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# Categorizing Cyclists: What do we Know? Insights from Portland, OR

Jennifer Dill

*Portland State University, [jdill@pdx.edu](mailto:jdill@pdx.edu)*

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# Categorizing Cyclists: What Do We Know? *Insights from Portland, OR*

## **Jennifer Dill, Ph.D.**

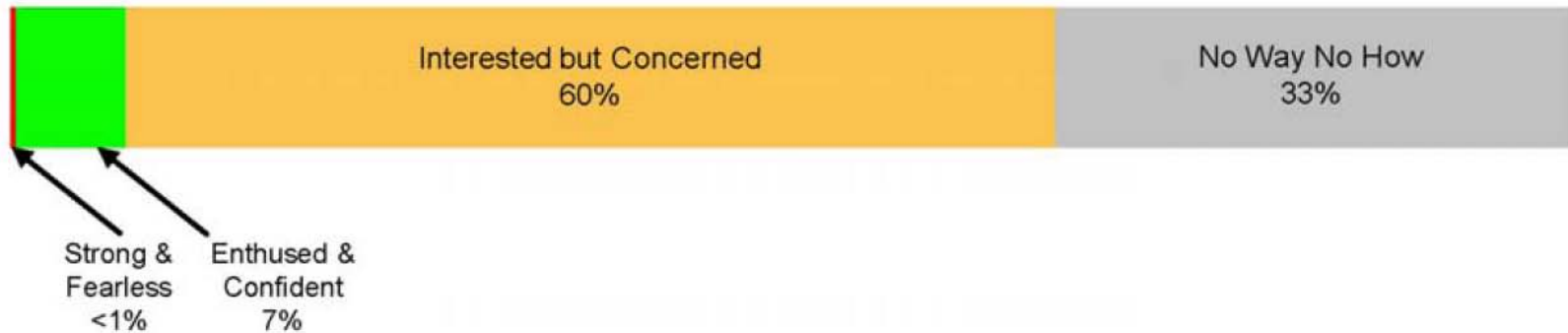
Professor, Urban Studies & Planning  
Director, Oregon Transportation Research & Education Consortium (OTREC)  
Portland State University  
Portland, OR, USA

**Velo-City Global 2012, Vancouver, BC, June 26, 2012**



# Portland's "Four Types"

## Four Types of Transportation Cyclists in Portland By Proportion of Population



# Who are they?

- Strong & Fearless
    - “will ride in Portland regardless of roadway conditions”
  - Enthused & Confident
    - “comfortable sharing the roadway with automotive traffic, but they prefer to do so operating on their own facilities”
    - “They appreciate bicycle lanes and bicycle boulevards”
    - “attracted to cycling in Portland by...its bicycle network and supporting infrastructure”
- About 60% of this group may now ride regularly for transportation

# Who are they?

- Interested but Concerned

“curious about bicycling...They like riding a bicycle”

“But, they are afraid to ride.”

“Very few of these people regularly ride bicycles”

- No Way No How

“not interested in bicycling at all, for reasons of topography, inability, or simply a complete and utter lack of interest.”

“The separation between these four broad groups is not generally clear-cut...likely quite a bit of blurring...”

# Where did they come from?

## Four Types of Cyclists

Roger Geller, Bicycle Coordinator  
Portland Office of Transportation

Despite all the considerable advances Portland and the region have made in facilitating bicycling, concerns about the safety of bicycling still loom large. Riding a bicycle should not require bravery. Yet, all too often, that is the perception among cyclists and non-cyclists alike. No person should have to be "brave" to ride a bicycle, unfortunately, this is a sentiment commonly expressed to those who regularly ride bicycles around the world with a high not. There are many cities in modern, industrialized nations around the world with a bicycle mode split. They have achieved these high levels of bicycle use through adherence to various cycling-promoting policies and practices. But, one thing they share in common is they have substantially removed the element of fear associated with bicycling in an urban environment. They have created transportation systems in which bicycling is often the most logical, enjoyable and attainable choice for trips of a certain length for a wide swath—if not the majority—of their populace. For residents of these cities, concern about personal safety associated with bicycling is rarely a consideration, and certainly not to the levels we experience here. In these "fearless" cities septuagenarians are able to ride alongside seven-year-olds safely, comfortably, and with confidence throughout the breadth of the cities<sup>1</sup>. Making bicycling a more widespread and mainstream means of transportation in Portland will require substantially addressing concerns about personal safety.

Describing the four general categories of transportation cyclists in Portland and their differing needs best precedes a discussion of bikeway treatments. For lack of better terminology, Portlanders can be placed into one of the four following groups based on their relationship to bicycle transportation<sup>2</sup>: "The Strong and the Fearless," "The Enthusiast and the Confident," "The Interested but Concerned," "The fourth group are non-riders, called the "No Way No How" group.

Survey after survey and poll after poll has found again and again that the number one reason people do not ride bicycles is because they are afraid to be in the roadway on a bicycle. They are generally not afraid of other cyclists, or pedestrians, or of injuring themselves in a bicycle-only crash. When they say they are "afraid" it is a fear of people driving automobiles. This has been documented and reported in transportation literature from studies, surveys and conversations across the US, Canada, and Europe.

**Riding a bicycle should not require bravery. Yet, all too often, that is the perception among cyclists and non-cyclists alike.**

<sup>1</sup> In The Netherlands and Germany, 50% of all trips made by people 75 and older is either by walking or bicycling. In The Netherlands, 25% of all trips made by such septuagenarians are by bicycle.

<sup>2</sup> This typology is for using the bicycle for transportation, only. People in all these groups—especially the "interested but concerned" group—may bicycle for recreation. This categorization addresses only their willingness to use a bicycle as a main means of transportation.

# This Research

- Objectives
  - Validate the Four Types or develop an alternative way of categorizing Portland's cyclists and non-cyclists
  - Identify how to increase cycling for transportation, i.e. what is the market and what do they want?
- Funding
  - OTREC
  - City of Portland

# Survey Methodology

- Random phone survey of adults in the Portland, OR metropolitan area
- Sample included both land-line and mobile phone numbers
- July 19 – August 10, 2011
- Response rates:
  - 19.5% of eligible numbers
  - 35.0% of resolved numbers
- Data were weighted by sex and age to reflect to population, using 2010 Census



# Overview of Process

- Step 1: Level of comfort
  - Based upon stated level of comfort bicycling on non-residential streets with and without bike lanes
- Step 2: Interest in bicycling more
- Step 3: Current cycling behavior
  - Utilitarian/Transportation
  - Recreation-only cycling
  - Not cycling

# Step 1: Level of Comfort

I'm going to read a list of places you could ride a bike. For each place, please tell me how comfortable you would feel biking there using a scale of 1 to 4, with 1 meaning you would be "very uncomfortable," and 4 meaning you would be "very comfortable." These are hypothetical scenarios.

A path or trail separate from the street.

# Step 1: Level of Comfort

...a two-lane neighborhood commercial shopping street with traffic speeds of 25-30 miles per hour, on-street car parking, and no bike lane.

What if a striped bike lane was added?

...a major urban or suburban street with four lanes, on-street parking, traffic speeds of 30-35 miles per hour, and no bike lane.

What if a striped bike lane was added?

...a major street with two lanes in each direction, a center divider, on-street parking, traffic speeds of 35-40 miles per hour, and no bike lane.

What if a striped bike lane was added?

# Step 1: Level of Comfort

<b>Level of Comfort</b>	<b>Category</b>	<b>Possible Type</b>
Average $\geq 3.5$ for non-residential street scenarios without bike lanes	Very comfortable on non-residential streets without bike lanes	Strong and Fearless
Average $\geq 3.5$ for non-residential street scenarios with bike lanes	Very comfortable on non-residential streets with bike lanes	Enthused and Confident
Average $< 3.5$ for non-residential street scenarios with bike lanes	Not very comfortable on non-residential streets with bike lanes	Interested but Concerned
Average $\leq 1.5$ on paths or trails separate from the street	Very uncomfortable bicycling	Now Way No How
Physically unable to ride a bicycle or don't know how to ride a bicycle	Unable/Don't know	Now Way No How

## Step 2: Interest in Cycling

Please tell me if you strongly disagree, somewhat disagree, somewhat agree, or strongly agree.

...I would like to travel by bike more than I do now.

# Step 2: Interest in Cycling

<b>Comfort Category</b>	<b>I would like to travel by bike more than I do now.</b>	<b>Possible Type</b>
Very comfortable on non-residential streets without bike lanes		Strong and Fearless
Very comfortable on non-residential streets with bike lanes		Enthused and Confident
Not very comfortable on non-residential streets with bike lanes	Agreed strongly or somewhat	Interested but Concerned
	Disagreed strongly or somewhat	Now Way No How
Very uncomfortable bicycling		Now Way No How
Unable/Don't know		Now Way No How

## Step 2: Interest in Cycling

- But, some people who are uncomfortable and are not interested in cycling more have bicycled for transportation in the past 30 days

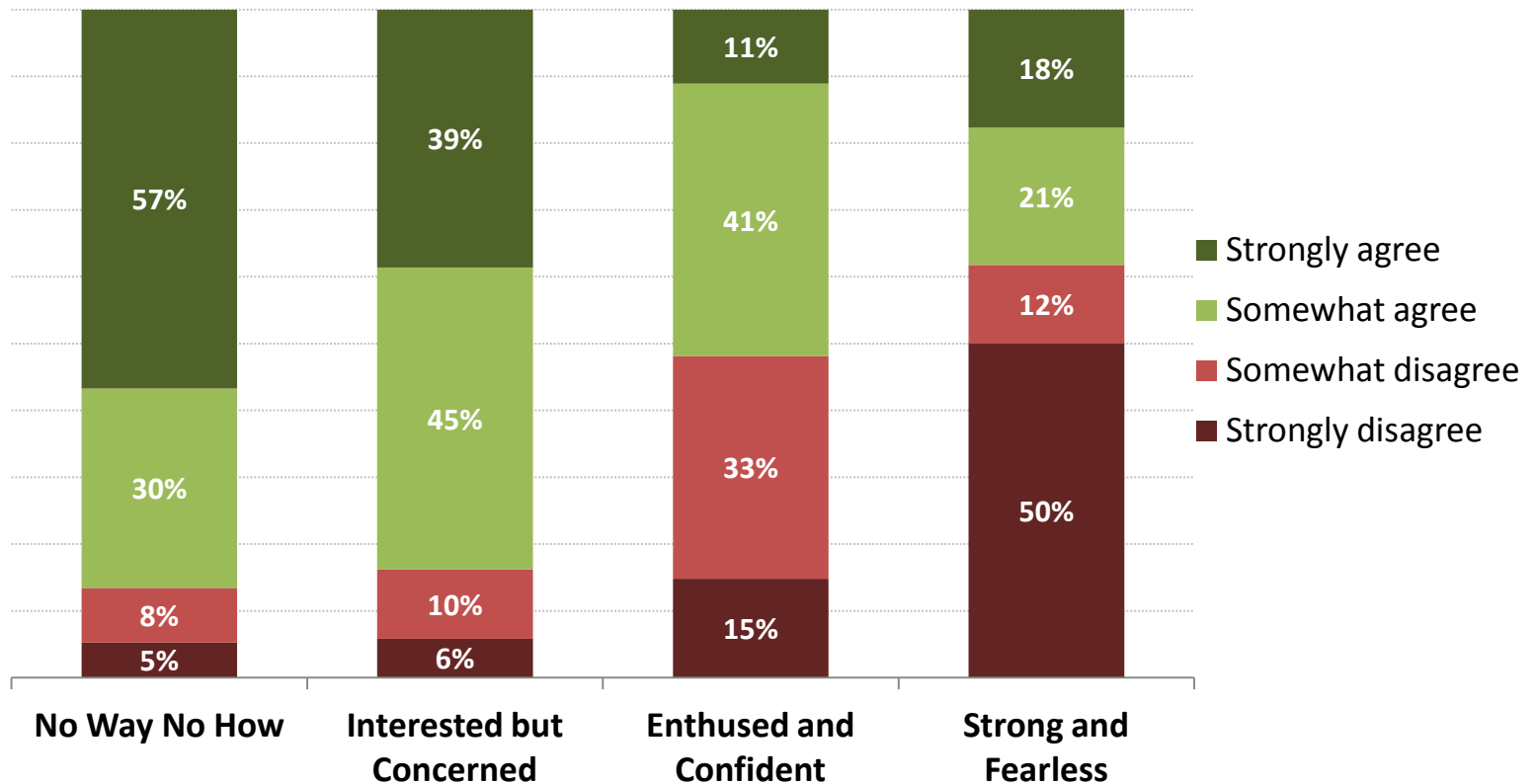
# Step 2: Interest in Cycling

<b>Comfort Category</b>	<b>I would like to travel by bike more than I do now.</b>	<b>Final Type</b>
Very comfortable on non-residential streets without bike lanes	Either	Strong and Fearless
Very comfortable on non-residential streets with bike lanes	Either	Enthused and Confident
Not very comfortable on non-residential streets with bike lanes	Agreed strongly or somewhat	Interested but Concerned
	Disagreed and cycled for transportation in past 30 days	Interested but Concerned
	Disagreed and did not cycle for transportation in past 30 days	Now Way No How



# *Categories are consistent with level of concern about motor vehicles*

**If or when I ride a bike, I'm concerned about being hit by a motor vehicle**



# Distribution of Adults

Type	Description	City of Portland	Rest of region	All
Strong & Fearless	Very comfortable without bike lanes	6%	2%	4%
Enthused & Confident	Very comfortable with bike lanes	9%	9%	9%
Interested but Concerned	Not very comfortable, interested in biking more Not very comfortable, currently cycling for transportation but not interested in biking more	60%	53%	56%
No Way No How	Physically unable or don't know Very uncomfortable on paths Not very comfortable, not interested, not cycling for transportation	25%	37%	31%

Notes: May not total 100% due to rounding.

Data are weighted by sex & age to reflect population

# Step 3: Current Behavior

Over the past month, about how many days did you ride a bike?

Of those \_\_\_ days, about how many days did you ride a bike to work or school?

Of those \_\_\_ days, about how many days did you ride a bike to shop, dine out, run errands, visit people, go to a movie, or similar activities?

In a typical summer month, how many days do you ride a bicycle for commuting or other transportation?

In a typical winter month, how many days do you ride a bicycle for commuting or other transportation?

# Step 3: Current Behavior

- Non-cyclist
  - Zero times in the past 30 days OR
  - “I never ride a bicycle” (screening question)
- Utilitarian cyclist
  - Once in the past 30 days for work, school, shopping, etc. AND
  - Once a month in the typical summer OR winter month
- Recreational cyclist
  - Once in the past 30 days
  - Not classified as utilitarian

# Step 3: Current Cycling Behavior

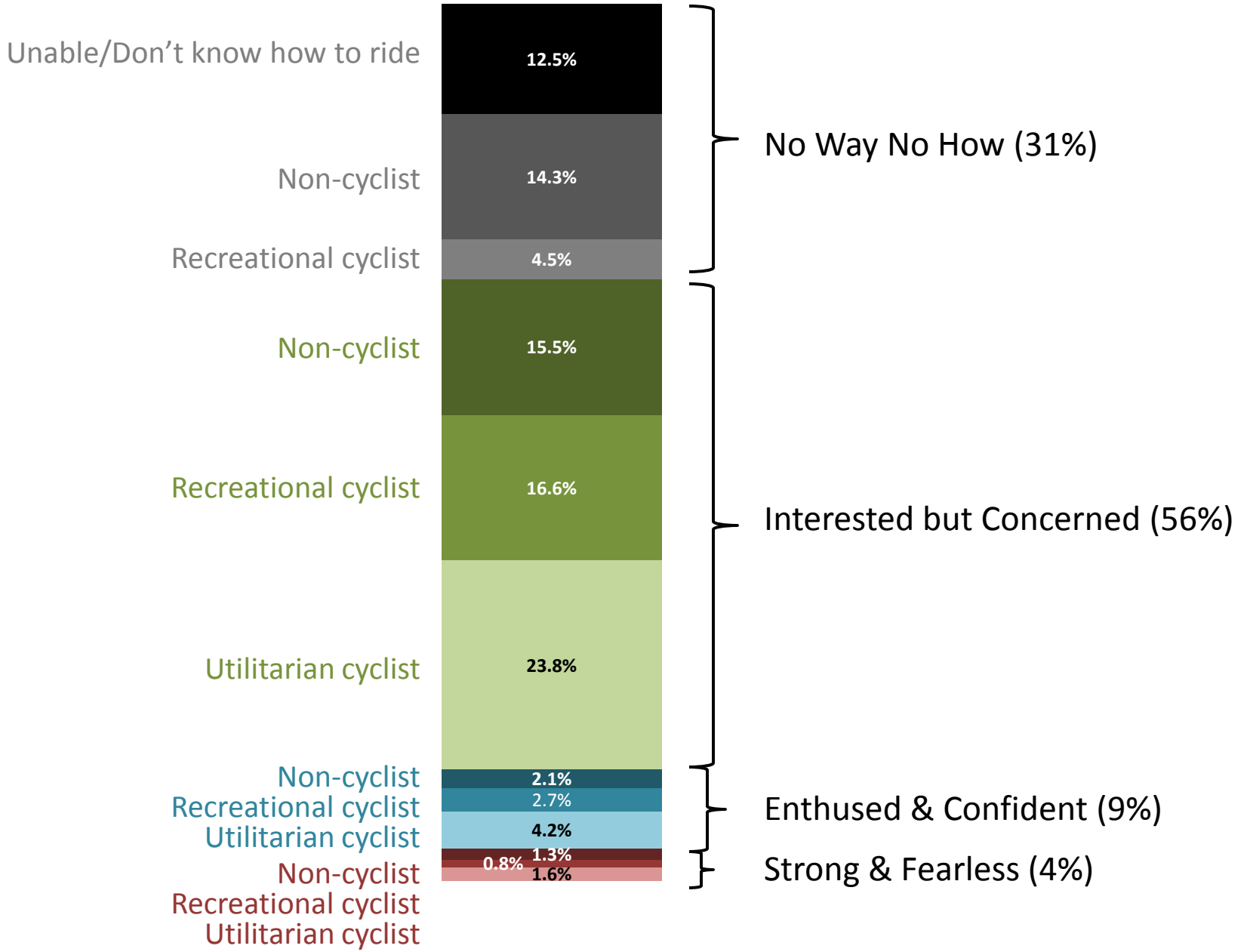
Type	Description	Utilitarian	Recreational	Non-cyclist	Unable /don't know	Total
<b>Strong &amp; Fearless</b>	Very comfortable without bike lanes	42%	21%	36%		100%
<b>Enthusied &amp; Confident</b>	Very comfortable with bike lanes	46%	31%	23%		100%
<b>Interested but Concerned</b>	Uncomfortable and interested Uncomfortable, currently cycling for transportation but not interested in doing more	43%	30%	28%		100%
<b>No Way No How</b>	Physically unable or don't know Very uncomfortable on paths Uncomfortable, not interested, not cycling for transportation		14%	46%	40%	100%

Notes:

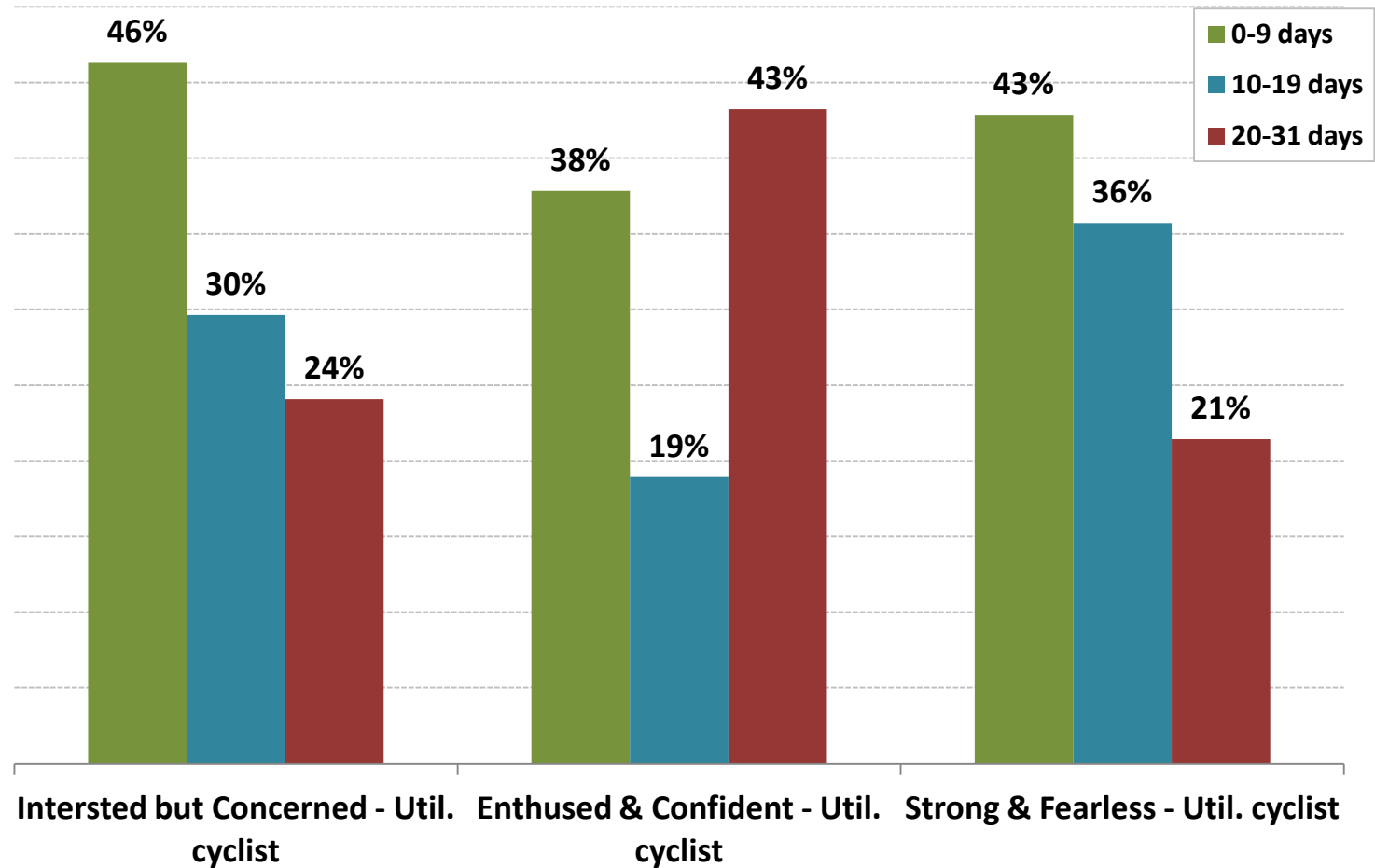
Includes the entire Portland region (Oregon only)

May not total 100% due to rounding.

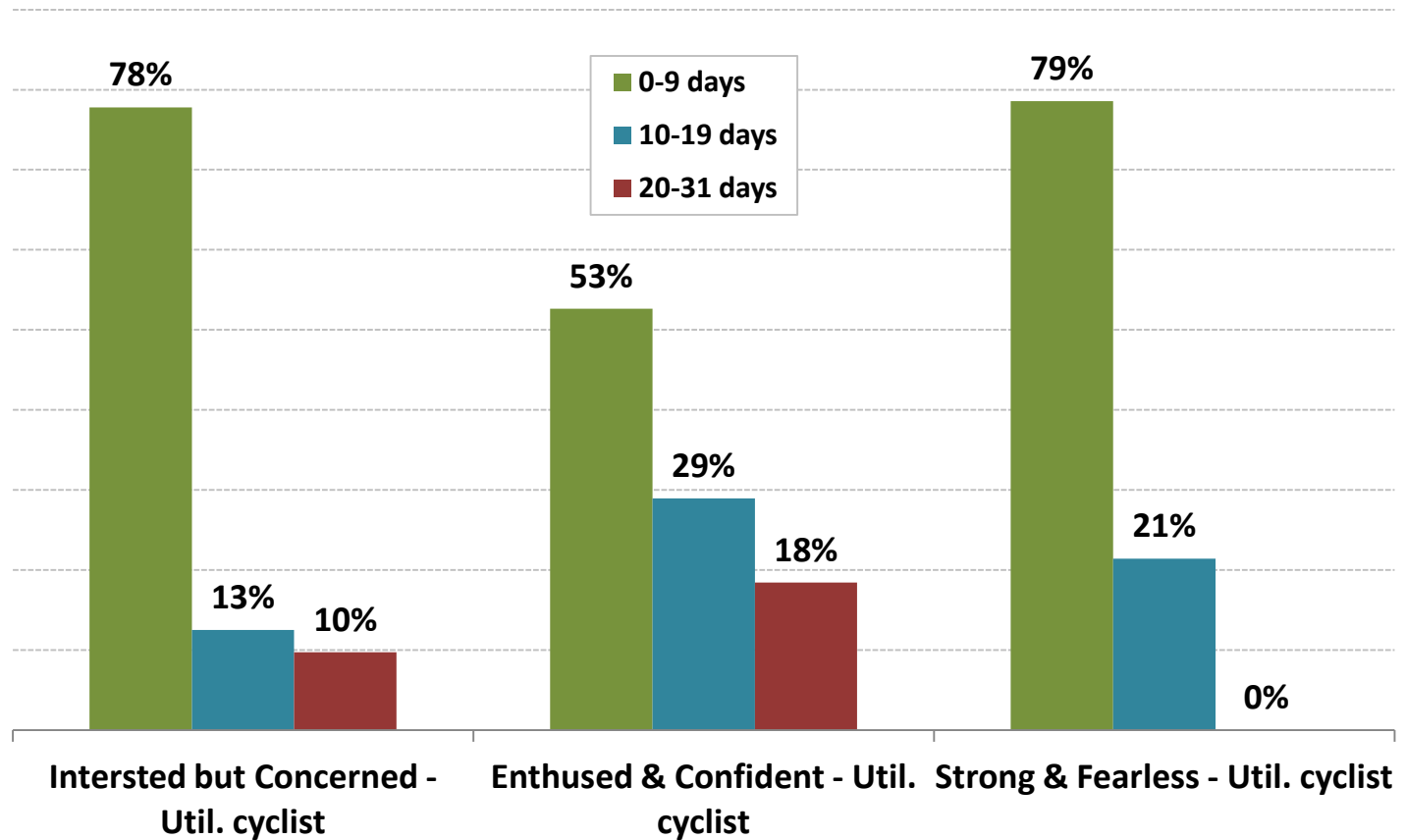
Data are weighted by sex & age to reflect population



# Amount of Utilitarian Cycling in a Typical Summer Month



# Amount of Utilitarian Cycling in a Typical Winter Month



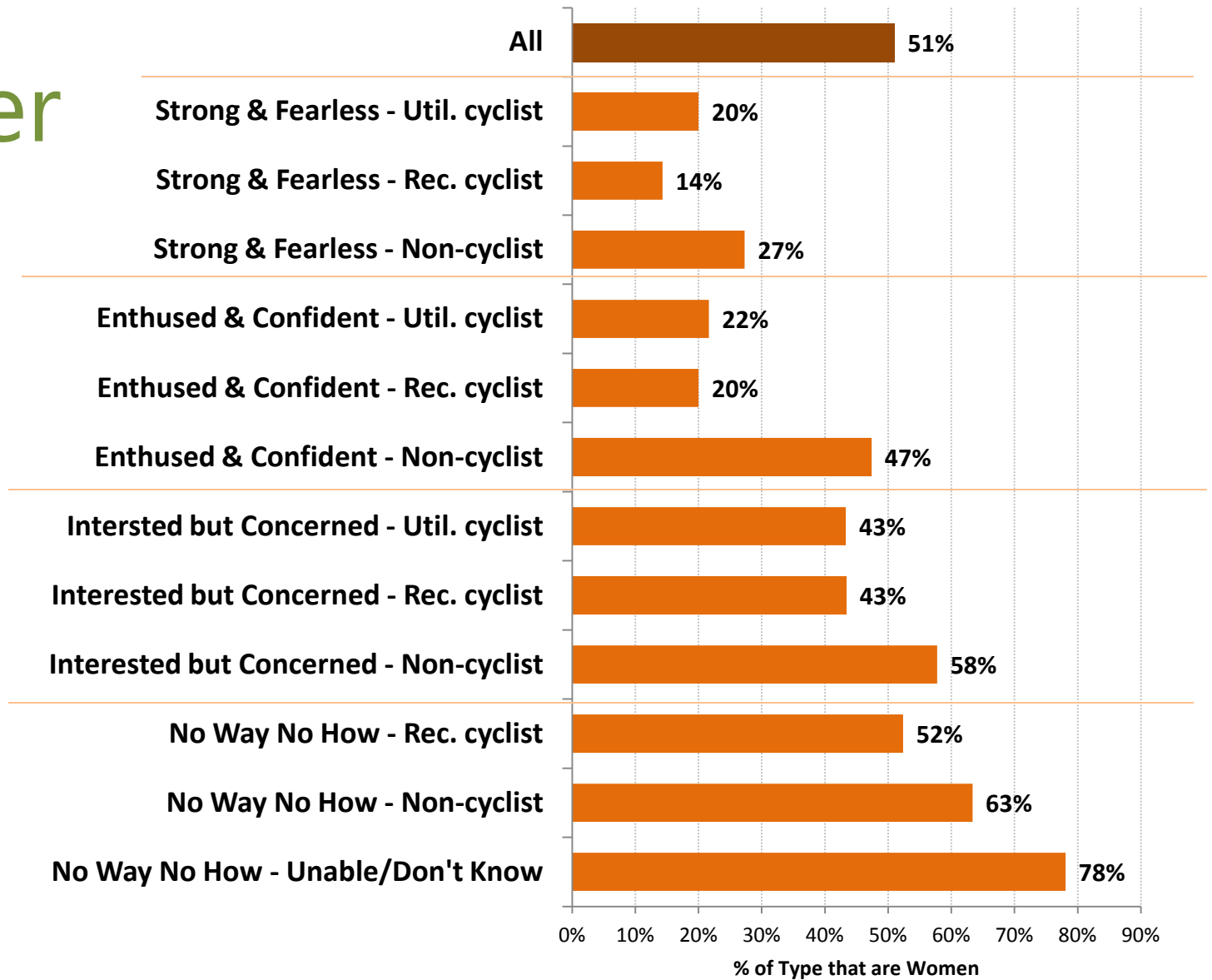


# Interested but Concerned are newer to cycling

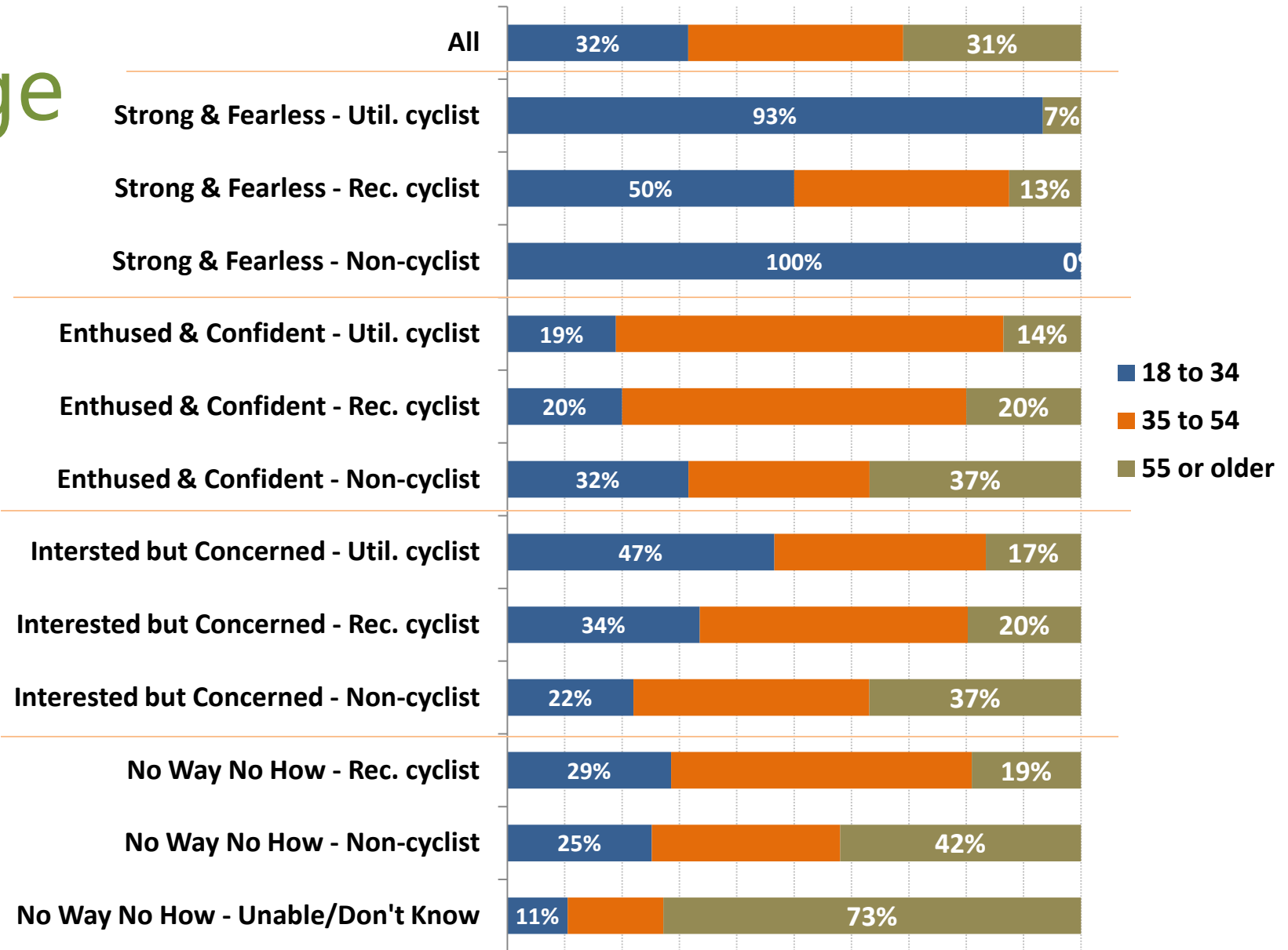
- About how long have you been bicycling regularly for commuting or other transportation?

	< 6 months	6-12 months	> 1 year
Interested but Concerned Utilitarian cyclist	11%	15%	74%
Enthused & Confident Utilitarian cyclist	5%	0%	95%

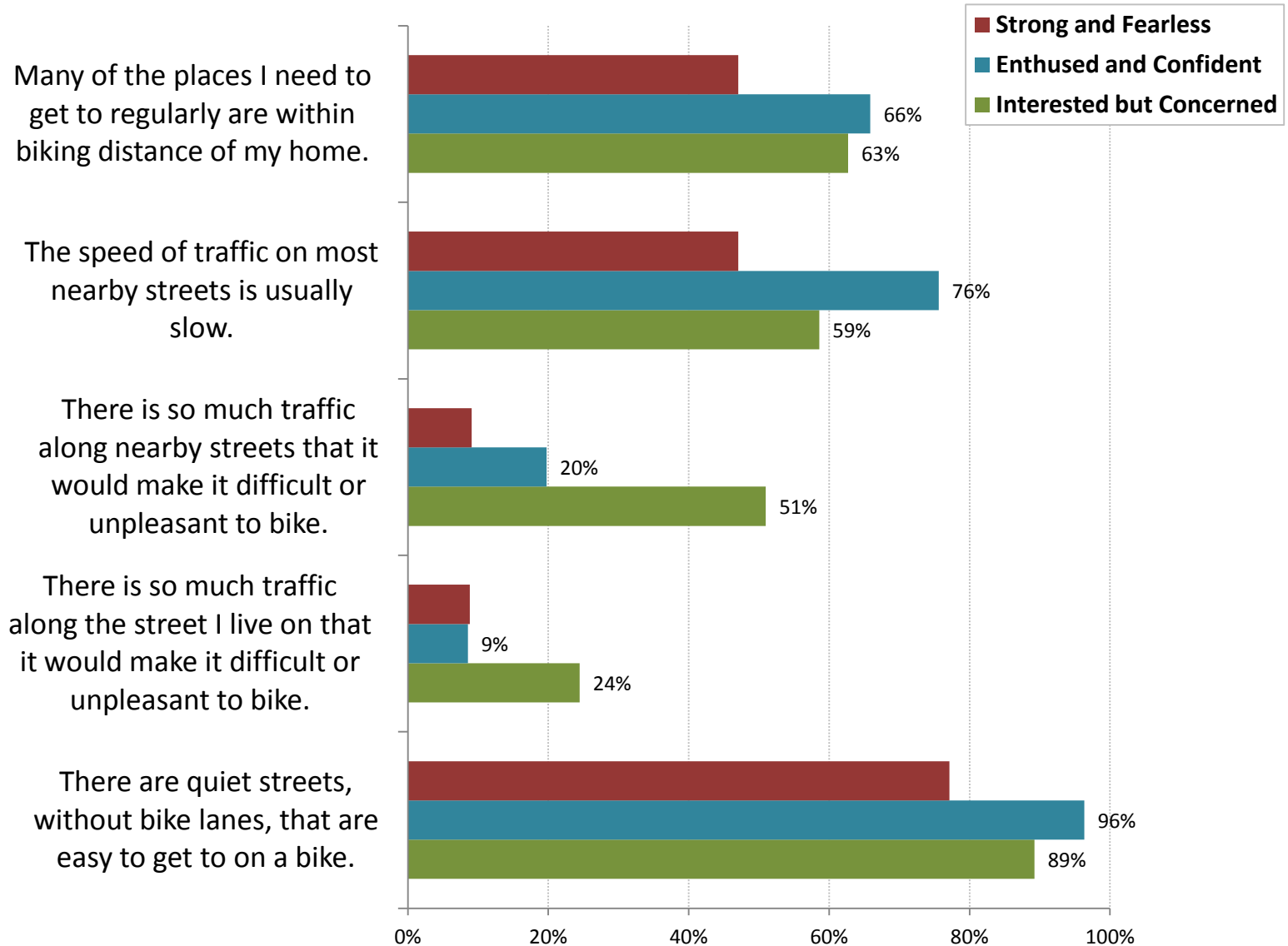
# Gender



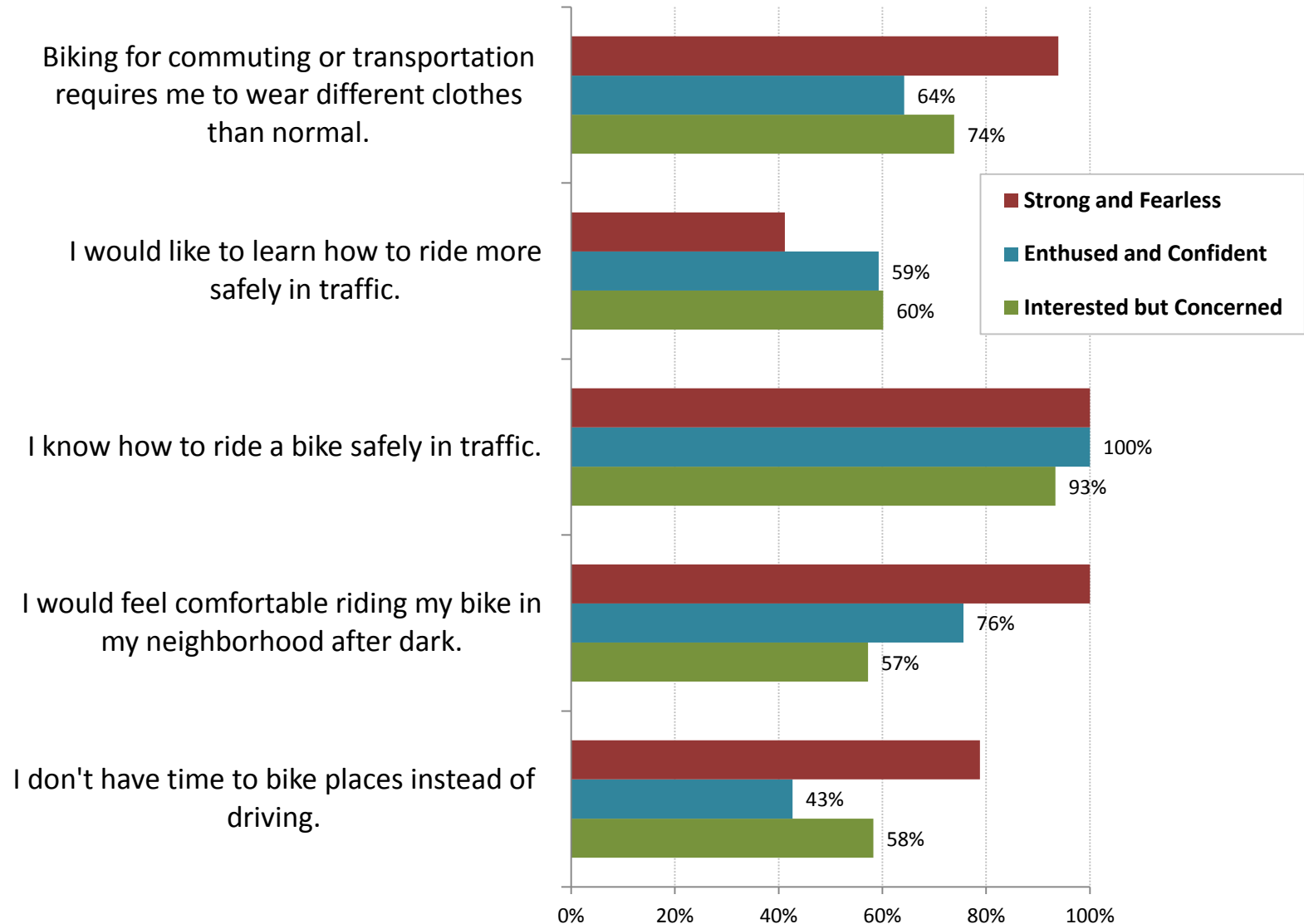
# Age



# Differences in Environment



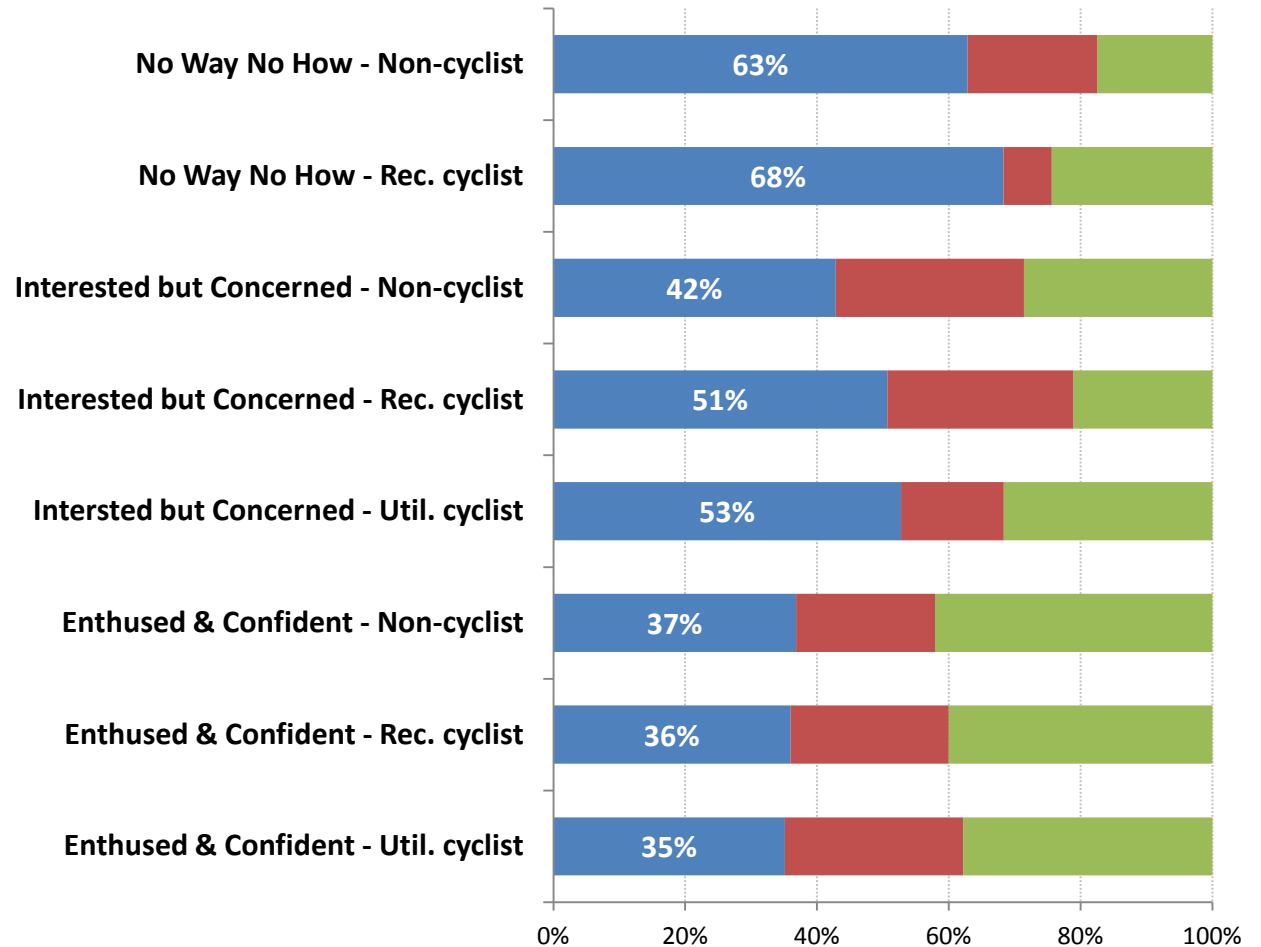
# Differences in Individuals



# Experience as a kid

**When you were under the age of 16, how often did you ride a bike to school?**

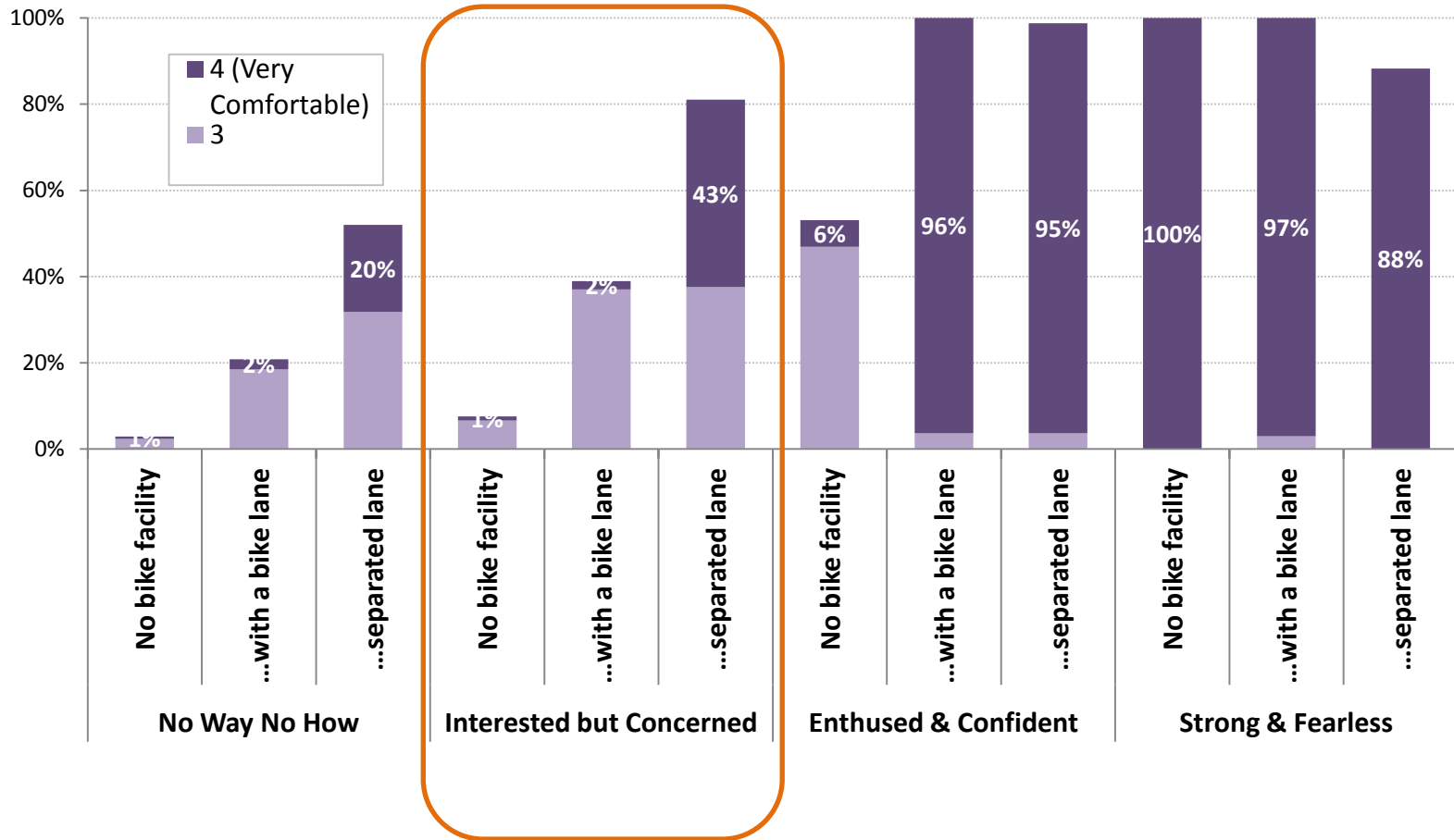
- Never
- Occasionally
- Frequently



# What about different facilities?

- **A major urban or suburban street with four lanes, on-street parking, traffic speeds of 30-35 miles per hour, and no bike lane**
  - **What if a striped bike lane was added?**
  - **What if it also had a wide bike lane separated from traffic by a raised curb or parked cars?**

# Potentially a large effect on the Interested but Concerned





# Limitations, etc.

- Phone survey likely misses the “invisible cyclist”
- Unclear how transferable findings are to other regions
- How does comfort level change with experience?

# Next Steps, etc.

- Next steps
  - Further analysis
  - Develop other typologies from scratch
  - Your ideas are welcome!
- Contact information
  - [web.pdx.edu/~jdill](http://web.pdx.edu/~jdill)