is based mostly on tourism, the Eugene study can implement the same methods to collect hard evidence of bicycle impacts on the economy.

Significant findings from the study include:

- Seventeen percent of visitors to the area report bicycling activity while there; this is approximately 680,000 bicyclists annually.
- A conservative estimate of the annual economic impact of these bicyclists is $60 million.
- The annual economic impact of cyclists is almost nine times as much as the one-time expenditure of public funds used to construct special bicycle facilities in the region.
- 1,400 jobs are created or supported annually with the expenditures made by bicyclists.
- Almost half of surveyed bicyclists earn more than $100,000 annually and 87% earn more than $50,000. Forty percent have a Masters or Doctoral degree and an additional 38% reported completion of a college degree.
- The quality of bicycling in the region had a positive impact on respondents' vacation planning with 43% reporting that bicycling was an important factor in their decision to come to the area, 53% reported bicycling as a strong influence in their decision to return in the future, and 12% reported staying three to four days longer to bicycle in the area.
- Nearly two-thirds of respondents indicated that riding on bicycle facilities made them feel safer.
- Over three-fourths of all survey respondents indicated that additional bicycle paths, paved shoulders and bike lanes should be built.
- Nine out of ten survey respondents strongly agreed that state and/or federal tax dollars should be used to build more bicycle facilities.

Some of the noted benefits of bicycle infrastructure are:

- Economic Benefits – particularly in the case of bicycling travelers, increased retail sales (restaurants, lodging establishments, and retail stores), job preservation and creation; reduced health care costs resulting from healthier living; and, in the case of dedicated bike paths or trails, enhancement of nearby property values.
- Benefits to the Transportation System - less traffic congestion, improved safety (minimized conflicts between motorists, bicyclists or pedestrians), and preservation of

highway infrastructure (e.g., paved shoulders resulting in less damage at the edge of the vehicle lanes).
• Environmental Benefits - improved air quality and energy conservation.
• Benefits to Health and Fitness – increased opportunity for more active lifestyles; promotes safe places to exercise, particularly for seniors; increased physical and mental wellbeing.
• Social Benefits – increased quality-of-life due to more open space and greenways, increased opportunities for walking or cycling, and increased connectivity within a community.
• The benefits to local residents who use the bicycle facilities for recreation, exercise, commuting, etc. There may also be some benefits from less traffic congestion, increased bicycle and pedestrian safety, and improved air quality.
• The benefits that result from tourists drawn to the area due to the bicycle facilities. The tourists spend money that benefits the local economy.

Case Studies

Bloor St. Toronto[12]

This study was based on research from 2006 which quantified the relative importance of different modes of transportation in regards to business activity on a specific street. In addition, the study projected the impacts on business activity from different street uses including the reallocation of on street parking, to wider sidewalks. Surveys were distributed to two groups over a two week period.

When new bike lanes or wider sidewalks are considered, Toronto's City staff normally take under a parking study using observational data to determine the parking demand. This can be a problem however because observational data does not always include data from peak times and can be more rigorous.

Portland[13]

[12] http://www.cleanairpartnership.org/pdf/bike-lanes-parking.pdf

[13] http://www.altaplanning.com/App_Content/files/bicycleindustrygrowth.pdf

There was an original study done in 2006 and a follow up study done in 2008 both used the same methodology.

Surveys were given to over 100 businesses in Portland focusing on 4 questions which asked businesses in Portland to estimate their:

- Gross revenue related to bicycles,
- Growth in revenues over the past decade,
- The effect of Portland's bike-friendly reputation on business, and
- How the bicycle-related activities of the City could help their business grow.

The study categorized the businesses four different ways:

- Manufacturers and distributors,
- Retail and repair shops,
- Races, rides, events and tours
- Professional services: education and advocacy groups, planners, messenger companies, artists and other professionals with a business focused exclusively on bicycling

The study does not estimate any benefits relating to health, air quality, traffic congestion, property values, parking availability or any other benefits. The survey also does not include information on restaurants, bars and coffee shops.

Some businesses in the study preferred to remain anonymous and the ones who did not respond, appropriate estimates were made to answer the four questions.

This study was considered a "snapshot" in time, further research implications include: focus groups with business owners, including outreach to businesses considering relocation to Portland, research in estimating other benefits such as health, congestion and air quality which were not included in the study.

"More than 80% of businesses surveyed emphatically state that Portland's reputation for being a bicycle friendly city is good for their Business"

Methodology from Portland's Economic Study by Alta Planning + Design[14]

[14] This methodology is a direct response from an email sent by Jessica Roberts at Alta Planning + Design. She also provided these helpful links:

1. Compiled database of bike-related businesses (see reports for a definition of what was and was not included in that category)

2. Contacted those bike-related businesses by email requesting that they complete a web survey. It asked for number of jobs (as annual FTE), annual gross revenues, and whether that had changed over time. We asked them also for quotes about the industry.

3. Follow up by phone. Survey was anonymous because businesses are very sensitive about their profit information. Where businesses could not or would not reply, we sometimes talked with them about a range they could agree to. Where we could get no information, we created an estimate of revenue and jobs based on comparable businesses. 67 businesses participated in the survey and/or were interviewed by phone.

4. Events: Number reached by counting listed tours, races, rides and events on calendars published by b.i.k.e., Bike Gallery, BikePortland, BTA, CCC, Community Exchange Cycle Touring Club, Fat Tire Farm, Mt. Tabor Series, NW Bicycle Safety Council, OBRA, OR BIKE, Portland Cycling, the Portland Office of Transportation, Portland Velo, Portland Wheelmen Touring Club, PSU Bicycle Cooperative, PUMA, PUMP, Recyclery, REI, River City Bicycles, Safer Routes to School, SHIFT, and Sorella Forte.

5. Estimates on food and lodging expenditures were calculated according to the same methodology as the 2006 study, and were scaled to the distance and number of ride days.

6. A large volume of relatively low- cost bicycles are sold at large retailers such as Fred Meyer, Costco, GI Joes, and Kmart. The National Bicycle Dealers Association estimates that these represent approximately 11% of the dollar value of bicycle sales of independent bicycle dealers.

Appendix E: Downtown Business Contact List

[14] http://www.altaplanning.com/App_Content/files/fp_docs/Bicycle%20Industry%20Growth%20Brochure.pdf

[14] http://www.altaplanning.com/App_Content/files/fp_docs/2008%20Portland%20Bicycle-Related%20Economy%20Report.pdf

Company Name	Company Type	Address
3Cinteractive	Tech Services	44 W. Broadway 206 Eugene, OR 97405
Ambient	Tech Services	81 E. 14th Ave. Eugene, OR 97401
Angle, LLC	Software Development	44 W. Broadway 220 Eugene, OR 97401
Arcimoto	Hardware Development	544 Blair Boulevard Eugene, OR 97402
Attic Media, Inc	Digital Creative	37 West 13th Avenue 204 Eugene, OR 97401
Avant Assessment	Software Development	160 South Park Street Eugene, OR 97401
Base Conversion	Software Development	72W. Broadway Suite 206 Eugene, OR 97401
bell+funk	Digital Creative	44 West Broadway 210 Eugene, OR 97401
Blue Dog Mead	Micro-Brewery	254 Lincoln St Eugene, Oregon, 97401
Bourland Printing	Digital Creative	545 Monroe St. Eugene, OR 97402
Bowman Interface Technologies	Software Development	401 E. 10th Ave. Suite 260 Eugene, OR 97401
CAWOOD	Digital Creative	1200 High St. 200 Eugene, OR 97401

Click Refresh	Software Development	44 W. Broadway Suite 206 Eugene, OR 97401
CodeChops	Software Development	44 W Broadway 206 Eugene, OR 97401
Computer Guru	Tech Services	1374 Willamette St. Suite 5 Eugene, OR 97401
Concentric Sky	Software Development	1045 Willamette St. Eugene, OR 97401
Continu Data Services	Tech Services	800 Willamette St. B50 Eugene, Oregon, 97401
Deck Monitoring	Software Development	115 W 8th Ave 290 Eugene, OR 97401
Digi Studios	Software Development	1283 Lincoln Street Eugene, OR 97401
Extanto Technology	Software Development	132 East Broadway 900 Eugene, OR 97401
FabTrol Systems, Inc.	Software Development	1 E. Broadway Eugene, OR 97401
Falling Sky Brewing	Micro-Brewery	1334 Oak Alley Eugene, OR, 97401
Feynman Group	Software Development	1177 Pearl Street Eugene, OR 97401
FlishHorse	Software Development	44 W Broadway 206 Eugene, OR 97401
Freeflow Digital	Software Development	315 West Broadway 300

		Eugene, OR, 97405
Genius Media Solutions	Software Development	72 West Broadway 220 Eugene, OR, 97401
Global Focus Digital Media	Software Development	132 E. Broadway Suite 423 Eugene, OR, 97401
IDX, Inc.	Software Development	1551 Pearl St. Eugene, OR 97405
Industrial Intellect	Tech Services	1292 High St. 141 Eugene, OR 97401
InSilico, LLC	Software Development	44 W Broadway 225 Eugene, OR 97405
Interactive Balance	Software Development	44 W Broadway St 206 Eugene
InterVision Media	Software Development	261 E 12th Ave Eugene, OR 97401
IRIS Educational Media	Software Development	258 E. 10th Ave. Eugene, OR, 97401
ISTE	Software Development	180 W 8th Ave 300 Eugene, OR 97401
Limelight Department	Digital Creative	1245 Pearl Street 201 Eugene, OR 97401
Lunar Logic	Software Development	132 E. Broadway Suite 536 Eugene, OR 97401
mAbDx	Bio-Tech	1900 Millrace Dr Eugene, OR 97403

Mad Otter Games	Gaming	40 E. Broadway Suite 210 Eugene, OR 97401
Mindbox Studios	Tech Services	44 W. Broadway 206 Eugene, Oregon 97401
Moonshadow Mobile, Inc.	Software Development	915 Oak Street Suite 200 Eugene, OR 97401
Network Startup Resource Center	Tech Services	1501 Kincaid Street (UofO) Eugene, OR 97403-1299
Ninkasi Brewing	Micro-Brewery	272 Van Buren Street Eugene, OR 97402
Obsidian Technologies, Inc.	Tech Services	1599 Oak St. Eugene, OR 97401
ORCAS	Software Development	260 East 11th Avenue Eugene, OR, 97401
Palo Alto Software	Software Development	488 E. 11th Ave. Suite 220 Eugene, OR 97401
ParaTools, Inc.	Software Development	1600 Millrace Dr. Eugene, OR 97403
Pipeworks	Gaming	133 W Broadway Suite 200 Eugene, OR 97401
Playdom	Gaming	425 Lincoln St Eugene, OR, 97401
Prise Design	Digital Creative	110 East 16th Avenue Eugene, OR 97401

Quote Software	Software Development	232 W. 5th Ave Eugene, OR 97401
Rogue Ales	Micro-Brewery	844 Olive Street Eugene, OR 97401
Ruby Porter Marketing and Design	Digital Creative	110 East 14th Avenue Eugene, OR 97401
Savvy Duck Computers	Tech Services	72 W Broadway 206 Eugene, OR 97402
SheerID	Software Development	1175 Charnelton St. Eugene, OR 97401
Steelhead Brewery	Micro-Brewery	199 East 5th Avenue Eugene, OR 97401
Treemen Design	Digital Creative	296 East 5th Avenue 320 Eugene, OR 97401
Vox Public Relations Public Affairs	Digital Creative	1416 Willamette St Eugene, OR 97401
Zynga	Gaming	576 Olive St. Suite 205 Eugene, OR 97401

Appendix F: Interviews

Travel Oregon Interview with Natalie and Sue

The big takeaway: Events that bring in overnight stays are key.

1) What topics or questions do you think would be most important to focus on in exploring the connection between the local economy and bicycle tourism?

Blackberry Bramble is a major annual event that has a lot of potential but needs support. It is a cornerstone event, known statewide, and it is very well done and executed but it is always up for question every year as to whether or not they will be able to do it. This event was very important to Natalie and Sue. Especially in regards to marketing and business It is an iconic tourism cornerstone, but it has few or no overnight stays associated with it. It is something that could become more than just the bRamble, but could include a "wine ride" advertisement as well. According to Natalie and Sue, you will see more cyclists in your business if they know you know how to take care of them. They said this is especially true for hotels and restaurants who promote cyclists coming to their business. The movement to promote bike friendliness is important.

They need support and there are opportunities for different bike shops to market and be in the vendor areas of each events. Training for local businesses to segway into events. What should the booth look like and how can you beef up your reputation.

2) What part of the bicycling tourist economy do you think has the greatest effect on the local Eugene economy and/or Lane County?

They also indicated that it is important to circle back to the manufacturers and promote the mecca for making high end bikes here in Eugene. When cyclists come here, they need to know that we are the mecca of bike manufacturing and friendliness. A couple can fly here from Australia and take their new bike back home on the plane cheaper than if they buy it online. Bike Friday has turned buying bikes into a tourism business.

Bikes are being shipped globally, is there a piece of Eugene that is shipped with every bike worldwide to let people know where their product came from? To really make a name for Eugene as a bike manufacturing mecca. To make that connection between Eugene and cycling worldwide. Make sure Eugene is promoted equally with every bike.

Scenic Bike-ways program, which is a state program bringing attention to local communities. Right now there is one in Cottage Crove McKenzie. This is an on the ground, every day thing. People who are looking for a scenic bike ride know where to go and can go anytime. Infrastructure like this and like the Ruth Bascom bike path helps the economy, it turns this into a bike friendly community where people will travel to be and when they come, they are more likely to spend the night.

3) What topic would you want to explore in order to achieve your financial goals?

Our personal goal is bringing more overnight visitors. Anything that will make Eugene a destination for overnight trips is something they support. Anything that allows people to bring

their bikes like Amtrak that allows bikes on trains. High end marketed events to bring overnight stays. The biggest hurdle is that when people are coming to Eugene, they're out of Eugene as quick as they can. People come in and out of Eugene very quickly. Work with people like Ninkasi Brewing to generate rides and events to bring people in for the weekend.

Another major sporting event is Cyclocross. It is an off-season, family oriented, weekend warriors. All Eugene needs is an available park that will not mind getting torn up for an obstacle course during the off season. Looking at Bend for what they have done to make tons of money to create a place for families to come and play on their bikes. People would come here, stay here, eat here and shop here. Knowing where the bike stores are is important and also knowing how to get around.

Mountain biking is an area that needs a little bit of work. There are places like the Ridge Line trail, but we need more than just the Ridge Line trail if Eugene is supposed to be a place for mountain bikers. There are some lost opportunities there.

Two Issues w/ events – build mtn bike area (local use) not competition. Competition drives more people and more economic numbers. If something is going to be built it needs to be built to accommodate events. Otherwise we will still be stuck. What is important for them is an awesome/epic trail that can get some recognition to help with the recognition to attract people and to accommodate the group of people who come to the community just for this infrastructure. Either Mountain Biking or Cyclacross – Take a park that's not doing anything and let the cyclacross people put it together and make it big enough to accommodate the numbers.

If venues cannot accommodate events, then they don't have the same potential to drive the numbers and boost the economy. Sue and Natalie want great infrastructure with an awesome reputation with the locals that can at the same time accommodate hundreds or thousands for a large event. Direct immediate nights that come with it, it is not just about the reputation.

4) Is bicycle infrastructure and events were created in the Cascades and Eugene areas, have you noticed a change in the number of people who move or travel to Lane County or Eugene?

Sue Paraphrased:

> *Anecdotally. It brings more like minded people to the community. And you have more people who are probably commuters who are active transportation folks because of what's happened here . . . We have the brand, we do not have the product. To be a Bend, Boulder or Austin . . . to be the cycling community that we should be, we have the brand, we don't have the product. We just don't. We have companies here and manufacturers building the best bikes that can compete on a global scale and we have some of the best roads right here in Lane County. The winery roads . . .We need the infrastructure, if we had it we would be a world class cycling mecca.*

Unfortunately Natalie explains that the City of Eugene has limited control in the kinds of things Sue is talking about County & State roads that go beyond the control of the local infrastructure. Now finding a park to transform, she says, that is within the City's capabilities. All

of the communities in Lane County are interested in cycling, and bicycle tourism, so a partnership would be easy if Eugene really wants to build a cycling mecca.

Sue and Natalie add to check out Savvy Cycling[15] to see how they promoted Eugene. It is a perfect example. They were here for a week and came stayed in the downtown Hilton Hotel, took a bike ride of choice and came back every night and went out for drinks. "That is the kind of people we want to bring here," they said. They come and spend money, they stay ride, shop, eat and play.

Travel Oregon also has significant data and baseline numbers on what brings people to travel in Oregon. Surveys have been filled out documenting where people are travelling from and what is bringing them here.

Cottage Grove was recommended for an economic baseline study. They could be a poster child for how to make it work. Because they are serious about trying to figure out how to make it work.

Conversation with Steve Cash from O'Dark 30

As preliminary research the interviewers reached out to several stakeholders in Eugene. One of these stakeholders was Steve Cash from O' Dark 30. He expressed interest in the project. This interest developed one of the suggested research projects that the research team could undertake. This project would be a study on how bike events/ competitions affect the Eugene economy. Perhaps a study such as this could be conducted in the future during spring/ summer.

Phone Interview with Burley

The manager of Burley, a local bike manufacturer in Eugene Oregon, said the company provides incentives for their employees to bike to work. These incentives include a monthly stipend, store discounts, and free bike rentals. The manager mentioned that Eugene's bike culture is a major reason why they are located where they are and further explained that they would like to see more bike infrastructure improvements throughout the City.

Interviews (Additional Notes):

First attempts at contacting Kelly Clifton of PSU and Bike Friday were unsuccessful, but follow up attempts were not pursued due to the new direction of project research that was chosen by the City of Eugene. The Silicon Shire was contacted multiple times via email, but were unresponsive.

[15] Travel Oregon has specific numbers for this to provide a baseline for further research. http://savvycyclingtours.com/2011OregonIntro.html

Appendix G: Other Notes

Research Notes on Methodology

Researchers often contacted generic "info@..." company email addresses initially, which had a low response rate and led to the need for phone or in-person contact. Phone and in-person interaction increased accountability and were preferable to guarantee responses.

Of the 74 businesses that are within the downtown region of the Silicon Shire, 57 of the businesses are considered active by the researchers. Active businesses are the businesses researchers were able to contact. Some businesses were unavailable and may either be just starting up or closing down their businesses. University of Oregon entities were also excluded. Businesses that were removed from the main list include: Casado Internet Group, CASIT, Emberex, Emerald Media Group, EMU Marketing and Design, InfoGraphics Lab, Information Services (U of O), Interactive Media Group, Look Shiny, Marker Gene Technologies, Nerds on Call, Nwnetfx, Red Giant, Snowy Owl Design, Sococo and Verb Marketing + PR.

Hypotheses

H_1 Silicon shire companies that have more employees are more likely to be concerned with bike infrastructure than those with fewer employees.

Independent: Number of Employees Dependent: Concern with Bike Infrastructure

H_0 There is no relationship between the number of employees and level of concern with bike infrastructure.

H_2 Gaming Companies, Digital Creative Companies, and Micro-Breweries are more likely to be concerned with bike infrastructure than other company types.

Independent: Company Type Dependent: Concern with bike infrastructure

H_0 There is no relationship between company type and concern with bike infrastructure.

H_3 Companies whose employees are under age 35 are more likely to bike to work than companies whose average employees are over 35.

Independent: Average Employee Age Dependent: Likelihood employees bike to work

H_0 There is no relationship between age and likelihood of biking to work.

H_4 Businesses who invest in bike facilities or programs are more likely to believe that biking has a higher impact on their business than companies who do not invest in bike facilities or programs.

Independent: Facilities/programs investment Dependent: Feelings on bike infrastructure

H_0 There is no relationship between company investments on bike facilities and programs and feelings on the impact of bike infrastructure.