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

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Portland’s “Four Types”

Four Types of Transportation Cyclists in Portland
By Proportion of Population

- Interested but Concerned: 60%
- No Way No How: 33%
- Strong & Fearless: <1%
- Enthused & Confident: 7%

Roger Geller, Bicycle Coordinator, Portland Office of Transportation, *Four Types of Cyclists*
http://www.portlandonline.com/transportation/index.cfm?a=264746&c=44597
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 by those who do not. There are many cities in modern, industrialized nations around the world with high bicycle mode split. They have achieved these high levels of bicycle use through bicycling policies and practices, but one thing they share is that they have substantially reduced 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—not the majority—if not the majority—of their population. For residents of these cities, concern about personal safety associated with bicycling is rarely a consideration, certainly not at the levels we experience here. In these “bicycle-friendly” cities, children are able to ride alongside seven-year-olds safely, comfortably, and with confidence, or the familiar, urban environment. 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 bicycle treatments. For lack of better terminology, Portlanders can be placed into one of the following groups based on their relationship to bicycle transportation: “The Strong and the Fearless,” “The Interested but Concerned,” “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.

1 In the Netherlands and Germany, 30% of all trips made by people 75 and older is either by walking or by bicycle. In the Netherlands, 25% of all trips made by such populations are not by bicycle.

2 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 those willing 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

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

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

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

No Way No How: 57% Strongly agree, 30% Somewhat agree, 8% Somewhat disagree, 5% Strongly disagree
Interested but Concerned: 39% Strongly agree, 45% Somewhat agree, 10% Somewhat disagree, 6% Strongly disagree
Enthused and Confident: 11% Strongly agree, 33% Somewhat agree, 15% Somewhat disagree
Strong and Fearless: 18% Strongly agree, 21% Somewhat agree, 12% Somewhat disagree, 50% Strongly disagree
## Distribution of Adults

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

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Utilitarian</th>
<th>Recreational</th>
<th>Non-cyclist</th>
<th>Unable/don’t know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong &amp; Fearless</td>
<td>Very comfortable without bike lanes</td>
<td>42%</td>
<td>21%</td>
<td>36%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Enthused &amp; Confident</td>
<td>Very comfortable with bike lanes</td>
<td>46%</td>
<td>31%</td>
<td>23%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
| Interested but Concerned | Uncomfortable and interested
Uncomfortable, currently cycling for transportation but not interested in doing more | 43%         | 30%          | 28%         | 100%              |       |
| No Way No How         | 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.
Unable/Don’t know how to ride: 12.5%

No Way No How (31%)

Interested but Concerned (56%)

Enthused & Confident (9%)

Strong & Fearless (4%)

Unable/Don’t know how to ride

Non-cyclist: 14.3%

Recreational cyclist: 4.5%

Non-cyclist: 15.5%

Recreational cyclist: 16.6%

Utilitarian cyclist: 23.8%

Non-cyclist: 2.1%

Recreational cyclist: 2.7%

Utilitarian cyclist: 4.2%

Non-cyclist: 0.8%

Recreational cyclist: 1.3%

Utilitarian cyclist: 1.6%
Amount of Utilitarian Cycling in a Typical Summer Month

- Interested but Concerned - Util. cyclist: 46%
- Enthusied & Confident - Util. cyclist: 38% (0-9 days), 19% (10-19 days), 43% (20-31 days)
- Strong & Fearless - Util. cyclist: 43% (0-9 days), 36% (10-19 days), 21% (20-31 days)
Amount of Utilitarian Cycling in a Typical Winter Month

- Intersted but Concerned - Util. cyclist: 78% 13% 10%
- Enthused & Confident - Util. cyclist: 53% 29% 18%
- Strong & Fearless - Util. cyclist: 79% 21% 0%
Interested but Concerned are newer to cycling

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

<table>
<thead>
<tr>
<th></th>
<th>&lt; 6 months</th>
<th>6-12 months</th>
<th>&gt; 1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interested but Concerned</td>
<td>11%</td>
<td>15%</td>
<td>74%</td>
</tr>
<tr>
<td>Utilitarian cyclist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enthused &amp; Confident Utilitarian cyclist</td>
<td>5%</td>
<td>0%</td>
<td>95%</td>
</tr>
</tbody>
</table>
There are quiet streets, without bike lanes, that are easy to get to on a bike. 89%

The speed of traffic on most nearby streets is usually slow. 66%

There is so much traffic along nearby streets that it would make it difficult or unpleasant to bike. 59%

There is so much traffic along the street I live on that it would make it difficult or unpleasant to bike. 24%

Many of the places I need to get to regularly are within biking distance of my home. 63%
I don't have time to bike places instead of driving.

I would feel comfortable riding my bike in my neighborhood after dark.

I know how to ride a bike safely in traffic.

I would like to learn how to ride more safely in traffic.

Biking for commuting or transportation requires me to wear different clothes than normal.
Experience as a kid

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

- **Never**
- **Occasionally**
- **Frequently**

*Experience categories include:*

- **Enthused & Confident** - Non-cyclist (35%)
- **Enthused & Confident** - Rec. cyclist (36%)
- **Enthused & Confident** - Util. cyclist (36%)
- **Interested but Concerned** - Non-cyclist (42%)
- **Interested but Concerned** - Rec. cyclist (51%)
- **Interested but Concerned** - Util. cyclist (53%)
- **No Way No How** - Non-cyclist (63%)
- **No Way No How** - Rec. cyclist (68%)
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