# 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 a high 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[1]. 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[2]: "The Strong and the Fearless," "The Enthused 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.

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[1] 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.

[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 their willingness to use a bicycle as a main means of transportation.

This expression of fear is also something that has been heard hundreds, if not thousands of times by city staff in conversations with Portland residents. Any staff person involved with bicycle projects from Portland's Office of Transportation, Portland Parks and Recreation, Metro, and ODOT has repeatedly heard expression of this fear. Staff and employees of local bicycle organizations, clubs and bicycle-oriented businesses have also regularly heard Portland citizens express that their interest in riding a bicycle is countered by fear for their safety.

This fear can be understood experientially. There is a qualitative difference between riding a bicycle on a bikeway like SE Lincoln-Harrison—with little traffic, slow speeds, and frequent cyclists--as compared to one like N Willamette with narrow bicycle lanes, narrow travel lanes and high volumes of fast-moving traffic. There is also an easily understood qualitative difference between these bikeways and roadways like N Lombard, or SE Division, or West Burnside, as is there a difference between them and the motor-vehicle-free Springwater Corridor.

There is a continuum of cyclists, and of attitudes about cycling among the citizens of Portland. Some will tolerate West Burnside, others are comfortable on Willamette, more prefer Lincoln-Harrison, and many truly feel at ease only on a trail like the Springwater. Others will not ride anywhere in the City of Portland, or elsewhere. This continuum is defined, in part, by individual comfort level on different types of bikeways.

The "Strong and the Fearless" comprise perhaps 2,000 or fewer cyclists in Portland, representing fewer than 0.5% of the population. These are the people who will ride in Portland regardless of roadway conditions. They are 'bicyclists;' riding is a strong part of their identity and they are generally undeterred by roadway conditions—though likely few are courageous enough to venture too far up West Burnside into the West Hills.

The "Enthused and Confident" are those who have been attracted to cycling in Portland by the significant advances the city has made developing its bikeway network and supporting infrastructure over the past 16 years. They are comfortable sharing the roadway with automotive traffic, but they prefer to do so operating on their own facilities. They are attracted to riding in Portland because there are streets that have been redesigned to make them work well for bicycling. They appreciate bicycle lanes and bicycle boulevards.

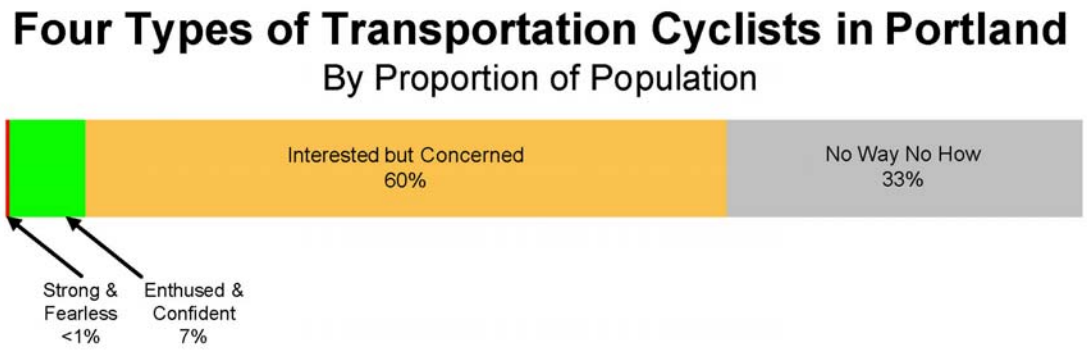
This enthused and confident demographic of cyclists are the primary reason why bicycle commuting doubled between 1990 and 2000 (U.S. Census) and why measured bicycle trips on Portland's four main bicycle-friendly bridges across the Willamette River saw more than a 300% increase in daily bicycle trips between the early 1990's and 2006. There are perhaps now more than 22,000 of this group riding their bicycles regularly in the city. An educated guess would be that this 22,000 represents 60% of the 'enthused and confident' demographic of Portland citizens. These are the citizens who are and could be attracted to regular riding by continuing to address the barriers on which Portland has focused for the past 15 years: shorter trip distances, better bicycle facilities,

better end-of-trip facilities. This demographic comprises perhaps 40,000 Portland citizens, or 7% of the population.

A much larger demographic, representing the vast majority of Portland's citizens, are the "interested but concerned." These residents are curious about bicycling. They are hearing messages from a wide variety of sources about how easy it is to ride a bicycle in Portland, about how bicycling is booming in the city, about "bicycle culture" in Portland, about Portland being a "bicycle-friendly" city, and about the need for people to lead more active lives. They like riding a bicycle, remembering back to their youths, or to the ride they took last summer on the Springwater, or in the BridgePedal, or at Sun River, and they would like to ride more. But, they are afraid to ride. They don't like the cars speeding down their streets. They get nervous thinking about what would happen to them on a bicycle when a driver runs a red light, or guns their cars around them, or passes too closely and too fast. Very few of these people regularly ride bicycles—perhaps 2,000 who will ride through their neighborhoods to the local park or coffee shop, but who will not venture out onto the arterials to the major commercial and employment destinations they frequent. There are probably 300,000 in this group, representing 60% of the city's population. They would ride if they felt safer on the roadways—if cars were slower and less frequent, and if there were more quiet streets with few cars and paths without any cars at all.

Perhaps one-third of the city's population falls into the last category of 'cyclist.' This is the "no way, no how" group that is currently 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 as clear-cut as described here. There is likely quite a bit of blurring between the "enthused," the "interested," and those not at all interested, but this has proven to be a reasonable way to understand the city's existing and potential cyclists.



## Support for the "Four Types" Categorization

The "Four Types" categorization was first developed in 2005, as the City of Portland began to consider what it would take to dramatically increase bicycle use in Portland. The intent behind its development was to get a better handle on our market for bicycle transportation. As such, it has been a useful tool, providing an organizing principle for understanding our target market and what we surmise their concerns and needs to be. As stated previously, the numbers assigned to each of these categories are not something over which any bicycle planner should be prepared to fall on their sword. These numbers, when originally assigned, were not based upon any survey or polling data, or on any study. Rather, they were developed based on the professional experience of one bicycle planner. Soon thereafter, these numbers were discussed and, in effect, vetted with various informed individuals and groups. This process and discussion are described below. But beyond that initial vetting of the idea there has been survey, polling and study data that continues to support the assignment of both numbers to and description of the categories.

Following is a description of the thinking and process that went in to developing this categorization of people into four categories based on their relationship to using a bicycle for transportation: the "strong and fearless," the "enthused and confident," the "interested but concerned" and those who are not interested in using a bicycle for transportation (but may use one for recreation).

### Developing the Categorization

The approach to developing the categorization was humble. It began as a means to better understand who was riding a bicycle in Portland. The categorization began with a consideration of the "strong and fearless." Their numbers were derived by first asking the question: "how many people would be regularly using a bicycle for transportation in Portland if we hadn't done anything—if we hadn't built any bicycle facilities and encouraged their use?" Messengers immediately came to mind. Those "type" of people—generally young, predominantly male, fit—are an important and perhaps dominant subset of those who will ride regardless of conditions. Portland has perhaps 50 messengers, but of their type perhaps there were 2,000 in the entire city. This initial categorization represented just under 0.5% of Portland's population in 2005. Of course, this number jibes well with the approximately 1-2% of people identified by the US Department of Commerce (through the Census and American Community Survey) as bicycle commuters in the vast majority of cities across the United States where there is no infrastructure for bicycling. However, better support for the numbers will be described following.

Next came the "enthused and confident," or those people who have been attracted to using a bicycle for transportation by the construction of Portland's bare bones infrastructure. Portland had been building a well-connected bicycle infrastructure—the best for any large city in the country—and the number of annual bicycle trips had been climbing regularly. There were, in 2005 approximately 10,100 daily bicycle trips across Portland's four central city bicycle bridges, representing more than 5,000 people. Of course, these four bridges do not serve all of Portland, as they provide access from only four of Portland's six geographic districts. Nor do these bridges serve the only jobs in

Portland, as Portland's Downtown provides only 25%[3] of Portland's total jobs. In addition, those who had begun to ride for transportation were those for whom it was convenient. There are likely others who fall into this category who are unable to use their bicycles because of trip distances, terrain, other obligations, or absence of facilities along their specific route. The initial assumption behind the numbers for this category assumed approximately 22,000 people using their bicycles regularly for transportation and that this represented approximately 60% of those who would be attracted to bicycling by the provision of the type of facilities were actually able to use their bicycles for transportation. This represented 7% of Portland's population.

That still left a lot of Portland's 540,000 citizens not bicycling and likely not yet attracted to bicycling for transportation: 500,000 of them, to be approximate. In thinking about how to divvy up this overwhelming majority of the population, one recognizes that there is a contingent of them—likely sizeable—who will not in the foreseeable future use a bicycle for transportation. Again, while they may use a bicycle for recreation, their attitude about bicycling for transportation is generally "No way. No how." There are people whose exposure to bicycling has been exceptionally limited throughout their lives and who have no discernible interest in transporting themselves in that way. This was a tough group to assign and one-third of the city's population was arbitrarily assigned to this group[4]. That seemed about right.

That still left quite a few people unassigned. These are the people who ride bicycles in other countries that have invested in the best bicycling facilities and developed (or maintained) supportive urban forms. These are the people who in survey after survey across the country (and world) identify fear for their safety as their primary reason for not riding. It is not that they are disinterested in bicycling; they do not say they do not like to ride bicycles. Rather, they say they are afraid. These people are "interested but concerned." This category is founded on this experience of other countries that have created extensive cycling systems, as well from a basic assumption that under conditions where people feel safe and where bicycling makes sense, they will ride. This group represented almost 322,000 people or 60% of the population.

That is generally how these categories were initially developed. The numbers were rounded a bit from the very first assumptions to be able to discuss the "No Way No How" group as being approximately one-third and the "Interested but Concerned" group being 60%. Nonetheless, the above accurately describes the development of the overall categorization.

**Initial Support for the Categorization**

One thing that was striking about this analysis was how few we cyclists really were. Those actively riding in Portland represented perhaps 5% of the population. How could so few people make Portland the "Best Bicycling City in North America," as we were

[3] More precisely, the Central Business District, River District, Goose Hollow and North Macadam together account for slightly more than 25% of all jobs in Portland.

[4] As we used the entire city's population as reference, this also includes both the very young and very old.

known by then? The next step was to talk about this analysis and these numbers with others in the field to see if it passed the "smell test."

Vetting Locally

The initial conversations about the four types occurred in Portland with the many bicycle professionals who live and work in the area. At our disposal was a professional staff that included planners, traffic engineers and project managers. We also had access to some of the best professionals in the business in terms of bicycle and pedestrian planning and design. Add to this group a professional and experienced advocacy organization and an experienced and engaged citizen's advisory committee. The result of multiple conversations with representatives from all these groups produced agreement that, while there was no ability to live and die by the numbers, the broad categorization they provided made sense. Based on their many years of experience in the field, people in all these groups felt that the relative proportions of these types both made sense and created an important organizing principle that furthered our understanding of who we have attracted to bicycling and who we wish to attract.

Vetting Nationally

The 2006 Pro-Walk Pro-Bike conference in Madison, Wisconsin provided another and more telling opportunity to discuss the numbers. At that conference this categorization was presented to a meeting of large city bicycle coordinators for their consideration and discussion. This was a group of approximately 20 experienced professionals who collectively had 150+ years of experience in this field. As with the Portland group, this group similarly endorsed the concept. They found the numbers and proportions to mesh well with their understanding of who is bicycling and in what numbers, and also found it a useful organizing principal for discussing bicycling with others.

**Continuing Support for the Categorization**

Following that initial assignment of numbers and development of the typology, we have seen data from several different sources that lend support. This includes data from the US Census, data from transportation research conducted at Portland State University, data collected by the Portland Bureau of Transportation as part of its annual Smarttrips program, and data about bicycle commute behavior gathered annually by the City of Portland Auditor's Office.

Strong and Fearless. In retrospect, this number may be closer to 1-2% of the population. While this represents a doubling or tripling from the initial suggestion of 0.4%, in terms of gross numbers it is still relatively few people. These higher figures are based principally on the US Census and American Community Survey figures that show that approximately 1% of the commuting population in cities across the country identified the bicycle as their primary means of transportation to work[5]. Conditions in these cities, as in much of the United States are not conducive to bicycling. Most of that 1% who are bicycle commuting do so in the absence of any identifiable facility. That is the essence of

[5] Keep in mind that the commuting population—which is what the Department of Commerce's numbers refer to, is only a subset of the overall population.

the “strong and fearless;” they will ride under any conditions. Under the worst of conditions—as is found in most American cities—they are generally the only ones riding.

Enthused and Confident.
In her 2005 study on bicycling behavior, Professor Jennifer Dill of Portland State University conducted a random phone survey about bicycling. The survey included 563 respondents. In that survey[6] Dill found that 12% of respondents identified themselves as regular bicycle riders and 51% self-identified as occasional riders. The remaining 37% indicated they never rode a bicycle. Dill’s survey found that 21% of all respondents bicycled 11 times or more per month in the previous summer. For “regular cyclists” 74% bicycled 11 times or more per summer month. On the other hand, the majority of “occasional cyclists” (75%) bicycled fewer than 5 times per summer month. Only 8% of this group bicycled 11 times or more in a summer month.

In addition to Dill’s work, the Portland City Auditor annually surveys Portlanders about a wealth of topics, including how they commute to work. In 2006 5.4% of Portlanders identified the bicycle as their primary commute vehicle. By 2008 8% of Portlanders commuted primarily by bicycle and another 10% identified it as their secondary means of commuting to work. These numbers go as high as 13% primary and 16% secondary in some closer-in neighborhoods where conditions are much more amenable to bicycling compared to other parts of the city.

While these numbers do not correspond directly to the four types, nor to the type of riding addressed in the typology, the numbers are nonetheless revealing. Professor Dill’s subjects were all residents of the Portland Metropolitan region, with most of them living within the City of Portland. The 12% who are regular riders corresponds closely to the sum of people within the “Strong and Fearless” and “Enthused and Confident” categories, i.e., those people who will ride regardless or who have been attracted to bicycling by the provision of bicycle facilities. The auditor’s numbers are also well within the same ballpark. Conversely, the number of respondents in Dill’s survey who said they never rode a bicycle corresponds closely to the one-third of Portlanders assumed to be in the “No Way No How” group.

How does this lend support to the typology? The typology describes attitudes about using a bicycle for transportation. Portland has done as much as any American city to make bicycling as convenient, safe, and comfortable as we possibly can, given tiny budgets and limited designs. Yet, under those conditions we have still been able to attract a much higher proportion of residents to bicycling than other American cities that lack basic bicycle infrastructure. Even within Portland, these numbers represent a significant positive change compared to earlier years when Portland’s bicycle systems were either nonexistent or less mature than today. We take this to indicate that the conditions we have created in Portland have been sufficient to attract a subset of people to bicycling: a

[6] Published as”Understanding and measuring bicycling behavior: Implications for urban planning, health, and research,” PSU Center for Urban Studies Center for Transportation Studies. This was a background survey conducted in preparation for a later study that used GPS analysis to track where people rode their bicycles in the Portland metropolitan region.

subset that is perhaps strongly inclined to bicycling but not in the absence of any facilities. It is a subset that requires only minimal facilities, who we describe as "Enthused and Confident."

No Way. No How.
It is easier to find supporting information for those people who are just not interested in using a bicycle for transportation. This includes data from Professor Dill's survey, in which 37% of participants responded that they "never' rode a bicycle. While such data does not indicate that they never will ride a bicycle, it indicates a certain level of disinterest in bicycling that is presumed to be difficult to change.

More telling is information gathered for the Portland Bureau of Transportation by Campbell DeLong Resources, Inc. as part of the city's annual Smarttrips encouragement program. Smarttrips annually targets a 20,000 household swath of Portland to assess and support interest in transportation by means other than single occupancy vehicles. As part of its program it conducts annual surveys to identify attitudes toward bicycling. These surveys have found that approximately 33%[7] of respondents strongly agree with the statement that "it is unlikely that I would ever ride a bike to work."

Also noteworthy is that these same surveys have found that approximately 70% of Portlanders own at least one bicycle. It is an assumption, but an understandable one that the 30% of people who do not own a bicycle are generally disinterested in bicycling at all, let alone using a bicycle for transportation.

Interested but Concerned.
The "interested but concerned" group is defined in part by available data, but also by omission. They are not found among those who are currently using a bicycle for transportation, nor are they found among the group who say they are unlikely to ever use a bicycle for transportation. It is likely that they are found among Professor Dill's occasional bicyclists—those 51% who generally ride a bicycle fewer than four times a month in the summer. They are also those who are neither regular riders nor unlikely riders; rather they are the 50%-60% who remain after accounting for the other three groups.

This is perhaps the 35%-39% of people in the Smarttrips surveys who either somewhat or strongly agreed with the statement: "Having to share the road with cars & other motor vehicles is the main reason I don't ride more often." They are also likely found in the group of 73% of Smartrips respondents who somewhat or strongly agreed with the statement: "I would ride on streets that have been designed to work well for bicycles even if they are slightly out of my way."

While we can define the "interested but concerned" group in part as simply filling the space between the "enthused and confident" and "no way no how" groups, what assurance is there that they really are "interested?" Some of that assurance comes from survey data, as indicated above. But, much of that assurance comes from the results

[7] Range: 31%-35%.

obtained in other countries and from the work of (bicycle) transportation planners and officials from those cities and countries where the bicycle is truly a pillar of transportation policy and practice. One of the primary differences between Portland and other American cities and bicycle-friendly cities in Denmark, The Netherlands, Germany, France, Italy, Belgium, etc. is that in those cities cycling is safer and more comfortable than in America. This is borne out by comparative crash data, by conversations with officials from those countries, and by government policy documents that place a premium on designs that maximize the safety and comfort of bicycling. Safety and comfort have become fundamental to encouraging cycling in these countries, in large part because they also need to appeal to their "interested but concerned" populations. The European approach recognizes that in the absence of good design only the "cyclists" will cycle. If cycling is to be universally adopted as a means of transportation, then the concerns of the majority must be addressed. In this typology, that majority is the "interested but concerned."

Conclusion.

This typology was developed using professional knowledge and experience in a field where data is woefully inadequate. The analysis was initially vetted with many professionals in the field, representing hundreds of years of bicycle planning, policy, and operational experience. So far, this typology has been supported by all available data that has since been generated regarding either bicycle use or attitudes toward bicycling.

This categorization remains relevant and supported. It is fundamental to understanding both the market for increasing bicycle transportation and what needs to be undertaken to cater to them. No planner should choose to fall on their sword over these exact numbers. However, in the absence of evidence to the contrary it is likely that continued survey and study will continue to support this typology.