

SISYPHUS' BICYCLE: UNDERSTANDING MOTIVATIONS TOWARDS WAY-OF-LIFE
BICYCLING

by

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DEDICATION

Dedicated to those who open the door and step outside the steel-glass cage.

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LIST OF ABBREVIATIONS

Abbreviation	Description
BNB	Bikes-Not-Bombs
CDC	Centers for Disease Control and Prevention
CO	Carbon Monoxide
DIY	Do-It-Yourself
EPA	Environmental Protection Agency
IARC	International Agency for Research on Cancer
NYC DOT	New York City Department of Transportation
NYPD	New York City Police Department
SUV	Sport-Utility-Vehicle
WNBR	World Naked Bike Ride
VC	Vehicular Cycling

I: INTRODUCTION AND RATIONALE

*Get a Bicycle. You will not regret it, if you live.
~Mark Twain*

Abandoning the automobile in the midst of a culture that heavily depends upon it, not only for social status but survival, must seem like a momentous decision. And when this abandonment is done in favor of a seemingly archaic technology, one must certainly take notice. The bicycle may seem a relatively innocuous site for cultural struggle, yet its use lies at the center of several mobility issues. Among these are the ways the practice of power is inscribed in the physical geographies of the (sub)urban environment, and the consequences that use of space has for a host of ecologic and social issues.

The term 'automobility' captures "the 'car-driver' [as] a hybrid assemblage of specific human activities, machines, roads, buildings, signs, and cultures of mobility... What is key is not the 'car' as such but the system of these fluid interconnections" (Urry 2004:26). The process of automobility has left an indelible mark on the beat and timbre of modern life, displacing centuries of focus on the face-to-face bustle of the mostly pedestrianized urban city street with the sprawling amoeba of the car dependent metroplex – with its acres of suburban desert, strip malls, and endless miles of blacktop. The widespread consequences of constantly roasting ancient hydrocarbons for our energy needs, the extreme waste brought about by industry standard definitions of *designed obsolescence*, and the costs

incurred in not having satisfactory options to driving readily available, are extensive and long lasting.

The problems of transportation should not be considered piecemeal to a more interconnected and globalized economic, ecologic, and social awareness – that is, not considered separate from other continuing social issues and inequalities. Rather, mass dependence upon the automobile is intimately tied to reproducing these vast social imbalances (Mohl 2008; Furness 2010; Blue 2013), in fact it's this very competition and inequity that is often drawn upon in advertisements and recreated in the social act of driving. Johnson, Currie and Stanley (2010) found that although car ownership is widely adopted as a measurement of (dis)advantage, its presence often represents a severe burden on the household rather than sign of upward mobility; with basic transportation often taking up a much larger portion of income. Additionally, while those with lower incomes more generally live in more noxious neighborhoods with greater air pollutants and other toxins, pollutant exposure in the United States at least is further modified by race, with traditionally marginalized communities facing a greater burden (Downey and Hawkins 2008); this is in addition to the fact that the construction of urban highways has also extracted a higher toll on marginalized communities through the destruction of their neighborhoods and communities. These public works projects have been used as barriers to hem in marginalized communities (Mohl 2008; Zehr 2015), and to describe the borders of redlining schemes of service denial (Banks 2014), thereby embodying the toxic nature of institutionalized racism.

Especially in urban areas, pollution from mobile sources, both traffic as well as all the other objects that have incorporated combustion engines (such as landscaping equipment), forms a substantial portion of the air pollution hazard. The EPA (2007) estimates road vehicles to be responsible for about half of toxic air emissions, and about 75% of carbon monoxide (CO) emissions in the United States. Analysis of toxin exposure rates also reveals that greater proximity to pollution sources results in magnitude's greater deposition rates. Meaning that many pollution-monitoring stations register lower emission levels than is experienced at street level (Wijnen, Verhoeff, Jans and Bruggen 1995; Kaur, Nieuwenhuijsen and Colvile 2007). Additionally, the design of the majority of American cycling infrastructure often overlays cycling facilities onto major roadways, which especially in the case of busy roads lowers comfort while increasing pollution deposition and risks to safety.

These emissions have become increasingly linked to adverse health and development outcomes. Several studies have noted a relationship between traffic-related air pollution and impaired cognitive development in children who live or go to school near high pollution sources (Clougherty, Levy, Kubzansky, Ryan, Suglia, Canner and Wright 2007; Sunyer, Esnaola, Alvarez-Pedrerol, Forns, Rivas, López-Vicente, Suades-González, Foraster, Garcia-Esteban, Basagaña, Viana, Cirach, Moreno, Alastuey, Sebastian-Galles, Nieuwenhuijsen and Querol 2015). Increased exposure to traffic-related air pollution is also positively correlated to increased incident of childhood asthma (McConnell, Islam, Shankardass, Jerrett, Lurmann, Gilliland, Gauderman, Avol, Künzli, Yao, Peters and Berhane 2010). Indeed the

deadliness of proximity to car exhaust is fairly obvious – and as well as being neurotoxic, there is strong evidence to suggest the carcinogenic potential of exhaust from both diesel and gasoline engines (Hoffman, Theisz and Wynder 1965; IARC 2012; Walters 2015). Beyond the morbidity and mortality from emissions alone, the World Health Organization (2013) ranks roadway mortalities as the eighth leading cause of premature death, an impact that is larger in developing countries.

Apart from the immediate human harm of mass dependence on automobiles, emissions from road vehicles also account for a substantial amount of the greenhouse gases that are now disastrously altering global climate patterns (EPA 2007; MacPherson 2013; WHO 2015; COP21 2016). The EPA (2016) estimates road vehicles to be responsible for about a quarter of greenhouse gas emissions overall; and it's important to note that the United States generally has higher emissions standards than many developing nations, which are increasingly becoming automobilized. This altered climate has been disastrous for much of the earth's biota, as evidence points to the combined effect of humanity being responsible for the planet's sixth mass extinction event, which is already underway (Ceballos, Ehrlich, Barnosky, Garcia, Pringle, and Palmer 2015). Clearly, the practices of automobility as we know them are seriously flawed and in need of critique; and while there is no single silver bullet fix to our dilemmas, we *are* beginning to think about them differently.

An example of this changing thought is support for the practice and principles of active transit¹, of which the bicycle is only one (albeit iconic) representation. Especially interesting are those already managing a lifestyle less dependent upon automobile use, while being more dependent upon options such as walking or bicycling. What can be termed *way-of-life* cyclists are those that have adopted the bicycle most completely into their life, viewing it as a primary vehicle, go-to option for travel, and lifestyle choice (Furness 2010; Pelzer 2010; Kidder 2011; Blue 2013).

The term does not necessarily signify a cohesive subculture, but rather signifies certain social practices, experiences, and perspectives held in common by virtue of navigating America's car culture by bicycle. Unfortunately for our purposes, *way-of-life* cycling is a largely self-defined concept, depending upon participant self-description; but the basic element is the *choice* to ride a bicycle for utility wherever possible as opposed to other options, such as private vehicle or public transportation. Additionally, the lack of reliable statistical data on cyclist lives and habits necessitated an exploratory attitude in the study's approach.

Both because of unavoidable issues with motorized automobility (such as social isolation, barred access to civic space, and endemic pollution), and benefits tied to the use of the bicycle (as helping to meet the CDC suggested amount of physical activity, decreasing the amount of resources used in travel, and a lack of emissions and "designed obsolescence"), various people have become interested in

¹ Active transit or travel in general connotes the use of human power for locomotion in urban space; walking, cycling, skateboarding, and rollerblading are the most common examples, and its use is closely associated with public mass transit. The use of public transit almost ensures that some form of active travel.

the possibilities offered by intelligent integration of cycling in day-to-day transportation. While it's granted that the capitalist consumer culture and its ethos, of which the car is among the most potent symbols, does influence various cycling subcultures, the expression of disposability inherent in cycling is ultimately less impactful on resources and infrastructure than that of consumer automobility, while being beneficial at even limited application (Mapes 2009; Furness 2010; Blue 2013).

Unfortunately, the bicycle has inspired relatively little ink in academic literature until recent years – and other than a few isolated studies of bicycle messenger culture (Kidder 2005, 2006, 2009, 2011; Fincham 2007), there has been almost no study on the distinct subcultures of cycling. This represents a severe poverty in light of the extensive cultural attention the bicycle has received in recent years, appearing more frequently in news and opinion media (especially in those cities experiencing increased bicycle traffic), in movies and documentaries (the fictional action crime thriller *Premium Rush* came out in 2012, while the documentary *Bikes vs. Cars* premiered at the 2015 SXSW film festival), and inspiring countless blogs (such as *A View From the Cycle Path*, and *Streetsblog*), and videos dedicated to cycling cultures and concerns.

Given that sociology is meant to give a window to cultural interactions, especially those that induce and perpetuate inequality, and especially in light of a dire waxing environmental crisis (MacPherson 2013; WHO 2015; COP21 2016; EPA 2016), the application of sociology to the study of cycling/automobile dynamics seems potentially fruitful. Unfortunately, many American academics have seemed unwilling to take the bicycle seriously as a topic of study (Longhurst 2015:20),

mirroring a lack of attention and respect paid to the bicycle in the greater American culture. It is this lack of sociological awareness that the present study seeks to remedy. It is hoped that by revealing some of the various positive and negative motive factors of committed cyclists, planners and urban designers might have a better understanding of what motivates greater reliance upon the bicycle.

Because much of the focus of American urban design, culture, and lifestyle revolves around the automobile, the question of what motivating factors encourage adopting and continuing a cycling lifestyle was the goal of the research. In other words, what factors motivated someone to shed an accepted and prescribed steel-glass carapace, in favor of a technology that affords none of that protection or anonymity, *while still encountering such a technologically augmented society as a massive force* (i.e. drivers in American car society)? In essence the research question was ‘why do some people choose to ride bicycles instead of drive, when seemingly everyone else is the lone passenger in their own car’?

A person who chose to forgo the automobile in favor of the bicycle for utility purposes the author dubbed a *way-of-life* cyclist, a term used by Pelzer (2010) but not rigorously defined; in this application it was mostly self-defined by participants themselves. Because the target population remains relatively unknown, research was exploratory in nature. In the spirit of *Verstehen*, the employed research strategy was in-depth qualitative interviews amongst 15 self-described *way-of-life* cyclists. Understanding both the positive and negative motive forces at play within this limited group as thoroughly as possible was the goal. Motivations for *way-of-life* cycling were analyzed for content based upon theme and illustrated by individual

comments, hopefully making available a more nuanced view about the motives and experiences of frequent cyclists within the academic literature.

The Weberian method of *Verstehen*, or interpretive understanding (Kalberg 2002:xlvi), was used to situate the motivations and frame-of-mind leading to way-of-life cycling cultures amongst a small sample population in Austin, Texas. Because the automobile features so heavily in US society, evidence suggested a degree of antagonism between cyclists and drivers, leading to more recognizable cycling subcultures (Pelzer 2010). Subsequently a great deal of the situating of American bicycling subcultures needs to be done in terms of the automobile society. The level of inclusion of the automobile in what is ostensibly a cycling paper may surprise those unfamiliar with the experience of utility cycling in (sub)urban areas, but in terms of defining the vast majority of travel in the United States, the automobile's negative impact on cycling rates should not be underestimated.

For this reason inquiry first proceeded through situating the cultural milieu surrounding automobility within the United States in the literature; meaning situating the car as a dominant force in culture, as well as some of the consequences of this prescription for society, car-users, and other users of road space. This background understanding was necessary for the interviews with *way-of-life* cyclists regarding meanings, motivations, frame-of-mind, and ideal types associated with their cycling cultures. Without knowledge of this perspective interviews would likely have been much more difficult, as unfamiliarity with the experiences and challenges of riding a bicycle in this type of environment would likely have created a noticeable gulf damaging to rapport. In short, knowledge of the social history and

mores of automobility is a necessary precursor to an understanding of the cultural position of the bicycle in America.

To currently situate the bicycle, the review of existing literature is divided into several parts; first examining the most pressing issues caused by contemporary patterns of automobile usage and how it came to dominate transportation; followed by possible benefits offered by integrating the bicycle more fully into transportation; next is a look into some of the groups currently using and advocating for the bicycle represented in current literature; and a final section of the literature review will be devoted towards understanding why the bicycle remains a seldom utilized option. This final section of the literature review will itself be subdivided along the lines of two distinct but related *fears*, the fear of bodily harm (and the effects of infrastructure on the perceived and actual risk of harm taken by cyclists), and the fear of social censure through status cues.

The results of the inquiry follow the literature review and are broadly divided between positive and negative motive factors; these factors are further divided by themes that are described within their respective sections. Positive Motive Forces were largely based around several broad motifs, *Environment, Health, Economy, Community, and Fun*; while Negative Motive Forces seemed to revolve around concerns of *Safety, Fear, and Inconvenience*. A brief summing up of findings and the experience concludes the *obra*.

II. LITERATURE REVIEW

This general description, furthermore, suits the definition of a bicycle currently among the Chinese: 'A little mule which is led by the ears and urged along by showering it with kicks.'

~Alfred Jarry, The Passion Considered as an Uphill Bicycle Race

THE HISTORY AND BENEFITS OF THE BICYCLE

Understanding the bicycle today involves a basic description of the bicycle's social history, especially since the advent and subsequent domination of the automobile. Because *ex nihilo, nihil fit*², this social history is important in understanding the bicycle currently and in illustrating how this state arose. Zach Furness (2010) covers some of the early resistance to automobile dependent lifestyles, such as the Situationist International, the Dutch Provo, and Bikes-not-Bombs, groups that developed practices, methods, and philosophies in many ways antecedent to those currently expounded upon. For example, Luud Schimmelpennink, Dutch engineer and one-time member of the Dutch Provo, was the originator of the *Witte Fietsenplan* (White Bicycle Plan), the precursor to today's bike share schemes (Van der Zee 2016); while Boston's Bikes-Not-Bombs is still involved in international reclamation and donation of bicycles (Bikes Not Bombs 2016).

Without understanding automobility as seen from the bicycle, it becomes very difficult to understand bicycle subcultures, as they have developed largely in response to mass automobility. These *subcultures* of cycling are distinct from a

² Out of nothing comes nothing.

culture of cycling, as subcultural cycling practices are often in response to a dominant and dangerous automobile culture (such as Critical Massing – which can either refer to the practice of gathering enough cyclists to influence traffic flow, or the monthly ride in cities across the world), while a culture of cycling doesn't necessarily see anything extraordinary about their bicycling, as it becomes such a common piece of everyday technology that it's hardly thought about; such as attitudes often found in the Netherlands (Pelzer 2010).

Internationally there were around twice as many bicycles as cars at the turn of the 21st century, though the dispersal of some 1.2 billion bicycles and 600 million cars reveals distinctly unequal patterns (Komanoff 2004). An interesting paradox of this is that while there are more bicycles in more homes in the world today than ever before, actual levels of utility bicycle usage have never been lower throughout much of the world (Komanoff 2004). The rapid adoption of motorization, in the United States especially, seemed to spell the death knell for human powered transit.

The situation developed somewhat differently in Europe, where Dutch *Omafiets* (Granny Bike's) and British roadsters did yeoman duty as cheap and reliable urban transport across Europe, a standard that was to remain largely unchanged until sometime after World War II (Hamer 1987; Welleman 1999). But even in Europe, bicycle manufacturers had to adapt or go under (Rae 1955; Norcliffe 1997; Epperson 2000; Turpin 2014; Brooks 2006). During the lean years of depression and wartime rationing of the 1930's and 40's, adult cycling saw a brief resurgence in America; but with the post-war boom in birth rates and an economy based around motorization and the car dependent suburban lifestyle, Americans

fully embraced the cars that were promised them during the years of war rationing (Frohardt-Lane 2012), ultimately resulting in the Eisenhower Interstate Highway System. This embrace was heavily subsidized by a conflation of government and corporate interests identifying citizenship with car ownership (Frohardt-Lane 2012).

However, despite all the challenges, even in the United States the bicycle did not die out. Perhaps the bicycle's single greatest redeeming feature against extinction is that many find the bicycle to be fun to ride. Additionally, forms of sport cycling have often retained their popularity – even in areas that have predominantly been turned over to motorization, such as the United States (Perry 1995). Although it would eventually be considered a “Third World country” in competitive cycling after the Second World War, even Americans enjoyed track races in the first half of the 20th century (Perry 1995:396).

Since transit cannot be easily separated from economic livelihood, the bicycle must be able to demonstrate an economic viability if its use is to truly stand for mass utility. Perhaps against many expectations, supporting the bicycle is often a source of productivity economically speaking. To begin with, the average cost of a mile of urban freeway, pegged at around \$60 million, was around the same cost of the city of Portland, Oregon's entire initial bicycle infrastructure (Blue 2013:39). Once built, bicycle infrastructure accrues negligible wear due to the almost non-existent impact of bicycle traffic upon infrastructure (Blue 2013:50). Additionally, evidence suggests that rather than being burdensome to business, providing for bicycles can be a positive economic boon. Bicycles support a far denser traffic,

especially in the area of parking, as space comes at more of a premium the more urban the area. Where 'free parking' is a service businesses are often required by zoning law to provide, space for car parking can be economically draining; bicycle parking is cheaper and provides space for more customers, often outperforming the revenue brought in by car parking many times over (Lee and March 2010; Blue 2013). A more incorporated system that practically engages and encourages cycling in its transportation niche holds probable financial benefits that may not be immediately apparent, nor easily accounted; one of the biggest is a significant improvement in a cycling population's health and wellbeing, translating to lower health care costs and better overall quality of life (Blue 2013).

Bicycling by its very definition as active transport also increases the level of activity amongst its practitioners, conveying difficult to quantify benefits. The most virulent epidemics Americans face are those so-called lifestyle diseases caused by unhealthy dietary, work, and leisure lives – such as heart disease, diabetes, obesity, and general sedentary *ennui*. The benefits bicycle riding has on health and wellbeing are of such a magnitude that many cities are beginning to view bicycle infrastructure as much a health care investment as a transit or environmental justice one. A cost/benefit study of Portland, Oregon's bicycle infrastructure projected the city to save as much as \$600 million in health care costs by 2030, in general saving four to five dollars for every dollar invested in cycling infrastructure (Blue 2013:61). The benefits accrued from even moderate daily exercise generate enough savings in healthcare that cities are increasingly viewing bicycle infrastructure as something they cannot afford not to have (Blue 2013).

Investments in cycling infrastructure accommodate more than recreation, and can be a powerful tool in enabling access for traditionally underserved populations. As an example, in the Netherlands people with mobility issues are allowed to use bicycle infrastructure with high-speed electric mobility devices, as are small electric (and in some areas motorized) two-wheeled vehicles – though all except bicycles must be speed regulated (Wagenbuur 2011).

Under certain conditions the bicycle becomes something more than an individual activity, becoming a catalyst for social and political activism, both symbol and tool for change; “at first bicycling is utilitarian, it’s just how you choose to get around... but it becomes political really quickly because it’s hard to get around” (Ryle 2011:5). As such, the bicycle has the potential to be a powerful central focus around which to organize.

BICYCLE POLITICS AND BICYCLING GROUPS

The centrality of focus upon the bicycle that helps to define the different groups engaged in cycling, both in a broad sense and *way-of-life* cycling more specifically. Except for the earliest cycling clubs, which were established as highly selective elite institutions (Norcliffe 2006), many subsequent bicycling groups have had fairly organic origins. This is not to say that there are not cycling groups highly sensitive to class, race, gender, and so on, but rather perhaps *because* of the near universal availability of the bicycle, the typological divisions amongst cycling groups can reach a stage of identifiable tribalism (Weiss 2010). In other words, different groups can be quickly identified through lifestyle and stylistic cues. This tribalism

becomes more significant when cycling becomes involved as a political process, as it begins to influence the tone of the political reaction – for example, Critical Mass, the monthly unorganized happening protest-party social ride, has been described as an exercise in direct democracy (Hernandez 2007), while national political advocacy groups have often tended to be another white male domain (Blue 2013). How the act of riding a bicycle has become politicized is indicative of both the generalized marginalization of utility cycling, as well as evidence of cycling's increasing embroilment as another front along what has been termed the culture wars (Hunter 1991). Many utility cyclists feel that they have a lack of access to public space, which tends to increase the felt need for political action (Ryle 2011).

The focus of such groups does not have to be the bicycle – rather, “underground bike subculture[s] represents self-sufficiency, self-sustainability, and responsibility... [qualities that] could definitely be attributed to other kinds of ecological activism” (Carlsson 2007). Indeed, when studying how Spanish environmentalists frame their experiences in support of the formation and continuance of an activist identity, Natalia Ruiz-Junco (2011: 721) found the utility use of the bicycle “to invoke prevalent environmental values and a special connection with the environment,” for some, enough that “the bicycle stood out in [her] memory as a symbol of... commitment to environmentalism” (Ruiz-Junco 2011: 721). From the first high-wheeled bicycle clubs, whose fashionably elite members formed a powerful political force, to the Critical Mass rides emergent at the turn of the 21st century, the bicycle's political history has seemed to change far more radically than its design. However, most important for the present discussion

are the ways the bicycle has been politicized in the post-war, post-modern period, corresponding to the emergence of widespread counter-culturalism in the western world. For all intents and purposes, this movement has found its greatest expression and emulation in the Netherlands, which has consistently had some of the highest rates of bicycle usage in the world. The Netherlands is instructive not only for their designed integration of cycling within urban space, but for the various groups and movements that instigated and continued that development.

Similar to the United States, in the post-war era the Netherlands entered a period of road building and urban transformation during which time the car made its presence felt, pushing other transport modes to the margins. “Everyone thinks the Netherlands is a cycling paradise, but if we didn’t put bikes on the agenda they’d be forgotten. It’s natural to cycle, but it’s not natural to make policy” (Furness 2010: 57). Dutch urban planning followed auto-centric urban planning until several popular movements were successful in altering the design of their cities. While a similar path also began in the United States during its so-called second bicycle boom in the 1970’s, the Netherlands continued incorporating bicycling while the United States again succumbed to the American Petroleum Institute’s demand of an fossil fueled America (CIEL 2016). The time the Netherlands has had in establishing best practices towards encouraging the utility use of the bicycle through design of the urban environment, have helped make it an everyday form of mass transit there.

Two grassroots groups are particularly mentionable in the politicization of Dutch cycling, and represent very different approaches to the politicized cyclist – the Dutch *Provo’s*, and the *Stop de Kindermoord* (Stop the Child-Murder) movements.

The *Provo's* were a short-lived anarcho-artistic critique of the ideological structure of consumer capitalism, and focused some of their first attacks on the particular brand of consumption capitalism embodied in the automobile (Vanderspyn 2003; Furness 2010). They were disturbed by the land use policies required by automobility, as well as the massive worldwide geo-political instability required to ensure the steady supply of resources that make the automobile lifestyle possible (Furness 2010: 52-59). The *Provo's* premier act of protest-theater was the White Bicycle Plan – an attempt to ban all automobiles within Amsterdam, replacing them with free public use bicycles (Furness 2010: 56):

Amsterdammers!

The asphalt terror of the motorized bourgeoisie has lasted long enough. Human sacrifices are made daily to this latest idol of the idiots: car power. Choking carbon monoxide is its incense, its image contaminates thousands of canals and streets.

Provo's bicycle plan will liberate us from the car monster. Provo introduces the WHITE BICYCLE, a piece of public property.

The first white bicycle will be presented to the Press and public on Wednesday July 28 [1965] ...

The white bicycle is never locked. The white bicycle is the first free communal transport. The white bicycle is a provocation against capitalist private property, for THE WHITE BICYCLE IS ANARCHISTIC.

The white bicycle can be used by anyone who needs it and then must be left for someone else. There will [be] more and more white bicycles until everyone can use white transport and the car peril is past. The white bicycle is a symbol of simplicity and cleanliness in contrast to the vanity and foulness of the authoritarian car. In other words:

A BIKE IS SOMETHING, BUT ALMOST NOTHING!
(Furness 2010: 56)

For perhaps the first time the bicycle was considered antithetical not only to the car, but the very capitalist basis of that culture itself. Except for the quirk of the

Dutch *Provo*, and the *Stop de Kindermoord* group that came later, the Netherlands could have developed much like the United States' model of near total car dependence. The *Provo* represents a first step towards the substantial bicycle infrastructure the Dutch currently boast, and without these early politicalized groups it is doubtful that the Netherlands would today enjoy the protections it has. Without the Dutch model, bicycle advocates would have much less real world data on the possibilities and efficacy of utility bicycling. As their manifesto shows, the *Provo* were ultimately concerned with the *social* effects of the car upon urban psyches, and the potential use of the bicycle as a panacea to social crisis created by the automobile. Perhaps the *Provo*'s greatest achievement was their success in "effectively [politicizing] the bicycle as a symbol of resistance against car culture, within a radical critique of capitalism, public space, and environmental pollution" (Furness 2010: 58). Though as *Provo* ideas became mainstream among the Dutch public they lost the antagonistic foil they needed for their particular brand of protest theater, and the *Provo* were dissolved shortly after one of its members was elected to (and fired from) a municipal council (The British Library Board 2017).

But not before this politicized bicycle became a direct focus of the Stop the Child-Murder Movement, which was more concerned about the safe design of urban spaces than in challenging the economic system. From 1950 to 1975, the number of passenger kilometers driven in the Netherlands rose from around 4.5 billion to 89.1 billion kilometers per year – this increase is almost entirely ascribed to the increase in the number of cars, as the average number of kilometers driven per car did not alter significantly during the same time period (Welleman 1999: 27). The number

of traffic related deaths and injuries also dramatically rose at this time, reaching record levels in 1972, with 3,264 traffic fatalities (around 550 of those cyclist) and 70,000 injuries (around 22,400 of which were cyclists) (Welleman 1999: 30).

The number of children dying was particularly alarming to the Dutch, with around 500 being killed on the roadways in 1971 alone (Cavenett 2011); more than anything else, this prodigious increase in the carnage of travel incensed people. Whereas the *Provo's* originally were isolated due to their anarchism, *Stop de Kindermoord* gained widespread popular support almost from its inception (Cavenett 2011; Assum 2014). *Stop de Kindermoord's* message was not overtly political, but based on safety and quality of life issues; and where the *Provo* were clearly associated with the anti-establishment, members of *Stop de Kindermoord* were mostly middle-class parents justifiably concerned for their children. It was mainly through these and other popular movements that the Netherlands was able to become the Mecca for bicycle planning it has become (Wagenbuur 2011). With a popular mandate, Dutch urban designers and engineers began exploring ways to limit car use and promote cycling and walking. However, even without as much widespread support as can be found in the Netherlands, bicycling subcultures have found niches from which they can define themselves and their space, beginning with the various ways these groups often physically reassemble the bicycle to meet their needs.

The bicycle's modular construction and standardization over the past century has made subcontracting components the standard method of bicycle production, turning many manufacturers into glorified assemblers (Norcliffe 1997;

Gao, Liu and Norcliffe 2012). This standardization has made bicycle production methods *hypermobile*; meaning “a frequent switching of economic links in global production networks affecting the goods produced, the places of production, the workforce employed, the trading partners, and the flows of goods and services” (Gao, Liu and Norcliffe 2012: 440). The globalized economy has had a devastating effect on many countries’ domestic bicycle production, but the bicycle’s hypermobility, especially regarding its modularity, also opens the door to a high degree of Do-It-Yourself (DIY) hackability. The hacking culture is typified by its adaptation and adoption of various technologies, from reviving ancient construction methods to software/hardware (re)programing (Busch 2012).

The hacking of the bicycle, cannibalizing scrapped and unwanted bicycles for components with which to Frankenstein together something completely different, has in some instances been influential in the bicycle’s historical arc – including how different groups have defined its usage (figure 1). A perfect example is the tinkering done on cheap, heavy-framed, balloon tired bicycles in the 1970’s, launching the creation of the mountain bike (Rosen 1993; Savre, Saint-Martin and Terret 2010). Following Bijker’s (1995) analysis of the safety bicycle, the mountain bike also shows patterns of Interpretive *Flexibility*, where new forms arise and compete; *Stability*, where forms become standardized; and ultimate *Closure*, or (nearly) complete standardization of its active development and components. A process led by successive and concurrent relevant social groups, those most directly influenced by and influencing an artifact’s development through use and social influence.



Figure 1 – A tall bike modification. Multiple frames welded on top of each other along with other corresponding modifications making the bike usable, otherwise known as a tall bike, is one fairly common example of a bicycle hack. This tall-bike and rider participated in the group ride event for the SXSW premier of *Bikes vs. Cars* (2015) in Austin, Texas. Photo Credit: Roger Lara Jr.

Far from showing a closing of the technological or cultural dimensions of cycling, or of stopping the various tinkerers and hackers from engaging in their own form of dialogue with technology, or even of an industry willing to rest on its laurels, the explosion and popularization of mountain bikes has only broadened the conceptual framework surrounding human powered vehicles (figure 2). Once again, innovations born in racing (such as low gearing, disk brakes, and overbuilt ruggedness) soon find a niche in mundane transportation.



Figure 2 – A two-seater pedal car. This two-seater pedal-powered car is an example of continuing Interpretive Flexibility in concepts surrounding human powered vehicles. This photo was taken at an event at the Austin City Hall to fund the Master Bike Plan in the spring of 2016. Photo Credit: Roger Lara Jr.

This can be seen in the fragmentation of cycle design, such as the explosion of ‘hybrid’ and highly specialized models combining features based on purpose, as well as by an increasing number of small manufacturers envisioning new takes on human powered possibilities. As well, hackers and various other cultural appropriators are given an increased palette from which to work. A case in point is Austin’s “Bike Zoo” which re-appropriates otherwise junked bicycles, forming them into fantastical mobile shapes (figure 3).



Figure 3 – Austin Bike Zoo Giant Rattlesnake. The Austin Bike Zoo reassembles bicycles into fantastical mobile sculpture, such as bats, butterflies, and this 80 foot (24 meter) Giant Rattlesnake. Photo Credit: The Austin Bike Zoo, retrieved on June 15, 2016 (http://austinbikezoo.org/blog/wp-content/gallery/snake_2/snakeeatlongcenter.jpg).

The various tribes of cyclists can be crudely demarcated by a typology of bicycle and corresponding style, although this is not a foolproof strategy. While many of these cues and clubs are neither mutually exclusive, nor fully reliable as a sorting mechanism, how one rides and the various associations made with cycling are very much influenced by the strengths and weaknesses of machines that end up being very different. This increase in types of bicycles has been supported by an increase in the number of people riding, as well as a gradual change in the American perception of adult bicycling. “The early 1980’s were a turning point in terms of how cycling was perceived: the bicycle was no longer the toy of a child or adolescent” (Savre, Saint-Martin, and Terret 2010: 1952); and the mountain bike had a huge effect on cycling’s popularizing trend in America. “From 1983 to 1989, the number of cycling adults went from 10 to 23 million, the number of cycling

commuters doubled from 1.5 to 3.2 million, and the number of competitors went from 40,000 to 200,000” (Savre, Saint-Martin, and Terret 2010: 1952).

Despite these modest increases in the popularity of cycling, in the United States very little was accomplished towards making things easier for urban and utility cycling. Cities seemed recalcitrant towards the emplacement of any sort of Dutch inspired infrastructure – and surprisingly, this was largely the result of a small, vocal, and politically connected group of *cyclists* espousing a riding philosophy known as Vehicular Cycling (VC). While many of the tenets of VC *do* allow for a safer negotiation of the *car-centric* built environment, they are a poor overall solution to cycling concerns, being neither intuitive nor comfortable for many. Only recently have VC advocates, as a group, lost some of the power they once had in urban design decisions to advocates of more intensive cycle infrastructure. Many of VC’s practitioners have been adamantly against *any* bicycle infrastructure, and despite their waning numbers, their vocalism has often been enough to stonewall such efforts, while giving the appearance of greater factionalism within the cycling community over the issue of cycling facilities.

The Vehicular Cycling ethos is largely identified with one man, John Forester, its founder. Forester remains a divisive figure in some cycling circles, but his school of cycling has been widely subscribed to, despite its self-admittedly elitist goals, and decidedly recreational conception and practice (Mapes 2009). Basically, Forester’s main premise is that cyclists fare best when they’re treated and act as automobiles; cyclists are supposed to ‘take the lane’ and aggressively establish their position in traffic (Forester 2008, 2014). Forester makes no secret that his paradigm is only

meant for fit, ‘properly’ trained cyclists, and is dubious of any attempt to make cycling a mass phenomenon (Mapes 2009:44). A large part of Forrester’s existence seems to be wrapped up in a crusade against so-called ‘anti-motorists’, or any who either critique the car paradigm, or make known their wish for safe and practical cycling infrastructure, calling them “nasty people” whom he’s fought his whole life (Mapes 2009:44). Groups espousing Vehicular Cycling paradigms are problematic outside of the recreational mindset of club cyclists, those that mainly approach cycling as a (often expensive) pastime and intense hobby. Or as Eben Weiss, better known as the blogger Bike Snob NYC, describes club cyclists, those “most similar... in their ability to reduce cycling to a fitness-building exercise, [to] suck the joy from it and discard it so all that is left is a desiccated Lycra shell” (Weiss 2010).

There is absolutely nothing wrong with participating in this type of cycling, nor are club cyclists necessarily advocates of Vehicular Cycling, but it needs to be recognized that not everyone is comfortable or capable of performing this sort of specialized, intense, and aggressive riding. In vociferously opposing increased cycle infrastructure, Vehicular Cycling advocates have failed to address the needs of many while maintaining a victimized attitude (Furness 2010). Tragically, more than a few cyclists have been killed or injured despite practicing Vehicular Cycling protocols and having proficient cycling ability and ‘proper’ training; included in this number have been several professional athletes, who are most at risk during training (Roberts 2002; BBC News 2007, 2008), although death-by-car during races has not been uncommon either – such as Belgian cyclist Antoine Demoiitié in the spring of 2016 (Reuters 2016).

While education for drivers and cyclists is indeed a critical component of safety, elements of classist and racist rhetoric seethe just under the surface of much of Vehicular Cycling advocacy, most clearly seen in VC's cooptation of the language of civil rights. It is not uncommon for vehicular cycling discussions to revolve around concepts of the *segregation and ghettoization* of cyclists into separate areas, thus exhibiting a form of *affirmative action* against *equal rights* – that these vehicular cycling advocates are mostly middle to upper class white males, engaged in *recreational cycling* is significant. Quoting Zach Furness (2010) in full:

Resorting to such convoluted measures to convert people away from simply having their own opinion, or preference, for travel shows how little credence most VC advocates actually give to those who either lack their cycling instructor credentials or deviate from a hard-line stance that effectively shields automobility from any and all forms of criticism. But to do so in a way that consciously exploits such racially loaded concepts/terms is beyond distasteful, particularly when it is done for the sole purpose of winning a self-constructed debate. Vehicular cyclist' widespread use of affirmative action discourse, as well as the segregationist/integrationist binary – which is by no means limited to [the] online community – demonstrates not only a fundamental lack of sympathy and/or wisdom regarding the real issues of social justice but also an astounding degree of unexamined privilege. For it is only a group of entitled white people who can enjoy the privilege of utilizing such concepts and terms, while simultaneously emptying them of their historical and political meaning, with absolutely none of their own rights or liberties at stake. (p. 75)

The biggest sign of Vehicular Cycling's failure is that while a VC paradigm has been in place, utility cycling has stagnated as an unpopular and marginal activity; this has occurred simultaneously as the tremendous growth in popularization of mountain biking and other forms of recreational cycling. The VC paradigm is but one (rarified) end of a much larger spectrum. By itself the bicycle is a shell, devoid

of meaning, and no single group or entity is able to monopolize it. However, some cyclists have actively constructed their social groups to incorporate the bicycle to a greater or lesser centrality of focus, and often the conflict over space with automobiles can be especially powerful glue to certain cycling groups. While for many groups the bicycle is a familiar aspect of solidarity, for some it is among the central foci of the group. As part of a larger spectra of interconnected satellite concerns, for some the bicycle:

...signals a sensibility that stands against oil wars and the environmental devastation wrought by the oil and chemical industries, the urban decay imposed by cars and highways, the endless monocultural sprawl spreading outward into exurban zones. [These] new bicycling subculture[s] [stand] for localism, a more human pace, more face-to-face interaction, hands-on technological self-sufficiency, reuse and recycling, and a healthy urban environment that is friendly to self-propulsion, pleasant smells and sights, and human conviviality. (Carlsson 2007)

Rather than being isolated incidences, and perhaps in response to the antipathy of automobility, by the mid 20th century, bicycle groups and practices came to the fore for many as an instrument of political motivation. In the Netherlands, it was the *Provo* with their White Bicycle Plan of free public use bicycles. A similar scheme in Austin, Texas eventually became the Austin Yellow Bike Project, a community bicycle collective based on a similar model to Bike's-Not-Bombs' system of bicycle reclamation. The French group Situationists International saw the centrality of automobiles as part of "a spacio-cultural arrangement designed to suppress human spontaneity and willful participation in the city's construction," as well as a triumph of bourgeois mentality (Furness 2010: 54). In Stockholm it was

a group known as *Alternative Stad* (Alternative City), which agitated for greater cycling safety through mass protest rides on Stockholm's busiest streets; similar in intent and function to Critical Mass and social rides (Furness 2010:60-62). In Montreal, self-styled *vélo-Quixotes* appeared to form *Le Monde a Bicyclette*, who conducted various *cyclodramas* across the city, theatrical protests designed to bring attention to the plight of cyclists and pedestrians within the dangers of the car culture (Furness 2010: 64). New York's *Transportation Alternatives*, arguably one of the largest and most well-known cycling advocacy groups operating in the United States, also began in the 1970's (Transportation Alternatives 2014), and has effected a continuing advocacy for the utility use of the bicycle in one of the premier cities of North America.

As an artifact by itself, the bicycle does not inherently appeal to any one group, but through its ability to practically reflect an ethos, it has come to be closely identified with some groups and their ethical, political, and lifestyle viewpoints and practices. The bicycle can be a potentially effective instrument in instilling a more collective based consciousness and sense of political aptitude and participation, through a greater localization of space and more biologically coherent life practice.

PRACTICE AND RITUAL

Cycling subcultures can be similar in their expressed wants and needs, performing nearly identical group practices and rituals across the globe – especially in cases of slain cyclists (Gertten 2015; Ghostbikes 2015). When a cyclist is killed, a 'ghost bike' is often used to memorialize and consecrate the ground (illustration 4),

cyclists will meet and ride in procession to the spot of the homicide, words will be said, silences observed, and a scrapped broken bicycle locked into place, usually painted white (Gertten 2015; Thomas 2015). Begun in St. Louis, Missouri in 2003 and called “Broken Bikes, Broken Lives” by its originator Patrick Van Der Tuin, the practice of memorializing killed or grievously injured cyclists in this way has seemed to touch a nerve, and has quickly spread to cycling populations around the world (Thomas 2015). Ghost bikes are also probably the only roadside memorials that are commonly removed by city governances, as reported in one North Carolina news outlet, “we should give people time to mourn; after that get rid of the bike. If people keep getting hit you’re going to see these bikes on every corner” (Clay 2015).

The somber nature of such death rituals is in marked contrast to the carnivalesque atmosphere found in other shared rituals and practices common to bicycle subcultures. Events such as the World Naked Bike Ride (WNBR) are a combination celebration, public performance piece, protest against consumer norms, and a chance to safely ride routes that may otherwise be off-limits. Coordinating several pre-existing similar social rides in communities across the world, the first World Naked Bike Ride in 2004 explicitly engaged in a critique of automobility and consumer society, stating “it’s time to put a stop to the indecent exposure of people and the planet to cars and the pollution they create” (WNBR 2016). By riding naked, participants “celebrate cycling and the human body... the ride demonstrates the vulnerability of cyclists on the road and is a protest against oil dependency” (WNBR 2016).



Illustration 4 - A Ghost Bike in Austin, Texas. Roadside memorials along busy roads are a common sight in heavily motorized societies. This one memorializes Jeremy Jess Abalos (1991-2012) on the corner of South First Street and Highway 71 in Austin, Texas. Photo Credit: Roger Lara Jr.

Cycling subcultural practices, such as riding *en masse* (critical massing), are often created around specific need – where conflict with cars defines a large portion of a cyclist’s existence, one will find practices such as critical massing and rituals around slain cyclists. The Dutch used similar practices in their successful agitation for greater cycling infrastructure expenditures (Waggenburr 2011); although with cycling becoming a normalized practice, the Dutch sense of the politicized bicycle has seemed to wane (Pelzer 2010). In the end, differences in cycling practice and culture often boil down to infrastructure and are illuminated by cross-cultural studies. While to be a cyclist is normalized in the Netherlands, in the United States “it is a deviant case in a country where car mobility is a dominant discursive force and the bicycle is a marginal means of transportation” (Pelzer 2010: 4).

This deviance is why cycling is considered something of an identifying feature in the United States, but not in Holland. *Fear* and *Loathing* (to borrow a phrase) become viscerally felt emotions commonly associated with cycling, but only within the motorized context (Pelzer 2010; Horton 2007; Ampt, Somers and Munro 2011). Such powerful shared emotional experiences can lead to social bonding and a shared identity (Pelzer 2010: 7). When cycling in Amsterdam was compared with cyclist experiences in Portland, Oregon, a city with one of the best bicycle infrastructures in the United States, Portland cyclists reportedly felt cycling to be more intensely experienced, exacerbated by a travel paradigm rife with opportunities for conflict and few legal protections for cyclists (Pelzer 2010:8). These factors are magnified in cities with little invested in cycle culture or infrastructure.

It is exactly this magnified strife that leads to practices such as Critical Massing. To be clear, “Critical Mass is an event, not an organization,” (Oliver 2010), it’s more of an organized happening instead of a defined, and subsequently easily prosecutable entity, yet the politics of Critical Mass merge seamlessly with its practice. Critical Mass may well be one of the most prevalent examples of direct democracy in action that we have available, as it “exemplifies the anarchist premise that collective action can only occur after the development of an individual’s political consciousness... by engaging in direct democratic governance of their lives – even if only during their participation in Critical Mass” (Hernandez 2007).

However, Critical Mass has often demonstrated an inability to spread beyond a core of devoted participants. In Austin over the last few years, Critical Mass has

largely died out, mostly replaced by group rides with less direct political or confrontational connotations. Some still show up to Austin's Critical Mass on occasion, but its role has largely been taken over by other rides (Thomas 2013). Additionally, the city has shown slightly increased support of bicycle infrastructure and culture, which may have had a chilling effect on Critical Mass participation, which was often known for being confrontational (Herz 2015), although it may also be a sign of the continuing gentrification of the Austin urban core.

The confrontational nature sometimes found on Critical Mass rides has not been without its equal and opposite reactions, and detailing the practices of Critical Mass would be incomplete without mentioning reactions to massed cycling practices. The George W. Bush presidency inspired a number of protest movements in major cities around the world. During the height of these tensions in New York City between the NYPD and New York cyclists, "the NYPD in Manhattan [stood] apart in its intense, long term commitment to quashing [Critical Mass]," (Hernandez 2007:8), arresting participating cyclists *en masse* and seizing property, violating Massers' Fifth and Fourteenth Amendment protections of due process, as well as First Amendment rights of freedom of speech and association (Hernandez 2007). Despite the questionable legality of such police procedures, New York courts upheld the majority of their Critical Mass prosecutions (Hernandez 2007).

Further conflating political membership with cycling group practice is the way the diverted waste stream model of the community bicycle shop has spread as a practice, most notably beginning with Bikes-Not-Bombs (BNB). Since the 1980's especially, the punk rock ethos has pervaded many of cycling's most subversive

subcultures, and this ethos has impacted many of the practices and policies of such groups, Bikes-Not-Bombs being no exception. Bikes-Not-Bombs was founded in 1983 as a simultaneous protest of consumer capitalism's disposable practices, and of the United States' direct role in the destabilization of Nicaragua during the Reagan administration's secretive Iran-Contra program (Furness 2010:172).

Bikes Not Bombs began a model of running a community bike shop that has successfully spread to municipalities around the world. Essentially, bicycles and components destined for the waste stream are diverted to mostly volunteer run bike shops, where the community is instructed on how to build and repair bicycles. Many also include some version of a build-a-bike program, allowing participants the opportunity to construct, refurbish, and ride away on what would otherwise be a junked bike. The practice provides much needed transport and education to underserved communities.

Yellow Bike Project in Austin, Texas typifies this loose distinction between group politics and group practices. Originally based on a Dutch Provo style free use bike share system, but coming to exclusively focus its efforts on a Bikes-Not-Bombs model community bike shop, the Yellow Bike Project provides facilities, parts, and expertise in everything from basic repairs to the ability of participants to build a bicycle from scratch. Their only difference with Bikes-Not-Bombs is that instead of diverting those materials to other countries, they are used in the community from which they originate. The level of contact such volunteer run bike shops may have with a community is variable, as is their influence on the amount of related knowledge generated and held within a community. While the actual group

associated with Yellow Bike Project may be revolving to an extent, at the same time, the structure of the group allows it to continue as an effective community organization, despite potential shifting of organizers and participants.

Because of the difficulties cyclists often encounter getting around, as well as the different needs and abilities of bicycles, the mental map a cyclist has of a city can be radically different from similar driver projections. Such path finding processes in the awareness of how to negotiate city space, such as routing, become integral to the practices of that negotiation, and a mark of moral worth for cyclists as a method of meeting the responsibilities of the 'new citizen'; a way of 'belonging to' a cityscape rather than merely 'being in' it (Green, Steinbach and Datta 2012). This is a discourse emerging in several urban areas such as London and New York, redefining notions of travel and automobility, as well as positing driving as an inherently morally dubious activity (Green, Steinbach and Datta 2012: 278). Cyclists do not universally share this mindset, however the bicycle becomes an excellent way of symbolizing commitment to, and participation in, a divergent perspective, as well as a profoundly useful method of embodying the practice of those beliefs.

FEAR AND LOATHING ON THE ROADWAY

Despite a fairly common recognition of at least a few of the problems with automobility and benefits offered through the bicycle, cycling hasn't normally been considered a common option in traversing the American cityscape, despite the popularity of the bicycle as a recreational tool. The reasons for this are many and varied, but can all be at least partially mitigated through infrastructure design, such

as use of switchbacks, shade trees, end-of-ride facilities, and greater distance from cars and their emissions. However currently terrain, climate, and fear are powerful negative influences on bicycling rates. Fear can largely be broken down into two related issues, the *fear of harm*, as a result of infrastructure decisions pitting automobiles and bicycles in struggles over space – and the *fear of social censure*, as a result of a media and cultural lauding of the automobile and denigration of bicycle transport (see fig. 9). Each will be examined in turn.

Fear of Harm

The automobile drastically changed the organization of people's lives, the physical geography of the city, and concepts surrounding the use of public space – leading to sprawling cities that are nearly impossible to negotiate without the use of a car. A great deal of this infrastructure devoted to the automobile can be decidedly unfriendly to cyclists, John Forester's remonstrations notwithstanding, and it is this unfriendliness that keeps many people from even *attempting* rides to nearby locations.

Physically, ecologically, and psychologically the mass obsession with automobility is unsustainable. Urban infrastructure is often strained to a standstill during the aptly misnamed "rush hour", a time period of indeterminate length during which very few do any "rushing" of any sort. Yet this is a paradigm that's slowly been changing, with more dedicated cycling infrastructure in place in the United States today than ever before. Cities everywhere have gradually begun introducing cycling infrastructure, from lanes and marked routes, to cycle only

paths with space and signals independent of car traffic; however, how *networked* these facilities are is unknown, and has a great effect on the usability of such infrastructure. Unfortunately, bicycle use in the United States has remained fairly stagnant for some time, and overall bicycling remains largely underutilized as a transit option. Studies have consistently found only about half a percent of Americans commuting to work by bicycle (McKenzie and Rapino 2011; McKenzie 2014). Although Jennifer Boldry's (2015) research group found that riding to social events and running errands were the most common activities done by bicycle.

A meta-analysis of cycling-to-work rates in the 90 largest American cities found cities with more bicycle infrastructure had significantly higher rates of cycling, three to four times more commuter cycling than cities that don't invest in such infrastructure (Buehler and Pucher 2012: 419), although the types of infrastructure and how effectively networked they were wasn't described. Akar and Clifton (2009: 9) found that both self-described cyclists and non-cyclists agreed that dedicated cycling facilities are preferable, and that the lack of these facilities is an active detriment to cycling.

Cycle network discontinuities (or complete absences) are problematic for several reasons; they increase opportunity for conflict between transportation modes, decrease the perceived legitimacy of cycling, and greatly increase the risk and discomfort of riding a bike. Bonham and Koth (2010), studying the "roadway texts" surrounding the South Australia University campus at Mawson Lakes, found cycling largely written out of travel dialogues. Not acknowledging the narratives of cyclists in the design and execution of public spaces excludes them from legitimacy,

reinforcing motorized travel norms positing the automobile as *the only* legitimate form of travel (Bonham and Koth 2012: 98); endangering those who do cycle and dissuading potential cyclists. There's no mystery to bicycle infrastructural design, as former public works director for Davis, California, Dave Pelz has mentioned:

A bicycle facility has to be part of a totally connected route on a grid that serves the population. We would no more build a system for the bicycle that ends every few blocks than we would build an arterial for motor vehicles that detoured traffic every 800 meters. (Mapes 2009: 126).

Because few Americans are used to living in communities where utility cycling is encouraged, *who* chooses to cycle is greatly affected. In heavily motorized societies, such as the United States, it is not unusual for cycling rates to be gendered, with men often surpassing women (Emond, Tang and Handy 2009). It is important to note that this gender divide is not present in western nations with high cycling infrastructure expenditures, such as the Netherlands where women's cycling rates slightly outpace men's (Emond, Tang and Handy 2009), nor is it likely in societies with generally high rates of bicycle ridership. Although more recent data has suggested this gap closing to near parity in the United States, with a report commissioned by the advocacy group People for Bikes estimating that of some 104 million people who rode a bicycle at some point in the past year, about 45 million were women compared to 59 million males (Braker 2015). This near parity seemed to hold throughout the range of frequencies, suggesting that investments in cycling infrastructure are having a positive impact on bicycling rates (Boldry 2015).

All demographics have been shown to prefer protected infrastructure to cycling on unprotected roadways (Boldry 2015), with people willing to travel longer distances in order to use such facilities; but women have been shown to be willing to travel slightly further than men to reach them (Krizek, Johnson, and Tilahun 2005). It is significant that if bicycle infrastructure is not in place, or considered too distant, then the literature suggests that women are statistically less likely to bicycle (Krizek, Johnson, and Tilahun 2005). These relationships tend to hold true across cultures with similar driving habits to America, such as Australia (Garrad, Rose and Lo 2007), and the UK (Dalton 2010).

Despite the potential for conflict inherent in shared infrastructure, the design of many American bicycle routes seems unaware of practices of traffic separation pioneered by the Dutch. In the United States especially, bicycle infrastructure has traditionally been overwhelmingly influenced by the Vehicular Cycling school of thought, which had effectively stagnated US development of bicycle infrastructure. During this period, bicycle infrastructure design was largely relegated to recreational veloways and hike and bike trails; such paths are often useless as utilitarian throughways. For example, for years the only protected bicycle infrastructure in Austin, the Veloway at Circle C Park, consisted solely of a 3.1 mile (5 k) circular route encapsulated in a park in far southwest Austin, which mostly remains only accessible by car. This type of design clearly reflects a continuing proclivity to view the bicycle as a toy and cycling as a hobby.

When the bicycle is accepted as a practical fixture of the urban environment, investments in cycling infrastructure accommodate more than recreation; safe

routes can be a powerful tool in enabling access for traditionally underserved populations, especially those with lowered mobility. Mobility impaired Dutch are allowed to use bicycle infrastructure, greatly increasing their mobility independence (Wagenbuur 2012); this stands in marked contrast to an American system that demands a high level of skill and attention from many isolated pilots of varying health, quality, and endurance. Even when possessing the ability to participate as a motorized citizen, driving entails the adoption of a pod-like *zeitgeist* exacerbated when access to an automobile is curtailed through age or censure, thereby often increasing isolation even more. The elderly especially often fight vehemently against relinquishing their driver's license, and subsequent freedom of mobility; this loss is very much one of the most feared elements of aging in America (Rudman, Friedland, Chipman, Sciortino 2006).



Figure 5 - A typical Dutch shared use street. The cycle path is visually distinct from the roadway. Note especially the intersection, where the bike lane is separated further from traffic by a concrete curb and dedicated traffic-signal device. This particular cycle path is one of the newest (as of May 31, 2016) cycle facilities in the Dutch city of Assen, and is cited by David Hembrow as an example of improved design in cycling facilities for widening at a potential bottleneck. Photo Credit: David Hembrow, *A View From the Cycle Path Blog*, retrieved on June 15, 2016 (<http://www.aviewfromthecyclepath.com/>)

Investments in cycling infrastructure are one of the best indicators of what cycling represents to society and civic governance, either predominantly practical, recreational, or non-existent. Dedicated cycling infrastructure that is also effectively networked through a city has been a rarity in the United States; instead, many urban 'bike routes' are actually mixed-use facilities, shared with motor vehicles or pedestrians. An example of this shared use infrastructure is the 'sharrow' (figure 6), street paint indicating a shared route between cyclists and motorists.



Figure 6 – A 'sharrow' on a busy road. Though often uncomfortable to ride on, such infrastructure can make up a large part of a city's cycling network. This particular sharrow was one of many put up by the late Toronto mayor Rob Ford in lieu of separate infrastructure. Photo Credit: Martin Reis, *Flickr*, retrieved on June 15, 2016 (<https://www.flickr.com/photos/martinreis/3975192556/in/photostream/>).

This sort of facility relies upon how observant and tolerant vehicle operators are, that drivers see the cyclist and are not impaired by drugs, alcohol, fatigue, age, health, or vehicle maintenance issues. Cyclists are expected to act 'vehicularly' and maintain speed and line. This can be difficult for cyclists, as their relative speed fluctuates and can be difficult for a driver to determine since issues of cyclist fatigue,

topography, type and maintenance of bicycle, and/or impairment have a pronounced effect on cyclists' output. Either way, cycling vehicularly is an inadequate solution for many.



Figure 7 - A poorly designed bicycle lane. When cycling infrastructure is treated as afterthought the results are often full of fatal flaws, such as grating, curbs, debris, cars and car doors, bollards, and in some cases trees and other ridiculous obstacles. This clearly inadequate green lane was located in Central York, United Kingdom circa 2010. Photo Credit: Freewheeler, *Crap Cycling and Walking in Waltham Forest*, retrieved on June 16, 2016 (<http://crapwalthamforest.blogspot.com/2010/07/classically-bad-cycle-lane.html>).

Within predominantly motorized societies, bicycle infrastructure is often added as an afterthought, which becomes a source of contention for cyclists and drivers (figure 7). Roads engineered to maximize flow of vehicle units have none of the provisions of design accentuating the unique travel characteristics of bicycles. Additionally, these routes are often annoying to motorists for the appearance of bicycle infrastructure being underutilized, when it may be dangerous, uncomfortable, and/or unmaintained. Quality of infrastructure may also help explain some of the perceived and actual lawlessness on the part of cyclists, as an infrastructure that ignores one would most likely elicit from one only the minimum

of respect. Similarly, generalized disrespect for authoritative structures amongst marginalized out-groups has been described for musicians (Becker 1991), and graffiti writers (Ferrell 1993). Such may be an explanation for commonly attributed acts, such as cyclists running red lights or stop signs, as many of these behaviors are not observed in areas with greater provisions for cycling comfort and practicality, such as the Netherlands (figures 5 and 8).



Figure 8 – An intersection in Utrecht, the Netherlands. When the strengths, weaknesses, and needs of cycling are taken into account by urban design, cyclists are apt to respond in kind. Note particularly the two groups of waiting cyclists in the foreground. Photo Credit: J. Maus, *Bike Portland blog*, retrieved on March 14, 2016 (<http://bikeportland.org/2014/02/19/portland-designerplanner-unveils-protected-intersections-for-bicyclists-101767>)

From the cyclists' perspective, it probably doesn't take many times being ignored by a stoplight before a cyclist begins thinking the laws are not made for them. The state of Idaho has recognized some of these aspects since 1982, legislating a stop law for cyclists that has them treat stop signs as yields, and

stoplights as stop signs; acknowledging some of the differences in bicycle travel from cars without having to change anything of the infrastructure (Thomas 2008).

Perhaps unsurprisingly, fear of traffic remains one of the greatest barriers to increased cycling (Akar and Clifton 2007; Horton 2010; Ampt, Somers and Munro 2011; Handy and Xing 2011; Chaurand and Delhomme 2013). That this fear is more often than not founded upon a sober appraisal of the traffic system makes overcoming it all the more of a Sisyphean task. Not helping the development of utility cycling is the backlash often faced with the expansion of cycling infrastructure, especially when that comes through the expense of car space. Often short-lived coalitions of businesses, drivers' groups, and powerful residents form with the sole intention of rolling back cycling infrastructural gains (Sadik-Khan, Solomonow 2016).

One of the most illustrative of such struggles over infrastructure was the intense backlash over a bicycle lane running through New York City's affluent Prospect Park neighborhood. As many residents of Prospect Park are wealthy, well-connected, and used to a certain geographic exclusivity, they lost little time organizing an effort to remove the lane. Academic Lionel Beehner, documenting the fight from the perspective of Prospect Park residents against the lane, compared the actions of the cyclists' groups to "insurgent movements abroad" (Beehner 2013:52), accusing them of holding a false consciousness near religious in fanaticism and tone. Despite well connected opposition to the bike lane, which even included the wife of New York senator Chuck Schumer (who adamantly opposed the lane) among its members, the lawsuit they filed against the bike lane was dismissed in its entirety as

moot in 2011 (*Seniors for Safety and Neighbors for Better Bike Lanes v. New York City Department of Transportation and Janette Sadik-Khan* 2011:27).

Data collected by New York City's Department of Transportation suggests wholesale benefit from the lane, including decreases in injury (63%), speeding (74%), and dangerous cycling behavior (riding on the sidewalk); the city's DOT is also quick to point out that the bike lane was installed *through* the community's request and with widespread community support (NYC DOT 2016). The intensity of the fight over the Prospect Park bike lane illustrates a widespread perception that the cycling lobby is a "vocal yet powerful minority group... [reconfiguring] New York's streets without sufficient consultation" (Beehner 2013:53); a view casting drivers as victims. A particularly lurid example of this mindset can be found with the City of Toronto and its late mayor Rob Ford, who once said, "my heart bleeds [for cyclists] when I hear someone gets killed, but it's their own fault at the end of the day," (Margolis 2012). Ford, who vowed to "end the war on the car," rode to victory on a wave of suburban support, and upon his inauguration immediately began tearing up bicycle infrastructure, and cancelling planned light-rail (Church 2011; Margolis 2012; Walks 2014).

These victimized attitudes amongst drivers are widespread, and bicycle infrastructure and culture is becoming a favored target of conservative groups (Smith 2013). In 2013, The Boston Globe reported "particularly in America, the bicycle is emerging as a new conservative front in the culture wars... as an insidious new social force" (Smith 2013). Specifically, American conservatives seem to find ire with the funding of bicycle infrastructure and bike-share programs, but the

biggest element of the divide seemed to be based on geography. While urban residents tended to mostly support bicycle infrastructure, their suburban and rural counterparts, especially those commuting into cities generally actively opposed anything bicycle related; creating a convenient, if dangerous, us-them dichotomy (Smith 2013). This is especially dangerous given the lack or leniency of prosecution towards reckless or negligent drivers; even when cyclists are killed or gravely injured, penalties against offending drivers often rarely exceeded those of minor moving violations (Shimogawa 2011). Given a legislative attitude that has seen North Carolina, North Dakota and Tennessee all attempt laws that would protect drivers who hit protesters, with North Carolina actually succeeding (Nelson 2017), it is not hard to see how this increased fear of bodily harm can have a chilling effect on cycling rates.

A more insidious threat to cyclists comes from environments made toxic by air pollution. Especially cities that have rapidly motorized with few standards in place for the protection of the environment, riding a bicycle can actually be more hazardous than any benefit accrued. A 2016 research article identified two important points cyclists must consider, a “tipping point” after which additional physical activity would no longer offset relative risk of mortality, and a “break even point” after which continued physical activity would cause adverse health effects (Taino, Nazelle, Götschi, Kahlmeier, Rojas-Rueda, Nieuwenhuijsen, Hérick de Sá, Kelly, Woodcock 2016:234). Using WHO data for average urban background concentrations, it would take roughly 7 hours of cycling to reach the tipping point, but in the most polluted cities this was reached between 30 and 120 minutes; and in

the most polluted city on the list, Delhi, India, it only took 30 minutes to reach the tipping point, and an additional 15 to reach the break even point (Taino et al. 2016:234). This is a burgeoning area of study, and while more work needs to be done, it's enough to realize the impact environmental hazards can have on cyclist health.

Finally there is fear of harm arising from the bicycle itself. Especially for those who are on a bicycle frequently and for long periods of time, such as police officers on bicycle patrols, care must be taken to ensure proper bicycle fit and sensible limits on riding (Schrader, Breitenstein, Clark, Lowe, and Turner 2002). As well bicycles that require a greater degree of skill to ride safely, such as fixed-gear bicycles not equipped with brakes, can hold greater inherent risks, especially for those unprepared.

Fear of Social Castigation

Moving from the enormous exoskeleton of the automobile, with its thoughtless power and its private-in-public separation from the world, to the openness and exposed vulnerability of the bicycle can be shocking. But related to this physical exposure is a social exposure that can be distressing (Horton 2012), and is exacerbated by a media culture that has often ridiculed adult cycling (fig. 9). Despite this, changes in the American public conception of the bicycle have been taking place, and internationally the bicycle has often been differently conceived, without the same negative connotations. Although this conception has changed as cars become more attainable to previously unmotorized populations.

The debased status of the adult cyclist in motorized cultures generally goes back to the genesis of mass motorization in that country. Especially in America, where the automobile was adopted wholesale, adult cycling quickly took on the stigma of taboo, and by the 1920's only "odd kooks" bought adult bicycles in the United States (Epperson 2000). For manufacturers bicycles for the youth market remained about the only viable option, which had the effect of keeping a certain amount of production going while stigmatizing adult cycling as debased locomotion (Turpin 2014). The American cycling industry supported this perspective through the marketing and design of bicycles as ersatz automobiles for the young; "for a majority of Americans, bicycle-marketing schemes essentially destroyed the bicycle's masculine credibility among adults" (Turpin 2014:64). This "emasculated" bicycle should instead be read as an "ageism" which prejudiced the use of the bicycle past a certain age and outside of a certain context, boiling down to a demotion of the concept of the bicycle from vehicle to toy; although the sexism inherent in equating "masculine credibility", automobility, and citizenship shouldn't be ignored.

REALITY SUCKS

LUCKILY THE GM COLLEGE DISCOUNT DOESN'T.

In fact, it's the best college discount from any car company¹ and can save you hundreds — even thousands — on an eligible, new Chevrolet² Buick or GMC. If you're in college, a grad program or even a recent grad...take advantage today and get a great deal on a new ride to call your own!

2012 Chevrolet Sonic
(discount example)
Sonic S-Door I-5 MSRP starting at \$ 11,995.00
MSRP of Sonic S-Door I-5 as shown³ \$ 14,495.00
Preferred Pricing⁴ \$ 16,202.07
Your Discount \$ 242.89

2012 GMC Sierra 1500
(discount example)
Sierra 1500 Reg. Cab WT 2WD MSRP starting at \$ 22,940.00
MSRP of Sierra 1500 Extended Cab SLE 2WD with optional equipment as shown³ \$ 30,840.00
Preferred Pricing⁴ \$ 31,329.26
Your Discount \$ 1,823.74

To save even more, combine your discount with most current incentives.

Stop pedaling...start driving.
Visit gmcollegediscout.com/save

Figure 9. Reality sucks ad. This 2011 General Motors ad was part of a "Reality Sucks" campaign that also included ridicule for walking and using public transportation. The ad campaign was quickly suspended after sparking outrage from various groups. Photo Credit: GM, *GM Backpedals on Anti-Cycling Ad*, retrieved April 20, 2014 (<http://abcnews.go.com/blogs/business/2011/10/gm-backpedals-on-anti-cycling-ad/>)

This lack of adult credibility has lasted into today, where for many people cycling is simply not a conceivable option. As one British driver put it, "I think my problem is that I'm really anti-heavy traffic, but I'm contributing towards it [by driving]. It's very hypocritical isn't it? To avoid the cars people get in their car" (Horton 2012). Dave Horton (2007) considers fear to be a significant emotional barrier to cycling, and one not confined to mortal fear of bodily harm. In addition to pragmatic concerns as fear of injury, "fears of cycling may also include fear of being on view, of working one's (perhaps 'unsightly', perhaps 'sightly', certainly gendered) body in public, fear of harassment and violence from strangers" (Horton 2007: 151).

This fear of being on display can be felt even more profoundly in certain communities. Among some, cycling has very specific racial connotations; for

example, to some African Americans cycling is denigrated as an activity “for whites” (McCray, Chen, Glass, Lee, Lin, Morales, Mount, Ogura, Rosenbarger, Sides, Woodward, Zeringue 2011; Horton 2010). Particularly in lower income neighborhoods where many strive to purchase a car, the bicycle’s efficacy can be a hard sell, especially when it seems either an alien practice of the Lycra clad, vehicle of poverty, or drug mule transport, either way presenting few role-models for the cultural and economic realities facing many (Horton 2010). However, rather than bicycling itself, such reports may reflect a disdain for what is seen as the dominant (white) culture of cycling. In fact, research suggests that Whites tend to bicycle at lower rates compared to Blacks and Hispanics (Boldry 2015).

Part of the political marginalization of cycling has been its moniker as a fringe activity; a lack of people engaged in regular utility cycling makes them largely unknown in public life. There have been relatively few studies attempting to gauge just who the general (driving) public sees as a cyclist, but the few done have revealed profound confusions and inconsistencies in the conception of the average cyclist. A survey of British car commuters found that the typical concept of a cyclist fell into a few categories, briefly and broadly defined either by elite mindset and alienating costume, or as a happy-go-lucky hippy inhibiting economic movement (Gatersleben and Haddad 2010). This does not do justice to the range of people actually putting the bicycle to use. It is a lack of experience with cycling that causes drivers to gauge cyclists as hopelessly out of touch hazards deserving of whatever fate befalls them.

Cyclists have often been portrayed in mainstream media as losers or out of touch eccentrics at best (albeit often lovable), and bicycling seen as a debased form of motorization (Furness 2010: 113). Such characterizations as Pee-wee Herman in *Pee-wee's Big Adventure* (1985), Andy Stitzer in *The 40 Year Old Virgin* (2005), or Michael Bluth in *Arrested Development* (2003-2006), all serve to alienate the image of the cyclist from mainstream life, casting cyclists as effeminate, or (financially) impotent, and almost always as men (Furness 2010). When this is contrasted with the ubiquitous and continual cultural designation of car automobility as norm, right and necessity it becomes easier to see how the everyday driver can completely abandon the bicycle, even for nearby trips.

The humor here in people riding bicycles is reflective of a tendency to treat the automobilized life as natural, ignoring the shaky ground of oil based lifestyles and the more typically experienced opening of *Office Space* (1999), which shows the main characters sitting through morning traffic in various states of induced insanity. However, as the bicycle has become a more familiar cultural symbol, its use in marketing has become far more common; most notably for their inclusion in automobile ads. Often this is attempted through an association of the car with mountain biking, depicting either the car as granting access to the untrammelled wild (Toyota 2015), or conflating the experience of driving with that of downhill riding (Audi 2015). Mountain biking can be an especially potent advertising symbol because of its ability to generate peak experiences, moments of:

Highly intense, significant, and fulfilling experiences... often considered turning points which lead to a change in self-concept and identity... Mountain biking symbolizes virtues of ruggedness and individualism, and for many, the bike becomes an extension of their personality (Dodson 1996:317).

These commercials are mostly similar in their depiction not only of the bicycle as a tool of leisure, but of *masculine* leisure, while the car remains ensconced as the ultimate signifier of that lifestyle. There are plenty of examples of blatant sexism used to sell automobiles, which according to Sarah Jain (2005:187) often “taps into powerful mythographies... [representing] a seemingly timeless masculinist, misogynist fantasy stereotype... a close reading [of which] can tell us a great deal about car culture, gender, and technology.” Hence the masculine, stylized outdoorsy quality attempting to be evinced through ownership of JEEP, SUV, and/or truck is also brought to specific circumscribed representations of cycling, depicting a vision of its ‘proper’ role and location as a ‘grown-up’ toy.

A notable exception appears in a 2011 Kia commercial, beginning with a familiar visual action narrative, showing images of car conquering nature and city alike. The car in question is “perfectly capable of owning any road,” the narrator’s disembodied voice confidently asserts, “but prefers, to share it,” he says, as the camera is pulled back to reveal that nearly the entire commercial had been shot by a two-camera film crew atop bicycles (Kia 2011). Whether such car commercials are examples of greenwashing, appeals to millennials, or genuine attempts at integrating bicycles into the American travel paradigm remains to be seen. At the very least, this trend illustrates that bicycles are on the radar of the image-makers.

The art of independent creation and distribution of cultural artifacts is in many ways more widespread and globally available than ever before. Filmmakers, inventors, garage do-it-yourselfers, and riders are exploring the capabilities and concepts of human powered vehicles, as well as communicating these concepts to a far wider audience. Because of the versatility of modern media production and distribution, media artifacts do not always follow rote depictions of the lovable loser cyclists; especially outside of mainstream story-mills more nuanced interpretations are available to culture crafters. A couple early short Edison silent filmstrips show fixed-gear riding that would seem at home today, revealing how quickly this new technology began to be deconstructed by its users (Edison 1899, 1901). The potential economic importance of the bicycle is clearly shown in *Bicycle Thieves* (1948), Vittorio de Sicca's desperate romp through war-ravaged Rome. The film has been lauded as a brilliant example of the neo-realist turn taken in many film traditions in the aftermath of the Second World War. When 2012's Hurricane Sandy devastated areas of the eastern seaboard, New York film maker Casey Neistat demonstrated the resiliency and ability of bicycles in negotiating difficult terrain – riding through the water logged streets of inundated New York City to show the storm's effects on such densely populated areas (Neistat 2012). The 2015 documentary *Bikes vs. Cars*, by Swedish filmmaker Fredrik Gertten, suggests an incipient worldwide bicycle movement. The film documents the struggles of cyclists in several modern and modernizing global cities; and though acknowledging an uphill struggle for cyclist advocacy, Gertten sees cycling returning as a powerful social movement (2015 conversation with director). Ridley Scott's first short film

Boy and Bicycle (1965) shows the bike as a vehicle for escaping (albeit temporarily) continuance in a dead and draining life course. Tony Scott plays the eponymous “boy,” escaping societally mandated standardized testing in favor of musings by a bleak industrialized sea, and dodging traffic through a thick industrial air. Here one sees illustrated the use of the bicycle as a vehicle, “of novelists and poets,” as writer Christopher Morley put it. Many of these films have been released on YouTube or Netflix, vastly expanding their availability; the potential role such streaming and user-created platforms has in shaping and reflecting culture is immense.

There’s also a great deal of education shared within these new cultural spaces. Internet sites offering user-created content like YouTube often have a wide range of educational opportunities, along with an equally high variability of quality and expertise. For cyclists, this can be an astounding resource, enabling education in everything from routine maintenance such how to swap out inner-tubes, to learning how to build a bicycle out of scratch from bamboo, to the history and state of bicycle advocacy.

Views on the bicycle seem to be improving, as more seem to be willing to envision a continued role for the bicycle within the modern urban landscape, shown by increased infrastructure, media, and academic artifacts related to the bicycle. The trickle of attention may quickly become a flood as the state of knowledge is rapidly changing. The Paris Agreement to limit global temperature was signed by 175 world leaders the day it was opened for signature on Earth Day (April 22) 2016.

The United States³ withdrawal from this agreement pushes the onus of responsibility for climate change ever more on the personal choices of individuals, and every journey is a vote cast for the type of world we create.

³ Nicaragua and Syria also did not sign the Paris agreement, but for different reasons. Nicaragua didn't feel the agreement went far enough, while Syria has been particularly unstable since 2011, well before Paris talks began. Even North Korea agreed to abide by the Paris climate accord.

III. THEORETICAL FRAMEWORK

*I thought of that while riding my bicycle.
~Albert Einstein, in reference to the theory of relativity*

The author wished to study the motivating factors behind social lifestyles prescribing bicycle use above car use within a society dominated by the automobile. Motivation, the motive force to act, has been a somewhat difficult concept for the humanities to pin down, and sociology in particular has done a poor job of engaging the motive factor (Campbell 1996). This difficulty partly lies in the degree of separation of disciplines within the humanities. For instance, whereas the field of psychology has intensely developed its theories on motivation, sociology has lagged behind, yet without a study of motivational factors embracing their entire psychosocial origin, our view of humanity will be necessarily skewed.

Illustrating the difficulty the author had in finding sociological concepts of motivation, there is no entry for motivation in the second edition *Blackwell Dictionary of Sociology* (Johnson 2000), nor is there an index entry in George Ritzer's *Modern Sociological Theory* (2008). According to Colin Campbell (1996: 101) the motive as a concept isn't employed by sociologists, who have instead impoverished the term by equating it only with its 'motive talk' aspect – a justification for actions after the fact. This has become problematic in that both in common usage, as well as in its stricter use in psychology, motivation has always been understood in two ways: (its sociologically understood sense) of a justification for action *after the fact*,

as well as in the sense of a motivating factor – that which sets action in motion *prior to the act's commission* and sustains it (Campbell 1996). These are important distinctions, as the motivating forces at play on individual people have been instrumental in the shape of the society they go on to create. Any impoverishment of the motive concept cripples our subsequent understanding of humanity, rendering our view of society devoid of its full color. Aside from intermittent pleas against the abandonment of the concept (Turner 1987; Campbell 1996; Alsted 2001), there seems to be little in the literature from which to draw a sociological understanding of motive forces. Because of this state of affairs it is necessary to turn to a foundational thinker with the benefit of a broad academic training, and without the burden of conforming to artificially demarcated academic disciplines: specifically Max Weber and his principle of *Verstehen*, roughly translating as ‘interpretive understanding’ (Kalberg 2002:xlvi).

It is sometimes easy to forget that none of the foundational sociological thinkers were trained sociologists; the discipline is a relative infant compared to some of the other humanistic studies. Rather, a great many foundational thinkers came out of a strong liberal arts tradition emphasizing a humanistic synthesis over positivistic specialization (Kalberg 2002; Ritzer 2008). As a result, the grounds upon which their theories sprouted were inherently intellectually broad.

Weber’s concept of *Verstehen* has been highly lauded, as well as frequently misunderstood (Leat 1972), inadequately received (Segre 2014), most discussed (Segady 2014), most puzzling (Herva 1988), and among the least employed (Campbell 1996) of concepts by sociologists. As originally developed *Verstehen*

sought to apprehend the motive force (Herva 1988); the trouble for social scientists lies in the fact that the role of motivation in human behavior often breaches that event horizon through which we must begin to infer rather than observe – accounting for much of the discussion over both the place and applicability of the concept of the motive force, and method of *Verstehen* within sociology. Weber's views of *Verstehen* didn't solely originate with Weber, but sprang out of a contemporary intellectual tradition (Herva 1988). According to Soma Herva (1988:144):

Weber's ideas in the methodology of the social sciences were originally developed by contemporary philosophers in response to the methodological controversy (*Methodenstreit*) in Europe during the late nineteenth century. Therefore, any attempt to understand Weber's methodological writings essentially involves examination of the philosophical writings of Wilhelm Dilthey, Georg Simmel, Heinrich Rickert and Wilhelm Windelband who were close academic friends of Weber.

The concept of *Verstehen*, especially as developed by Dilthey and Simmel, was geared towards an understanding of individual's inner-motives, and stood in marked contrast to positivist currents *en vogue* elsewhere in Europe (Herva 1988:144). These trends of positivism, then popular in England, France, and Italy, were considered mechanistic and inappropriate to the social sciences by Weber and many of his contemporaries, who tended instead to view the study of humanity in terms of its governing spirit (*Geist*) or idea (Herva 1988:145). However, Weber did make the *Verstehen* concept his own, choosing to focus on the *meanings* of action as understood by the actor, rather than relying upon any formulation that relied on what he viewed as a purely psychological approach, which he considered as lacking

in precision (Herva 1988:151). Despite this, the psychological aspect is unavoidable in the study of humanity, as Weber himself considered ascertaining the *psychological motivations* of the populations he chose to study an overarching concern (Weber 2002:55).

The effort to separate sociology as an independent discipline can be seen as part of a reaction to challenges to traditional knowledge and forms of thought; “Weber and his colleagues faced a largely uncritical and naïve form of scientism, which attempted to apply natural science method to social and even psychological behavior” (Segady 2014:355). The uncritical application of the methods and paradigms of natural science into the study of humanity led to views which today seem absurd, such as the idea of thought being a secretion of the mind as bile is of the liver (Segady 2014:355). Naïve scientism was unacceptable to Weber, who saw the methods and subject matter of the social sciences as having operations with no analogues in the natural sciences (Mokrzycki 1971:340). “The key role of *Verstehen* in social research is linked with the specific nature of the subject matter of the social sciences, as *Verstehen* is the only way of obtaining access to other people’s mental states” (Mokrzycki 1971:340).

Weber viewed sociology’s role as a science attempting the interpretive understanding of meanings attached by actors to social action. According to Stephen Kalberg, (2002:xlvi) Weber’s “...entire sociology is driven by a wish to understand how social action, often viewed by observers as irrational, foolish, and strange, becomes plausible and altogether ‘rational’ once its subjective meaningfulness is comprehended.” In doing so, Weber placed high importance

upon the *frame-of-mind* of the actor, including the actor's' *ideal types*, those figures that serve as a model for emulation. In *The Protestant Ethic and the Spirit of Capitalism*, Weber demonstrates this determination to draw attention to the life circumstances and frame of mind of those he studies by looking at their motivations. Again, Weber's handling of these concepts was part of an intellectual current in Germany (Herva 1988).

[Weber's] concern is to understand the meaningfulness of systematic work to this group of people rather than to evaluate or judge it; he seeks to do so by investigating the *motivations* that underlie the rigorous work patterns of these believers. Instead of referring to the unconscious, however, as a disciple of Freud would do, Weber attempts to comprehend how work becomes meaningful by analyzing the beliefs, and the psychological rewards they imply for specific conduct, of an ideal type – or unusually representative figure... (Kalberg 2002:xlix – italics added).

Ideal Types work “as constructed concepts endowed with a degree of consistency seldom found in actual history” (Weber 2002:55); becoming convenient shorthand for description of the larger cultures from which they spring, and a basis for analysis of latent socio-psychological currents. For Weber it is these currents that are most consistently present that form the utility of the Ideal Type. In other words, it is “precisely *because* of the impossibility of drawing sharp boundaries in historical reality” (italics in original Weber 2002:55) that the broad stroke caricature of the Ideal Type works. These *Ideal Types* act as a:

...conceptual construct (*Gedankenbild*) which is neither historical reality nor even the ‘true’ reality... [but is] formed by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly

emphasized viewpoints into a unified analytical construct. (Weber as quoted in Segady 2014:358).

A problem then faced by researchers attempting to follow Weber's methods is the non-formulaic approach that must be adopted; every situation must be thoroughly examined upon its own ground, recalling the 'Pataphysical⁴ science of the particular over statistical reasoning and stock survey mindsets. According to Colin Campbell (1996) the origins of the schism in the sociological understanding of motives can be traced to C. Wright Mills, and later uncritical readings of Mills, which attempted to approach motivational forces from a purely sociological stance of observable interaction (Mills 1940). Drawing upon Weber, Mills' basic project was to find a way of turning an otherwise subjective study of 'why' into a more empirically based observation of 'how' the motive operates, attempted through a study of the *vocabulary of motives*, and without having to invoke psychological concepts and terms (Mills 1940: 906). With Mills' use of *vocabularies* of motive, he advocated a more thoroughly complete *situating* of the *terms* of the motive in the entirety of its social situation (Mills 1940: 913). In other words, Mills called for an equally vigorous understanding of subject matter as Weber's, but focusing on the ability of observable language to reveal the paradigm of a group.

Campbell (1996:102) accuses sociologists of having eventually fallen into the trap of merely studying 'motive talk' rather than pursuing the more vigorous

⁴ 'Pataphysics is a construct of French writer Alfred Jarry (1873-1907) that extends as far beyond metaphysics as metaphysics extends beyond physics. Jarry had many definitions for 'Pataphysics, but namely is the science of the particular, examining the law of exceptions rather than the general (Jarry 1965:192).

compiling of socially situated vocabularies; an “analysis of the integrating, controlling, and specifying function a certain type of speech fulfills in socially situated actions,” that Mills (1940:905) called for. Since then, mainstream sociology has seemed to drift further from acceptance and usage of the motive concept.

UNDERSTANDING CYCLISTS

The sociological difficulty with the motive concept, as well as the need to comprehend the basic existential realities of *way-of-life* cyclists and how they're motivated led to the *Verstehen* concept. As a special class of cyclists was sought in inquiry, it was vital to thoroughly understand the life situations and frames of mind that led to the adoption of a cycling lifestyle – including idealized tropes carried. The method of *Verstehen* appeared to be eminently suited to the illumination of such a relatively understudied group, both for reasons of the study's exploratory nature, as well as to avoid traps of convention or bias that may be falsely followed. A general lack of demographic information on cyclists within the academic literature at the commencement of the project led to the adoption of such a broadly applicable theory as Weber's *Verstehen*. Because a *Verstehen* grounding allows the subject a great degree of latitude to speak for themselves, it was viewed as a good option for what is essentially an exploratory paper. When approaching (sub)cultures, understanding must be based around the perspectives of the (sub)culture itself, taking care to appreciate the meanings generated upon their own terms, and not those of the researcher. Likewise, the reader is encouraged to attempt an understanding of the exposed existence of the bicycle rider, including reactions

towards poor driving habits and practices, as well as imagining how city space is then negotiated. The reader is especially encouraged to experience utility cycling for themselves on any scale, as this is the best method of viscerally understanding what the view from a bicycle is. This awareness of how cyclists may experience and interpret transit differently was vital in recruiting and interviewing the sample population.

The first step in understanding cyclists is the realization that their actions are meaningful. The *choice* to ride a bicycle for utility can be made any number of ways, and often represents a complex constellation of motive forces both positive and negative. A second aspect of cyclists that must be respected by researcher and reader is the fact that their perspectives and experiences of transit are fundamentally different from those of either drivers or pedestrians. Because this difference is so acute, methods and mindsets cultivated through years of conditioning from mass dependence on driving, or the mostly common experience of walking, must be critically reappraised if understanding of cyclist motivation is to be achieved. A third aspect is somewhat tangential depending upon one's view, which is the car culture itself and its impact upon perspectives towards and the feasibility of all other forms of transport – especially those modes that leave people exposed to the brunt of the automotive burden, such as cycling.

It is this aspect of understanding through a different perspective that seems tailor made for a *Verstehen* approach. As way-of-life cycling is neither well documented in American academic literature nor typically practiced in this country, it is vital to maintain an exploratory state of mind, avoiding pitfalls of a perspective

which sees the highway as the only way to build out of the transit morass created by the highways. In primarily explaining motive forces, Weber affords the tools to begin deconstructing understanding from the perspective of those being studied, rather than the god's eye view of the unaffiliated researcher. In order for Weber to deconstruct the development of the 'Spirit of Capitalism' out of the 'Protestant Work Ethic,' he first had to understand the protestant worldview of predestination and the grace of wealth. Thus, by necessity did he have to attune his inquiry specifically to the worldview of his study population.

With the decision to use bicycles for utility, we are dealing somewhat with a process of status and meaning reversed from the primacy of conspicuous consumption and life of designed obsolescence. This understanding is attempted through a realization of the ecological and social environment forming the ground *way-of-life* cyclists must subsequently traverse. The literature review pointed to several avenues along which this understanding of *way-of-life* cyclists can be made richer, namely in providing a fuller picture of the lives of those who depend upon the bicycle in America, as well as what their typical motivations and fears are.

The study sought to explore the frame-of-mind and motivations of way-of-life cycling by seeking frames of reference from the cyclists themselves for a worldview that encourages cycling over and above car use wherever possible. Based upon Weber's notions of *Verstehen*, inquiry attempted to ascertain the "psychological motivations" (Weber 2002:55) of a way of life through an interpretation of its idealized vision of itself, and the forces motivating its practice both positively and negatively.

It is worth noting that the inquiry pointed to the concept of intersectionality as a direction that could prove useful in future cycling research. Especially with the increasingly divisive rhetoric of modern America, the author feels that the exposure of being on a bicycle may hold greater risk for some, which is bound to modify behavior and motivation. First arising in feminist theory, intersectionality reveals the inadequacy of single analytic categories, attempting rather to show “the relationships among multiple dimensions and modalities of social relations and subject formations” (McCall 2005:1771). The difficulty in utilizing intersectionality lies in the complexity that arises from including multiple dimensions of identity and social life (McCall 2005:1772). Because of the complexity of intersectional analysis, its use is beyond the scope of the current work.

IV. RESEARCH QUESTION AND RATIONALE

Bicycling is a big part of the future. It has to be. There's something wrong with a society that drives a car to work out in a gym.
~William Sanford Nye

The author was primarily interested in the frame-of-mind, meanings, and motivations behind *way-of-life* cycling, where way-of-life cycling is understood as *choosing* bicycle travel over and above car travel. In order to accomplish this a Weberian process of *Verstehen* was utilized, attempting to retrieve the meanings, motivations, and frame-of-mind of an idealized vision cyclists had of themselves and their group. With the ensuing threats of anthropogenic climate change, generally sedentary and unhealthy lifestyles, and endemic social anomie, ennui, and alienation all in some way connected to the American way-of-the-car, continuance in such a life course seems profoundly self-destructive. If the bicycle would offer some respite to these problems, then its use must seriously be considered.

Within heavily motorized societies, such as the United States, the decision to go without a car is fairly momentous, and one that has the potential to generate very serious repercussions – and yet some, through choice or necessity, continue to rely upon the bicycle, despite an overall urban design that seems to actively inhibit the usage of any mode other than driving. This study sought to deepen our understanding of cycling culture by presenting some of the positive and negative motive factors towards cycling. To the author's knowledge, there have been no

sociological studies on the motivations or frame-of-mind supporting *way-of-life* cycling.

V. METHODOLOGY

I leave Sisyphus at the foot of the mountain! One always finds one's burden again. But Sisyphus teaches the higher fidelity that negates the gods and raises rocks. He too concludes that all is well. This universe henceforth without a master seems to him neither sterile nor futile. Each atom of that stone, each mineral flake of that night-filled mountain, in itself forms the world. The struggle itself toward the heights is enough to fill a man's heart. One must imagine Sisyphus happy.
~Albert Camus; *The Myth of Sisyphus*

Semi-standardized interviews were the main methodological strategy, resulting in 15 in-depth open-ended interviews conducted with a convenience snowball sample of people engaged in *way-of-life* cycling as their main method of transportation. *Way-of-life* cycling is an amorphous term that in usage (Pelzer 2010) has roughly corresponded to “bicycle culture” without necessarily specifying much about the subcultural practices entailed, but generally also signified the more counter-cultural currents under the banner “bicycle culture” (Beehner 2013). As there existed little demographic data on cyclists at the project’s commencement, and given that the wide range of subcultures that could conceivably claim way-of-life status was inherently broad, the researcher was forced to utilize a convenience sample relying upon a participant’s self-stated status as a way of life cyclist.

The Weberian concept of *Verstehen* was essential in attempting to understand actions from the actor’s point of view. This search for subjective meaning can be contrasted with methods treating actors as objects, with actions created through meaningful interpretation rather than a mechanistic result of environmental influences. Weber’s tools to comprehend these ways of thought are

identification of the *ideal type* and *frame-of-mind* around which idealized precepts of the societal group coalesce. To this end, interview questions sought to identify the perspectives supporting *way-of-life* cycling, as well as the ideas and people that most exemplified cycling to participants, their *ideal types*.

Participants were mostly recruited through requests posted in locations with high likely cyclist traffic (see appendix II), most commonly bicycle shops and grocery stores in central and south Austin. Snowball sampling, also known as chain referral or respondent-driven sampling, was used to expand recruitment (Berg 2009). The snowball sampling technique involves the identification of a primary participant group who can then refer the researcher to additional people that could possibly fit the research profile, and those new recruits then refer others, and so on. This is a good method for expanding the participant pool among otherwise difficult to reach or unknown populations (Berg 2009). Because one of the weak points of this method is the possibility of only recruiting a single social circle in inquiry, use of snowball sampling was limited in order to avoid drawing too much from a particular group.

A problem with the convenience sampling method used was the inability to select for diversity, as limits of time and finances dictated that whoever wanted to be in the study was allowed as long as they claimed to be *way-of-life* cyclists. Demographic data was limited to the collection of age and occupation, with gender and skin tone inferred by the researcher; direct questions about race and gender might have made research participants uncomfortable. Participant occupation was collected to serve as a rough proxy for class and income.

Interviews were conducted between July and October 2016 at locations of the participant's choosing, most commonly a coffee shop or café, and typically took between 45 minutes and an hour and a half. Table 1 shows a list of participants. Gender distribution was nearly equal with eight males and seven females. Average age was around 40, ranging from 20 to 70 years old. An overwhelming majority of participants were white, only two of the participants were of color. Completed interviews were transcribed and the content analyzed and coded based upon thematic quality. The literature had suggested that while a constellation of both positive and negative motivations surrounds the decision to ride a bicycle for utility, they are likely to cluster around identifiable motifs – such as reasons of health, relaxation, environmental awareness, economic or status concerns, and/or social censure (such as a revoked driver's license).

Table 1. Participants
P1 – 24-year-old white male, instructor at a non-profit P2 – 28-year-old white male, instructor at a non-profit P3 – 36-year-old white male, urban designer P4 – 26-year-old white female, barista, tech startup P5 – 20-year-old brown female, restaurant hostess P6 – 35-year-old white male, policy analyst P7 – 53-year-old white male, artist P8 – 24-year-old white female, server, freelance videographer P9 – 38-year-old white male, non-profit executive director P10 – 70-year-old white female, part-time non-profit counselor P11 – 70-year-old white male, retired chef, part-time caterer P12 – 56-year-old white female, IT manager P13 – 25-year-old brown male, car wash employee P14 – 60-year-old white female, City of Austin (retired) P15 – 44-year-old white female, personal home healthcare provider

The principles of active interviewing were be used to compliment the semi-structured interview pattern the interview guide (appendix I) represents (Berg 2009:104). These principles are an extension of Goffman's work on Dramaturgy, and include an awareness of the roles taken in an interview as a joint meaning-making construct (Berg 2009:104). In practice, this meant that conversations often followed flows dictated by the interviewee, exploring territories not necessarily conceived of by the researcher, and enabling a less biased view than would otherwise result from a strict adherence to an interview protocol.

Because cyclists have been a relatively understudied group, analysis had to proceed on the basis of open coding using grounded theory to explore themes appearing in interview transcripts. Grounded theory is based on extensive real world observation rather than abstracted reasoning, with research inductively proceeding from the data (Johnson 2000:137); an "inductive approach begins with the researchers 'immersing' themselves in the... various messages in order to identify the dimensions or *themes* that seem meaningful" (Berg 2009:347 – italics in original). Thematic analysis based upon some form of intense observation is one of the most useful units to analyze (Berg 2009:348). According to A. L. Strauss, one of the originators of grounded theory (quoted in Berg 2009:346):

The grounded theory approach has a lot going for it. Data get well molded to the codes that represent them, and we get more of a code-in-use flavor than the generic code-for-many-uses generated by prefabricated start lists... This means more overall coding time, and longer uncertainty about the coherence of the coding frame.

Strauss advocated beginning analyzing data with what he called *open coding*, based on a desire for a broad analytical base through which a constant identification of relevant themes arising from the data can be made. In essence, the guidelines Strauss gives for performing open coding involve being receptive to where the data lead, avoiding bias, and constantly interrogating it for content and meaning. Extensive notes and time spent with data help the researcher gain a necessary familiarity with the subject.

In the current study this process of familiarization began immediately after the interview, when audio and video files of interviews were reviewed, transferred, and securely stored. This review allowed for extensive note taking that was collated with notes taken during interviews. Transcription was interspersed during the interview period, before being intensely annotated. These notes were useful in helping to identify themes and key words, which were further separately listed and grouped into motifs, such as *health, environment, fear*, and so on.

VI. FINDINGS

Bicycling...is the nearest approximation I know to the flight of birds. The airplane simply carries a man on its back like an obedient Pegasus; it gives him no wings of his own. There are movements on a bicycle corresponding to almost all the variations in the flight of the larger birds. Plunging free downhill is like a hawk stooping. On the level stretches you may pedal with a steady rhythm like a heron flapping; or you may, like an accipitrine hawk, alternate rapid pedaling with gliding. If you want to test the force and direction of the wind, there is no better way than to circle, banked inward, like a turkey vulture. When you have the wind against you, headway is best made by yawing or wavering, like a crow flying upwind. I have climbed a steep hill by circling or spiraling, rising each time on the upturn with the momentum of the downturn, like any soaring bird. I have shot in and out of stalled traffic like a goshawk through the woods.

~Louis J Halle, Birdwatcher

Bicyclists are not a monolithic group, their experiences, motivations, and abilities all vary widely; nor is a single individual necessarily consistent along any of these metrics. Additionally, the mechanical divergence of bicycles has led to great differences between their various styles and intended purposes, which in turn influences the manner in which people use and experience cycling. Those who bicycle are not confined to a single motivation or reason to bicycle, and at least in the current sample broadly identified the same motive tropes – themes such as *health*, the *environment*, and *fun*. Where they differed was in how those tropes clustered, forming unique constellations or personalities around favored motive groupings. There is no “generic” bicyclist. By not prejudicing a certain style or motive cluster over another it was possible to gather a cross section of various cycling societies; and incomplete as it may be, it is hoped to be a step in recognizing several strands of cyclist types.

For the purposes of this paper both positive and negative motivations towards cycling were gathered, meaning both reasons and motivations for and against riding a bicycle for utility. In this sense, negative motivations are those factors that give even experienced cyclists pause when considering whether or not to ride a bicycle. Though utility cycling and *way-of-life* cycling shouldn't be seen as synonymous, at least within the sample population there was enough overlap to consider them closely related. The idea of multiple benefits and costs must also be embraced, as one motive or line of reasoning is not necessarily mutually exclusive with another. A good example might be a bicycle ride to work – though one is getting practical use and transport, one may also be cognizant of the health benefits to cycling, while simultaneously being sensitive to the low environmental impact (measured ecologically, socially, and in terms of infrastructural wear and tear), all the while finding enjoyment in the process.

Because of so many interrelated reasons it can be difficult to identify clean typological divisions between the various cycling tribes. Additionally, barring a large-scale in-depth survey of the various cycling cultures in a particular time and space, it's difficult to say how well the motive themes identified in the current sample compare to those of both the larger cycling community and the wider population in general. That being said, the fact that the current sample identified the same broad themes is a good sign that they are relevant for future research.

The findings are presented broadly categorized into two sections corresponding to positive and negative motive factors, although it is important to remember that this division is only done for the sake of organization. *In situ* the

importance attached to various motive forces was personal and unique; each had their own reasons and way of riding. This idiosyncrasy of bicycling will be discussed more fully in the conclusions section.

POSITIVE MOTIVE FORCES

The current sample broadly identified five overarching positive motive families. Presented in no particular order they are *Environment, Health, Economy, Community, and Fun* – with fun being both the most commonly identified motive, as well as most personal. Since *fun* was such an interpretable group, its study will come at the end of the section.

Environment

The lack of ecological impact of the bicycle was widely recognized by the sample population, but was also the most variable as to its considered importance; while it was a secondary benefit for some, the environmental aspect of cycling was of key importance for others. The bicycle was generally viewed as a greener alternative, especially in comparison to private automobile use; however, this was often considered an incidental benefit.

“I imagine there are people who do it because they think it’s greener, which it is, but I’m not really sure if there’s anyone who’s like, I’m a great burden for the environment, I will be in cycling. Like it’s a great benefit, but I don’t know if that’s enough motivation for people,” 26-year-old female, barista, tech startup.

While this incidental environmentalism was common for many, those who first approached cycling specifically for its environmental aspect, or for whom it held especial import, were also well represented. Though not necessarily synonymous with environmentalism, a critical attitude towards cars was expressed by many cyclists in the sample, with critiques often taking on a green hue.

“I just did the [Texas] Master Naturalist program, and my whole point was to ride my bike to every [class]... So I was the first graduate of the capital area master naturalists to ride their bike, there’s like ten classes or something and I rode my bike to eight of them... I don’t know if I would do it again because one of them was at West Cave... And I was fine, I rode out super early and I was fine, but coming back I got run off the road, and this was like, you know you get that adrenaline, you just get so mad, but it also made the point that all these state parks that we go to are not bicycle accessible... I’ve ridden a lot and I feel comfortable riding places... no, I would never do that again, not knowing, and I was new to the area so I didn’t know, it was like oh god that was awful. The point was too is like here we are all master naturalists, we’re studying recharge features and the protection of water quality, and they all drove their single occupancy vehicles over recharge features to go see a recharge feature. So they’re all dripping, you know every car drips a little bit of stuff and wears off oil and break pads, and all of that goes into the water that we’re drinking now... It’s just that mentality, like even with that group right, that self-selected group of people that are going out of the way to learn how to better volunteer to protect the natural environment are all driving their own single occupancy vehicles and wouldn’t even dare think about riding their bikes,” 35-year-old male, policy analyst.

Attitude and access towards cars and the car culture varied greatly. A good portion of the sample population owned cars and drove in varying amounts, while those coming to cycling specifically as a rejection of automobile dependent lifestyles tended to forgo automobile ownership. Though making up a small portion of the current sample, those who came to cycling purely out of necessity seemed to care the least about the environmental impact of their decision – it is assumed that if this

group had access to a car their cycling rates would plummet accordingly, “I know if I get a car I’m not going to keep on cycling,” 20-year-old female, restaurant hostess.

Key factors here are how one came to cycling; the combination of volition and necessity that colored the decision, their general ecological awareness and concern, and whether the bicycle has the ability to fulfill their life needs. Much like Natalia Ruiz-Junco, who found some Spanish environmentalists used the bicycle, “to invoke prevalent environmental values and a special connection with the environment” (Ruiz-Junco 2011:721); many in the sample population connected their cycling with their conservationist identity. However, this feeling was often tempered by a sense of environmentalism being of secondary importance, with many only briefly touching upon environmental concerns, or described ecological benefits in secondary terms. This range of identity is consistent with the spectrum of groups identified in the literature review; from Bikes-not-Bombs to the most elite racing teams, the bicycle is as accepting as the sea. However, the bicycle can also be at least partly responsible for increasing and evolving ecological awareness.

“I think in those days we weren’t thinking so much about polluting the planet, and Austin was again, when I first got here Austin had [a small population], now it has a million people and that changes a lot of things, and your worldview changes, my worldview changed. I became a lot more ecologically conscious about things, things that you never thought twice about, just because you get smarter and look around and things are happening. Austin’s growing so fast that it’s challenging the ability of the water resources, and traffic, and all the stuff that happens when you grow as fast and consistently as Austin has,” 70-year-old male, retired chef, part-time caterer

“I think the environmental incentive [to ride a bike] has definitely become more apparent to me as I’ve tuned in more to the gravity of the state of the planet and where we’re at,” 24-year-old female, restaurant server, freelance videographer.

Health

Health is another widely recognized benefit that was often considered somewhat incidental in the current study. While not denying the possibility of bicycling predominantly for exercise or physical fitness, the current sample population tended to downplay the extent to which they relied on the bicycle for good conditioning and health, as well as other benefits accrued.

“And the health, I mean... that’s not the reason I bike just to be healthy, but it sure is a nice side benefit. But uh, I guess I almost don’t need to exercise. I took an exercise class... at UT Fit, and I hadn’t done it two years, and when I came back and they did the full body DXA scan I had the same muscle mass – so it must be from just normal activity or biking or gardening or just how I live,” 70-year-old female, retired part-time non-profit counselor.

“I’m super healthy, I took part in a study UT had several years ago. One of my friends and I did, and it was a bike and cardiovascular disease study, but it turns out I have a really high VO2 max,” 60-year-old female, retired, the City of Austin.

“Fitness as well, I don’t think it does a ton for me with the current, it’s like thirty miles a week versus, you know, that’s what I could do in one ride if I was going for an exercise ride. So it’s not that much, but it’s better than nothing. I was able to go do a duathlon with some professional triathletes, and I’m a really good runner, but so it was run bike run, and the cycling was only like three miles, but it was kind of a crit course with a lot of turns and I was able to hold my own. I was really proud of myself, and the only cycling I was doing was commuting... they were all really impressed, so I was like ok, maybe my bike commuting does more than I think it does,” 26-year-old female, barista, tech startup.

While the results of bicycling on health were often conveyed, especially amongst the elder spectrum of the population, who tended to have had more frequent health tracking (such as measuring blood oxygen saturation or muscle density), none of the current sample claimed to bicycle predominantly for health reasons; however, when viewed as a tool of total well-being, the bicycle was widely considered to be beneficial, if not essential, to the good health of the sample population. This was considered in different ways, from an appreciation of the aesthetic, to the maintenance of mental or spiritual sanity, including many for whom cycling was considered a somewhat meditative experience.

“And then you’re getting the health benefit of it too. I feel good that I know that I’ve ridden so many miles in a week, I know I didn’t just sit on my ass... Frame of mind, like I said [being] situationally aware would be number one, and then basically kind of like almost a meditative state where I feel like stress releasing out of me... riding a bike is like meditation in a lot of ways, it’s awesome, but you’ve got to be situationally aware too,” 53-year-old male, artist.

“[Bicycling] keeps me healthy. I never work out so, I just kind of eat right and do healthy cardio, that works for me, and I think it helps with mental sanity, you know. I think our bodies are designed to exercise normally, and so if we’re not exercising then it could really drain your brain I think. There’s mental health and there’s physical health and they’re kind of tied together. So if I’m not exercising my brain with studying or reading or something I’m going to suffer, if I’m not exercising my body I’m going to suffer mentally, they’re kind of tied,” 24-year-old male, instructor.

Riding a bicycle is an inherently different experience than riding in a car, and its physical component seems to affect its aesthetic component in a myriad of interacting ways. The aesthetic sense alone can seem to have a beneficial effect on health. In one of the better-known psychosomatic experiments, which was

referenced by a participant during an interview, Ulrich (1984) found surgery patients generally recovered better if they had greater access to a more natural view, determined to be more aesthetic. In addition to a design open to the elements and thus with unimpeded view, cycling for a length of time tends to release endorphins, which can have a marked effect on perception. In practice this can be a potent combination since it is invariably linked to instances embedded in time and space, the end result is a powerful connection to places and activities such as cycling.

“I’m glad to be on a bike, I’m positive, I mean just the endorphins that get generated when you do physical activity, breathing the air, you know, the sensory experience. Generally I’m in a good frame-of-mind, except when I have a bad experience or somebody yells at me or goes by me too close, but that usually goes away, I mean right after. So Pleasant Valley [Rd.] just south of Longhorn Dam there’s a tower there, that’s the fire department facility where I go and I work out in the morning with some of my colleagues... So that piece from the tower to the bridge is like the absolute worst thing, but I wait until there’s no traffic, I use my [electric] engine, and I just get off that bridge as soon as possible. But I’m on that bridge every morning in the dawn when the sun’s coming up; I mean shit, that’s so great, what a gift you know. And I ride across that bridge, and I love the water, I’m a canoe-er and I love the water, and so I’m looking at the river, and I’m looking at the mist, I’m looking at whatever the sunrise looks like this morning, and I’m looking at all the birds... So I ride slow, I just look at the birds, I look at the patterns on the water, are they releasing [water from the dam], has there been rain. Sometimes there’s people fishing, there’s a homeless camp, there’s the guy out there with his cats. I mean, so even though that Pleasant Valley [Rd.] piece is kind of tense, and I’m like I just want to get off this road as quickly as possible, then I’m out seeing this beautiful sight that the people in the cars completely miss. So that’s a good example of how it just puts me. I see the changes in the seasons, you know the crunch of my wheels going across the leaves in the fall, that’s a lovely experience; positive with a capital P, haha,” 56-year-old female, IT Manager.

Health was shown to be an important factor in decisions of whether and how to bicycle; but in the sample population at least, it was often viewed as more of a side benefit rather than main motivation. However, whether or not health is a conscious benefit of riding a bicycle is less important than the benefit itself. Of the many reasons people have to ride a bicycle, the benefit is nearly unavoidable, with a few important caveats. Other than direct impact from an automobile or an accidental crash, the greatest threats to cyclists are environmental, such as air pollution, extreme weather, or over-exposure. Especially in some developing cities air pollution is so prevalent that it quickly negates any health benefit that would otherwise be received (Tainio et al. 2016). A cautionary awareness seemed widespread as a majority seemed to take precautions either through route choice or the timing of their rides. However, this cautionary approach had a learning curve that was sometimes steep, as heat incidents, equipment failures, and taking the wrong routes at the wrong times were all common beginning mistakes.

Economy

The economic impetus to ride a bicycle is as varied as any other aspect, and given how broad a topic economics is, this section will likewise attempt a wide reading of economy. The most obvious approach to the economics of cycling looks at the cost/benefit analysis of bicycling in comparison to other available options – mainly personal automobile or public transportation. The majority of participants regularly employed both bicycles and private automobiles as they saw fit, maintaining ownership of both. While this allowed options to travel, it didn't have

much overall effect on finances, and tended to not be emphasized. When the financial burdens of owning an automobile were absent, especially by choice, the economic potential of the bicycle increased in significance.

“I didn’t have a car between the ages of twenty-six and, maybe thirty-three, thirty-four, so that was a conscious choice to be a full-time bike commuter. I’d say it’s something that gives me pleasure, but also has economic reasons for saving money, you know. If you aren’t spending money on gas and on insurance and on maintenance, that’s money you can use to travel, so it’s just kind of a prioritization, and a car was a pretty low priority,” 38-year-old male, non-profit director.

“If I bought a car I would have had, you know as a teenager, right, I would have had to have worked a lot more. I would have had, my parents would have had all these restrictions, but on a bicycle it was like nope, I own it outright and I’ll, you know, I ride my bike where I like, and it’s always been that way going forward. And because I didn’t have a car it makes everything so much easier,” 35-year-old male, policy analyst.

“The number one benefit has been that I was able to retire early because of the money I saved by not owning a car, that’s a lot of money. I don’t know cars nowadays cost what, fourteen thousand dollars? That’s how much my parent’s house cost, and there’s no way I could have ever spent, would have ever spent that money. So it’s a huge, huge money saving deal, and it’s brought me so much pleasure,” 60-year-old female, retired City of Austin.

The economic consideration of the bicycle extends beyond personal tabulations of dollars and cents. Sometimes for instance, the economic factor is interpreted through the medium of time, in which case cycling is encouraged as being a convenient travel option for urbanites. A number of participants lived within the denser urban core of Austin; however taken as a whole, only a relatively small area can be said to be properly “urban”. Instead, like many automobilized cities in the United States, the majority of the population lives in sprawling

suburban housing developments covering vast distances – a process variously encouraged by government housing and highway policies, as well as the cultural myth of suburban idyll. In contrast, features that make denser, older areas less conducive to car travel typically enable a greater degree of comfort and safety while cycling .

“So living downtown it’s easier to get around, like I love not having to worry about parking, it’s, I think it’s faster,” 26-year-old female, barista and tech startup.

“It’s the convenience, I think convenience is a big factor. I mean it’s, ok well the convenience of parking and going exactly when and where you need to go, you can usually get a parking place right by the front door, which is just, I love that. If you take a car you’ve got to look for parking, you’ve got to pay for parking, it’s a half-hour away from where you want to be, it’s a pain in the butt... but I have to admit it really is the convenience. It’s just the efficiency of it, it’s just the most efficient, the rest of the world had that figured out a long time ago, they knew how to get there,” 70-year-old female, part-time non-profit counselor.

A small section of the current sample population lived both outside the urban core, and maintained little to no access to a private automobile; their understanding of bicycle travel through suburbia was fundamentally different. The element of choice becomes an important differentiator, as bicycling through necessity is not necessarily associated with the same enthusiastic overtones as cycling through preference. However this is not to say that cyclists of necessity don’t find proprioceptive or other benefits from riding, but that their decision to bicycle is often heavily colored by economic considerations.

"I started cycling two months ago, really like actually getting into it. Yeah, I didn't know I would get to a place and just be dripping in sweat, and that I'd have to change absolutely everything because of that... I didn't want to be taking the bus because it was so annoying and so inconvenient, but I didn't have the money to buy a car, or lease a car whatever it was, and I definitely didn't want to deal with the whole car payment thing, and the insurance, and parking places... So my other best option was a bike, and it wasn't going to be nearly as expensive as a car... At first it was just kind of like a for now thing, and it still is because I eventually want to get a car, but I've become more comfortable with it to the point where I can hold off longer on the car," 20-year-old female, restaurant hostess.

"It takes a toll on the body, you know the body and like I guess inhalation from the fumes of the cars and trucks and shit like that... I didn't start cycling until I lost my vehicle... When I had my truck I was given a bike, and I thought it was cool because I had never ridden a road bike, I didn't even know what the hell a road bike was, and I was like hell yeah. So I started riding around... I liked it, but I didn't think it was going to be something to where I had to depend on it in my future. And then it turns out boom I lose my truck, and now it's my main thing you know... I guess I wouldn't say I have to ride a bike, because there's always public transportation... but I don't know, I'm not going to spend money when I'm perfectly capable, perfectly able to either walk or ride a bike," 25-year-old male, car wash employee.

Finally, the bicycle was also invoked in the reading of larger economic scales of infrastructure and societal practices, an invocation that had a large element of carbon consciousness and environmental awareness. Yet, because this was mostly directed at the infrastructural status quo, most comments in this regard had a decidedly negative tone, which says more about negative encounters faced than the large scale economic potential of cycling. This spirit is the same that drove groups like the Dutch *Provo*, *Situationalist International*, and *Critical Mass* in their respective protests against what is essentially the same economic system of mass consumer capitalism embodied in the automobile.

Community

Although cyclists are not a single group, they do share some characteristics. High among them seems to be a desire to form societies and communities around or incorporating bicycling; these social groups take on many forms, and exhibit a wide range of cohesiveness. Without being completely deterministic, it's generally the case that the larger the group the more organization went into its creation and the more defined it subsequently becomes. At one end are easily formed and broken dyads, tending toward ephemerality and spontaneity. Larger groups become more defined around purpose and organized through scheduling and more intricate planning, often establishing and sustaining a greater cultural awareness.

Table 2. Group Possibilities	
High Numbers, High Cohesion	High Numbers, Low Cohesion
Low Numbers, High Cohesion	Low Numbers, Low Cohesion

Additionally the extent of social interaction and cohesion of groups can vary widely, regardless of group size. The phenomenon of open mass group rides, such as the Thursday Night Social Ride in Austin, and a short conversation between two

cyclists at a red light who are strangers to each other both exhibit a low social cohesion; in neither case do the individuals have to know or interact with each other outside of the scenario. The opposite high-cohesion situation can also be represented at different scales, with organized mass rides often taking the form of race or club pelotons with intricate rule sets or equipment requirements; while a small scale example can simply be two coworkers who cycle to work together. While some small groups are established relationships, others don't contain substance outside the encounter. Groups can thus be roughly organized based on their size and level of social cohesion, with larger groups of greater cohesion generally also being those more defined and having a greater impact upon the identities of its members.

High number, high cohesion groups, such as racing cyclists, bicycling clubs, or other bicycling organizations, are typically also the most identifiable. Such groups are often formally incorporated, and unified in purpose and culture. Within the sample population, several participants had past experience in competitive cultures such as racing, while others pursued their cycling affinity through other forms of advocacy.

"Even before I was a bike commuter I would definitely cycle for exercise primarily, and that was really fun, and socializing like racing, like mountain bike camp weekends, so fun... I think another thing probably that was really instrumental actually was not just riding with [my friend] but doing group rides... I would ride with groups, I was like well there's no way that car isn't going to see us, hopefully they don't steer into us and knock out thirty of us. But I felt a lot more confident with the groups, and they teach you things," 26-year-old female, barista, tech startup.

“I mean the cyclists I ride with, you know between the guys and gals at [the cycling non-profit], they’re all very professional cyclists, like they signal every time, they check corners, they give cars three feet, they’re always in the lane on the right side in case people want to pass, you know. They’re doing all the right things all the time because it’s drilled into us, that we have to because if we’re not doing it then the kids behind us aren’t going to do it, um so I would say that that group is a lot more professional and strict,” 28-year-old male, instructor.

“Within cycling as a whole there are different groups as to why people ride a bike, and some of them are very strong and well defined. Like the athletic cyclists, who probably compete and measure and metric their riding,” 36-year-old male, urban designer.

High numbers do not always denote a high level of cohesion though, as some of the biggest gatherings of cyclists occur amongst mostly strangers. Austin’s ‘Thursday Night Social Ride’ regularly attracts large crowds, and much like Critical Mass, apart from a shifting core of organizers most participate informally and sporadically. These groups can also be taken at a more abstract level, in which case members may recognize themselves and others as sharing an extended community albeit with limited interaction, such as in the community of commuters.

“I’ve also been on like social rides, and that’s like, that’s chaos, that’s like the polar opposite [to the more “professional” cyclists worked with]. So everyone’s just like no hands on the bike, music going, blaring, lights everywhere, people in and out of the lane, you know. I kind of just sit in the back, white knuckled like oh god, how’s this working? But it’s a lot of fun though, so you keep doing it, but I would say that’s a more social crowd that just rides to a place, drinks a couple beers, rides back and hangs out, talks, music, it’s a lot more social and fun,” 28-year-old male, instructor.

“... But then you have the broadest and least well defined [cycling community] is the people in the middle, who there’s going to be people who are doing it for health reasons, there are going to be people doing it because they want their kids to ride bikes, and so you have that sort of, it’s this

slightly mushy set in the middle, but who do have a general feeling of being within the cycling community,” 36-year-old, urban designer.

The example of commuters can also illustrate low number, low cohesion groups. Low cohesion groups can share a sort of camaraderie amongst strangers. Pelzer (2010:7) in his comparative look at US and Dutch cycling cultures had discussed this camaraderie in the context of the intensity of experiencing cars from a bicycle’s perspective. Thus fear from negotiating the American built environment by bicycle also leads to social bonding over shared experiences and forged identities, leading to a distinguishable group mentality. Though whether and how much this camaraderie extends beyond simple acknowledgement is built partly on chance and temperament, although it is fair to say this group is probably the broadest and most transmutable.

“And then there’s like the commuter community, who’s just like head down, I gotta get where I’m going kind of people, who are typically pretty good at being aware of other people. I wouldn’t say that the commuters I’ve seen are very like, or letting you know what’s on the ground or whatever, they’re just very focused on getting to where they’re going to go,” 28-year-old male, instructor.

“I think there’s an aspect to cycling where you have a community which is built around it, and quite frequently in a city the size of Austin you can be cycling along the street and, even if you don’t know the person that you ride up to a stop sign next to, there is a certain camaraderie or feeling of mutual interest, and you might exchange greetings or hellos, or there’s something which is just an inherent friendliness to it,” 36-year-old male, urban designer.

Some of these chance encounters may even become more substantial. These low number, high cohesion groups are among the most common, with couples, co-workers, friends, and family members often cycling together. Often these groups are instrumental in forming a bicycling identity and practices, with several respondents relating their development through such circles.

“Sophomore year I rode, I lived... off... a kind of highway, so there was a good shoulder, but I think when you got closer into campus the shoulder went away and it was just like three lanes on either side. And that was when my roommate, who wasn’t really that much of a cyclist but somehow was more comfortable on the road, I remember riding with her into school, and being like... don’t you think we should get on the sidewalk? And she’s like no... it’ll be fine, and I was like really scared, but I guess I wasn’t scared enough to change my behavior, I just decided to follow her,” 26-year-old female, barista, tech startup.

“So when I first moved to Austin, which was about three and a half years ago, I noticed it was very difficult to walk in the city, and I immediately joined and became a member of the Pedestrian Advisory Council to work on helping the city improve its pedestrian infrastructure. And so for the first year I belligerently walked everywhere in the hundred and ten degree heat, and I would walk to people’s houses and they’d be like, whoa man you look really hot, and I was like yeah it’s because it took me an hour and ten minutes to get here on foot walking across the I-35 bridge, that’s not really a pleasant environment for a pedestrian. And then at that exact point in time I started meeting some people from the city of Austin who were working in the planning program... who were currently designing bike infrastructure in Austin, and one of them lent me a bike for two days and we went on a bike, and that was it, like night and day transformation. I was like oh, I get it, I should have a bike, and so from that moment on, I mean I think I went out and bought a bike the next day... Just in general [starting to ride a bicycle was] really great, and I would put that down to the fact that I was introduced to it not on my own, like I said I was lent a bicycle by a newish group of friends, and then they were like, oh come ride with us, and so we did. And so it opened up a completely different understanding of how east Austin works and how you get around, and what’s in your sphere of, kind of catchment of easily getting to a bar or someone’s house,” 36-year-old male, urban designer.

Of course in practice such clean group demarcations are seldom seen; in the continuing lived experiences of the evolving cyclist these groups very much influence and bleed into one another. Many of the participants seemed to view bicycles as not only imbued with multiple purposes and meanings, but able to shift between them. This kaleidoscopic shifting of meaning and purpose could even be seen in group dynamics.

“People ride bikes for different reasons, [but] they have things in common and there’s overlap... There are people who commute, I don’t know if anyone commutes just, like if they only commute, they probably have something else that they like about it that makes them do it... So [riding with a group] helped me, probably a combination of that, of riding with [friends], kind of getting over my fears solo, and then with the group teaching me just kind of rules of the road,” 26-year-old female, barista, tech startup.

“There’s something which is just an inherent friendliness to [cycling and greeting strangers], but then there’s equally the fact that if you meet someone you know and they cycle along with you, it’s not limited by any number. Which means that me and my friends will ride around in groups of two, which will become four, which will become six, and then depending on just if you’re on a specific ride it might become 200, and so there is this, there’s an unbounded social nature to riding that you can achieve,” 36-year-old male, urban designer.

Another way to establish the cohesion of groups is the extent to which a role model or ideal type is identified. In the sample, cyclists who identified an ideal type typically also held a stronger sense of belonging to a group or institution. The interview questions dealing with ideal type were interesting in that many found the question to be confusing or nonsensical, emphasizing the diversity of cycling groups and minimization of perquisites to bicycling. A few however did identify ideal type individuals, suggesting the presence of a high cohesive social group.

“I would think someone like [those at the cycling nonprofit]... those people who they’re actively engaged in not only the community around Austin about biking, but you know, they go to board meetings, they talk to people who make decisions from TXDOT, they’re trying to get people invested in biking infrastructure, they’re talking to parents... So maybe it brings a little bit more awareness to the community, and little stuff like that goes a long way, it’s just like, that’s what exemplifies, like that kind of thinking exemplifies the best biker, in my opinion anyways,” 28-year-old male, instructor.

“There was a guy in college who was the advisor for the cycling club at Baylor, he was a philosophy professor, and he just lived and breathed cycling. I don’t even know how he got any work done because he was so into cycling. He would, his whole family was into it... and they travel around the country for [cycling competitions], they have bikes hanging up in their living room. He was one of the first people who would, well... he said it’s mountain bike season, so you should just come out and camp and ride with us at this mountain bike race... Anyway, so they were so passionate about it, and they wanted to share it, and they would just overcome all the excuses that I tried to give him. He was like yeah but don’t worry about it, just do this instead... like just bring yourself. I was like ok, somebody that was that enthusiastic about it, I wouldn’t even say that’s typical, that’s an exemplary one,” 26-year-old female, barista, tech startup.

Cycling communities in concept and practice are diverse constructs, which the current study has tried to go some way towards revealing. Future study into cyclists should be aware of this diversity and concern itself with identifying features of these cycling communities that may be pertinent, including how this diversity may skew results if not factored in. Additionally, it may be beneficial for future studies to be specific in exactly what kind of cycling community is being sought or studied. It is important to note that while not everyone held strong political beliefs about the bicycle, those that did tended to show a much greater passion for bicycling, which in turn tended to lead to longer, richer interviews.

Fun

The most commonly invoked reason for riding a bike was simply that it was enjoyable and fun to ride. This had many variations, described as feeling enjoyment, joy, pleasure, and simply as feeling good or great (see Table 15). This assessment of bicycling as pleasurable movement was perhaps the most frequently cited amongst participants, calling attention to the physical act and feeling of riding a bicycle itself. This makes bicycling somewhat unique amongst transit choices in an era where the daily commute has become an increasing source of ire.

"I bike because it is, I would say number one it's fun," 26-year-old female barista/tech startup.

"If I get to ride my bike there I know I'll be happy, and by far that's the reason I ride the most," 35-year-old male, policy analyst for the State of Texas.

"Ah, it feels so good being on a bike, I don't know, it feels so good, I just feel, even if you're sweating hard and everything it just feels so good." 53-year-old male artist.

"...So I fell in love with just riding that bike around... I wanted to ride a bike anyway, I wasn't forced into it," 24-year-old female, restaurant server, freelance videographer.

"That's just what my, you know my friends and I rode bikes all the time... part of it is just because we liked riding bikes, it was fun," 38-year-old male non-profit executive director.

"I've been on a bike all my life, so it's very much a part of how I like to move, and do, and exercise, it feels good and I enjoy it," 70-year-old female, part-time non-profit counselor.

"I'm not real hard-core about it, I just, I think it's fun," 70-year-old male, retired chief.

"I love, love, love that bike... What's [riding a bike] like? It makes me smile just thinking about it, it's freeing," 56-year-old female, IT manager.

“What bicycling means to me? It means a lot, just riding with a bunch of people, that’s always fun you know,” 25-year-old male, car wash employee.

“It’s brought a lot of pleasure in my life,” 60-year-old female, City of Austin, retired.

“More fun, fun’s the main issue, it’s just more fun to ride than sit in traffic,” 24-year-old male instructor.

“And so we’d ride around the park, and just ride around State Street [in St. Louis], and it was fun, it was super fun, and then I would ride, and you could take the bus, I could take my bike onto public transportation if I wanted to go across town, like say to the campus, and so it was fun, it got me where I was going quicker and I just liked the way it felt to ride my bike,” 44-year-old female, home healthcare provider.

It is when asked to go further into the specifics of their enjoyment of bicycling that the need for a nuanced approach becomes apparent. A number of the elements of bicycling can be interpreted as “fun,” many of which seem to entail a sensory physicality. Sun warmed body flying through space, careening down curved inclines, the cool wind rippling as the scenic world of time and space rushes past; this heavy emphasis on bodily sense is often not easily translated into words, and when done remains a poor fit for the experiences described. This descriptive difficulty seemed to come up frequently, speaking to a need for better scrutiny of proprioceptivity and body sense in the social studies; especially when considering how much of life’s action springs directly from this wordless experiential core.

“It’s like flying! Right, I mean I think Klein had the ad that... if you ride for long enough, the bike just goes away and you’re just flying, and I absolutely believe that. It just feels, I mean it’s so, there’s so, like you have a quarter-horse power engine, and you can rip along at twenty miles an hour. I run a lot too, but running is nowhere near as much fun as bicycling. I love when I’m riding with other people, it’s, I have no idea what it’s like to fly in a fighter

jet or like fly in formation, but that's what it feels like. And I've done a little bit of racing, and when you have the whole pack with you, and you're just this whirl of spinning spokes and bodies, you know you can feel it, you get in the, you're catching the draft and this group just builds and the draft gets better and better, and you just, um, it's just. I mean my hands are shaking it's so, it just feels so good, um, I don't know it's, it connects, it just, that connection of that multiplier you know. The leverage with cogs, it's like really simple machines, it's like wow look, I can make that wheel spin and boof, off you go, yeah so that's what it feels like, it feels like flying," 35-year-old male, policy analyst.

"It's several, several things, first of all it's a very, um, it's the very essence of being alive, on a bike. The very essence of it, because either I'm going somewhere or I'm riding for pleasure with a group of people, in which case if I'm riding for pleasure with a group of people it's a very social pack kind of thing. There's nothing that compares to riding with a group of people in terms of feeling, I think it triggers some kind of primal animal experience. And then when I'm riding by myself, going to the grocery store or wherever, my body is moving, the blood in my body is moving, my muscles are moving, the wind is blowing at me. I'm up high on my bike, I notice that because I'm a short person, so I feel like I'm in space, I feel like I'm not enclosed in anything, that I'm in space and I'm moving through space and my feet aren't on the ground. It's a physically exhilarating experience," 60-year-old female, City of Austin, retired.

Beyond the immediately physical are the interpretations of the enjoyable.

Fun is a broad category because of its inherent idiosyncrasy and lack of mutual exclusiveness; it is common to find many aspects concurrently enjoyable, making *fun* a concept difficult to pin down into a simple typology. As a category *fun* ends up touching upon many other aspects of cycling, and has as many interpretations as personal approaches.

Despite this, certain tendencies and patterns do seem to emerge, generally clustering around a preferred motive structure. For example, those whose motives clustered more around the racing or fitness aspects tended to value and join communities nurturing that competitive or instructional spirit, while those who

approach cycling as more of a panacea to social ills and ennui tend to have a more activist oriented mindset. A complete inventory of the different facets of the meaning of *fun* in cycling is unfortunately beyond the scope of the current work, however two commonly cited branches for bicycling's enjoy-ability are worth mentioning. The first is grouped by an essence of rugged individualism and self-sufficiency; terms like freedom, exploration, and adventure were used frequently to describe daily experiences, all attesting to the mundane made remarkable through bicycling. The oft-cited self-satisfied feeling arising from completing the odd or difficult is also part of this family.

"There's plenty of benefits, the biggest benefit is the freedom to explore, like I have a car, I can go to California or somewhere if I want to, but it's just the freedom to explore the city without, without feeling like everyone else. There's far fewer cyclists than there are cars, so you kind of feel like you're, even though the city's mapped out and we know everything about the city, it's still really fun to explore the city in a new way, in a new vehicle than before, because you just feel the hills better, you go down dark alleys, you know, you can just go through neighborhoods you've never been to. Like, you're not going to just drive through East Austin unless you're going somewhere there, or going through there, so it's really fun to find new neighborhoods and new restaurants and all the stuff like that, so adventure's the number one thing," 24-year-old male, instructor.

"You know that there are certain trails I discovered... so that's my new route. So every time you do something like this you discover something... and so I find great delight in finding those secret ways to get around town... So it's my sense of curiosity, adventure, and keeping it fun, those are what work for me, and I get exercise to boot and I'm out in the fresh air," 70-year-old male, retired chef, part time caterer.

"It means fun, it means exploration, it means freedom, I think it's, I don't know, I respect myself more because I'm on a bike, and I think it's a positive thing," 56-year-old female, IT manager.

“[Riding a bike] feels great. When you get to a place and you’re all sweaty and they’re like, whoa you rode your bike?! And I’m like yeah, and that’s cool, that’s awesome, that’s very satisfying,” 20-year-old female, restaurant hostess.

“There were no bike lanes [a few decades ago], I don’t remember any support whatsoever, in fact it was always, you what? I mean I was always the anomaly, [gasp] you bike to work [gasp]? And I guess I kind of enjoyed that, like yeah, if I can do it you can do it... I don’t feel odd, and I wouldn’t care if I was odd, hahaha,” 70-year-old female, retired, part-time non-profit counselor.

“I really like that hoity, the like I’m special, I rode my bike. I mean it’s when you arrive someplace by bike you’re a little bit different than everyone who came by car, and just at a very basic level I like feeling myself special,” 35-year-old male, Policy Analyst.

A second element of fun frequently cited was a strong element of nostalgia that bicycling seemed to provoke. This did not seem to be restricted by age, as the sample population all exhibited nostalgic sentiments to some degree or other. This could take a more ephemeral form, tied to the general *feel* of riding a bicycle, but more often nostalgia was a sense tied to the experience of specific times and places, and the bicycle a tool for helping to recall and relive them.

“I’ve never lost that childlike joy of feeling the wind blowing through my hair, and feeling like, you know using my legs to get around, like feeling like, you feel free, like you could explore the neighborhood... and I get freedom, get the wind in your hair, and yeah, it’s yeah I think that sense of childlike freedom, it’s your first vehicle as a kid, you can go wherever you want to go, that has never really totally left me, so it also feels like exploration,” 26-year-old female, barista/tech startup.

“It reminds me of my childhood a lot, and there’s a lot of Peter Pan in me, like I said my idea of a good time’s running up and down a soccer field with 12 year olds. I find most people my age to be too old for me, for better or worse... So I like that aspect of it, it really brings me back to my childhood, and a lot of good experiences I had biking back then. It makes me feel

younger, and I like it because it's not age appropriate," 70-year-old male, retired chef, part-time caterer.

"I learned how to ride my bike when I was six, it's one of my favorite memories... I had the teeter-totter training wheels on my bike, it was this little pink bicycle, and it was the day that we were going to take them off. And so my dad and I wheeled up to the top of the hill, really not a big hill, but enough. And I just remember him being behind me and holding the seat, and me just the entire time being, don't let go don't let go don't let go, and him running next to me and then, he'd let go like way past, haha, but still saying, don't let go dad don't let go, and just going around the corner and just feeling this complete giddiness. And I think my helmet... was sitting back on my head, you know like totally wouldn't have done anything if I had wrecked. And there was this moment of like, whoa I'm doing it, and then oh shit how do I stop?! Kind of you know forgetting, like everything going out the window... That's the little snapshot I have of that, and then being kind of mad that he let go, because he said he wouldn't," 24-year-old female, restaurant server, freelance videographer.

"Sometimes I'd like to think I can take some credit for [my daughter's current cycling], hahaha, but I don't think so, no, I mean, maybe I put her on a bike, I do remember her on that. Her first little baby blue bike, oh god that was adorable, and fortunately this major highway in Indiana was just being built, so we had it all to ourselves, and it was just perfectly smooth, and it was great. And I remember her on that big highway, of course we would never bike on it now, but I mean it was on her little blue bike going up there, it was just cute as a button," 70-year-old female, retired, part-time non-profit counselor.

That intriguing image of a little girl learning to ride a bicycle on an empty highway speaks to a wider nostalgia. Perhaps it is to a time before America had invested completely in the automobile, and the worries associated with that addiction, but the social memory is seldom long enough for such a decades spanning process. What is clear is the undeniable impact the bicycle can have on memory formation, leading to the prospect that a fairly large percentage of the population may be generally well disposed towards bicycles in principle, and open to a greater utilization of bicycles in daily life if conditions were more appropriate. This

generally agrees with Boldry (2015:13), who found slightly more than half surveyed expressed a desire to ride bicycles more, based upon the safety of infrastructure.

NEGATIVE MOTIVE FORCES

While participants tended to be idiosyncratic in the positive motivations behind their bicycling, a greater consensus was reached on its difficult aspects and those negative motivators pushing people away from bicycle use. These can largely be grouped under three broad interrelated categories: *Safety*, *Fear*, and *Inconvenience*.

Many of the problems faced by cyclists arise from the position of bicycles in American culture, and are not necessarily properties of cycling itself; meaning that in many ways they could be relatively easily ameliorated by policy, but face a profound challenge from a deep-seated way of life.

Safety

Concerns for physical safety were by far the most cited negative aspect in the sample population. The automobile society formed the basis of much of the conflict faced by those interviewed, most directly and direly in the threat of collision, but also finding its way into other negative aspects. These were everything from poor maintenance of rough routes created by heavy automobile traffic, to the very design of infrastructure itself.

Strangely in many cases the humanity behind the machine face was completely lost in interviews. While respondents often referred to *cars*, they seldom brought up the *people* piloting them, reducing a questionable social practice to that

of automata. The ghost in the machine was not completely forgotten by all, but instances where the people within cars were mentioned specifically tended to be the results of particularly bad situations. While some incidents are somewhat generic or random in those involved, often the result of inattention, others happen specifically through intersectional means – meaning the personal characteristics of those involved catalyze the situation. In probably the most alarming example of this within the sample population, a participant was stalked while riding home from work by a group of men in a truck.

“I mean I’ve been like hollered at because obviously it’s hot, so while I’m cycling I’m wearing some pretty short shorts or some tank tops... I live on the east side now, and a couple of weeks after moving there I was on my way home from work and this truck passed me and yelled hey, and I ignored them... And then I could hear them turning around at the intersection, so I immediately start going faster and turn left on the next street and then I turn right down this alley... and immediately shut off my lights, and I heard the truck turn down that street and then past the alley I turned down... So they had followed me like three or four turns... I got home and I was just sitting there just shaking,” 24-year-old female, restaurant hostess, freelance videographer.

Even without a specific malice of attention or intent from drivers, the most direct threat from automobiles was that of collision. Many of the sample population had either been hit by an automobile with varying degrees of severity, or known someone who had. Of the number hit there was a significant portion hit multiple times. Though not a specific question in inquiry, a large percentage of these impacts seemed to go unreported, with only those requiring immediate medical attention

tending to be recorded. This speaks to a need for greater data collection efforts if an accurate picture of the safety of American cycling is to be built up.

"I got into, I think three crashes total... only one crash with a car... and he right hooked me, he ran over my front wheel. I was really shaken up and called the cops, they never caught him of course," 24-year-old male, instructor.

"I remember very distinctly taking time to build road confidence, just being terrified every time a car comes past... I think the things that most impact [cycling] are traffic, and you do find in certain parts of the city people just don't really pay as much attention to cyclists. The friend that I have... was saying that certain parts of south Austin, people are just really, really terrible and really don't pay attention, and I found that. When I got hit by a car it was in north Austin... so even though there was a bike lane it's like this person wasn't paying attention... and luckily my body was fine, just bruised. I still have some scar tissue from it that I need to get deep tissue massage for... and I had some post traumatic stress from it," 24-year-old female, restaurant server, freelance videographer.

"Traffic's the one that scares me the most, I mean cars, I am just extremely cautious... My daughter was in a bicycle accident... and it just scared the... egads, I mean she's obviously recovered and she's fine, but she was pretty bunged up... So I'm leery of cars is absolutely the main thing," 70-year-old female, retired, part-time non-profit counselor.

"And then there's cars you know, that's probably the main one... Automobiles and alcohol is probably a big one. Shit, I've probably been hit about, a few times, a handful of times, that's a big hazard, because like I said before, some cars don't know what to do," 25-year-old male, car was employee.

"I've just accepted the fact that I'm eventually going to get hit, I'm eventually going to fall off my bike. It's probably going to happen at some point and I can't keep putting that stress on myself and keep myself from doing it because of that, because the likelihood of that happening is small, but it still might happen. I just try not to think about it ultimately," 20-year-old female, restaurant hostess.

These collisions and near collisions tended to build feelings of terror and stress, building up a psychological burden that had to be overcome for cycling to be continued, and attempted in the first place. This process depended heavily upon the geography and resources available, but often tended to emanate from group practices. Not having this group available can inhibit the acquisition of skills and confidence, and may play a factor in keeping some from even attempting to bicycle in the first place. The lack of a community of cyclists can have a highly negative impact both for bicycling rates and the inclusion of bicycling in identity (see Table 20). While these skills may or may not be useful in a worst-case scenario, their development also tended to build confidence, without which an air of fatalism sometimes popped up.

“I talked about how I would ride my bike around campus and school, but it wasn’t really like, I didn’t identify as a cyclist. I think that’s because it was not in a community, so it was just me riding my bike around, it didn’t feel like a thing, it was just something I did,” 26-year-old female, barista, tech startup.

“[Riding a bicycle for utility] was scary at first because I wasn’t a cyclist when I decided not to have a car anymore. I wasn’t a cyclist... so over time though, there’s a lot of cycling groups in Austin. So I got a better bike, and then I got another bike, and then I started recreationally riding with a cycling group, and that’s when I got road skills and when cycling became really fun... It was maybe seven years before I started riding with a group, and got comfortable on the road, riding on the road, so it was a big learning curve,” 60-year-old female, retiree, the City of Austin.

In addition to the direct danger of traumatic impact from cars, the vast concessions to space and infrastructure required for such intensive automobility proves detrimental to cycling in many ways. American cities especially suffer from a

design mindset that assumes automobile use. In general, even in the rare instances where bicycle infrastructure is available, it is often discontinuous, poorly maintained, full of debris, and situated in dangerous proximity to high-speed car traffic. With few exceptions Austin bicycle infrastructure is little demarcated from existing automobile thoroughfares; and those roads picked for bicycle routes are often these same major streets that drivers rely on, rather than alternate routes through quieter neighborhoods. This trend towards automobile oriented design in bicycle infrastructure tends to cause several interrelated problems for cyclists, and many who bicycle find their own routes through knowledge and experience.

Beyond the obvious of lack of safety from impact, car routes tend to proceed with little regard to topography (which will be discussed in greater depth in the next section), which has a much greater effect on cyclist ability. When bicycle lanes are present on the shoulders of roads they tend to inherit all of the detritus and trash that builds up alongside them; many times this is made worse by maintenance practices that sweep road trash and impediments from the carriageway *onto* the bicycle path or shoulder. Where traffic is particularly heavy or maintenance particularly lax, the road surface itself can be a problem, as bumps and potholes are discomforting at best, and downright deadly at worst. Finally such close proximity to automobile traffic can have serious air pollution related health repercussions.

“It’s really important just to know which roads are safe. Some roads have the little sharrows on them that tell cars, hey you’re supposed to share space, but when they’re going 45 miles an hour it’s not safe,” 24-year-old male, instructor.

"I think the white stripe is really lame, also you typically have debris accumulating, and in some cases the stripe is not adequate because the actual asphalt gives off and there's like the curb gutter. You can't ride in that. So sometimes they're simply not wide enough. Railroad tracks, I cross those and you know you need a cutout so you can go around them and that's not given. I have to watch for traffic and negotiate that so I don't get my wheel caught in the track... The wider lanes are great... but the problem I have there is people. There's a running club... and they run in the bike lane... at first it just really aggravated me. I finally have this buffer I have cars going by me at 40 miles an hour, and here you guys are running in this bike lane that's mine, and I'm having to go around you into traffic. So there's still that conflicting use problem... Third Street has a dedicated curbed lane, which is generally good, again people walk in it; pedestrians walk in it, and then when you come up on them and [you announce] bike, they get mad. And I'm like, the sidewalk is right there, how would you feel if a car drove on the sidewalk? And then there's a problem with the way it was constructed. Where it first starts, I ran into it one day because I was just momentarily not paying attention, and the next thing I know I'm wiping out because there's this curb here... One of the issues, problems I have is that a lot of lights in Austin have the induction loop trigger, which is really great if you're a car, you're screwed if you're a cyclist. When they first put them in you could see the cut, and you could position your bike over the loop, which typically would trigger the light. But then time passes, they pave over and you have no idea where the loop is," 56-year-old female, IT manager.

"So most of the time the roads are the biggest hazard, like I said every once in a while a bus will pass really close and it's terrifying... but most of the time I worry about roads, because the bike lanes can a lot of the time be impeded, very bumpy or like there'll be a giant hole... it's just like you feel every bump... sewer grates that kind of tilt in... [once] my wheel caught it and just went right underneath and [I] ate it into a car... sometimes there'll be overgrown trees in the bike path... I think [panic] rises when there is an impediment in the road... if there's cars then the panic sets in," 28-year-old male, instructor.

"There's also areas where you have just deficiencies in the city's infrastructure. So that can range from a temporary deficiency like a construction site that hasn't properly put up barriers or provided for a safe route past it, to just old-fashioned out of date infrastructure, like a street that doesn't have enough lane width to accommodate both a bike and a vehicle but the section before it does. And so it's almost like it forces itself upon that conflict point, and then either the driver or the cyclist has to concede or allow the right of way, but there's no road rule which governs what you should do, so you have to make a compromise there and then," 36-year-old male, urban designer

“The air quality here is awful, the reason is because you have stagnant cars... Austin’s air quality doesn’t meet the standard... like eight days a summer or whatever we violate, which means young children and old people need to stay inside and... not go outside. That thing always blows my mind, if our air quality is so bad that kids can’t go outside and play, what are you supposed to do? Like how is that not a major life [concern]...? We have a shit-ton of idling cars... you can’t build your way out of either air quality or traffic jams, they just get worse... the only way to solve it is to get people out of cars, the only way to get people out of cars is to give them a viable alternative,” 35-year-old male, policy analyst.

“How come in the bike system the bike paths don’t connect? How come they just end abruptly? What’s up with that...? You can’t trust any of these things, no way; they’re crazy you know. I’ve seen them coming down here where you’ve got the bike lane... they’ll pass in the bike lane even when there’s [someone there]... There’s no actual barrier there, there’s paint on the road, haha, there’s *paint* on the road to *protect* you from cars. That’s not working, sorry. If they can build highways they can build ways for people to ride their bikes and be safe from cars, people who walk to be safe from cars,” 53-year-old male, artist.

“I do like that they have added all these bike lanes, but a lot of them just need to be better, because I’m sorry a white line is not going to keep a car who doesn’t give two shits whether I’m on a bike or not from running into me, because they do it all the time. And I guess there’s some law that says a car has to stay three feet away from a bicyclist. They don’t follow it, ha, they really don’t; they’re just like [plowing imitation]. You know, they’ll jump into the bike lane and move away and you’re like awesome, that’s just my life you’re playing around with, but whatever,” 44-year-old female, personal home healthcare provider.

Cycling health concerns are not limited to dangers related to cars. By its nature bicycles expose their riders to the elements, and this exposure can be dangerous to those ill prepared. Overexertion can be especially dangerous in hot climates, but each climactic condition requires its own strategies and technologies, tools that might not be available to those only starting out. Wind is an element not commonly factored in travel analysis (unless extreme), except by bicyclists. Although the bicycle is a machine that exhibits astounding mechanical efficiency, the

wide head-on human profile is decidedly un-aerodynamic, and cold winds rob the body of much of its warmth and moisture, painfully chapping the skin. Rain can chill and slicken roads, bringing up all the oil and questionable liquids that even well maintained cars spill onto roadways, to send its chemical contamination diving deep underground into the water table. The sun can be the cruelest of all, beating down mercilessly on seemingly endless stretches of melting blacktop. These weather and climactic conditions were the most successful threat at actually keeping those in the sample population from riding a bicycle. Not only are exposure limits generally reached sooner on a bicycle, the dangers associated with riding on unprotected infrastructure can be greatly magnified by adverse weather.

Many of these exposure threats also hold long-term consequences. Unprotected and prolonged exposure to the sun, wind, and cold damages skin, prematurely aging it and increasing the risk of developing cancers of the skin. Because of their high respiration and proximity to localized sources, cyclists tend to have high exposure and deposition rates of air pollution – to the point that cycling (and indeed any life activity) has become actively detrimental in many locales (Tainio et al. 2016). Finally, design features of some bikes can themselves be damaging over prolonged periods, certain saddles and poorly fitted bikes have been associated with prostate problems in men (Schrader et al. 2002), and people who ride fixed-gear bicycles without brakes often report knee problems (25-year-old male, car wash employee), again often because bikes are poorly fitted or riders overexert themselves.

Fear

Many of the safety concerns cited hold a powerful lingering effect on the mind, especially the psychological residue of being run down or stalked while riding a bicycle. Fear is a powerful emotion that doesn't need a direct experience to take hold, indeed various fears are often enough reason to keep many from cycling. While fear of physical injury was certainly present in the sample population, in general this alone was not enough to keep interview participants from cycling completely. Incidents often wizened those involved, changing some behaviors; it was often stated that incidents did not change an overall positive view of cycling. However, a positive view of cycling did not eliminate the possibility of stress and anxiety arising from incidents and near incidents.

"[Bicycling safety has] gotten better, but it's by no means as far as it needs to be. I still feel, you should still feel scared to ride a bike around here," 53-year-old male, artist.

"I'd say [my frame of mind riding a bike is] very conscious of what is going on in front of me, and panicked at what's going on behind me," 28-year-old male, instructor.

"I think the biggest reason that I've heard for people not riding is they're afraid because the physical infrastructure does not protect cyclists, and there is no question that that is a true statement," 56-year-old female, IT Manager.

"Luckily my body was fine [after being hit by a truck], just bruised. I still have some scar tissue from it that I need to get deep tissue massage for, but I'll work a bit and figure that out. And I had some posttraumatic stress from it... For a while I'd tell people it was kind of like [the movie] *Final Destination*, I felt like I was just seeing accidents everywhere. And I hate to use the word stress because I don't really feel like it was stressful; even though I'm sure there was some sort of trauma mentally that it was having on my body... and I don't feel like it's as intense as before, but there's definitely still some residual," 24-year-old female, restaurant server, freelance videographer.

The participant population was largely self-recruited, so it is not known how traumatically felt incidents can be amongst a general population, and the degree to which this would change behavior. However, fear of physical harm is only one aspect of the fear complex around cycling. The fear of social harm associated with cycling in American society is powerful enough to have had impact within the sample population despite their general commitment to cycling. To be sure, many participants seemed unaffected or unaware of stigma associated with cycling; while some who viewed cycling in larger societal-cultural terms tended to be acutely aware of significant worldview differences.

“It’s a tricky thing because I work with low income youth, and most people I think that think about bikes are trying to use bikes for social activism, they’re trying to save the earth or they’re trying to do this, and those are all good things but I think it misses the point of what it means to work with a low-income community. You know, like [telling them] bikes will save you money, ok sure, yes they will, but is that a motivator? You know you look at society, society is based off of hierarchy, hierarchy of status. Wealth is status, independent of your views of economic systems or anything else. People want to be viewed as successful... You want respect, which is social currency, and if you’re a low income kid who lives in section eight housing and doesn’t have any money; well the American Dream is that you’re going to have this big fancy house, but is that something that a person would consider as something that’s achievable? Likelihood not high, especially with the house prices in Austin; so then what’s the next thing down that hierarchy of status? The next thing down is a vehicle. And so in this conversation saying hey you shouldn’t drive a car, you should ride a bike because all these reasons, what you’re really saying is I want you to look unsuccessful, I want you to have no social respect, I want you to be in a position where someone else in your social network would think you’re a failure because you can’t afford a car. Even if you explain, no I’m *choosing* to ride a bike, are they really going to believe you? Sure you’re choosing to ride a bike. And so it comes down to social status, and that’s a really, how do you get over that?” 38-year-old male, non-profit executive director.

“The year I retired I did a six-week trip on my bike, and my friends were, they didn’t understand it; my brother didn’t understand it, and my friend was like, so you’re going to be homeless for six weeks? I was like, whatever, if that’s what you think, hahaha... I think people don’t realize how much the automobile shapes and restricts their lives. I think people really do not understand that so many of the problems that they face, the frustrations, the health problems, the economic problems, the social community problems, are contained within the automobile culture I think if the negative aspects of automobile culture were used in marketing it would be very effective, because I just don’t think it’s anything a lot of people have ever thought of. They just take it for granted that this is how American’s live their lives and that we’re doing really well having this... material aspirations that kind of have steamrolled... and I think that those aspirations are built on really the culture of automobile mobility... The American economy is definitely built on American’s spending money to consume, consume, consume. People would talk about the American dream, we’ve turned it into a nightmare... They’re trying to sell something besides just a mode of transportation, it’s very much tied with image... This concept that if you are not living a certain way then you’ve dropped out of mainstream society, which is, mainstream society I think they don’t really understand how there’s so much more, there can be so much more,” 60-year-old female, retired City of Austin.

The sample population seemed to uphold many earlier findings on fear as a multidimensional aspect of cycling (Akar and Clifton 2009; Horton 2010; Buehler and Puhcer 2012). Fear of cars and heavy traffic was shown to be intense, even amongst regular cyclists, although this fear also seemed to diminish somewhat as experience was gained. This fear alone wasn’t necessarily enough to keep dedicated cyclists away from bicycling, but could be exacerbated by other conditions, such as timing, weather, or route choice. An awareness of possible social censure was often present, but was just as likely to be reclaimed as a badge of honor. It may be worthwhile for future research to examine fear in cycling in greater depth than can be afforded here. For our purposes it is enough to surmise that fear is not one-

dimensional, and like everything else its study demands nuance if a clear understanding is to be achieved.

Incompatible Inconvenience

While visceral danger is certainly an ever-present possibility when approaching the bicycle as transport within an automobile society, the structure of these societies de-incentivizes bicycling in other ways as well. The good news is that these deficiencies are generally the result of bicycles being an overlooked component of travel. Best practices have long been pioneered by localities serious about developing bicycle usage, and could be adapted to any community with the wherewithal to seriously invest in bicycling.

While the bicycle is considered a vehicle nearly identical to the car for the purposes of American law, it is a mode for which restrictions apply. Some of these restrictions are inherent in the design of the bicycle itself; such as the need for clothing with freedom of movement but without excesses that could get caught in chains or spokes, or the lack of passenger or cargo capacity. Additionally there is a great need for end-of-ride facilities to store bicycles securely and give cyclists a place to tidy themselves up. But deficiencies such as a lack of protected bicycle parking and the unavailability of showers and changing rooms are shortcomings that arise directly from an automobile mindset that often doesn't realize the existence of such issues or needs. Many in the sample population were acutely aware of these shortages; either because such facilities were not available and were

sorely missed, or when they were present that they enabled a greater frequency of cycling than would otherwise be the case.

“My first real restaurant job... I was a hostess. So I would bike down wearing half a hostess outfit, and then I would change in the entrance of the garage because I was too new and nervous. I didn’t want to walk inside sweating and go to the bathroom and change, I wanted to walk inside and be ready for work... And I would still be very red-faced, and it was just kind of funny trying to figure out, ok it’s hot in the summer, how can I show up to work looking somewhat decent?” 24-year-old female, restaurant server, freelance videographer.

“I mean I have a work situation [that helps enable bicycling], there’s a full locker room with a shower at work; that’s quite unusual, many people don’t have that,” 56-year-old female, IT Manager.

“I do live closer than a lot of people... a lot of people don’t either have the freedom, or they have other things that are important to them where they don’t want to live two miles away from downtown... If you don’t live [close] then it’s harder to cycle. Other people might need to look nicer for their jobs, I can dress pretty casually; so that would be a thing if I had to wear nice clothes. I don’t have a shower at work, but if you did need to wear nice clothes and you didn’t have a shower that would be hard,” 26-year-old female, barista, tech startup.

“I mean even in the heat, like I don’t mind sweating, like I’ll show up to class and I’ll just be dripping sweat and teaching. It’s just like, gross, but I don’t care, I don’t think anybody else does either,” 28-year-old male, instructor.

“I started cycling two months ago really, like actually getting into it. Yeah, I didn’t know I would get to a place and just be dripping in sweat, and that I’d have to change absolutely everything because of that. So I have to carry a backpack with a change of clothes, a change of socks, shoes, hairbrush, deodorant, perfume; basically everything that you need to get ready in the morning I need to carry around with me all the time,” 20-year-old female, restaurant hostess.

However, even with such facilities the general lack of cargo or passenger capacity on the standard bicycle can be a crippling shortcoming, although there are several methods to meet many needs. Moving beyond cargo racks, panniers, and the ever-ubiquitous backpack; trailers, cargo bicycles and electric assists are all viable options, but aren't yet as available in America, nor as cheap as the common safety bicycle – although this is quickly changing. More troubling is the lack of infrastructure that could comfortably support and encourage the use of such vehicles. If it's frustrating, tiring, and dangerous to ride any type of bicycle, then investment in such a specialized human powered vehicle would seem like a non-option for many.

Taking a more global view, the standard safety-framed bicycle would seem to have both load and passenger quotients that exceed the typical American automobile in used capacity – meaning they typically carry both more people and cargo than the American car's stereotypical lone passenger. This is not to say that carrying such loads is easy or always practical, merely that preconceived notions of the capacity and endurance of cyclists depends largely upon the culture in which they are nurtured. When automobile use isn't necessitating itself (through sprawl, safety, culture, etc.) not every trip needs the capabilities or costs of that personal motorized vehicle travel. With alterations in lifestyle and infrastructure bicycles can cover a surprising amount of daily need, especially as bicycling becomes better integrated into the general travel milieu. However, the use of such modes is again heavily dependent upon the safety, comfort, and relative costs of doing so.

There are many jobs for which bicycles are not the most practically suited, such as in carrying large amounts of heavy or bulky items, most familiarly with groceries. Within the sample population these sorts of cargo trips accounted for one of the instances in which many indicated they'd often search for other options; most often this was a shared, owned, or borrowed car, or public transportation. However, those who were committed bicyclists that avoided car use were generally able to make more frequent trips carrying less. The solutions and mishaps cyclists seem to have grocery shopping illustrate some of the lifestyle changes dedicated utility bicyclists often make, and the sometimes surprising frustrations of adapting from an automobile to a bicycle lifestyle.

"It was scary at first because I wasn't a cyclist when I decided not to have a car anymore. So then I had to start cycling to get my groceries, and I just had a, they call them hybrid, a hybrid bike, and a backpack, so I would ride on the sidewalks and go get my groceries. One time I had a heat incident, and then one time my backpack broke and then all my groceries fell in the middle of the street," 60-year-old female, City of Austin, retired.

"When I have to go to the grocery store, what I buy and prioritizing the things I need [is important]... So there was definitely a lot of figuring it out, realizing there is only so much you can travel with; especially because I've never really had saddlebags on my bike, it's always been what I can carry on my back... I have lot's of memories of going to the grocery store and only carrying a hand basket, because I know that I'm limited with what I can carry, but still getting to the check-out and just stuffing everything into my bag. And I had found some recipe that called for leeks, so I have this distinct memory of riding down Lamar with these leeks sticking out of my bag, just because they didn't fit. That was just one of those moments where I was like, Jesus, I guess this was poor planning. So it does require a bit of planning I think," 24-year-old female, restaurant server, freelance videographer.

"I don't want to bike when I have to get groceries, because I've done it before and it sucks too, unless you have a specific bike to where it holds groceries – then it's fucking perfect, perfect. I should probably invest in one of those," 25-year-old male, car wash employee.

These dangers and inconveniences are exacerbated by the design of automobile focused infrastructure. Among the biggest selling points for early automobiles was their nearly completely untroubled handling of topography (Laird 1996). Generations of automobile use seem to have greatly dulled this sense of slope, and where once switchbacks would have been used to ease a particularly steep incline, the highway engineer's straight-line solution is used instead. Luckily this sense of topography seemed to be quickly reestablished amongst the cyclists sampled. Hills and topography were among the most mentioned negative aspects of cycling, and while the group sampled seemed to find hills as more of a challenging, or sometimes brutal, nuisance rather than a fatal flaw, a general public unused to physical activity is sure to find topography considerably more challenge (see Table 26).

"A lot of times I don't want to [bicycle] because I know it's hot, there are these massive brutal hills, and there's all these cars, especially during traffic. And a lot of that is very, it motivates me less to do it," 20-year-old female, restaurant hostess.

"I think of the topography when I'm cycling around, and you know some days if I'm not feeling it I will go a couple miles out of the way to take the flatter route," 24-year-old female, restaurant server, freelance videographer.

"How I make my routes? Yeah, I just make them as I find them... Whichever has less hills, hahaha, but you know, being here there's a lot of hills, so um, what's easier, what's more variable for me. I like a lot of flat you know, if there's a hill, I like at least one or two hills, that's about it, but that's just being in my comfort zone," 25-year-old male, car wash employee.

"I shoot for level if I can, haha, I want the least precipitous hilling; I've never found that the downhill is worth the uphill for me," 70-year-old male, retired chef, part-time caterer.

“I have a motor in my front wheel because I’m getting older and the hills are not getting any lower. You know, that’s been really important to me... in maintaining my ability to do my commute. I think if I had to do the commute I have every single day without that electric wheel I would not be doing it; because those hills, there are some really, I mean I’m not climbing Mount Everest, but they’re pretty good hills,” 56-year-old female, IT manager.

While hills make a greater difference in cycling than is usually designed for by engineers, the impact topography makes is variable, and indeed the challenge of a hill is sometimes sought after. While a steep incline between one and one’s destination may give one pause before setting out on a bicycle, it usually wasn’t enough alone to keep those in the sample population from cycling. Other than cases of severe weather or incapacitation, the factor with seemingly the greatest impact on cycling amongst participants was the problem of overcoming the time and space of sprawling cities at the speed of a bicycle. Despite even the best intentions at relying on the bicycle, the greater the distances involved not only the greater the chance of running into ever increasing barriers, such as the moving wall of a highway or major thoroughfare, but the greater the chance of simply having inadequate time or being too fatigued.

Much of modern employment is based around the assumption of private automobile use, especially in cities such as Austin, which have sprawled around highway infrastructure that encourages ever more car use while restricting other modes. Even if this assumption of driving isn’t specifically related to the employment, travel and delivery throughout the motorized city are sometimes necessary; in which case the bicycle becomes impractical unless arrangements are made.

[after receiving a phone call] “So there you go, that was my boss and I have to go to a meeting tomorrow, and I was going to ride my bike, but now he’s going to come in and we’re going to drive together so we can talk,” 35-year-old male, policy analyst.

“Sometimes I can’t ride my bike because I need my car for something and I can’t figure out a way to make it work with the bike. I’m fortunate where there’s a pool car; so my work does require me to go off-site, but there’s a pool car I can reserve so I can have my bike, so that’s wonderful, that’s been really helpful. Occasionally I have a meeting downtown and it’s going to end at 4:30 in the afternoon, and I’m close to home and I’m like I’m just going to take the car; I’m not going to fight with the car to go back to the other side of town so I can get on my bike and ride back. So just for the schedule convenience occasionally [I won’t ride],” 56-year-old female, IT Manager.

Finally and somewhat cumulatively, the necessities of raising a family combine the totality of inconvenience and danger into something greater than the sum of its parts. And while the parents in the sample often seemed wary of exposing their children to the challenges of utility cycling too early, they also seemed eager to not only get back to bicycling themselves, but also to introduce bicycling to their children at an early age. That being said, the anxieties of riding a bicycle in an automobile society are nearly always compounded when children are concerned. When the logistical realities of raising a family are added, it’s perhaps unsurprising that the typical family-raising suburbanite doesn’t give the bicycle more serious consideration on these grounds alone.

“There’s been a few times [when I didn’t ride a bicycle regularly], like when I moved to Asheville [NC] and I just didn’t really know the town very well. I lived there for about nine months, and at the time my son was just starting kindergarten, and it just seemed like I did a lot of walking in that town because I had him, and [there were] no bike lanes really, and I had a lot of friends get hit by cars at the time... but I think it’s just the streets there were kind of winding and curvy where I lived. It was like two-lane streets, and the

people, I just was not comfortable and I had to walk a smaller child, so it was kind of, it was just not a, I don't know, it was a no-go at the time... If I'm going out on this huge outing with my kids, of course I'm not going to take my bike with me because I have an eight year old too now, so she's not really going to do street cycling with me, where I can take my 14, almost 15-year-old with me anywhere because he's bigger than me, but she's tiny, she's still tiny. So If I'm doing something like a family outing with the kids I'm not going to drag my bike along unless we're doing a specific biking outing, and then I'll prepare that we're going somewhere very safe so she's not dealing with crazy. Like she can ride a bike, and she's a really good bike rider, but I'm not going to take her somewhere where there's going to be bad bike lanes and crazy traffic because I'm super protective," 44-year-old female, home healthcare provider.

"I've been on a bike all my life, so it's very much a part of how I like to move, and do, and exercise, it feels good and I enjoy it... but when I had children and had to haul people around, that's when I became totally car reliant. Although, as I say that I remember we had a little child seat on the back of my Schwinn bike, which weighed all of 40 pounds, plus the kid, and then we got the tandem so that the little one who was born after the bigger kids were on there own bikes, so we could all go together, it was really nice... anyway, so yeah it's other than having to take the kids to school and that period of life, grocery shopping stuff like that, I did not bike much then," 70-year-old female, retired, part-time non-profit counselor.

"So you know Dean Keaton [St.] as it goes underneath I-35... it's an odd intersection... So they had set up this big fat bike lane, and then they make the bike lane go like this and then you're supposed to cut across [merging traffic for the I-35 frontage road]... and so I called [Senior Active Transportation Designer for the City of Austin, Nathan Wilkes], and I was like what the fuck?! If there was ever a drag, right. This is the east side; this is some of the last affordable housing close to campus. Clearly the traffic usage of this road is low... and by sending bicyclists over here... what you're doing is making me turn my back to traffic, which is coming this way and accelerating because they're trying to get over here and catch the light or whatever kind of bullshit and go through it. And what you're saying is the car has the priority here, like the bicyclists, get the fuck out of the way, hide in the corner and cross whenever you can. So I called the guy and I talked to the designer about it, and he was like oh yeah, well you know you have, we design it, and they always use this bull, this argument of like they're trying to design to the standards so that a woman with her child would feel safe riding on the road, and like here's your place... And they could've made a dream ride into Austin, into UT's campus, and they screwed it, and it's not going to change for twenty years... And the guy who said, oh yeah you understand and I understand because we're cyclists, but other people don't. And my wife, so she works at St. David's [Hospital], which is right here, and so every morning

we ride out together, and we ride together because she doesn't feel comfortable riding, so we shepherd each other along. And she just got livid because she was like I am, she's pregnant right now right, so she is literally a woman with child!" 35-year-old male, policy analyst.

Changes in lifestyle encouraging bicycle use are thus largely dependent on the support of an infrastructure and culture geared towards enabling such use. It can be nearly impossible to reach across the vast distances modern life moves at without allowances for the integration of the bicycle across travel schemas. But when bicycles are included in plans for mass transit, it can greatly extend their practicality and usefulness, thereby lessening or eliminating some of the inconveniences discussed here. Findings here support the idea that increased investment in bicycle infrastructure has a positive effect on cycling rates (Emond, Tang, and Hardy 2009; Buehler and Pucher 2012; Boldry 2015).

VII. CONCLUSION

To possess a bicycle is to be able first to look at it, then to touch it. But touching is revealing as insufficient; what is necessary is to be able to get on the bicycle and take a ride. But this gratuitous ride is likewise insufficient; it would be necessary to use the bicycle to go on some errands...Finally, as one could foresee, handing over a bank note is enough to make a bicycle belong to me, but my entire life is needed to realize this possession.

~Jean-Paul Sartre, Being and Nothingness

This study sought to present a more nuanced view on the motivations of people regularly engaged in cycling, those for whom cycling becomes a *way-of-life*. Because cyclists have often been described somewhat myopically in the literature as a single generic group, it was important for research to be open to a wide range of potential sub-groups within the cycling community. In-depth interviews were conducted with 15 self-described *way-of-life* cyclists ranging in age from 20 to 70 between July and October 2016. In general, cyclists described the same general positive and negative motive themes, only differing in how these motives clustered and coalesced into individual personalities and styles.

Negative motivations tended to be more closely shared, and centered mostly on *safety* and *fear* concerns, but also identified areas where the bicycle was mostly precluded by the *inconvenience* of time and distance factors. Negative factors tended to be complicated by variations in individual limits, but thematically were similar, and generally supported previous literature on fear in bicycling (Akar and Clifton 2009; Horton 2010). Amongst the sample this fear mostly revolved around safety concerns, since in being regular cyclists much of the sample had generally

overcome fears of social censure. Although awareness of a traditional stigma around adult utility cycling in the United States was widespread, participants reclaimed this identity as a positive and socially beneficial aspect of their lifestyle, reveling in a feeling of pride in uniqueness that doesn't often appear in the literature. All in the sample preferred routes avoiding major car traffic or known danger areas, while finding cycling network discontinuities and the lack of cleanliness, safety, and maintenance of facilities to be distressing, supporting a wide body of research (Krizek and Roland 2005; Akar and Clifton 2009; Emond, Tang and Handy 2009; Bonham and Koth 2010; Horton 2010; Ampt, Somers and Munro 2011; Handy and Xing 2011; Chaurand and Gelhomme 2013; Boldry 2015).

Negative factors were also responsible for the greatest political sense of cycling, and often spurred activism, such as joining counsels, contacting representatives, or simply riding with a greater sense of visibility and political importance. Although Critical Mass has been more or less defunct in Austin the last several years, and its place has more or less been taken by several other group rides (such as the Thursday Night Social Ride and various "booze cruises"), there is anecdotal evidence that there has recently been increased potential for social movement mobilization and protest since the election of Donald Trump as President of the United States. Whether this also sees the renaissance of Critical Mass as a place for the practice of direct anarchic democracy, such as seen by Hernandez (2007) remains to be seen, but several participants were either politically or socially active in causes related to cycling. Although a lack of access to public space

increases the felt need for political action (Ryle 2011), this action is more often than not fractured along several tribalistic groups (Weiss 2010).

Many of the participants viewed the bicycle as part of their political and personal identity; placing cycling within a matrix of issues dealing with the effect of automobility on the environment and social interaction, and mirroring Natalia Ruiz-Junco's (2011) views that the bicycle is both a symbol and tool for enacting this politicization (Carlsson 2007; Natalia Ruiz-Junco 2011). However, this political approach to the bicycle led to very different courses of action. Several participants had joined committees, organizations, or gained employment directly related to increasing the viability of cycling in some way; while others found their own path to increasing cycling's visibility, from using bicycles in spectacular artistic installations, to a simple awareness of the act of bicycling itself being a political statement. One participant even discussed a strong urge to take matters into their own hands by painting bicycle lanes as a guerilla protest act reminiscent those painted by Dutch activists during their agitation for greater cycling infrastructure (Furness 2010; Waggenburr 2011).

Nearly as important to participants was the need for bicycle planning to go beyond trails and routes and towards the incorporation of other facilities such as showers, changing rooms, and secure bicycle storage. This supports findings from Akar and Clifton (2009:10), who found that amongst those who were generally more familiar with bicycling, awareness of the need for such facilities and demand were more widespread. In general though, most studies seemed to have a heavier focus on roadway features and safety (Dill and Carr 2003; Dill 2009; Broach, Dill and

Gliebe 2012; Blue 2013). Certainly in a hierarchy of needs safety from death or grave injury is more important than a shower and secure bicycle parking, but this should not lessen the significance of end-of-ride facilities for regular cyclists, especially as such daily inconveniences are likely to have nearly as negative an effect on mass bicycling rates as safety issues. This importance on end-of-ride facilities found in the sample should encourage researchers to expand their concept of bicycle infrastructure to regularly include such functions in their analysis, as well as give planners more impetus to provide these facilities.

Positive motivations were more idiosyncratic. Features of cycling could be brought back to similar broad themes of the *environment, health, economy, community, and fun*. From the composition and intensity of these various motives arose personality groups such as racers, mountain bikers, BMX-ers, commuters, and pleasure seekers. These groups were often permeable rather than mutually exclusive, with individuals able to move between and among groups rather freely, although this wasn't true across all groups. For a majority of participants, the bicycle became a foundation of personality and identity. This tended to support the contention of Pelzer (2010) that bicyclists in automobile dominated cultures hold a greater sense of personal identity as cyclists. However, apart from a shared general wariness of the automobile system, this did not mean that the *culture* of cycling was shared; especially as cycling numbers grow in the United States, and the number of bicycles previously hidden in storage become visible on the roads, more subcultural groups become established.

Finally, there is the fact that *fun* was often the greatest motivator cited, and was certainly the most universal amongst the sample population. To the author's awareness, the concept of *fun* hasn't been looked at in the academic study of cyclist motivation, although many cyclists may find it self-evident. While all who were sampled found cycling to be fun or enjoyable, the aspects of cycling that were found to be enjoyable were fairly idiosyncratic. Although body sense, the proprioceptive feeling of the body in motion, was a large aspect of this pleasure, it expressed itself in different ways. Preferences were personal and historical, meaning they differed greatly by person and personal experience, such as being expressed through a tradition of racing, while others had more of a predilection towards leisurely rides either alone or in small groups. Understanding and encouraging this sense of fun may be a powerful tool in increasing the viability of cycling and numbers of cyclists. A few studies have expressed the unique view and sense of being in and a part of a place that arises through cycling, showing how cycling can be made not only safe, but aesthetically pleasing through design (Forsyth and Krizek 2011), but it is unknown if anyone has specifically looked at aspects of cycling considered fun as a way to increase bicycling rates. Certainly including elements of pleasing aesthetics in the design of practical and safe bicycle infrastructure seems worthwhile.

The limitations of this study have been its low sample size, lack of diversity, lack of generalizability, and use of a convenience sample with a self-stated criterion. A diverse sample would need to include geographic information (whether rural, suburban, or urban) along with more traditional categorizations of race, class, and gender. More sophisticated sampling techniques are unavailable without good

demographic data on those who use bicycles, which have generally been lacking in the United States. These data are sorely needed, and it is hoped that the current study will inspire future qualitative research to be more aware of some of the nuances of cycling groups, better enabling them to capture cyclist practices and demographics.

Although the number of cyclists in the United States seems to be increasing, there likely remain a great number of people who might never consider bicycling as a utilitarian option in traversing public space. Traditionally many Americans have seen adult bicycling as irrational, foolish, or strange, and the understanding of motivations and experiences of cyclists has seemed to remain limited. Although these motives and experiences associated with bicycling are at heart deeply personal, they hold social implication and are formed through social mechanisms. The Weberian concept of *Verstehen*, roughly translated as *interpretive understanding*, can show how action that is viewed as irrationally strange “becomes plausible and altogether ‘rational’ once its subjective meaningfulness is comprehended” (Kalberg 2002:xlvi). Communicating some of the meaningfulness of bicycling can help bridge the likely gap in understanding that exists between those who choose to bicycle and those who don’t, helping to bring an awakened sense of bicycling into the mainstream.

“We have this innate desire to be connected to some greater cause than us... so for me, being part of the cycling community kind of makes my mind involved in this grander thing than I am... It’s camaraderie over the same topic, except that people who don’t ride don’t understand... [but] it’s really exiting to invite my friends to ride bikes with me or to help them out if they’ve just got their first bike.” 24-year-old male, instructor.

In many ways the car can be seen to epitomize a concept of Weber's that became the "Iron Cage" in Pearson's English translation; an inescapable overarching concern for material goods brought about by the modern economic order, eventually becoming an overwhelming fetishizing of material goods. "Perhaps it will continue to do so until the last ton of fossil fuel has burnt to ashes" (Weber 2002:123). Many of the participants in the study seemed to grasp this notion of overconsumption implicitly, experiencing many of consumer capitalism's more damaging aspects as embodied by the car culture. Sometimes this was as direct as a collision, while others sometimes made broader cultural links:

"What I've noticed is that no matter how much they increase spending, it's still not making any damn sense you know... like this bridge they're building on Mopac, the pedestrian bike bridge... I don't even really understand how it's supposed to help, this gigantic-ass pedestrian bridge. You know, this is their major infusion of money... where are you trying to go? From where to where? And all that money you could have taken and actually done something for Austin bike transportation, something real, instead of this bridge to nowhere... so now they can say they spent some money on some bike shit, which pretty much was a big gigantic cement pumping, carbon footprint bullshit fucking bike pedestrian project! They pumped so much carbon, how much carbon do you think is required to build those gigantic cement pillars, which are meant to look like trees!" 57-year-old male, artist.

The Protestant Ethic and the Spirit of Capitalism was originally published in 1905, at the dawn of the automobile era. Weber was teaching at the University of Heidelberg when Bertha Benz, wife and primary investor of automobile pioneer Karl Benz, made what is recognized as the first overland journey by automobile, from the nearby city of Mannheim to Pforzheim. The influence of a rapidly changing technological society can be sensed in this "Iron Cage" concept; better translated as

“steel-hard casing” and a reference to a quote by the 17th century English theologian Richard Baxter, that one should be able to cast off concern for material goods like a light cloak. Weber (2002:123-124) concludes that this cloak has been forged into a “steel-hard casing” by the forces of capitalism victorious and no longer needing of religion’s ascetic tempering.

No one any longer knows who will live in this steel-hard casing and whether entirely new prophets of a mighty rebirth of ancient ideas and ideals will stand at the end of this prodigious development. *Or*, however, if neither, whether a mechanized ossification, embellished with a sort of rigidly compelled sense of self-importance, will arise. Then, indeed, if ossification appears, the saying might be true for the ‘last humans’ in this long civilizational development: narrow specialists without mind, pleasure-seekers without heart; in its conceit, this nothingness imagines it has climbed to a level of humanity never before attained (Weber 2002:124).

Now more than ever the weaknesses of relying on an overly consumptive and violent approach to transportation are apparent. The chasms between isolated and insulated individuals in the American automobile society seem more deeply profound. In addition to climactic warning signs, which are increasing yearly, there are indications the earth’s sixth mass extinction event, which we are in the midst of, has anthropogenic roots (Ceballos et al. 2015). Finally, the connection of the automobile with weapons of mass destruction has been directly demonstrated in a series of automobile attacks that have shocked the world. These attacks used stock, perfectly street-legal vehicles, without any additions to increase lethality than those already present in the system itself. Even if automobiles had no climactic or ecological impact, their use has far-reaching implications that need to be understood and discussed.

Bicycling presents a social schema that is able to cover some of the vast geography of modern life without sacrificing the safety, ecology, and social interaction of a society that meets itself face-to-face. Bicycling has already been shown to work exceptionally well in modern democratic cities, especially if it's more fully integrated into other socially conducive transit systems. Perhaps more than any other currently available tool, utility bicycling is something that can be done that has an immediate beneficial impact on one's consumptive footprint; and in an age where safeguards, concern, and action for a planet in hazard seems to be waning, everything helpful that can be done is welcome.

APPENDIX SECTION

There's a fortune to be made in America manufacturing cages for human beings.
~Charles Simic

I. Interview Guide

- 1) Do you choose to travel by bicycle when possible, instead of by car or public transit? Why? [way-of-life cycling]
- 2) Why do you bicycle? [motive]
- 3) Is bicycling part of your lifestyle or way-of-life? How? [way-of-life cycling]
- 4) What is riding a bicycle like for you? [frame-of-mind]
- 5) Was there a period of time you did not bicycle? Explain. [motive]
- 6) How did you start riding a bicycle as an adult? [motive]
- 7) How have you experienced hazards of/while riding a bicycle? [motive]
- 8) How have you experienced benefits of/while riding a bicycle? [motive]
- 9) Who in your mind is the 'typical' person who rides a bicycle? Can you describe them? [ideal type]
- 10) Does anyone *most* exemplify bicycling to you? Can you describe them? [ideal type]
- 11) How do you think the general public views people who ride bicycles? [frame-of-mind/motive]
- 12) When do you not bicycle? [frame-of-mind]
- 13) What does bicycling mean to you? [frame-of-mind]
- 14) What is your frame-of-mind when you ride a bicycle? [frame-of-mind]
- 15) What motivates you to continue riding a bicycle? [motive]
- 16) When do you choose not to ride a bicycle? Why? [motive]
- 17) Have your motives to ride a bicycle changed over time? [motive]
- 18) Is there anything else you'd like to add, questions, or comments?

II. Recruitment Tools



Business Card

A CYCLING RESEARCH PROJECT...

Cyclists are needed for a graduate research project studying the motivations of people reliant on human powered transit for Texas State University. If cycling is your **MAIN** mode of transportation, and you are interested in sharing your experiences and perspectives, please contact Roger Lara at 512-565-0990, or at RLara2@live.com re:cycle study.

Thank You!

Recruitment Poster

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